Wildlife and High Speed Railways interactions

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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.iente.info

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

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*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

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Obrigado pela sua atenção

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