Overview of activities of the REN Chair in Biodiversity (2015-2023)

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(CIBIO-BIOPOLIS)

cigre

For power system expertise

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BIOPOLIS

CÁTEDRA REN EM BIODIVERSIDADE

Jornada Iberoamericana sobre Infraestruturas Elétricas e Avifauna

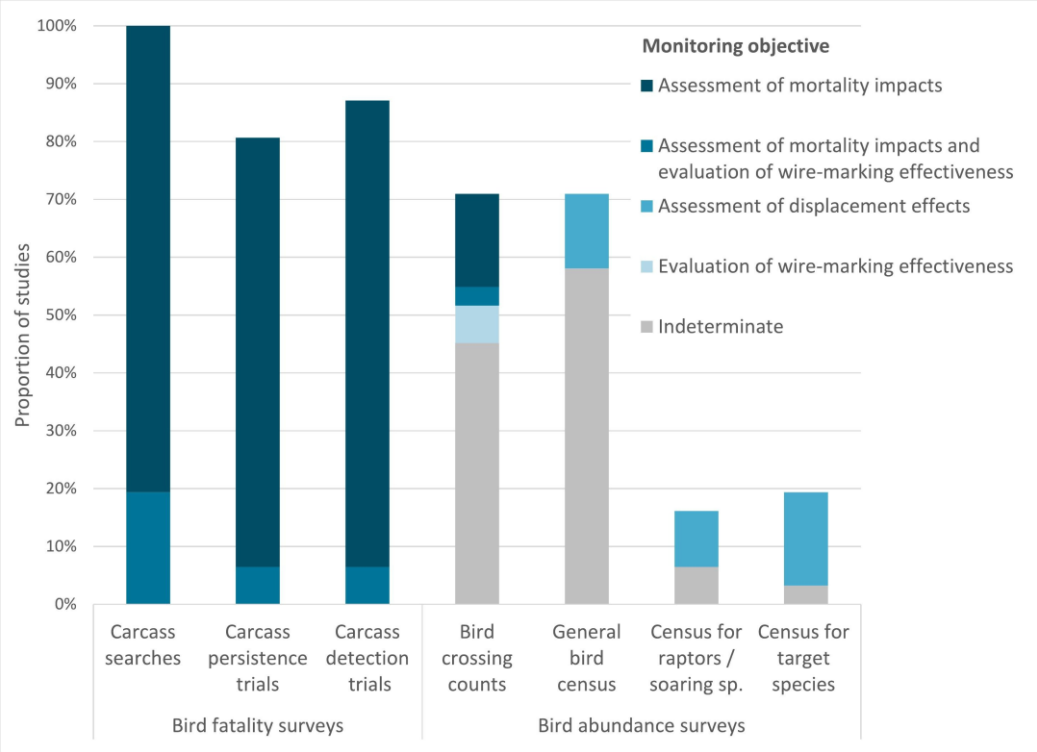
21 de setembro de 2023, Madrid

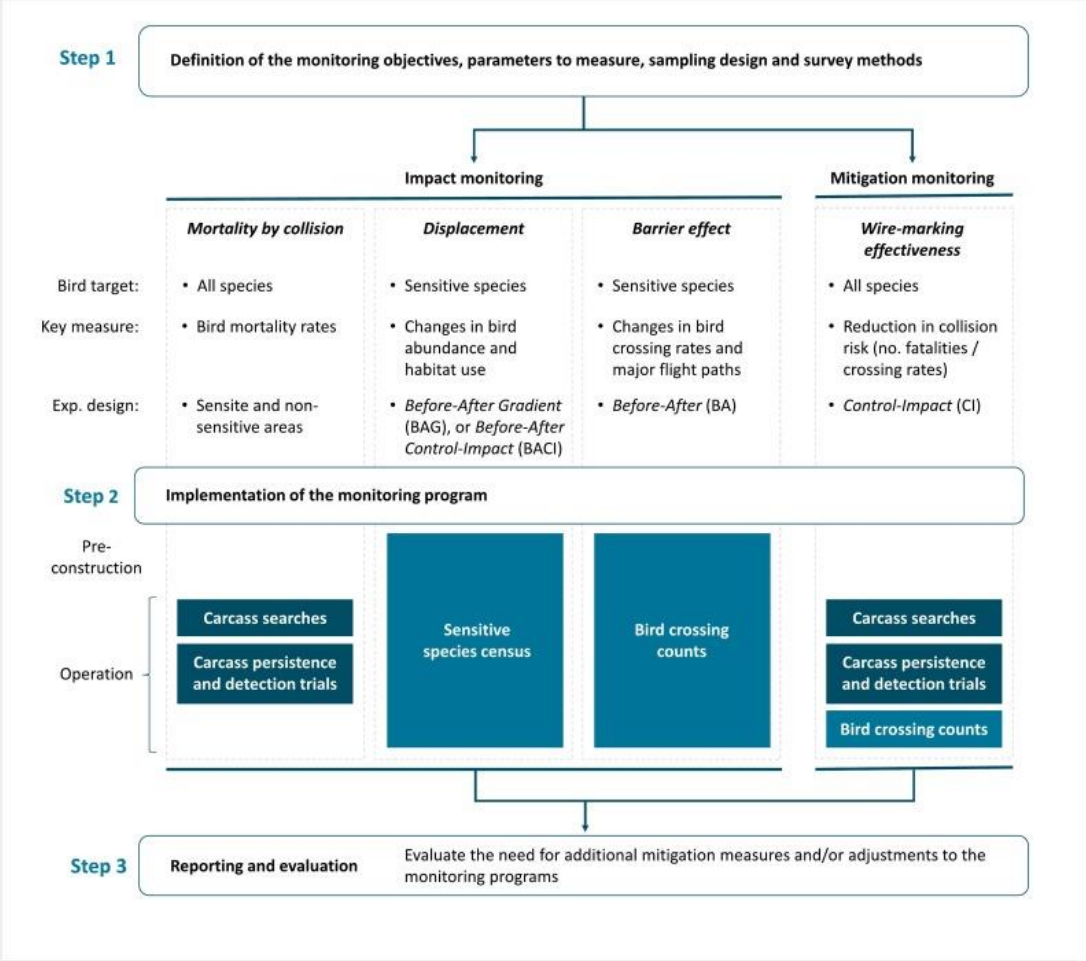
Main areas of research

- ✓ Assessing and monitoring impacts on birds
- ✓ Impact mitigation
- ✓ Bird ecology (focus on sensitive species)
- ✓ Technological development

Assessing and monitoring impacts on birds

✓ Evaluate monitoring practices and provide recommendations

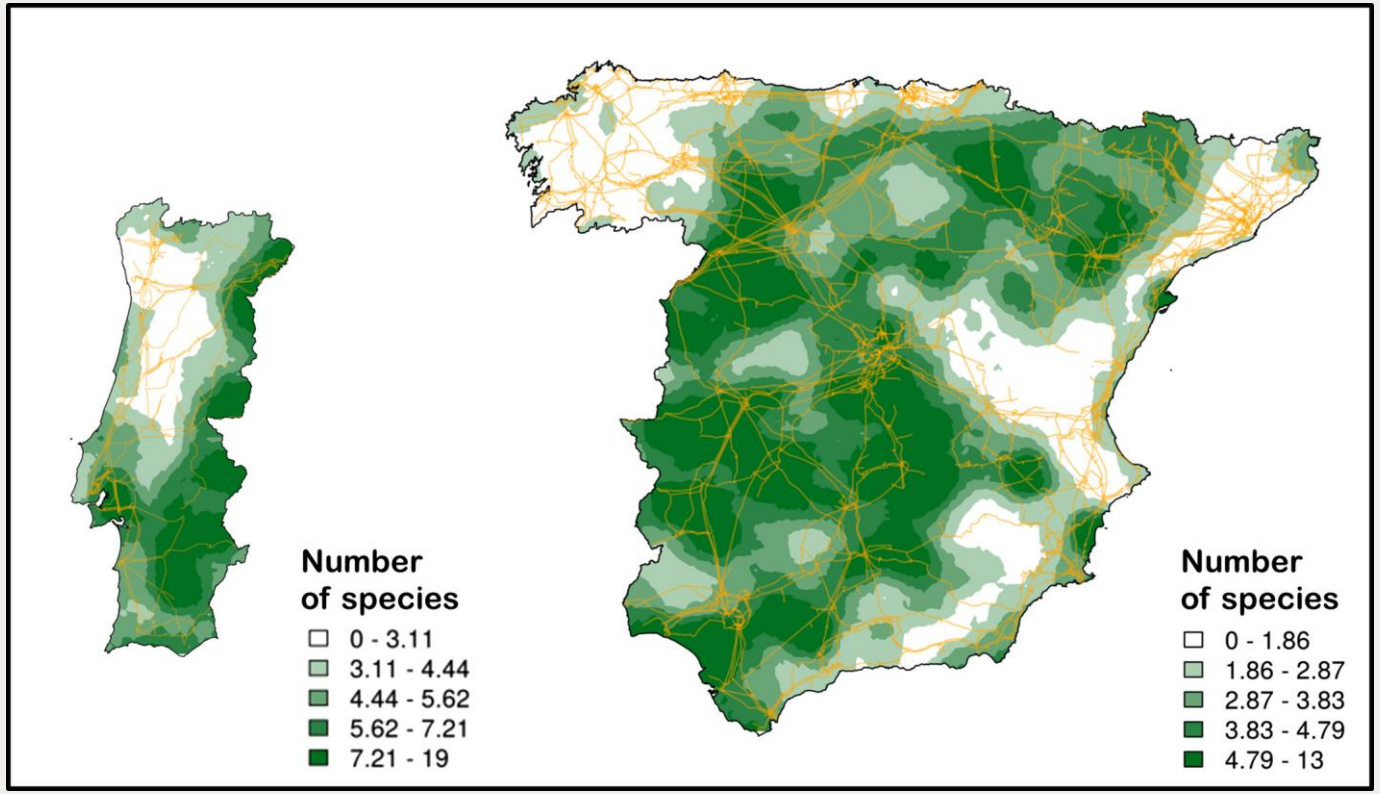




Assessing and monitoring impacts on birds

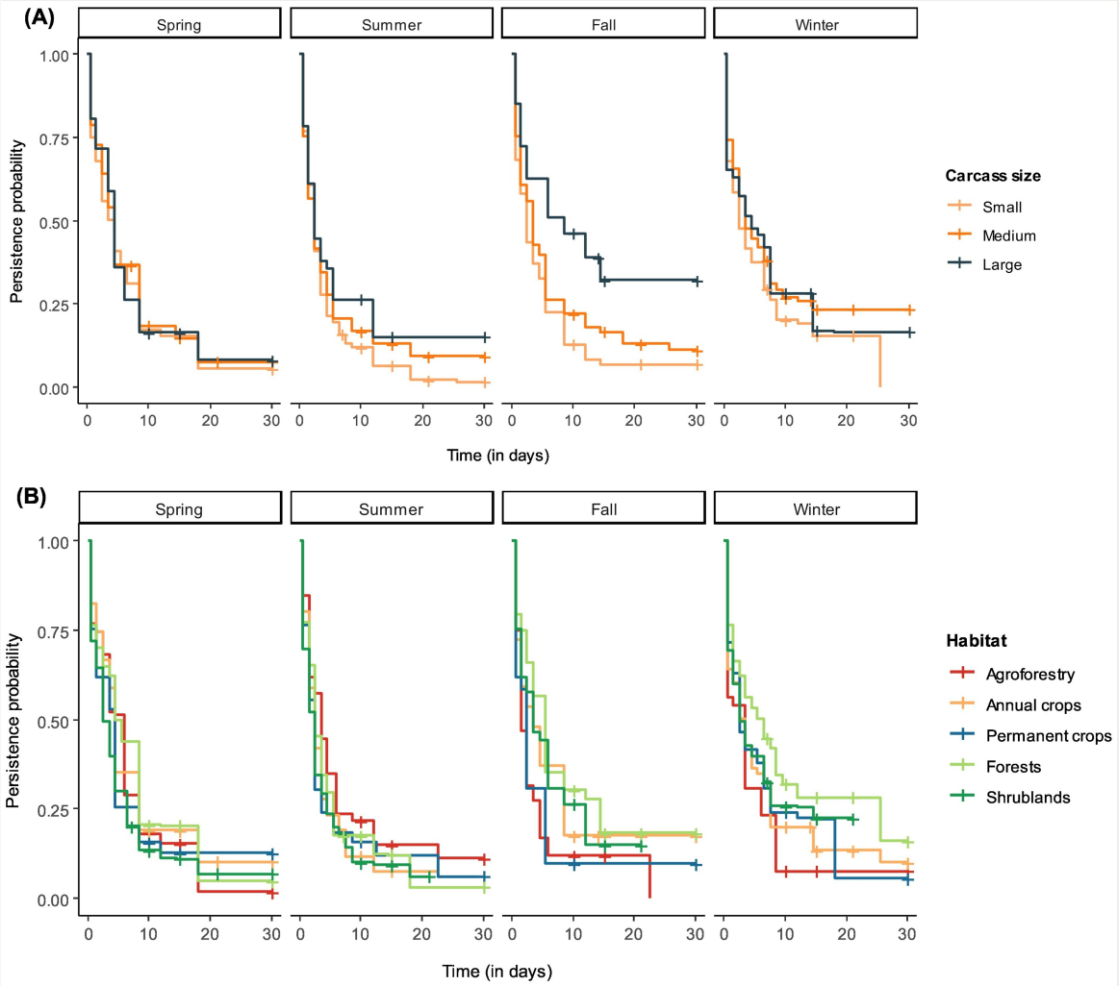
✓ Identification of more sensitive bird species and priority areas for impact mitigation

Rk	Nome comum	Espécie	Nr cad	Estat Cons
1	Trigueirão	*Emberiza calandra*	300	LC
2	Estorninho-preto	*Sturnus unicolor*	274	LC
3	Toutinegra-barrete	*Sylvia atricapilla*	268	LC
4	Tordo-pinto	*Turdus philomelos*	160	NT/LC
5	Cegonha-branca	*Ciconia ciconia*	153	LC
6	Pombo-das-rochas	*Columba livia*	150	DD
7	Pombo-torcaz	*Columba palumbus*	140	LC
8	Abibe	*Vanellus vanellus*	130	LC
9	Carraceiro	*Bubulcus ibis*	117	LC
10	Codorniz	*Coturnix coturnix*	96	LC
11	Sisão	*Tetrax tetrax*	88	VU
12	Rola-turca	*Streptopelia decaocto*	77	LC
13	Perdiz	*Alectoris rufa*	65	LC
14	Pato-real	*Anas platyrhynchos*	58	LC
15	Tarambola-dourada	*Pluvialis apricaria*	57	LC
16	Abetarda	*Otis tarda*	54	EN
17	Rola-brava	*Streptopelia turtur*	41	LC
18	Charneco	*Cyanopica cyanus*	40	LC
19	Melro	*Turdus merula*	37	LC
20	Gralha-preta	*Corvus corone*	32	LC



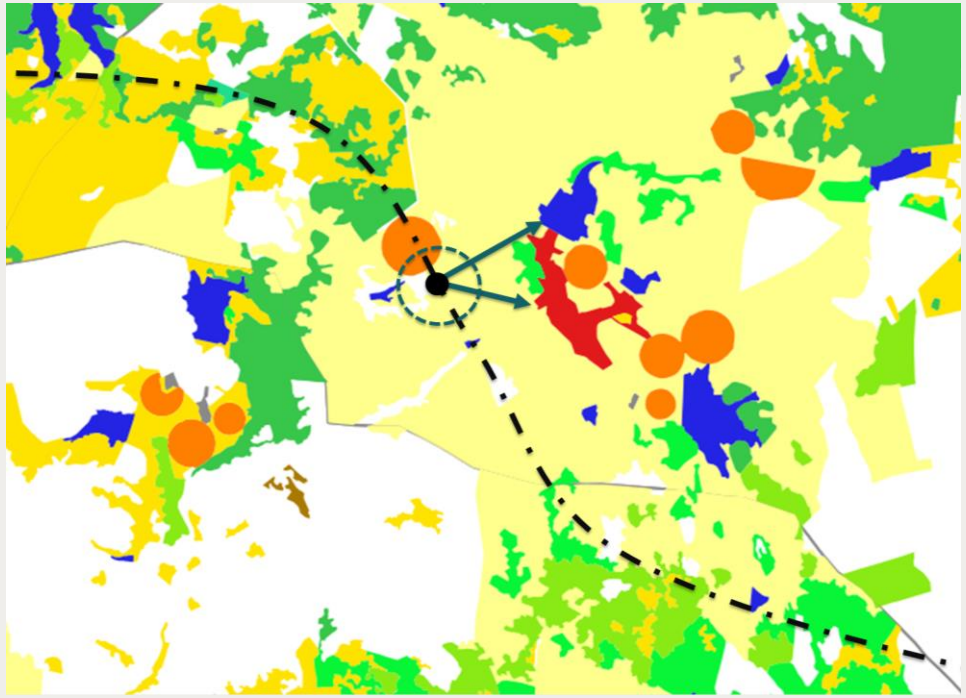
Assessing and monitoring impacts on birds

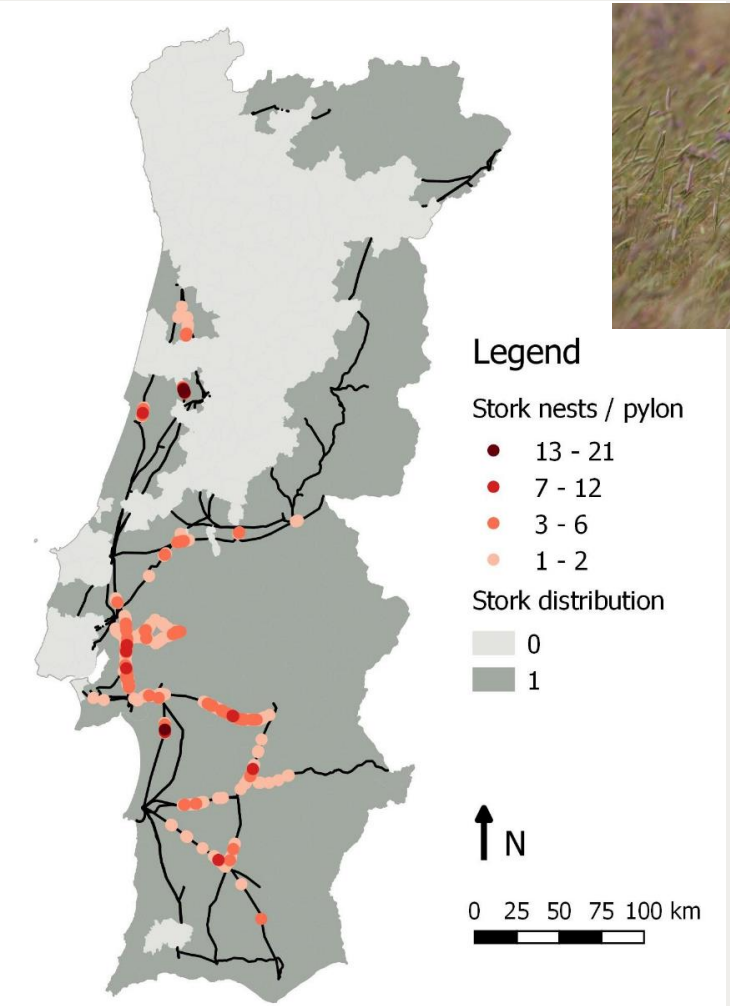
✓ Improved predictions of bird mortality (correction factors)

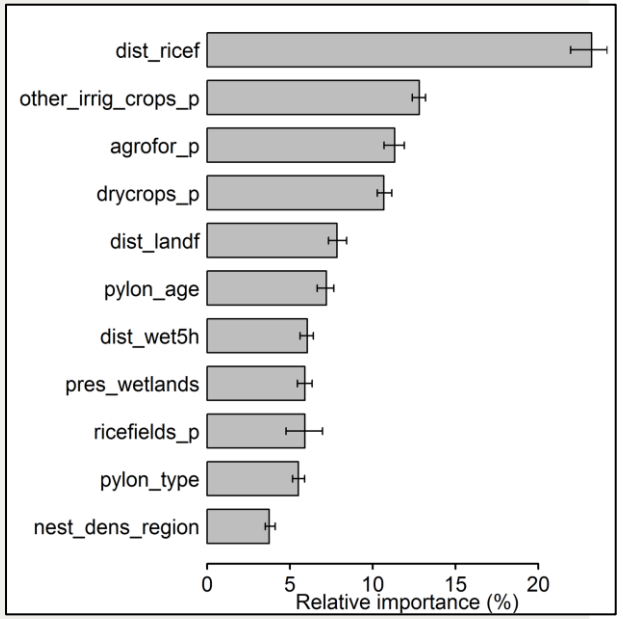


Assessing and monitoring impacts on birds

✓ Develop models to predict pylon use by nesting storks

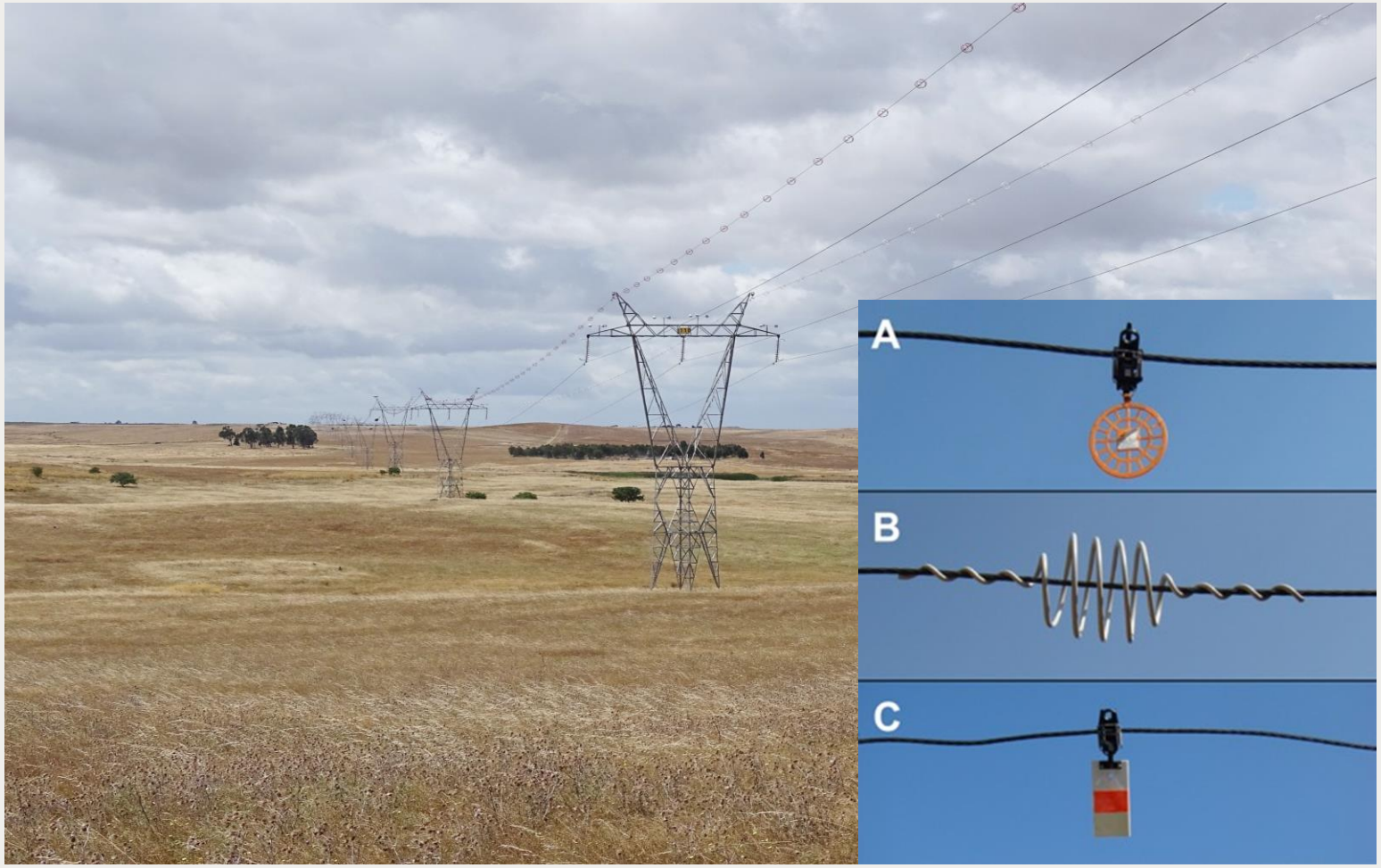


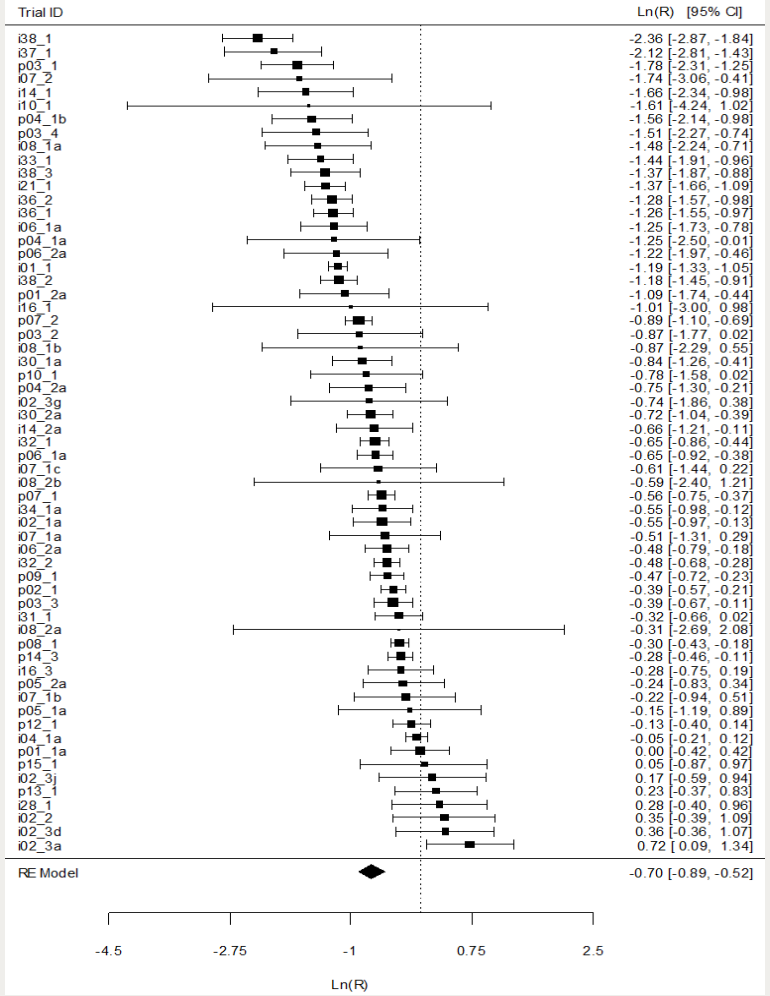




Impact mitigation

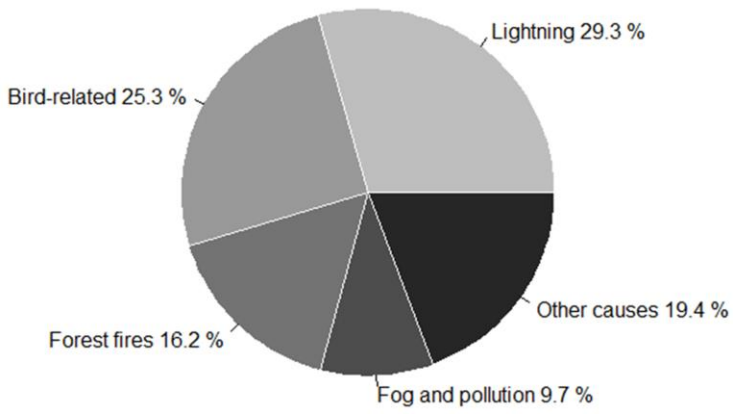
✓ Effectiveness of wire-marking

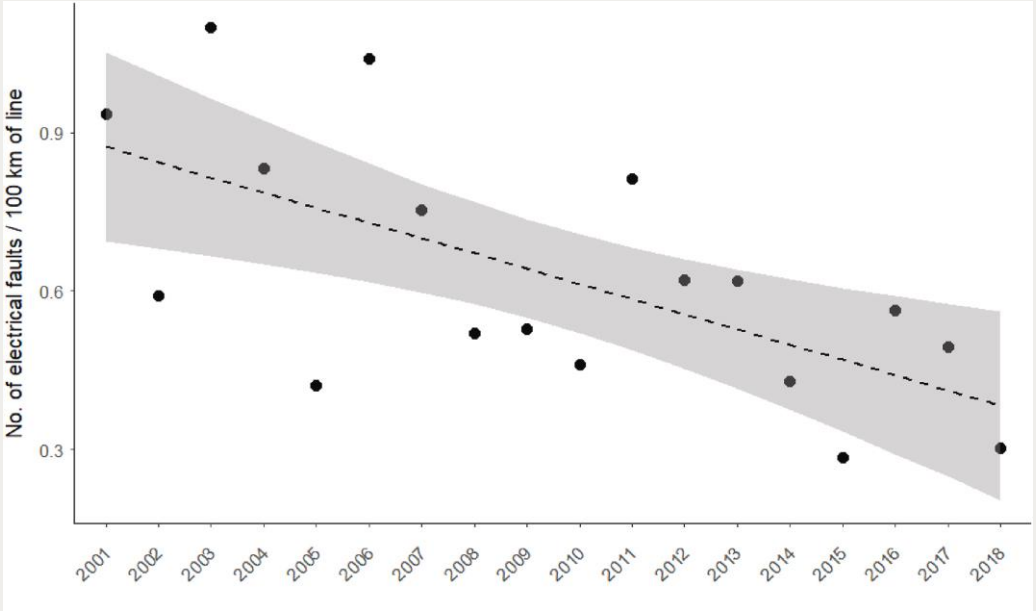


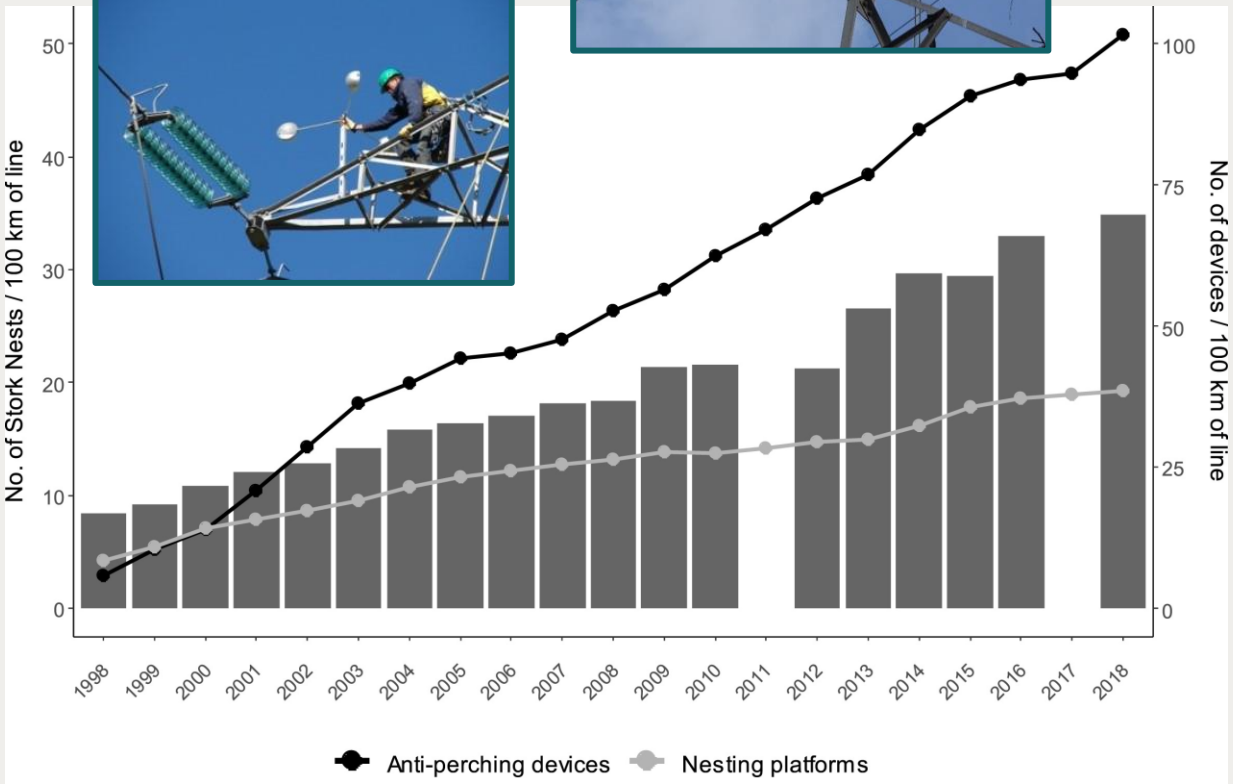


Impact mitigation

✓ Effectiveness of REN's management to prevent bird-related outages

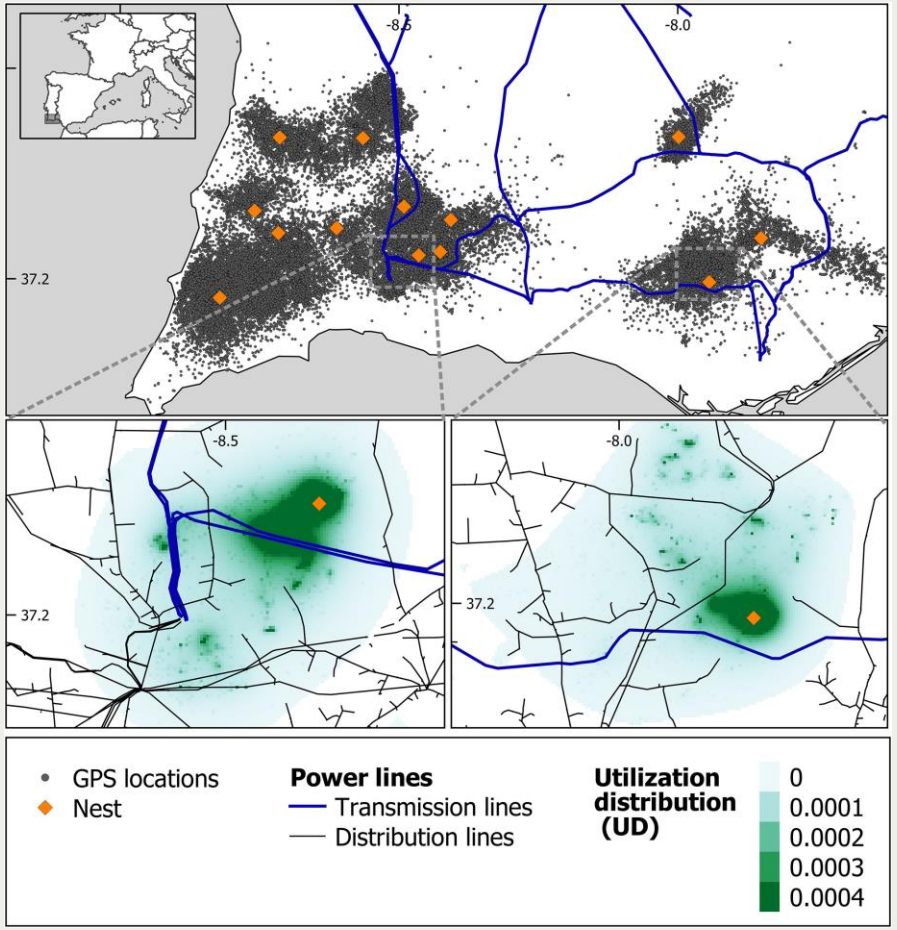


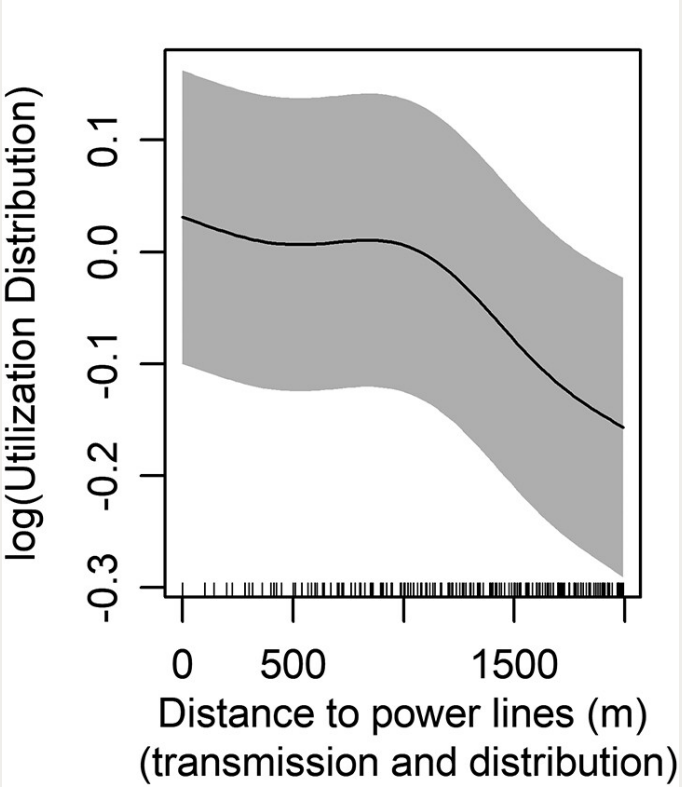




Bird ecology (sensitive species)

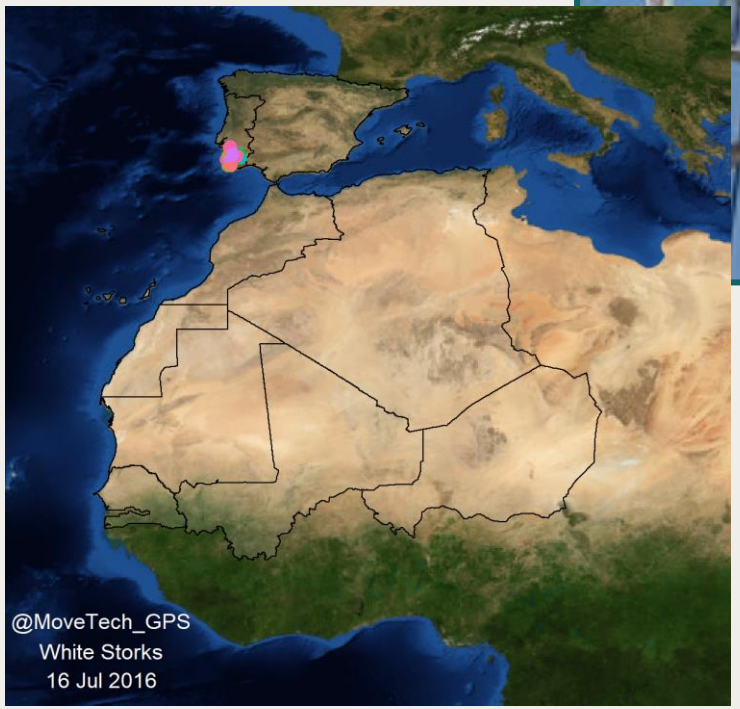
✓ Displacement effects on Bonelli's eagle (*Aquila fasciatus*) and Little bustard (*Tetrax tetrax*)





Technological development

- ✓ Effectiveness of “anemometers” and design improvements
- ✓ Biologging (better loggers 3D sensors to monitor bird collisions)
- ✓ Automatic detection of bird collisions (ongoing)
- ✓ Wire marking device durability (ongoing)



Scientific advice and knowledge transfer

- ✓ Provide the scientific evidence to support REN
- ✓ REN Biodiversity Strategy
- ✓ Guidelines for consultants and conservation authorities
- ✓ Participation in scientific conferences
- ✓ Support to CIGRE, RGI, IENE

https://www.catedraren-pt.com/

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Acknowledgements