

Environmental Studies FACT SHEET



www.curriculum-press.co.uk

Number 165







Flagship species in trouble 1: Black rhino

This Factsheet:

- Explains the concept of Flagship species
- Describes the problems of trying to conserve one flagship species – the Black rhino

Flagship species are used to attract the attention of the Public. Flagship species are 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. Such species are 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.

Examples of flagship species:

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
Jaguar		Used to raise conservation awareness throughout much of Latin America and key to attracting the political attention necessary to set up the Cockscomb Basin Wildlife Sanctuary in Belize

Successful flagship species are sometimes chosen because their populations are under threat or have suffered from exploitation or habitat destruction; they are often species that are sensitive to disturbance.

Black rhino (*Diceros bicornis*)

All species of rhinos are either acutely endangered or threatened in the wild. In Africa this is not because of habitat loss but is solely due to poaching.

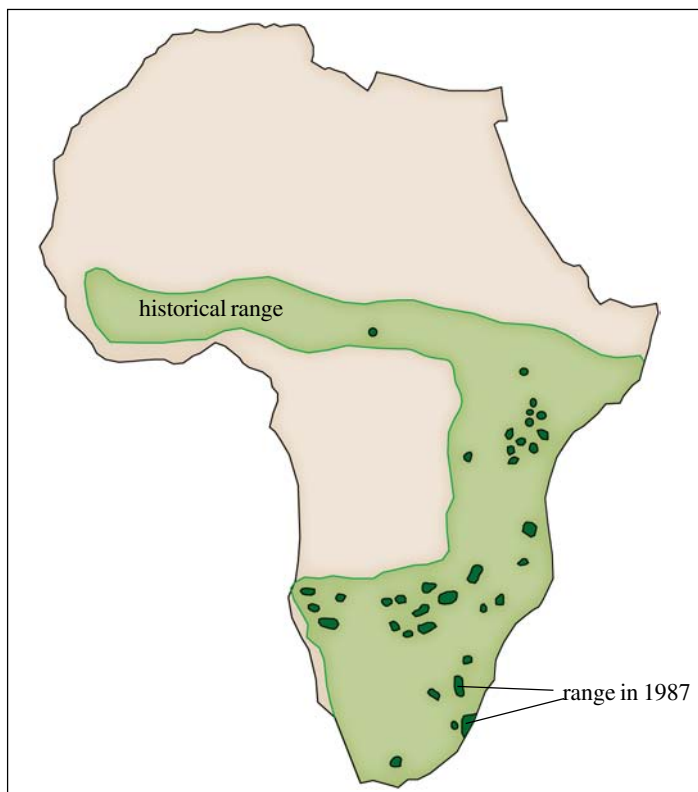
Many scientists believe that what is happening to rhinos (and elephants) today is a repeat of what happened to the North American bison which were almost exterminated.

African governments, trying to save species by protecting their habitat, have established vast national parks. Almost 400 protected areas now cover 1.2 million km² in sub-Saharan Africa. Botswana, Malawi, Zimbabwe, Tanzania and Kenya have all set aside 8% or more of their land for wildlife. But they are failing to conserve their flagship species.

The Black rhino used to be found over most of central and southern Africa. Poaching has reduced the rhino population massively and has fragmented the population (Fig. 2)



Fig. 2 Contraction and fragmentation of the Black rhino population



In the 1800s there were hundreds of thousands of individuals; in 2009 there were just 3200. The cause? Demand for rhino horn from traditional Chinese pharmacists in the Far East as a painkiller and for ceremonial dagger handles in the Middle East.

Asian investors are buying **rhino** horn purely as investments. In Beijing, rhino horn now fetches more than \$20,000/kg – making it far more precious than gold or cocaine.

Lured by these potential profits, armed militant groups such as the Janjaweed of Sudan, Somalia's Al-Shabab, and the Lord's Resistance Army are elbowing the old-style amateurs and subsistence hunters out of the poaching business.

The dwindling populations of rhinoceros have come under attack by professional criminals who mount commando assaults using helicopters, night-vision goggles, high-powered rifles and RPGs. The wardens funded by WWF and other NGOs simply cannot cope.

CITES isn't working

CITES (The Convention on International Trade in Endangered Species) prohibits all trade in rhino horn but poaching and trade are increasing.

Efforts have been made to find substitute products such as water buffalo and saiga antelope horn but have been unsuccessful.

Scientists are working hard to try to save the Black rhino and elephants but they now accept that:

- Neither trade bans (CITES) nor anti-poaching measures are working. Valuable species such as Black rhino are vulnerable to poor people, many of whom were evicted when the reserves and Parks were established and were not allowed to economically exploit the wildlife
- It is harder to protect rhinos and elephants and other commercial species in big parks than small

This is threatening the perceived wisdom that armed wardens and big reserves are the way to best protect flagship species.

Many African governments are now focusing on how wildlife can benefit rural populations, and how local communities can take part in decisions about saving and using wildlife that directly affect them. Small reserves, which provide local communities with income, may be a more sustainable approach to conserving flagship species.

But conservationists trying to save the fragmented rhino populations still have problems to resolve:

- Given that there is a limited amount of money available, which populations should scientists concentrate on?
- What is the minimum population size needed to ensure adequate genetic diversity?
- Should widely separated populations be merged?
- Should all the available money be spent on simply protecting the rhino in its habitat or should some be spent on trying to educate people in the Far East about the harmful effects of buying products made from rhino horn? The NGO WildAid is urging consumers across Asia to avoid **rhino** horn and ivory. WildAid believe that many Chinese mistakenly believe that **rhinos** shed their horns every year so that rhino products have caused no harm.

Practice Question

- (a) (i) Define the term conservation (2)
(ii) Give two economic reasons why conservation is important (2)
- (b) WWF has launched an educational programme to raise the awareness of Hong Kong’s school children about threats to the marine habitats around the island.
WWF believes that education is an essential part of its conservation efforts.
 - (i) Suggest two threats facing the marine wildlife around the island of Hong Kong. For each threat, explain why it may be harmful to marine life. (4)
 - (ii) How can an education programme contribute to conservation? (1)
- (c) Suggest why it is important to conserve species that have no economic importance to humans (2)
- (d) (i) Explain how the listing of species such as the Black rhino under CITES has helped to reduce rhino hunting (3)
(ii) Explain how habitat fragmentation threatens wildlife (3)

(a) (i) protection/preservation/management/restoration;
 of wildlife / natural resources;
 (iii) medicines;
 new foods;
 breeding programmes;
 biological control agents;
 physiological/medical research;
 wood;
 oils;
 other named products;
 ecotourism;
 named life support system e.g. water cycle/pollination/
 nutrient cycling/atmospheric composition;
 (b) (i) over-fishing;
 reduces the stocks below a sustainable level;
 pollution;
 introduces toxins/disease organisms that kill marine
 organisms/disrupts food chains;
 dredging;
 removes bottom layers that may supply nutrients/removes
 habitats;
 (iii) raise awareness;
 of threatened species/dangers of human activities/named
 activities;
 (c) economic importance may not be understood;
 disruption to food chains;
 disruption to pest control;
 disruption to ecosystem;
 ethical argument that all life has a right to exist;
 (d) (i) International trade in horn banned/restricted;
 Increased wardens/armed guards;
 market has declined/less demand;
 less profit;
 reduction in poaching/hunting;
 (ii) fewer available mates/reduced mating success;
 increased breeding/reduced;
 increased mortality when moving between fragments;
 increased competition for food/habitat;
 greater risk of local extinctions via disease/natural disasters;

References and further research.

Bowen-Jones, E., Entwistle A. (2002) Identifying appropriate flagship species: the importance of culture and local contexts. *Oryx* **36**, 189–195.

Eckert, K.L., Hemphill A.H. (2005) Sea turtles as flagships for protection of the wider caribbean region. *Marit Stud* **3**, 119–143.

Entwistle, A. (2000) Flagships for the future? *Oryx* **34**, 239–240.

Guiney, M.S., Oberhauser K.S. (2008) Insects as flagship conservation species. *Terr Arthropod Rev* **1**, 111–123.

Home, R., Keller C., Nagel P., Bauer N., Hunziker M. (2009) Selection criteria for flagship species by conservation organizations. *Environ Conserv* **36**, 1–10.

Kapos, V., Balmford A., Aveling R. *et al.* (2008) Calibrating conservation: new tools for measuring success. *Conserv Lett* **1**, 155–164.

Acknowledgments: This Factsheet was researched and written by Kevin Byrne.

Curriculum Press, Bank House, 105 King Street, Wellington, Shropshire, TF1 1NU

Environmental Studies Factsheets may be copied free of charge by teaching staff or students, provided that their school is a registered subscriber. **ISSN 1351-5136**