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### **Supplementary Material**

#### **Noisy neighbours: effects of construction noises on nesting seabirds**

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## **Methods black-faced cormorants and crested terns**

To determine breeding success in black-faced cormorants, Lipson Island was visited eight times between the beginning of April 2021 and the end of August 2021. During each visit, a Samsung S21+ (Samsung Inc., Australia) mobile phone camera was used to take photos and videos of the entire breeding colony from various viewpoints, 5–10 m away from the birds, so that we did not disturb the birds or cause them to abandon their nests. From these photos and videos, the number of nests, nestlings, juveniles, and adults was manually counted following Terletzky and Ramesy (2014). An active nest was defined as a concave shape with built up edges capable of holding eggs and occupied by at least one adult bird or nestling(s) (Taylor *et al.* 2013). A recently abandoned nest was defined as a concave shape with built up edges capable of holding eggs, but with no adult, egg, or nestling present (Taylor *et al.* 2013). Cormorant nests are destroyed by strong winds when left unattended and therefore we could confidently confirm that empty nests were made and abandoned in the current breeding season. Nestlings were identified as chicks inside a nest with either naked, black coloured skin or grey skin with black-brown plumage and dark brown eyes (Riordan and Johnston 2013). Juveniles were identified as chicks that had successfully fledged from their nest and had brown–white speckled plumage and pale eyes (Riordan and Johnston 2013). Adults were identified as individuals with black upper parts and white breast plumage with black eye feathering and blue-green eyes (Riordan and Johnston 2013). The same observer reviewed all the photos and videos to count the number of nests, nestlings, juveniles and adults.

Lipson Island was also monitored every three weeks between the beginning of April until the end of November 2021 (using the methods described above for the cormorants) for evidence of roosting terns. Courtship behaviours were identified as single individuals walking with their wings flexed out, their necks erected, and their heads constantly flicking up and down or as couples or trios taking off in courtship flights (Dunlop 1987; Iasiello, pers. obs.). Egg laying was confirmed by observing individuals sitting directly on the ground and incubating an egg (Dunlop 1987).

## Results black-faced cormorants and crested terns

Black-faced cormorants already had commenced breeding during our first trip, on the 17<sup>th</sup> of April 2021, with 70 breeding pairs present and sitting on their nests and 91 empty nests. No juveniles were recorded during this trip. Cormorant's nests were located on the northern tip of the island (Fig. 1), and nests were all made from marine vegetation, such as seaweed. Out of the 70 remaining nests, 32% ( $n = 22$ ) had incubating adults sitting on either eggs or newly hatched nestlings, while the remaining 68% ( $n = 48$ ) had at least one adult standing next to 1 or 2 nestlings with brown feathers. On 15 May 2021, all nests were empty, and 47–50 juveniles were recorded aggregated along the rocky coastline line. The juveniles remained on the island until August 2021, at which stage they had grown all their adult feathers.

Since the first trip in April 2021, a group of crested terns (~100–200 individuals) roosting on the southern point of Lipson Island and on the adjacent mainland rocky coastline was spotted. Courtship behaviours began in early October with a noticeable increase in crested tern numbers (~263 individuals). By late October, crested terns had aggregated on the northern centre of the island to breed (Fig. 1). Approximately 195 breeding crested terns was counted, but the number of eggs at the time was unknown. On 31 October 2021, video recordings at night (Iasiello and Colombelli-Négrel, unpub. data) showed that all crested terns abandoned their nests and eggs for an unknown reason. A week later, remnants of ~36 crested tern eggs that had been predated upon by silver gulls (*Chroicocephalus novaehollandiae*) were found and only 10–20 adult crested terns were seen on the mainland beach of Lipson Cove. The tern population returned to 100–200 individuals by January 2022, but no second breeding attempt was observed (Berryman, pers. comm.).

## References

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