

A group of seals is gathered on a sandy beach, looking out towards the ocean. The water is a deep blue, and a small sailboat is visible in the distance. The sky is clear and blue. The text 'Saving sea lions' is overlaid on the image, with 'Saving' in a yellow script font and 'sea lions' in a bold orange sans-serif font. Below the title, the text 'Creative conservation through science, art, fashion and education' is written in a white sans-serif font.

Saving sea lions

Creative conservation
through science, art,
fashion and education



Australian sea lions (*Neophoca cinerea*) are among the world's most endangered pinnipeds (seals, sea lions and walruses) and the only pinniped endemic to Australia. Unfortunately research shows their numbers continue to decline. A collaboration between scientists, a cartoonist, a fashion designer and students has resulted in a creative conservation fundraising and awareness program that is having continued success and growth.

by Marnie Giroud and Melissa Evans



However odd it may sound that a cartoonist, a fashion designer, a scientist and a teacher have come together, their combined passion for conservation has resulted in a successful, creative awareness and fundraising initiative based around Australian sea lions.

Saving Sea Lions involves Year 10 *Bush Rangers* at Rockingham Senior High School Education Support Centre. The students learn about the plight of the Australian sea lion, learn techniques to draw the animals and have their artwork printed on sustainable fabric, which is made into merchandise. Proceeds from the sale of the merchandise are then donated to the Australian Sea Lion Research Project.

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Main above Shoalwater Bay, Penguin Island.

Photo – Marco Taliani de Marchio/Alamy

Main below Australian sea lions (*Neophoca cinerea*).

Photo - Sylvia Osterrieder

Inset top Rockingham SHS Education Support Centre *Bush Rangers* viewing leggings.

Photo – Helen Evans

Inset left Kurt's drawing.

Inset right Dylan's artwork.

Photos – Rachel Nixon

Top Australian sea lion, Houtman Abrolhos Islands.

Photo – David Bettini

Above right Richard Campbell and Dr Holly Raudino assess a pup condition by size and weight at 6 Mile Island.

Photo – Ross Anderson/WA Maritime Museum

The *Saving Sea Lions* program has been so well received that it has been given the green light to run for a second year. The inaugural Year 10 *Bush Rangers* of 2021 are now Senior *Bush Rangers*, so the program is expanding to link with other conservation and education projects.

Given that Australian sea lions breed in colonies off the Western Australian and South Australian coast, the expanded program will include input from experts from both states.

COMING TOGETHER

The concept for *Saving Sea Lions* came about after Marnie Giroud was speaking with *Bush Rangers* cadet leaders and education support teacher Rachel Nixon and education assistant Michelle Boyd from Rockingham SHS Education Support Centre to design an incursion for the *Bush Rangers* students around conservation on a local level.

Rachel and Michelle co-designed the sessions with Marnie to ensure that the content and activities were inclusive and achievable for students in the class who all have special needs.

“This working relationship with teaching staff and providers was an incredible experience for all involved as the students were able to fully engage with the project and not only learn about sea lions, but to also actively participate in an authentic learning experience that makes a real difference to our local patch,” Rachel said.



Marnie, together with Chandra Salgado-Kent who is a marine scientist, Associate Professor at Edith Cowan University and Director of Oceans Blueprint, and Melissa Cook, an international fashion designer from GIROUD, had been working on the *Sea Lion Tracks* project for two years prior to the *Saving Sea Lions* project.

The aim of the *Sea Lion Tracks* project was to combine science, fashion, education and art into a project to help conserve Australian sea lions led by female business owners based in Perth. When the opportunity to do something with a local school arose, the trio jumped at the chance to include students in the project and *Saving Sea Lions* was born.

THE PROGRAM

Chandra introduced the biology and ecology of the Australian sea lion to



Distribution of Australian sea lions



the students and explained her role as a research scientist studying them. Chandra has been conducting research with DBCA's Dr Kelly Waples, Dr Holly Raudino and Sylvia Osterrider among other contributors that aims to improve the conservation status of endangered Australian sea lions by gaining scientific knowledge on their critical habitat and behaviours.

Chandra showed examples of how scientific data is collected and the imagery of scientists and Department of Biodiversity, Conservation and Attractions (DBCA) marine rangers monitoring sea lions helped the students to understand their behaviours, which the students thoroughly enjoyed.

Chandra also highlighted a recent study co-authored by DBCA research scientists Dr Kelly Waples and Dr Holly Raudino with South Australian colleagues showing that Australian sea lion numbers

have fallen by more than 60 per cent in just four decades and scientists and managers are worried about the fate of the species.

With their minds full of information and their hearts wanting to do something to help, the students sat down with Marnie who showed them how to draw sea lion cartoons and illustrate the 'Be Seal Wise' conservation messages developed by DBCA.

Melissa Cook inspired the students with her message of sustainable fashion where 'made to order' clothes rather than mass production is cutting edge innovation in the world of fashion.

"The fashion industry produces between two and eight per cent of global carbon emissions," Melissa said.

GIROUD uses ethically-sourced fabric made from recycled plastics to make limited edition leggings featuring the students' designs.



Hear more about Australian sea lion conservation

Scan this QR code or visit Parks and Wildlife Service's podcast.



Top Australian sea lions.
Photo – Ruth Stephenson

Above left Rockingham SHS Education Support Centre Bush Rangers and the *Saving Sea Lions* team.
Photo – Helen Evans

Above Australian sea lion (*Neophoca cinerea*).
Photo – Alex Steffe/Lochman Transparencies

Neuroscientist and former Chief Scientist of Western Australia Professor Lyn Beazley AO also spoke to the students at the final session on the importance of



“The students should be congratulated for doing something about a local issue,” Joselyn said.

“This is the first marine-based *Know Your Patch* project and is a great example of what the program is all about. Partnerships are really important in *Know Your Patch* projects, and we have a motto of working together, learning together, making a difference.”

GOING EAST

Sea lion research scientists around Australia were informed about the project last year through DBCA’s marine science staff. Many sent words of encouragement to the students and purchased some of the products to show support for the education project.

These exchanges provided an opportunity for collaboration between the students and the scientific community.

Dirk Holman is a marine park manager for the Western Eyre Peninsula at the Department for Environment and Water and works in sea lion conservation and education in South Australia. His *Sea Lion Spotter* project is a citizen science project based on Dr Rebecca McIntosh’s prototype ‘seal spotter’ enabling members of the public to count and classify pinnipeds in some of South Australia’s most important breeding colonies.

their creative work helping conservation and education and read a letter from Premier Mark McGowan congratulating the students on their efforts.

KNOW YOUR PATCH

Saving Sea Lions is an opportunity for students from Rockingham SHS Education Support Centre to get to know their patch by participating in learning and action around threatened species. The project has been added to DBCA’s popular *Know Your Patch* program of educational activities.

Joselyn Juraszek from *Know Your Patch* encouraged the students to continue investigating and caring for the local sea lions.

Top left Leggings featuring the students’ designs.

Photo – Marnie Giroud/DBCA

Top right Sarah and Kayde’s artwork.

Photo – Rachel Nixon

Above Sea lion merchandise for sale.

Photo – Liz Grant/DBCA

Inset Reuben’s drawing of an entangled sea lion.

Photo – Rachel Nixon

Be seal wise

Haul out sites in Perth waters are easily viewed by the public in the Shoalwater Islands and Marmion marine parks and, in some places, people can see the sea lions from mainland beaches.

When observing sea lions, it is important that you do so from a safe and legal distance. The *Biodiversity Conservation Regulations 2018* dictate the appropriate distances for viewing a sea lion in the wild. You must stay 100 metres from a sea lion if you are on a boat, 50 metres if you are in the water and 10 metres if you are on land. Avoid landing on islands where sea lions are resting as this can disturb them when they are taking a critical break between foraging bouts and breeding. Some islands are closed to people landing on them to ensure these refuges are reserved for sea lions to haul out.

It's illegal to harass and disturb marine mammals. If you think an animal requires assistance, contact the Wildcare Helpline on (08) 9474 9055 and do not interact with the animal.



LET SEALS AND SEA LIONS FEED THEMSELVES

Feeding seals and sea lions may attract them to high risk areas where they can become entangled in fishing hooks and line. This can result in a lost ability to hunt for themselves, transference of disease and cause seals to become aggressive and harass people for food.



TAKE YOUR RUBBISH HOME

Fishing lines, hooks, nets and rubbish can cause injuries to seals and sea lions. Pull your fishing line in until seals and sea lions have left and put your rubbish in a bin. Look out for our specially designed fishing line bins at various locations around the state.



GO SLOW FOR THOSE BELOW

When boating, go slow especially over seagrass beds, shallow areas and in channels where marine wildlife feed. If a seal or sea lion approaches, slow down to avoid injury.

DOGS AND AUSSIE SEA LIONS

DON'T MIX



DOGS AND SEALS DON'T MIX

If a seal or sea lion feels threatened, it may attack your dog. Some diseases may also be transferred between dogs and seals. If you come across a seal when walking your dog, put the dog on a leash and stay at least 10 metres away. If an unleashed dog is causing a problem, contact your local ranger for assistance.

Top Australian sea lion, Jurien Bay Marine Park.

Photo – Matt Kleczkowski

Background Seal Island, Shoalwater Islands Marine Park.

Photo – Rick Dawson

Insets clockwise from top

Australian sea lion with southern bailer shell (*Melo miltonis*).

Australian sea lion underwater at Jurien Bay Marine Park. Photos – Matt Kleczkowski;

Student artwork by Jaolyn. Photo – Rachel Nixon;

Australian sea lion caught in fishing net.

Photo – Dr Nick Gales/Lochman Transparencies



Senior students from Rockingham SHS Education Support Centre will be the first students in Western Australia to trial submitting their data for the *Sea Lion Spotter* project in class this year as part of their local *Saving Sea Lions* project in 2022.

These pup counts from images generated during unmanned aerial vehicle (UAV) surveys help scientists from the South Australian National Parks and Wildlife Service to monitor pup production and therefore population health and trends, and this work is critical in understanding sea lions and their recovery.

THE PLIGHT

Australian sea lions are one of five sea lion species in the world and are listed as endangered on the International Union for the Conservation of Nature's (IUCN) Red List, with population numbers recently estimated to be below 10,000.

The threats they face include drowning in fishing gear and marine rubbish, habitat degradation, prey depletion, human disturbance, deliberate killings, disease, pollution and oil spills, and climate change.

As part of the *Saving Sea Lions* project, DBCA's Dr Holly Raudino, Dr Kelly Waples and Miecha Bradshaw explained to students about how they monitor and count sea lions and study their behaviour as part of their jobs.

Around Perth, marine rangers undertake monthly sea lion monitoring as well as intensive counts during the peak season. Rangers visit the six haul out sites

in Perth waters and record the numbers of sea lions and fur seals they see, as well as their age, class, behaviour and weather conditions.

In Perth, the sea lions are mostly males that are resting after long foraging or breeding trips. Animals found around Perth are a mix of juveniles, sub adult males and mature males or 'bulls'. Approximately every 18 months they swim north to the islands off Jurien Bay to find female sea lions or 'cows' to breed with. When sea lion numbers in Perth are low, numbers are peaking in Jurien Bay.

Understanding trends in sea lion population size through monitoring helps managers understand if there are pressures preventing the species' recovery. They can then implement site-specific strategies that will help reduce the pressures on this endangered species.

WHERE IT GOES

In 2021, the *Saving Sea Lions* project raised more than \$500 for sea lion conservation and education. The funds will be directed to producing video, photographic and communications resources to be used to share the experience of discovery and knowledge gained with community and the schools.

Oceans Blueprint will continue to provide educational support and engagement directly with the school and community as well as communication of the scientific discoveries and findings to community and government with partner institutions.



Top left Australian sea lion.
Photo – Associate Professor Chandra Salgado-Kent

Top right Shoalwater Bay from Penguin Island.
Photo – Rick Dawson

Above Australian sea lion and pup.
Photo – Jiri Lochman

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