Steps forward in restoration prioritization

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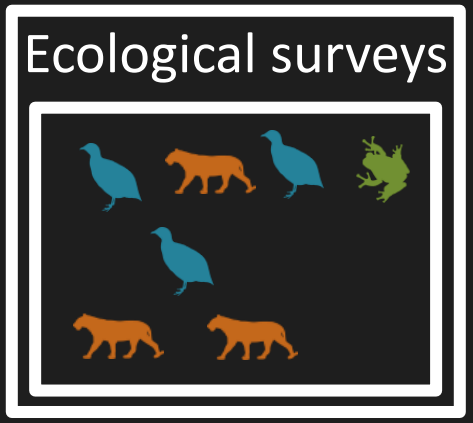
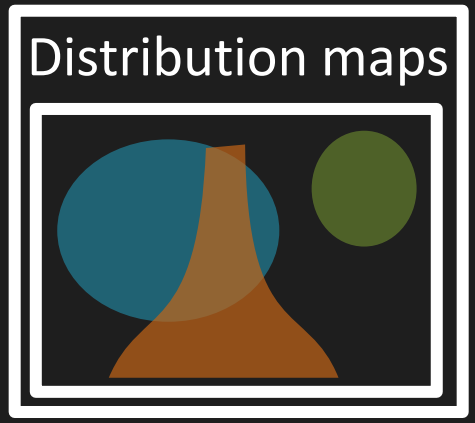
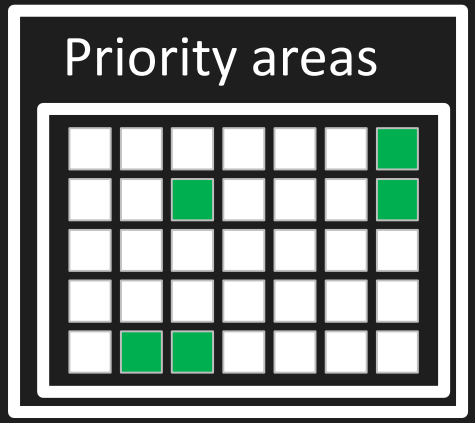
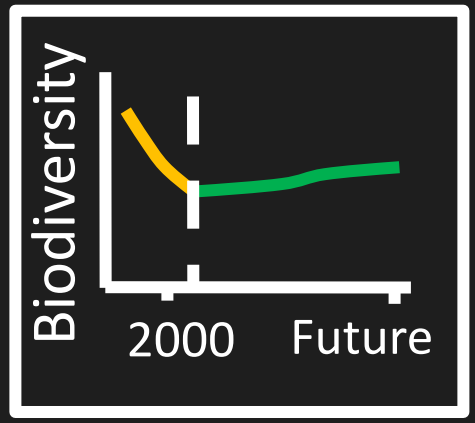


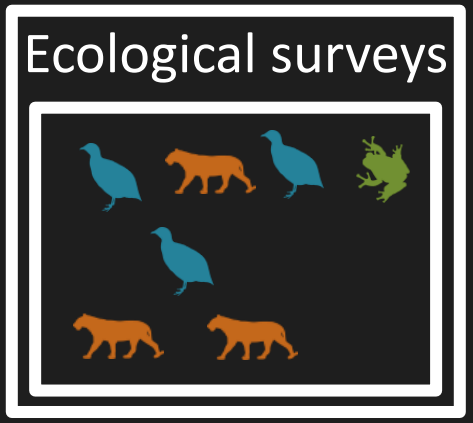


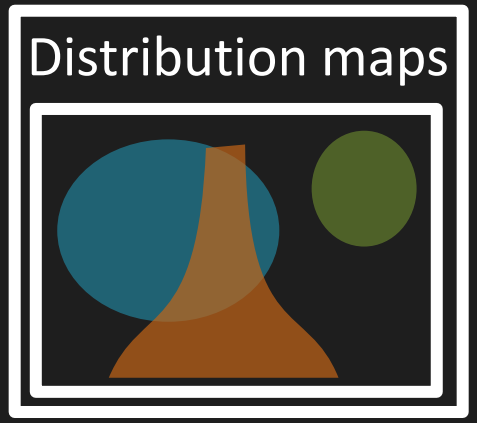


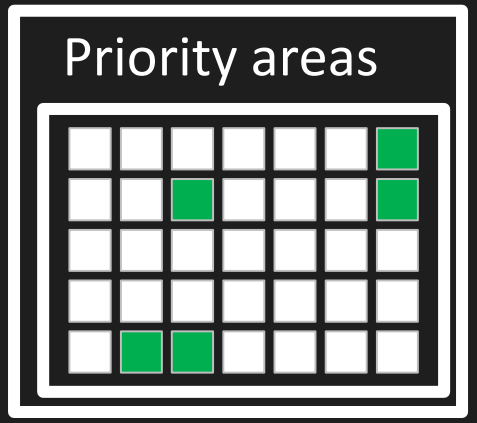


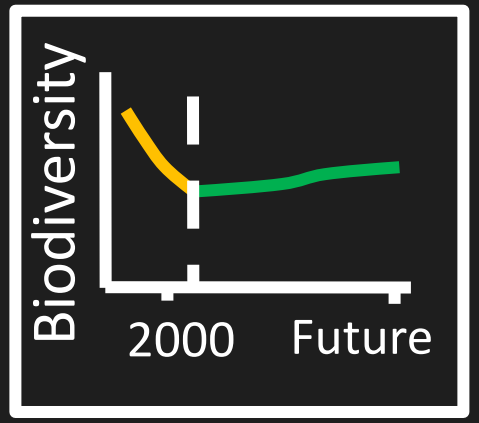
Data → Information → Plan → Outcome

Objectives Constraints









Data → Information → Plan → Outcome

Objectives Constraints

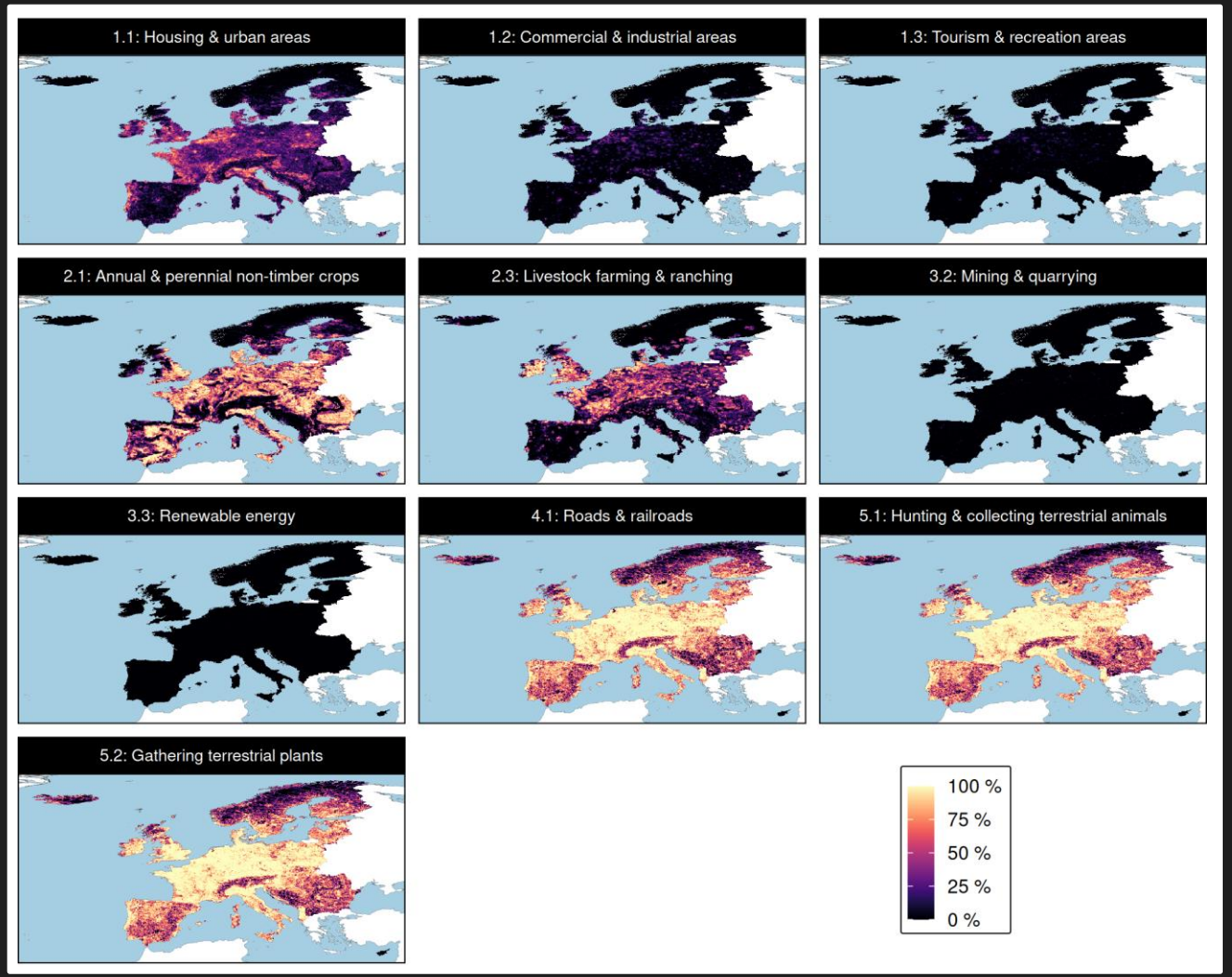
Where are the biggest challenges in restoration prioritization?

Threats

We need data for:

What threats are feasible to manage to through conservation actions?

Which of these actions involve habitat restoration?



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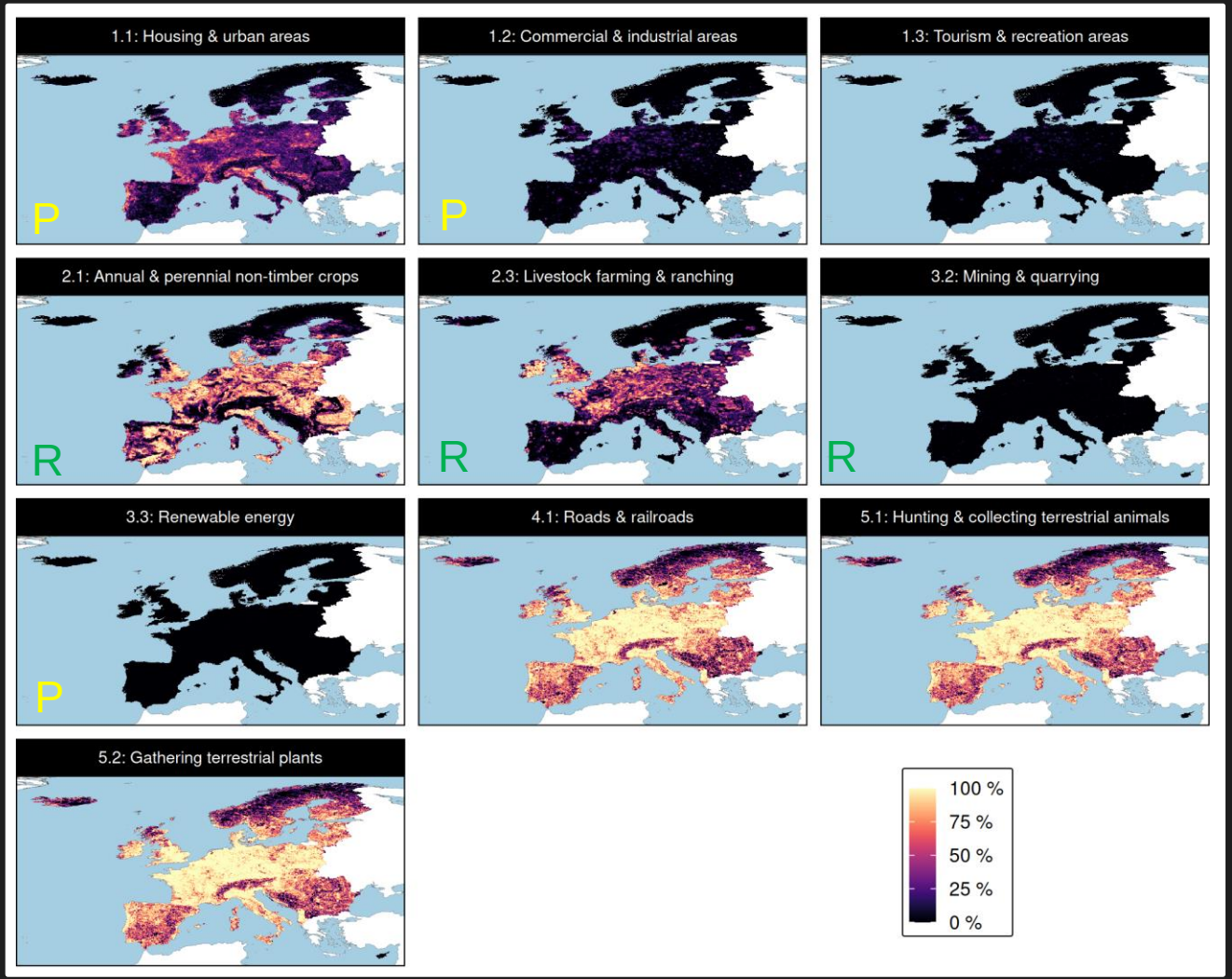
Threats

We need data for:

What threats are feasible to manage to through conservation actions?
P = Permanent

Which of these actions involve habitat restoration?
R = Restoration



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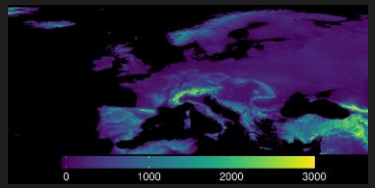
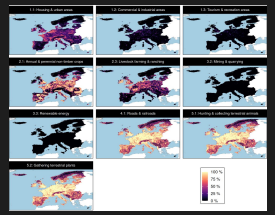
Mapping consequences of conservation actions

Species

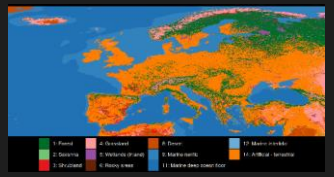
Elevation





Threats

Current land cover



Potential natural vegetation

Woodchat Shrike

What if?

Protect existing habitat

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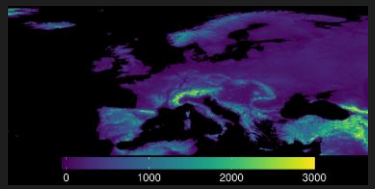
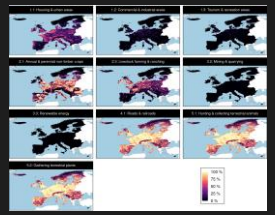
Mapping consequences of conservation actions

Species

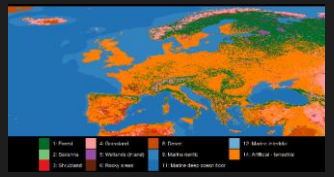
Elevation



Threats



Current land cover



Potential natural vegetation

Woodchat Shrike

What if?

Existing habitat

Restore croplands

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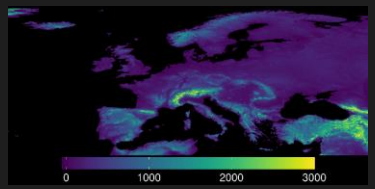
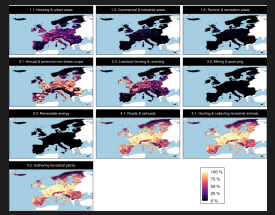
Mapping consequences of conservation actions

Species

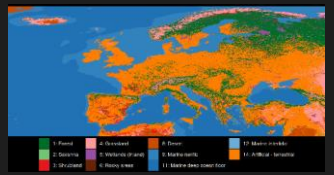
Elevation



Threats



Current land cover



Potential natural vegetation

Woodchat Shrike

What if?

Existing habitat

Restore croplands

Stop hunting

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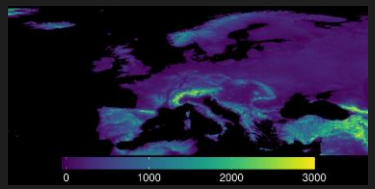
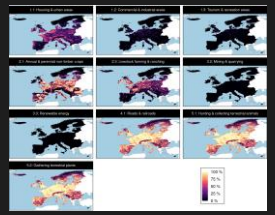
Mapping consequences of conservation actions

Species

Elevation



Threats



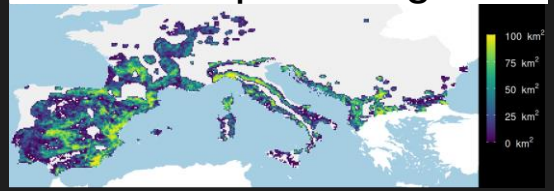
Current land cover

Potential natural vegetation

Woodchat Shrike

What if?

Restore croplands & stop hunting



Existing habitat

Restore croplands

Stop hunting

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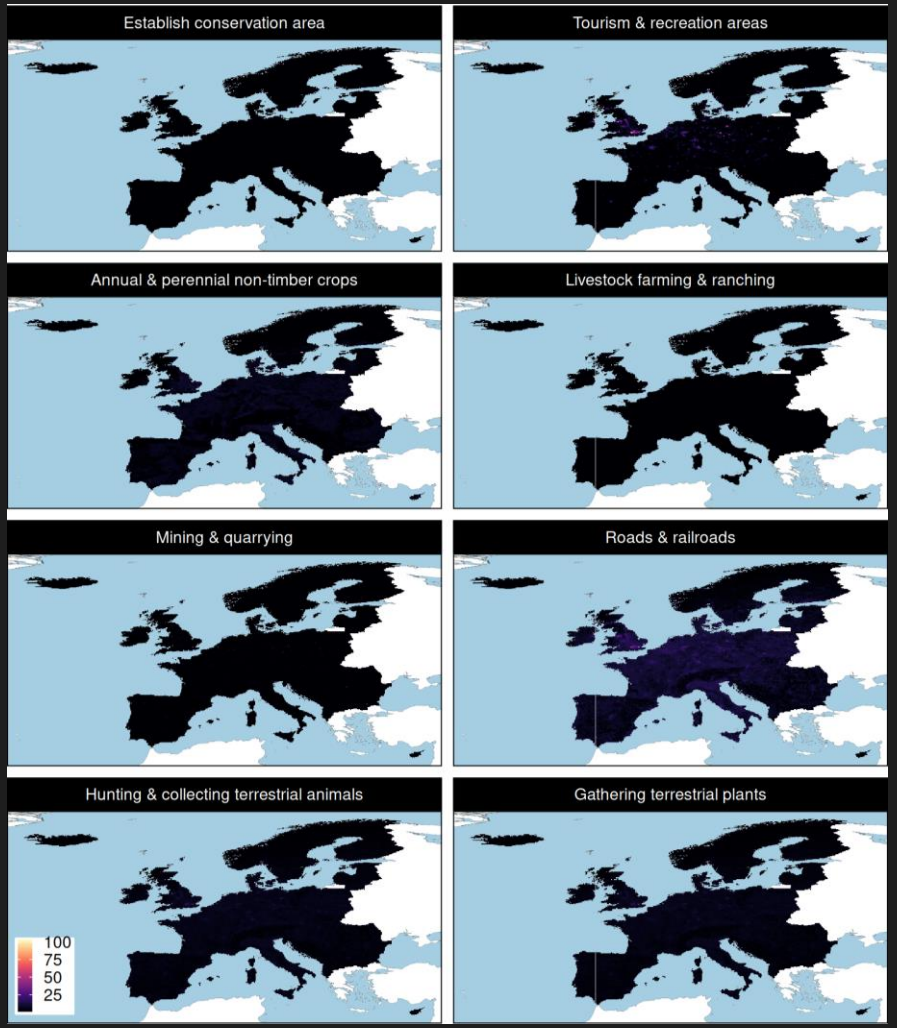
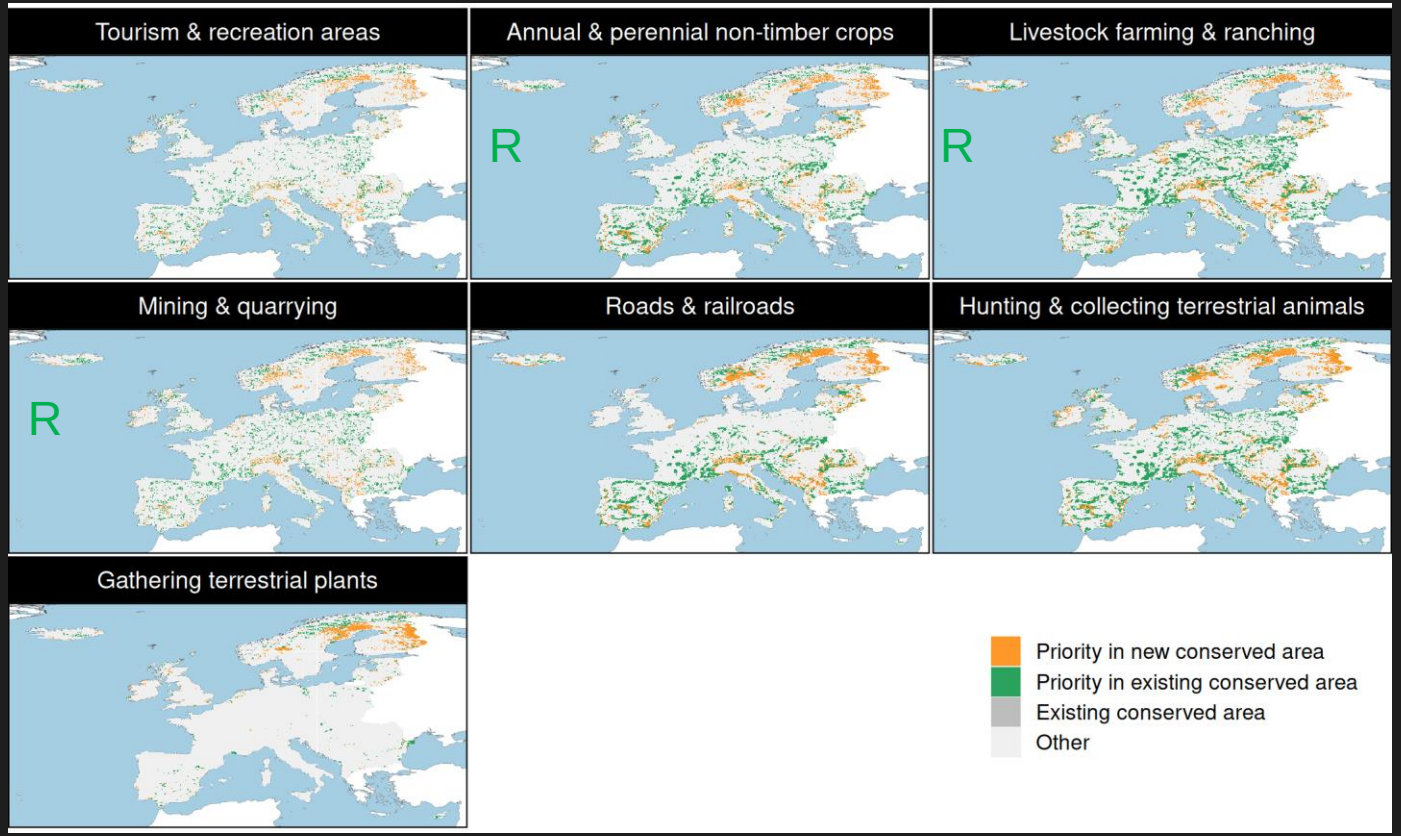
Mapping costs of actions

- This is **HARD**
- Costs need to be spatially explicit
- Costs need to be comparable across different actions/threats (e.g., cheaper to restore threat A vs. threat B)
- Account for existing management (e.g., cheaper in protected areas)
- Account for existing state (e.g., cheaper in high quality forests vs. low quality forests)



Prioritization to manage threats



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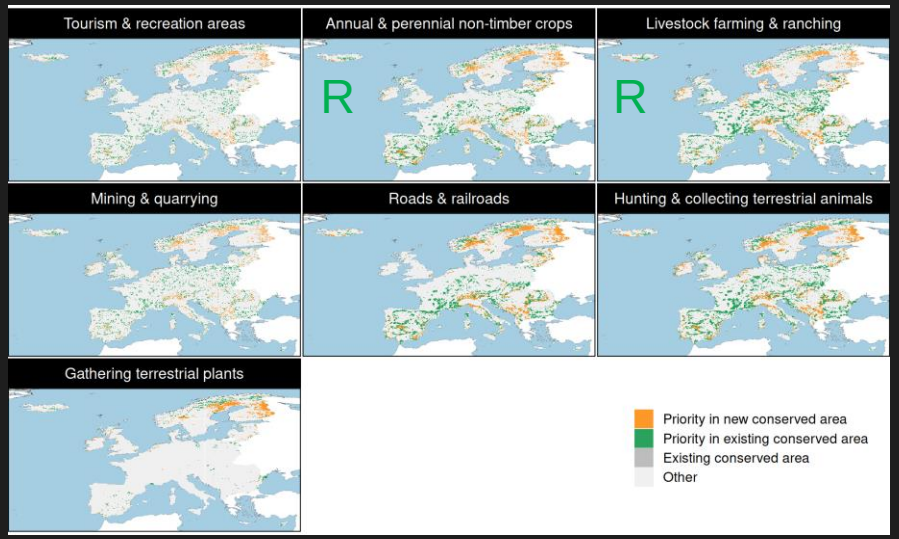
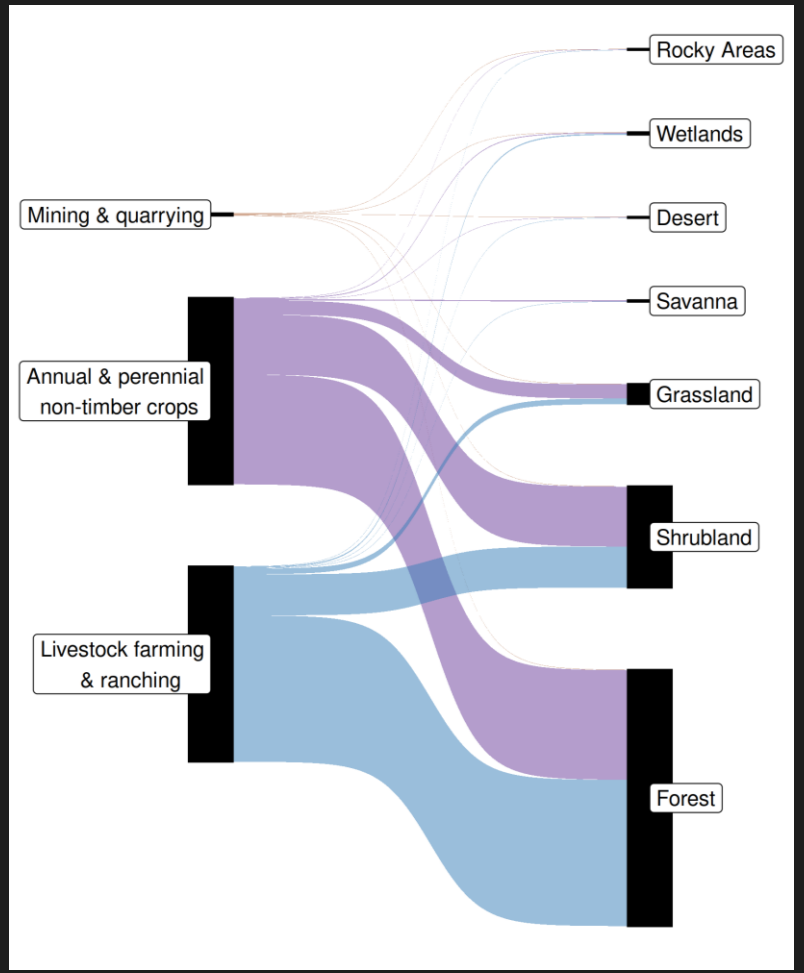
Habitat restoration from threat management





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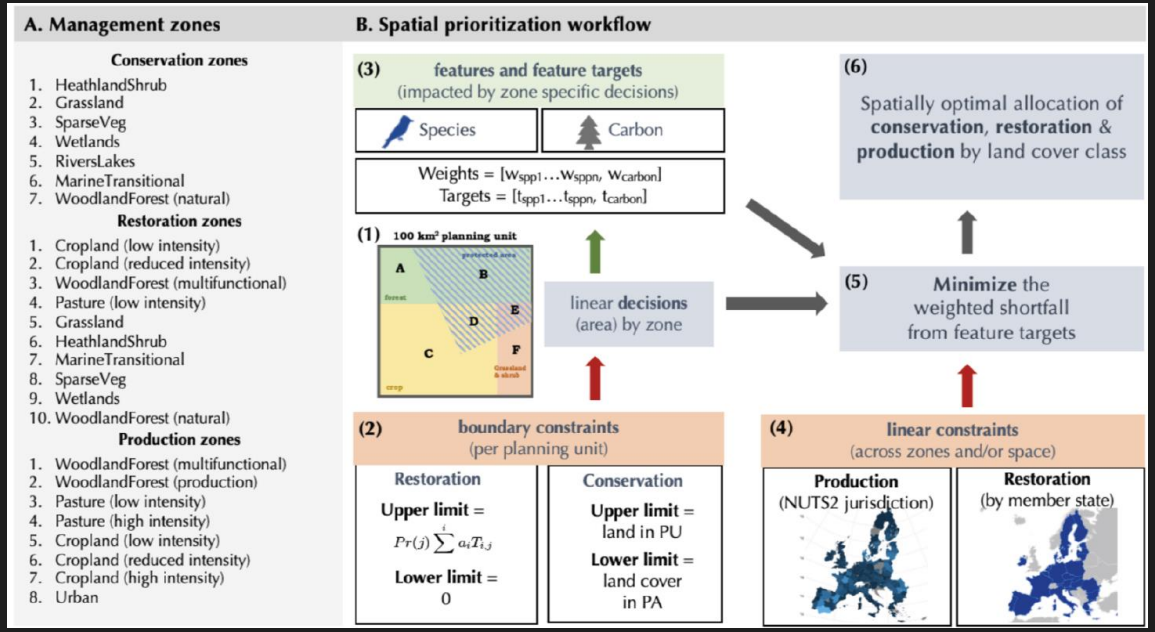
Adding more complexity

Multiple categories of zones (e.g., conservation, restoration, production)

Multiple restoration options in the same place (e.g., we will restore planning unit A to grassland or wetlands)?

Ecosystem services (e.g., carbon sequestration)



Chapman et al. 2023 OSF Preprint