### THREAT: Afforestation of pasture / fallow (9) Increasing habitat homogeneity (9) Land abandonment / reduced management (7.5) Intensification of grassland management (7.5) 1 Research to understand optimal Roller habitat (for each country) 2 Influence CAP 2020 (and national agricultural policy in non-EU countries), using e.g. CMS platform 3 Prepare (local) best-practice agri-environment schemes 4 Prepare (local) best-practice habitat management plans 5 6

#### **THREAT:**

#### Decreased food availability (9)

- 1 Use supplementary feeding during spells of bad weather
- 2 Test effectiveness of 'substrate' supplementation (manure, sawdust, wood piles, grazing livestock)
- 3 Provide piles of dead wood and sawdust in (forest) Roller territories
- 4 Encourage foresters to leave deadwood standing
- 5 Leave some clear-cuts near Roller territories unplanted to naturally regenerate (to maintain open areas for foraging)
- 6 In protected forests, encourage maintenance of open areas near Roller territories, through controlled burning or cutting
- 7 Supply perches in open areas to provide increased foraging opportunities
- 8 Mow strips in grassland to promote vegetation mosaic and increase prey accesibility

THREAT: Climatic condition (9)
1 Use supplementary feeding during spells of bad weather
2 Consider nest-box design with better thermal insulation
3 Test insulative properties of natural tree cavities, and consider maintaining / creating them
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5
6
7

## **THREAT:** Logging of used / suitable trees (8) Intensification of forest management leading to loss of old trees (8) 1 Mark nest trees with paint so they can be identified by foresters 2 Influence forest management plans to leave nest trees un-felled 3 Raise awareness among foresters / farmers / public 4 Ensure forest management plans are correctly implemented 5 Introduce compensation scheme for owners of private forests to promote protection of nest trees (as part of EU forestry subsidies?) 6 7

# THREAT: Natural predation (8) 1 Produce best-practice guide for predator-safe nest-boxes (e.g. Austrian metal plate design, correct hole size, plastic around tree trunk) 2 Test best-practices for predator-safe nest-boxes 3 Promote knowledge exchange across all levels, for example by considering workshops / meetings as part of any major project 4 5 6

THREAT:  *Mortality during migration / over winter (8)
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THREAT: Insecticide use (5)
1 Encourage use of biocides which do not affect potential Roller prey
2 Encourage use of biological, rather than chemical control
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