
Breeding biology and habitat preferences of Sand Martin (*Riparia riparia*) in mining areas

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Participating organizations

Partnership since 2016



LafargeHolcim

Private sector



Universidad
de Alcalá

University



NGO



Sand martin (*Riparia riparia*)

Sand martins



Rivers



Mining areas



- Hirundinidae; migratory species
- Conservation interest in Europe
- Nests in mining areas
- Importance of managing colonies



Objective

Objective

- Reconcile mining industry with sand martin breeding.

Actions

- 1) Research the biology of the sand martin in mining spaces
- 2) Development of Good Practices based on scientific research
- 3) Dissemination at sector level

Habitat preferences at different scales

Reproductive biology in mining areas

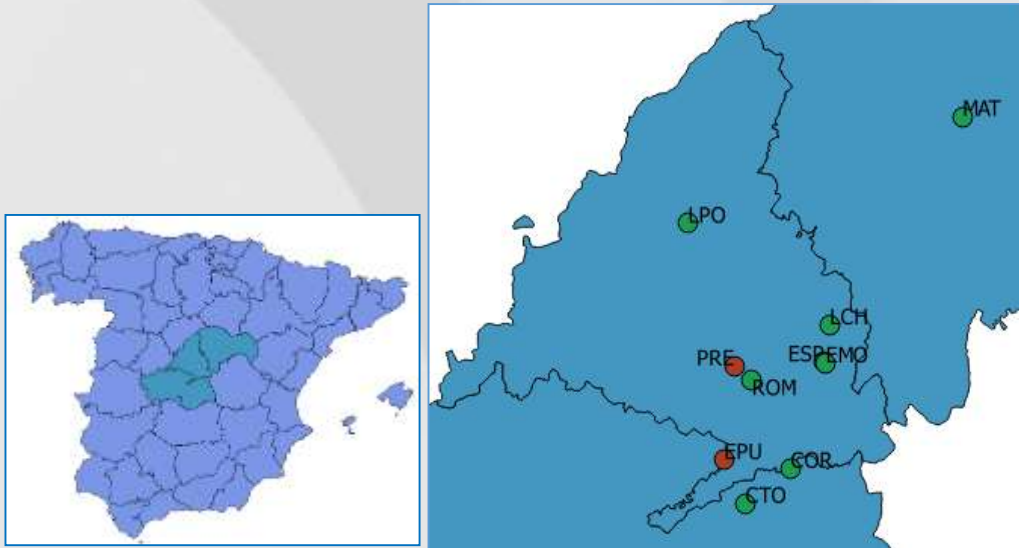
Effects of mining industry during breeding season

Need to manage



Research project

Study area



Scales



- **10 mining sites.**
Green: sand martins
Red: abandoned colonies
- **30 colonies.**
- **8000 burrows.**



Studied variables



- Aspects related with their habitat and habitat selection preferences.

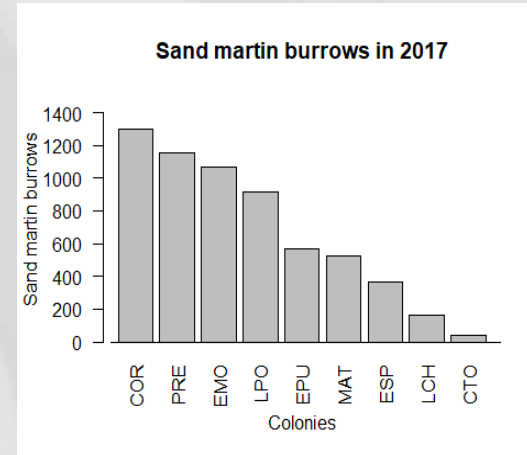
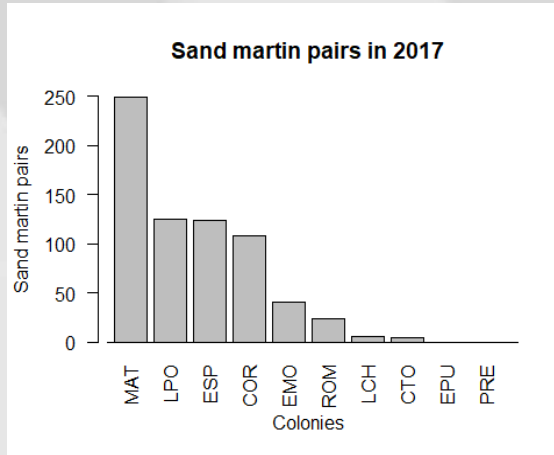
- Aspects related with the biology and phenology of the populations.



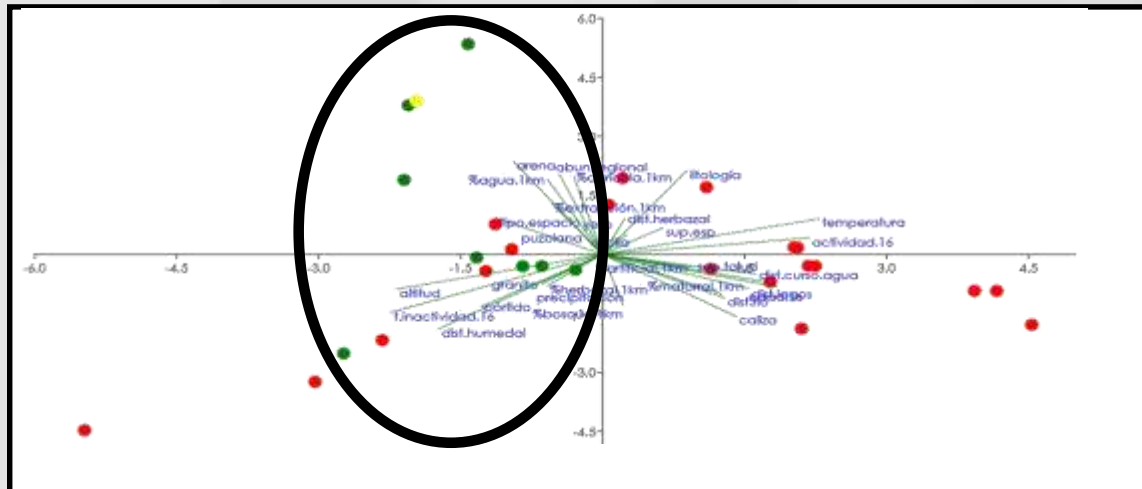


Results

Abundance and burrows



Tendencies for colonies



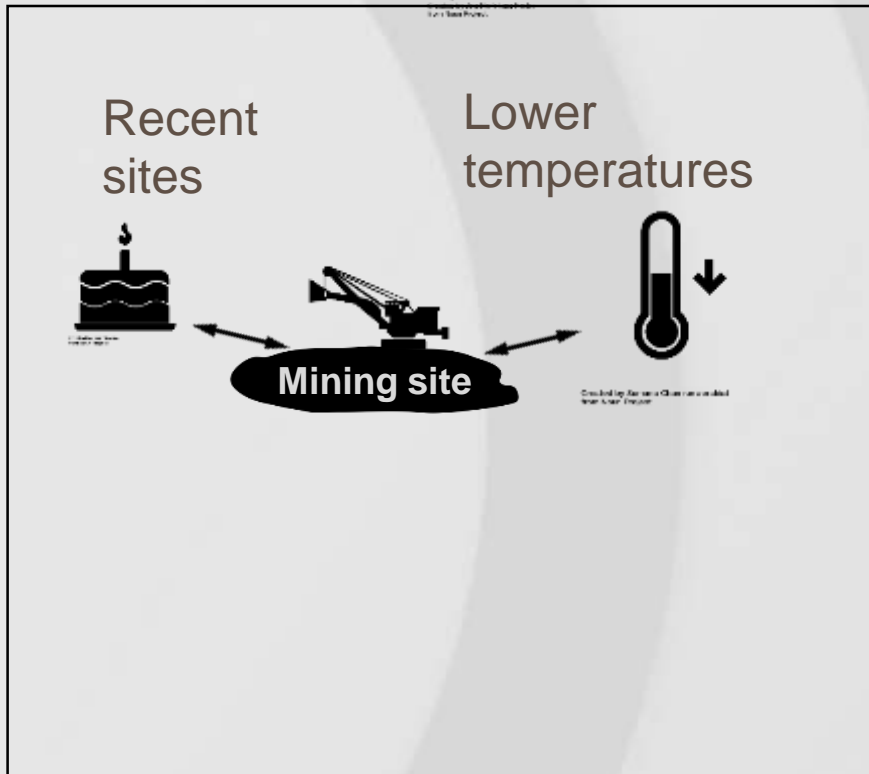
Component 1

Component 2

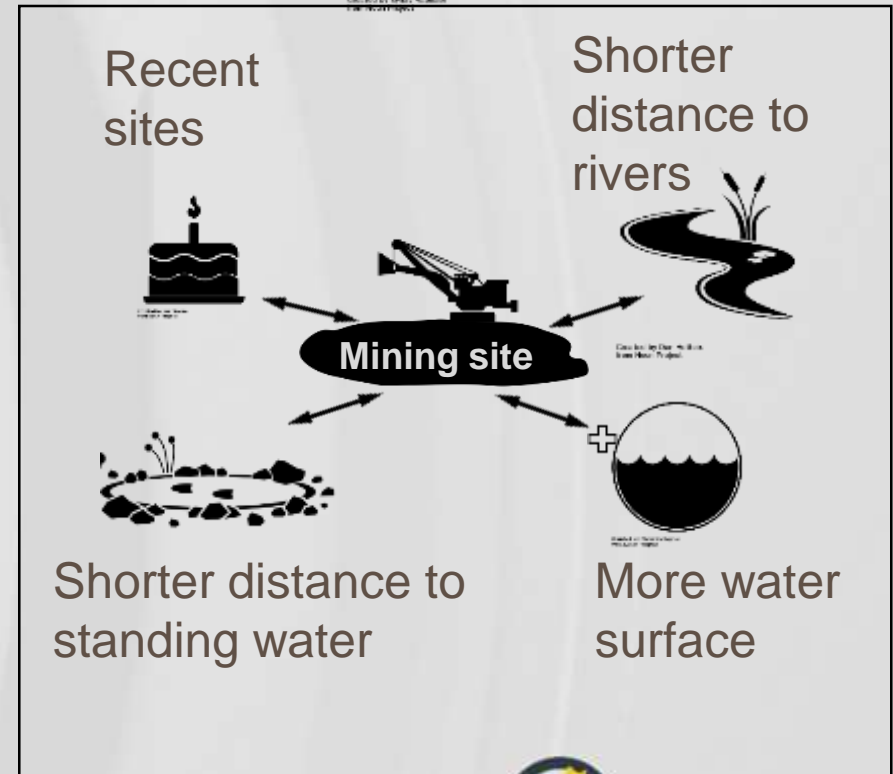


Results: Mining site habitat preferences

Presence and abundance



Number of burrows





Results: **Colony** habitat preferences

Abundance

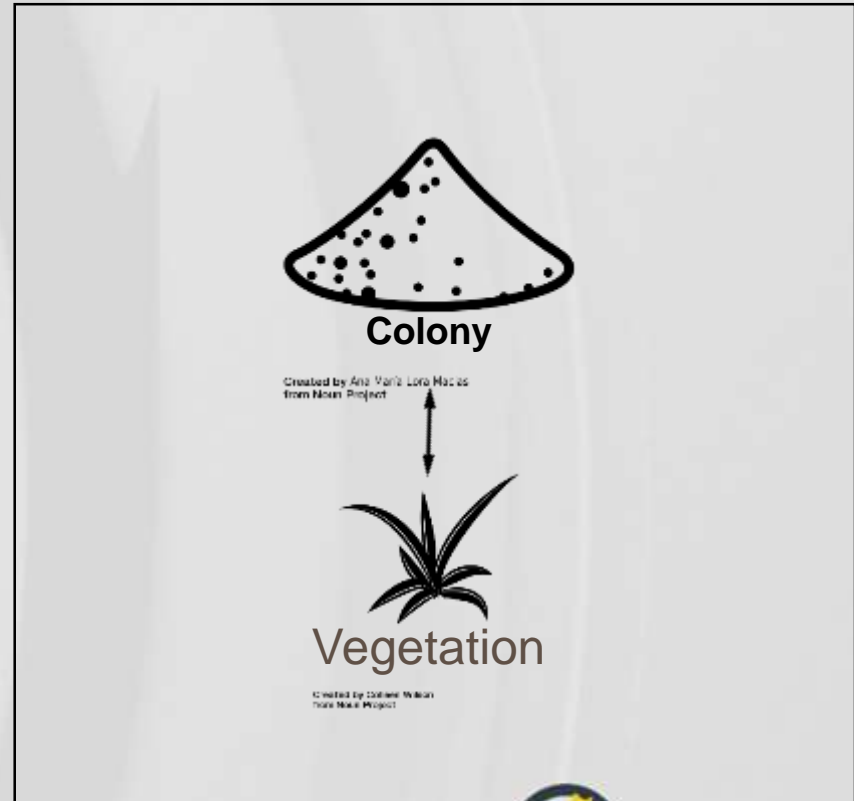
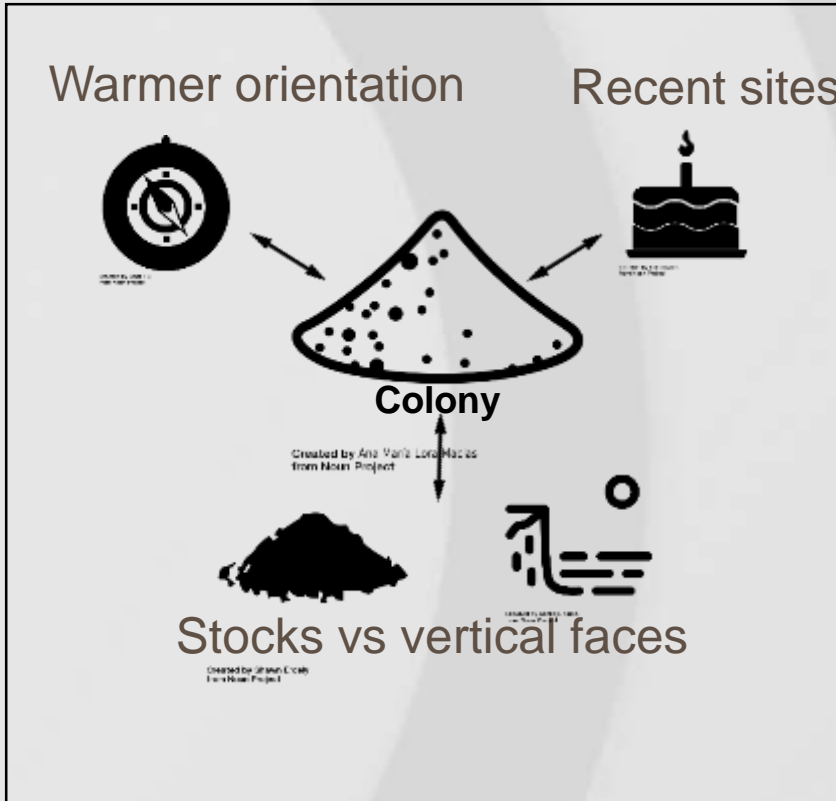


Created by Ana Maria Loro Macias from Moun Project

Number of burrows



Created by Ana Maria Loro Macias from Moun Project





Results: Burrow habitat preferences

Stocks vs vertical faces



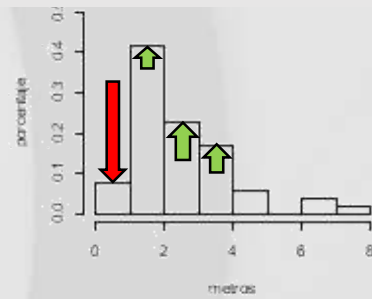
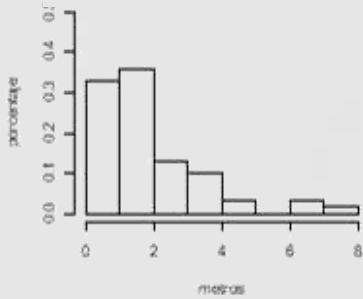
Area with burrows

General structure

Vertical height

Availability

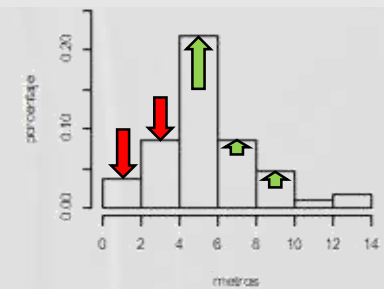
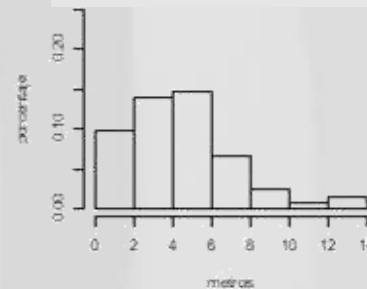
Use



Total height

Availability

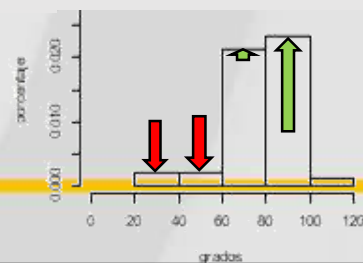
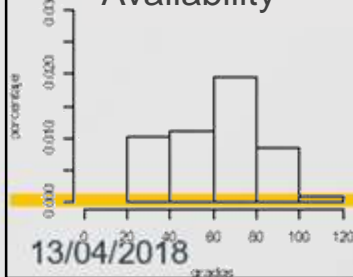
Use



Slope

Availability

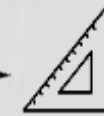
Use



Availability vs use



Burrow location



Slope



carries alive

2-4 May 2018, University of Évora, Portugal



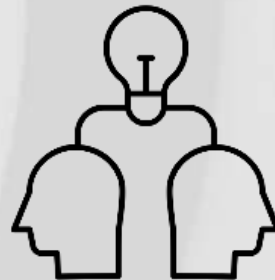
Applications

Development of management actions

- Guide sand martins towards desired areas.
- Avoid sand martin in active mining areas.



Create awareness at sector level



Created by Olivia
from Noun Project





Carlos Rodríguez



Salvador



Carlos

Juan



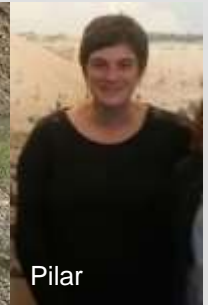
Manolo



Navila



Javier



Pilar

Thank you so much for listening!