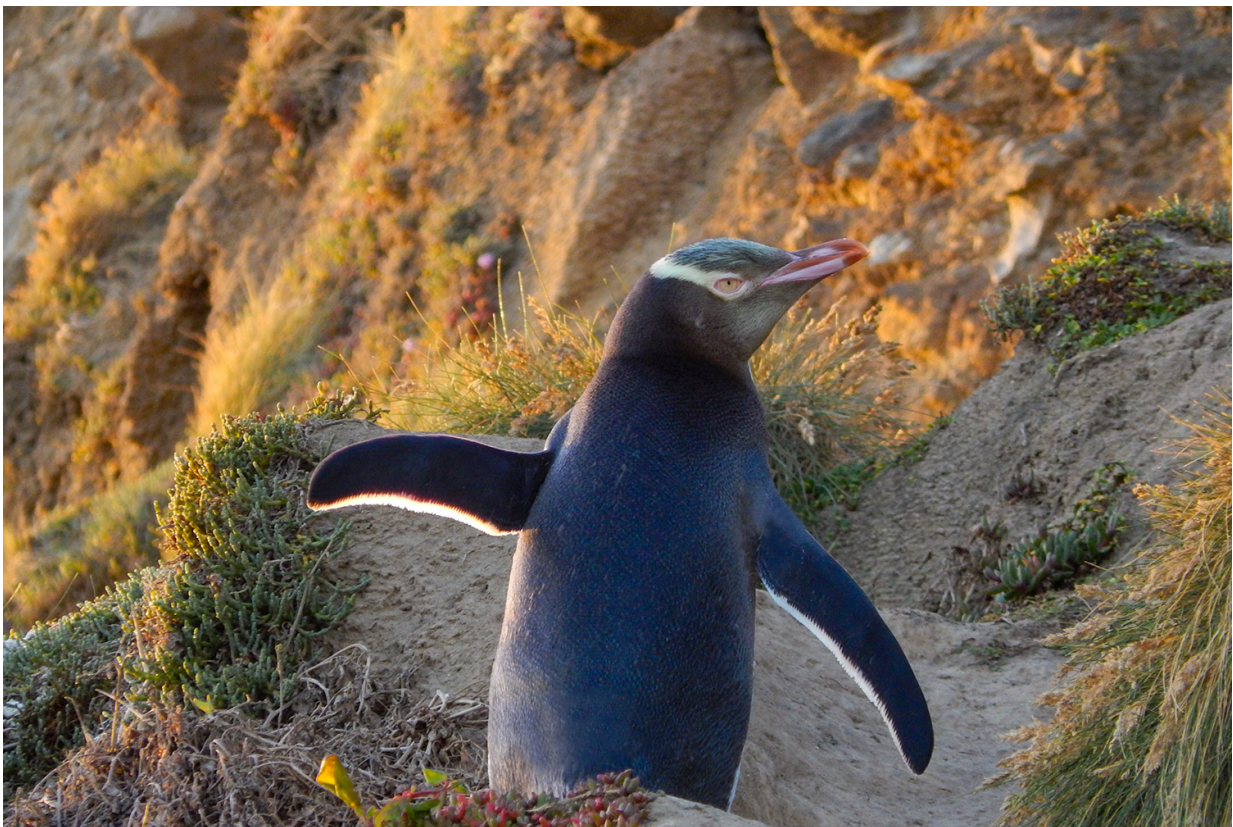


# New Zealand's mainland yellow-eyed penguins face extinction unless urgent action taken

May 16 2017

---



New Zealand's mainland yellow-eyed penguins face extinction unless urgent action taken, according to University of Otago researchers. Credit: Thomas Mattern

Iconic Yellow-eyed penguins could disappear from New Zealand's Otago Peninsula by 2060, latest research warns. Researchers call for coordinated conservation action.

In a newly published study in the international journal *PeerJ*, scientists have modelled factors driving mainland Yellow-eyed penguin population decline and are calling for action to reduce regional threats.

According to the researchers' prediction models, breeding success of the penguins will continue to decline to extinction by 2060 largely due to rising ocean temperatures. But these predictions also point to where our conservation efforts could be most effective in building penguins' resilience against [climate change](#).

The Yellow-eyed penguin, classified as endangered by the International Union for Conservation of Nature (IUCN), is a key attraction for New Zealand tourism. Yet, the chances of seeing the penguins in the wild are quietly slipping away, the new research suggests.

Lead study author Dr Thomas Mattern of the University of Otago says his team's predictions are conservative estimates and do not include additional adult die-off events such as the one seen in 2013 in which more than 60 penguins died.

"Any further losses of Yellow-eyed penguins will bring forward the date of their local extinction," Dr Mattern says.

If the recent poor breeding years - 2013 onwards - are included in the simulation of the future penguin population, things get progressively worse.

"When including adult survival rates from 2015 into the models the mean projection predicts Yellow-eyed penguins to be locally extinct in

the next 25 years", adds Dr Stefan Meyer, another of the co-authors.

The researchers note that Yellow-eyed penguins are iconic within New Zealand. Dr Mattern says these birds greet visitors to the country on billboards in all major airports, are featured on the NZ \$5 note, and are widely used for branding and advertising.

"Yet despite being celebrated in this way, the species has been slowly slipping towards local extinction," he says.

"It is sobering to see the previously busy penguin-breeding areas now overgrown and silent, with only the odd lonely pair hanging on," says Dr Ursula Ellenberg, who has researched Yellow-eyed penguins for the past 14 years.

Increasing sea surface temperatures in part explain the negative trend in penguin numbers.

"The problem is that we lack data to examine the extent of human impacts, ranging from fisheries interactions, introduced predators to human disturbance, all of which contribute to the penguins' demise," says Dr Mattern.

"However, considering that climate change explains only around a third of the variation in penguin numbers, clearly those other factors play a significant role. Unlike climate change, these factors could be managed on a regional scale," he says.

Professor Phil Seddon, Director of Wildlife Management at the University of Otago, says besides shining an alarming light on the state of the Yellow-eyed penguin on the New Zealand mainland, the study also underlines the importance of long-term data sets.

"In the current era of fast science, long-term projects have become a rarity. Without more than 35 years' worth of penguin monitoring data we would probably be still at a loss as to what is happening to a national icon, the Yellow-eyed penguin", Professor Seddon says.

Despite this urgency, Yellow-eyed penguins continue to drown as unintentional bycatch in nets set in penguin foraging areas, suffer from degradation of their marine habitat because of human activities, and die from unidentified toxins.

The authors conclude that "now we all know that Yellow-eyed penguins are quietly slipping away we need to make a choice. Without immediate, bold and effective conservation measures we will lose these penguins from our coasts within our lifetime."

**More information:** *PeerJ*, [DOI: 10.7717/peerj.3272](https://doi.org/10.7717/peerj.3272)

Provided by University of Otago

Citation: New Zealand's mainland yellow-eyed penguins face extinction unless urgent action taken (2017, May 16) retrieved 23 June 2024 from <https://phys.org/news/2017-05-zealand-mainland-yellow-eyed-penguins-extinction.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--