



THE EDGE OF EXISTENCE

Guardians of Biodiversity

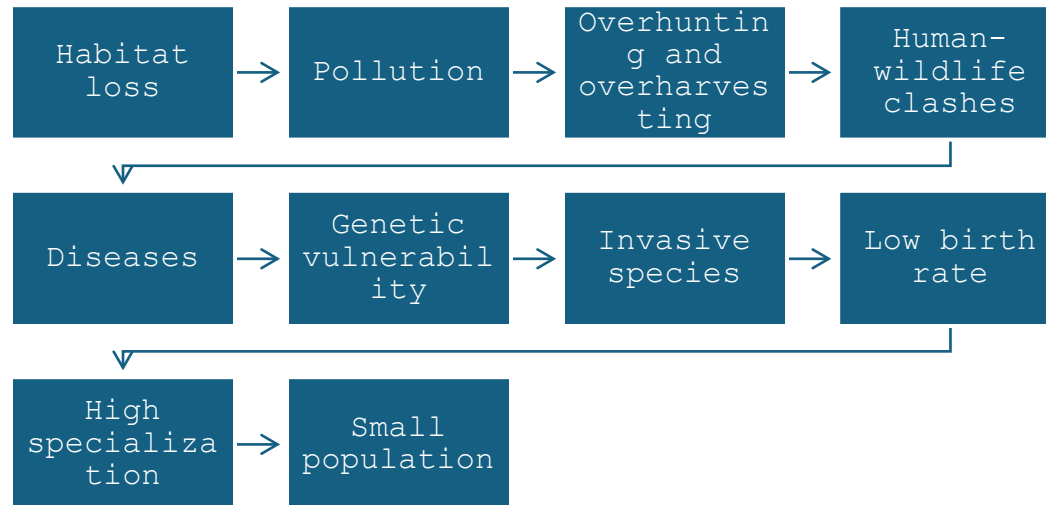
PHOTOBOOK



What are Endangered Animals?

An endangered animal is a specie of organism threatened by the devastating phenomenon of extinction.

Couple of Factors Endangering Animals in the Wild are:



Black-Footed Ferret

- The **black-footed ferret**, the only ferret species native to the North American continent, is one of America's most endangered mammalian species. They are members of the weasel family. And are known for their distinctive yellow-beige coats and black markings on their faces, feet, and tail.

- Today, there are only about 370 black-footed ferrets left in the wild. Attempts to reduce the drastic rate of their eradication have faced stumbling blocks. Mainly because habitat loss due to agriculture, which is the number one issue hurting the species population, is not as easy to curb.



The Beach Vole

- **The beach vole** (*Microtus breweri*) or Muskeget vole is a rodent in the family Cricetidae. This close relative of the eastern meadow vole (*Microtus pennsylvanicus*) is endemic to the 0.87 km² Muskeget Island, Massachusetts.last surviving members of his species.
- *Microtus breweri* is currently recognized by the IUCN, NatureServe and IT IS as a distinct species, due to its larger size, geographic isolation, and contrasting mating habits. A recent genetic study indicates that it may be a basal subspecies of *M. pennsylvanicus*.



Salt-Marsh Harvet Mouse

- The **salt-marsh harvest mouse** is an endangered rodent found in the San Francisco Bay Area in California.
- They are well equipped for tidal salt marshes as they can consume high levels of salt. They also have a strong ability to swim and climb!



Sea Otters

- There used to be hundreds of **Sea Otters** roaming the North Pacific Ocean. However, due to the fur trade in the early 1900's, their numbers dropped. They are threatened by oil spills which harms their life immensely.

- Sea otters lay on their backs to sleep, and they hold hands with each other so they don't drift away!



Boreal Woodland Caribou

- The **Boreal woodland Caribou**, also known as Eastern woodland caribou, boreal forest caribou and forest-dwelling caribou, is a North American subspecies of reindeer found primarily in Canada with small populations in the United States

- Woodland Caribou are at risk due to things like human disturbance, construction of roads and pipelines, hunting, and habitat destruction.



Bog Turtles

- One of the smallest turtle species in the world, **Bog Turtles** (*Glyptemys muhlenbergii*) measure only 11.5 centimetres (4.5 inches) long.

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- Bog turtles are mostly dark brown but have a bright orange-yellow patch on each side of their head.

- These semi-aquatic creatures live in shallow wetland regions. They like areas that aren't too densely forested, because the plants they like to eat need plenty of sunlight to grow.

- There are two main populations of bog turtles. One population is found throughout Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, and Pennsylvania. The other population lives throughout Georgia, North Carolina, South Carolina, Tennessee, and Virginia.

- There are an unknown number of bog turtles remaining in the wild. Fragmentation of their habitat plus the effect of agriculture on the quality of wetlands are significant threats to the bog turtle.



MISSISSIPPI GOPHER FROG

- Sometimes called the "dark gopher frog" or "dusky gopher frog," this secretive frog prefers temperate coastal forests and intermittent freshwater marshes as habitats and is found in the southern United States.
- These solitary amphibians have been listed as an endangered animal species since 2001, and there are fewer than 250 mature dusky Gopher frogs in the wild. Hence they are on the the top 10 most endangered animals in the United States list.
- Habitat loss, diseases, and invasive species have been culpable for the frog's population decline.



Red Wolf

- Weighing an average of 45-80 pounds and standing at 26 inches at the shoulder, the **Red Wolf** is a critically endangered animal native to the eastern United States.

- It used to range throughout the southeastern US, but its range is highly diminished these days.

- Currently, the number of red wolves in the wild sits at barely two dozen.

- Despite the conservation efforts to bring the number of this species back up to 100 between 1987 and 2012.



Vancouver Island Marmot

- The **Vancouver Island marmot**, lives in the forest, grassland, and rocky mountain habitat of Canada's Vancouver Island. They are dark brown with white patches on their noses, bellies, and the tops of their heads. They have bushy brown tails.
- These marmots are critically endangered with only 90 mature marmots left in the wild. They are particularly at risk from predators like cougars and eagles, as well as from human activity, like logging.



Mojave Desert Tortoise



- The Mojave Desert tortoise (*Gopherus agassizii*) has survived in the Mojave Desert for millions of years. These medium-sized tortoises measure 23-28 centimetres (9-15 inches) and weigh 3.5-7 kilograms (8-15 pounds) as adults.
- Mojave Desert tortoises are herbivores that feed on grasses, wildflowers, herbs, shrubs, and even cacti. They spend much of the year in hibernation, retreating to underground burrows to avoid the extreme temperatures of the desert.
- The IUCN lists the Mojave Desert tortoise as critically endangered. Their population is severely fragmented, and numbers have decreased by 90% since 1950.
- Human activity is largely to blame for the decline of the Mojave Desert tortoise. Towns, cities, and roads are breaking up and encroaching on the tortoise's desert habitat. Additionally, invasive grasses are outcompeting the native plants that the Mojave Desert tortoise likes to eat, threatening their food sources.



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- The **Florida panther** has been listed as an endangered species since 1967 and now lives in just 5% of its former range.
 - This panther used to roam much of the southeastern U.S. but is now only found in southern Florida.
 - There are only about 100 to 200 panthers left.
 - They were heavily hunted and perceived as pests before being listed as endangered; today, their main threats are habitat loss and collisions with vehicles.



Canada Lynx

- The **Canada lynx** or **Canadian lynx** is one of the four living species in the genus *Lynx*.
- It is a medium-sized wild cat characterized by long, dense fur, triangular ears with black tufts at the tips, and broad, snowshoe-like paws. Its hindlimbs are longer than the forelimbs, so its back slopes downward to the front.
- Small population size, habitat loss and fragmentation from large wildfires, and climate change are considered the most significant threats to lynx.



- Named after the early 20th-century entomologist Henry J. Franklin, **Franklin's bumblebee** is one of the most narrowly distributed species of bumblebee. This critically endangered animal is found only between Southern Oregon and California, sadly earning them a spot on the the top 10 most endangered animals in the United States list.

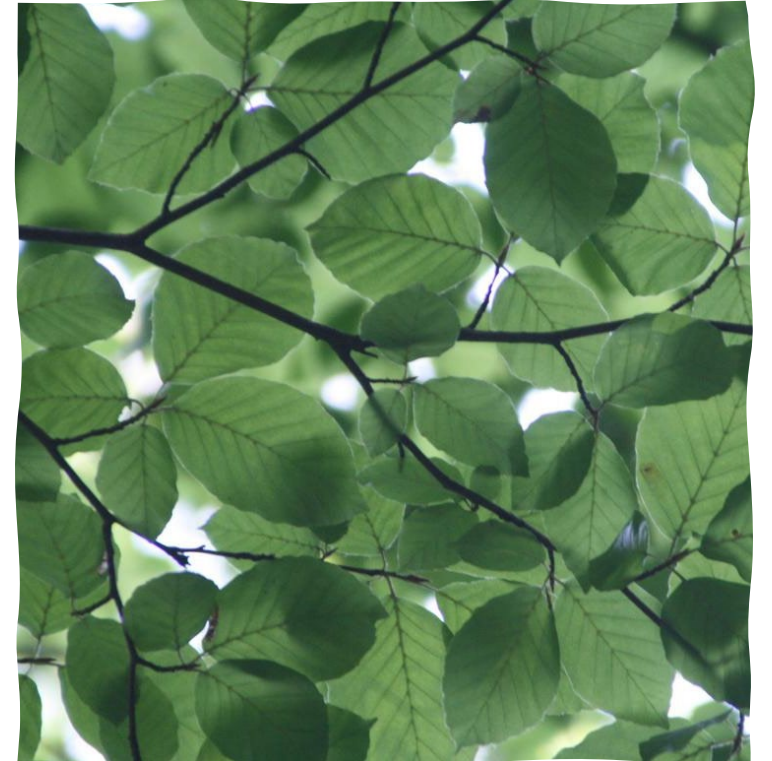
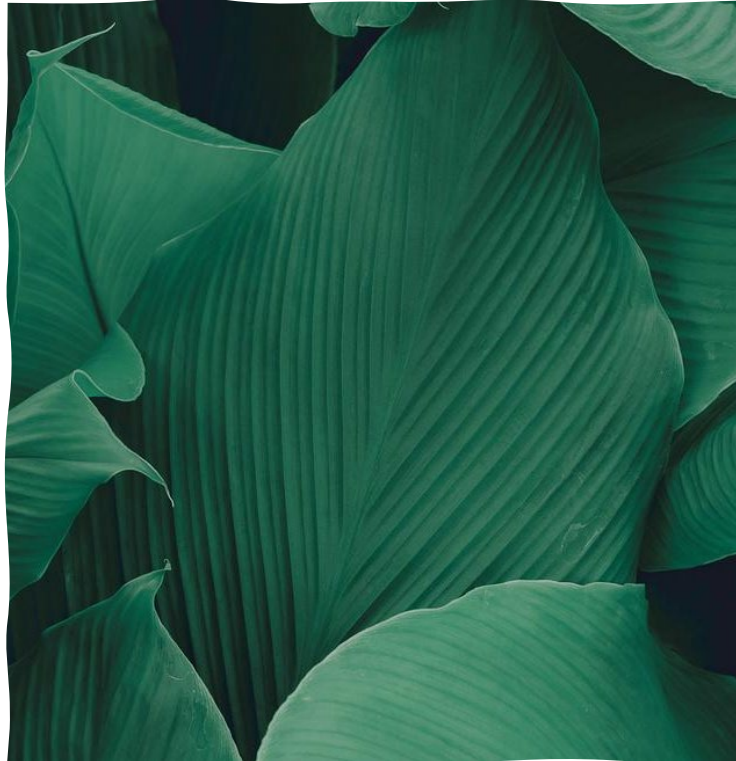


- The **Palos Verdes blue Butterfly** is a small endangered butterfly native to the Palos Verdes Peninsula in southwest Los Angeles County, California, United States.

- Loss of habitat and extremely harsh winters in 1983 and 1984 was thought to have led to the extinction of the PVB [1]. For 11 years, the PVB was thought to be extinct. Then, in 1994 the butterfly was re-discovered at the Defense Fuel Support Point managed by the Department of Defense at San Pedro, California



Most Endangered Plant Species in the World



- *Fritillaria gentneri*, or **Gentner's fritillary** is a type of flowering plant in the lily family that can be found in Oregon and California.

- This beautiful flower has been endangered since 1999 due to loss of habitat



• **Minnesota Fawn lily** is native to only three counties in southern Minnesota - and nowhere else in the world!

• Finding this flower is nearly impossible because the flowers are barely a quarter-inch long. That's likely why it's also known as the **dwarf trout lily** and rarely spotted in nature.



- The **American Chaffseed** is the most endangered species in New Jersey. It spread from New England all the way to Louisiana and was a very common plant throughout the nation.

- However, when fire suppression grew, the chaffseed began to die out as it needs wildfires to weed out competing vegetation. It can only be found in a few states now and has been on the endangered species list since 1992.



- **Black Bat-Flower**

- Proper name - Tacca Chantrieri, was poached and collected to near extinction. **The blossoms of the flower are large, reaching almost a foot in diameter.** The velvety petals are surrounded by a whisker like froth that can reach to the ground.



- **Titan Arum**

- Also known by the less politically correct name of "titanic penis," it is the world's largest flower. **Growing in Sumatra, it also is known as having the biggest inflorescence of all the flowers on earth.** Its common name is the Corpse Flower for its unique and overpowering stench.



- **Rafflesia**

- Another flower noted for the size of its stench, **it also boasts some of the largest petal flowers in the world, comparable to the size of a small chair.** It can be confused with the [Titan Arum](#) as it is also known as a Corpse Flower.

- This flower has an unusual popularity with collectors. Poaching, collecting, lack of conservation and destruction of its natural habitat is speeding its disappearance.



- **Baseball Plant**

- It can surprise people to find out that this popular yard plant is endangered. After all, it is easy to go and purchase from a local home goods store.

- However, the issue is that its wild habitat is being destroyed, and not enough conservation care has been taken to replace the ones poached or collected for commercial stock.

- In fact, even the ones you find in the grocery store aren't cultivated – they're harvested from the wild.



- **Venus Fly Trap**

- This was once a favorite plant of many kids. However, it is steadily disappearing from its natural, tropical habitat due to deforestation. It is a carnivorous plant and plays an important role in controlling insects to promote the healthy growth of surrounding vegetation.

- However, since it has no value as a commodity, and remains more of a novelty than a sought-after commodity, there is little effort to save it, contributing to its declining population.



- **Underground Australian Orchid**

- This orchid gets its name from the obvious growth of the flower underground, it is more a low ground covering than directly in the ground. Over development and a drought, plus [pollution](#), have put this delicate blossom on the endangered list.



- **Cork**

- This oak tree type is the tree where wine corks, and other items made from cork materials come from. While many environmentalists believed that advocating for alternative wine-stoppers would save cork, the reduced demand for the tree bark has instead begun to cause its demise.

- With no demand for the bark as a commodity, there is no interest in preserving its habitat or the tree itself.



- **Bois Dentelle**

- Few people are aware of the existence of this delicate plant with the hanging white blossoms. It has never been highly valued as a commodity, and outside of Mauritius, it is rarely spoken of.

- The cloud forest where it grows has been invaded by many species of plants that are crowding out this small flower. The Bois Dentelle is one part of what makes the natural world beautiful that is steadily being crowded out.



- **Dragon Tree**

- These are the large and striking trees that often shape the people's perception of the African savanna. The trees can grow for thousands of years.

- And apparently considering the number of years they can live, **Dragon Trees are no match for severe drought, climate change and development.** But despite of all their resilience through adversity, they're steadily disappearing from the continent.



- **Monkey Puzzle Tree**

- Native to Chile, it seems counterintuitive for this national tree to be on the endangered list, but regrettably, urbanization and degradation of its habitat have negatively impacted its untamed proliferation.

- Moreover, it was frequently uprooted for ornamental use in yards. Thankfully, its successful cultivation in conservation efforts offers some hope, yet it isn't classified as a critically endangered plant.



- **Baobab Tree**

- This tree is an unusual life-giving tree. While it may only sprout leaves for 3 months of the year, it stores water in its broad and twisted trunk.

- The peoples of Madagascar, Africa and India would often build their homes around its roots to survive the dry seasons. Climate change, and over development have, however, destroyed its natural habitat.



Houston Toad

- The **Houston toad** had dark brown, speckled coloring, a pale, dark-spotted underbelly, and measures 2 to 3.5 inches in size. They live exclusively in east to central Texas, in upland pine or oak forests with deep, sandy soils.



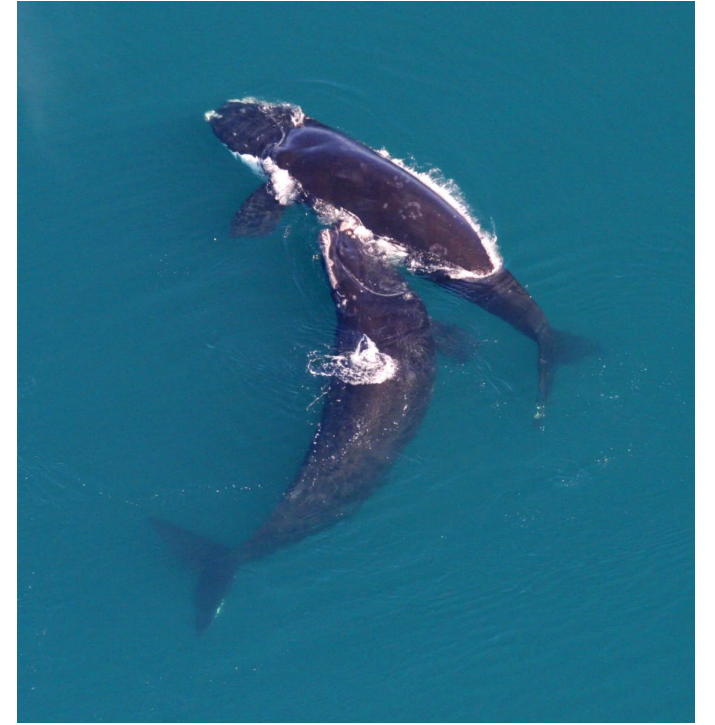
The Houston toad is critically endangered due to human urbanization and road construction, which destroy and fragment their habitats, making it harder for these toads to move around and breed. They also face predation from fire ants that feed on baby toads as they leave their breeding ponds.

- Getting its name from the shape of its shell, which is flatter than most other turtles, the **Flattened musk turtle**'s shells range in color from dark brown to yellow-brown. They are small turtles, at most 4.3 inches, that are only found in Alabama. This freshwater turtle prefers to live in free-flowing creeks or small rivers with vegetation, mollusks and aquatic insects.



- The **North Atlantic right whale** is a huge, slow-swimming baleen whale that grows up to 60 feet in length and weighs 233,690 pounds. They live in the Atlantic Ocean, swim in deep waters for food and shallow for calving. These whales feed on zooplankton, krill and other small crustaceans.

- According to estimates, there are only around 350 North Atlantic right whales left in the wild, with only 70 females capable of reproduction, making them critically endangered. Key threats include vessel strikes and entanglement in fishing gear.





Endangered Birds - North America

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- There are many endangered birds in America. Threats from pollution, habitat loss among other things have reduced the populations of many. The next slides highlight a few birds that are being helped with conservation efforts, but still need our care and attention.



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- The **Ivory-billed woodpecker** has distinctive black and white coloring and yellow eyes, and the males have a red crest. They are the largest woodpecker in the United States, with an estimated wingspan of 30-31 inches.

- Unfortunately, the Ivory-billed woodpecker may already be extinct. There has been no concrete evidence of its existence since 1987, however, some researchers and birdwatchers say they have seen evidence of these birds in recent years.



- The **Golden-cheeked Warbler** is a nesting resident of central Texas.

- Vividly colored, it is the only bird species with a breeding range limited to the state and live in juniper and oak woodlands.

Golden-cheeked Warblers feed mostly on caterpillars and other insects.



- The **Dusky Starfrontlet** is a species of hummingbird that was thought to be extinct but was rediscovered in 2004. It is black with a metallic green sheen.

- Hummingbirds are the smallest migrating bird - they don't migrate in flocks and travel alone up to 500 miles at a time!

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They are the only birds that can fly backwards. The average weight of a hummingbird is less than a nickel!

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The **Regent Honeyeater**, a small bird in the honeyeater family, is called "regent" because of the black and gold colors of the British Prince Regent, who subsequently ascended the throne as George IV. It is found only in Australia (New South Wales and Victoria).

In winter, some Regent Honeyeaters mimic the call of wattlebirds and friarbirds. They are the only bird species that mimics close relative species.

The regent Honeyeater is not just endangered, it is critically endangered. This status is a result of various factors, including land clearing, fierce competition, and the devastating 2019-2020 Australian bushfires. The urgency to protect this species is paramount.



SNOWY OWL, also known as POLAR OWL, is one of the heaviest owl species in North America, found in the far north regions around the North Pole.

Unlike most owls that are nocturnal, snowy owls are diurnal.

One of the biggest threats Snowy Owls face is climate change, which could lead to habitat loss and a decrease in prey.

During migration and winter, they face collision threats from cars, communication towers, wind turbines, and airplanes.



- Living on Laysan Island in Hawaii, the **Laysan Duck** takes shelter in vegetation during the day and comes out to feed at night. They eat insects, larvae, seeds, leaves, and algae. The Laysan duck has a distinctive white ring around each eye. They are critically endangered due to several threats.



- **Whooping Crane** is a majestic bird that is the tallest bird in North America - they stand about 5 feet tall when fully grown. They are a majestic bird with long legs and a distinctive elongated neck. They have a distinctive red crown on their heads.

- They are one of the rarest bird species in the world. In the 1940s, only 15 of these birds remained in the wild. There are many conservation efforts being done, including captive breeding and habitat protection, that have helped increase their numbers, but they still are endangered with about 667 in the wild today.



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- **Piping Plover** is a cutie that is endangered. They are a small (7 inches/1.7 oz) sand-colored bird that nests and feeds along beaches in North America.

- Back in the day (19th and early 20th century) it was hunted for its feathers to use in women's hats. Today the threat is habitat loss - e.g. development on beaches reduce their nesting/feeding areas).

- Conservation efforts continue to help increase the population which is now 8000+.



- **Californian Condor** is the largest land bird in North America. This majestic bird has a wingspan of 9.5 feet used to soar in the air and can weigh up to 25 pounds.

- They are one of the world's longest-living birds, with a lifespan of up to 60 years!

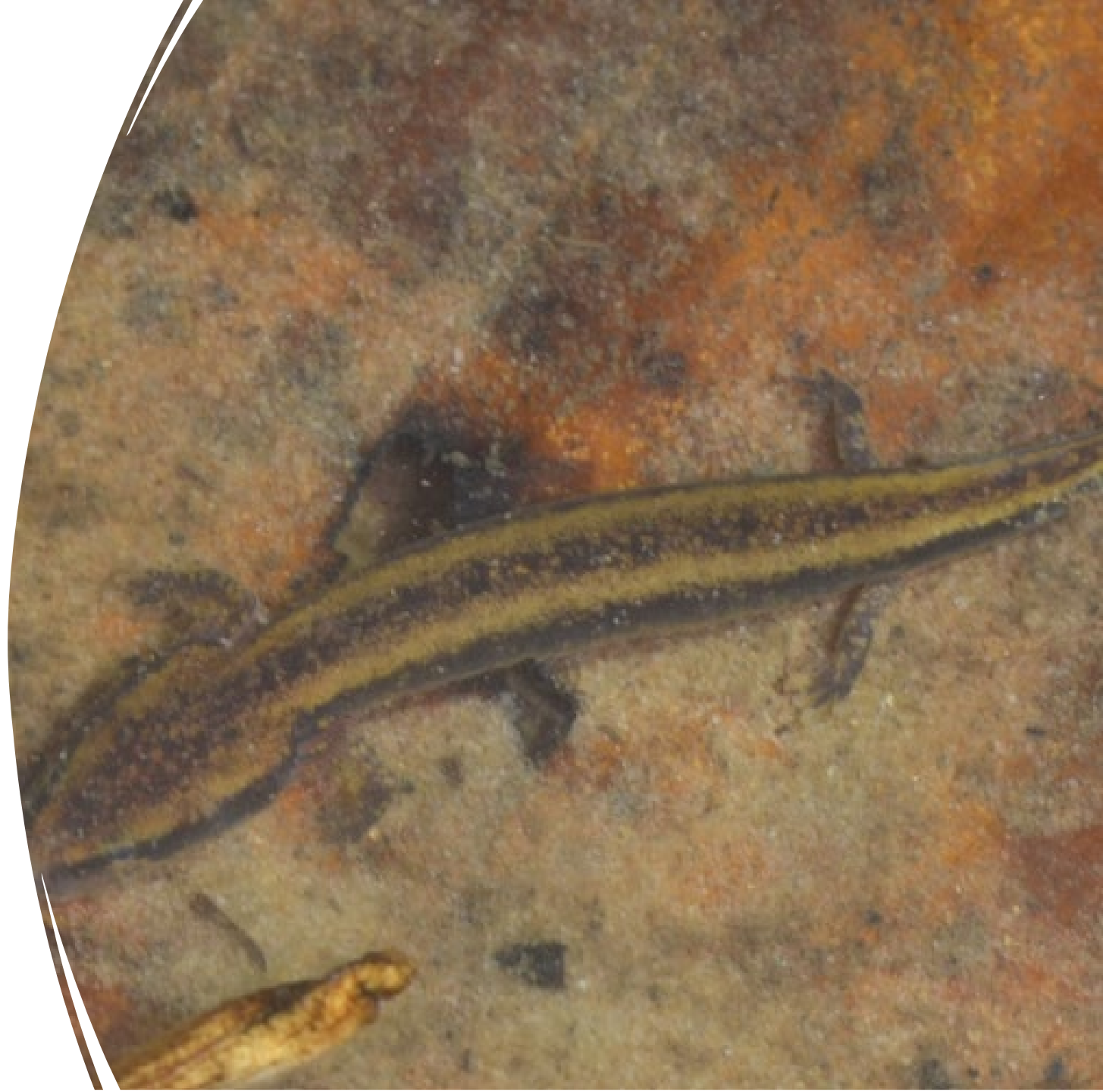
- Their population dropped dramatically, down to 23 condors worldwide in 1982!

- Through the efforts of international groups, they have grown the population to over 550 condors. However, they still remain one of the world's rarest bird species.

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- The Alabama waterdog (*Necturus alabamensis*) is a medium-sized perennibranch salamander inhabiting rivers and streams of Alabama. It is listed as endangered by the IUCN and the United States Fish and Wildlife Service.



- The Arizona striped whiptail is a species of whiptail lizard endemic to the United States. This is a species of lizards that lives in Arizona's grassy desert areas and is normally found hiding in desert shrubs

- Whiptails are long, slender lizards with pointed snouts and extremely long tails. Snout-vent lengths range from $2\frac{3}{4}$ inches (69 mm) to $5\frac{1}{4}$ inches (137 mm) among the various species of whiptails. Giant spotted whiptails (*C. burti*), with tails longer than their bodies, can have a total length of over a foot.



- The alligator snapping turtle is now endangered in several states, including Indiana, Illinois, Kentucky, and Missouri, where it is protected by state law. It is designated as "in need of conservation" in Kansas.

- Although snapping turtles have few natural predators due to their size, their numbers have declined because of the loss of their wetland habitat. They are particularly vulnerable to road mortality, because females often have to cross roads to find suitable nesting sites.



Photo book of
Endangered
Aquatic
Animals



- The **Acadian redfish**, also known as the Atlantic redfish, Acadian rockfish, or Labrador redfish, is a species of marine ray-finned fish belonging to the subfamily Sebastinae, the rockfishes, part of the family Scorpaenidae. It is native to the deep waters of the northwestern Atlantic

- Acadian redfish have thick bodies and large eyes and mouth. They have spiny skin on their belly, as well as a spiny dorsal fin. They also have large pectoral, pelvic, and anal fins, as well as a square caudal fin.

- Acadian redfish grow slowly and can live up to 58 years of age. Fishing in the 1930s and 1940s led to a decline in the size of the population



- As the only surviving member of the reptilian family Dermochelyidae, the **Leatherback Turtle** has the greatest migratory distribution of any reptile on the planet, crossing the Atlantic and Pacific oceans. They migrate from their nesting grounds in the Coral Triangle to the California coast, where jellyfish, their natural prey, are plentiful every summer and fall.
- Bycatch by use of indiscriminate fishing methods like gill-nets and poaching of their eggs from their nesting beaches have been consequential to the declining numbers of these endangered animals.



- **Giant Sea Bass** is a critically endangered species and has been listed by the IUCN as such since 1996. Recreational and commercial fishing, especially the use of gillnets, is mainly culpable for the depleting number of these species over the past decades.

- To stifle this sharp decline, the California Department of Fish and Game has banned all forms of harvesting of the giant sea bass. However, off the coast of Mexico, where they can also be found wallowing, fishing for this endangered animal still goes on unfettered.



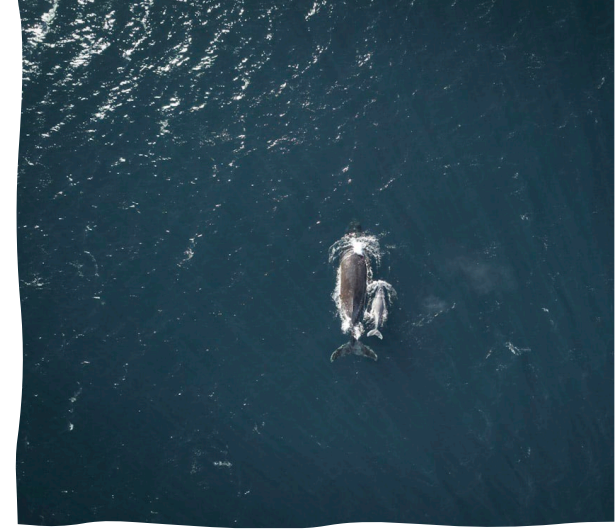
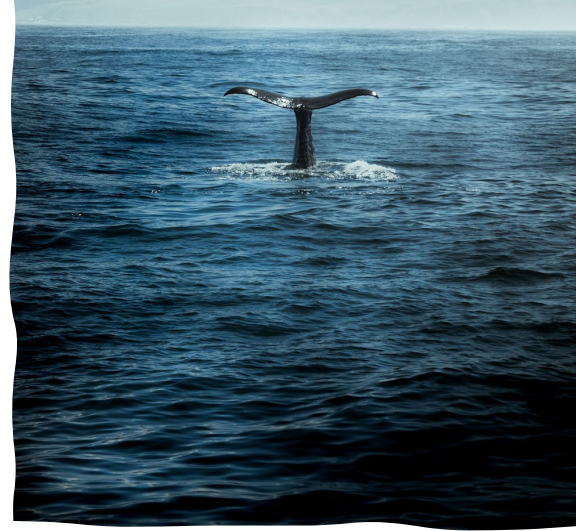
- The Florida **manatee** is found off the coasts of Florida and has been listed as endangered since 1973.

- Boat strikes are a top threat to manatees, but climate change has caused caused problems for these gentle "sea cows."

- Water temperature fluctuations put stress on the species, and increasing rates of deadly algal blooms are also to blame.

- In recent years, sea grass scarcity has led to starvation for these animals.





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- The North Atlantic right whale (*Eubalaena glacialis*) is a huge, slow-swimming baleen whale. It can grow up to 18.5 metres (60 feet) long and weigh 106,000 kilograms (233,690 pounds).
 - These whales live in the Atlantic Ocean, swimming in deep waters when searching for food and moving to shallower areas when calving. They feed on zooplankton, krill, and other small crustaceans.
 - The IUCN categorises North Atlantic right whales as critically endangered, and their population is decreasing. Since 2010, their numbers have declined by nearly 29%.
 - According to estimates, only around 350 North Atlantic right whales are left, with just 70 females capable of reproduction.
 - Key threats to North Atlantic right whales include vessel strikes and entanglement in fishing gear. Whales are coming into contact with humans and fishing activity more regularly because climate change has shifted their usual habitats, increasing the danger members of the species face.

- Inhabiting the tropical and sub-tropical waters of all the oceans, **Hawksbills Turtle** gets their name from their unique beak-like mouth, resembling that of a hawk and is perfect for finding food sources in tiny crevices.

- In the US, these turtles nest mainly in Puerto Rico, US Virgin Islands and in Hawaii with some occurrences in the Florida keys.

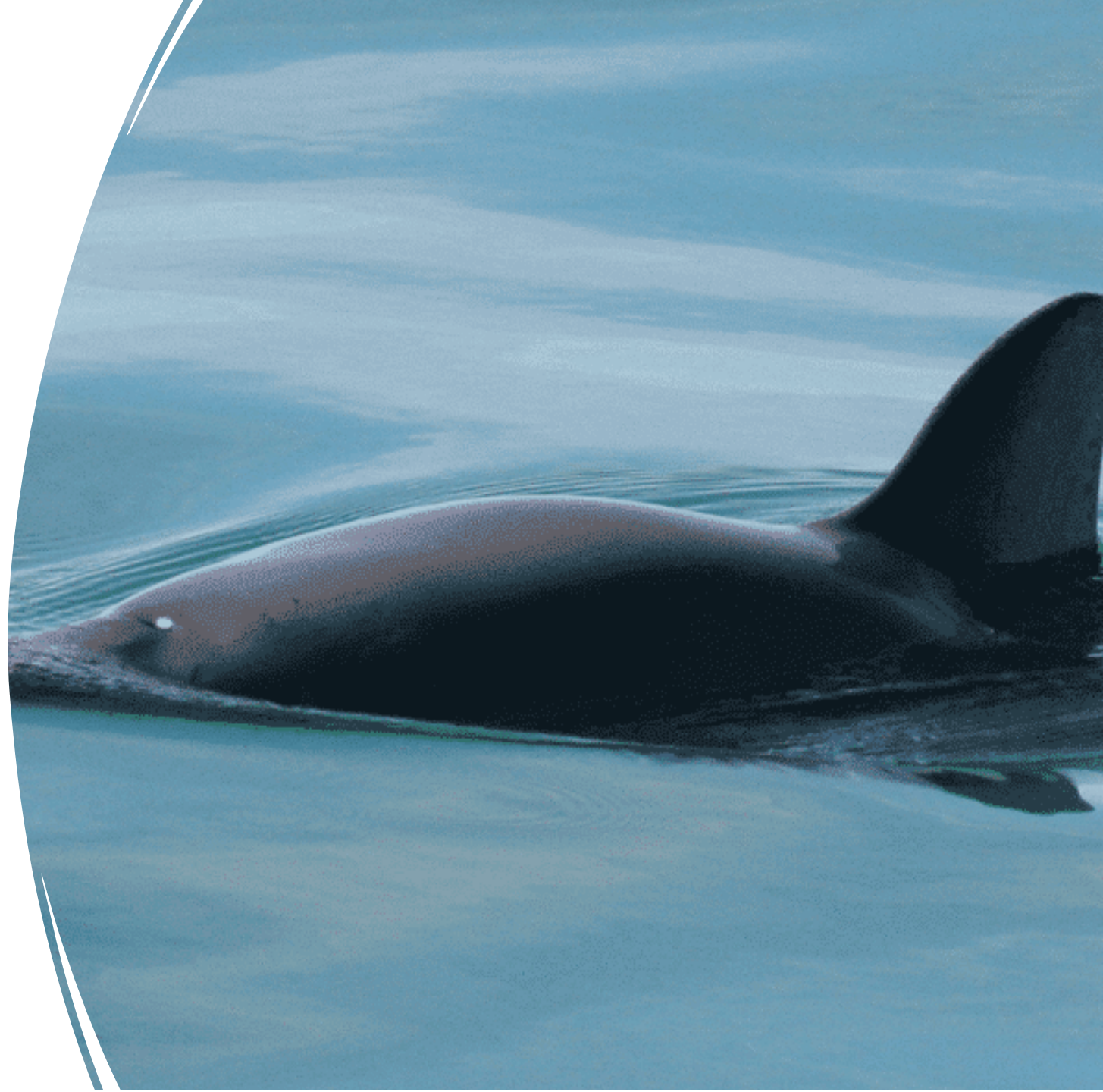


• The **Axolotl** is a type of salamander and is native only Lake Xochimilco in the Valley of Mexico.

• The axolotl is carnivorous, eating small prey such as mollusks, worms, insects, and small fish in the wild. They locate food by smell.



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- **Vaquita** is the smallest member of the porpoise family.
 - The species is threatened by extinction. And with barely over a dozen left, they are currently red-listed as a critically endangered animal species by the IUCN. The steep decline in their population is mainly caused by a bycatch in gillnets by fishermen illegally fishing for Totoaba [also a vulnerable fish species] off the coast of Mexico.





- The **staghorn coral** is found in the fore reef and back reef habitats off the coast of the United States down to Central America and the northernmost parts of South America. This branchy, stony coral is responsible for much of the reefs in the shallow waters along the Bahamas, the Florida Keys, and the Caribbean Islands.
- Staghorn corals face the same threats synonymous with many of the world's corals. Bad water quality, diseases resulting from pollutants and land runoff, and overfishing which has unbalanced their ecosystem by reducing natural predators and prey, and allowing more seaweed and algae to overwhelm them.