

Chain of Bays Preserving the West Coast of South Australia

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Front cover image: Alec Baldock and Juvenile Basking Shark (1990). The taxonomy and traits of many species can remain a mystery. This image was sent to the Melbourne Museum where the species was identified - a rare image collected locally.

Back cover image: Crop surrounding a pocket of native vegetation (2009). Much land has been cleared for farming in the Chain of Bays. Small tracts of native vegetation represent opportunities for seed collection and habitat preservation. Connecting these micro habitats is the real challenge.

Inside cover: *Cliff top vegetation Tyringa (2009).* In the Chain of Bays sensitive vegetation clings to the calciferous limestone cliffs. Off road vehicles and quad bikes pose an increasing threat in the Chain of Bays.

Right image: Death Adder Sceale Bay (2010). These beautiful and highly venomous reptiles are very rarely seen by local people suggesting their numbers may be low in the area.

Preserving a unique coastal area

chapter 1

The Chain of Bays is a spectacular and un-spoilt region on the West Coast of South Australia, comprised of a series of interconnected but greatly contrasting bays (Venus Bay, Anxious Bay, Baird Bay, Searcy Bay, Sceale Bay, Corvisart Bay and Streaky Bay). This book aims to explore the detailed environments of five of these bays as part of a process of encouraging preservation, conservation, economic equality, and cultural awareness. In this book we focus on the western part of Anxious Bay (Tyringa) and Baird, Searcy, Sceale and Corvisart Bays.

These bays are of great conservation significance because of their excellent condition and because they provide critical habitat for a number of key threatened species, including Australian sea lions, the Great White Shark, the White-Bellied Sea Eagle and the Osprey. Southern Right Whales also migrate through the Chain of Bays, stopping with their young calves to rest en route to and from the Great Australian Bight.

The combination of isolation and intact ecosystems makes the Chain of Bays a unique coastal area.

Here, we can observe a great diversity of coastal and marine environments within a relatively compact geographical area. On the coast, there are spectacular cliffs, stacks and islands, exposed granite and limestone outcrops, and long sandy beaches. Further inland, there are cliff top dunes, and extensive wetlands and mobile dune fields. There are coastal grasslands and heath lands, mallee woodlands, and Casuarina woodlands; and there are special habitats such as caves, marine and freshwater springs and soaks.

Upwellings and the Leeuwin Current

At sea, the near-shore marine environment is influenced by the warm Leeuwin Current in winter and nutrient-rich cool upwellings in the summer months. There is a significant diversity of Southern Temperate marine habitats in pristine condition, including near-shore limestone reefs and pools, granite outcrops ("bombies"), deep reefs, sea grass meadows and algal stands. Significantly, these intact coastal and marine environments exist together in the Chain of Bays, which provide a rare opportunity for the protection of an intact coastal and marine ecosystem.

On the land, the region's low rainfall, geological structure and coastal processes give rise to a diverse range of plant communities. Evidence can be found in the landscape of the ancient geological past and the long association with Aboriginal people, in particular the Wirangu tribe. There is also evidence of landscape change brought about by European settlement.

Although some areas near the coast have been cleared for agriculture, large areas of relatively undisturbed coastal land remain in the Chain of Bays. These intact coastal environments are linked to even larger remnants inland which make the region a very important refuge and corridor for a number of threatened plant and animal species. The remoteness of the region and limited coastal development has helped to keep the area in relatively undisturbed condition.

The Chain of Bays provide critical breeding habitat for several endangered species.

Australian sea lions

The Australian sea lion, Neophoca cinerea, is now reduced to less than 12,000 individuals, all within the waters of South Australia and Western Australia. The largest populations are in South Australia. In the Chain of Bays, there are two large breeding colonies for the Australian sea lion, one located at Olive Island Conservation Park, at the northern end of Corvisart Bay; and the other located at Nicholas Baudin Island Conservation Park and Aquatic Reserve, at the southern end of Sceale Bay. A smaller breeding colony is located at Jones Island Conservation Park and Aquatic Reserve, at the entrance to Baird Bay.

There is also an important "haul-out" (resting location for sea lions), and occasional breeding site, at Point Labatt Conservation Park and Aquatic Reserve, in Searcy Bay. In addition to providing critical breeding locations, the waters of the Chain of Bays provide important foraging and feeding habitat for Australian sea lions. Opportunities exist for visitors to view sea lions from the viewing platform at Point Labatt Conservation Park and Aquatic

Left image: The Island and Patrick at dawn (2004). "Paddle in" surfers and endangered raptors have happily co-existed at the Island surf break for a quarter of a century. When jet ski tow in surfing arrived in 2008 the resident Osprey nest failed in a few months, birds where found shot and the nest was damaged.

Right image: Sceale Bay Conservation Park (2006). This area's status was upgraded as a result of the efforts of the Friends of Sceale Bay and the South Australian Government. Real biodiversity conservation can only occur within managed park systems.

Reserve and it is possible to swim with sea lions at Baird Bay with Baird Bay Ocean Eco Tours.

Ospreys and White Bellied Sea Eagles

The remote coastal cliffs and offshore islands of the Chain of Bays provide nesting habitat for the Endangered White-Bellied Sea Eagle, Haliaeetus leucogaster; and Osprey, Pandion haliaetus. These birds are now very low in numbers in South Australia, and are also becoming increasingly rare in other parts of Australia. Surveys undertaken since 2003 by raptor expert Terry Dennis found that the Chain of Bays coastline contained the highest density of nest sites in South Australia for the Osprey, supporting up to five breeding pairs.

There are also a significant number of breeding pairs of White-Bellied Sea Eagle in the region. Conditions are comparatively favourable for these species in the Chain of Bays because the remote coastal cliffs and islands provide nesting habitat protected from predators and disturbance. The convoluted coastline of the Chain of Bays also provides ideal hunting conditions for these birds; no matter what the direction of the wind, sheltered waters may be found near the nesting sites.

Considering that less than 40 breeding pairs of Osprey may remain in South Australia, it is essential that breeding sites for this species in the Chain of Bays are protected, and that visitors avoid any disturbance to nesting birds. Numbers of White-Bellied Sea Eagle are smaller still, but both species may still be observed soaring along the water's edge in search of food.

Many other significant species inhabit the diverse environments of the Chain of Bays. There are 330 recorded plant species (242 native), 103 bird species, 22 mammal species and 39 reptile species (South Australian Department for Environment and Heritage). In addition, there are numerous insects, and marine plant and animal species that have yet to be catalogued in detail. There is the exciting possibility that new discoveries could well be made in this region.

Partly due to its remoteness, many of the environmental values of the Chain of Bays remained undiscovered until relatively recently. This same remoteness may have contributed to the protection of the area from some of the environmental impacts experienced elsewhere, but with development pressures and numbers of tourists increasing, it is important for residents and visitors to understand the sensitivity of these marine and coastal habitats and the species that inhabit them.

Expanding land for conservation

In recent years there have been a number of new conservation initiatives in the Chain of Bays region. When the significance of the Australian sea lion colony at Nicholas Baudin Island was discovered in 2001, the site was protected within a new Conservation Park and Aquatic Reserve. An existing Conservation Reserve at Sceale Bay was upgraded to Conservation Park status in 2006. Scientific surveys of the Australian sea lion and coastal raptors highlighted the significance of the region for these species. Attention focused on the need to consolidate and link the existing small and isolated public conservation reserves. In December 2007, the South Australian Government released the "Coastlinks"

Report, which recommended the establishment of an extensive coastal conservation area in the Chain of Bays, comprising existing Conservation Parks,

Left image: Cape Blanche from the air (2009). In the afternoon light these cliffs, home to the endangered Osprey and White Bellied Sea Eagle, are a spectacular sight.

Right image: Shorebirds dodging death at Sceale Bay (2009). Comprehensive research by shorebird experts show that bird numbers have dropped significantly over the past few years. This coincides with an increase in vehicle activity on the beach at Sceale Bay.

high conservation value Crown Land, council land, new private land purchases and private conservation land protected by Heritage Agreements.

Marine Parks

In addition to coastal land conservation measures, the South Australian Government committed to a major new Marine Park including Baird, Searcy and Sceale Bays. This park will cover the waters of these three bays and eventual zonings will include multiple use and sanctuary zones. It is hoped that land surrounding Australian sea lion breeding colonies will be sanctuaries. It is also hoped that sanctuary zones will be created to assist recovery of certain fish species and the Southern Rock Lobster in the form of no-take zones.

Dive surveys of near-shore reefs and marine archaeological surveys revealed the high conservation value of marine environments and marine cultural heritage sites in the Chain of Bays.

Surveys of Aboriginal heritage sites have also documented the significance of a number of locations in the region for Aboriginal Cultural Heritage.

In the years ahead, further resources will be directed towards protecting, managing and rehabilitating the Chain of Bays. The region will have a new Marine Park and adjacent Coastal Conservation Park. Traditional owners, local rangers, community groups, land managers, farmers, private land owners, council, businesses, schools, residents and visitors will all have important roles in caring for the Chain of Bays.

Left image: Cuttlefish in Sceale Bay (2010). The remoteness of the marine habitats in the Chain of Bays has up until now provided a natural means of conserving a rich variety of life. The formation of new parks with sanctuary zones will become vital for their future.

Right image: Female Casuarina on Point Labatt turn off (1996). This spectacular tree has survived a century of grazing, standing ready now on newly acquired conservation land to provide seed stock to help rehabilitate the area.

The Wirangu people

The Wirangu are the traditional custodians of the Chain of Bays region. Neighbouring tribes are the Nauo and Barngarla. Today, Wirangu people live in a number of different communities, including Yalata, Ceduna, Koonibba and Port Lincoln.

It is envisaged that successful native title claims made in the region will ensure that first people's rights are recognised and that an economic and social base is established for ongoing tenure and development.

Support for employment of indigenous people in the region though tourism and parks is encouraged.

The Wirangu have some historical references and tribal boundaries that form an essential link in the knowledge of the Chain of Bays. From the expeditions of explorers Flinders and Baudin, awareness of indigenous history and connection to the land has formed a strong part of our consciousness of the West Coast region. Paintings of first peoples smoke fires seen from these explorer's ships in the 1800's are currently on display at the Port Adelaide Maritime Museum.

White sails

Dreaming stories of people coming to the region from land (which is now submerged) when sea levels were lower are part of local indigenous history. Mitch Dunnett, an Aboriginal leader from Ceduna, tells of one Wirangu story which refers to a ship with white sails which seemed to have been anchored near cliffs in the Sceale Bay area. It is believed that this story dates from a time well before Flinders and Baudin charted these waters, and may possibly refer to a Dutch or Portuguese ship.

Middens at Aerie, burial sites at Searcy Bay, and oral history of Aboriginal elders are evidence of the Wirangu ongoing link to this land.

Oral history exists of people forced over cliffs at Elliston and the memorial to shepherd James Baird and his death at the hands of indigenous people is located on the Point Labatt Road. The forced relocation and dispossession of indigenous tribes in the region to settlements away from their traditional lands caused a great degree of hardship to Aboriginal people, and resulted in a significant loss of cultural artefacts and traditional knowledge. Despite these unfortunate events, Aboriginal links to the area remain strong.

An important part of any natural history of this area is allowing space in this book for the Wirangu to express what they would like to say about the area, what knowledge about the area they would like to share, and what they would ask of people using the area, and how residents and visitors can learn about and respect Wirangu culture. Understanding these viewpoints and stories can help develop a direction in the region that has been overlooked in the recent past.

From the sea

Allan Wilson, an Elder from the Wirangu tribe, recalls questioning his father about where his people came from. His father replied, "We came from the sea".

Wirangu consider themselves to be coastal people, and their traditional lives are centered on their relationship with the coast. Wirangu considered seafood to be an important part of their diet. Traditional methods of fishing were used. These included the establishment of "fish traps" in some locations, either natural or placed rock formations which would channel fish into pools on the incoming tide.

Sticks and rocks would be used to scare the fish towards a hunter who would spear them. Wirangu consumed a variety of shellfish, and shell fragments, middens and charred stones from campfires may still be seen today on the cliffs and in the sand hills of the Chain of Bays.

Some areas in the region, such as Murphy's Haystacks, are considered important as birthing sites. Mount Hall also is said to have spiritual significance. Coastal granite outcrops and vegetated dune hummocks are also considered meaningful.

Waldya

The following Dreaming story from Allan Wilson reveals the spiritual significance of the eagle (Waldya) and the prominent granite outcrops of the area to the Wirangu:

"...with all the stories of the granite...

Right image: White Bellied Sea Eagle (2004). Cape Bauer at the northern tip of Calca Peninsula represents a location where these birds have traditionally foraged. In February 2008 a mature breeding female was found shot dead. There is an active nest on nearby Olive Island.

where there's waterholes, and granite hills and all that you know, and there's always a story, a Dreaming story, because they were thought of like Gods, you know."

"Like for instance the eagle came down, the Waldya eagle you know, come down from the north and it sat on those rocks down at Murphy's Haystack, and you can still see the blood on there...(the Waldya was speared by an ancestral warrior over one on the rocks at Murphy's Haystacks, and the eagle's blood is still visible today as a distinctive red marking on one of the prominent rock formations there. The eagle survived, and continued its journey southward)... then it flew down towards Marble Range way area... because there was a big end one Wunda there, a big disturbance."

"But where it flew afterwards, I just don't know. But there are always stories fitting in with the waterholes, fitting in with the big (hills)."

Allan Wilson, Wirangu Elder

Wardu and Bulgura

The Eagle, Wombat and Australian sea lion are important totems for the Wirangu. One story explains how the sea lion came to be found lying on the rocks, a sight familiar to visitors at Point Labatt. The sea lion (Bulgura) had a brother, the Wombat (Wardu). One day, the Wombat went for a swim, and changed places with the sea lion. From that day, the sea lion came up onto the land, and may still be seen lying on the beach and rocks of Point Labatt.

Burial sites

It is important for visitors to respect sites of significance to Aboriginal people, and not to disturb sites where there is evidence of occupation or burial (e.g. midden heaps, stone fragments and bone fragments). Visitors should not drive off of recognised roads since there are a number of burial sites and occupation sites in the sand dune country near the coast.

Visitors over the years have been amazed by Aboriginal middens and have also strongly opposed motorbike riding in midden areas such as The Pinnacles in Sceale Bay. From time to time high winds and erosion have revealed Aboriginal burial sites on Searcy Bay.

If evidence of Aboriginal burial sites is found, the location should be marked and the police notified. There are procedures under the Aboriginal Heritage Act, and the police are responsible for initiating these processes.

"There are a lot of stories... a lot I don't know. And there's a lot of history here. There's the sea; the warna, and there are a lot of graves there. I know they used to go mainly in the sand hills, mostly where the waterholes were, they buried them there. They would sit there, and if anyone died, if they left some old people behind, (a good walk)... You would be finding them right through the coast here, in the sand hills.

"There are a lot of middens. Where there are middens you know that there could be graves around there. Another thing there too, there's a lot of fresh water, where there are middens and fresh water, you know, they would dig and bring things up. There's a lot of fresh water coming out. All around here there's a lot of fresh water coming down from the hills there."

Allan Wilson, Wirangu Elder

Left image: Allan Wilson - Wirangu Elder and traditional owner of Chain of Bays (2009).

Right image: Searcy Bay Osprey nest from boat (2004). The Endangered Osprey lives on Cape Blanche and on stacks in Searcy Bay in the same way that it has done for years. The isolated undeveloped cliffs of this coastline now represent one of it's last chance for survival on the South Australian mainland.

Young people and education

Wirangu people welcome visitors to the Chain of Bays, and look forward to working with all groups for the benefit of the area. Steps are already underway to involve younger generations of Wirangu in the management of the coastal environment. By providing a range of opportunities for young people, new generations of Wirangu will be able to continue their long association with the Chain of Bays.

"Indigenous and non-indigenous people, there's something great here, you only just have to stand out here and you can feel, it's like there's magic. And it's so peaceful, and I think it deserves to be saved for all our generations.

"Youth have to be educated about it, people have got to be educated about it, and children have to be educated about it. We've got to have school excursions out here, show young people this country, their country, the future.

"Look at the land, look at the sea. There's cultural significance here in things. There are scenes here that really tell you that. Everywhere around you, you know. That land there, you look at the sea, and everything here tells me that this is a very special place, all along this coast. I'm not just speaking personally, the whole Aboriginal community will back me on this, our people walked through here for centuries, you know, before European settlement. And what we have felt, other people are feeling today."

Allan Wilson, Wirangu Elder

The Chain of Bays, on the West Coast of South Australia, is a traditional home to the Wirangu people.

Here are a number of Wirangu words for local animals, plants and environments of the region, as well as some common greetings.

Animals

Eagle – waldya (pronounced "warlja") Sea lion – balgura Wombat - wardu Bird- dyirda (pronounced "jerda") Ring-necked Parrot- buliny-buliny Butcher Bird- gulardi Euro- yuru Grey Kangaroo- waru Sleepy Lizard- galda Snake- dyunu (pronounced "junu") Fish- mudi Butterfly – bindi-bindi Fly- umbara Ant- wiba Spider- imbu

Environment

Sand Dune- biriny (pronounced "birrinya") Hill – walba Swamp – bindhara (pronounced "bindara") Sea – warna Sky – wira Cloud – wandula Wind – wari

Plants

Mallee tree (common) – dyilya (pronounced "jilya") Tree, stick - warda Grass- gaRa (pronounced "garra") Mistletoe – minyaling Wattle – minu Quandong – bulara Large Quandong – gunni Quandong seed – urdi

Greetings

Hello/ How are you?- Nyurni yadu? (pronounced "ni-urni yadu") I'm good – Nganha yadu (pronounced "ning-anna" yadu) What is your name? – Ngana nyurni ini? My name is – Nganha ini

Source: An introduction to Wirangu, Gladys Miller et al. (2006)

Left image: Aboriginal stone tool workshop uncovered by shifting dunes at Yanerbie (1990). These dunes contain reminders of the recent past where Aboriginal people walked this coastline to seasonally harvest food. The threat to these important cultural sites is the presence of quad bikes and other unregistered offroad vehicles.

Living in a wild coastal ecosystem

chapter 3

Local residents share the same environment and they have many different impressions of the Chain of Bays, coming from different perspectives. The range of impressions and perspectives adds to the "local knowledge" of the area, and expressing these impressions and perspectives results in the sharing of local knowledge. For most, living in the region is to live in a natural paradise, that has been a well kept secret (and staunchly kept that way) for decades.

Locals, especially, respect the natural sensitivity of region, which is valuable to all Australians.

Fishing

Several professional fishers work the waters of the Chain of Bays and reside in Streaky Bay and other small settlements along the coast. The main target species are King George Whiting, Garfish, Snapper, Shark, Abalone and Southern Rock Lobster. Poaching does occur in the region and if seen should be reported to authorities. The region is renowned world wide for the quality of it's seafood.

Fishing in the area has a number of known hazards, particularly due to the severity of the ocean swell. Any person fishing by boat needs to be experienced and also have appropriate safety gear to ensure the well being of themselves and the crew.

Fishing also needs to be done in a sustainable manner. Some fish species are more threatened than others and strict

observation of bag limits and restrictions on taking females should be observed during breeding seasons. Tackle should always be taken home along with lines and other rubbish to avoid later entanglement of marine species.

It is often true that the larger the fish the older it is and many fish are breeding when they reach larger sizes. Sustainable fishing information can be accessed on the Australian Marine Conservation Society website.

Government funding is required to assist the local fishing communities to better research and understand by-catch, over-fishing and damage to endangered species including Australian sea lions.

Surfers

Another group of local residents and visitors are the surfing community, who enjoy the powerful waves and variety of breaks.

Tales of the surf are many and varied and often include the interaction of humans and wildlife. Bottle Nosed Dolphins and Australian sea lions often share waves with surfers and some surf breaks are adjacent to Osprey nests.

Recently tow-in surfing was banned at The Island surf break because it was disturbing breeding birds.

Great White Sharks have been sighted by surfers in the water at Anxious Bay and Corvisart Bay. One such animal was described as being the size of an EH Holden Station Wagon. A famous surfing story at Anxious Bay involved perhaps the same shark coming up to a surfer and "mouthing" their surf board gently.

All surfers using the region have a role to play in both being personally aware of the sensitive marine and coastal habitats, as well as acting as 'sentinels' to report and record anything that might impact the area.

Streaky Bay

The major town servicing the region is Streaky Bay, located at the northern edge of the Chain of Bays. The town exerts a profound influence on the Chain of Bays coastline because most of the locals live there, and most of the visitors to the region stay in Streaky Bay.

The town of Streaky Bay has a range of accommodation options for visitors, including a renowned caravan park, the excellent Streaky Bay Community Hotel and motels, holiday cabins, and holiday rentals. Streaky Bay services an extensive and productive agricultural region based on cereal cropping (mainly barley, oats and wheat) and sheep and cattle grazing. The town businesses also benefit from a thriving tourism trade, and increasing numbers of people are relocating to the area to enjoy the benefits of the region's mild climate, beautiful scenery and excellent fishing and surfing.

Within the Chain of Bays proper, there are a number of small settlements along the

Right image: Professional Cray Fisherman Chain of Bays (2004). Crayfish are a vital part of the marine ecosystem and a lucrative table food.

Left image: Margaret Kelsh, Ellen Daly, Gemma Kelsh and Alice Haddy - four generations of West Coast Women, Calca (1995). Life on this often harsh landscape has imbued local farming people with a deep knowledge and respect for the ways nature deals its hand. This family's pioneering cottage, complete with earth floor, has been painstakingly restored in the Streaky Bay Museum.

coast, at Sceale Bay, Baird Bay, Yanerbie and "Fisherman's Paradise". These settlements house some permanent residents, seasonal residents and holiday residents.

Local government (The District Council of Streaky Bay) services the local community, provides facilities for visitors, maintains and develops roads, regulates coastal development, and administers much of the Crown Coast Reserve which fringes the northern shoreline of Sceale Bay.

Young people are the future of the Streaky Bay community, and their participation in the management and monitoring of the Chain of Bays is important now and into the future. Conservation and tourism initiatives in the Chain of Bays will provide opportunities for young people to learn about their local environment, share knowledge, and gain employment in the conservation and tourism sector.

Historical sites and cultural heritage

There are several sites within the Chain of Bays that have significance for the cultural heritage of residents of the Chain of Bays and adjacent townships.

Trial Harbor is the name given to an early 19th century whaling settlement which was located at the northern end of Sceale Bay beach. There are several shipwrecks in Sceale Bay, including the Arachne and Rebecca, both whaling vessels.

Adjacent to "Fisherman's Paradise" to the east, is a ruin which was for a period, the residence for Daisy Bates, a notable historic figure who spent much of her life with Aboriginal people, recording their languages and customs. In places along the margins of Baird Bay is evidence of old fishing shacks made of kerosene tins. These were inhabited by Greek immigrants, who supplied locals and Adelaide fish markets with fish caught in Baird Bay in the early part of the 20th century.

These locations which show evidence of past occupation are important archaeological sites which have value to the local community and to the broader community. Care should be exercised to avoid damaging these locations by vehicle or trampling and no materials should ever be removed from any of these sites.

Left image: Aaron Riley at Pinnacles (2009).

Scientists, surfers, naturalists & tourists

chapter 4

Many different people visit the Chain of Bays because of the outstanding environmental values and environmental resources of the region. These different people have a diversity of knowledge that can be shared for the benefit of the region.

Dr Peter Shaughnessy

Scientists visit the region for a wide variety of scientific research. One such scientist is Dr Peter Shaughnessy. While working for the CSIRO in 2001, Dr Shaughnessy initiated surveys of a newly discovered breeding colony for Australian sea lions at Nicholas Baudin Island.

Dr Simon Goldsworthy

A former research student of Dr Peter Shaughnessy, Dr Simon Goldsworthy, has continued research on Australian sea lions. Phd students regularly visit the area to research the colony, including Rebecca McIntosh from Latrobe University.

Terry Dennis

Raptor expert Terry Dennis has visited the area on a number of occasions in order to identify and monitor nesting locations for coastal raptors. Having worked in the area for many years as a Ranger, Terry has conducted surveys of raptors and recommended ways to ensure species survival. In South Australia, the Chain of Bays has the highest concentration of coastal raptors on the mainland of the state. Terry Dennis was also involved in confirming the discovery of the Nicholas Baudin Island Australian sea lion breeding colony.

Terry is currently monitoring Osprey and White-Bellied Sea Eagle activity in the region, and he would like to know of any observations of these birds in the area (T: 08 8 552 7659).

Reef Life Survey

Dr Janine Baker, Dr Scoresby Shepherd, Reef Life Dive Survey team members, and State Government Dive Survey team members have visited the region to survey marine life. They have been extremely influential in arguing the science that provides the benchmarks for a marine park system that has emerged in South Australia. The 2009 Reef Life Dive Survey also included Dr Marlene Davey from the University of Tasmania.

Jane Cooper

Jane Cooper, a local resident, has made regular shorebird observations along the Chain of Bays coastline for many years. Recently she was awarded funding to compile her valuable work and observations over many years.

South Australian Museum and Universities

State Herbarium botanists and South Australian Museum staff including Dr Cath Kemper have visited the area to collect data on plants and terrestrial fauna and marine mammals. Universities including Flinders, Tasmania, Melbourne and Latrobe have conducted field excursions and graduate students have conducted research projects based in the area. Geologists, hydrologists and archaeologists have also visited the region on a regular basis. Scientists often interact with the local Streaky Bay Area School showing students science in the field and in the classroom.

In addition to visiting scientists, a number of land management staff who are resident on Eyre Peninsula also visit the area regularly, including a Regional Conservator, Park Rangers, Fisheries Officers, and Natural Resource Management Officers. All of this activity generates the further development of knowledge about the Chain of Bays.

Coastal dwellers

Some people live in the area on an extended or seasonal basis. These people come from a range of backgrounds, including retirees, mine workers, contract workers, fishers and surfers. They have a range of skills, experiences and expectations which extend from those present in the permanent population. These people have observed the area over a long period, and their observations and experience are an important resource for the sharing of knowledge and monitoring and management of the Chain of Bays environment.

Right image: Reef Life Survey diver Andrew Green photographing marine algae in Sceale Bay (2009). In 2009 a group of highly skilled divers and scientists spent seven days recording baseline data in the Chain of Bays. The team came from Victoria, South Australia, NSW and Tasmania including the University of Tasmania. This project won the 2009 Natural Resource Management Project of the Year.

Left image: Dr Peter Shaughnessy and Terry Dennis recording data at Sceale Bay (2002). The long term mystery of the presence of large numbers of moulting Australian sea lion pups at nearby Point Labatt Conservation Park and Aquatic Reserve was revealed when CSIRO scientist Dr Peter Shaughnessy discovered a previously unknown major breeding colony on an unnamed islet at Cape Blanche.

The environment of the area is what attracts people and most visitors become "converts" to preservation and conservation to "repay" enjoyment that the area brings. Some people abuse the environment but thankfully these people are in the minority.

Surfers

The powerful waves of the Chain of Bays attract many surfers to the area. Some visiting surfers have remained to become permanent residents. These surfers were the original "Seachangers". New generations of male and female surfers have been raised in the area, and surf-culture is becoming an increasingly important element of the social fabric of the West Coast. Surfing is a great way to enjoy the coastal environment, and those who spend time in the water are rewarded with a close interaction with nature, which has inspired some local surfers to become involved in art and nature conservation.

Several surf "breaks" are well known, including, "The Granites" (Corvisart Bay), "Surfers" (Sceale Bay), and "The Island" (Searcy Bay). There are many other less publicised "breaks", and visitors who are unfamiliar with local conditions, including the influence of tides and winds, should seek the advice of local surfers before venturing into potentially dangerous waters.

For beginners, and visitors unfamiliar with conditions in the area, a good place to start can be "Surfers" at Sceale Bay, which can be easily accessed from the boardwalk to Sceale Bay Beach, a short turn-off from the main Streaky Bay to Sceale Bay road.

Tourists

Many visitors stay for only a short while, and participate in a few selected activities or visit a limited number of locations. These visitors may be from within South Australia, other states, or international tourists. Some visit the area as part of a more extensive tour; others come specifically to the region as a destination. The views, expectations and feedback from this group are very important for addressing future management options, and planning for future visitor facilities and activities.

Right image: Environmental Resource and Development Committee visit (2007). The Friends of Sceale Bay hosted a visit from the ERDC of the State Parliament of South Australia and took them on a boat trip from Sceale Bay to Baird Bay to point out the spectacular coastal features. On the trip were elected representatives of the people of South Australia - Russell Wortley, David Ridgeway, Bob Such, Lyn Bruer and Mark Parnell. All have played a role in preserving the conservation values of the region.

Left image: Merrick Savage and Marion Harvey vegetation survey Calca Peninsula (2009). The rehabilitation and re-establishment of vast tracts of cleared and degraded land will require the input and efforts of local people with knowledge and commitment. Planting from local seed in the right season can bring back native flora and then fauna.

Regulating impacts on nature

Knowing that the Chain of Bays is a very significant environment is an important step in caring for the Chain of Bays. Knowledge that is shared between the different groups of people who use the area broadens our understanding, and enables us to enjoy a greater experience of the environment.

Recognition of the importance of the Chain of Bays environment has become widespread. Federal, state and local governments, and the Eyre Peninsula Natural Resource Management Board have responded with plans and protection measures designed to manage the area into the future.

Part of this planning will be the provision of adequate visitor facilities such as toilets and campgrounds, and the provision of signs and interpretive information in various locations within the Chain of Bays.

New Conservation Parks and Marine Parks have been announced, and there are further plans to expand the Conservation Estate in the Chain of Bays in the near future.

These protection measures are important because they are an acknowledgement of the outstanding environmental values and the need for adequate protection of these in the Chain of Bays.

Management plans and reports

In the past few years comprehensive reports such as *The Chain of Bays Management Action Plan* by the Friends of Sceale Bay and the Department of Environment and Heritage's *Report on the* opportunities for the protection of coastal land between Streaky Bay to Venus Bay through the establishment of a Coastlinks *Conservation Area* (Coastlinks), have been produced to provide a framework for managing visitor impacts in this special coastal region.

New management plans will be produced for new Conservation Parks and Marine Parks and these will further develop the management framework for the Chain of Bays.

Landscape scale

Conservation efforts in the Chain of Bays are linked to broader landscapescale conservation programmes such as "Naturelinks", (East meets West Biological Corridor), which will involve the linking of the large coastal habitat formed by the Chain of Bays with even larger belts of native vegetation further inland, through processes such as revegetation, fencing and land purchases.

Coastal conflict

There are also significant changes being made to the rules affecting planning and development in coastal areas that will further protect sensitive coastal locations from the impacts of development. These changes, part of The Better Development Plan Project, involve the establishment of a Coastal Conservation Zone in areas near the coast and areas subject to coastal processes.

Left image: Shot Kestrel Back Beach Road (1990). Nature has the potential to offer so much to people and generally the only return it asks is respect. Ignorance, fear and cowardice is generally the motivation of those that indiscriminately kill wildlife.

Right image: *Fossilised tube worm casing near Tyringa (2009).* Ten years ago this entire hind dune was covered with a surreal display of the most amazing arrangement of these delicate structures. 4WDs and quad bikes have damaged many of these now.

The Coastal Conservation Zone provides an additional layer of protection from potentially harmful development for coastal areas outside of the Reserve System. However; even with improved development plans and processes, recent events at Cape Bauer (where 300 new houses are being proposed), will continue to cause concern amongst conservationists.

Staying over

Some infrastructure for visitors has been developed by private operators in the Chain of Bays. Private campgrounds open for visitors have been established near "The Granites" at Corvisart Bay, and near the entrance to Sceale Bay settlement. A council-developed campground is located near the entrance to Baird Bay township. A visitor centre and accommodation facility has been established as part of the Baird Bay Ocean Eco Tours experience. It is anticipated that further tourism infrastructure development will take place in the Chain of Bays to cater for the increasing number of visitors to the area.

Federal Government funding has been allocated to the sealing of the road between Streaky Bay and Point Labatt, which is a major tourism drawcard. At this site, a viewing platform has been established to allow visitors to view the Australian sea lion haul-out and breeding colony. New Zealand fur seals and a variety of shorebirds and waterbirds can be observed from the lookout at Point Labatt. On occasions, migrating whales and coastal raptors may also be observed there. Visitors are warned not to attempt to climb down to approach the sea lions; this is not only very dangerous, but also illegal. In addition to protected areas, management plans and infrastructure, there are also a range of land managers, custodians and stakeholders who are involved in caring for the Chain of Bays. Park rangers, Aboriginal custodians, Natural Resource Management Officers, Fisheries Officers, the local council, community conservation groups and individuals all play a role in monitoring the environment and managing user impacts.

Light footprints

Visitors can be involved by providing information and feedback to these representatives. Feedback can be provided in person, by telephone call, in writing, in visitor books, by email, or by participating in feedback and "blog" opportunities provided in the Chain of Bays website.

Awareness of the environmental values and awareness of visitor impacts is important for avoiding damage to the Chain of Bays. Visitors are asked to respect sensitive sites, use recognised roads, walking trails and walkways where provided, and refrain from camping outside of recognised campgrounds.

Animal injuries

In the summer months especially, visitors should be aware of Sleepy Lizards and snakes which frequently cross roads in the area. Without swerving erratically, visitors should slow down, and carefully avoid running over these animals.

Driving on sandy beaches should be avoided due to the risk of crushing the eggs of breeding shorebirds such as the Hooded Plover and Sooty Oystercatcher, which nest in shallow "scrapes" between September and April, when most vehicle activity is likely to occur.

Left image: Osprey Nest Searcy Bay (2004). According to the 2003 Birds SA report by Terry Dennis, the cliffs of Searcy Bay and Cape Blanche are home to potentially pre-European concentrations of the Endangered Osprey. Nests should never be approached, even from a distance of 2kms these birds exhibit disturbance behaviour.

Right image: Cape Bauer (2007). A loop road was bulldozed into this area about 20 years ago, this was opposed by the Department for Environment and Heritage (DEH). An active Sea Eagle nest failed and the remoteness of the location was threatened. Now Cape Bauer is earmarked for a major tourism development using part of this road for coastal access for the patrons and the residents of the proposed 300 housing allotments.

It is hoped that a fauna rescue and recovery centre will be established in the area in the not-to-distant future.

Sensitive birds

Coastal raptors nest in some remote cliff top locations along the Chain of Bays coastline. Visitors should avoid disturbing nest sites and no approaches should be made to nesting areas.

These birds are particularly sensitive to approaches being made from above the nest and during the breeding season especially, a wide berth should be made around the nesting areas. Adult birds which fly above the nest emitting distress calls are a sure sign of disturbance and visitors should retreat immediately.

The sensitive breeding period for coastal raptors on Eyre Peninsula, is between July and January for White-Bellied Sea Eagle, and from July to as late as April for Osprey, but breeding pairs remain in the vicinity of the nest year-round, so nest sites should be avoided at all times.

Breeding sea lions

The breeding colonies for the Australian sea lion located at Olive Island Conservation Park, Nicholas Baudin Island, Point Labatt and Jones Island should not be accessed by visitors on foot or approached by boat. Such approaches are illegal, unless they are part of an officially-approved survey or scientific study for which approvals have been granted.

If you have a dog it is best left at home rather than being allowed to run across the rocks where Australian sea lions haul-out to rest.

Left image: House construction in Searcy Bay dunes (2003). Despite objections from the South Australian Government and its conservation agencies a council approved 5km road was bulldozed through dunes to this pristine coastline and two houses built. Ongoing wildlife management and access issues have ensued ever since.

Right image: Juvenile Western Blue Groper (2009). The recent dive survey found a large number of juvenile specimens in the High Cliff area. Dr Marlene Davey from the University of Tasmania encountered an old groper that was 1.5 metres long. Western Blue Gropers are protogynous hermaphrodite. This means all juveniles are females and they change sex as they mature, one specimen was found to be 69 years old. Very little is known about these mysterious fish. Tragically many green coloured juveniles like these are used as cray bait by unaware local amateur fishers.

Tyringa & Baird Bay

Tyringa is a part of Anxious Bay which meets the sheltered waters of Baird Bay at its eastern most point. The western part of Anxious Bay is home to high cliffs, rugged coast and sheltering dunes.

Strong waves and swell pulse in to the exposed bay, and dunes protect many endangered flora and fauna. Great White Sharks and Southern Right Whales are often seen in the western half of Anxious Bay in and around Tyringa. Far from the townships, Tyringa is a wild place, and forms a critical link between nearby Venus Bay Conservation Park and Baird Bay Islands Conservation Park. There are significant stands of coastal vegetation which include endangered species such as the West Coast Mintbush, *Prostanthera calycina*.

Shelter from the storm

Next to Tyringa is Baird Bay, a protected embayment consisting of a series of shallow (less than 5m deep) basins, separated from the open sea by an entrance reef and Jones Island. This island is home to a small but successful breeding colony of Australian sea lions; it is also the location for a famous and popular ecotourism activity swimming with Australian sea lions, run by Baird Bay Eco Tours and conservation stalwarts Trish and Alan Payne.

Baird Bay is an International Union for Conservation of Nature (IUCN) rated wetland of international significance.

The first basin of Baird Bay is a lush

seagrass meadow which supports a wide diversity of marine species including several unusual species of Pipefish, Wrasse and Velvet Fish. The first basin is separated from the upper basins by a narrow channel which is the location for the settlement of Baird Bay.

The upper basins are an important nursery for a number of commercial fish species. They are also a significant refuge for migratory waterbirds and shorebirds. There are some freshwater springs and soaks on the eastern side of the bay, some of which exit below sea level, and thus contribute towards a more estuarine environment than other sections of coastline in the region.

Conservation and Marine Parks

Existing conservation areas in Baird Bay are the Baird Bay Islands Conservation Park (Jones Island and the Unnamed Island in the middle basin of the Bay). In addition to this existing Reserve, a new addition to the conservation estate has been proposed for "The Washpool", a series of springs on the eastern margin of the bay that supports an aquatic vegetation community and provides habitat for resident and migratory waterbirds.

All of Baird Bay and the narrow Crown Land Coast Reserve fringing the bay have been declared within the boundary of Marine Park 3, a new Marine Protected Area which includes three of the four Bays in the Chain of Bays. There are also ten adjoining Heritage Agreement private

Left image: Mouth of Baird Bay (2009).

Right image: Australian sea lion Baird Bay (2009). This animal is Australia's only endemic marine mammal. It is the rarest of all sea lions in the world, their numbers total 12,000. Each colony has a separate genetic makeup. Pups are extremely vulnerable because of their long suckling period.

properties on Calca Peninsula, totalling over 1,000 Hectares which protect the coastal vegetation on the western side of Baird Bay. All of the coastal margins of Baird Bay have been proposed to be included in a new Conservation Park.

Baird Bay itself is a 44 square kilometre body of shallow water, with a variety of seagrass meadows, algal mats, bare rock (limestone), sand, and silt. The margin of the bay is fringed by low coastal cliffs, shell grit beaches, sandy low-energy beaches, coastal wetlands (freshwater and saline), islands and entrance reefs.

The coastal land adjoining Baird Bay to the west is formed by Calca Peninsula, a one to two kilometre wide strip of coastal heaths, grasslands, Casuarina and Melaleuca woodlands and Mallee, separating the protected waters of Baird Bay from the open waters of Searcy Bay.

Wildlife species

Significant species found in Baird Bay and its coastal margins include the Australian sea lion, migratory and resident waterbirds including Australian Pelican, Great and Pied Cormorants, Musk Duck, Grey Teal, Australasian Grebe and Great Crested Grebe, and a variety of migratory and resident waders, including Eastern Curlew, Hooded Plover, Banded Stilt and Sooty Oystercatcher.

Waterbirds can be frequently observed in many locations around Baird Bay, including the entrance channel adjacent to Baird Bay settlement (Pelicans), at the northern extremity of the Bay (Cormorants), at "the Washpool" on the eastern side of the Bay and from the Point Labatt Road on the western side of the Bay (Ducks, Teals, Grebes and Black Swans), and at the sand spit on the western side of the Bay (lines of waterbirds are frequently visible at this location).

Baird Bay is an important feeding area for Osprey and White-Bellied Sea Eagle (which may be observed on occasions soaring along the western coastline of Baird Bay), an important nursery for juvenile fish, and habitat for pipefish, Leafy and Weedy Sea Dragons, rays, and dolphins.

Plant varieties

The coastal heaths fringing Baird Bay support a variety of plants more commonly associated with more temperate areas, and some rare plants including the West Coast Mint Bush. The saline wetlands adjoining Baird Bay support stands of the rare Bead Samphire. The vegetated dunes at the north western side of the Bay support a significant plant association (Casuarina Woodland).

There are coastal grasslands, sedge lands and cliff top dune shrublands which provide habitat for small mammals, including Mitchell's Hopping Mouse and Fat-tailed Dunnarts.

Reptiles

A wide variety of snakes, including regionally rare snakes such as the Bardick and Master's Snake have been observed on Calca Peninsula. There is also a wide variety of lizards, including "blind" or "legless" lizards, and especially skinks, found in the area of Baird Bay. There are several species of Gecko, including Marbled Gecko, Western Stone Gecko, Thick-tailed Gecko, and Starred Knob-tailed Gecko, found on Calca Peninsula.

Baird Bay supports an internationallyrenowned nature-based ecotourism activity, "Swim with sea lions and dolphins" conducted by Baird Bay Ocean Eco Experience. A new visitor centre and

Left image: West Coast Mint Bush (2009). This unique species is endemic to the Eyre Peninsula and is concentrated in the Chain of Bays.

Right image: Trish Payne Baird Bay (2005). Successful eco-tourism operator Trish Payne has strong views on the need for people to be educated about the local environment. She says: "Baird Bay is a natural nursery for fish and other wildlife."

accommodation facility, and a small Baird Bay Campground. There are a number of private shacks at the settlement, and boating, marine charters, fishing, bird watching and canoeing within Baird Bay are popular activities conducted by residents and visitors.

Visitors to Baird Bay should exercise care to avoid approaching the Australian sea lion colony at Jones Island, unless they are part of an organised tour with Baird Bay Ocean Eco Tours. Jones Island is also a breeding site for the Australian Pelican, and access to this site should be avoided.

Sticking to the rules

Like all coastal areas in the Chain of Bays, visitors should avoid driving off established tracks, because coastal vegetation is very sensitive to vehicle damage. Recovery of damaged areas is very slow, and in some cases, the exposed sand develops into extensive "blow-outs".

Visitors should avoid camping outside of the designated campground near the Baird Bay settlement, and bans on the use of open fires in the summer months should be strictly observed.

Care should be taken while fishing to recover all litter and avoid fishing in areas where fishing tackle may be lost. Litter and lost fishing tackle can be fatal for waterbirds and foraging sea lions.

Left image: Jones Island and the mouth of Baird Bay (2009). This aerial view shows the Baird Bay Island Conservation Park and Aquatic Reserve, home to a breeding colony of Australian sea lions and an active Osprey nest. Given its proximity to the mainland the Island should be granted prohibited area status.

Right image: Tourist at Tyringa (2009). The wide open spaces and nature free from development is of great appeal to those that come from crowded cities.

Searcy Bay

Searcy Bay is a remote and wild high-energy wave environment on the western side of Calca Peninsula. The 38 kilometre-long bay has deep water (30 metres) extending very close to shore in a number of places and its coastal margins are lined with high limestone cliffs, punctuated by some small sandy coves and larger high-energy beaches at its northern extremity.

Searcy Bay has a multitude of near-shore reefs, rock pools and shoreline platforms, located beneath high coastal cliffs. These features support a wide diversity of marine algae and reef fish species. There are a few places where granite outcrops on the shoreline (such as Point Labatt), and these areas contain granite pools and reefs which are favoured feeding and resting sites for the Australian sea lion.

The high coastal cliffs of Searcy Bay support a number of active nest locations for the Osprey and White-Bellied Sea Eagle, as well as the Peregrine Falcon. The Peregrine Falcon is renowned as the world's fastest bird.

Cliff top dunes, grasslands and heath lands typify the near-shore environment of Searcy Bay, which is highly exposed to westerly and southerly wind and salt spray. The vegetation here is highly stressed and frequently exhibits stunted and sculptured growth forms.

All of the waters of Searcy Bay are included in a new Marine Park (Marine Park 3). In addition, the waters surrounding Point Labatt are an Aquatic Reserve under the Fisheries Act and fishing is prohibited. The Point Labatt Conservation Park and Aquatic Reserve is an International Union for Conservation of Nature (IUCN) rated "wetland" of international significance.

Farmers, governments and conservation

Land for the Point Labatt Conservation Park was donated by the local Freeman farming family, who owned the adjoining rural property "Tarwonga" in the 1960's. Recently, the State Government has announced it will be extending the Point Labatt Conservation Park with the inclusion of the adjoining Crown Coast Reserve, which extends along Searcy Bay. Further additions to the reserve system have been made with the recent purchase of private land of high conservation value at the northern end of Calca Peninsula, extending to include the wetland and monument to James Baird which is visible from the Streaky Bay to Point Labatt Road.

Further protected areas exist in the form of the ten Heritage Agreement properties on Calca Peninsula, which total 1,000 hectares extending between Baird Bay and Searcy Bay. An additional area (The Island Council Reserve) provides protection and access to a popular surfing location on Searcy Bay on the northern boundary of the Calca Peninsula Heritage Agreements.

Searcy Bay contains a number of sites significant for their environmental attributes

Left image: Searcy Bay relationship to Baird Bay (2009). This image shows clearly why the proximity of these two bays provides all year round fishing for Ospreys and White Bellied Sea Eagles. When it's blowing up out front the birds fish out back.

Right image: School of Sweep at dusk (2009). The reefs of Searcy Bay are rich in species diversity.

and a number of sites significant to the Wirangu, including Aboriginal middens and burial sites.

Point Labatt is a high cliff top viewing location overlooking a granitic outcrop with protected pools which support a haul-out and breeding colony for the Australian sea lion.

Natural features

Cape Radstock, further to the south, is the highest coastal cliff between the Whaler's Way near Port Lincoln, and the South West Corner of Western Australia. Salmon Beach is located to the north of Point Labatt. There is a long reef and steeply inclined beach section suitable for shore fishing.

"The Island" is a section of the Searcy Bay coastline popular with surfers. A nearby coastal stack supports an Osprey nest.

Slade Point, Cape Blanche and Nicholas Baudin Island are large granitic outcrops at the northern extremity of Searcy Bay.

Searcy Bay has numerous near shore and deep-water reefs which contain a great diversity of marine algae and corals including several rare species. These reefs are frequented by reef fish, crayfish and abalone. In more sheltered near-shore areas, seagrasses dominate the benthic flora. In the semi-protected limestone tidal pools, the distinctive Necklace Seaweed (actually Brown Algae) is dominant.

Migrating whales are sometimes observed sheltering in the lee of Cape Blanche, near Slade Point, when north-westerly winds are strong.

Searcy Bay is an important foraging area for the large Australian Sea lion colony at Nicholas Baudin Island, and the smaller colonies at Jones Island and Point Labatt. Dolphins and sharks are frequently observed in the waters of Searcy Bay.

Eco tourism

The Point Labatt Road provides access to the southern section of Searcy Bay.

It is a popular tourist road that brings upwards of 30,000 visitors each year to the Point Labatt viewing platform. Other ecotourism activities that can be undertaken in Searcy Bay include diving, snorkelling, marine charter and bird watching. Surfing, rock fishing and beach fishing are also popular activities at Searcy Bay. These are powerful and potentially dangerous seas and boating should only be undertaken in favourable conditions with adequate craft and local knowledge.

Visitors should avoid disturbance of coastal raptor nesting sites on the cliffs of Searcy Bay, and no attempts should be made to intrude into the Australian Sea lion colonies at Point Labatt and Nicholas Baudin Island.

Tow-in surfing should not be attempted near coastal raptor nesting sites.

As in all areas of the Chain of Bays, visitors should stay on recognised roads and tracks to avoid damage to coastal vegetation, landforms and Aboriginal sites.

Bird disturbances

Unfortunately, shooting of native wildlife and low-level flights have been known to occur in the area, and anyone observing these activities is strongly urged to contact local Park Ranger staff immediately. In 2008-2009 an Osprey and White Bellied Sea Eagle were shot.

Left image: Osprey hunting (2009). In 2008 and 2009 the entire state of South Australia was outraged by a series of shootings of these spectacular endangered birds in the Chain of Bays.

Right image: Dave "Dirty" Appleby (2008). Local paddle in surfers have coexisted with Ospreys at The Island surf break for 30 years, parking back from the coast and walking in to the break on clearly identified tracks. Most surfers seem to respect the source of their recreation.

Sceale Bay

Sceale Bay is a 33 kilometre long section of predominantly sandy coast set between rocky headlands at Cape Blanche to the south and Point Westall to the north.

The main part of the Bay is a magnificent 20 kilometre white sandy beach backed by a stable vegetated dune. At the northern section of the beach, the vegetated dune has been breached, and a large mobile dune-field (the White Sands of Yanerbie) extends several kilometres inland.

Seagull Lake

There is a significant wetland system behind the main dune, which includes "Seagull Lake", a prominent feature on the road between Streaky Bay and Sceale Bay, a stranded saline swamp dominated by Zostera and Ruppia marine seagrasses and fed by marine springs.

Another special feature is the nearby "Whirlpool", another marine spring which has been noted to support populations of marine fish and snails. This natural feature is in need of urgent protection from council and government as the current practice of using water from the pool for road works is having an impact on an important wetland spring.

This wetland complex supports a range of migratory and resident shorebirds, including Hooded Plovers, Fairy Terns, Banded Stilts, Red-Necked Avocets and Eastern Curlews.

Towards the northern end of Sceale Bay. the sandy beach section curves in a southwesterly direction towards the Yanerbie shacks site, and terminates at a low rocky headland called "Speed's Point". A large area of Crown Land, leased and administered by The District Council of Streaky Bay extends over the Yanerbie Dune field. Recently, the council dedicated some wetland areas here for protection under the Heritage Agreement scheme. It is hoped that eventually all of this land will be gifted by the local council to be added to the reserve system and placed within the Sceale Bay Conservation Park to protect Mallee woodlands, bird life and Aboriginal middens. Between here and Point Westall, Sceale Bay changes in character, as the shoreline is subjected to more exposed conditions. A number of granite "bombies", granite reefs and exposed granite shore platforms punctuate this section of coastline.

Smooth Pools

"Smooth Pool" and "Skippy Pool" are two protected lagoons that provide an optimal environment for snorkelling and diving. A range of reef and school fish may be observed in these locations and there are also some excellent dive sites in the exposed waters south-east of these locations. Smooth Pool is known for the largest population of the rare (and world's smallest!) Sea Star, Little Pattie, which is found in only a few locations on the West Coast.

Left image: Cow suckling a pup on Nicholas Baudin Island Conservation Park and Aquatic Reserve Cape Blanche (2002). In 2000 a proposed aquaculture operation in Sceale Bay threatened a newly discovered colony of Australian sea lions. Friends of Sceale Bay and the Australian Marine Conservation Society successfully lobbied to have the development stopped.

Right image: *Yanerbie Dunes (1990).* The first tracks of a 4WD vehicle pushing in to a place that previously involved a long hot walk for surfers and fisherman. The proliferation of off-road vehicles and motor bikes means unsurpassed pressure on the most remote corners of this previously inaccessible landscape.

Recently the State Government announced a new Marine Park for the Chain of Bays area. All of the waters of Sceale Bay are now enclosed within a Marine Protected Area (Marine Park 3). Smooth Pool has a 1A International Union for Conservation of Nature rating, and is a world recognised environment that needs proper protection by the council and government. It is hoped that Smooth Pool will be recognised as a site of high conservation value within this new marine reserve. Urgent funds are required to manage this area.

Sceale Bay Conservation Park protects the mid section of the Sceale Bay dune, and includes most of Seagull Lake.

Nicholas Baudin Island Conservation Park protects the large Australian sea lion colony there. In addition to these existing Reserves, some new State Government land purchases have been made in areas near Cape Blanche which may be added to the Reserve System in the near future.

Other significant sites in Sceale Bay include a number of Aboriginal sites in the dune system, and European cultural heritage sites at Trial Harbour, near Yanerbie. There are also significant marine shipwrecks in Sceale Bay. Over the years roads have been graded through the whaling station and more care needs to be taken to preserve this unique heritage area.

Significant species

Significant species which have been observed at Sceale Bay include the Australian sea lion, Southern Right Whales, Humpback Whales and Killer Whales. Migrating Southern Right Whales are sometimes seen sheltering in Sceale Bay when strong winds are coming from the south-west. Dolphins, and less commonly, sharks, are often observed in the Bay. Osprey and White-Bellied Sea Eagles are regularly seen foraging along Sceale Bay.

The beach at Sceale Bay is an important feeding and breeding area for a number of migratory and resident shorebirds, including Sanderling, Ruddy Turnstone, Sooty Oystercatcher, Pied Oystercatcher, Hooded Plover and Red-Capped Plover.

Bats are often observed at Sceale Bay settlement, and Mitchell's Hopping Mouse and Western Pygmy Possum are known to survive in the wooded areas behind the main beach.

There is a great diversity of reef fish, including significant numbers of juvenile Blue Groper, in the near-shore reefs of Sceale Bay. The largest population of the rare Little Pattie starfish is found at Smooth Pool. Rare plants including West Coast Mintbush are found at Cape Blanche and Surfers Beach, and a very significant population of Bead Samphire is found on the shores of Seagull Lake.

4WD damage

Visitors should avoid disturbance to coastal raptor and Australian sea lion breeding sites at Cape Blanche and Nicholas Baudin Island. It is well known that driving on the beach at Sceale Bay is damaging to the nesting sites of shorebirds, and this practice should be discouraged. Adequate access to the central section of the Bay is provided with a boardwalk at Surfers Beach.

Other activities which cause damage to the environment of Sceale Bay include indiscriminate 4WD and trail bike use, which causes not only damage to shorebird nesting sites, but also damage to dune vegetation and coastal heath vegetation. These sensitive vegetation communities are

Left image: Life amongst the sea grass meadows of Sceale Bay (2009). The recent dive survey has provided valuable data that will help inform the planning for the inner boundaries of the Marine Protected Area in the Chain of Bays.

Right image: Sceale Bay Cape Blanche (2007). By preserving and rehabilitating remnant vegetation you create the accommodation and food supply that will enable ecosystems to expand.

also easily trampled by foot, so visitors are encouraged to use boardwalks and marked trails where provided, and to avoid trampling vegetation where they are not provided.

Marine wrecks

Care should be taken to avoid damage to marine shipwrecks from boat anchoring. Seek local advice if you are intending to anchor in the northern section of Sceale Bay. A recent survey by Flinders University brought students from Indonesia and the United States to the area to explore the local coastline and marine waters for shipwreck evidence. Recent finds of Ambergris and whale teeth in Sceale Bay highlight the historic importance of whaling to the region.

Recreation

Surfing, fishing, boating, swimming, diving and snorkelling, are all popular activities in the waters of Sceale Bay. Facilities exist for bush-camping at Sceale Bay Campground and although camping is permitted in Sceale Bay Conservation Park, there are no facilities. Other activities include marine charters, beach walking, bird-watching, and canoeing and kite surfing. Holiday accommodation is available at a number of houses in Sceale Bay settlement.

Left image: *Tracks on the beach – Sceale Bay (2009).* Research indicates that vehicles driven above high water marks on remote beaches like Sceale Bay are having significant impact on threatened species such as the Hooded Plover. Eggs are crushed and birds disturbed from nesting.

Right image: Dave Armstrong on Nicholas Baudin Island (2002). Department for Environment and Heritage Ranger presence will help manage the Chain of Bays for the future.

Corvisart Bay

Corvisart Bay is a 31 kilometre long deep water bay, consisting of a series of rocky outcrops and headlands separated by stretches of high-energy, steeply pitched beach. Like Searcy Bay, Corvisart Bay has deep water sections which extend close to the shoreline.

Most of the main stretch of Corvisart Bay is backed by an unusually high and steep vegetated dune, dominated by stunted coastal heath land and shrubland. A notable feature of Corvisart Bay are the granite outcrops located at Point Westall, "The Granites" and Cape Bauer.

There are also interesting limestone formations on the coast at Back Beach, Whistling Rocks and at the "The Blowholes". Spectacular coastal cliffs are located at "High Cliff."

Olive Island Conservation Park

Olive Island Conservation Park, off the shore of Cape Bauer, is a very important location for wildlife. There is a large breeding colony of Australian sea lions; it is a known nesting location for Osprey, White-Bellied Sea Eagle and Cormorants. Olive Island is also an important refuge for Sharp-tailed Sandpiper, Fairy Terns, Ruddy Turnstone, Rock Parrot and Cape Barren Goose. The reefs near Olive Island Conservation Park are renowned for the size and diversity of reef fish and marine algae.

Unprotected

Aside from the Crown Coast Reserve, there are no Reserves in Corvisart Bay, and the Marine Protected Area of Marine Park 3 does not extend into the waters of Corvisart Bay.

Significant sites

Significant sites in Corvisart Bay include Olive Island, Cape Bauer, The Blow Holes, Hally's Beach, Back Beach, High Cliff, The Granites and Point Westall. Cape Bauer is a rocky headland which has been known to support breeding pairs of Osprey and White-Bellied Sea Eagle.

Corvisart Bay is a significant feeding ground for the Australian sea lion, and the waters of the Bay are inhabited by whales, dolphins, sharks, reef fish and a healthy diversity of marine algae.

Nature-based tourism and activities based in Corvisart Bay include surfing, fishing, swimming, boating, diving and snorkelling, beach walking and bird-watching. Camping is provided at Streaky Bay Caravan Park. There are also marine charters which operate between Streaky Bay and Olive Island.

As with other locations in the Chain of Bays, visitors should avoid disturbance of coastal raptor breeding sites at Cape Bauer and Olive Island Conservation Park. Boat users should avoid disturbing the Australian sea lion colony at Olive Island Conservation Park.

Left image: Granites - Corvisart Bay (2005). Granites is a location that has significance to the Wirangu people. The remains of their ancient fish traps exist in some places. These days its protected rock pools and powerful waves make it a popular location to visit.

Right image: High Cliffs (2002). There are many locations to pull off the tourist loop road on the southern end of Corvisart Bay. More consideration needs to be given to manage tourism impact on this area.

Envisaging the long term

The co-development of a new Marine Park and a new Coastal Conservation Park in the Chain of Bays represents a prototype for a new kind of conservation reserve in South Australia, integrating both coastal and marine conservation, and protecting species such as the Australian sea lion, the White Bellied Sea Eagle and Osprey, which inhabit the interface between land and sea.

It is important to protect sensitive species and locations, but it is also important to cater for the recreational demand of visitors to this popular area. New approaches to coastal planning and development have been developed through the State Government's Better Development Plan Project, to ensure that development in the coastal zone does not damage the coastal environment.

Dedicated rangers

In 2009 South Australian Environment Minister Jay Weatherill announced that a dedicated National Parks and Wildlife Ranger Office will be located at Streaky Bay to assist in the management of the expanded conservation estate in the Chain of Bays.

The Wirangu people

In time, it is hoped that Wirangu custodians will also be employed to extend indigenous knowledge of the Chain of Bays to other users and stakeholders of the area.

Strategic planning

With the completion of a number of important strategic planning documents, visitors can be assured that the Chain of Bays is no longer a region that has escaped the attention of government and government agencies. Visitors and residents can expect a dramatic improvement in the provision of infrastructure, interpretive information, monitoring, reporting, and visitor engagement.

All of us

Caring for the Chain of Bays involves us all. As users of the area, we all have a duty to develop an understanding of the significance of this special coastal and marine environment.

With knowledge, we can understand how our activities (and the cumulative impacts from other activities) affect these environments. With understanding, we can avoid and mitigate damage, rehabilitate areas, link habitats and restore species. Part of our duty as users and stakeholders of the Chain of Bays is learning to respect knowledge from different sources, and integrating that knowledge for the benefit of the environment, and for our own enrichment.

In this way, we can work together to improve our understanding of the region, promote further research and studies, monitor the environment and participate in caring for the Chain of Bays.

Left image: Smooth Pool marine scientist school visit (2009). On a 42 degree day in February 2009 a group of dedicated teachers and students from Streaky Bay Area School spent the morning learning fish identification and survey recording techniques from a team of marine ecologists working on the Chain of Bays inaugural dive survey project.

Right image: Natures palette (1990). Marine Algae, Starfish and Sponges under Searcy Bay granite. The colour and variety of life under a single piece of granite can be astounding.

Local species list

Local species lists are a cornerstone of conservation. Many good reference books exist on coastal and marine species.

Once you see an animal it is worth looking in a book to identify a species and to denote when and where you saw it.

This helps to build up the local species list, which in turn, helps in arguments for conservation when you approach council, state and federal governments. One person's "bush turkey" may actually be an endangered "Mallee Fowl".

So make sure you identify it, check it, and if you can get a photo, double check with the South Australian Museum or State Herbarium.

And if you get it identified, "google" it and see what the internet says about it's rarity and significance to the worlds ecosystems.

No comprehensive biological survey has yet been conducted in the Chain of Bays, so our understanding of some groups of species in particular, is limited.

Just a few of the species seen in the Chain of Bays include:

Coastal and marine

(Mammals) Australian sea lion, *Neophoca cinerea*;

(Birds) White-bellied Sea Eagle, Haliaeetus leucogaster; Osprey, Pandion haliaetus; Hooded Plover, Thinornis rubricollis; Sharptailed Sandpiper, Calidris acuminata; Fairy Tern, Sterna nereis; Sooty Oystercatcher, Haematopus fuliginosus; Great Cormorant, Phalacrocorax carbo; Pied Cormorant, Phalacrocorax varius; Red-necked Stint, Calidris ruficollis; Musk Duck, Biziura lobata; Great Crested Grebe, Podiceps cristatus; Chestnut Teal, Anas castanea.

Coastal and terrestrial

(Mammals) Euro, Macropus robustus; Western Grey Kangaroo, Macropus fuliginosus; Fat-tailed Dunnart, Sminthopsis crassicaudata; Mitchell's Hopping Mouse, Notomys mitchellii; Brush-tailed Bettong, Bettongia penicillata; Western Pygmypossum, Cercartetus concinnus; Chocolate Wattled Bat, Chalinolobus morio; Southern Forest Bat, Vespadelus regulus;

(Birds) Peregrine Falcon, *Falco peregrines*; Rock Parrot, *Neophema petrophila*; Australian Ringneck (Ring-necked Parrot), *Barnardius zonarius*; Blue-breasted Fairy-Wren, *Malurus pulcherrimus*; Grey Teal, *Anas gracilis*; Australasian Grebe (Little Grebe), *Tachybaptus novaehollandiae*;

(Reptiles) Peninsula Brown Snake, *Pseudonaja inframacula*; Bardick, *Echiopsis curta*; Master's Snake, *Drysdalia mastersii*; Common Death Adder, *Acanthophis antarcticus*; Worm Lizards; Snake-Lizards;

Left image: Bardick (Echiopsis curta) Searcy Bay (2009). This rare snake's habitat has shrunk considerably over the past 100 years because of land clearing. In NSW it has an Endangered status. It is venomous and should never be approached.

Right image: Marion Harvey, revegetation specialist amongst flowering Silver Mulla–mulla (Ptilotus Obovatus), Searcy Bay (2009). The time and personal effort many locals have put in to learn more about the West Coast provides us with an invaluable knowledge resource to help rehabilitate this area.

Shingleback (Sleepy Lizard), *Tiliqua rugosa*; Ctenotus Skinks; Lerista Skinks; Mallee Tree Dragon, *Amphibolurus norrisi*; Painted Dragon, *Ctenophorus reticulates*; Sand Goanna, *Varanus gouldii*; Marbled Gecko, *Christinus marmoratus*; Western Stone Gecko, *Diplodactylus granariensis*; Thick-tailed Gecko (Barking Gecko), *Underwoodisaurus milii*; Starred Knob-tailed Gecko, *Nephrurus stellatus*;

(Amphibians) Frogs & Toads;

(Insects) Spiders, ants, butterflies, beetles (a comprehensive survey of insects is yet to be undertaken, but it is anticipated that some exciting discoveries may yet be made);

(Rare Plants) West Coast Mint Bush, *Prostanthera calycina*; Bead Samphire, *Halosarcia flabelliformis*.

Marine

(Mammals) Bottlenose Dolphin, *Tursiops* aduncus; Southern Right Whale, *Eubalaena* australis; Humpback Whale, *Megaptera* novaeangliae; Killer Whale, *Orcinus orca*;

(Fish) Great White Shark, Carcharodon carcharias; School Shark, Galeorhinus galeus; Gummy Shark, Mustelus antarcticus; Bronze Whaler Shark, Carcharhinus brachyurus; Western Shovelnose Ray, Aptychotrema vincentiana; Southern Fiddler Ray, Trygonorrhina fasciata; Western Blue Groper, Achoerodus gouldii; Harlequin Fish, Othos dentex; Wrasse species, King George Whiting, Sillaginodes punctatus; Pink Snapper, Chrysophrys auratus; Queen Snapper, Nermadactylus valenciennesi; Sea Garfish, Hyporhamphus melanochir; West Australian Salmon, Arripis truttaceus; Tommy Ruff, (Australian Herring) Arripis georgianus; Trevally, Seriolella brama; Flathead, Platycephalus sp.; Southern Bluefin Tuna, Thunnus maccovii; Venus Pipefish, Stigmatopora venusensis; Green Moray, *Gymnothorax prasinus*; Weedy Sea Dragon, *Phyllopteryx taeniolatus*; Leafy

Sea Dragon, *Phycodurus eques*; (Invertebrates) Octopus, Cuttlefish, Nudibranches, marine worms, Starfish (including Little Pattie Sea Star, *Parvulastra parvivipara*)

(Molluscs) Greenlip Abalone, *Haliotis laevigata*; snails, clams, scallops, cockles;

(Crustaceans) Southern Rock Lobster, *Jasus* edwardsii; Blue Swimmer Crab, *Portunus pelagicus*; sand crabs and rock crabs, Western King Prawn, *Melicertus latisulcatus*;

(Plants) Seagrasses, Amphibolis antarctica, Amphibolis griffithii, Halophila australis, Heterozostera tasmanica, Posidonia angustifolia, Posidonia sinuosa, Zostera muelleri, Zostera mucronata, Ruppia spp.; Marine Algae (Brown, Scytothalia, Ecklonia, Cystophora, Sargassum, Acrocarpia, Momeostrichus, Corynophlaea cristata; Green,Caulerpa; and Red Algae, Phacelocarpus, Osmundaria, Plocamium, Callophyllis, Sonderopelta, Gigartina wheliae) (a comprehensive survey of marine algae has not yet been conducted, but would be expected to yield significant diversity and some exciting discoveries).

Left image: Southern Rock Lobster (Jasus edwardsii) Sceale Bay (2009). A recent Tasmanian scientific study indicated large crays play a role in maintaining a diverse reef habitat.

Right image: Fossilised Male Sperm Whale's tooth (2009). In September 2009 rough seas and high tides revealed this rare treasure for one young eagle eyed beachcomber along Sceale Bay. Many species of whales visit Sceale Bay on their annual migratory journeys. This tooth tells us that these graceful visitors have been passing here for many years.

Feedback & getting involved in conservation Chapter 12

Feedback from indigenous, community, scientific and visitor viewpoints is an essential part of the knowledge-sharing process.

You are invited to contribute what you would like to say, stories about places or wildlife in the Chain of Bays, or comments about this book by posting a comment on the Chain of Bays website.

Feedback will be posted on the website, summarised in the final project reporting and will be part of ongoing improvements to the conservation of the area.

Feedback is also about how your ideas and enthusiasm can lead to better protection for the area – by getting involved in a friends group like the Friends of Sceale Bay, C/-Streaky Bay Post Office, Streaky Bay SA 5680, T: (08) 8 626 5051; or the Friends of Corvisart Bay, C/- Streaky Bay Post Office, Streaky Bay SA 5680.

You could also get in touch with the Eyre Peninsula Natural resource Management Board, (08) 8 626 1108, PO Box 181 Streaky Bay 5680 SA, or the regional National Parks and Wildlife Service office at Port Lincoln (08 8 688 3111). Heritage Agreements on your land also can be a way of preserving native wildlife and plants. More information is available at www.environment.sa.gov.au It's up to you to get involved and up to others to help you learn how.

Feedback can be submitted to the website directly www.chainofbays.com.au or written and posted to the address below.

Friends of Sceale Bay C/-Streaky Bay Post Office Streaky Bay SA 5680

Left image: Brown Lip Abalone in Sponge and Algae Garden Searcy Bay (2009). The colours and variety of life under a single ledge of limestone reef habitat in the Chain of Bays marine park is spectacular.

Right image: Surfers Beach (2006). The beach at Sceale Bay can be a breathtaking sight on an easterly breeze.

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Left image: Cray fishermen potting adjacent to Nicholas Baudin Island Conservation Park (2003). Sanctuary zones need to be established around all breeding colonies of Australian sea lions.

Right image: Survey Pegs Calca Peninsula (1993). The projection of European values and physical pressures onto the Australian landscape has created great threats to its sustainability. Controlling tendencies lead to fear and misconceptions, distancing us from the valuable reality of this beautiful landscape and its original inhabitants.

Acknowledgements

Chain of Bays: Preserving the West Coast of South Australia has been prepared by the Friends of Sceale Bay with assistance from the Federal Government "Caring for Country" Program.

The Caring for the Chain of Bays website www.chainofbays.com.au, this book and the Chain of Bays DVD have been designed to provide a convenient resource for locals and visitors to the Chain of Bays to learn about the outstanding environmental values of this unique area and to encourage knowledgesharing between the many user groups and stakeholders.

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- Topographic Data and Mapping compiled by: Information Services Branch, Information, Science and Technology, Department for Environment and Heritage.

Author: David Letch

- Photography: Grant Hobson
- Contributing Editor: David Kirner
- Image Titles & Captions: Grant Hobson
- Editorial Committee: Grant Hobson, Jo Taylor, Robert Minnican, Michele Rast, David Letch & Lisa Jowett

Layout: Fiona Ellis

Logistical Support: Bob ("Spike") Minnican, Baird Bay Ocean Eco Experience, Murray Jones, Mark Buttler, Elizabeth Bawden, Gemma Bawden, Amber Bawden, Kirri Minnican, Department for Environment and Heritage, Reef Life Survey Team, David Pittaway - Pilot, and Ian Picken.

Dive Equipment: Port Lincoln Dive Services

Research Support: Michele Rast

- Printing: Impact Printing. Printed on Revive Silk. Made in Australia, Revive Silk is composed of 35 per cent recycled fibre sourced from local waste and mixed species re-growth. It is manufactured under ISO 14001.
- Funding: Caring For Our Country Australian Government
- Special thanks to all families, children and friends of the participants.

Dedicated to the memory of Peter "Speedy" Bawden.

Left image: Wave Breaking east of Baird Bay (2009).

Right image: *Sceale Bay Conservation Reserve (1990).* After a 1500km journey a Victorian registered EH arrives on a remote South Australia salt plain transporting an awe struck driver and dog.

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