

Rocky times for Boulders penguins?

The mainland colony of African Penguins at Boulders, near Simon's Town on the Cape Peninsula, is one of the most accessible places to see penguins in the world. As a result it attracts more than 400 000 visitors each year, and contributes significantly to the bouquet of tourist attractions that make Cape Town the leading tourist destination in Africa. The colony only formed in 1985, when two pairs started breeding, but soon burgeoned to its current population of more than 1 000 pairs, thanks largely to immigration of young birds from other colonies.

The success of the colony led to conflicts with some local residents, who objected to the noise and smell as well as to the hordes of tourists attracted by the penguins. After much discussion, a truce was brokered by the Cape Peninsula National Park, which has managed the site since 1998. This allocates one beach for penguins and another for human recreation, and a wall was built to limit the spread of birds into adjacent gardens. This was criticised by some people who believed that it was unethical to limit penguin numbers by enclosing the colony, given its status as a Globally Threatened species.

Despite the wall not being entirely penguin-proof, and some lateral extension along the coast, colony growth has slowed and has been almost static in the past few years. This does not necessarily



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Researchers attach a GPS logger onto the back of a penguin. The devices are attached with waterproof tape, which peels off easily once the bird returns from a foraging trip, causing no damage to the penguin's feathers.

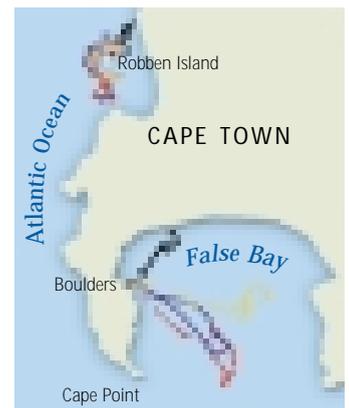
mean that the management compromise is limiting population growth. Other factors operating away from the colony may also be important. To test whether food availability is a limiting factor, research student Samantha Petersen equipped breeding penguins with GPS loggers which track each bird's movements and its diving behaviour. The distance travelled and numbers of dives made give an indication of how hard penguins have to work to forage for themselves and their chicks.

Although most birds managed to obtain all their food requirements within a day at sea, birds from Boulders travelled 30 per cent further and made 25 per cent more dives than those from Robben and Dassen islands. These differences may be sufficient to

discourage potential new immigrants. Breeding on the mainland further compromises these birds by effectively halving the foraging area available. Boulders birds can only head east into False Bay, whereas the Robben and Dassen penguins can radiate out from their island colonies.

This was the first study to use GPS loggers on penguins. The technology, developed by Gerrit Peters in collaboration with David Grémillet from the French research agency CNRS, shows great potential in measuring the availability of commercially important schooling fish within the foraging radius of penguin colonies. The study also highlights the potential pitfalls of only considering part of an organism's life history when assessing management

strategies. It is possible that relatively poor foraging conditions offshore, rather than constraints on colony area, are responsible for the recent slowing in growth of the Boulders colony. □



Map of four typical penguin tracks from Boulders compared with four tracks from Robben Island, showing the larger foraging range of Boulders birds.

Visit the FitzPatrick website: <http://www.fitzpatrick.uct.ac.za>

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