

Need for Conservation

SUMMARY INFORMATION

Keywords

Wildlife conservation, conservation status

Topics Covered

Biology

Target Grade(s)

6, 7, 8

Estimated Time Required

3 hours

LESSON

Goals and Pre Requisites

Goals

- To bring awareness to students on the increasing rate of wildlife extinction.
- To derive from students the techniques to conserve endangered species.
- To highlight to students the importance of wildlife conservation

Instructional Objectives

Students would develop an understanding of:

- Maintaining a sustainable ecosystem
- Analytical skills
- Reasoning skills

Instructional Resources

Problem Statement

Over the last decade, there has been a rapid decline in the population of a large number of animal and bird species. This decline can be due to a variety of reasons such as poaching, climatic variations, unavailability of food, and habitat depletion. What solutions can we provide that would help increase the population of a given species?

Suggested below are the details of the species you could work on:

Name: Asiatic Cheetah

Conservation Status: Critically Endangered

Endangered in India: Since 1930

Background

Wildlife Conservation

Wildlife Conservation is the practice of protecting wild plant and animal species and their habitats. The goal of wildlife conservation is to ensure that nature will be around for future generations to enjoy and also to recognize the importance of wildlife and wilderness for humans and other species alike. Many nations have government agencies and NGO's dedicated to wildlife conservation, which help to implement policies designed to protect wildlife. Numerous independent non-profit organizations also promote various wildlife conservation causes.

Wildlife conservation has become an increasingly important practice due to the negative effects of human activity on wildlife. An endangered species is defined as a population of a living species that is in the danger of becoming extinct because of several reasons. Some of the reasons can be:

1. The species have a very low population.
2. They are threatened by the varying environmental or prepositional parameters.



Why Wildlife conservation?

It is extremely essential to conserve Wildlife for the following reasons:

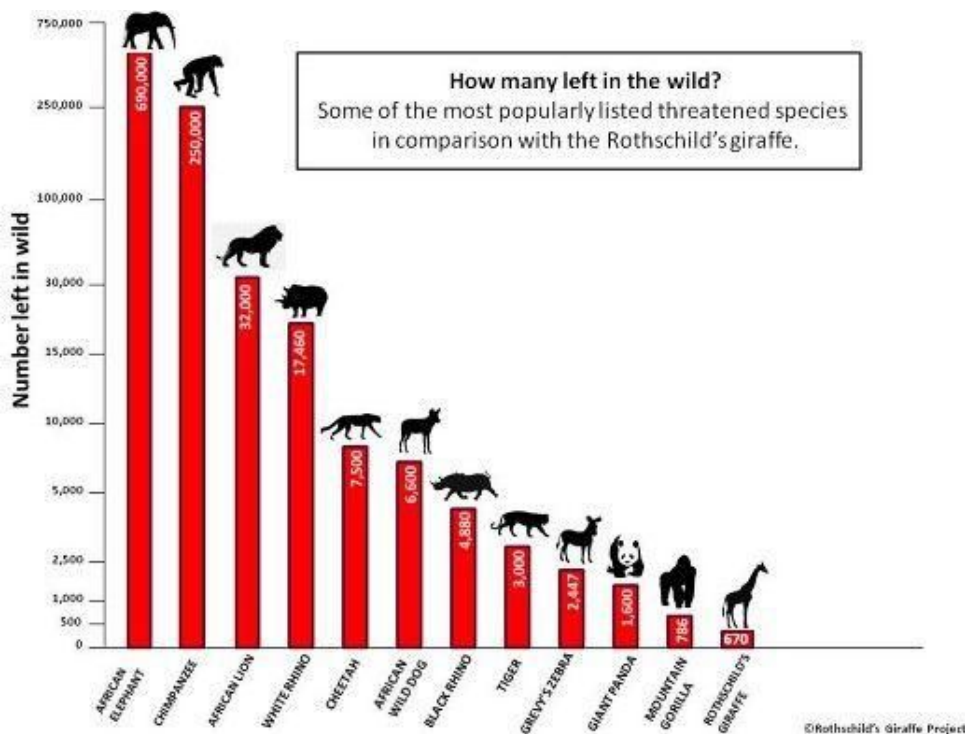
- Biodiversity
- Agriculture
- Research
- Economics of Eco- services
- Eco-Tourism
- Environmental Indicators
- Education
- Psychological benefits

What is Conservation status?

The **conservation status** of a group of organisms (for instance, a species) indicates whether the group still exists and how likely the group is to become extinct in the near future. Many factors are taken into account

when assessing conservation status: not simply the number of individuals remaining, but the overall increase or decrease in the population over time, breeding success rates, and known threats.

The IUCN Red List of Threatened Species is the best known worldwide conservation status listing and ranking system. Species are classified by the IUCN Red List into nine groups set through criteria such as rate of decline, population size, area of geographic distribution, and degree of population and distribution fragmentation.



Also included are species that have gone extinct since 500 AD. When discussing the IUCN Red List, the official term "threatened" is a grouping of three categories: critically endangered, endangered, and vulnerable.

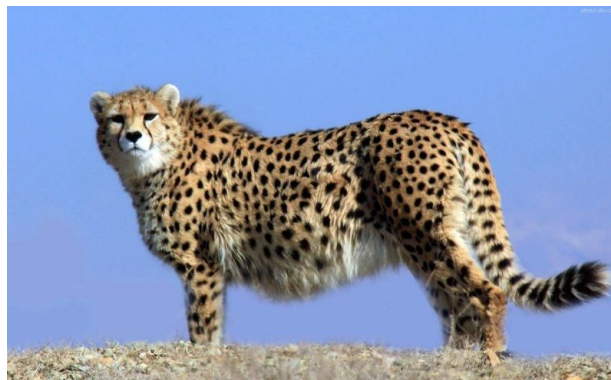
- Extinct (EX) – No known individuals remaining
- Extinct in the wild (EW) – Known only to survive in captivity, or as a naturalized population outside its historic range
- Critically endangered (CR) – Extremely high risk of extinction in the wild
- Endangered (EN) – High risk of extinction in the wild
- Vulnerable (VU) – High risk of endangerment in the wild
- Near threatened (NT) – Likely to become endangered in the near future
- Least concern (LC) – Lowest risk; does not qualify for a higher risk category. Widespread and abundant taxa are included in this category.

- Data deficient (DD) – Not enough data to make an assessment of its risk of extinction
- Not evaluated (NE) – Has not yet been evaluated against the criteria.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. Many countries require CITES permits when importing plants and animals listed on CITES.

The Asiatic Cheetah

The **Asiatic cheetah**, also known as the **Iranian cheetah**, is a critically endangered cheetah subspecies surviving today only in Iran. The Asiatic cheetah lives mainly in Iran's vast central desert in fragmented pieces of remaining suitable habitat. Although once common, the cheetah was driven to extinction in other parts of Southwest Asia from Arabia to India including Afghanistan. As of 2013, only 20 cheetahs were identified in Iran but some areas remained to be surveyed. The total population is estimated to be 40 to 70 individuals, with road accidents accounting for 40% of deaths.



For additional information, follow the links given below:

<http://www.wildcatconservation.org/wild-cats/eurasia/asiatic-cheetah/>

<https://news.mongabay.com/2013/02/asiatic-cheetahs-on-the-road-to-extinction/>

Procedure

1. Introduce the **Problem Statement** to students.
2. Form students into groups of four.
3. Allow them to brainstorm with their groups, on the given **Problem Statement**.
4. Each group must come up with their unique solution(s) to the given problem.

5. Each group can compare their solutions with fellow groups and with their teacher to check on the feasibility of their solution.
 - In order to check on feasibility, instruct students to discuss with their team mates and have a rough sketch of their plan before constructing it. Students must be able to provide justification for their choice of materials.
6. Ask students to build a timeline (within the estimated amount of time provided under summary information) and ensure that all members of each group are involved in planning the project in terms of availability and cost of materials (if any).
7. Student groups are required to substantiate their solutions through analysis, case studies, research and statistics.
8. Students must make sure that the design incorporated in their process would address the existing problem.
9. Each group can present their solution and evaluate feasibility with peer groups and the teacher.
10. Once each group has finished giving their model for conserving the Asiatic Cheetah population, share the links given below and have a classroom discussion.

https://en.wikipedia.org/wiki/Cheetah_reintroduction_in_India

<http://www.moef.nic.in/downloads/public-information/ProjectCheetahBrochure.pdf>

<https://www.theguardian.com/environment/2010/jul/29/india-cheetah>

Sample Methodology

Note: The following is an example of how the given **Problem Statement** might be addressed. **For Teacher Reference only.**

Materials Required

1.5-volt battery.
Strong string or button-and-carpet thread, 3-5 feet long.
Scissors
Electrical tape
1.5-volt mini-buzzer
Spring-type wooden clothes pin
A scrap piece of board or plywood 4 inches by 12 inches or bigger.
Super Glue

Procedure

1. Students may be allowed to do extensive research on the given problem statement and present solutions that may be substantiated by statistical data, theories and models.

2. Students may tabulate the inferences of their research as follows:

h/s for possible Extinction	Habitat and Adaptability	Food and Habits	Reproduction: Breeding season, size of litter etc.	Age and Sex	Graph on No. of cats vs. hunting practices (in years)	Abilities of cross breeding. How?	Abilities of cloning?	Ratio of Males to Females

- Based on hunting habits and natural habitat, students can calculate the optimal level required to sustain the life of the endangered animal.
- Students can use sturdy wire and sticks to construct a fencing system that will prevent humans from entering the protected habitat, as well as prevent cheetahs from exiting, without causing harm. Students can develop an alarm warning system when the fence has been broken using the materials mentioned.

Conclusion

It is of extreme importance to bring notice to the rapidly diminishing flora and fauna population to students in order to emphasise the need for conservation.

Extension

- Groups/students with the most feasible strategic model may write to the

Ministry of Environment, Forest and Climate change – Government of India.

- An awareness campaign can be developed by students with marketing elements and suitable collateral.

Assessment and Rubric

Define the need or problem – Did students identify the need to resolve this problem? Were they able to relate the problem to their own environment?

Come up with ideas - Did students weigh various possibilities before arriving at a solution? Did each group collaborate effectively to (1) work within the time given (2) give equal opportunity for participation (3) consolidate relevant information (4) provide rationale for their decisions and choices.

Select the most promising idea or design - Were students able to evaluate the feasibility of their solution to the given problem statement? On what basis was the feasibility of the solution determined?

Communicate and plan the project – Were groups able to provide justification for their choice of materials? Were students able to see completion of the activity within the estimated time?

Create/Build and test a design –Were all members of the team participative during the course of the activity?

Evaluate and revise the design – Were student groups able to present their solutions in a clear and distinct manner with other groups? Were they keen on improving their model further?

Credits

- <http://www.fundrefuges.org/>
- <http://www.conservationandwildlife.com/wildlife-conservation/>
- <http://www.nwf.org/what-we-do/conservation-policy/conservation-funding.aspx>
- <http://www.nwf.org/What-We-Do/Protect-Habitat/Healthy-Forest-s-and-Farms/Farm-Bill.aspx>
- <http://www.fws.gov/hunting/whatdo.html>
- <http://www.iucnredlist.org/technical-documents/categories-and-criteria>
- http://jr.iucnredlist.org/documents/redlist_cats_crit_en.pdf
- Walk through India:
<http://www.walkthroughindia.com/wildlife/the-5-extinction-wild-animals-in-india/>
- National Geographic Society:
<http://voices.nationalgeographic.com/2012/10/25/finding-the-last-cheetahs-of-iran/>
- MONGABAY:
<https://news.mongabay.com/2013/02/asiatic-cheetahs-on-the-road-to-extinction/>
- https://en.wikipedia.org/wiki/Cheetah_reintroduction_in_India
- <https://in.answers.yahoo.com/question/index?qid=20060919011221AAMWY8D>
- <http://greenliving.lovetoknow.com/environmental-issues/why-is-wildlife-conservation-important#UOqBkh7Ps7PVkOjk.97>
- https://media.licdn.com/mpr/mpr/shrinknp_800_800/AEEAAQAA_AAAAAALTAAAAJDI4NmM2MmVhLTdiNjAtNGM4MC05NDViLWJjNDI3NDY2NDAYYg.jpg
- <https://www.pinterest.com/pin/47358233558873949/>

- <http://mynatureofindia.blogspot.in/2014/01/wildlife-conservation.html>