

"How should we decide which species to prioritise for conservation?"

Wildlife conservation is often sold as the fight to preserve beautiful, charismatic animals on the verge of extinction. Species such as the giant panda and snow leopard are used to generate and maintain public interest in conservation, and as a result, they are of highest priority for conservation efforts. These are flagship species, and their preservation tends to be symbolic of the wider efforts of conservation. However, there are thousands of other endangered species who have not been awarded the status of a flagship species. There are insufficient resources to conserve all of them, and so we must decide which of these species should be prioritised for conservation.

When prioritising species for conservation, it makes sense that the most threatened should be highest priority, as they are at the greatest risk of becoming extinct. However, other factors must be taken into account.

Keystone Species

Some species play a more important role in the ecosystem than others, and some play the most important role. These key players are vital for the stability of their ecosystem, providing support for many other species. If a keystone species were to be removed, its ecosystem would change drastically, likely resulting in the loss of many other species as well. For example, within an oak forest ecosystem the oak trees provide habitats and food for the majority of species. Removing the oak trees removes all of the support they provide, and you no longer have an oak forest ecosystem. By prioritising keystone species, we can also conserve every species which relies on them in some way.

Umbrella Species

Much like keystone species, conserving umbrella species is an approach which seeks to maximise the number of species conserved while focussing on a single species. The size of a species' habitat within an ecosystem varies, and this can be used to our advantage. Some species' habitats encompass the habitats of many other species, and so by saving the larger habitat we are also saving all habitats within it.

Problems with a Species Level approach

When conserving a species in its natural habitat, it is not enough to focus only on keeping it from dying. We must ensure its continued survival without human intervention, and for this to be possible it must be supported by its ecosystem. It must have a food supply, and so we must ensure that the species that it feeds on is conserved. We must ensure that its population is controlled, and so its predators must be conserved. Due to the vast, intricate network of interactions within an ecosystem, each species relies on many others, directly or indirectly, for its survival. Both the keystone and umbrella species approaches focus on maintaining these networks by conserving as many species as possible. To maintain these networks effectively, it therefore makes sense that we work at a larger scale than conserving individual species.

Ecosystem Conservation

Working to conserve at an ecosystem level rather than at a species level allows us to effectively preserve many species at once. We can achieve this through habitat preservation. By protecting a habitat within an ecosystem, we are protecting all the species within it. The question then becomes which habitats should be prioritised for conservation.

Ecosystem Services

As well as providing a source of natural beauty, ecosystems also perform many functions which are essential for our wellbeing. These ecosystem services provide us with fuel, pollinate our crops, regulate our climate, and do much more besides. Ecosystem services depend on the functional integrity of their respective ecosystems. It therefore follows that the habitats necessary for the continuation of ecosystem services should be prioritised for conservation.

A two-tiered approach

Although habitat conservation is fundamental for maintaining stability of ecosystems and their services, it will not prevent some species from becoming extinct. To fully conserve an ecosystem, efforts must be applied at both a species and a habitat level. Key habitats must be identified and preserved, and within them keystone species should be prioritised for conservation. While it is not possible for us to stop every species from becoming extinct, it is within our power to conserve on a broader scale. By preserving ecosystems we can protect the majority of species, and ensure their continued survival.

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