

## Sea lions given a 'voice' in the marine park planning process

Australian sea lions are playing a central role in the development of South Australia's marine parks.

Sea lions fitted with GPS trackers and National Geographic Crittercams are taking scientists on amazing journeys under our seas to previously unknown marine 'hot spots,' supplying very clear information about areas that provide important habitats for our fish stocks and other marine life.



*Dr Page tagging seal lions on Dangerous Reef*

The information will be used by the Department for Environment and Heritage (DEH) to help determine the levels of protection required within the different zones of SA's new marine parks.

The novel project, led by SARDI scientist Dr Brad Page, is revealing critical information about SA's sea floor environments, as well as valuable insights into the behaviour and foraging habits of the endangered Australian sea lion. The crittercam footage includes world-first vision of a sea lion capturing a large octopus, swimming with other sea lions and diving and foraging on the sea floor.

To date, 14 sea lions have been tagged with GPS loggers, including four with Crittercams supplied by National Geographic.

Andrew Burnell from DEH's Coast and Marine Conservation Branch said: "The information the sea lions lead us to is very precise, and will help the community and DEH scientists ensure that zones in the marine parks protect important sea floor habitats across SA."

When researchers finish tracking the movements of the sea lions, a team from DEH will retrace the sea lion's 'footsteps', mapping the sea floor in their feeding hotspots. From SARDI's research vessel,

Ngerin, acoustic swath and video mapping systems will detail the sea floor structure, accurately documenting the rocky reefs, seagrass beds, sandy bottoms, seaweed sections and sponge beds. In addition, baited remote underwater video cameras will be used to survey fish abundance and diversity, providing a clear picture of why sea lions are targeting particular habitats.

Dr Page said the research was also answering many questions about the endangered sea lion, which would help in their conservation.

"For the first time, we are seeing how they behave in a natural environment with the crittercam documenting what they eat, how they capture it and even what time they eat, where they spend their time in the water as well as how fast they swim and dive.

"One important discovery is that the sea lions always feed near the sea floor and they don't eat pelagic fish – they regularly swim through schools of sardines, salmon and even sweep. This is critical information because the marine parks are being set up to protect sea floor habitats, a move that we can now confirm will protect critical sea lion feeding habitats."

In order to tag the sea lions and later recover both the Crittercams and GPS loggers from the animals, researchers have spent up to two weeks at a time, on several occasions, at Dangerous Reef in Spencer Gulf, a remote, barren and rocky outcrop the size of a football field, and home to Australia's biggest Australian sea lion colony.

The Crittercams and GPS loggers were retrieved from the animals after four days. Dr Page said only the female sea lions were tagged with the devices as they were looking after their pups on Dangerous Reef.

"Mums are the most important part of any seal population because they provide the next generation of seals, so if there's any feeding habitat that should be protected, it is theirs," he said.

The three-year project, using the foraging behaviour of the threatened Australian sea lion to assess habitat quality and inform the zoning of marine parks in South Australia, concludes in 2012.

## Key Points

Sea lions fitted with GPS trackers and National Geographic Crittercams are identifying marine 'hot spots' in South Australian waters.

The tracked movements of sea lions combined with acoustic swath and video mapping systems will identify why sea lions target particular areas.

Data collected will help determine the level of protection required within the different zones of SA's marine parks.

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