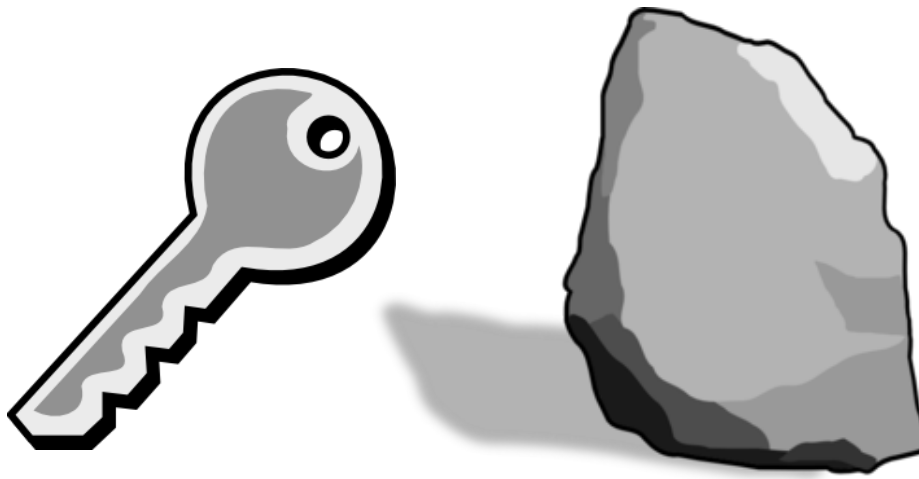


4.3.5 Species-based approach to conservation of biodiversity

Which species should we save and protect?

How should species be protected?



- A keystone species is one that plays a critical role in maintaining the structure (e.g. foodweb) of the ecosystem around them.



Flagship Species...

- used to attract the attention of the public as popular, charismatic species
- usually large vertebrates that arouse public interest and sympathy and serve as a symbol and a way of stimulating conservation awareness, financial support and action



Flagship Species...

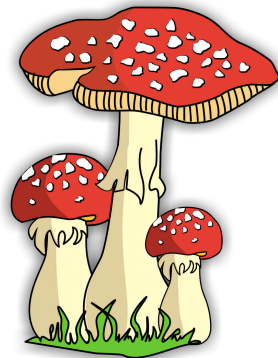
- often used to decide where wildlife reserves are created so flagship species, should in theory, also help to conserve other non-flagship species under the 'umbrella' of their large habitat requirements.
- So some flagship species can sometimes also be umbrella species too








Successful flagship species

- chosen because their populations are under threat or have suffered from exploitation or habitat destruction
- often species that are sensitive to disturbance

- it might seem sensible to save the world's most attractive and photogenic animals (e.g. pandas, whales, leopards) as this can lead to provision of extra funds
- However, keystone species such as fungi may be as beneficial to save the ecosystems as a whole.



Species		Flagship significance
Giant panda		WWF emblem for its general campaign to protect habitats and species. Fewer than 1000 now exist
Baird's tapir		The national mammal of Belize and a species used in setting up the Tapir Mountain Nature Reserve
Elephant		The largest vertebrate on the African continent
Golden lion tamarin		Highly social monkey that has been used to illustrate the importance of conserving tropical rain forest
Black rhino		One of the two largest vertebrates on the African continent

**How should animal species
be protected?**

'In situ' species conservation

- Maintaining animal or plant species in their natural environment. This may include management of a Nature Reserve or National park
- i.e. Species conservation through habitat conservation
- Q: Why is it easier to protect an area if there is a well-known mammal in it?



‘Ex situ’ species conservation:

- Maintaining animal or plant species outside their natural environment, in zoos or wildlife sanctuaries.
- The species is removed from its habitat, often for breeding purposes



Mauritius Kestrel

- 1970s: the entire population of Kestrels had been reduced to 4 (DDT)
- the rarest bird in the world.
- the only bird of prey in Mauritius
- the rarest falcon in the
- last 23 yrs: an intensive program of captive breeding and release has saved the Kestrel from extinction.
- The wild population now numbers over 350
- today: still on the endangered species list and the management of its population continues



**Herbarium of local tree species in
Kalimantan on Borneo in Indonesia**

