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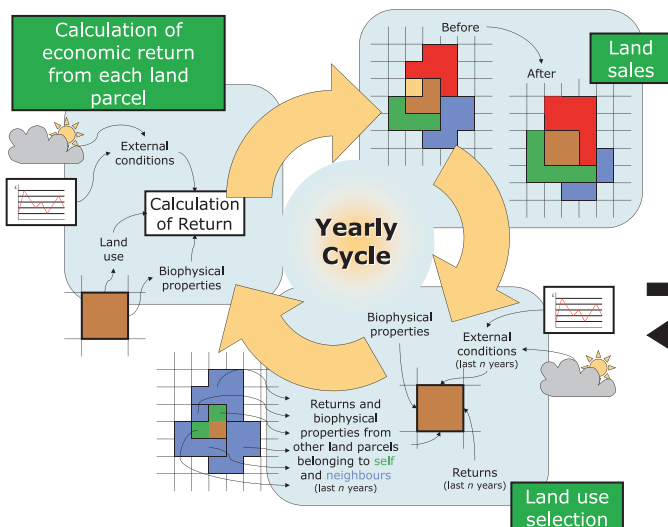
## OBJECTIVES

- to model the impacts of land use decisions on biodiversity.
- to compare the influence of different agricultural policy measures on enhancing biodiversity.

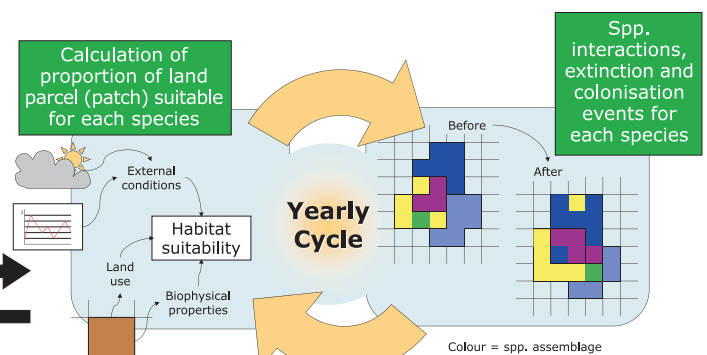
## METHODOLOGY

- Coupled stochastic metacommunity models and individual-based models of land use decision making.
- Integration with socio-economic research to improve the modelling of agents' land management behaviour.
- Land managers decide their land uses and land management practices based on multiple priorities: for farm income, for gaining the approval of their neighbours or peers, and for improving biodiversity or other environmental objectives.

### THE FEARLUS MODEL



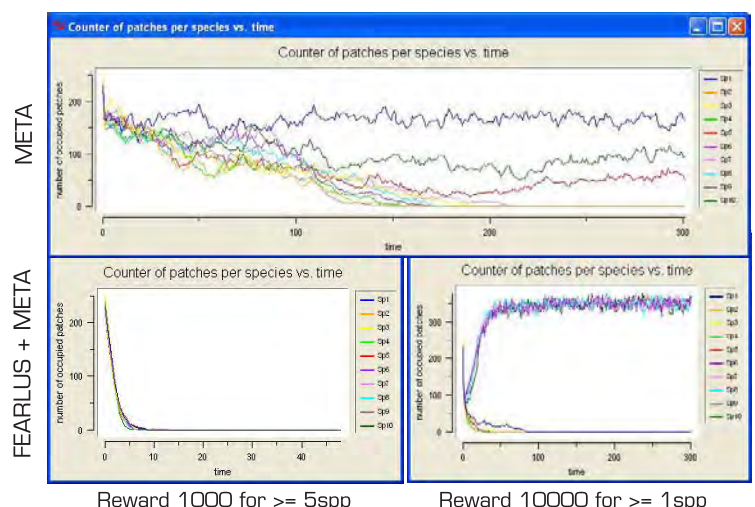
### METACOMMUNITY MODEL



The approach is starting with a thorough understanding of the dynamics of simple coupled models and will build in extra complexity on this basis. Emergent system properties are explored using several repeated runs, and comparing the effects as one or two parameters are varied.

## EXAMPLE QUESTIONS

- How do various strategies for choosing land uses affect regional species diversity?
- How do land use strategies compare in their economic performance in competition with each other, and what effect has the mixture of strategies on species diversity?
- What land use strategies should be promoted or discouraged, and at what scales, in order to enhance regional species diversity?



Screenshots from the models