



MEMO

To: Nick Boyes Ref: 25042
Cc:
From: Trudy Anderson
Date: 23/04/2025
Subject: Black stilt disturbance from rocket activity at Glentanner Airport

1 Introduction

The black stilt (*Himantopus novaezelandiae*) is a critically endangered bird with a breeding population confined to the Mackenzie Basin of South Canterbury and North Otago. Within this area, Dawn Aerospace have intermittently used the Glentanner Airport for testing of their unmanned aircrafts. Until recently these flights used jet powered engines, however from March 2024 a transition to rocket power was made. Black stilt (*Himantopus novaezelandiae*) are known to utilise habitat in close proximity to the Glentanner Airport.

2 Methodology

On July 24th 2024 a braided river bird survey was being conducted by Peter Langlands on the Western Tasman River Delta (see Figure 1). At approximately 3:30PM a reusable rocket powered aircraft was launched from Glentanner Airport. This enabled observations of the impact of the rocket powered launch on the behaviour of the stilts to be recorded.

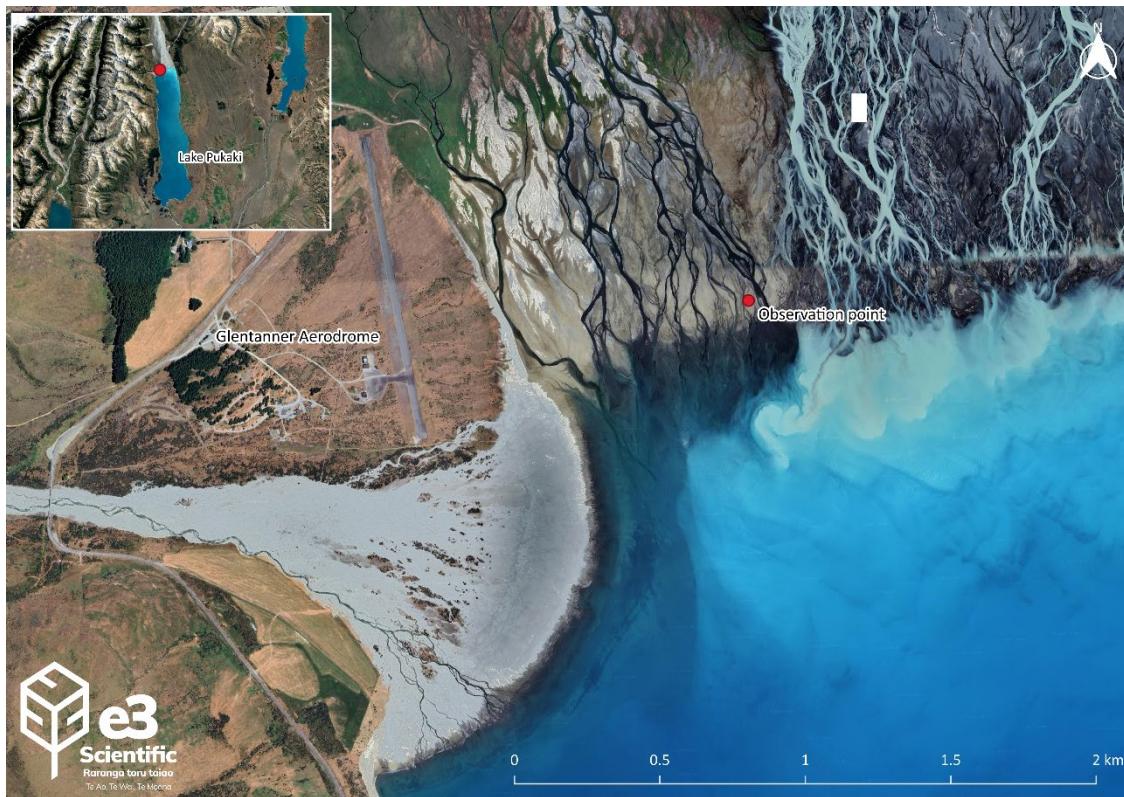


Figure 1 – Study area

3 Results

Prior to the rocket launch there were 20 adult and juvenile black stilts within a 500 m radius of the observation point. Following the disturbance from the launch, the black stilts immediately ceased feeding and flew into the air forming a loose flock (a typical avian threat response) that landed approximately 100 m from the observation point. Within approximately 15-30 minutes the birds gradually resumed feeding and within an hour the birds had returned to their original feeding locations prior to the launch. The colour band combinations of 17 birds were noted (see Appendix 1), and this information has been passed on to the Department of Conservation office in Twizel.

4 Discussion

Given the response from the black stilts, it is evident that they were disturbed by the launch. The threat response instigated by the birds is in response to the very real avian threat of predation by harrier hawk. Birds will only return to previous behaviour once they have established that the harrier hawk is absent. When the black stilts flew into the air forming a flock, birds were displaced off their nests, putting them at risk of increased predation. The time birds are off the nest matters

both in terms of vulnerability to predation by harrier hawk, and to ensure eggs and chicks are protected from the elements. If eggs or chicks are too hot, or too cold, for too long it can impact survival.

Black stilt will initiate a threat response to any unexpected, loud aerial threat. They will generally become accustomed to noise/movements that are regular (but turn out to be non-threatening) and reduce their response to these. It is understood that Dawn Aerospace are present on site infrequently (for a few days at a time) and may not return for another month or two. This is not frequent enough for stilts to become accustomed to the disturbance and are therefore likely to continue initiating threat responses to the rocket launches.

5 Recommendations

To minimise the risk to black stilt nests being predated by harrier hawk, we suggest a restriction is put on rocket launches at Glentanner Airport between 9:00AM and 3:00PM during breeding season (August to December), as harrier hawk are more likely to predate the nest at dawn and dusk. There should also be no more than one rocket launch in any 24 hour period. Outside of these months, no restrictions need apply.

6 Appendix

Appendix 1: Appendix of colour band combinations of black stilts observed on July 24th, 2024

Western Tasman Delta	240724 RR-RYG
Western Tasman Delta	240724 WBkG- WG
Western Tasman Delta	240724 RYR-GY
Western Tasman Delta	240724 RYG-GBk
Western Tasman Delta	240724 BkO-GO
Western Tasman Delta	240724 GBk-RYG
Western Tasman Delta	240724 GO-BkO
Western Tasman Delta	240724 GBkW-Obk
Western Tasman Delta	240724 BlueW-YG
Western Tasman Delta	240724 GBkW-YO
Western Tasman Delta	240724 xx-RR
Western Tasman Delta	240724 GBkW-YO
Western Tasman Delta	240724 GYBk- RY
Western Tasman Delta	240724 OGW-RW
Western Tasman Delta	240724 BlueBlue - YG
Western Tasman Delta	240724 OGW-OW
Western Tasman Delta	240724 BkWO-GR