

- Mate choice – studies have found that some species of bird have fewer offspring with a mate that they do not prefer
- Hunting/foraging efficiency
- Social structure

Environmental stochasticity

This can affect all individuals and can vary from rainfall to hurricanes.

- environmental variation occurs regularly – the weather is always changing, this isn't such a big deal
- Catastrophic events – if the animals survive then the ecosystem will usually have been greatly affected.

Genetic stochasticity

A loss of genetic diversity means there is a loss of the ability to evolve and adapt to new situations as variation is needed for evolution.

- Genetic bottleneck
- Genetic drift – loss of selectively neutral alleles happens at a greater rate in small populations
- Inbreeding depression – matings between closely related individuals produce offspring with reduced fitness.

Ex-Situ conservation

Intro

Zoos could be the last hope for some primates. There are examples of mammals that have gone extinct in the wild and have been successfully reintroduced.

Advantages

direct	Indirect
Safety net for if populations go extinct Builds up the numbers and reduces small population processes	Research – information may be useful for in situ conservation Education – to the public about the species Income generation – fund more in situ conservation

Considerations

- Can deplete wild populations
- Lose focus on conservation goals – many orangs in orang-utan rehabilitation centres don't return to the wild or reproduce if they do
- Patchy – not many species are held in zoos because if it is not interesting then it doesn't generate income
- Expensive and requires space
- Need many individuals to avoid small population effects
- Domestication – animals that are less stressed in the zoo environment will breed better
- Loss of key behaviours – fear of predators, knowledge of seasonal foods
- Exposure to disease from humans
- Many primates don't breed well in captivity

Reintroductions

Factors that affect the success include: age of the individuals, their foraging ability, predator naivety, pathogens and parasites experienced, and whether or not the original reason for their population decline has been solved.

Welfare

Initially zoos just aimed to keep animals alive for human entertainment, now we know that less stress leads to better reproduction. Humans are a major cause of stress in zoo animals.