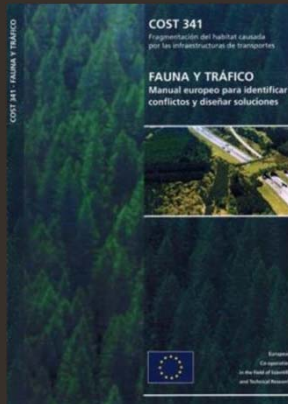# Wildlife and High Speed Railways interactions

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

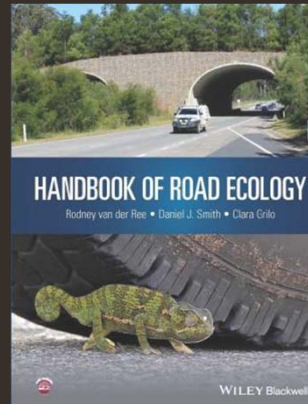## Information about wildlife and transport infrastructures

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

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

2015
The first world global handbook

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

---

Information about wildlife and transport infrastructures

Infra Eco Network Europe www.iene.info

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
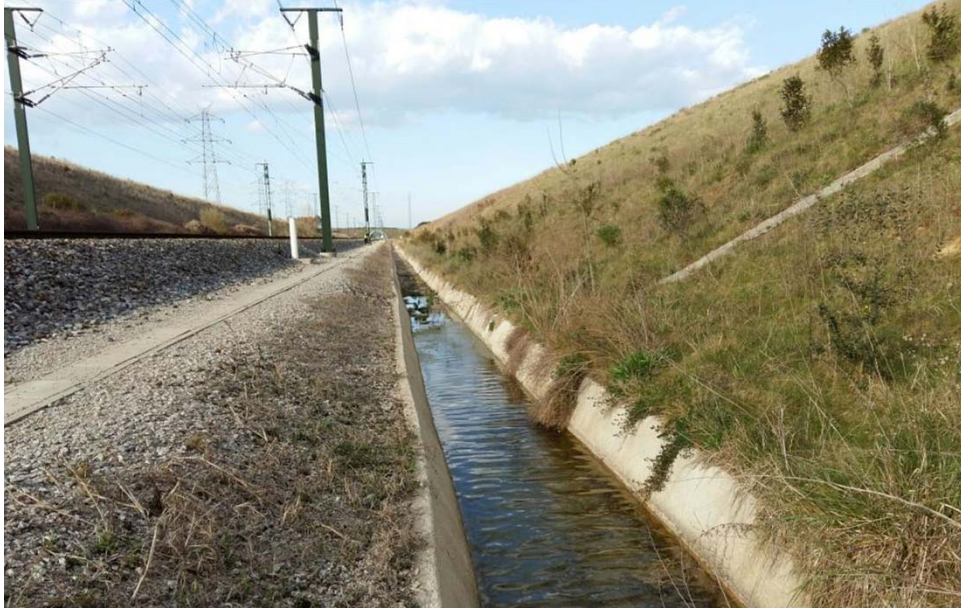Electrification
Mortality risk
Wildlife Crossings

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
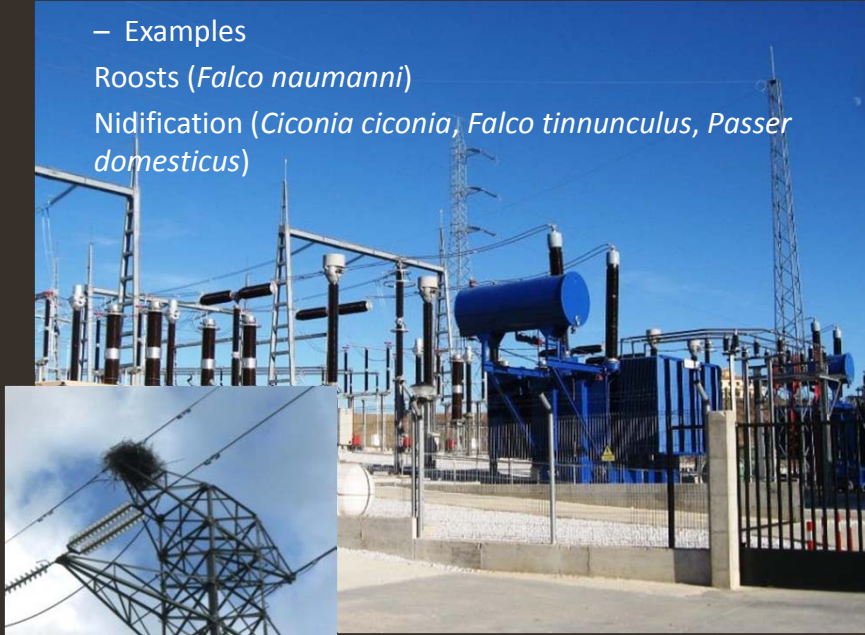
Electric stations: used for nesting and roost

– Examples

Roosts (*Falco naumanni*)

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

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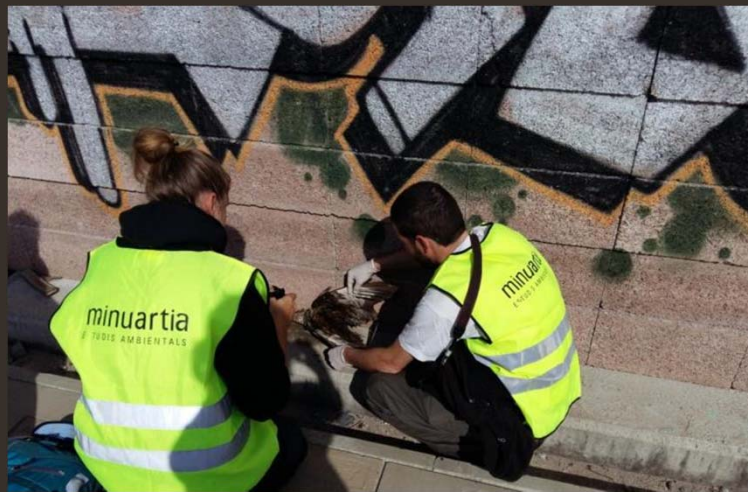Wildlife Crossings

Birds: risk to collide with catenary and other elements

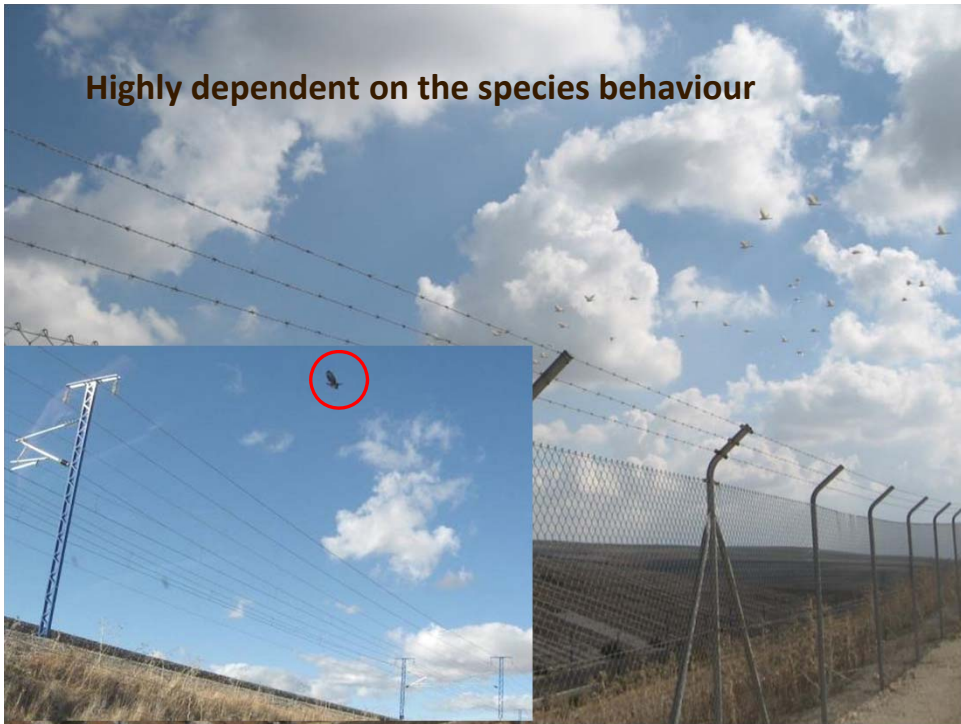A low frequency is observed but could be increased in particular sections

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
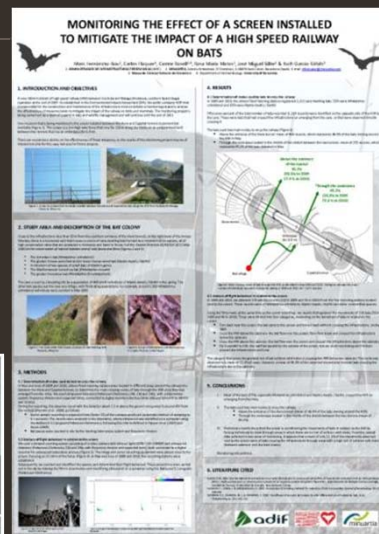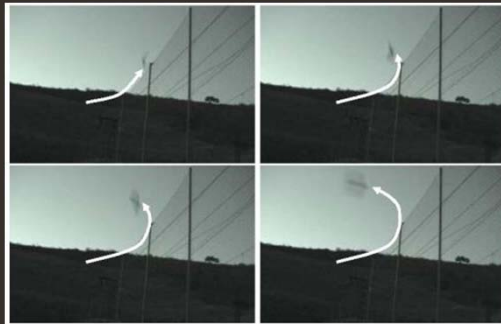provide excellent wildlife crossing opportunities

Culverts and multiuse over and underpasses
can also be adapted and used by fauna

Measures to reduce impacts on bats

Obrigado pela sua atenção