



Welcome & introductions

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# Biodiversity Training Deck

Ross Primmer

## BIODIVERSITY TRAINING DECK AGENDA

In today's session we are going to cover:

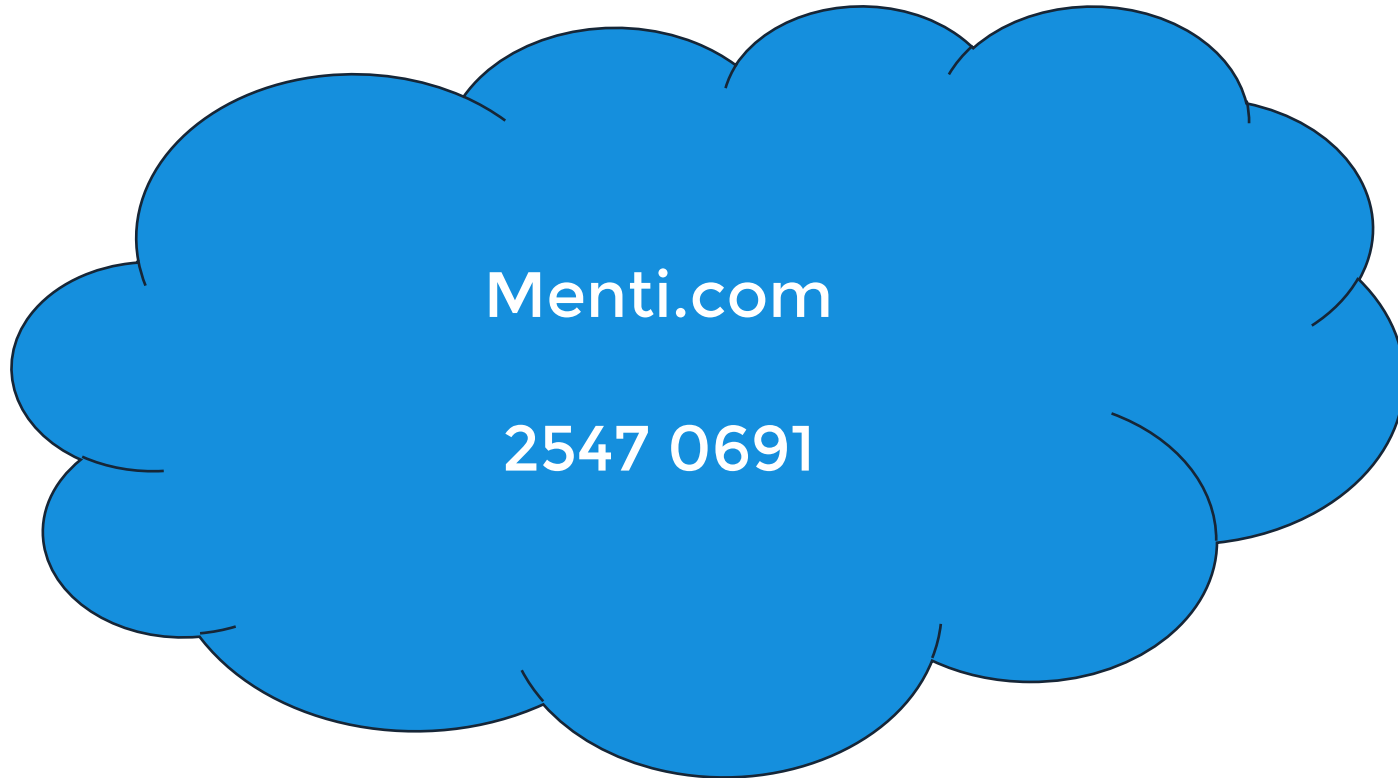
- **What** is Biodiversity?
- **Why** should you care about biodiversity?
- Biodiversity and **construction**
- **Natural Capital & Ecosystem Services**
- **How** Can You Help?



# What Is Biodiversity?

# Menti Word Cloud:

**What does biodiversity mean to you?**

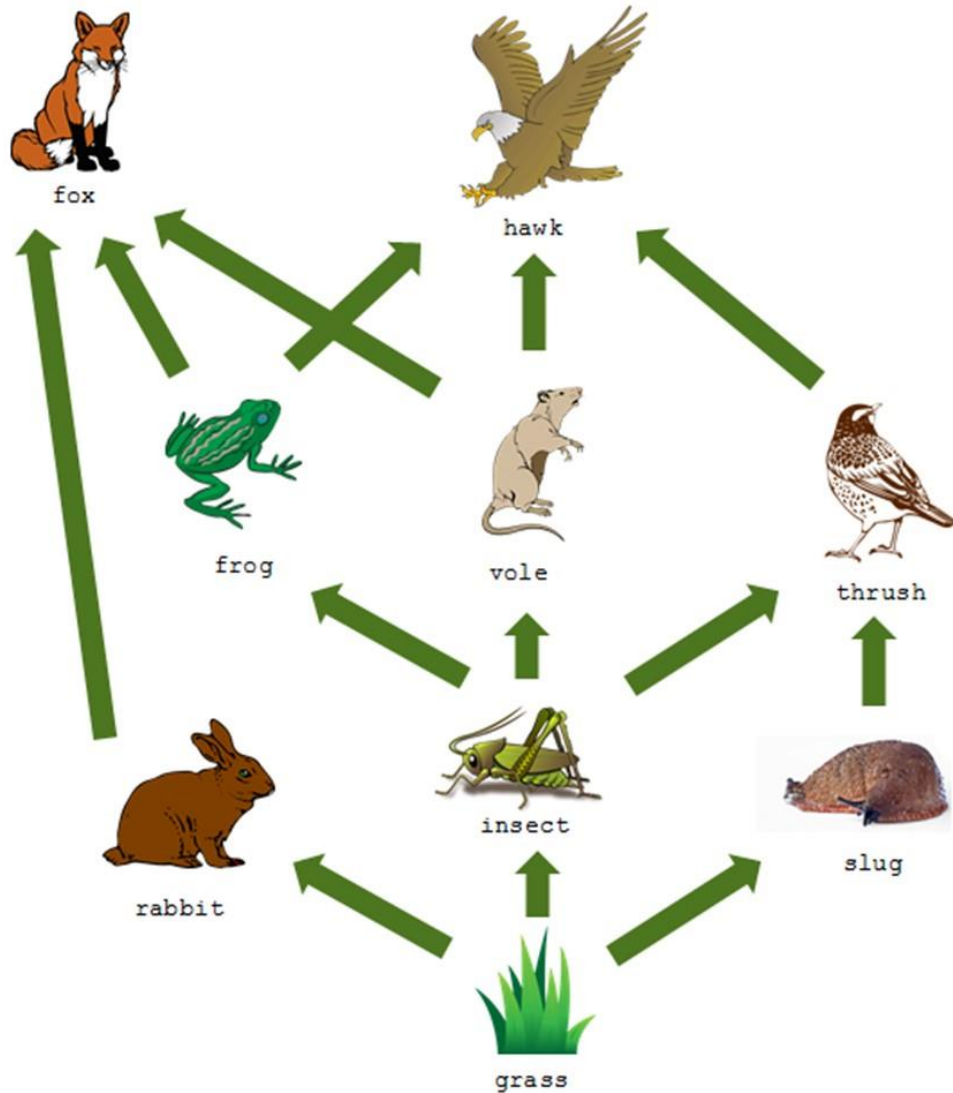


# Biodiversity – First Principles

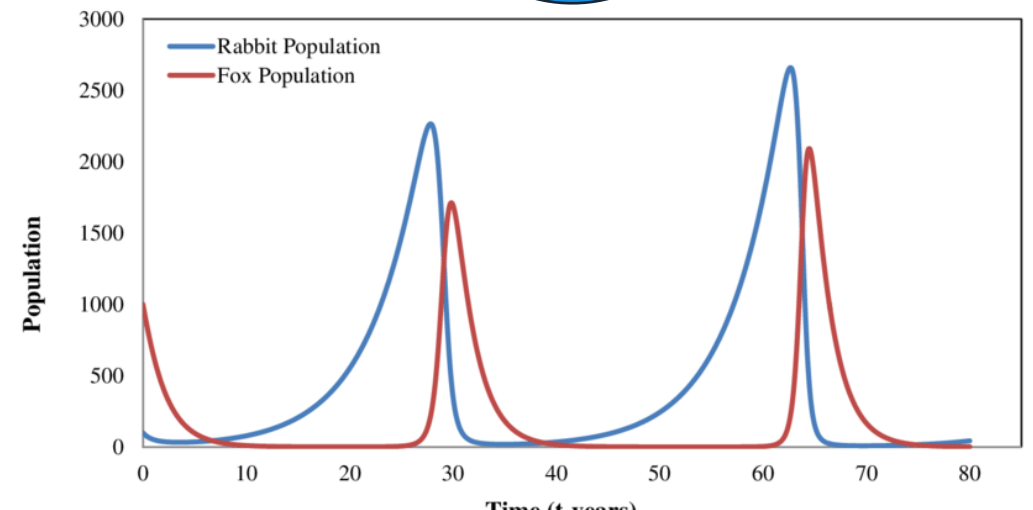
- A **species** is a type of plant or animal – *e.g. a badger.*
- A **habitat** is the environment in which a particular animal lives – *e.g. woodland on a potential development site where a badger lives.*
- An **ecosystem** is the system in which a community of groups or animals live and interact with each other – *e.g. deciduous woodland, which badgers are part of.*
- **Biodiversity** is the term which describes the number of and diversity within species, or variety of life in an ecosystem – *e.g. deciduous woodland is a highly biodiverse ecosystem.*



# Relationships between species – the basics

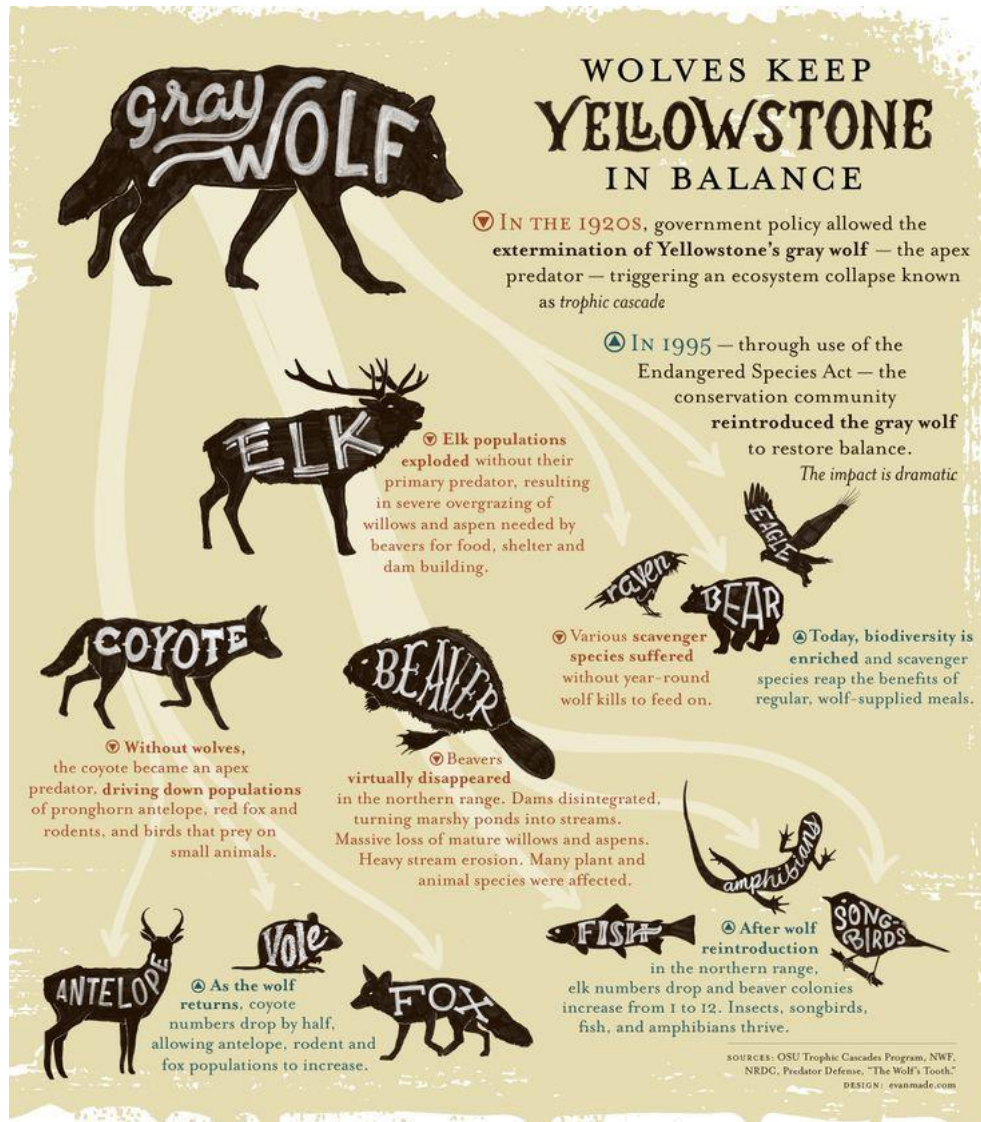


What would happen if one of the species in this basic food web was removed?





# The interconnectedness of everything



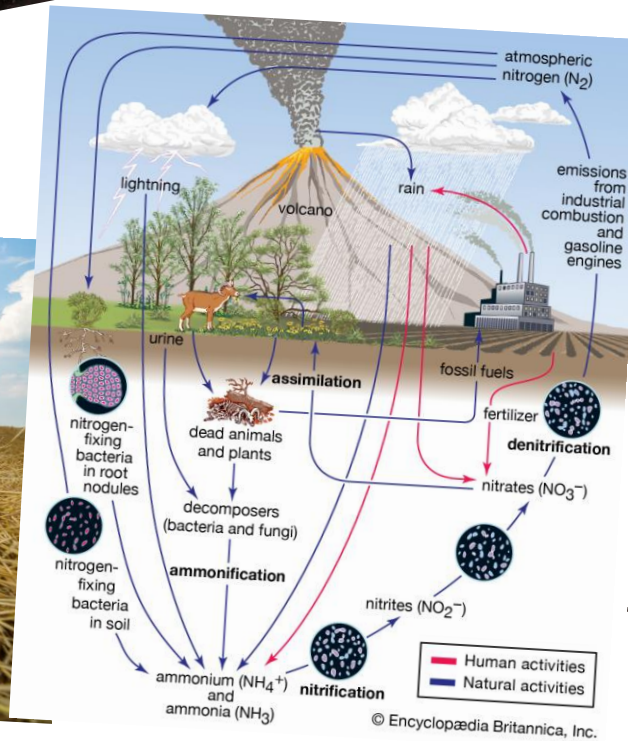
**Beavers can prevent flooding (amongst other things!)**

**Wolves benefit Yellowstone National Park**



# The interconnectedness of everything

Humans are connected to!!





# What is Happening (WWF Living Planet Report)

## Changes in land and sea use

resulting in habitat loss and degradation

## Species over-exploitation

through direct hunting and loss of non target species

## Climate Change

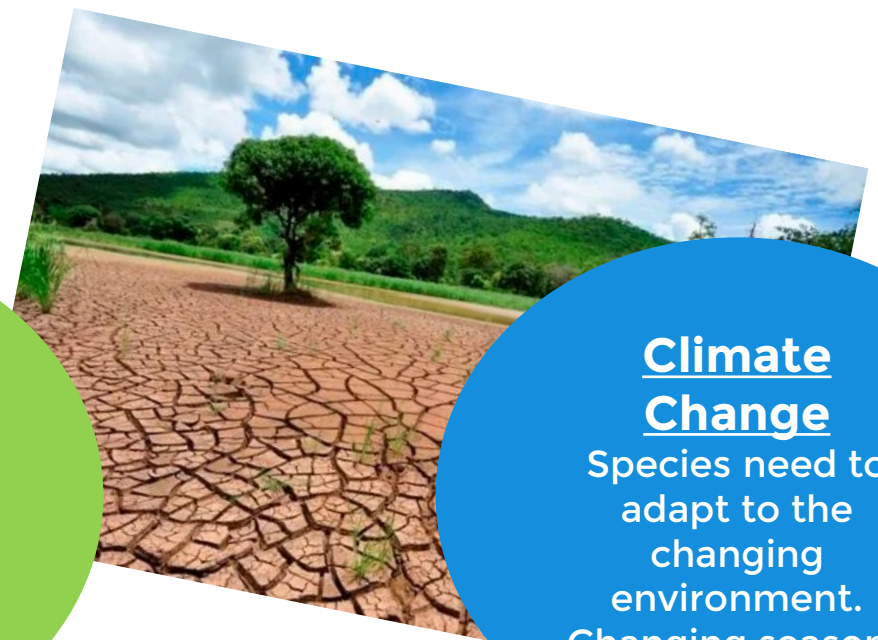
Species need to adapt to the changing environment. Changing seasons

## Invasive species and disease

Which compete with native species for space and resources

## Pollution

Making an environment unsuitable for survival, food ability or biology



**Menti: By how much did a recent WWF report state that biodiversity has declined 1970-2014**

**50%**

**25%**

**60%**

**42%**





# By how much did a recent WWF report state that biodiversity has declined 1970-2014

50%

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42%



What do you think when you see this picture?

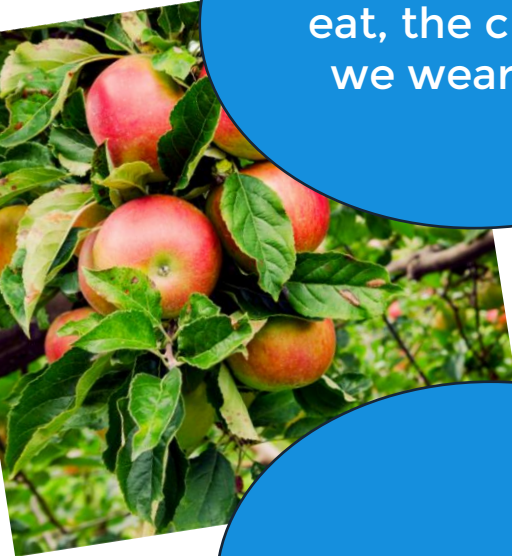
# Why should you care?




# Why is Biodiversity Important – Attenborough Video



# Why is Biodiversity Important?



The food we eat, the clothes we wear etc..



Maintaining the earth's life support systems




Protection from extreme weather – flooding, storms etc..

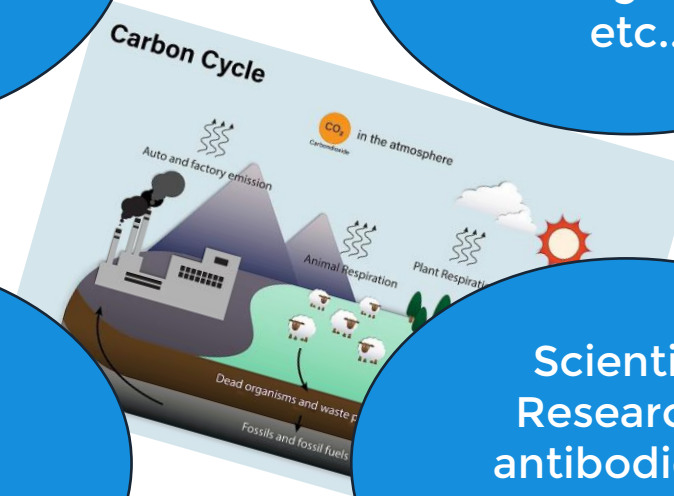


Absorbing CO<sub>2</sub>

Our mental health



Scientific Research – antibodies in Llama blood can neutralise C-19



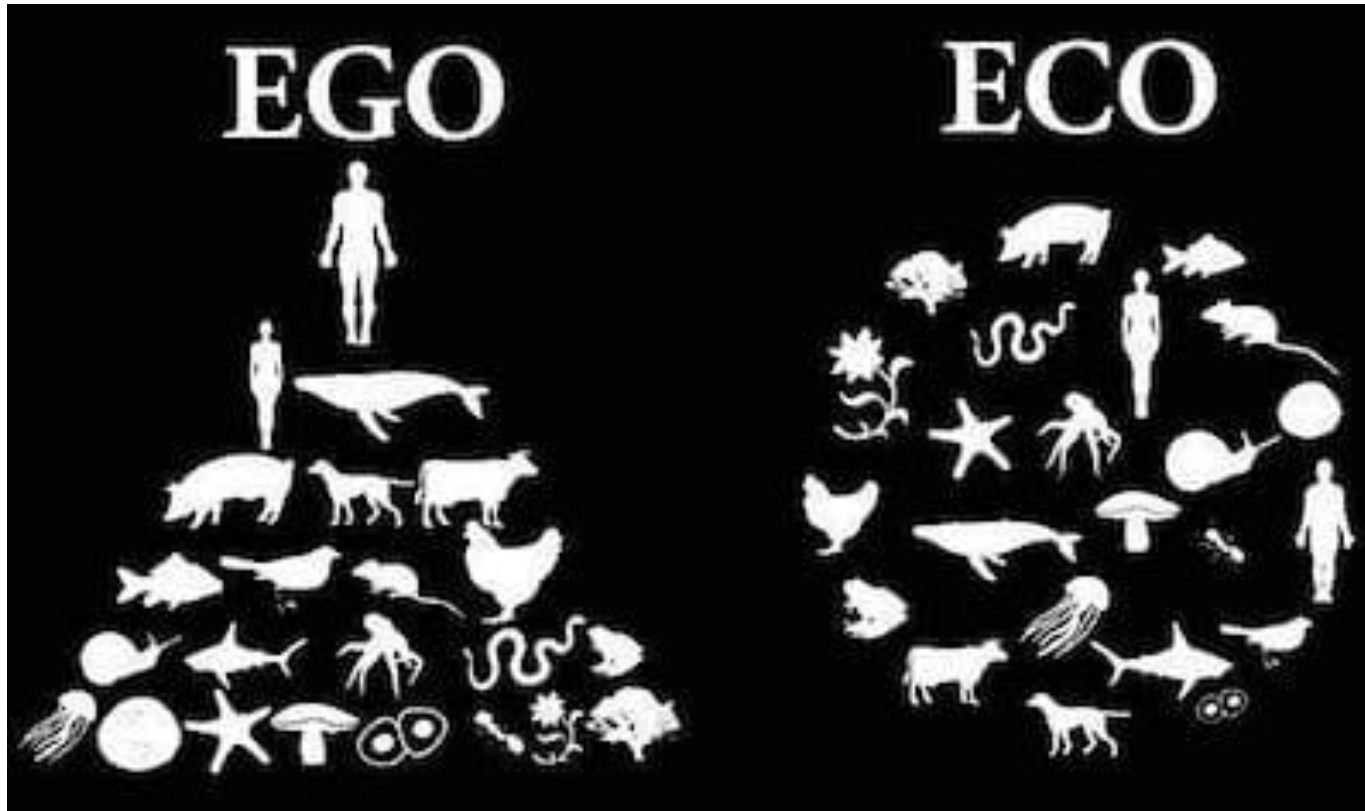
# The Rivet Hypothesis



Rivet = species  
Wing rivet = key species  
Flight = ecosystem

- Aeroplanes have millions of rivets (like we have species on earth)
- If you were to pop one or two rivets out then everything would be fine
- Some rivets are more important than others (key species)
- How many rivets can you take out.....?

# Why is Biodiversity Important?



There are a number of messages in this graphic – what can you see?

Fundamentally, humans are as much part of nature as any other species.

Negative impacts on biodiversity affect the earth's ability to sustain life and will ultimately impact us.

# Biodiversity & Construction



# Biodiversity in Construction



Construction workers have a fantastic opportunity to drive biodiversity benefits on projects



The **Golden Rule** is to think about biodiversity as soon as possible on any project.

Thinking about biodiversity early will make it easier to drive positive project outcomes.

# Biodiversity & Construction

Reducing impacts on biodiversity is a factor in the following situations:

- **Nature based solutions:** through design
- **Groundworks and site prep** – e.g. de-vegetation
- **Buying materials** – e.g. FSC timber, mining and quarrying of materials
- **Maintenance of plant** and machinery (reducing pollution)
- Management to ensure planned discharges stay within **permitted limits**
- **Preparedness and response** to any accidents, spills or unforeseen releases into the environment



# Biodiversity & Construction

## Protected Species

- **Protected Species:** Statutory requirements for the protection of certain species and habitats. Some of the most common include:
  - Nesting birds
  - Great Crested Newts
  - Bats
  - Reptiles
  - Badgers
  - Specific Trees through TPOs (Tree Protection Orders)

Protected species are identified during ecology surveys but it is always important to remain vigilant. ***If you are ever in doubt, ask!***





# Biodiversity & Construction

## Invasive Species

- **Invasive species:** some species cause problems in the natural environment. These invasive species are not native to the UK and can cause problems in the natural environment. Common examples include:
  - Rhododendron
  - Japanese Knotweed
  - Himalayan Balsam
  - Giant Hogweed
  - Grey Squirrel

Invasive species which represent a project risk will be identified during ecology surveys. **Invasive Species Management Plans** should be developed to mitigate potential negative impacts and spread.



# The Biodiversity Mitigation Hierarchy



Least  
Preferable

Most Preferable

**AVOID** direct  
impacts to  
species &  
habitats

**MINIMISE** any impacts you will  
have, e.g. during de-vegetation

**RESTORE** any habitats that are  
destroyed

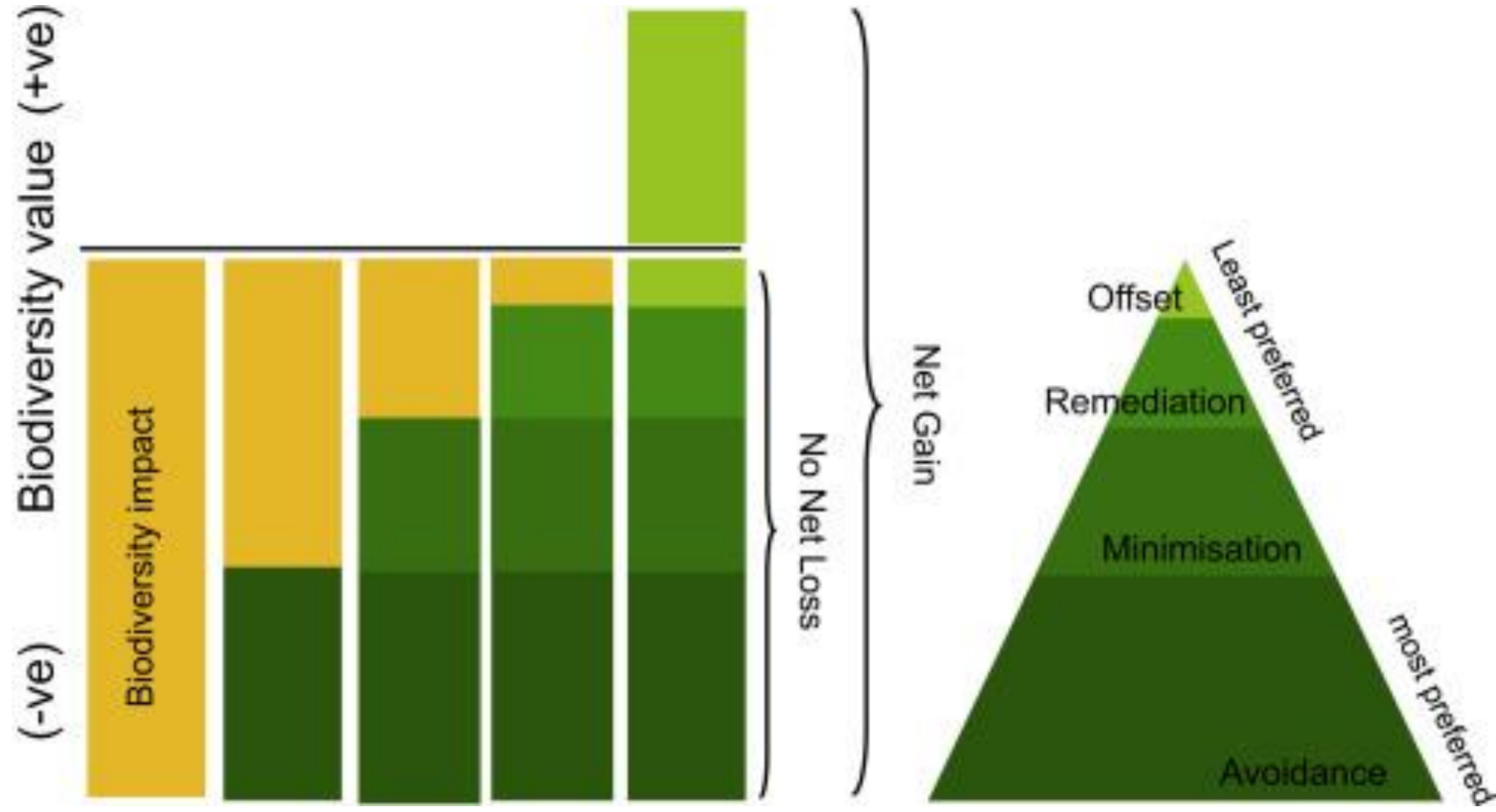
**OFFSET** impacts based on the  
number of biodiversity units lost  
– e.g biodiversity Net Gain



# Net Gain – First Principles

- Works at ‘habitat’ level
- Understand what your biodiversity units baseline is using the Defra biodiversity metric 3.0
- ‘Irreplaceable’ Habitat exempt from BNG requirements.
- Does not replace any existing protections
- Prioritise your activities using the biodiversity mitigation hierarchy
- Make a plan and implement activities/mitigation measures to achieve biodiversity Net Gain.





# Natural Capital and Ecosystem Services



# Natural Capital

**Natural Capital** is the world's stock of natural resources, which might be utilised for human needs it includes:

- **Resources** - renewable and non-renewable materials. This includes everything from clean air to forests to fossil fuels.
- **Sinks** - that absorb, neutralise or recycle wastes.

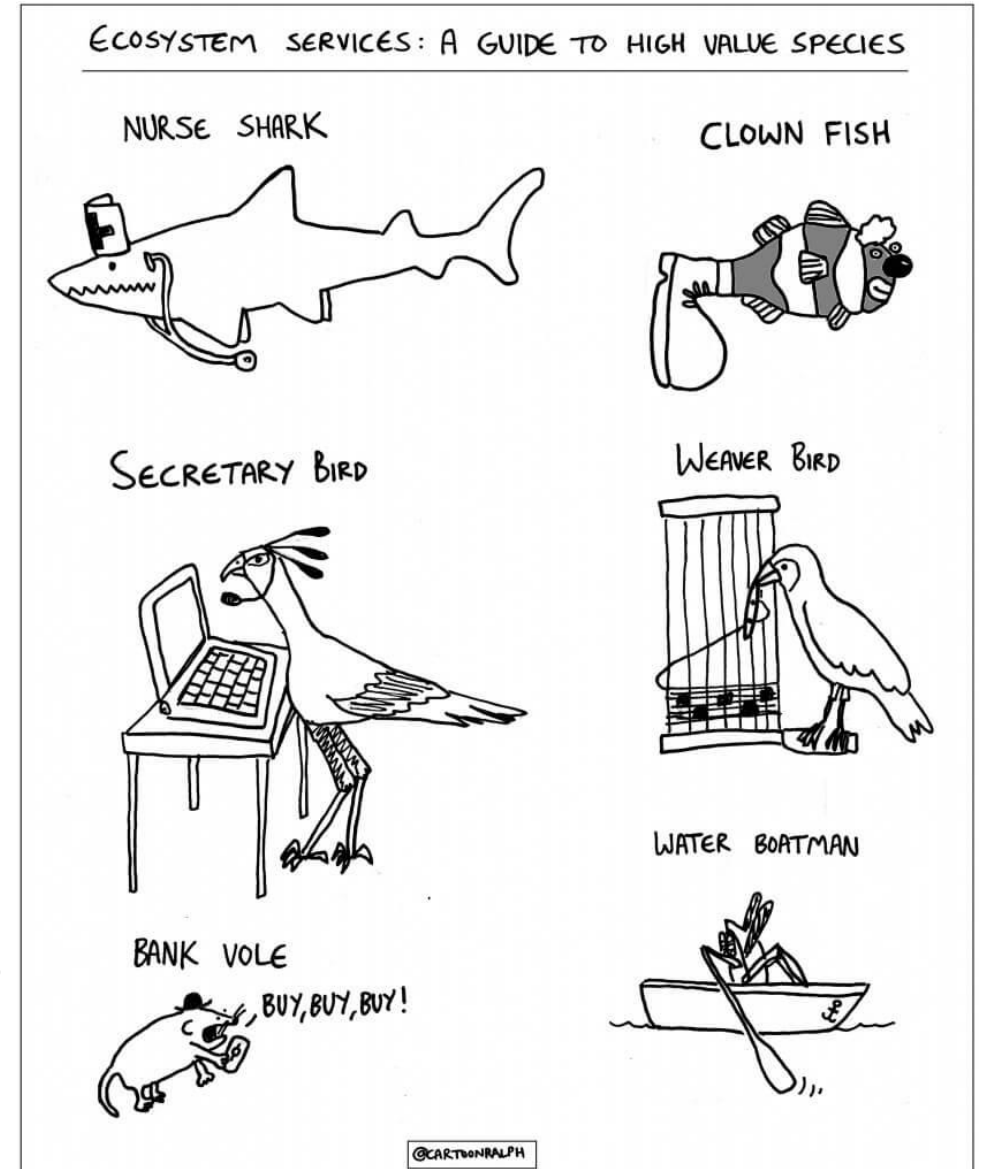
In 2019 the ONS estimated that the UK's Natural Capital we can currently value equates to £1.2 trillion



# Ecosystem Services

**Ecosystem Services** are the free! services provided by ecosystems that make human life both possible and worth living. They can be categorised as:

- **Provisioning:** products obtained from ecosystems, including food, raw materials and energy.
- **Regulating:** benefits from the regulation of ecosystem processes, including purification of air/water, climate regulation and flood control.
- **Supporting:** services necessary to support all other ecosystem services and function. Include nutrient cycling, soil formation etc..
- **Cultural:** non material benefits people obtain from ecosystems – such as recreation, health & wellbeing

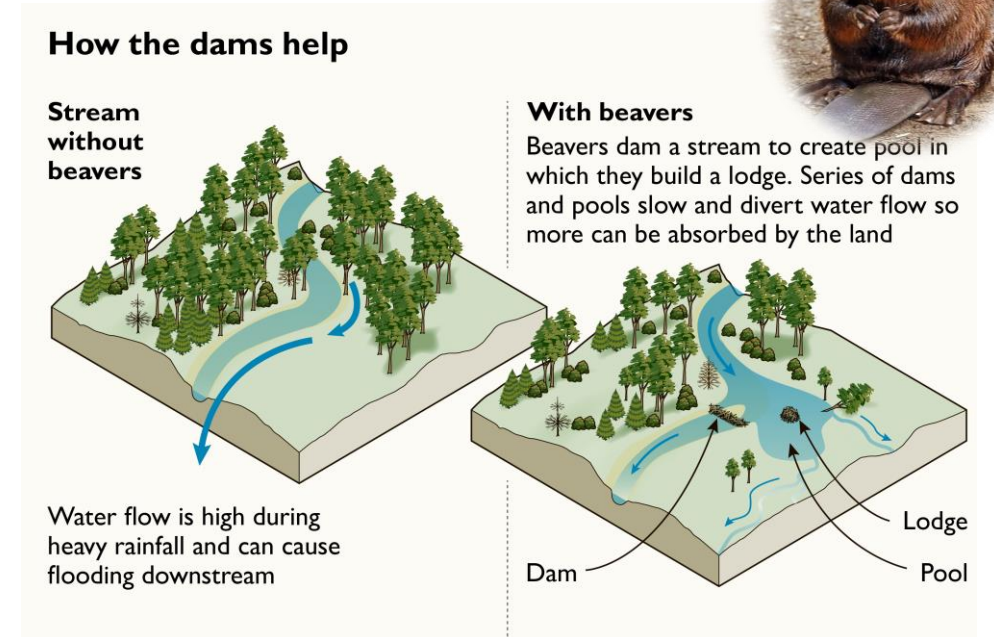




# Ecosystem Services

## Example Ecosystem Services:

- **Pollination** – essential for agriculture
- **Photosynthesis** – absorbing CO<sub>2</sub> from the atmosphere
- **Water attenuation** – reducing flooding and protecting homes and business'
- **Wellbeing** – the NHS is researching “green social prescriptions”



Globally, Ecosystem services are conservatively estimated to be worth \$33trillion - 1.8 times global GNP



# Why are Natural Capital & Ecosystem Services Useful?

It enables governments to account for nature's role in the economy and human well-being.

For businesses, it informs efficiency, sustainability, and managing risks in their supply chains

A Natural Capital and Ecosystem Services approach can be used to place a financial value on nature

This can be used in decision making

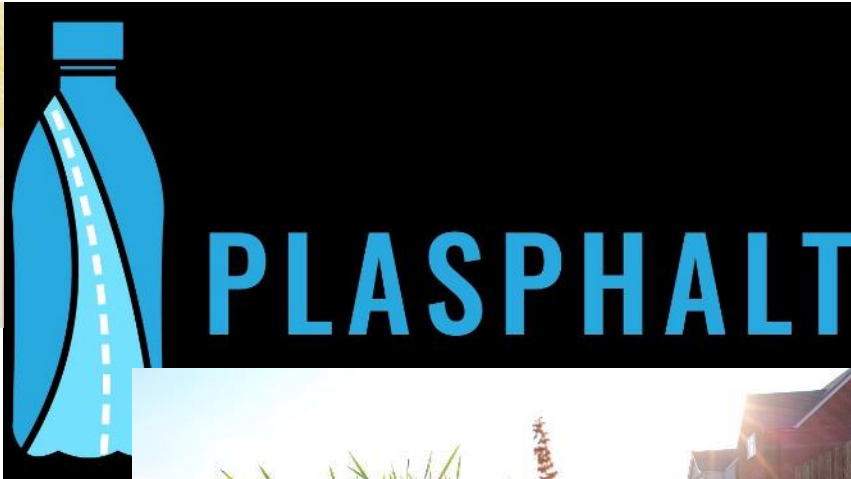
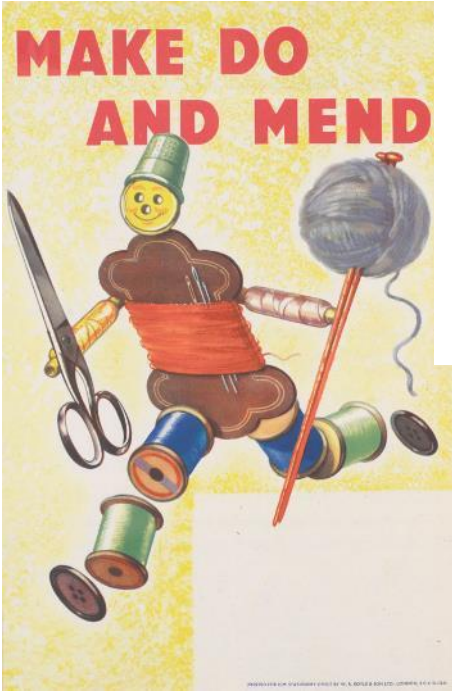
It is an interesting concept – should nature be commodified?

Should we prioritise for human need or traditional biodiversity based conservation?



How can you help?

# How can you help Biodiversity?





# Session Recap

- What Biodiversity is
- Why you should care about biodiversity
- Biodiversity & Construction
- Natural Capital & Ecosystem Services
- How can you help.....



# How can you help Biodiversity?

<https://app.mural.co/t/actionsustainabilitytradingl8908/m/actionsustainabilitytradingl8908/1665564995839/5074285389860a003a7cd6c71dbaa5c2e0329eba?sender=ross1618>

**THANK YOU**

**ANY QUESTIONS?**





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