

phillipisland

nature parks australia

Seal tracking



Where do Australian fur seals go to feed?

Phillip Island Nature Parks' Research Department wants to know which areas of the ocean are important to Australian fur seals (where they catch most of their fish) and where they may encounter human activities such as fishing.

Seals are tracked using satellite technology. A transmitter, called a Platform Transmitter Terminal (PTT), is attached to the seal.



How do you catch a seal and attach a transmitter to it?

Step 1: Select your seal

- Juveniles weigh 20- 60 kg
- Adult females weigh 60-100 kg
- Adult males weigh 250-350 kg

Step 2: Carefully approach the seal commando-style.

Step 3: A) If juvenile or female, run up to with catch net, drop net over head and restrain.

B) If male, estimate weight and mix-up sedative. Experienced veterinarian with dart-gun assumes a firing position <15 m from the seal and waits until (i.) it is sleeping, (ii.) a large section of its' back is exposed and (iii.) no nearby seals could be darted by accident. Dart with sedative is fired into the seal's back. Seal may not respond or may get up and run toward the water. After 10-15 minutes, for sedative to take effect, catch and restrain seal in a catch-net.



Step 4: Anaesthetise seal using portable Isoflorane (a gas) machine.

Step 5: Intubate seal (secure air-tube to maintain airways), attach devices to monitor heart-rate, blood oxygen and carbon-dioxide levels and core body temperature.

Step 6. Mix up 2-part epoxy glue and attach satellite transmitter to the fur in the middle of the seal's back. Wait about 10 minutes for glue to set.

Step 7. Provide seas with 100% oxygen to remove anaesthetic from its body, monitor seal as it recovers and walks off down the beach.

How do the transmitters work?

When out of the water, the transmitters (PTTs) send messages every 45 sec. To save battery power, they go into a sleep mode after 4 h of being dry (indicating the seal is resting ashore).

Messages are detected by CLS Argos instruments on polar orbiting satellites then relayed to ground stations. There, locations are calculated and assigned an accuracy level. We log on to the Argos computers and download seal locations.

