

Seminar "LIFE LINES - Linear Infrastructure Networks Solutions" with Ecological Solutions
Parque de Ciência e Tecnologia do Alentejo, Évora 2nd June 2016

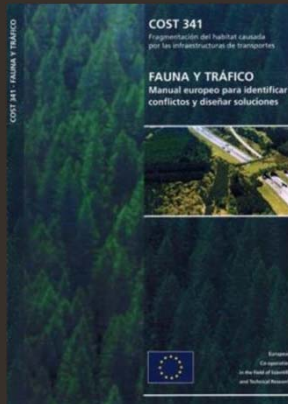
Wildlife and High Speed Railways interactions



Carme Rosell, MINUARTIA www.minuartia.com
Dept. Biologia Animal. Universitat de Barcelona



Information about wildlife and transport infrastructures

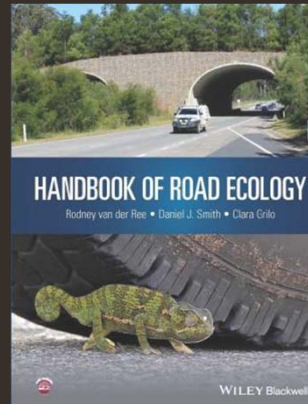


2003
The first European Handbook. A product of the COST 341 ACTION

Documents are available at:
<http://www.magrama.gob.es/es/biodiversidad/temas/ecosistemas-y-conectividad/conectividad-fragmentacion-de-habitats-y-restauracion/fragm-documentos-grupo-trabajo.aspx>



2015
1st edition 2006 based on the COST 341 European Handbook



2015
The first world global handbook

Information about wildlife and transport infrastructures

Infra Eco Network Europe www.iene.info

Integrating Transport Infrastructure with Living Landscapes
IENE

IENE - 5th IENE International Conference on Ecology and Transportation - 30th August to 2nd September 2016 - Lyon - France

REGISTRATIONS ARE OPEN

Normal registrations until July 15, 2016

If you encounter any technical problem, please contact programme2016@iene.info

[Home](#)

IENE 2016 international conference

Dear all, we are glad to inform you that we have enriched the IENE 2016 website with several pieces of information:

- > The "programme at a glance" and the "detailed draft schedule" are now available.
- > We have listed every [workshops](#), [Side Events](#) and their chairmen. Please discover them. Further informations will be available soon.
- > Besides, we have added for each [field trip](#) the departure and arrival locations, the Swiss tour (Tour 1) being an exception: departure location is Geneva Airport and not Lyon.

Tweets by @IENE2016

IENE Retweeted
FRB @FRBiodiv
The press release of the 5th @IENE2016 International Conference is online! urlz.fr/3CzW

[Embed](#) [View on Twitter](#)

Particular features important for considering wildlife/HSR interactions

- Fenced
- Narrow
- Low traffic
- Electrified



Fencing

Railway verges: new wildlife habitats

Electrification

Mortality risk

Wildlife Crossings



A fenced area



A refuge area: low perturbation, no hunting



Escape devices can provide opportunities to enter



Vulnerable points: interesections perimetral drainage





Fencing

Railway verges: new wildlife habitats

Electrification

Mortality risk

Wildlife Crossings

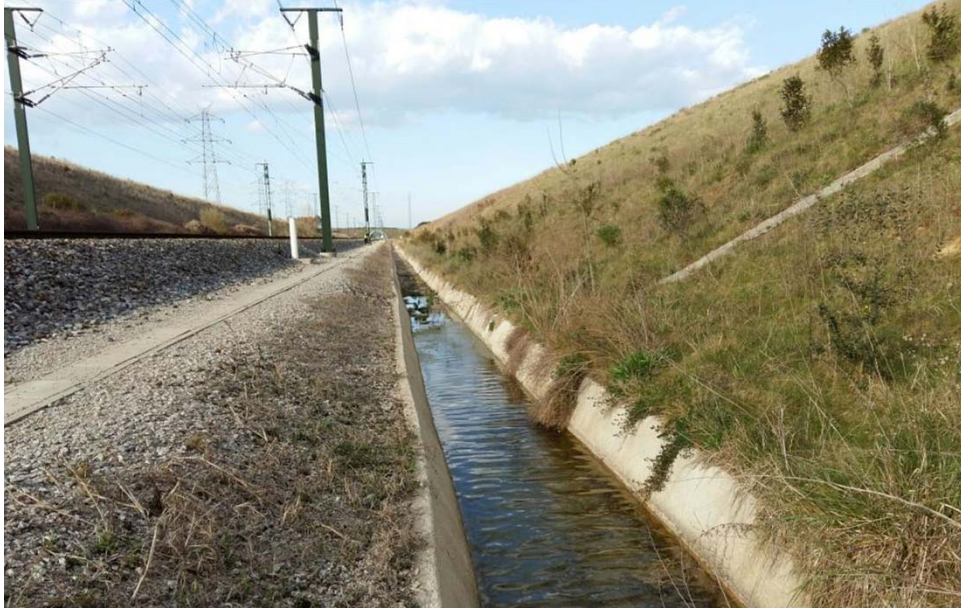
Outside habitats and wildlife species will determine wildlife communities inside the fenced railway area



Drainage transversal structures: new habitats



Drainage ditches: reproduction sites



Amphibian reproduction sites



Unsuitable habitats (no herbaceous vegetation)



... may increase the use of railway verges



Conflicts: too much rabbits!!



Embankments must be protected



Preys attract predators
and may increase their mortality risk



Many other habitats are also used as refuges
or nidification sites



Fencing

Railway verges: new wildlife habitats

Electrification

Mortality risk

Wildlife Crossings

Catenary system: risk of collision and electrocution,
used as pole sites for raptors

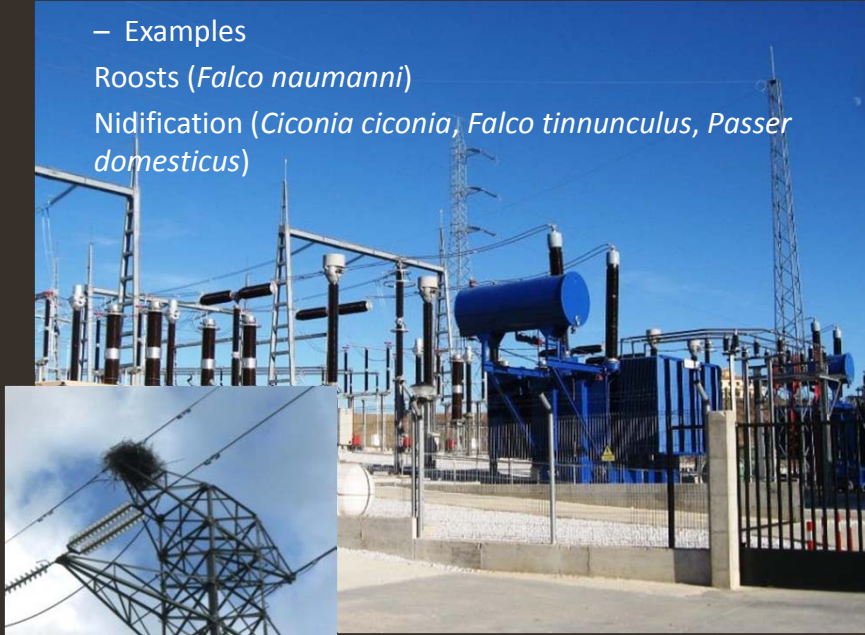


Electric stations: used for nesting and roost

– Examples

Roosts (*Falco naumanni*)

Nidification (*Ciconia ciconia*, *Falco tinnunculus*, *Passer domesticus*)



Fencing

Railway verges: new wildlife habitats

Electrification

Mortality risk

Wildlife Crossings

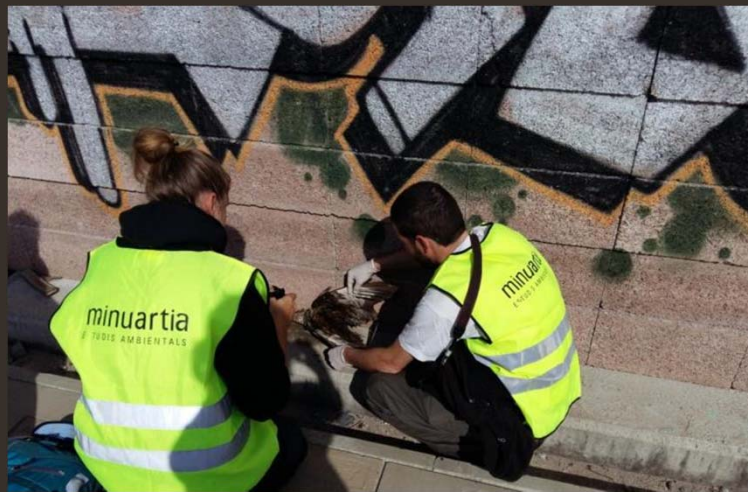
Birds: risk to collide with catenary and other elements

A low frequency is observed but could be increased in particular sections

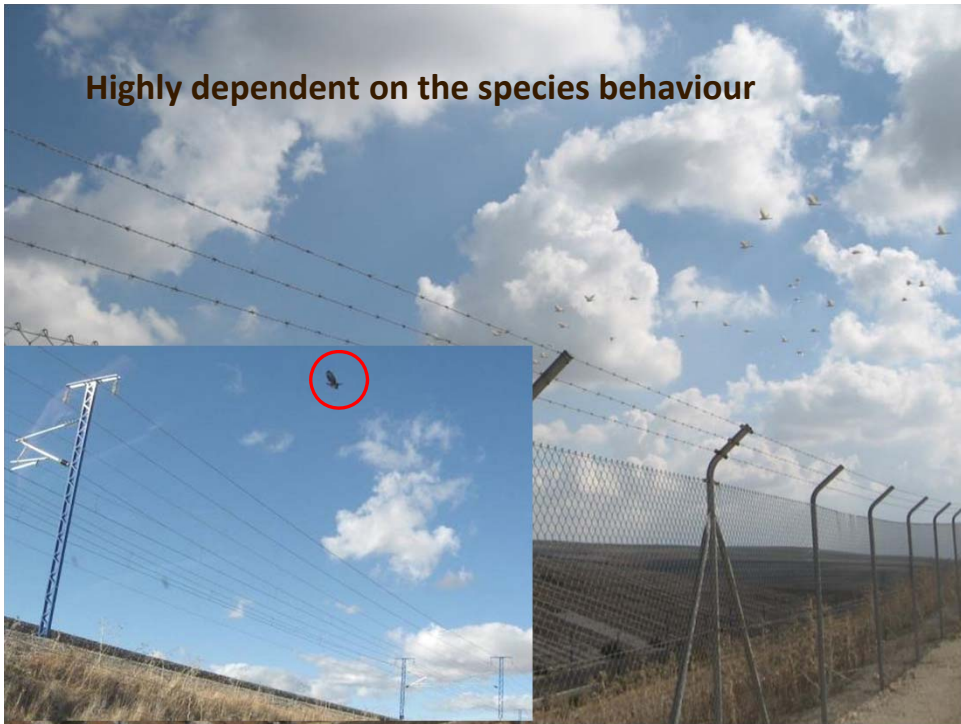


Mortality: difficult to quantify ...

Low train frequencies diminish the risk?
Scavengers remove the carcasses?



Highly dependent on the species behaviour



Fencing
Railway verges: new wildlife habitats
Electrification
Mortality risk
Wildlife Crossings

Viaducts, tunnels and ecoducts

provide excellent wildlife crossing opportunities

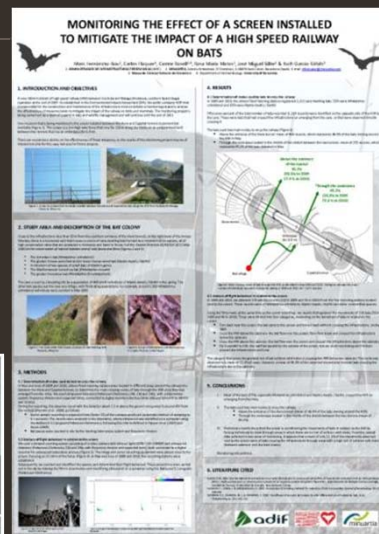
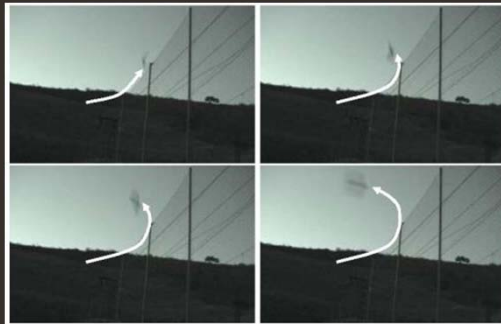


Culverts and multiuse over and underpasses

can also be adapted and used by fauna



Measures to reduce impacts on bats



IENE *Infra Eco Network Europe*
International Conference on
Ecology and Transportation
Sep.- oct. 2010 Hungria



Obrigado pela sua atenção

Acknowledgements: to **ADIF Alta Velocidad** who develop the monitoring projects in which I based my talk



Carme Rosell
www.minuartia.com

