

Biodiversity and ecosystem services

Professor Ken Norris



University of
Reading

cameras

COORDINATED AGENDA FOR MARINE,
ENVIRONMENT & RURAL AFFAIRS SCIENCE

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Why does
biodiversity matter?

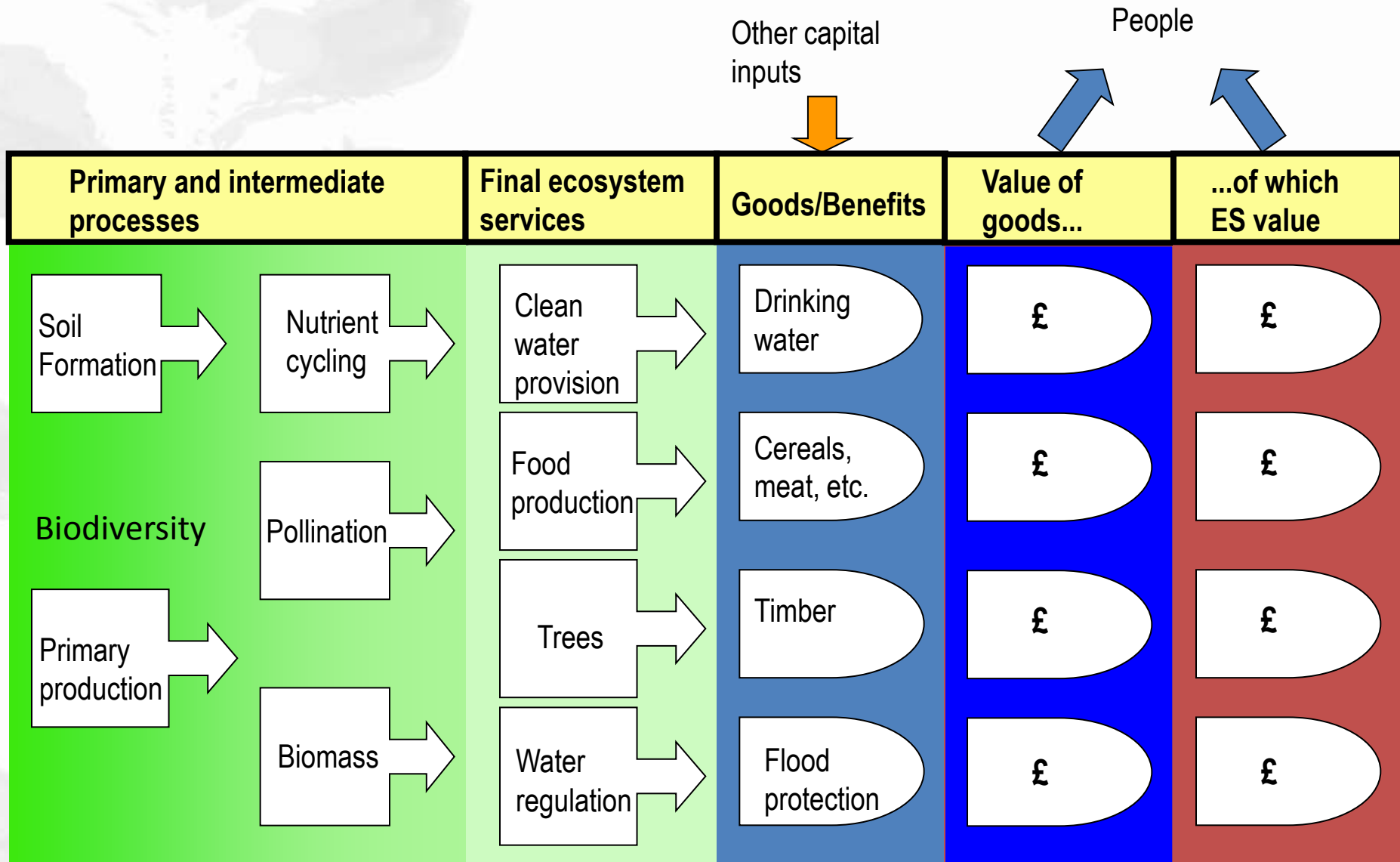


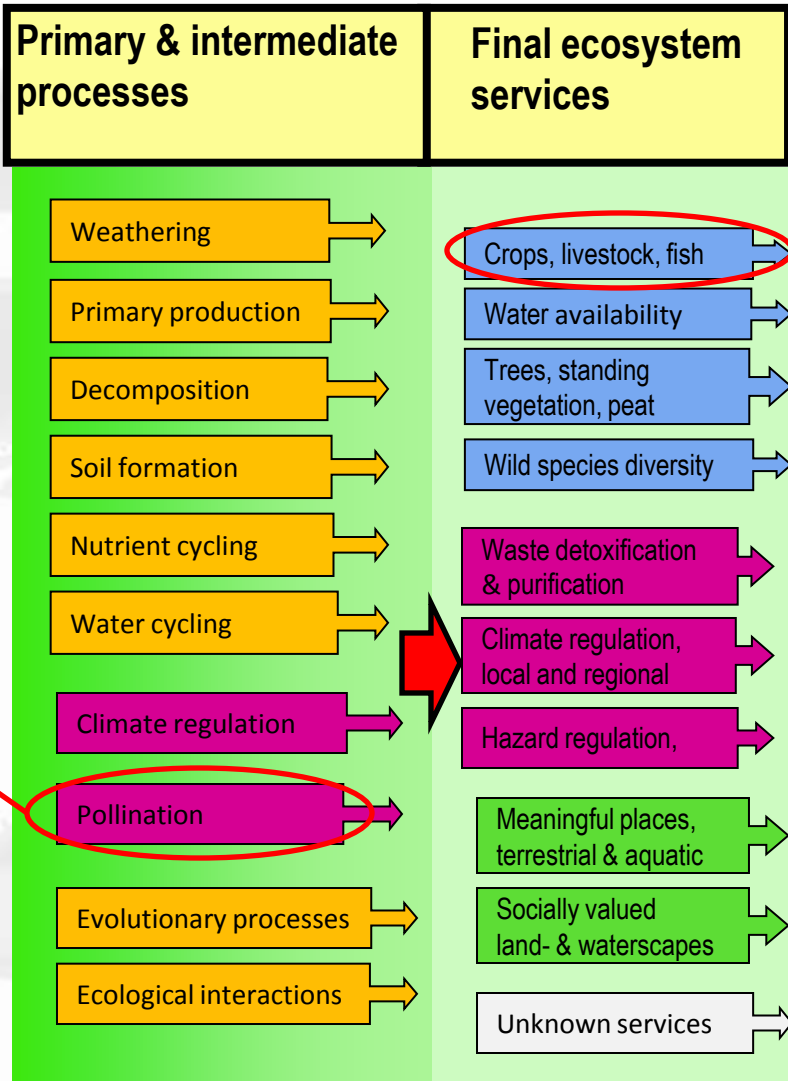
CONSTITUENTS OF WELL-BEING



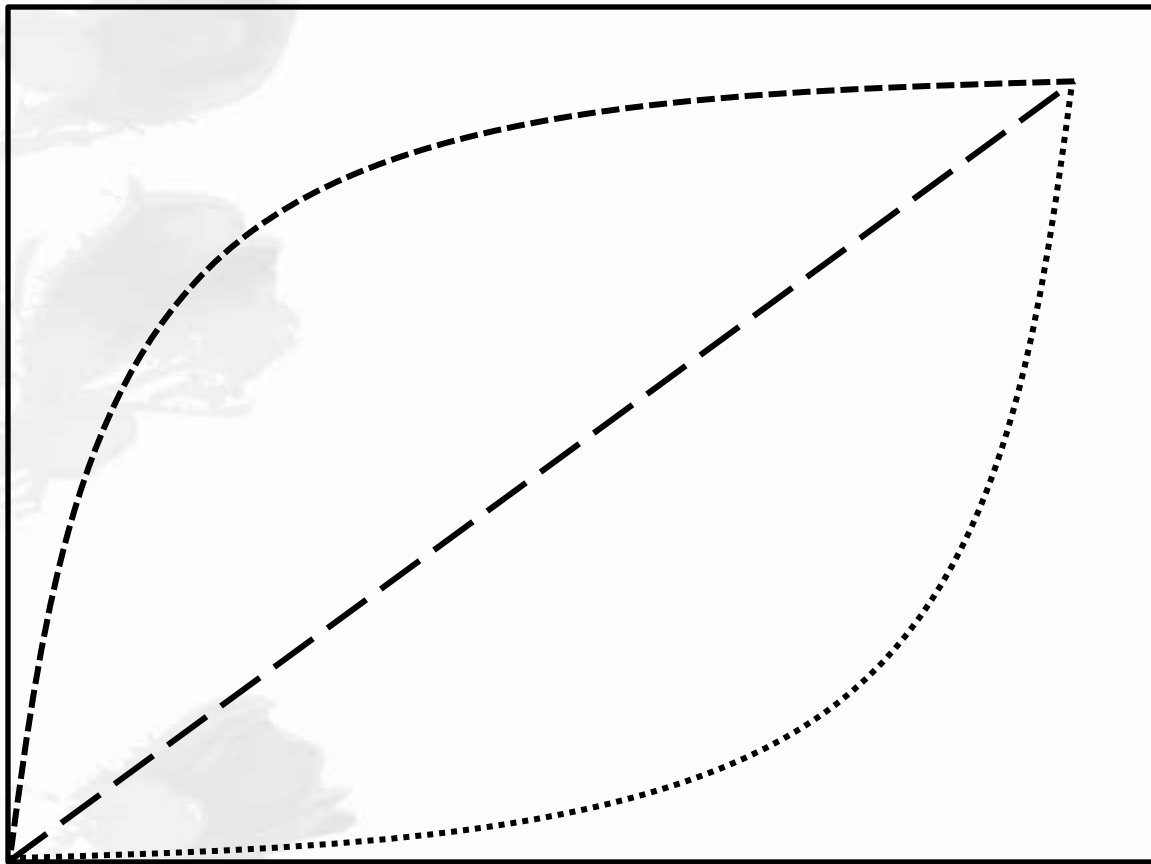
Source: Millennium Ecosystem Assessment

Ecosystems and the production of services





Ecosystem service provision

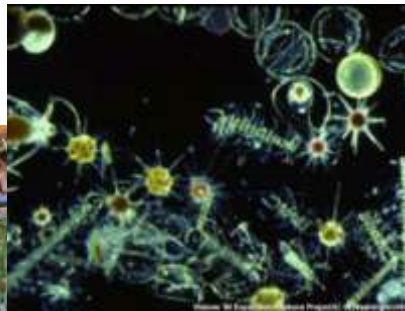


Biodiversity

Ecosystem service provision



Biodiversity



Final ecosystem services

Crops, livestock, fish

Water availability

Trees, standing vegetation, peat

Wild species diversity

Waste detoxification & purification

Climate regulation, local and regional

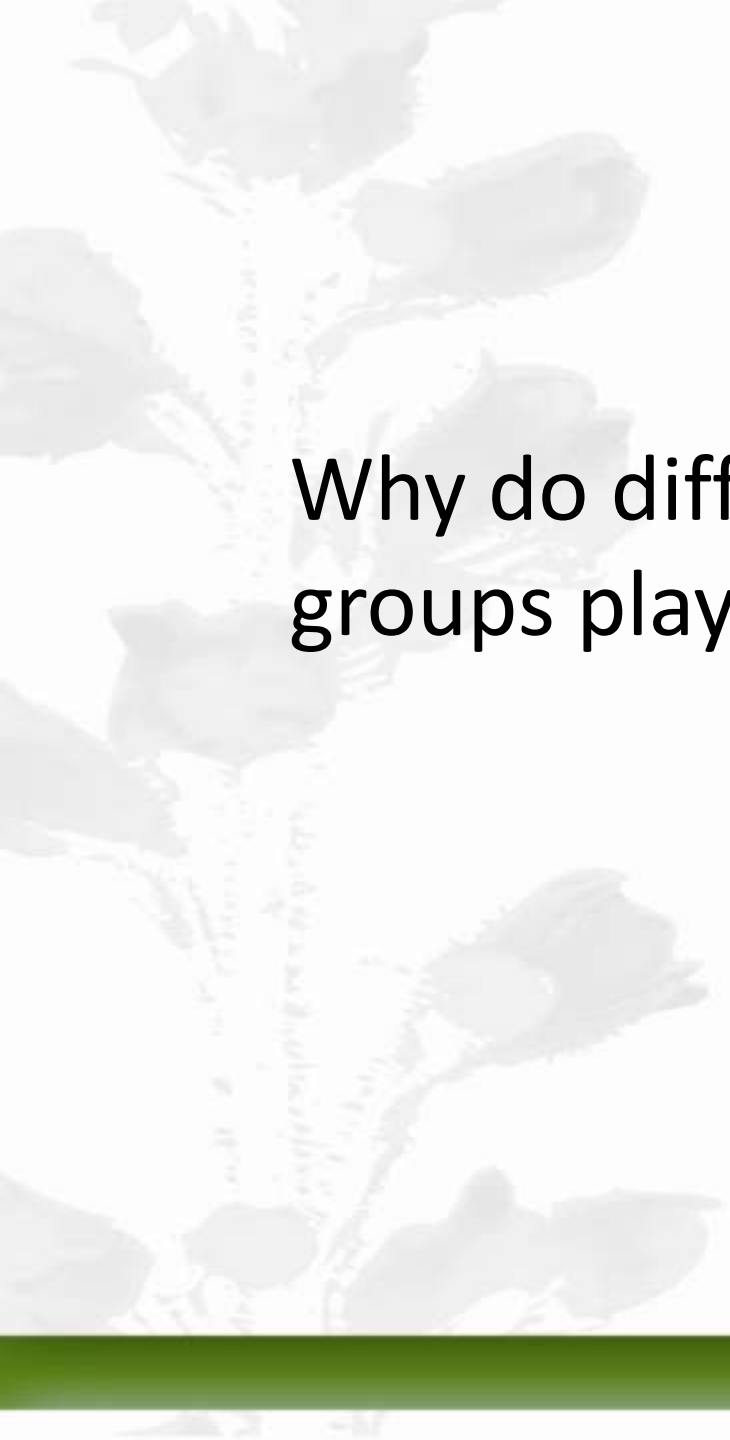
Hazard regulation,

Meaningful places, terrestrial & aquatic

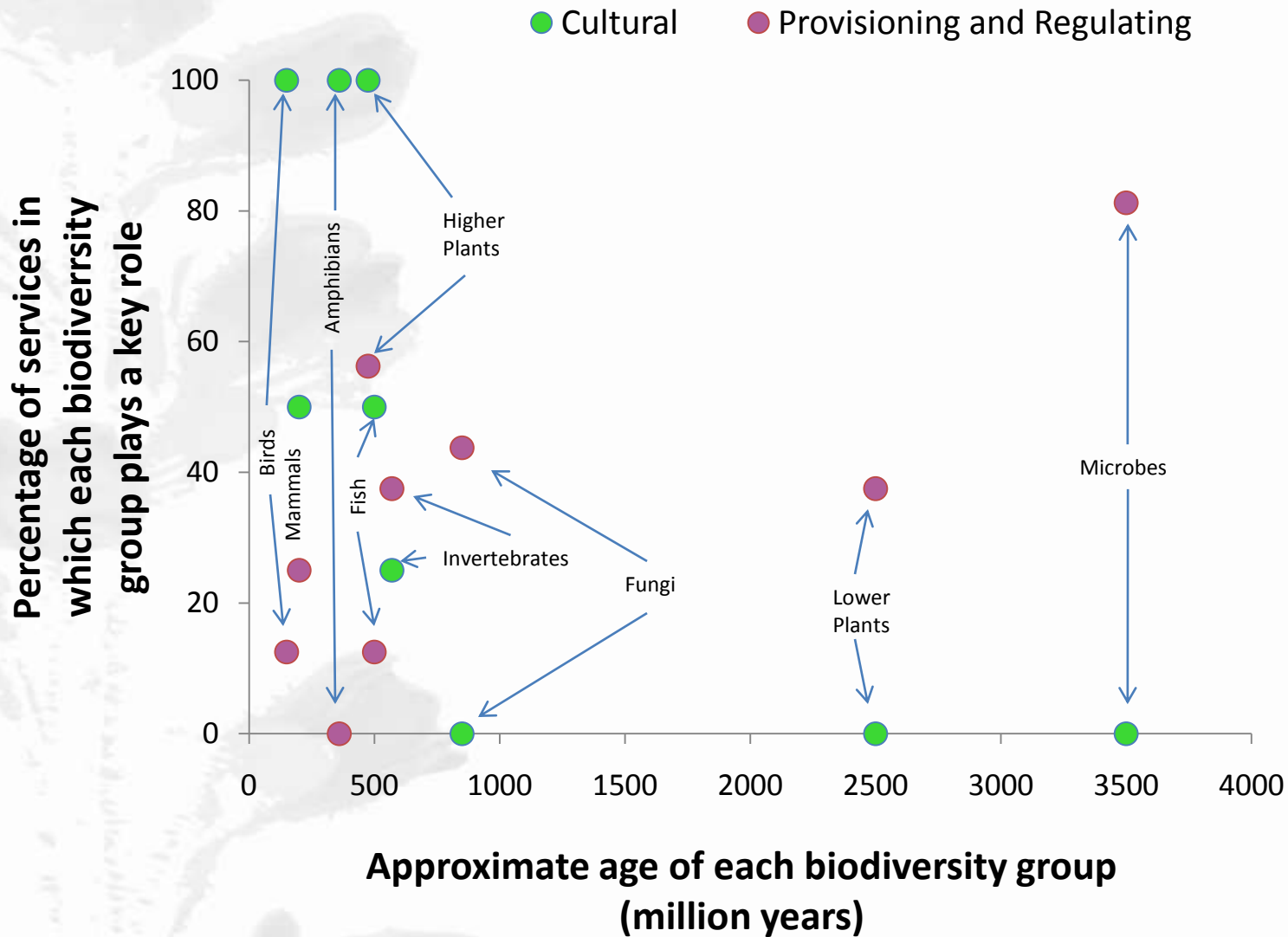
Socially valued land- & waterscapes


Emerging key messages.....

- Biodiversity plays a role in all ecosystem services being assessed by the NEA
- The number of biodiversity groups involved varies between services
 - 76% for crops, plants, livestock and fish
 - 35% for water quantity
- The roles of different biodiversity groups vary between the types of ecosystem service
 - Micro-organisms, fungi and plants play a role in all provisioning and regulating services
 - Vertebrates play a role in all cultural services, but in only 50% of the provisioning and regulating services



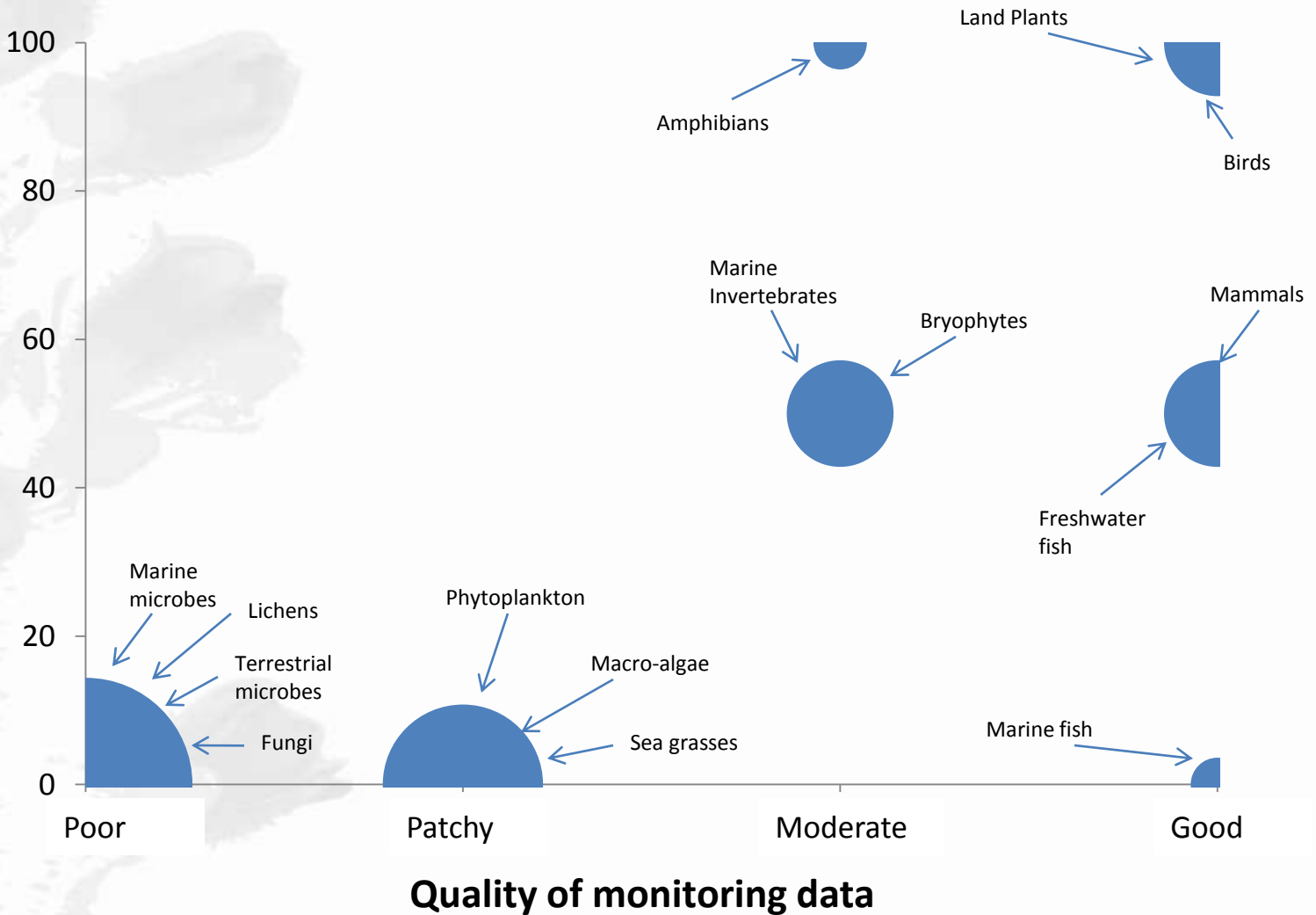
Why do different biodiversity groups play different roles?





What do we know about status
and trends in the different
biodiversity groups in a UK
context?

Percentage of cultural services in which each group plays a key role

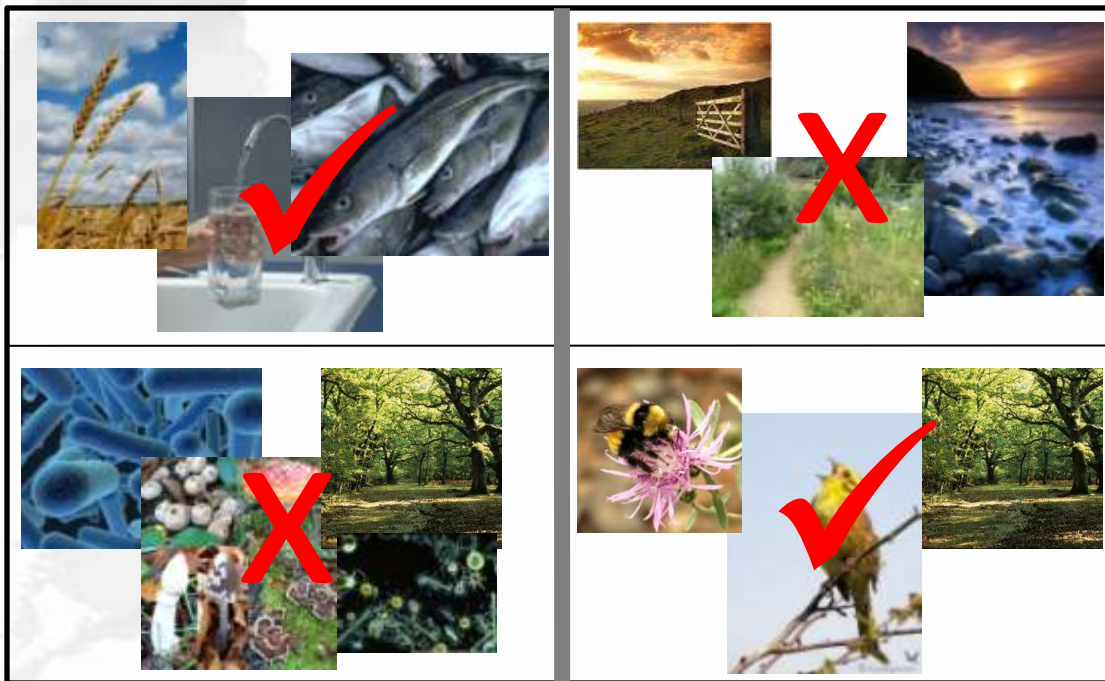


It depends on their cultural importance

The cultural divide

Provisioning and
regulating services

Cultural services



Drivers of biodiversity change.....

- Land-use change and pollution are considered the most important drivers across all biodiversity groups
- Exploitation in marine ecosystems impacts upon both target and non-target species
- Some evidence of climate change impacts across about 50% of the biodiversity groups

BUT

- Our knowledge of drivers is limited to well studied biodiversity groups

Concluding remarks

- Biodiversity plays a key role in supporting ecosystem services in the UK

BUT

- Our knowledge and understanding is strongly influenced by cultural values.....

The cultural divide

Provisioning and
regulating services

Cultural services

