THREAT: Loss of solitary trees & hedgerows
1: Incentive to maintain/protect – education, payment, advice about payment schemes
2: Incentive to plant for long tern sustainability/replacement
3: Implementation of existing management plans
4: influence land-use policies local/national scale e.g. agri-environment schemes
5: Catalogue/mark important structures (NGOs)
6: Promote certification schemes for produce from well-managed sites
7

THREAT: Logging of used/suitable trees
1: As 1
2: Influence local/national forest policy to protect suitable trees
3: Attention and action for old trees in orchards (almond, olive etc) and dahesa
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THREAT: Loss of old buildings
1: Preserve suitable/used ruins and abandoned buildings and manage for Rollers (and other species) through agreement/contract between NGOs and land owners (stakeholders)
2: Establish funding through AES – influence local/national policy to support management
3: Best practice guideline for sensitive restoration of old buildings
4:
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THREAT: Predation & Invasive species
1: Design nest boxes and surrounds to prevent access (manipulation of natural sites if possible)
2: If invasive, alien species – control predators
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THREAT: Conversion of permanent grassland & Increasing habitat homogeneity
1: Influence current agricultural and land-use policy (parcel size; hedgerows & non-cropped areas – as 1 above)
2: Design, implement, advise farmers on availability of funding incentives (AES; Natura 2000) to protect
3: Promote certification schemes
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THREAT: Climatic conditions
1: Educate (Donald Trump)! Contribution to mitigation access
2: Research
3: Food supplementation during extreme poor weather events
4: Nest box construction/design to reduce risk of over-heating
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THREAT: Pesticides
1: influence land-use policies local/national scale e.g. agri-environment schemes
2: Promote certification schemes that reduce application (Organic; farmland bird friendly)
3: Awareness raising of impacts and promote e.g. precision farming
4: Research sub-lethal effects, direct/indirect effects of existing and new pesticides on Roller and their prey
5:
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THREAT: Clearing of riverbank trees/ riparian forest
1: As 1
2: Influence urban planning and flood management to reduce perceived risk of trees falling into waterways. Link to Water Framework Directive
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THREAT: Intensification of grassland management
1: As Conversion of permanent grassland/increasing habitat heterogeneity
2: Specific policy/management actions & incentives to prevent overgrazing, reduce inputs, delay cutting of silage
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THREAT: Urbanisation
1: Influence and implement existing planning rules & regulations
2: Impact assessments for new developments.
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THREAT: Electrocution; direct & indirect effects of renewable energy
1: Equip wires, powerlines with existing devices to avoid collisions (direct impact)
2: equip electricity posts with devices to avoid electrocution (direct impact)
3: promote bird friendly wind turbines (direct impact)
4: Indirect effects of wind, solar, other energy production systems – installations to be subject of thorough and correct EIA
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THREAT: Roadkill
1: put protection devices where possible
2: implement speed reduction systems where breeding/feeding sites close to roads
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THREAT: Disappearance of excavators
1: research on population trends on excavating species (Beaters, woodpeckers)
2: Design management actions to promote/protect excavator species
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THREAT: Human dependence (becoming nest box reliant)
1: Promote/Protect natural nest holes rather than resort to nest boxes installation whenever possible. Require associated actions to protect/establish natural nest sites (e.g. sand cliffs, tree planting) if nest boxes installed.
2: Organise roller conservation groups to support long-term maintenance of existing nest box schemes – repair & replace for sustainable provision
3: Design, install nest boxes with greatest longevity and which are most ¨future-proof¨ e.g. to reduce over-heating. Best practice guidelines about design and installation
4: Clear recognition that nest boxes are temporary solution and discuss policy and management recommendations accordingly.
5: Promote diversity of nest site options so not ¨fixed¨ specialisation on nest boxes
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THREAT: Sand cliffs disturbed or destroyed
1: Build inventory and protection strategy for existing sand cliff breeding sites
2: Develop guidelines to restore sand cliffs
3: Introduce ¨guarding regime¨ to reduce disturbance during key breeding period.
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THREAT: Decreased food availability
1: Research on temporal and spatial dynamics of key prey species in different habitats
2: Develop standardised methodology for measuring biomass to facilitate cross-population analyses of critical thresholds etc
3: Maintenance of habitat diversity, fallow areas, provision of wood piles/manure piles/sawdust to increase abundance.
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THREAT: Land abandonment and reduced management
1: Incentive continued extensive management – local/national policy and practical implementation
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THREAT: Nest site competition
1: Research to establish dominance hierarchy
2: Manipulate nest boxes to prevent access; promote natural nest site availability for Rollers
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THREAT: Disturbance at nest
1: Raise awareness about impact of disturbance – administration, local community, photographers; produce best practice guidelines & code of conduct for photographers
2: Establish volunteer nest guarding system
3: Provide infrastructure for low disturbance photography (e.g. hides) where practical
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THREAT: Afforestation of pasture/fallow land
1: Influence local/national land-use policy
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THREAT: Intensification of forest management
1: Influence local/national forestry policy
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THREAT: Parasites
1: RESEARCH - lethal and sub-lethal effects, parasite loads in different nest types & habitats
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THREAT:
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