LIFE
ilhas
barreira

REPORT

Action A4.2 of the project Ilhas Barreira

Coimbra | March | 2023

COFINANCIAMENTO
COORDENAÇÃO
PARCEIROS

Deliverable of the Action A4 of the Project LIFE Ilhas Barreira. Audouin's Gull nest predation rate and breeding success

MARE – Marine and Environmental Sciences Centre, University of Coimbra

National Board
Graça Lima, Paulo Travassos, Peter Penning, Alexandre Leitão, Martim Pinheiro de Melo, Nuno Barros and Maria José Boléo

Executive Board
Domingos Leitão

Project coordination
Joana Andrade

Executive team
Jorge M. Pereira, Vitor H. Paiva, Jaime A. Ramos

Agradecimentos
To all MARE-UC colleagues who supported the seabird-related fieldwork carried out on Barreta Island and on other seabird colonies within the barrier-islands of the Ria Formosa Natural Park.

Citações
Pereira, J.M., Nascimento, T., Ramos, J.A., Oliveira, N., Portela, D; Veríssimo, S., Cerveira, L., Andrade, J., Paiva, V.H. 2022. Audouin's Gull nest predation rate and breeding success. Sociedade Portuguesa para o Estudo das Aves, Lisboa (report not published).

COFINANCIAMENTO

COORDENAÇÃO

PARCEIROS

1.1 Audouin's Gull nest predation rate

During May and June of 2021-2022, Audouin's gull (*Ichthyaetus audouinii*) nests at Deserta Island were monitored during 3144 hours of camera traps at Deserta Island, focusing on areas where both Audouin's and Yellow-legged gulls coexist (i.e. where predation risk is expected to be higher). From those recordings, we observed little interactions between both gull species in both 2021 and 2022. However, during 2022 we recorded 48 interaction events between both species from 29 hours of visual observations made from a portable hide at Deserta Island, with aerial strikes (N=31), nest intrusions (N=9) and egg predation (N=8) being the most common intrusive behaviours of Yellow-legged gulls on the Audouin's gull colony. The relatively low number of interactions recorded by the camera-traps could be a result of the higher adult mortality of Yellow-legged gulls observed in this colony (i.e. through paretic syndrome), which lead to an abrupt decrease in Yellow-legged gulls population size (Fig. 1) and likely limited the number of interactions between both species.

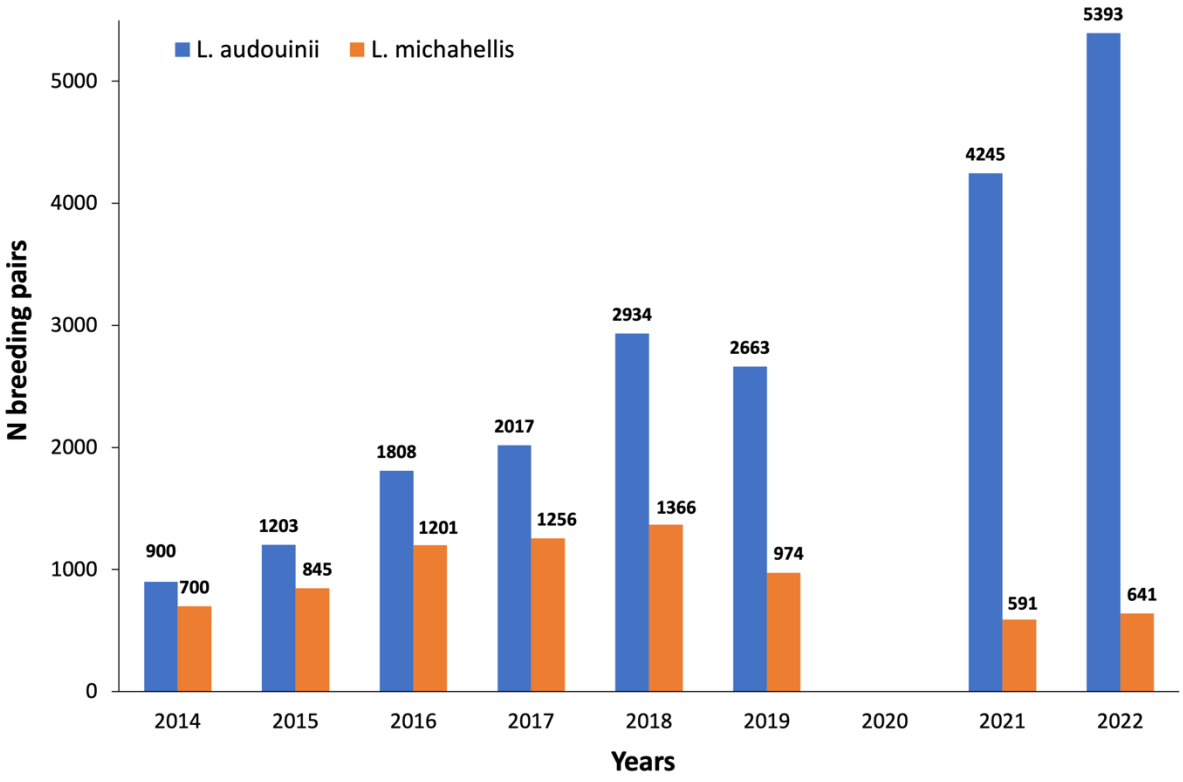

Figure 1 - Number of Audouin's Gull breeding pairs (*Ichthyaetus audouinii*; in blue) and Yellow-legged Gull (*Larus michahellis*; in orange) counted at Deserta Island between 2014 and 2022.

1.2 Audouin's Gull breeding success

Overall, we monitored 304 Audouin's gull (*Ichthyaetus audouinii*) nests from at Deserta Island during May and June 2021-2022. The hatching success (number of hatched eggs ´/ total number of eggs laid) of Audouin's gull increased on average 22% between 2021 (69.7%) and 2022 (85.1%) (Fig.2). Such increased hatching success was also followed by a population growth of approximately 27% between 2021 and 2022 (Fig. 1). However, we found that the hatching success of Audouin's gulls is stongly affected by human disturbance and by vegetation over in the colony. In 2021, hatching

success was quatified in (1) a control area where there was no human disturbance and (2) an area where human activity was actively present near the breeding colonies; and in 2022 in: (3) an area with high vegetation cover and (4) an area with low vegetation cover. Hatching success of Audouin's were higher in areas without human disturbance (84.3%) and with high vegetation cover (93.3%), in comparison to the areas with intense human activity (47.9%) and low vegetation cover (26.5%), respectively (Fig. 2).

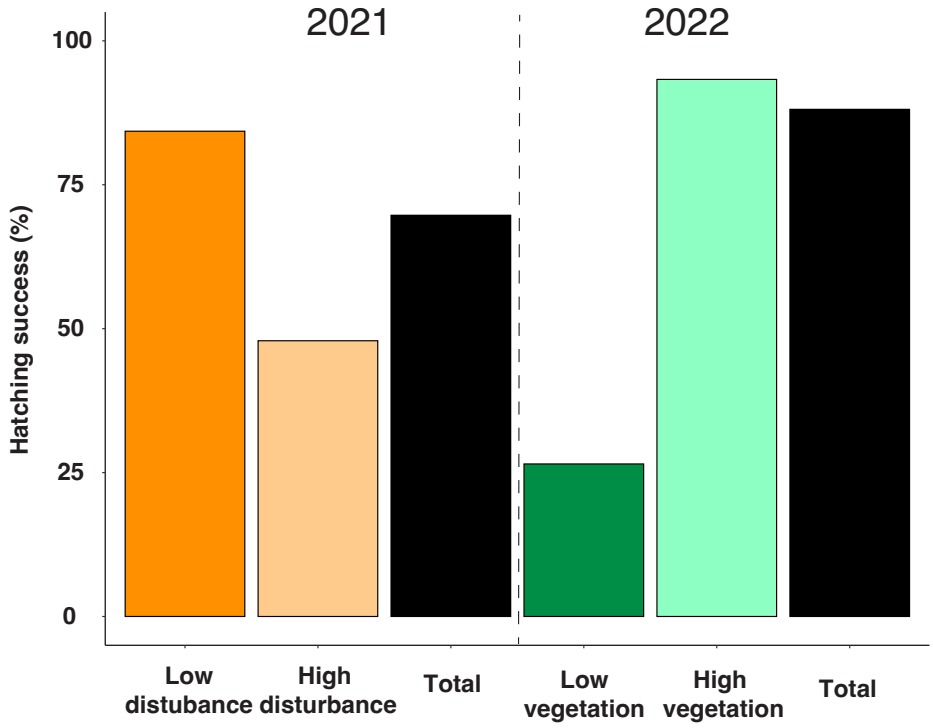

Figure 2 – Overall hatching success (the number of hatched eggs / total number of eggs laid) of Audouin's Gull (*Ichthyaetus audouinii*) breeding at Deserta Island in May-June 2021-2022 (black bar), in areas of (1) low (dark orange) and (2) high disturbance (light orange) and (3) low (dark green) and (4) high vegetation (light green).