



Restricting penguins instead of people: mitigating the impact of uncontrolled visitors on yellow-eyed penguins

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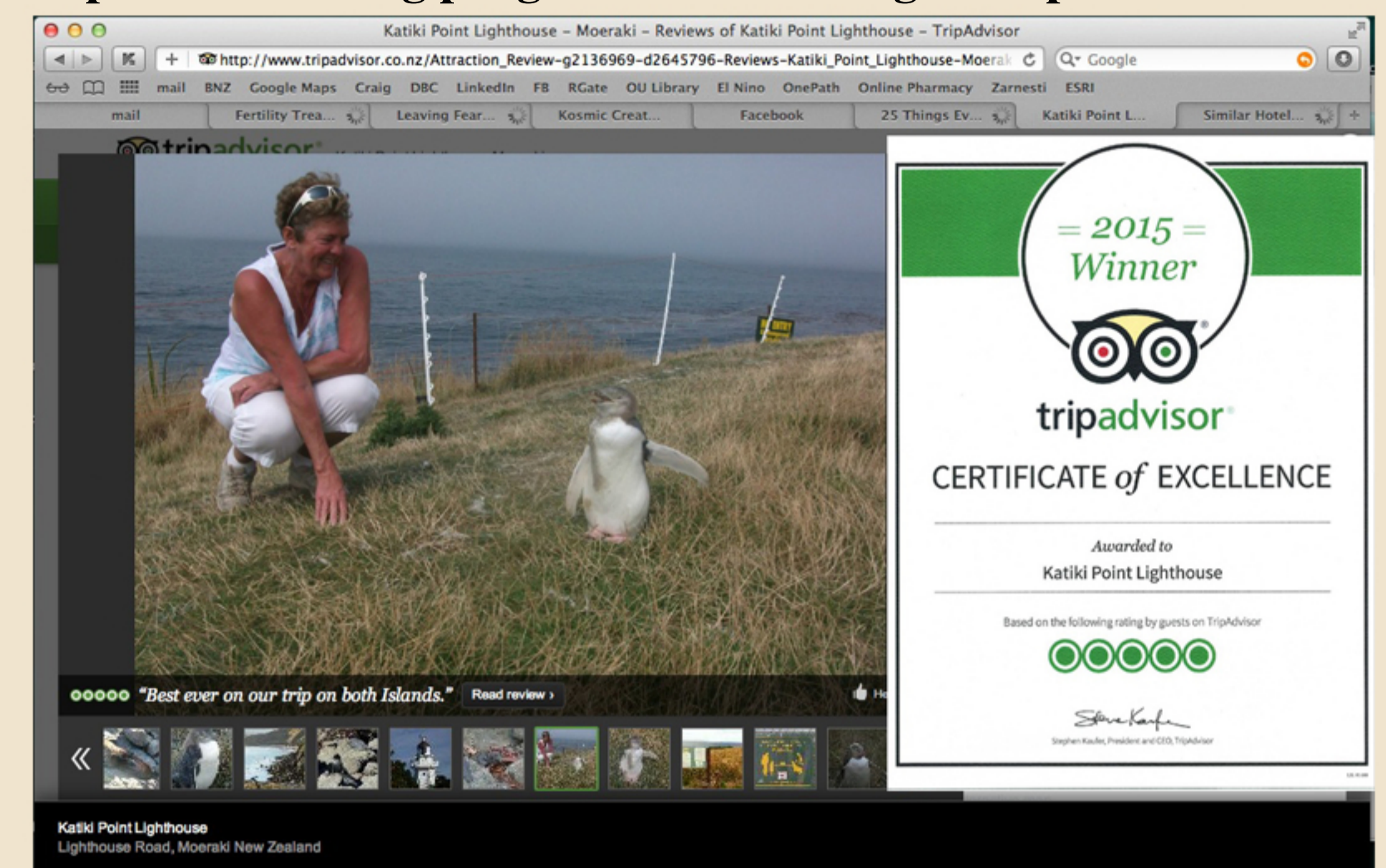
www.penguins.org.nz



People surrounding penguins and blocking their path to the nest.

Introduction

Yellow-eyed penguins (*Megadyptes antipodes*) are classified endangered by the IUCN with human disturbance particularly from unregulated tourism at breeding areas negatively affecting chick survival (McClung et al 2004, Ellenberg et al 2007, 2009, 2013). However, the robustness of scientific investigations into the impact of visitors has been questioned for lack of valid control sites (Shelton and McKinlay 2008). At Katiki Point in North Otago, South Island, New Zealand is a 10 ha reserve jointly administered by the Department of Conservation (DOC) and the indigenous owners, Ngai Tahu. Volunteers from the charitable trust Penguin Rescue began conservation management of local seabirds in 1982 and created a breeding colony of yellow-eyed penguins from rehabilitated birds in 1991. The headland has unrestricted public access and visitor numbers have exceeded 10,000 annual through recent years, in part due to accolades in TripAdvisor extolling free close-up viewing of penguins.



TripAdvisor regularly features photos of people close to penguins



Reduced breeding success

In the 2014/15 season Katiki Point had 34 natural and one created (where chicks were fostered) nests; and of these 20 (57%) were within 10 m of paths used by visitors (red paths) or penguins had to cross visitors paths to access their nests. Of these 70% failed early, i.e. the eggs failed to hatch or the chicks died less than 2 weeks old (red circles), while only 40% of nests further away failed early.



Restricting penguins

Following a recommendation by DoC, we installed a penguin-proof fence (yellow line) in winter 2015 that prevented most pairs from crossing the visitor paths and from nesting < 20 m of visitors paths. This reduced the overall area available to penguins by 44%. This season 17 (68% of total) pairs nested within 10 m of visitor paths, within 10 m of the internal fence or had to cross visitor paths and 24% of these failed early while only 13% of pairs that nested further away from visitors failed early. While this was an improvement from the previous season, visitors still had a negative effect on the egg fertility and small chick survival.



Diverting visitors

For the 2017/18 season, DoC re-aligned the start of the public access path (blue line) away from two of the three edges of the penguin colony. A large proportion of the colony is no longer exposed to the noise of visitors. In response we removed the northern edge of the penguin-proof fence (yellow line) allowing a spread of nests into a previously-disturbed area. Following the continual failure of pairs nesting near visitor paths in past years as well as the ongoing onslaught of visitors, this season we further mitigated the visitor effect by removing the eggs from the three nests most affected by visitor presence at the southern end of the colony and transferred them to other breeding pairs with infertile eggs or to male-male pairs.

Conclusion

Uncontrolled access by visitors to this yellow-eyed penguin breeding colony reduced breeding success. Redirecting of visitors away from much of the colony protected some penguins from the presence and noise of visitors resulting in improved breeding success, but negative impacts continue. Mitigation measures have been fairly successful but have slashed the area available to penguins and prevented any possibility of future expansion. This is an unacceptable outcome for the future of this yellow-eyed penguin colony that accounts for 10% of the South Island population. Here an endangered species continues to be compromised in favour of free public viewing.