

Testing an exclusion fence to prevent damage caused by wild boar to bird populations in a wetland area

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Oscar Almada - Minuartia



Study area



- Aiguamolls de l'Empordà Natural Park
- Catalonia, NE Spain, close to French border



- Natura 2000 site
- Ramsar site
- 4.731 ha total
- 3 Integral Nature Reserves:
 - RNI 1 (els Estans): 321 ha**
 - RNI 2 (les Llaunes): 523 ha
 - RNI 3 (Caramany): 6 ha

Framework: wild boar is a threat for birds in wetland areas

- Wild boar diet analyses in Aiguamolls de l'Empordà Natural Park
 - 142 stomach contents, 25 birds remains found.
 - Birds: 2,3% of total volume (in March – April: 8,4%)**
 - Eggs, chicks and also adults.

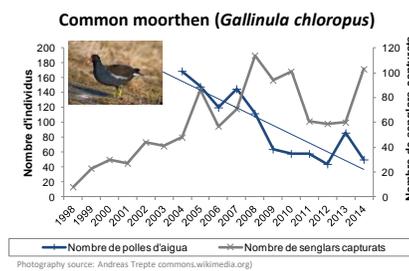
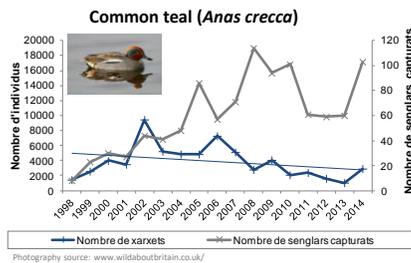
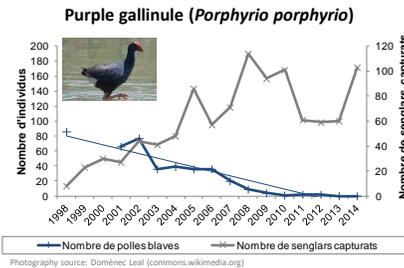
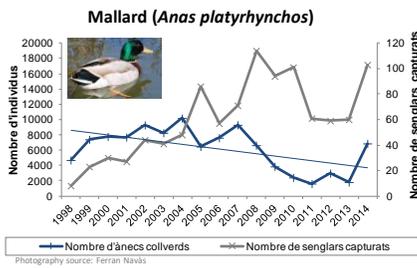
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FOOD HABITS OF WILD BOARS (*SUS SCROFA*) IN A MEDITERRANEAN COASTAL WETLAND

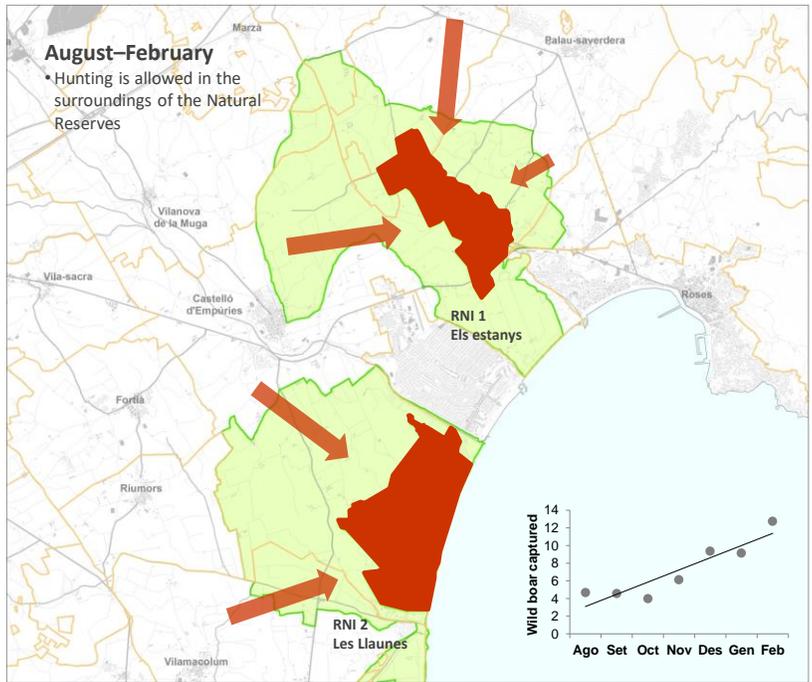
Alberto Giménez-Anaya¹, Juan Herrero², Carme Rosell^{3,4}, Sergio Couto^{1,2}, and Alicia García-Serrano⁵



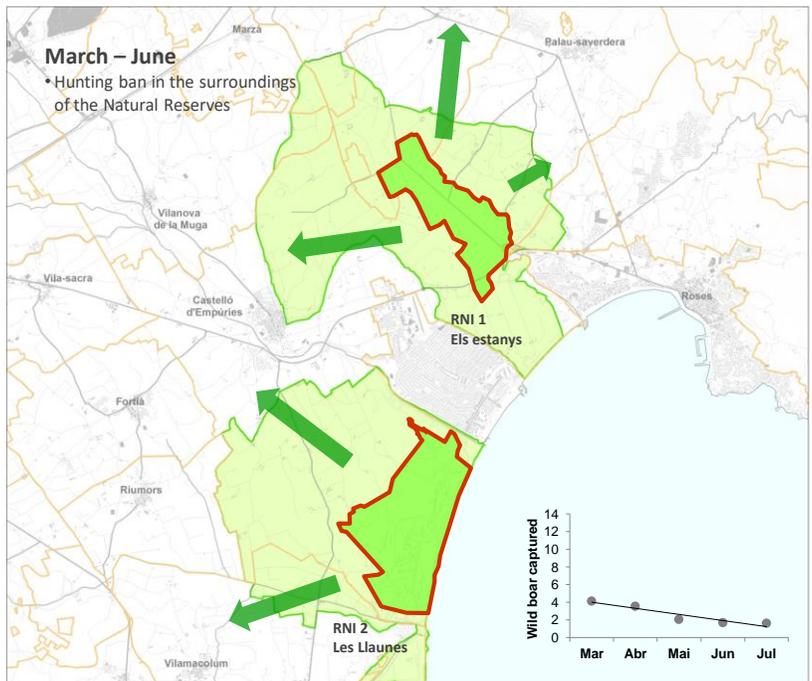
Framework: Bird species more frequently consumed are under decline



Framework: wild boar use Natural Reserves to refuge during hunting period



Framework: wild boar use Natural Reserves to refuge during hunting period

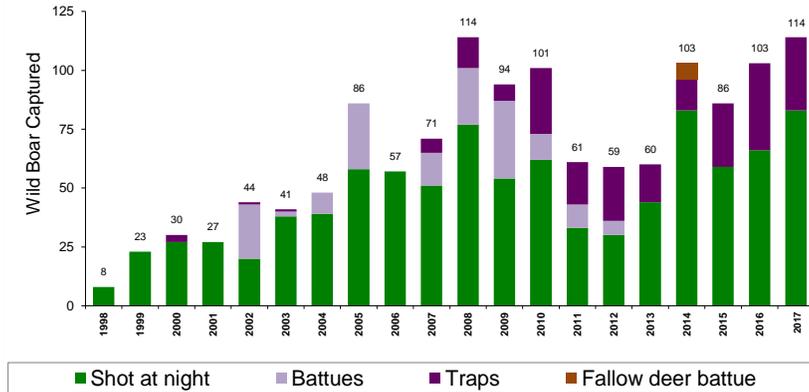


Framework: population control is undertaken the Natural Reserves

- Around 100 wild boar are captured annually by administrative hunting actions



Wild Boar captured in the Natural Reserves of Aiguamolls de l'Empordà 800 ha



Framework: Damage to bird nesting colonies remain



Tec lagoon

Located in the Natural Reserve 1 of the Aiguamolls de l'Empordà Natural Park

It was an important nesting area:

- Purple Herons (*Ardea purpurea*),
- Marsh Harriers (*Circus aeruginosus*)
- Booming Bittern (*Botaurus stellaris*).

After wild boar begin to use the area bird nesting was no longer detected. It also American mink (*Neovison vison*) is present.



Protection of the main bird nesting area against wild boar

- A new strategy : an exclusion fence was installed in 2016 to protect the 'honey pot' (nesting area).



Knotted wire mesh



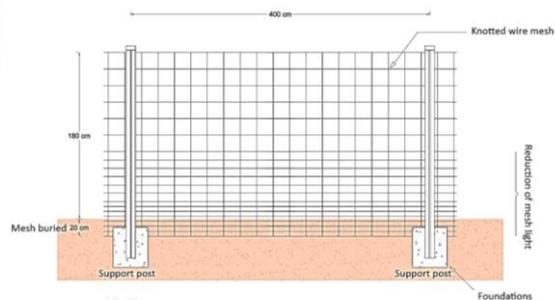
- Adapted to prevent wild boar entrance

180 cm high

20-30 cm buried on the ground

knotted wire mesh

progressive density horizontal wires



A multipurpose exclusion fence

- Designed to exclude:

- Wild boar

- American vison

- Grazing by cattle (horses)

- Additional reinforce against **American vison**: welded wire mesh 19x19 cm in the basis. Electric wire at 100m high



- No management activities inside.



Monitoring method

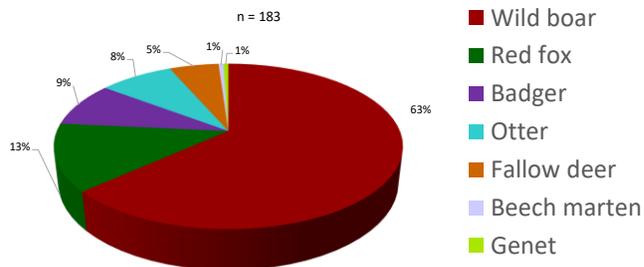
- Inspection visits to:
 - Examine all the perimeter.
 - Register any mammal **tracks**.
 - Register any **break** on the mesh.
 - Register any attempt to enter in the fenced area by any species.
- + Additional monitoring using drone and direct ornithologists observation: bird nesting.



Results and evaluation of the effectiveness

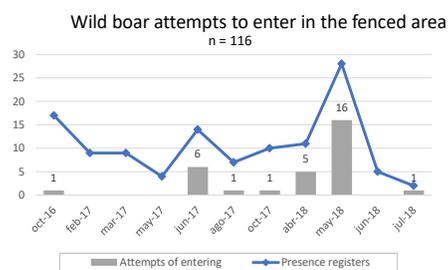
- The species most frequently detected in the perimeter fence is wild boar

Mammal species detected in the perimeter of the exclusion fence (2016-2018)



Results and evaluation of the effectiveness

- Wild boar have tried to enter in the fenced area but with NO success



Evaluation of the effectiveness

- Bird nesting is detected in April 2018



- A marsh harrier (*Circus aeruginosus*) was reported to be nesting inside the enclosed area.
- Little egret (*Egretta garzetta*) were detected, although nesting was not verified.
- July 2018 a rehabilitated Bittern (*Botaurus stellaris*) was released in the lagoon.
- To be continued ...

Jordi Jornet – Natural Park Aiguamolls de l'Empordà

In general: appropriate design and maintenance are key issues

- Inappropriate materials (e.g. torsion mesh) must be replaced or reinforced.
- Reinforcements can be used to correct mistakes.
- Periodical maintenance practice should be applied.



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Reference:

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Děkuji vám za pozornost
Thank you very much for your attention
To exchange knowledge about evaluation
of measures to reduce wild boar damage
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Sergi Romero - Aiguamolls de l'Empordà Natural Park