

**Endangered Wildlife Poster – Activities for Teachers and Students**

**General**

The Society for the Protection of Nature in Israel (SPNI) has produced a series of four posters on Israel’s flora and fauna, intended for display in schools and public buildings. The posters enable greater familiarity with a selection of Israel’s wildflowers and wild trees, wild birds common in backyards, and endangered wildlife. Knowledge of Israel’s flora and fauna can promote an understanding of the importance of biodiversity and open landscapes.

SPNI works in diverse ways to protect Israel’s open landscapes and their biodiversity. Biodiversity ensures the intactness of the ecosystems that provide important, essential services to humans, such as provision of food, water and medicines, raw materials and fuel resources; pollination; pest control and disease prevention; soil conservation and erosion and flood prevention; tourism, recreation and leisure, and more. Israel’s biodiversity is rich and especially unique; thus, its protection is of paramount importance.

Besides adorning the walls with stunning pictures, the posters also encourage enjoyable, hands-on learning. These pages suggest a range of activities that can be carried out with preschool children and/or participants of all ages.

**Background**

This poster displays 20 species of endangered wildlife in Israel. The selected species represent classes of vertebrates (mammals, birds, reptiles and amphibians). The species also represent different habitats – including aquatic habitats, caves, cliffs, sands, and deserts. They were also selected to represent different causes of species extinction:

* Loss and destruction of habitats and their fragmentation due to construction, road building, cultivation of farmland
* Spread of invasive/locally overabundant species that displace local species
* Water and soil pollution
* Poisoning by pesticides
* Wildlife-vehicle collisions and injury from wind turbines

There are many other endangered wild animals in Israel besides the species displayed. Additional information may be found in *The Red Book: Vertebrates in Israel*.

As well as becoming familiar with the names and characteristics of the wild animals, we can also learn about the causes of extinction and their possible solutions, and act to protect endangered wildlife.

We thank the different photographers who provided the photos for the poster.

**Suggestions for activities:**

The poster should either be displayed to all participants, or they should work in small groups, with one poster per group.

1. **Who Am I?**

Aim: Familiarity with endangered wildlife species in Israel and their characteristics

Instructions: Read out the description. Ask the participants to identify the animals hiding in the riddle.

Suitable for: All ages. For younger children, prepare simpler riddles. For older children, only part of the description can be read, and clues added as necessary.

* I am a predatory mammal and a scavenger. I am easy to identify because of my striped fur. In the past I was common throughout the country but because of wildlife-vehicle collisions, poisoning and a decrease in carrion, I am slowly going extinct >> Striped hyena
* I can run quickly, and known as the symbol of the postal service. My foraging areas – the open landscapes – are dwindling, stray dogs prey on me, and hunters and cars threaten me. I am endangered! >> Mountain gazelle
* I am a mammal living in aquatic habitats, mainly in northern Israel. Only a few individuals of my species remain because the water is polluted, the streams have been drained, the streambank vegetation has been mown, and crossing roads is life-threatening >> Otter
* We are flying mammals, and we help farmers because we eat insects. In the past we were intentionally poisoned, now people disturb us by entering our caves in the winter. In the future we may be injured by wind turbines >> Insect-eating bats
* I am a mammal that lives on sands. I prefer areas with little vegetation, where I dig myself a burrow. I eat plant parts – roots, bulbs, seeds and fruit – and insects. I am endangered because my sandy habitat is disappearing >> Buxton’s jird
* I am a rare predatory mammal – there are perhaps 100 of us in the whole country. I live in caves and burrows and I’m nocturnal. I eat insects, small rodents, snakes, lizards, honey, and carcasses. I am injured by cars and bee-keepers >> Honey badger
* I am a well-known, but rare mammal that lives in aquatic habitats. I am endangered because the water sources and thickets are disappearing >> Jungle cat
* I am a large bird that loves cliffs. I help nature because I clean up the carcasses. Although I’m considered king of the birds I am endangered for many reasons – poisoning, electrocution, and collisions with cliffs >> Griffon vulture
* I am a small raptor that loves open landscapes. I forage for food (insects) in fields, but they are disappearing because of pest control. Good people help me by building breeding boxes >> Lesser kestrel
* I am a unique, rare bird that loves the sands. In the spring the males do a mating dance. I eat seeds, insects and small vertebrates. I am critically endangered – the sands are disappearing and there are many hazards >> Houbara bustard
* I am a brown song-bird that loves fields and exposed landscapes. I prey on flying insects and breed on the ground. But when the land disappears or pesticides are sprayed – I’m simply in danger >> Collared pratincole
* I am a bird that lives in swamps and artificial wetlands. I am endangered due to a lack of streambank vegetation necessary for breeding >> Ferruginous duck
* I am a well-known reptile. My shell protects me but it can’t protect me from extinction. I’m considered slow, but walk far. People like to collect me and rear me at home even though it’s illegal >> Tortoise
* I am a turtle that lives in the sea. I am long-lived but endangered. I am vulnerable mainly when I leave the sea to lay my eggs. I suffer from eating bags that look like jellyfish. Even lighting on the beach disturbs me. Who am I? A sea turtle.
* I am a reptile that loves the rocks and desert heat. I am colorful and “dressed up”. My tail is spiky and strong to protect me from predatory birds. When threatened I escape to my burrow. I am endangered due to poachers who collect me and off-road vehicles that disturb my habitat >> Ornate mastigure
* I am a very unique lizard, but my foraging grounds have been destroyed – they’ve become fields, houses, roads, and military bases. Forests planted in the Negev and the spreading egrets prey on me easily >> Be’er Sheva fringe-fingered lizard
* I am an amphibian with a tail. My stripes provide camouflage. My tadpoles live in the water, while I live on the land; during the day I hide and at night I am active. During the summer I sleep. I eat insects and mollusks. I’m going extinct because the ponds are disappearing >> Banded newt
* I am an amphibian with a tail. My spots warn other animals. I have poison glands for defense, but when the aquatic habitats disappear and the springs are polluted, I am endangered >> Spotted salamander
* I am an amphibian. My tadpoles develop in pools. In the summer I burrow deep underground. I am nocturnal, feeding on snails and beetles. I am endangered because my habitats are disappearing >> Syrian spadefoot toad
* I am a dark, spotted amphibian. I am known not only for my long, strange name, but also for my return from the brink of extinction. I disappeared from the Hula Valley when the swamp was drained, but returned the valley was re-flooded >> Hula painted frog
1. **Endangered Animal Bingo**

Aim: Familiarity with endangered animals and their characteristics

Instructions: Ask each participant to choose nine wild animals from the poster and write their names on a bingo board (a table with three rows and three columns), each animal in a different square. Read a riddle and ask the participants to identify the species. A participant who has the animal in his/her table marks it. The first one to fill the entire board calls out “bingo”.

Suitable for: All ages. For younger children, prepare boards with pictures of the animals.

1. **Animal Classes**

Aim: Familiarity with the division of vertebrates into classes and their characteristics

Instructions: Ask the participants to examine the poster and describe how the animals can be classified into groups. Ask what is common to all the mammals, bird, reptiles and amphibians. Explain that these are different classes in the vertebrate phylum (animals with backbones) in the animal kingdom. Explain that each class is divided into orders, families, genera, and species. Explain that classification of the natural world is a science (systematics) that began in the 18th century, when organisms (animals and plants) were classified according to the similarity of their appearance and characteristics. Today, they are classified according to their genetic similarity.

Activity: Read a characteristic from the table and ask the participants to determine which class it belongs to. Alternatively, you can print cards and let the groups classify them. Another option – an “auction”: divided the participants into four groups and give each group an equal number of bank notes (for example, from Monopoly). Each group represents a different class. It must buy as many characteristics as possible, but only those that are suitable for the class it represents. When the characteristic is read out, each group indicates how much it is willing to pay for it; the group with the highest bid receives the characteristic. At the end of the game, determine which group has the most correct characteristics.

Suitable for: Participants from the 5th grade and above.

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| --- | --- | --- | --- | --- |
|  | Mammals | Birds | Reptiles | Amphibians |
| Limbs | Four legs | Two legs and two wings | Four short legs or legless | Four legs |
| Body temperature | Constant body temperature “warm-blooded” | Constant body temperature “warm-blooded” | Variable body temperature “cold-blooded” | Variable body temperature “cold-blooded” |
| Ears | Prominent ears – auricles | No ears – only ear holes | No ears – only ear holes | No ears – only ear holes |
| Domestication | Some domesticated by humans | Some domesticated by humans | Not domesticated by humans | Not domesticated by humans |
| Living environments | Live on land, in the air and in the sea | Live on land, in the air and in the sea | Live on land and in the sea | Live on land and in the sea |
| Skin | Skin partly covered by hair: short/long, soft/hard/spiky | Skin covered by feathers | Dry skin covered by an outer, hard, usually scaly layer | Damp, thin skin |
| Reproduction | Female gives birth to young and feeds them with milk | Female lays eggs | Female lays eggs | Female lays eggs |
| Head structure | Brain relatively large compared to body, thus they are intelligent | Have beaks | Have teeth for grabbing prey but not for chewing – prey is swallowed whole |  |

1. **ID Card for Endangered Wildlife**

Aim: Familiarity with endangered wildlife and their characteristics, developing skills for identifying and processing information

Instructions: Ask each participant or group to select an animal from the poster and prepare an ID card for it using different sources of information (books, websites, etc.). The ID card can be prepared as a page (in a joint folder), as a poster (to hang on the wall), or as a slide in a joint presentation. They can also prepare a number of riddles about their chosen animal for a class quiz.

Suitable for: Participants from the 3rd grade and above.

Suggestion for ID card structure:

Name of animal:

Class/family:

Photo/picture:

Appearance/size:

Lifestyle:

Habitat:

Adaptation to habitat:

Distribution in Israel:

Causes of extinction:

1. **What is “Danger of Extinction?”**

Aim: Familiarity with the terms danger of extinction, Red Book, different levels of conservation and understanding of the causes of danger of extinction; developing skills for identifying and processing information.

Instructions: Tell the participants that each species has its own conservation status, or chances of survival, in the present and in the future. Ask them what they think: what factors impact their chances of survival, in other words, how do we determine conservation status? Explain that evaluation of the conservation status of each species is based on principles formulated by the IUCN, including global principles and local principles, such as the number of individuals of each animal, the animal’s population trend (increase or decrease in the number of individuals), the size of the area or quality of the habitat used by the species, successful mating rate, known threats, etc.

Explain that detailed lists of endangered species can be found in the “Red Book” of plants and the “Red Book” of vertebrates. The Red Book describes the species and categorizes them according to global and regional conservation status. It displays the species’ distributions in Israel and around the world, emphasizing the endangered species for which effective action must be taken to prevent their local or global extinction. The species included in the red book, as well as their status, were determined by the principles of the IUCN.

The IUCN list of endangered species is divided into three categories: vulnerable species (VU), endangered species (EN) and critically endangered species (CR). Moreover, completely extinct (EX) species and species extinct nature (RE or EW) are also documented. Species at low risk or no risk at all are also divided into categories. A description of the categories appears below. Show the participants the category descriptions and the scale that appears in the description of some species on the Wikipedia website.

Ask them to search information online for each of the animals on the poster (or others) and indicate the species’ conservation status and the reasons why it is endangered. This can be a follow-up activity to preparing the ID card. Alternatively, each group can learn about one of the nine categories of conservation status described below and prepare a poster that describes the term, with example species that belong to the category, including pictures of the species and the reasons for them being assigned this conservation status.

Suitable for: Participants in the 5th grade and above.

EX | Extinct. There is no doubt that the last individual capable of reproducing has died.

RE| Regionally Extinct. There is no doubt that the last individual capable of reproducing has gone extinct in our region. Also known as EW: Extinct in the wild

CR | Critically Endangered. Evidence indicates that the species is exposed to a very serious risk of extinction in nature; a population decrease of about 80% is expected in the coming years. The reasons for assigning a species to this conservation status appear in “criterion details” below.

EN | Endangered. Evidence indicates that the species is exposed to a very serious risk of extinction in nature; a population decrease of about 50% is expected in the coming years. The reasons for assigning a species to this conservation status appear in “criterion details” below.

VU | Vulnerable. Evidence indicates that the species is exposed to a risk of extinction in nature; a population decrease of about 30% is expected in the coming years. The reasons for assigning a species to this conservation status appear in “criterion details” below.

NT | Near Threatened. A species whose current situation is not included in any of the categories of serious risk (CR, EN, VU) but its situation may soon reach the status of VU according to the sections in “criterion details” below.

LC| Least Concern. A species that is not under serious risk (category CR, EN, VU) and is not likely to be at risk (NT) in the near future

DD | Data Deficient. A species for which the risk factors cannot be determined due to insufficient information.

NE | Not Evaluated. A species for which the risk factors cannot be determined due to an absence of information on its distribution and abundance.