



COLOURING
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FOR
*
CONSERVATION

COLOURING
FOR RISTO
CONEVIA

BY: RAE LANDRIAU

ACKNOWLEDGEMENTS

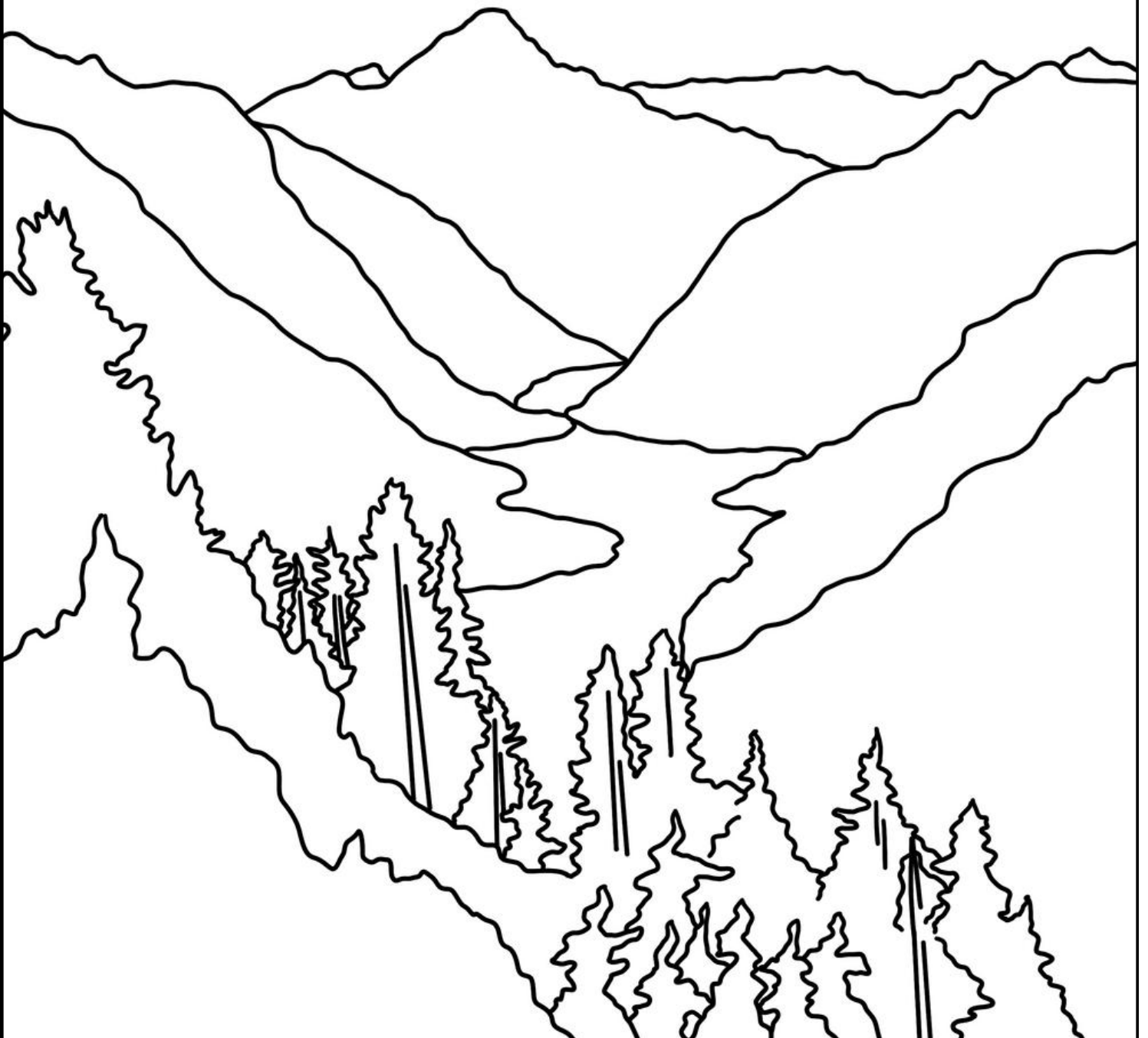
With support from Ocean Wise this project has been created in commemoration of the lives of all the victims of Ethiopian Airlines Flight 302, including two Ocean Bridge ambassadors, Danielle Moore and Micah Messent.

We aspire to carry on their legacy and commitment to making the world a better place by creating long-lasting impacts with a firm commitment to driving positive change for the environment and our ocean.



WELCOME AANII

Conservation is vital for preserving the Earth's biodiversity and ecosystems. Colouring for conservation was made with the intention to teach others about various endangered species in Canada, giving a voice to these organisms. By promoting environmental awareness, we aim to amplify conservation efforts and contribute to the long-term well-being of our planet. Developed in Adaawe (Ottawa), Ontario, we aim to honor the peoples of the Algonquin Anishinaabe Nation, whose land we inhabit. We express gratitude to all Indigenous communities across Turtle Island, who are at the forefront of conservation, and who are the traditional guardians of this land, past, present, and future.



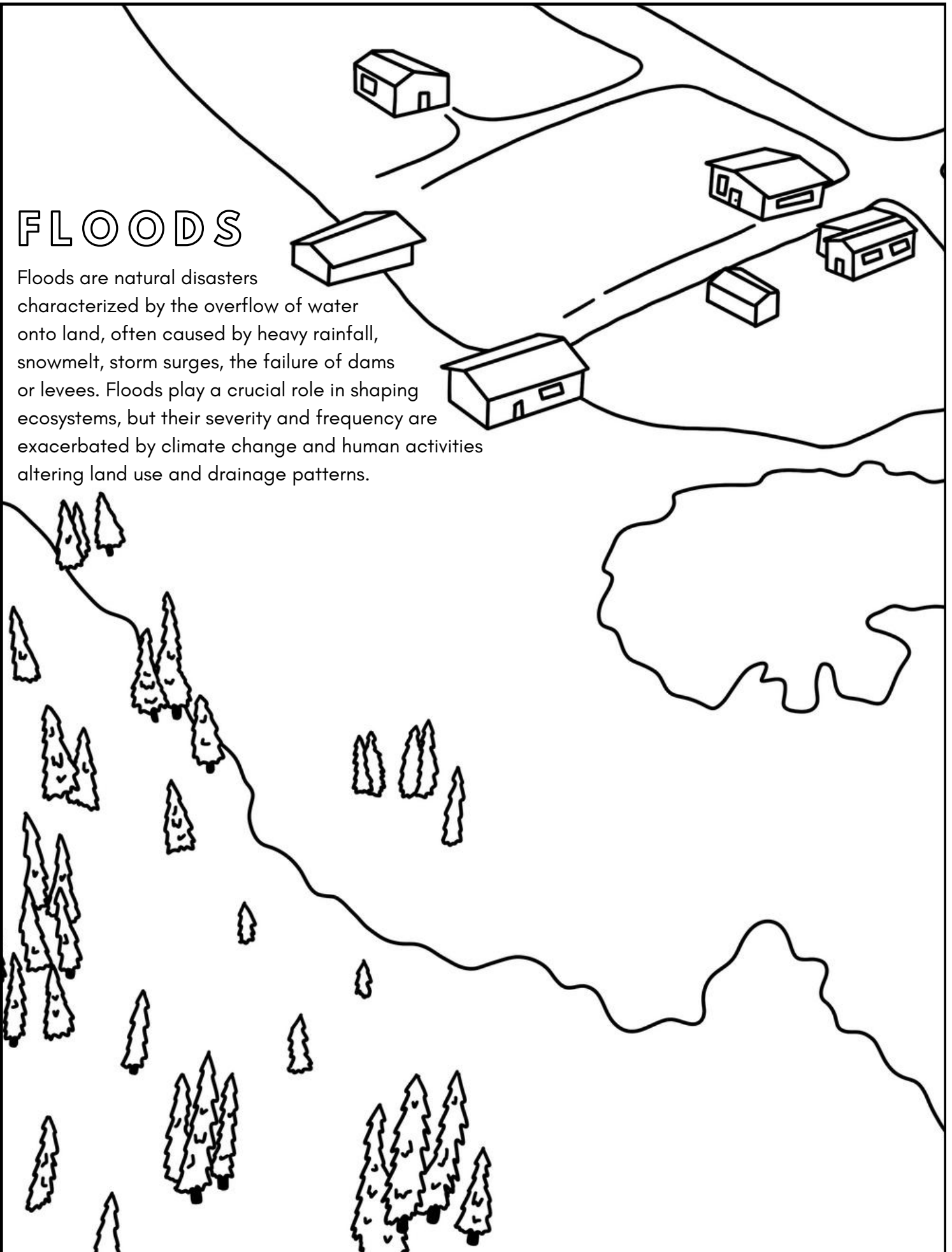
CLIMATE CHANGE



Climate change, driven by humans, poses a severe threat to biodiversity. Rising temperatures, altered precipitation patterns, extreme weather events, disrupt critical habitats impacting the survival of many species.

FLOODS

Floods are natural disasters characterized by the overflow of water onto land, often caused by heavy rainfall, snowmelt, storm surges, the failure of dams or levees. Floods play a crucial role in shaping ecosystems, but their severity and frequency are exacerbated by climate change and human activities altering land use and drainage patterns.



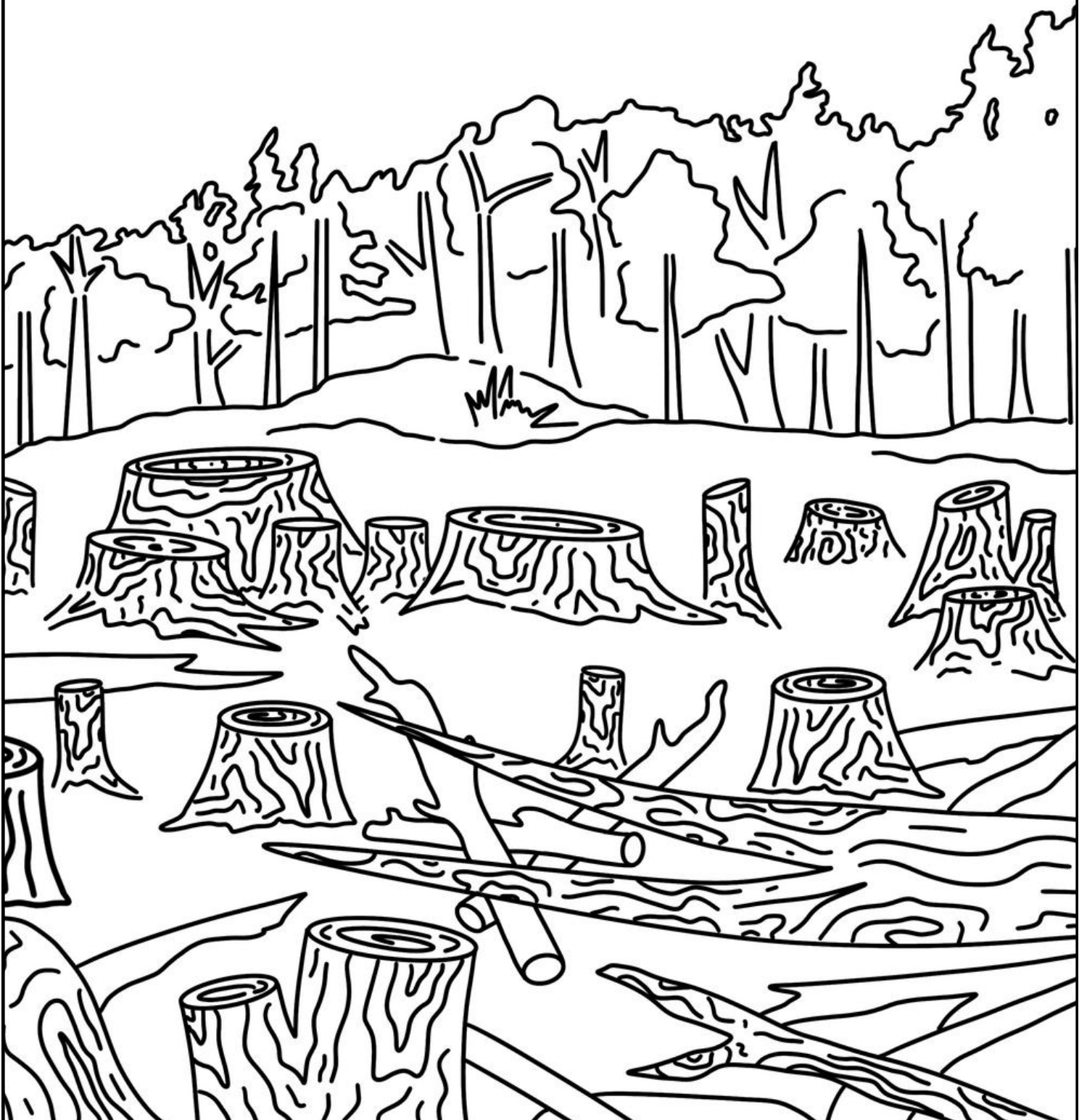


ARCTIC WARMING

Polar amplification is a phenomenon where temperature changes at the poles are amplified compared to the rest of the planet. Meaning increased warming in polar regions.

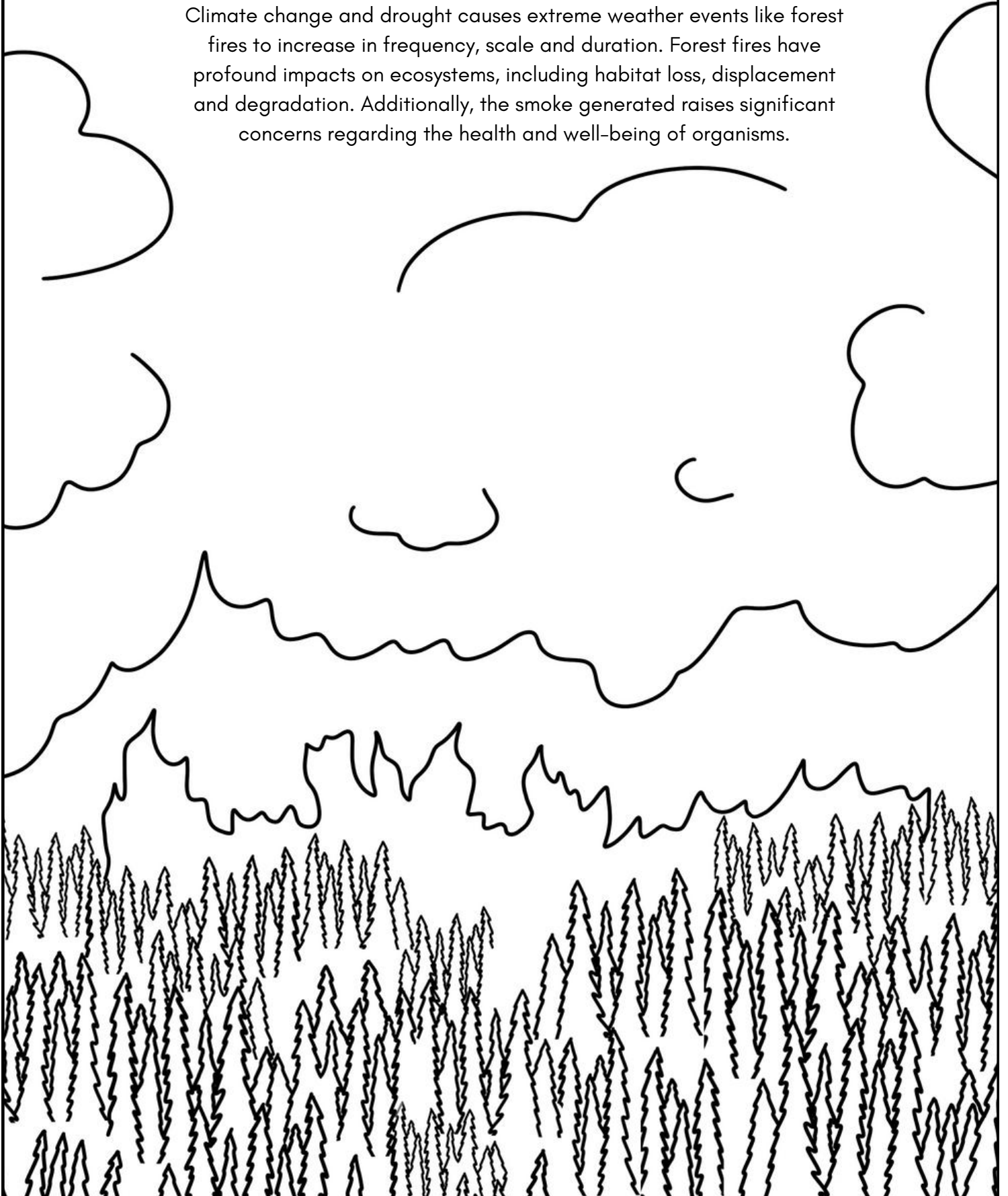
HABITAT DESTRUCTION

Habitat destruction and loss is driven by human activities like deforestation and urbanization. This destruction leads to the displacement of species and disruption of ecosystems.



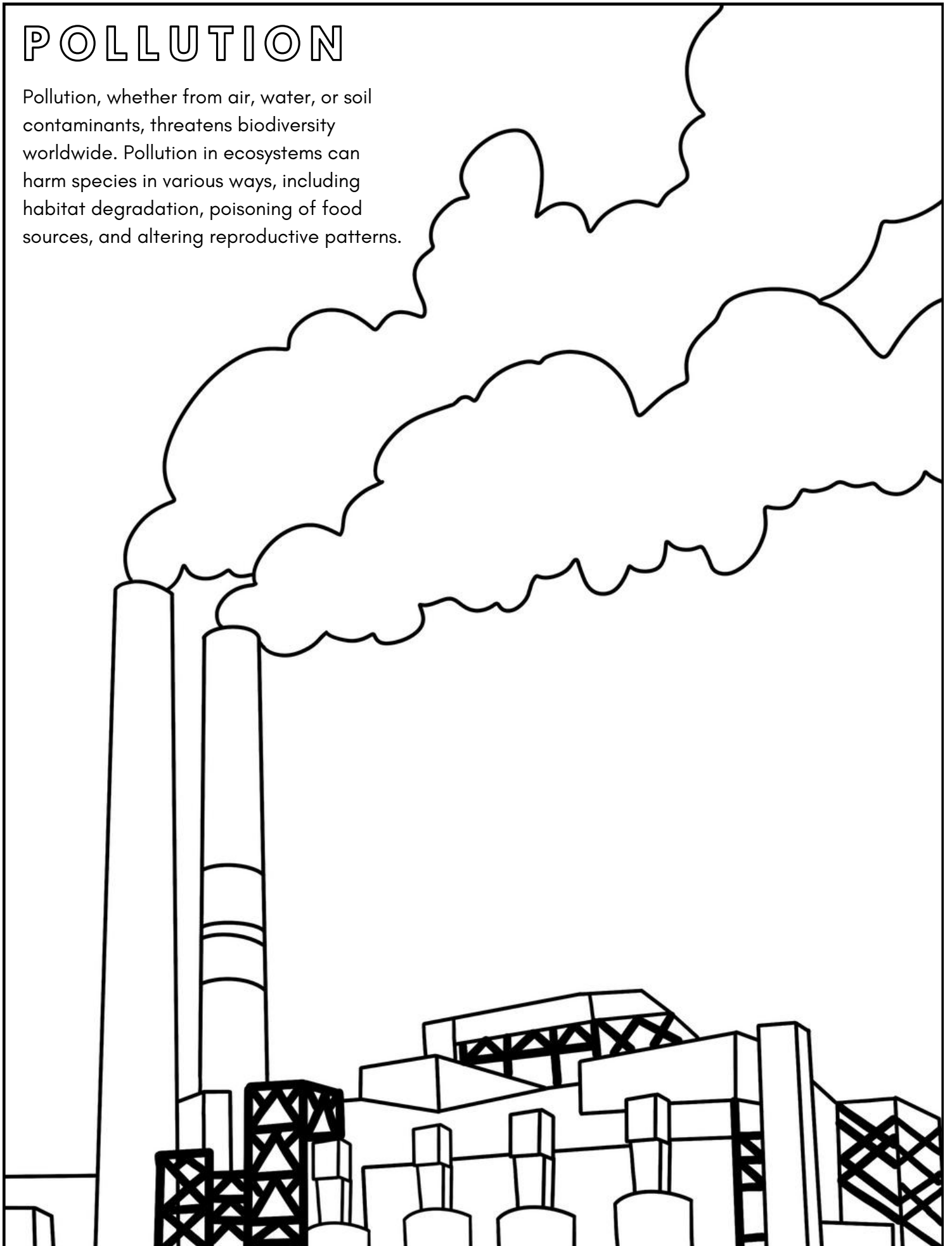
FOREST FIRES

Climate change and drought causes extreme weather events like forest fires to increase in frequency, scale and duration. Forest fires have profound impacts on ecosystems, including habitat loss, displacement and degradation. Additionally, the smoke generated raises significant concerns regarding the health and well-being of organisms.



POLLUTION

Pollution, whether from air, water, or soil contaminants, threatens biodiversity worldwide. Pollution in ecosystems can harm species in various ways, including habitat degradation, poisoning of food sources, and altering reproductive patterns.



SPECIES AT RISK ACT

The Species at Risk Act (SARA) in Canada, established in 2002, is a federal law designed to safeguard species on the brink of extinction. It outlines processes for identifying, evaluating, and protecting at-risk species and their vital habitats. The legislation advocates for the collaboration of federal, provincial, Indigenous, and other stakeholders to collectively minimize and prevent harm by promoting conservation. Each species is classified to help guide assessments, conservation efforts, policies, and resource allocation to address the specific needs and challenges faced by each category of species at risk.

Endangered - Species facing imminent extirpation or extinction in a specific region

Threatened - Species likely to become endangered

Special Concern - Species that may become threatened or endangered

Extirpated - Species that no longer exists in the wild within a specific geographic area



AMERICAN GINSENG

RANGE - Across Turtle Island

SPECIES STATUS - Endangered

American Ginseng (*Panax quinquefolius*) is threatened by habitat loss caused by logging, agriculture, and development. This wild perennial plant has become very rare in Canada, and the harvest of wild American ginseng is now considered unsustainable. It is susceptible to diseases and pests, and its slow growth and reproduction make it particularly vulnerable to population decline.

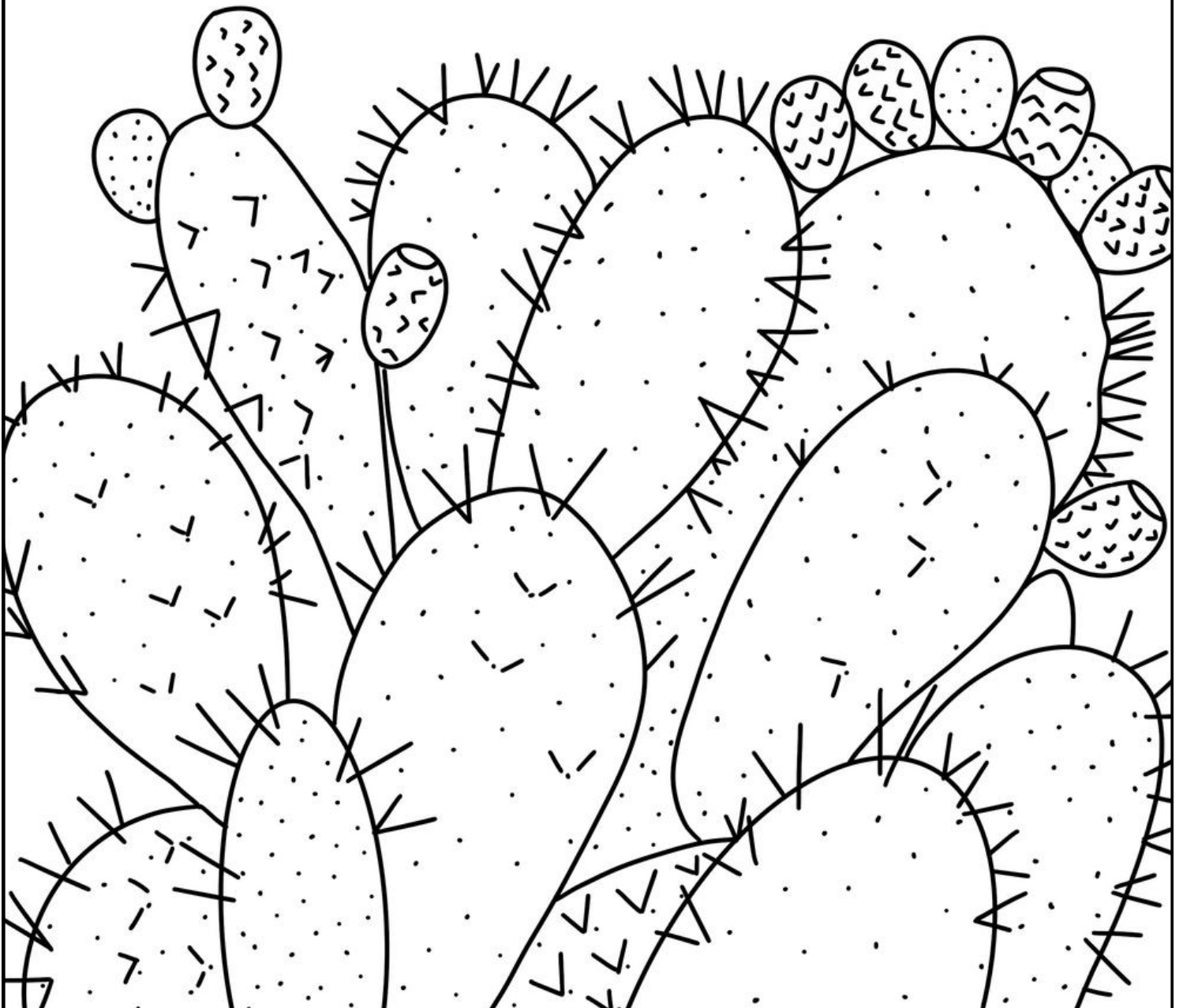


EASTERN PRICKLY PEAR CACTUS

RANGE - Eastern and Southern Ontario -Haudenosaunee, Anishinaabe, and Huron-Wendat and many other Indigenous Territories

SPECIES STATUS - Endangered

The Eastern Prickly Pear Cactus (*Opuntia humifusa*) is threatened by habitat loss due to urbanization, agriculture, land development and shoreline erosion. Climate change and invasive plants such as Spotted Knapweed (*Centaurea stoebe*) and White Sweet-clover (*Melilotus alba*) out-compete Eastern Prickly-pear Cactus and threaten its ability to persist in its native habitats.

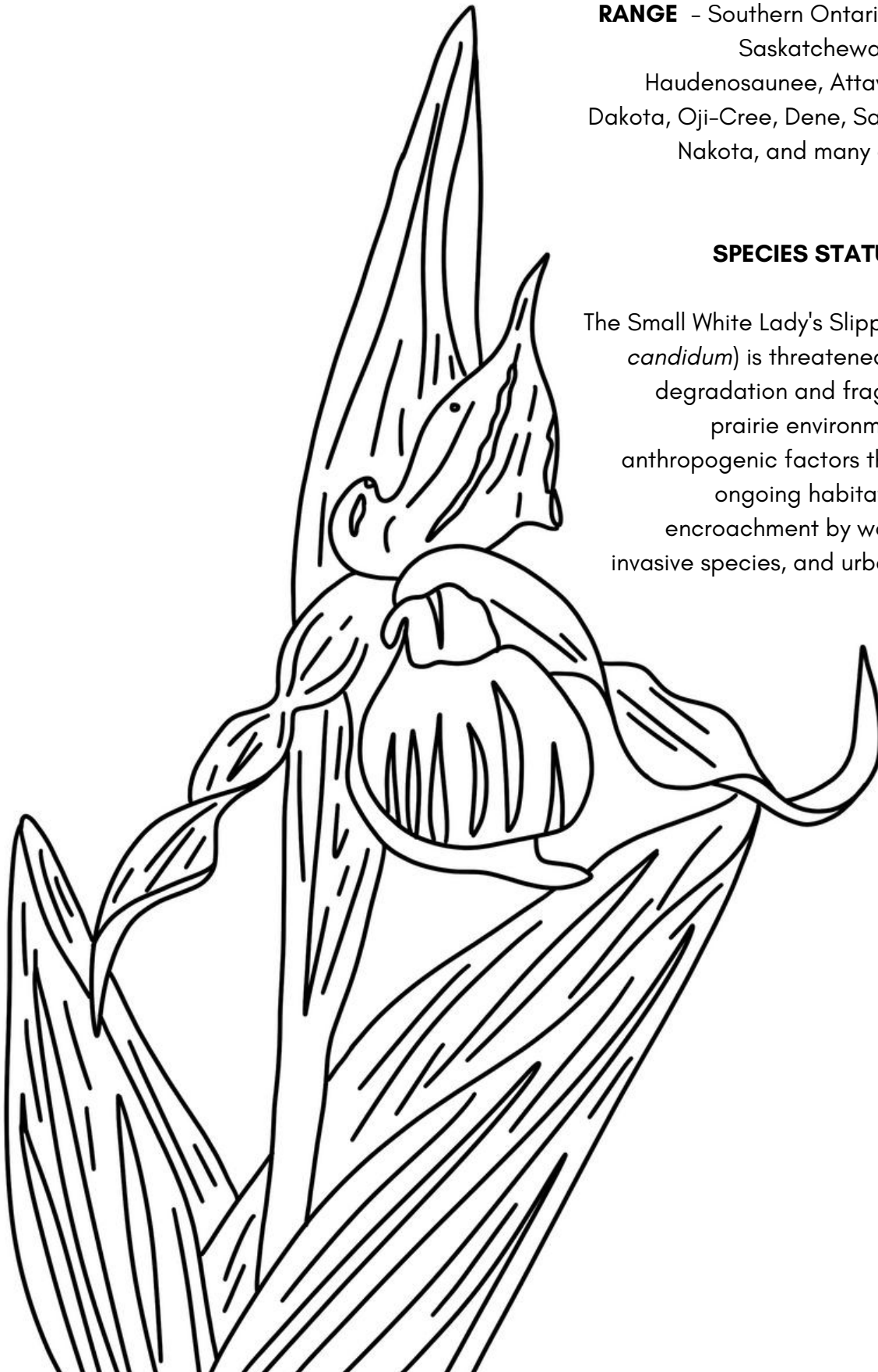


SMALL WHITE LADY'S SLIPPER

RANGE - Southern Ontario, Manitoba and Saskatchewan - Anishinaabe, Haudenosaunee, Attawandaron, Cree, Dakota, Oji-Cree, Dene, Saulteaux, Dakota, Nakota, and many other Indigenous Territories

SPECIES STATUS -Endangered

The Small White Lady's Slipper (*Cypripedium candidum*) is threatened by habitat loss, degradation and fragmentation of its prairie environment. Natural and anthropogenic factors that contribute to ongoing habitat decline include encroachment by woody vegetation, invasive species, and urban development.

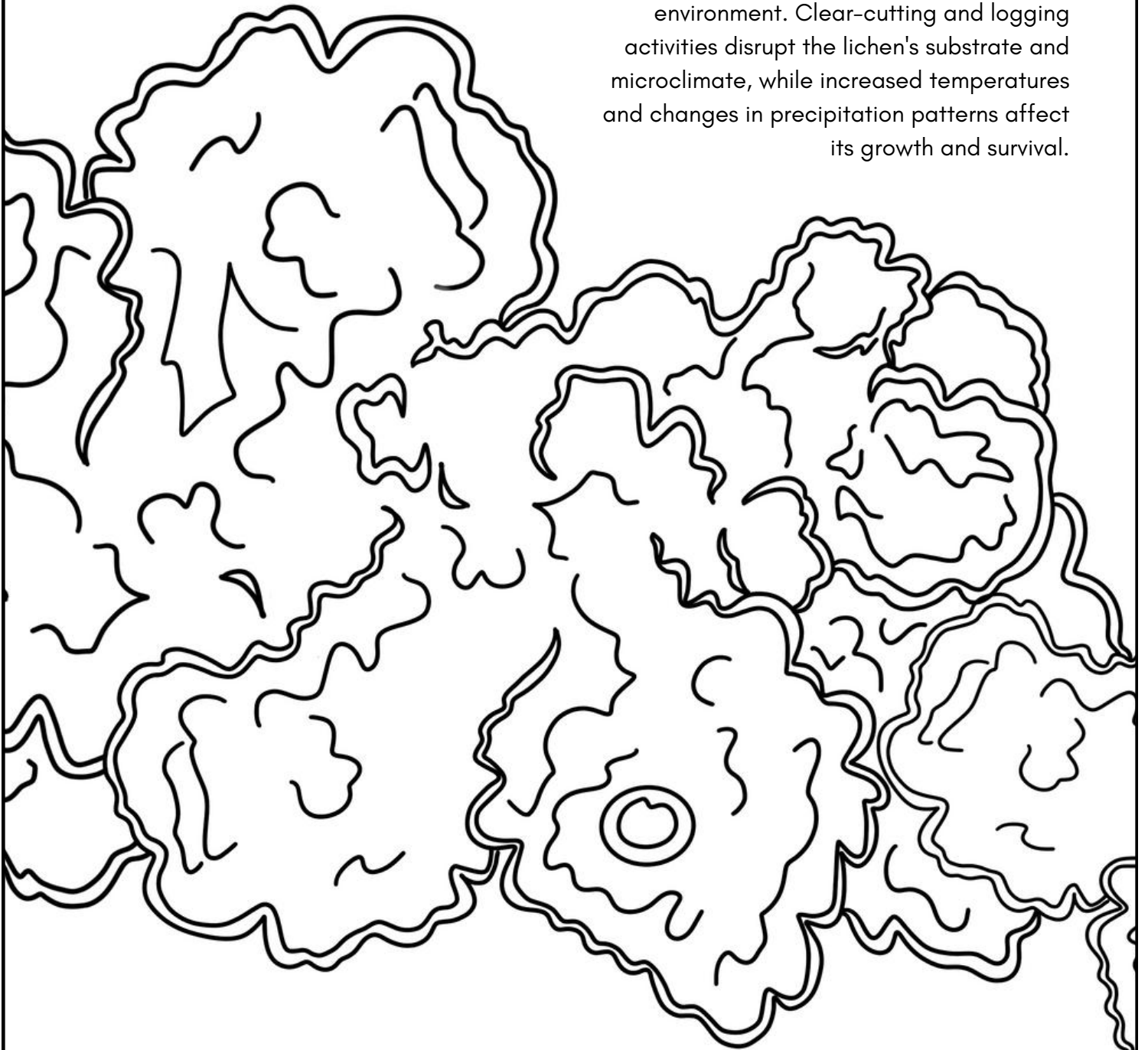


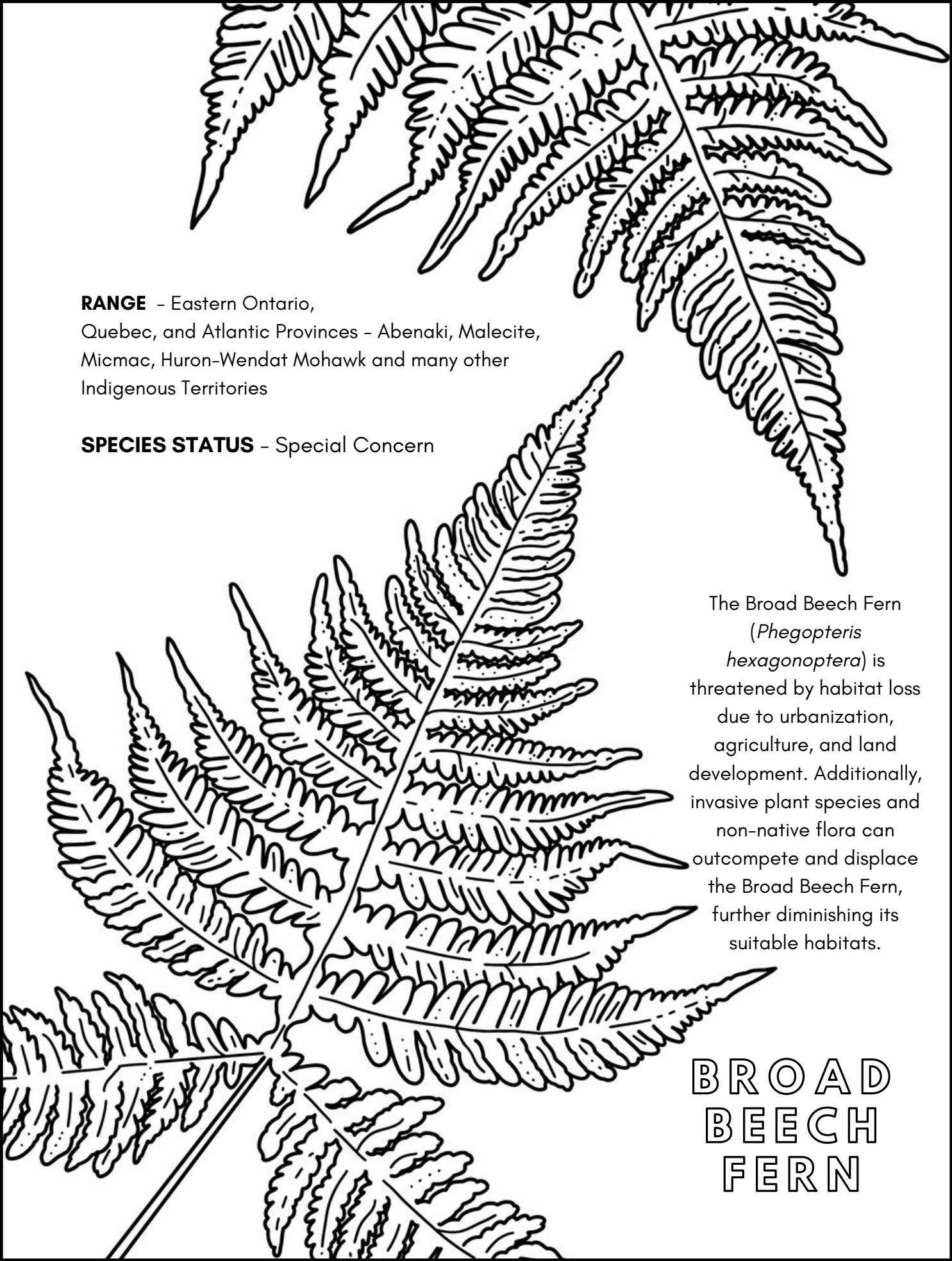
BOREAL FELT LICHEN

RANGE - Across Turtle Island

SPECIES STATUS - Endangered

The Boreal Felt Lichen (*Erioderma pedicellatum*) is threatened by habitat loss caused by forestry practices and climate change impacts on its sensitive boreal forest environment. Clear-cutting and logging activities disrupt the lichen's substrate and microclimate, while increased temperatures and changes in precipitation patterns affect its growth and survival.



A detailed black and white line drawing of several Broad Beech Fern fronds. The fronds are bipinnate, with multiple pairs of leaflets extending from a central rachis. The leaflets have a serrated or crenate margin. The drawing is positioned in the upper right and lower left corners of the page, framing the central text.

RANGE - Eastern Ontario, Quebec, and Atlantic Provinces - Abenaki, Malecite, Micmac, Huron-Wendat Mohawk and many other Indigenous Territories

SPECIES STATUS - Special Concern

The Broad Beech Fern (*Phegopteris hexagonoptera*) is threatened by habitat loss due to urbanization, agriculture, and land development. Additionally, invasive plant species and non-native flora can outcompete and displace the Broad Beech Fern, further diminishing its suitable habitats.

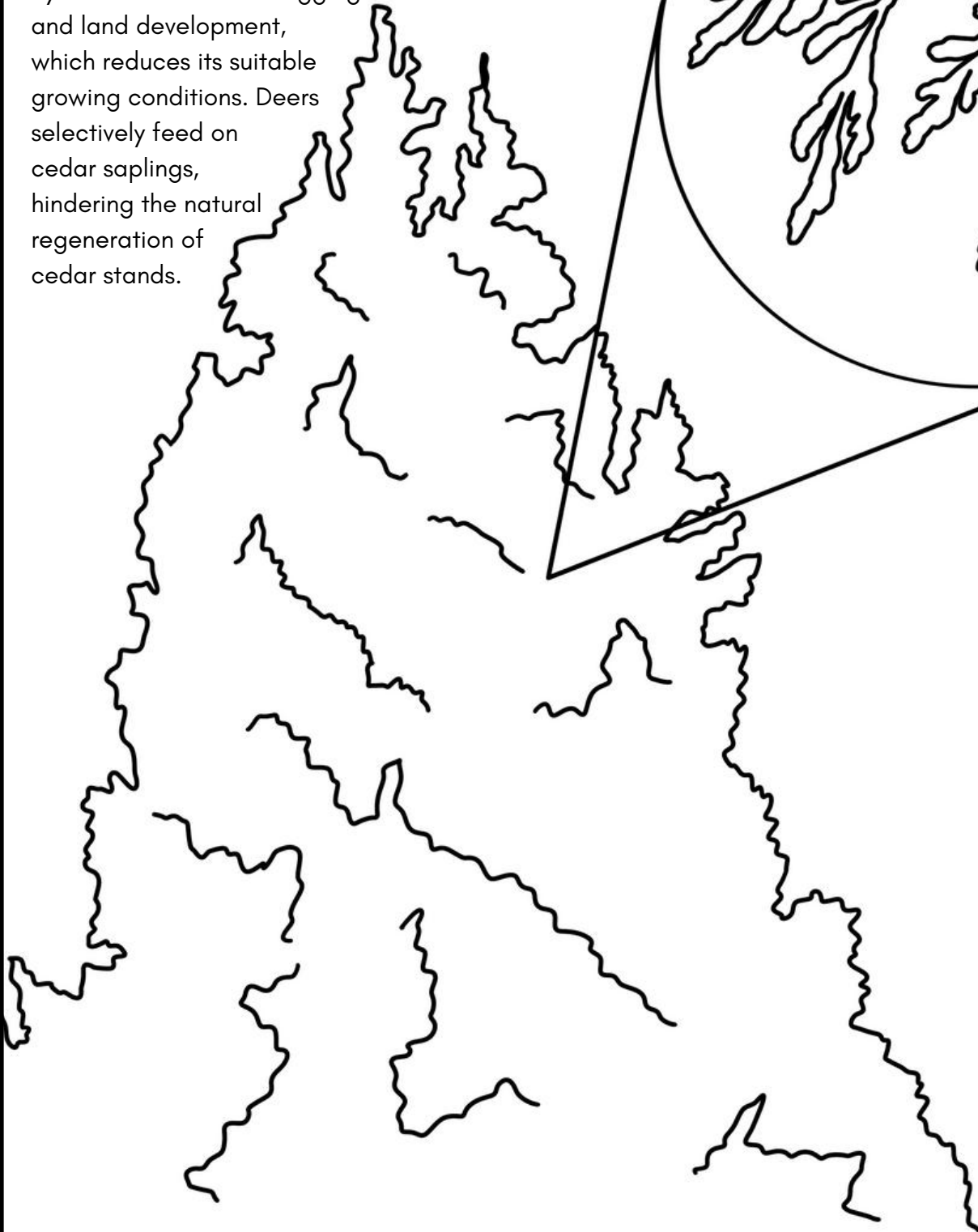
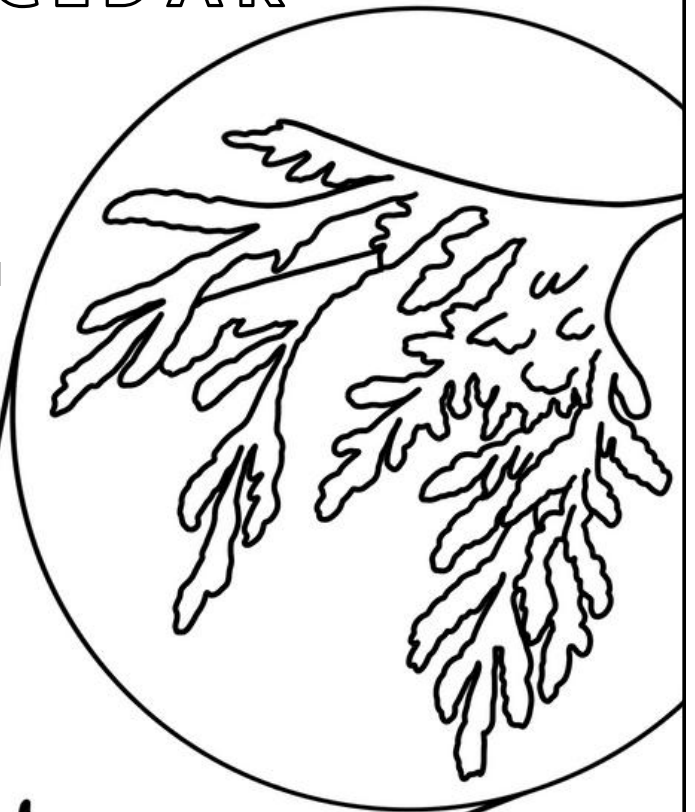
BROAD BEECH FERN

EASTERN WHITE CEDAR

RANGE - Atlantic provinces - Mi'kmaq and many other Indigenous Territories

SPECIES STATUS - Endangered Species

Northern White Cedar (*Thuja occidentalis*) is threatened by habitat loss due to logging and land development, which reduces its suitable growing conditions. Deers selectively feed on cedar saplings, hindering the natural regeneration of cedar stands.

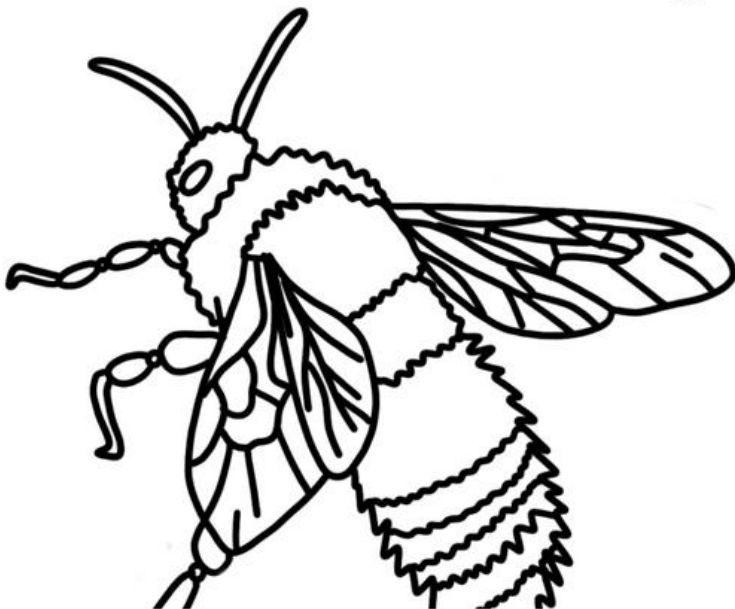
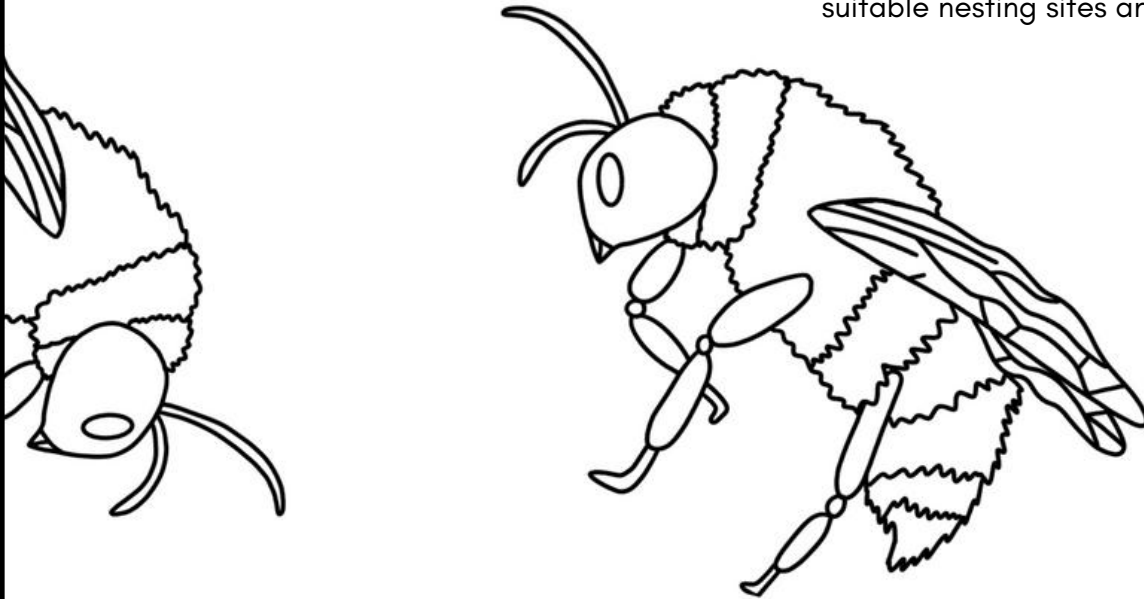
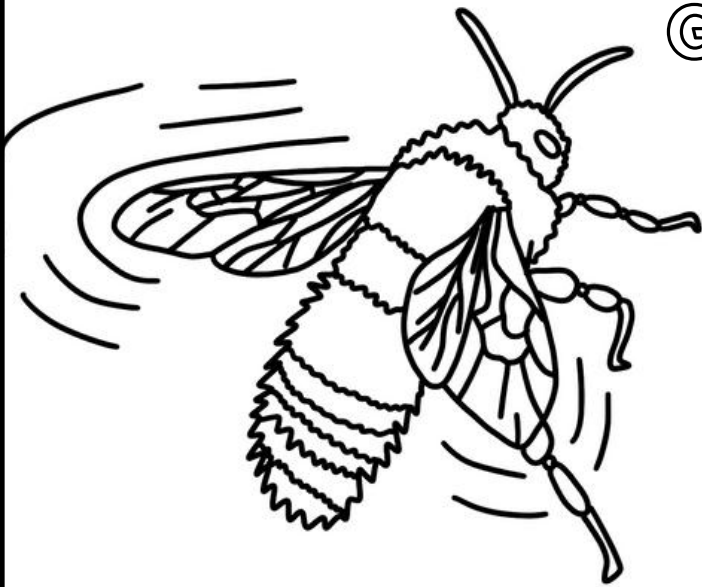


GYPSY CUCKOO BUMBLE BEE

RANGE - Across Turtle Island

SPECIES STATUS - Endangered

Gypsy Cuckoo Bumblebees (*Bombus bohemicus*) is threatened by the use of pesticide use and pathogen spillover which cause large scale deaths of individuals within the species. Habitat loss and degradation, contributes to its endangerment by reducing the availability of suitable nesting sites and floral resources.

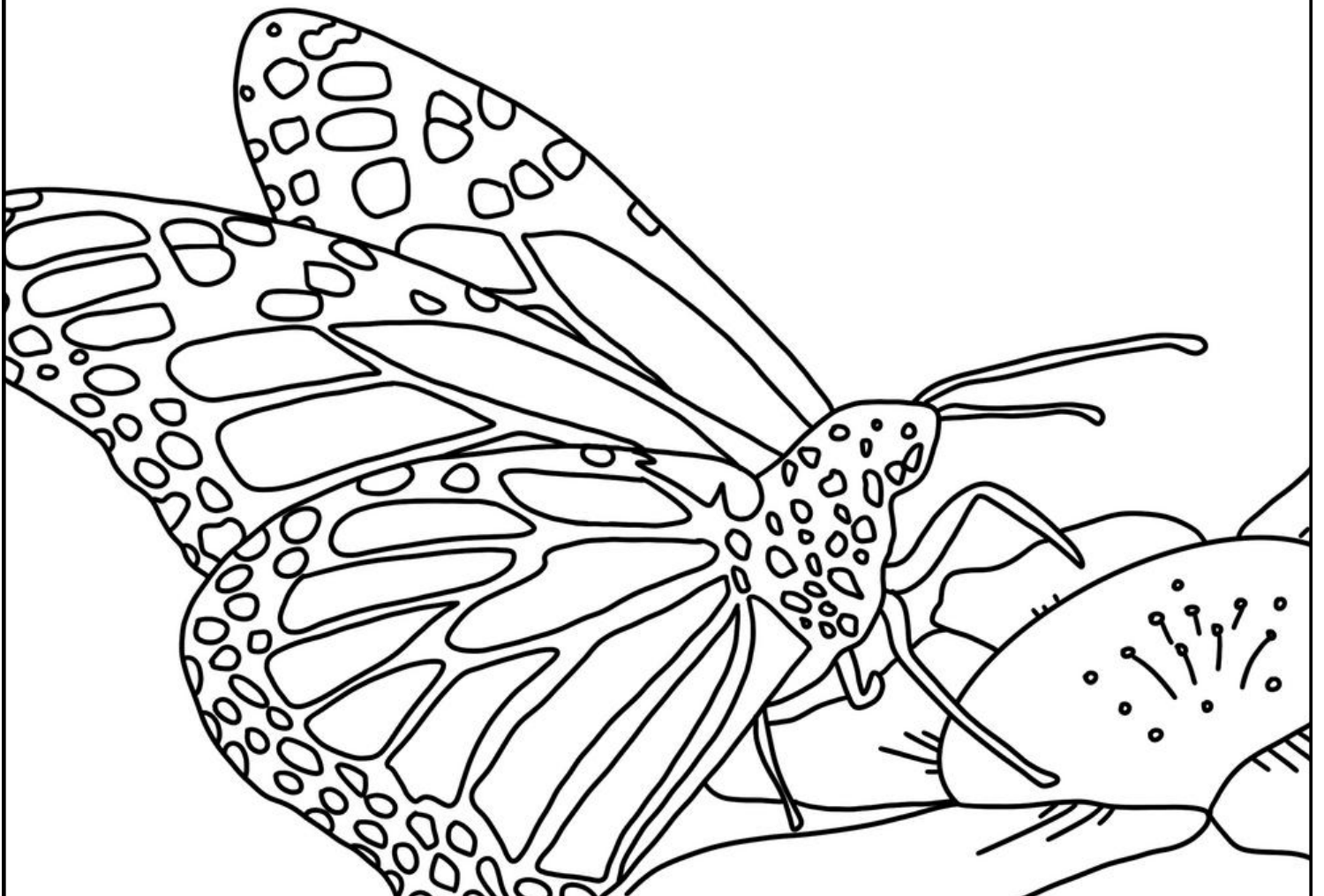


MONARCH BUTTERFLY

RANGE - Across Turtle Island

SPECIES STATUS - Special Concern

The monarch butterfly (*Danaus plexippus*) faces several threats. The loss of milkweed plants, which serve as a food source for monarch caterpillars, is a significant concern. Climate change can affect the butterflies' migratory patterns and alter the availability of suitable habitats. Pesticides and parasites can be harmful to both caterpillars and adult butterflies. The loss of breeding habitat through much of the United States has strongly influenced the decline in overwintering monarch population.



TRANSVERSE LADY BEETLE

RANGE - Across Turtle Island

SPECIES STATUS - Endangered

The transverse lady beetle (*Coccinella transversoguttata*) is considered a species at risk due to habitat loss and fragmentation, particularly the decline of its preferred habitats like grasslands and meadows. The introduction of invasive (non-native) lady beetle species that compete for food and resources, parasitic species such as wasps and mites that prey on the lady beetle, and pathogenic organisms that cause diseases have all caused threats to the species health.

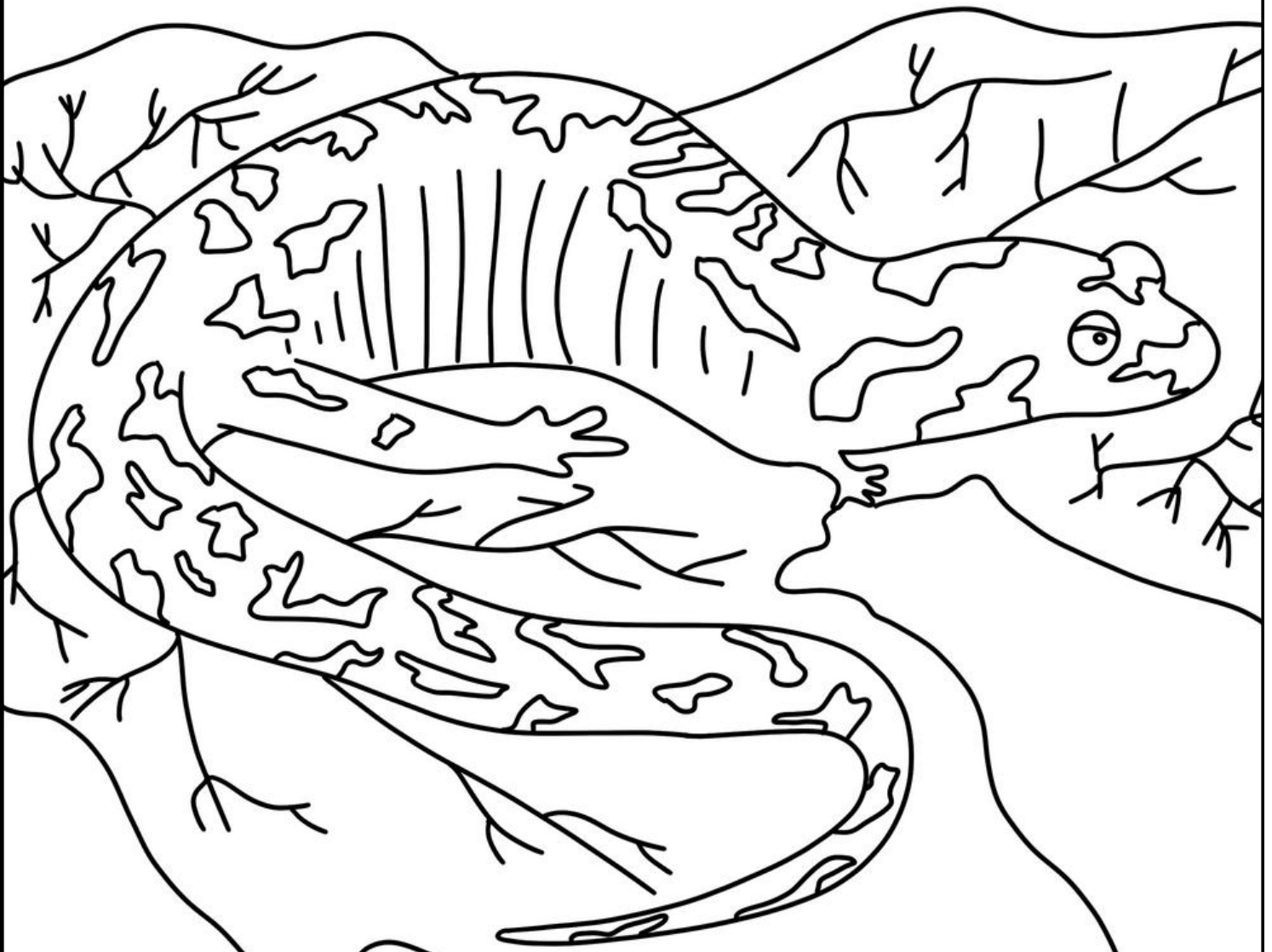


ALLEGHENY MOUNTAIN DUSKY SALAMANDER

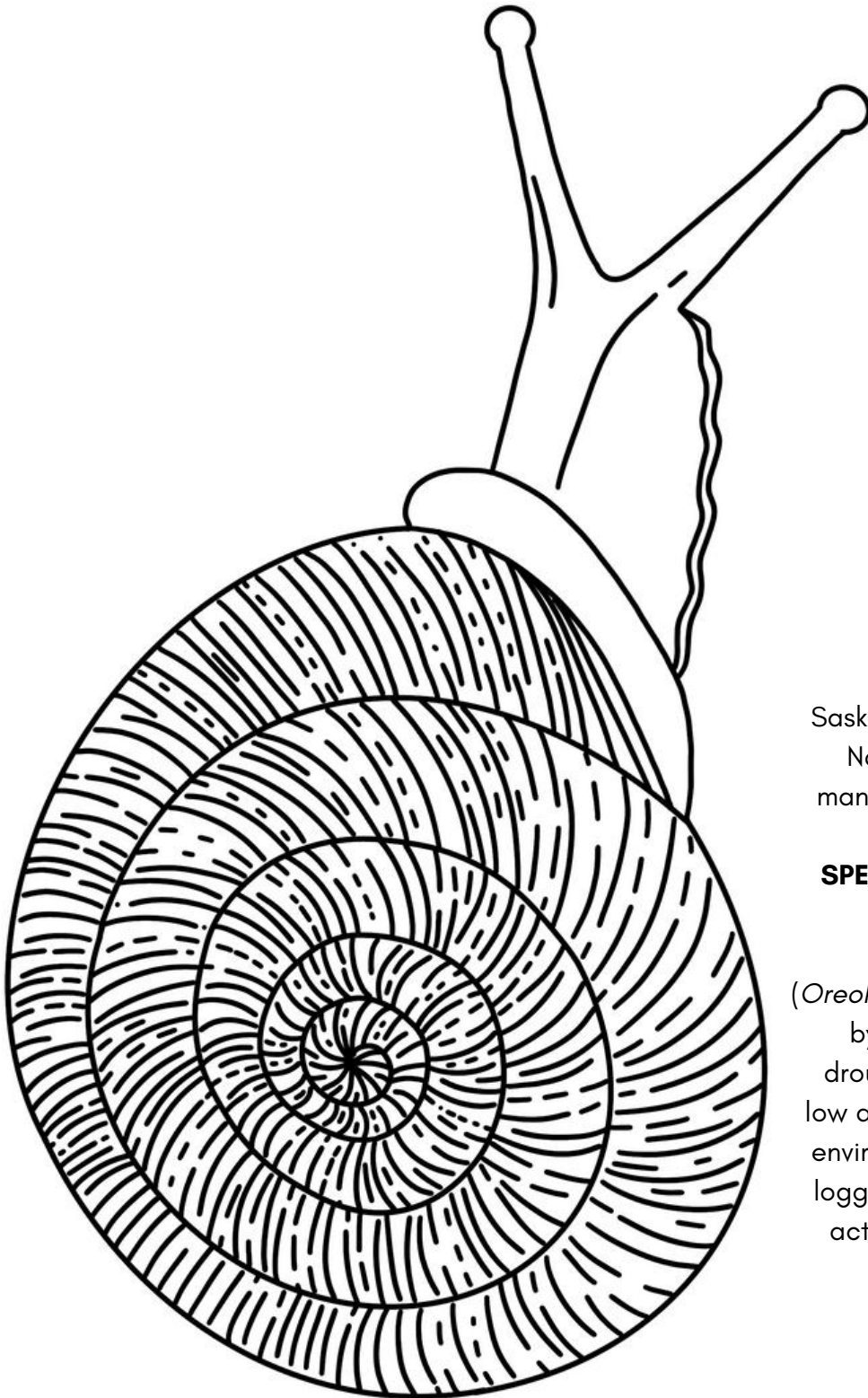
RANGE - Quebec and Southern Ontario - Kanien'kehá:ka (Mohawk), Abenaki, Huron-Wendat, Haudenosaunee, Anishinaabe, Attawandaron and many other Indigenous Territories

SPECIES STATUS - Endangered

The quality and quantity of groundwater directly impacts the livelihood of (*Desmognathus ochrophaeus*) Allegheny Mountain Dusky Salamanders. Poor or altered environmental conditions can result in the loss of critical habitat. These threats can be caused by dams and water management.



BLACK HILLS MOUNTAIN SNAIL



RANGE - Alberta and Saskatchewan - Cree, Saulteaux, Nakota Sioux, Dene, Métis and many other Indigenous Territories

SPECIES STATUS - Endangered

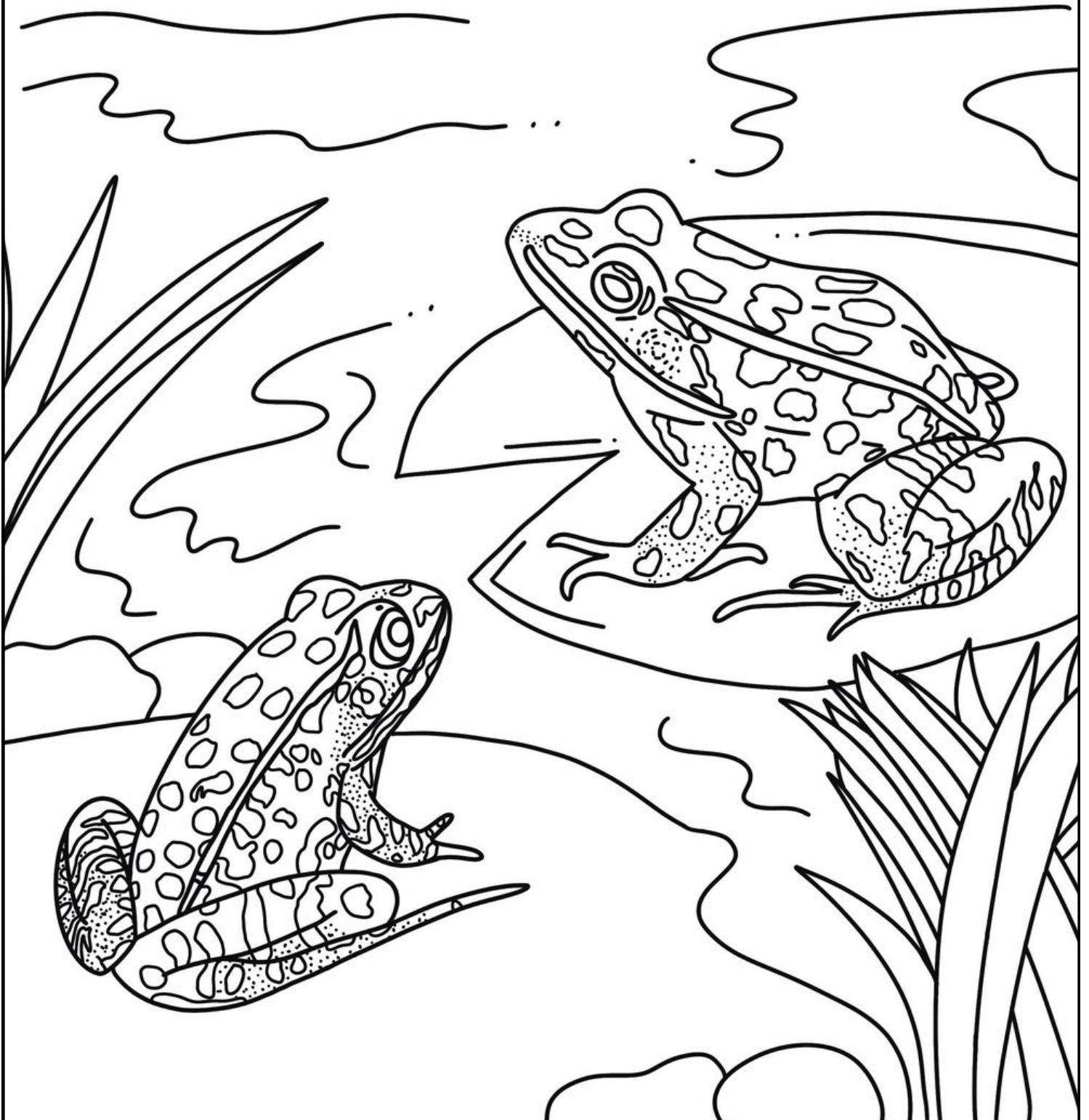
Black Hills Mountain Snails (*Oreohelix cooperi*) are threatened by environmental disasters like drought and wildfires. They have low adaptive capacity and due to environments changing rapidly by logging, mining, and construction activities. These organisms have become threatened.

RANGE - Across Turtle Island

SPECIES STATUS - Endangered

NORTHERN LEOPARD FROG

The Northern Leopard Frog (*Lithobates pipiens*) is threatened by wetland degradation and loss, which serves as essential breeding and feeding grounds for these frogs. This contributes significantly to their decline. Additionally, the spread of the amphibian chytrid fungus and pesticide exposure further threaten these populations.

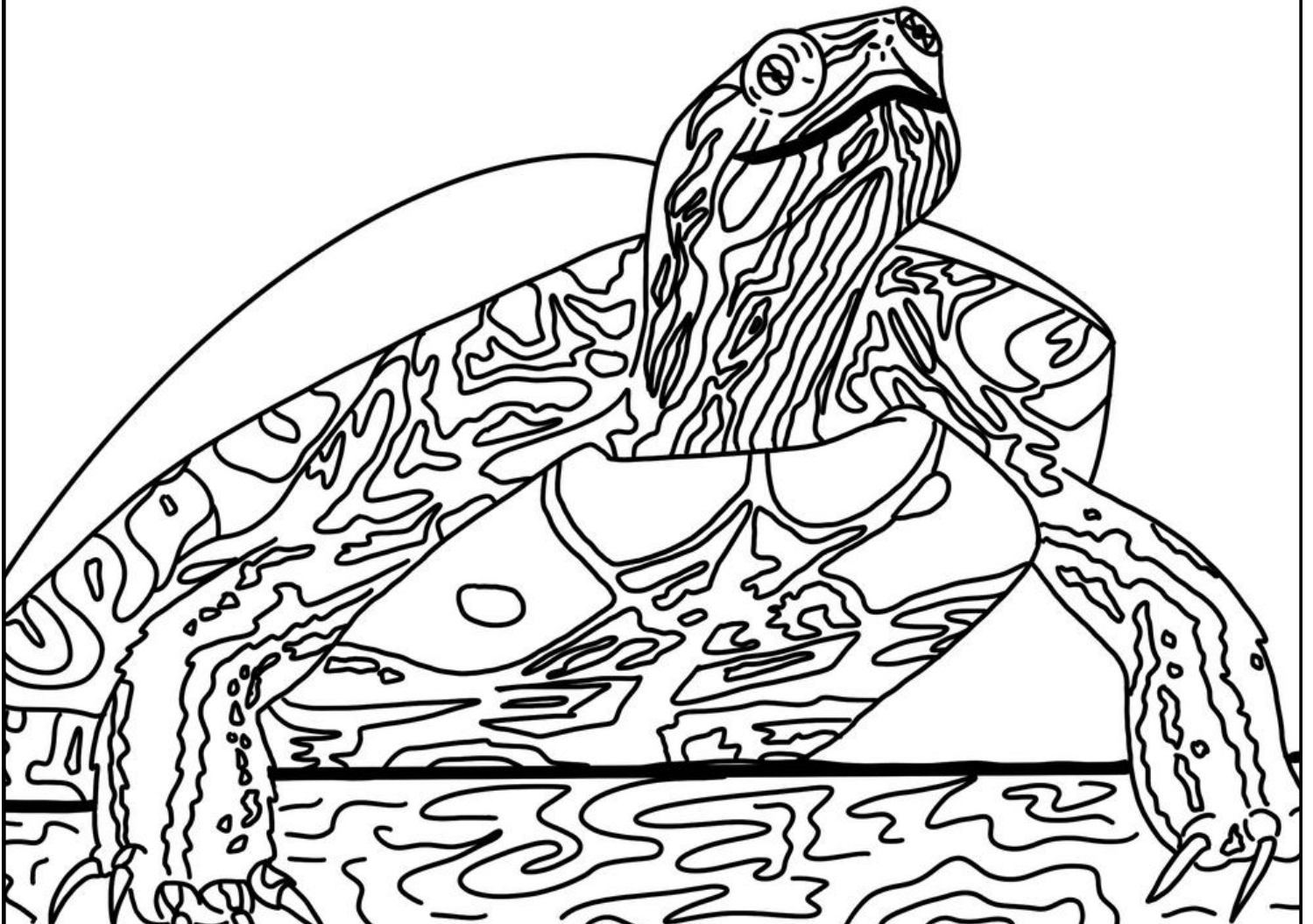


MIDLAND PAINTED TURTLE

RANGE - Central and Southern Ontario and Southern Quebec - Anishinaabe, Haudenosaunee, Huron-Wendat and many other Indigenous Territories

SPECIES STATUS - Special Concern

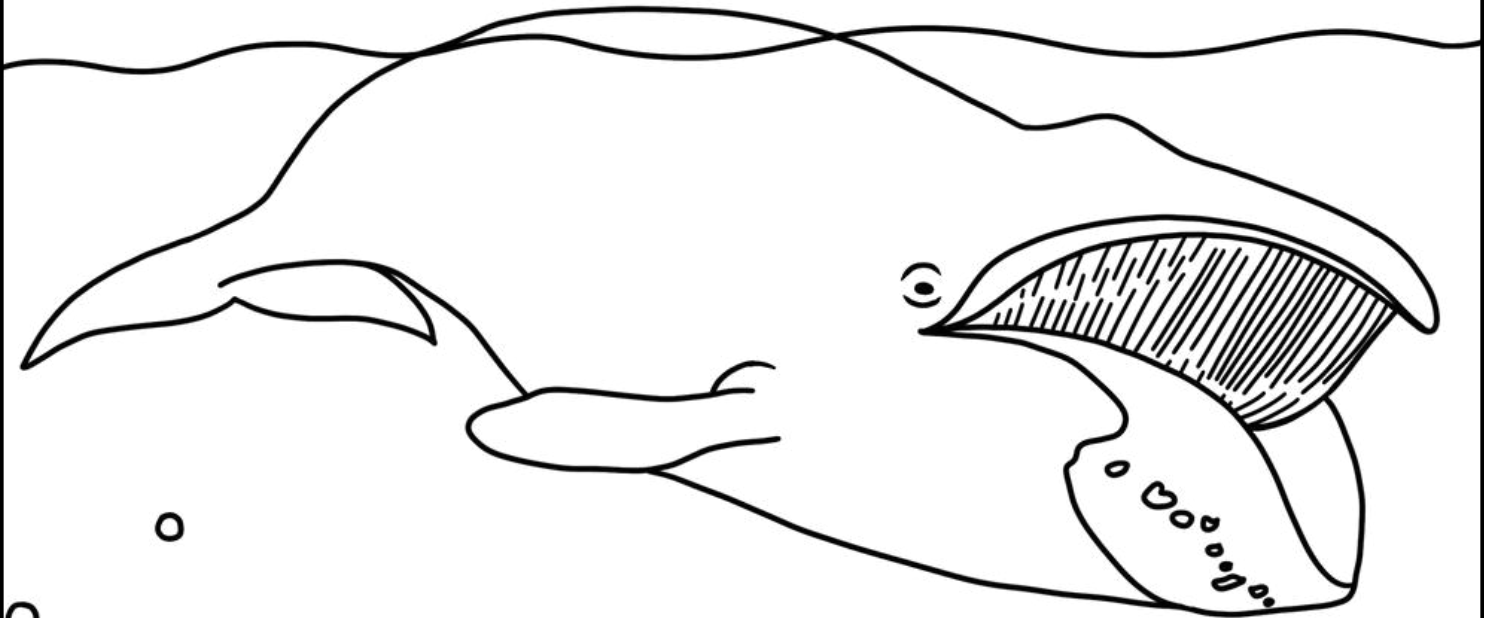
The midland painted turtle (*Chrysemys picta marginata*) is threatened by loss, degradation and fragmentation of habitat. Nest predation, particularly by raccoons, foxes and skunks, and increases where human activities inadvertently redistribute such predators, are causes for decline. As is the case with many turtle species, nesting females are highly vulnerable to road mortality, because they use the soft shoulders of roads as nest sites.



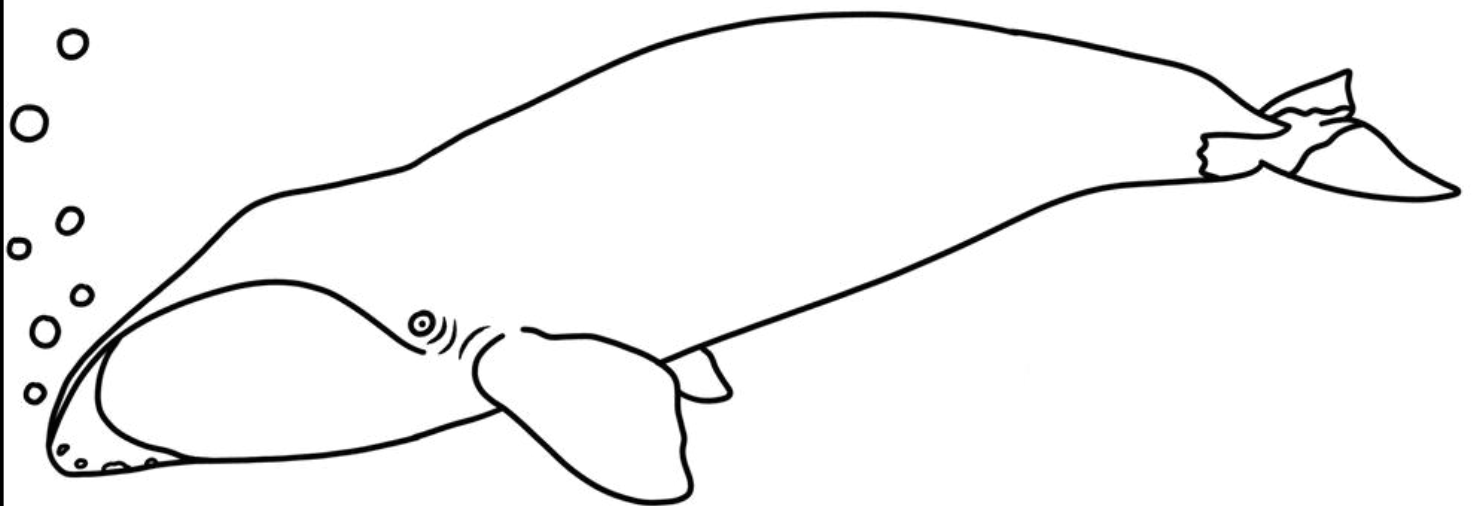
BOWHEAD WHALE

RANGE - Arctic - Inuit Nunangat, Inuvialuit, Nunavut, Nunavik, and Nunatsiavut, Gwich'in, Sahtu, Dene, and many other Indigenous Territories

SPECIES STATUS - Special concern



Bowhead whale (*Balaena mysticetus*) populations are exposed to various human-caused stressors and threats. These include pollution, such as spilled oil, heavy metals, chemicals, and debris. Interactions with marine vessels which can strike whales are also a concern. Noise pollution from marine human activities can interrupt bowhead whales' feeding, navigation, communication, and their ability to detect and avoid predators.

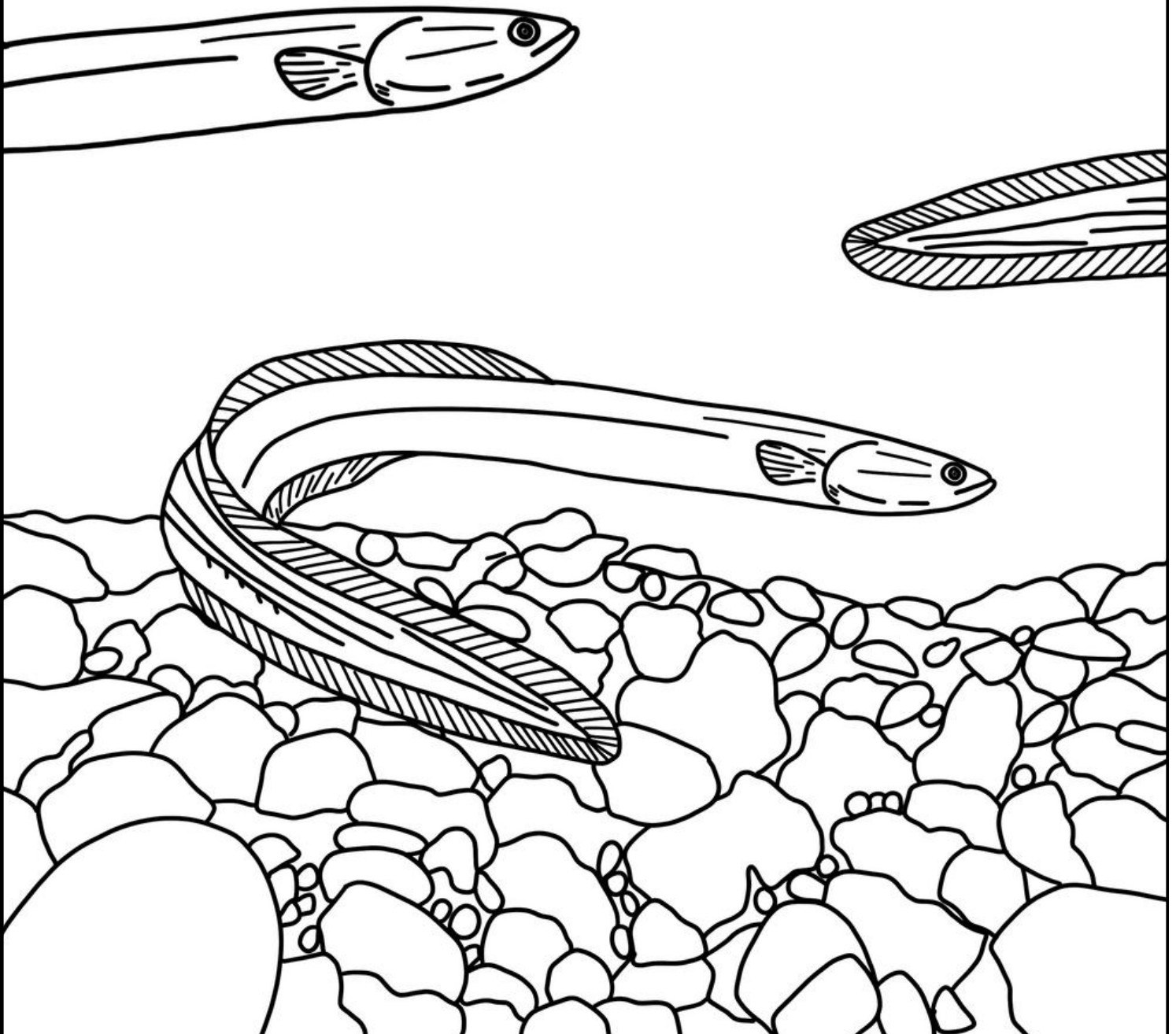


AMERICAN FRESHWATER EEL

RANGE - Ontario, Quebec and Atlantic Canada - Anishinaabe, Haudenosaunee, Attawandaron, Innu, Inuit, Mi'kmaq, Kanien'kehá:ka (Mohawk), Abenaki, Huron-Wendat, and many other Indigenous Territories

SPECIES STATUS - Endangered

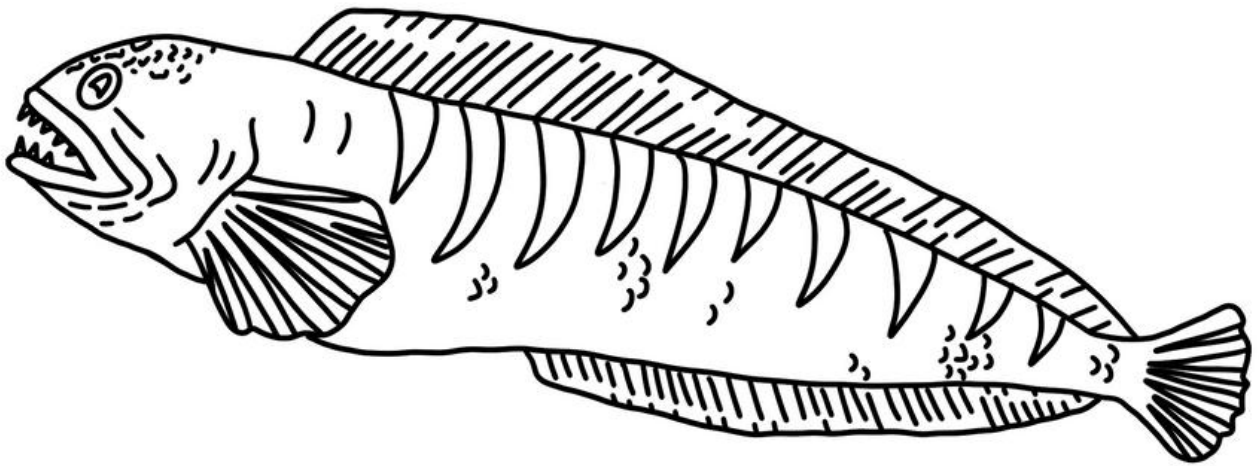
The American Eel (*Anguilla rostrata*) is considered a species at risk due to a combination of factors such as habitat loss, barriers to migration, and changing freshwater conditions. Dams and other barriers obstruct the natural migration routes of eels, affecting their ability to complete their life cycle.



ATLANTIC WOLFFISH

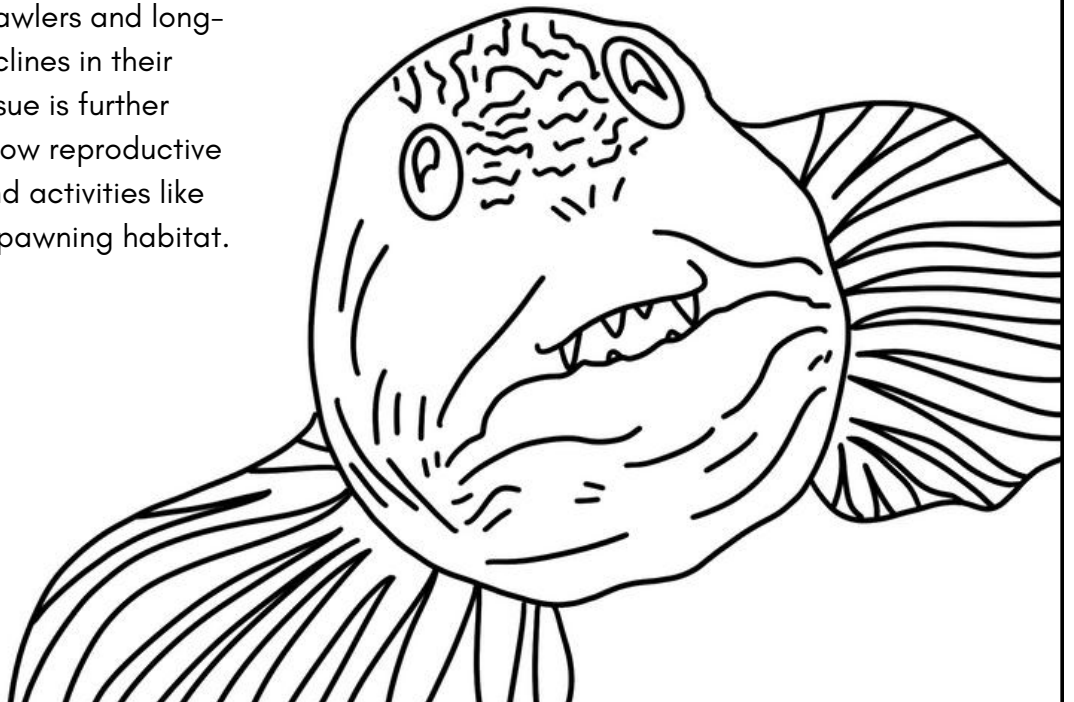
RANGE - Atlantic Provinces - Mi'kmaq, Maliseet, Passamaquoddy, Innu, Beothuk and many other Indigenous Territories

SPECIES STATUS - Special Concern



The Atlantic Wolffish (*Anarhichas lupus*) is threatened by overfishing, habitat degradation, and climate change.

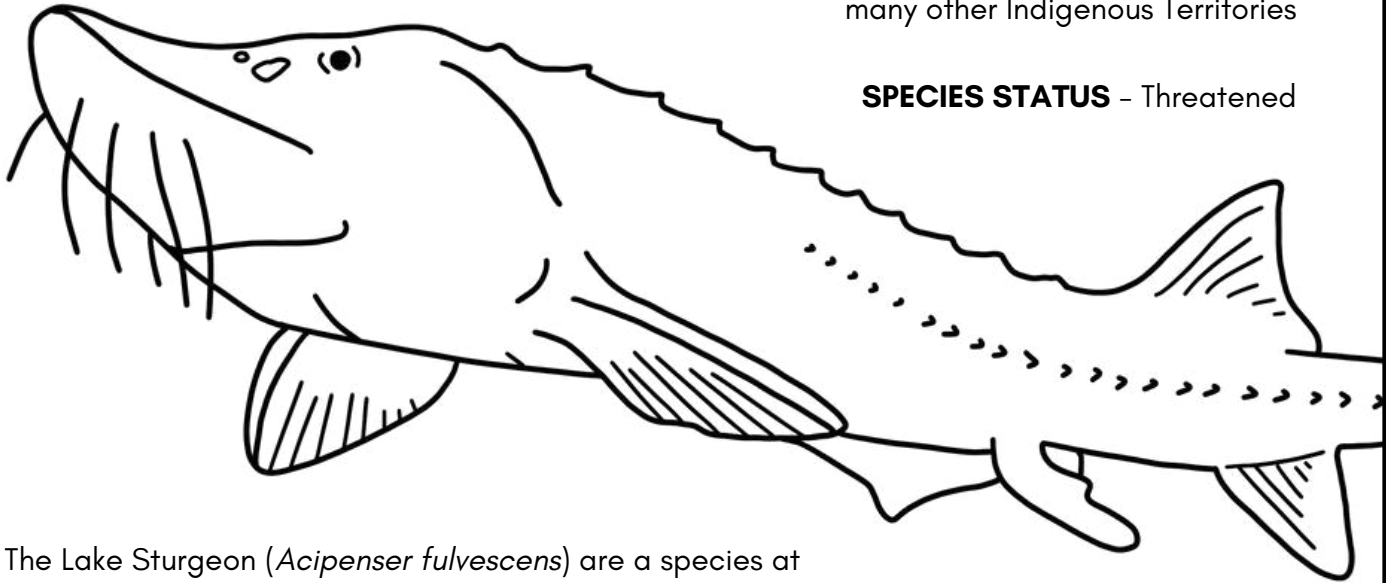
Overfishing particularly by-catch mortality by offshore trawlers and long-liners has led to declines in their populations. This issue is further exacerbated by their slow reproductive rates, late maturity and activities like trawling that damage spawning habitat.



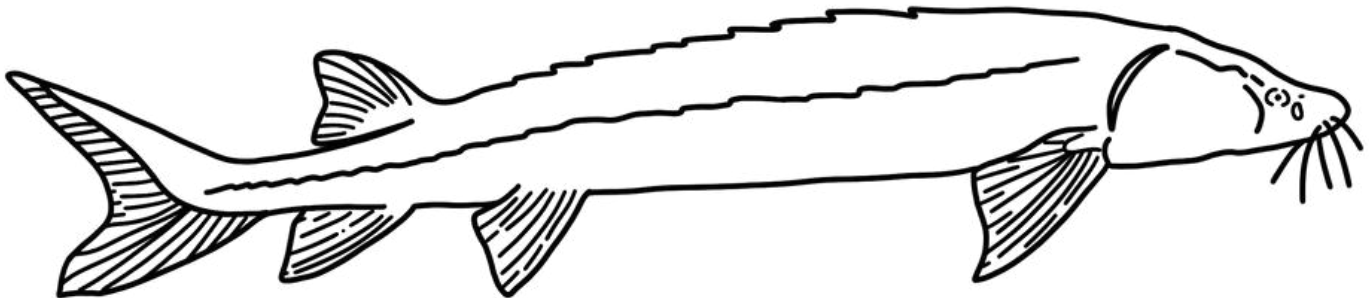
LAKE STURGEON

RANGE - Ontario and Quebec - Anishinaabe, Haudenosaunee, Attawandaron, Kanien'kehá:ka (Mohawk), Abenaki, Huron-Wendat, Innu, and many other Indigenous Territories

SPECIES STATUS - Threatened



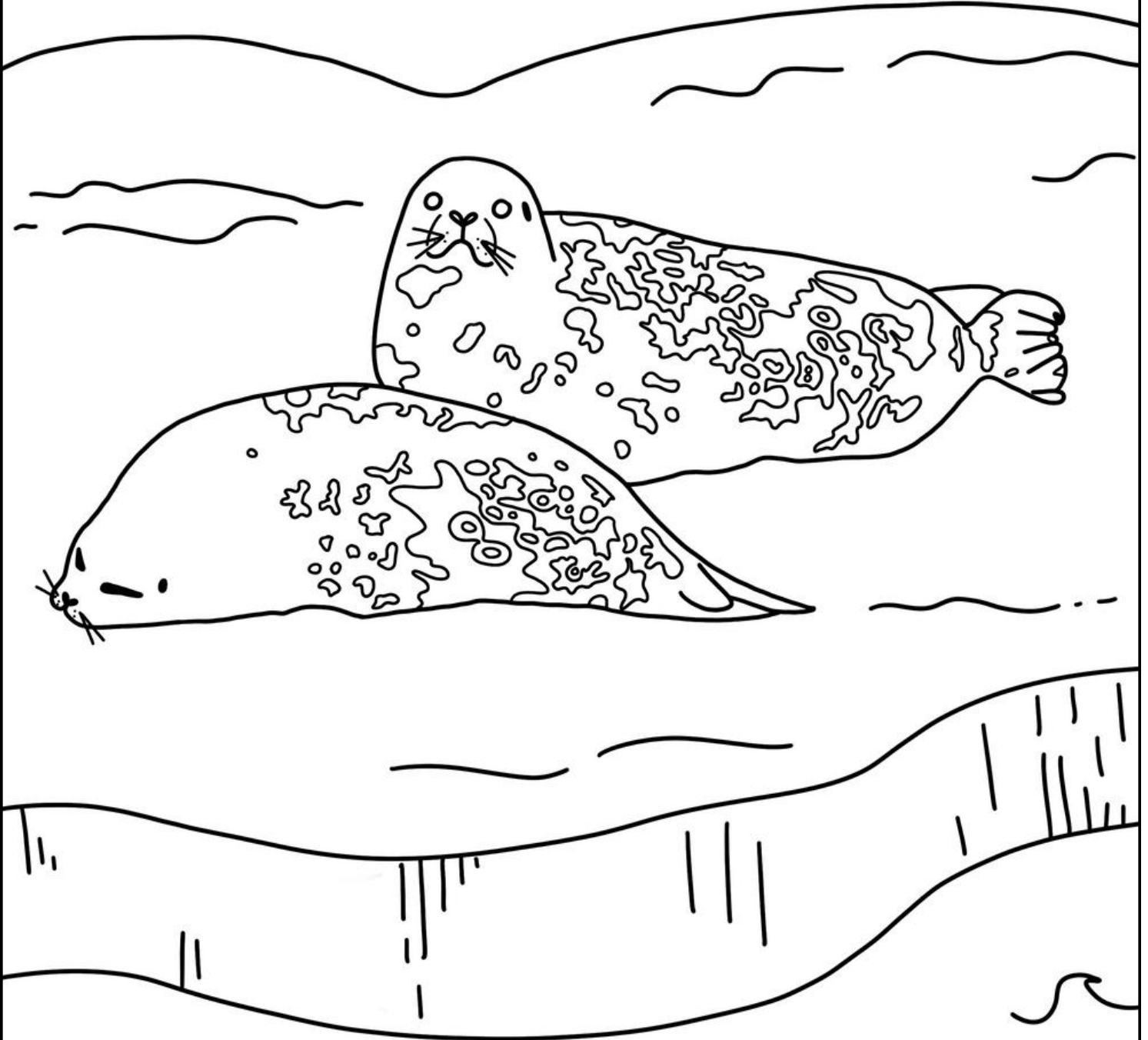
The Lake Sturgeon (*Acipenser fulvescens*) are a species at risk due to habitat loss, overharvesting, and obstacles to migration. Dam construction and other alterations to waterways have impacted their spawning grounds, hindering their reproductive success. Overfishing for their valuable eggs, meat, and other body parts has also contributed to the decline of their populations.



RINGED SEAL

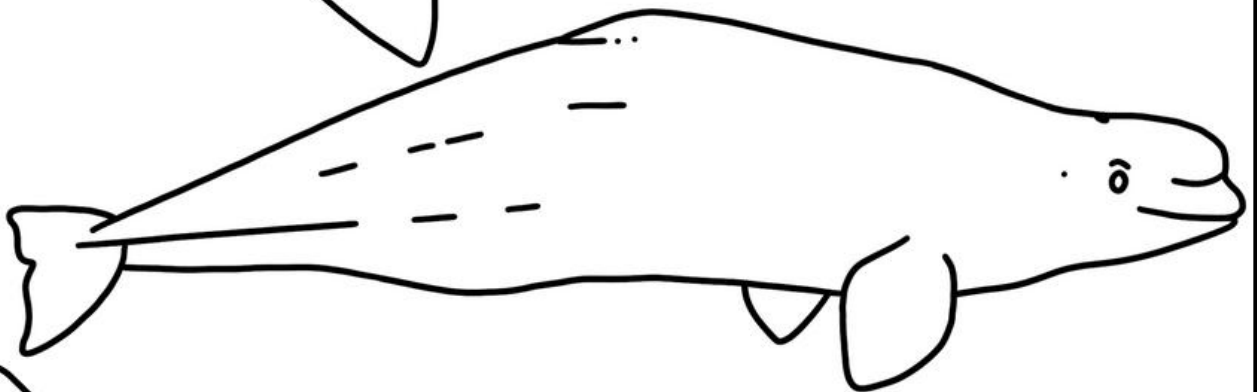
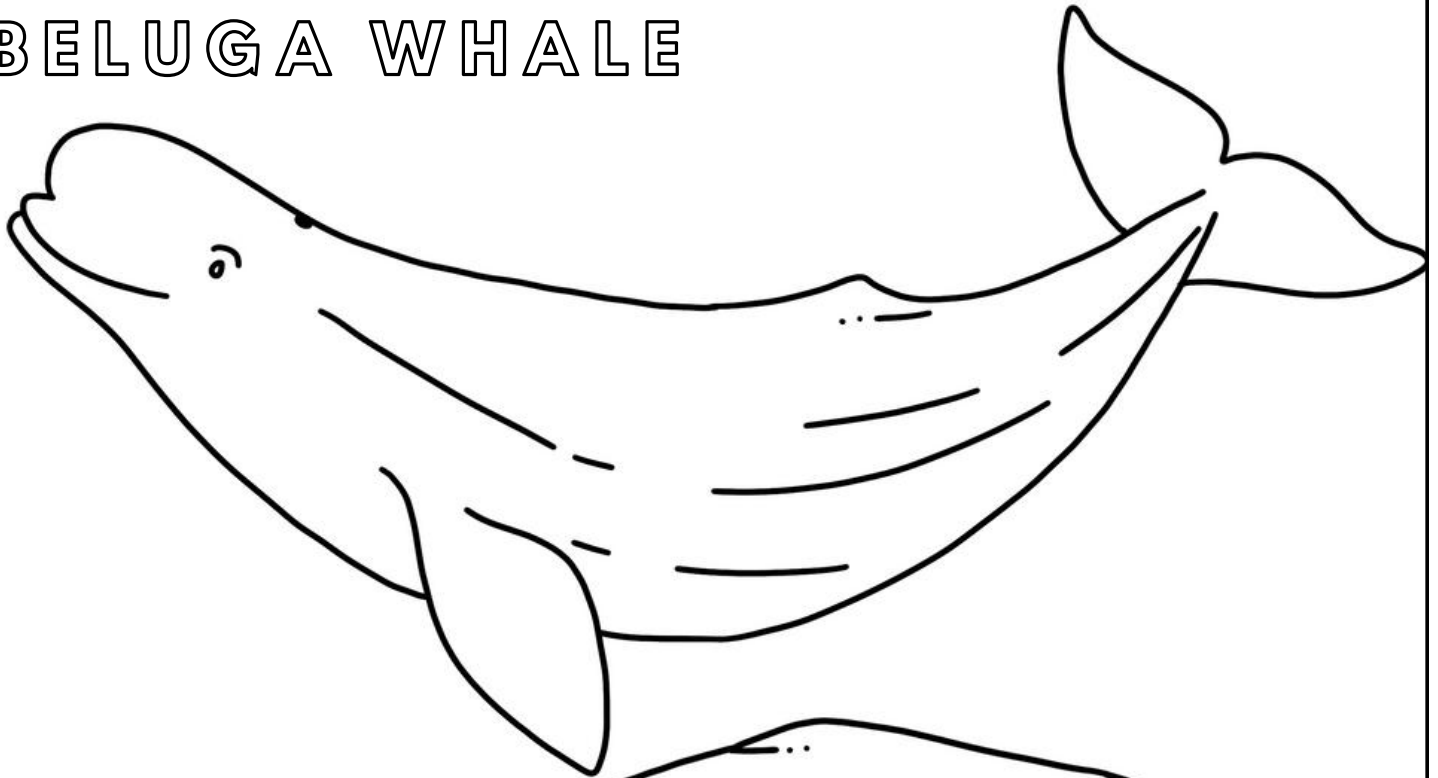
RANGE - Arctic - Inuit Nunangat, Inuvialuit, Nunavut, Nunavik, and Nunatsiavut, Gwich'in, Sahtu, Dene, and many other Indigenous Territories

SPECIES STATUS - Special Concern



Climate change threatened Ringed Seals (*Pusa hispida*) by reducing sea ice and on-ice snow cover, posing significant challenges to their life cycle. The declining summer sea ice has enabled increased marine operations in the Arctic, impacting ringed seals through shipping, offshore oil and gas activities, increasing risk of oil spills, increasing noise, and habitat disturbance.

BELUGA WHALE

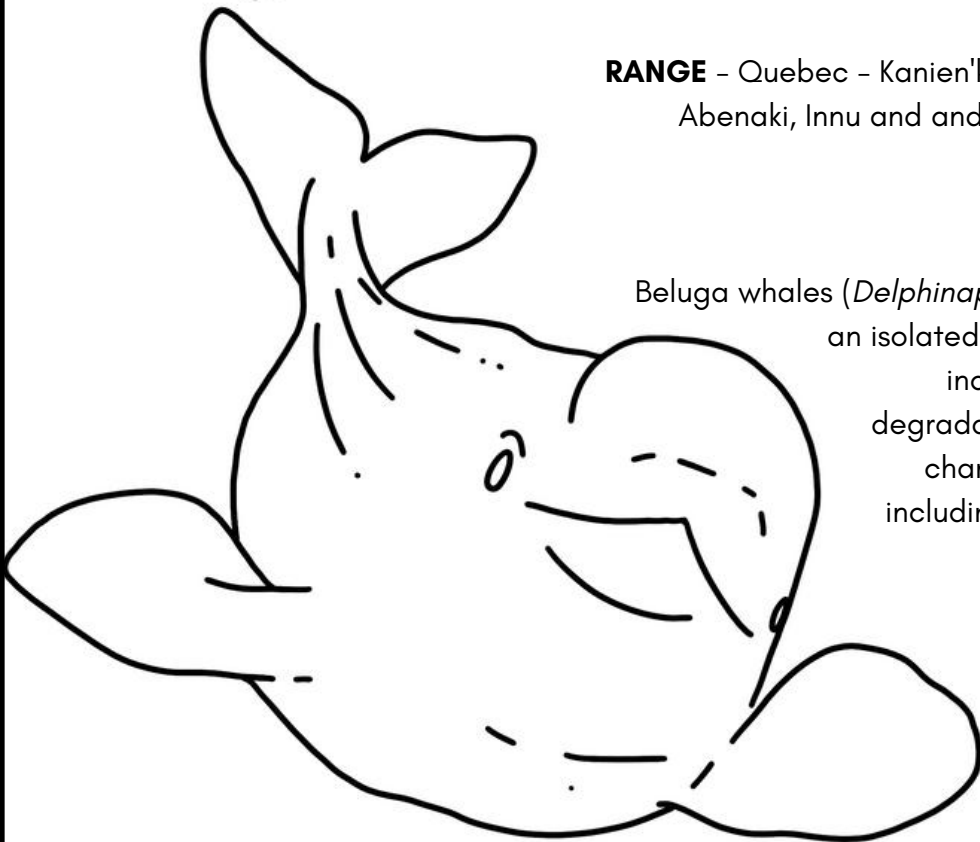


RANGE - Quebec - Kanien'kehá:ka (Mohawk), Huron-Wendat, Abenaki, Innu and and many other Indigenous Territories

SPECIES STATUS - Endangered

Beluga whales (*Delphinapterus leucas*) in the St. Lawrence, an isolated population, faces several threats, including industrial pollution, habitat degradation, shipping traffic, and climate change. Increased maritime activities, including shipping, can lead to collisions, pollution, and underwater noise.

Increases in noise causes disruption to feeding, communication and migration.

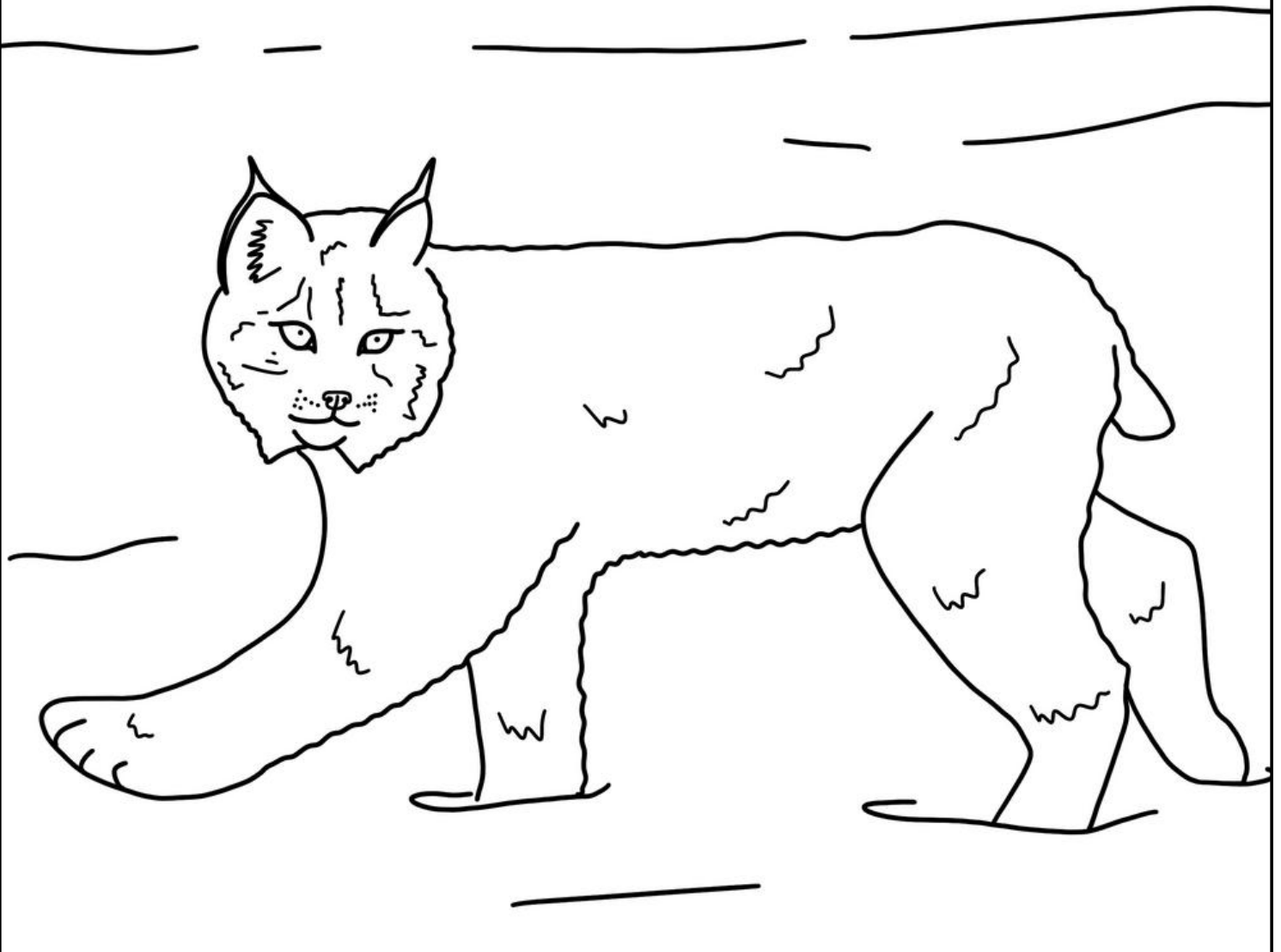


CANADA LYNX

RANGE - Across Turtle Island

SPECIES STATUS - Regionally Endangered

The lynx (*Felis lynx canadensis*) relies on dense boreal forests for its habitat and are present throughout Turtle Island. Threats to lynx are deforestation and climate change which impact the availability of the lynx's preferred snowshoe hare prey.

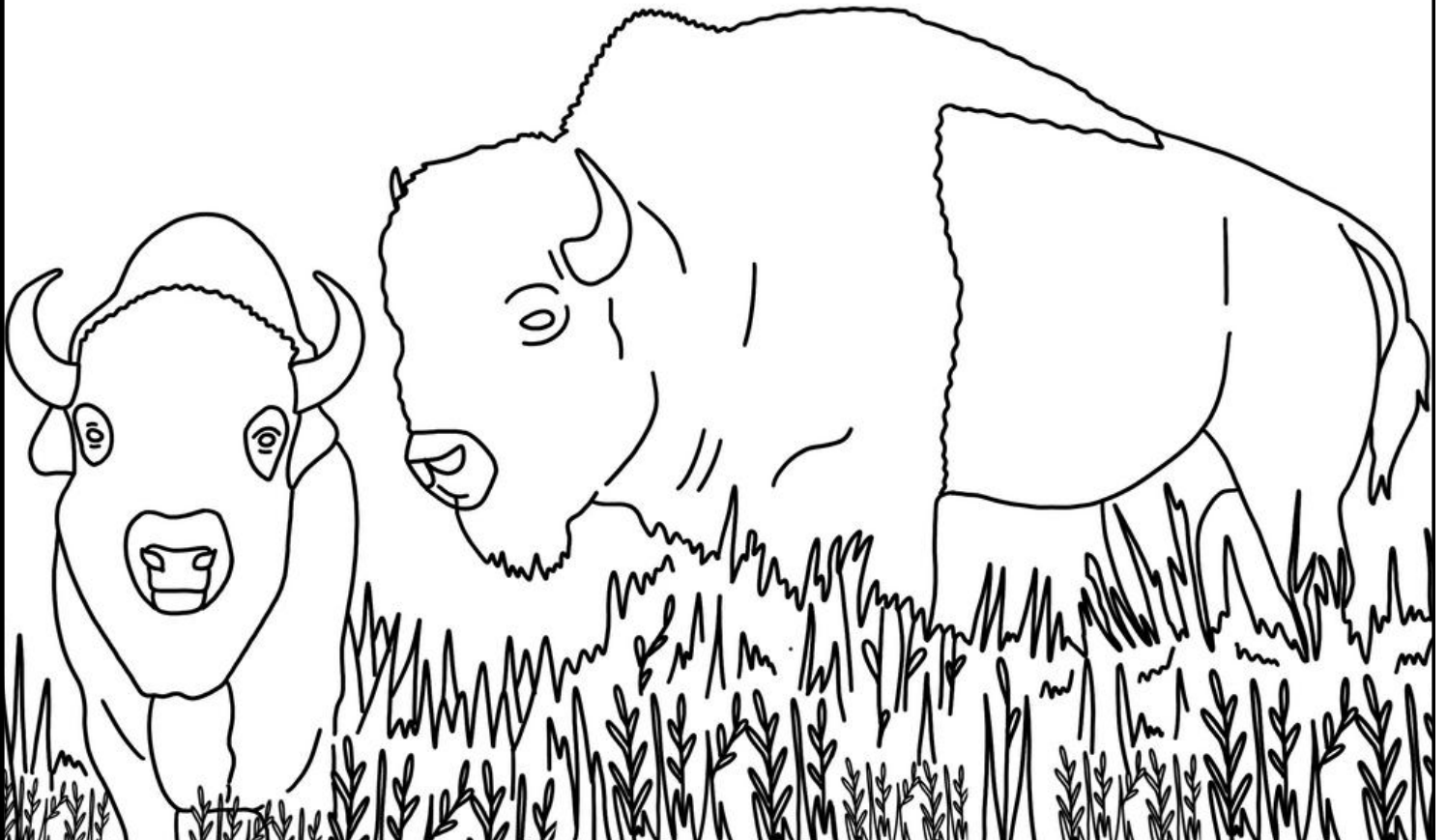


WOOD BISON

RANGE - British Columbia, Alberta, Yukon and Northwest Territories - Coast Salish, Haida, Nlaka'pamux, Blackfoot Confederacy, Cree, Dene, Métis, Gwich'in, Inuvialuit, Kaska and many other Indigenous Territories

SPECIES STATUS - Threatened

The Wood Bison (*Bison bison athabasca*) is considered a species at risk primarily due to habitat loss, hunting pressures, and disease concerns. Alteration of their natural habitat through industrial development, agriculture, and other human activities has reduced viable habitat. The potential spread of diseases, particularly bovine tuberculosis and brucellosis, further threaten the population.

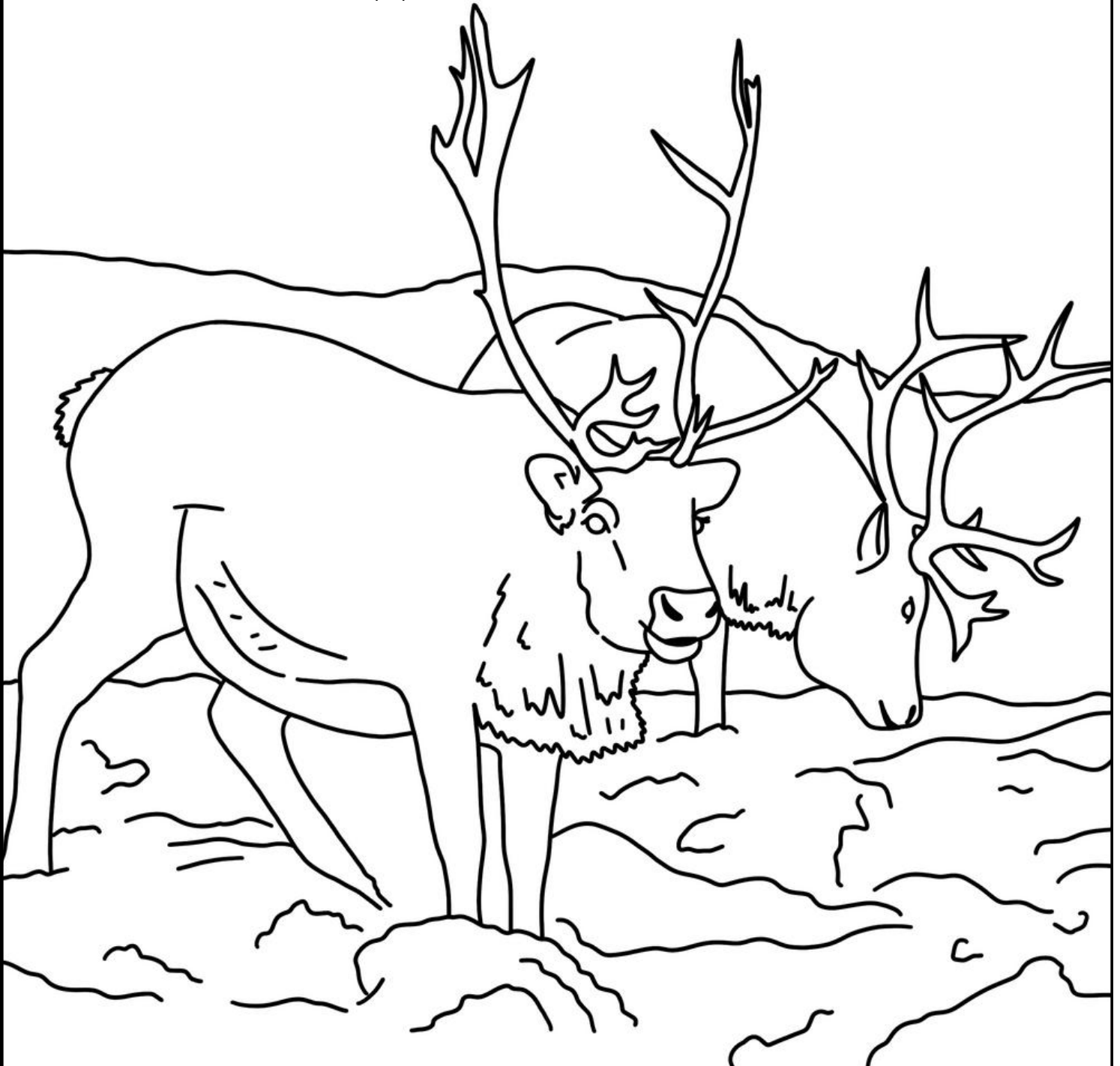


BOREAL CARIBOU

RANGE - Across Turtle Island

SPECIES STATUS - Threatened

Boreal caribou (*Rangifer tarandus*) are threatened by human activities, including industrial development, forestry, and infrastructure development. These disturbances alter or fragment their critical habitat, making it challenging for caribou to find suitable areas for calving and feeding. Increased predation, climate change effects, and illegal hunting further contribute to the decline of boreal caribou populations.



POLAR BEAR

RANGE - Arctic - Inuit Nunangat, Inuvialuit, Nunavut, Nunavik, and Nunatsiavut, Gwich'in Sahtu, Dene, and many other Indigenous Territories

SPECIES STATUS - Special concern

The melting sea ice due to arctic warming has led to fewer opportunities for polar bears (*Ursus maritimus*) to feed, resulting in declining health and reproduction rates. Toxic pollution in the Arctic food chain, with high levels of persistent organic pollutants (POPs), have disrupted biological functions, leading to lower cub survival rates. Increased oil exploration in the Arctic has caused habitat destruction and disturbances.

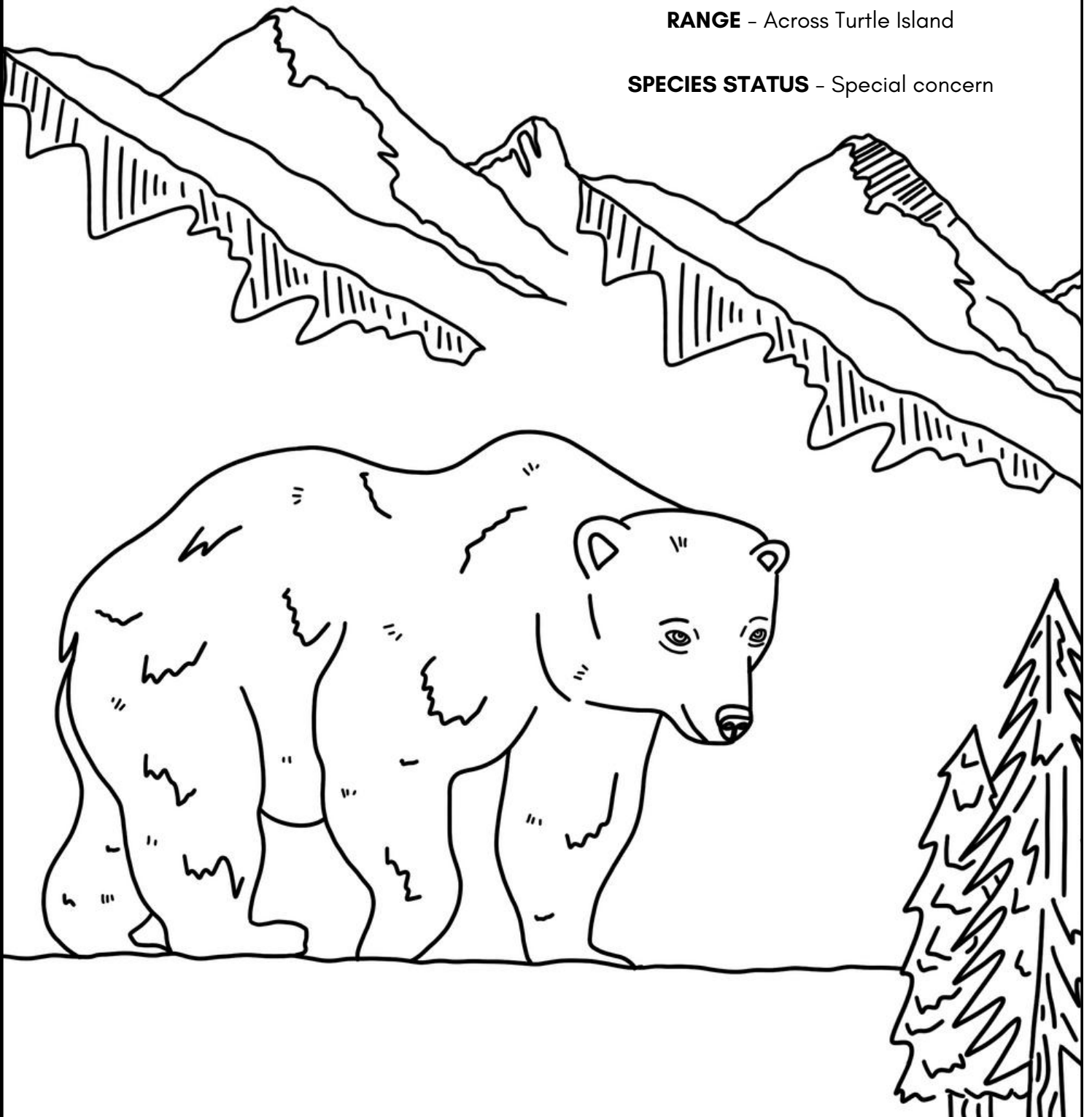


GRIZZLY BEAR

Grizzly bears (*Ursus arctos*) are threatened by habitat fragmentation and loss caused by human activities. Accidental collisions with highway vehicles or trains are main reasons for bear mortality. Grizzly bears, while searching for food, may be drawn to human settlements and agricultural areas, significantly heightening the risk of conflicts between bears and humans. Bears involved in conflicts face an elevated threat of being killed or captured and relocated.

RANGE - Across Turtle Island

SPECIES STATUS - Special concern

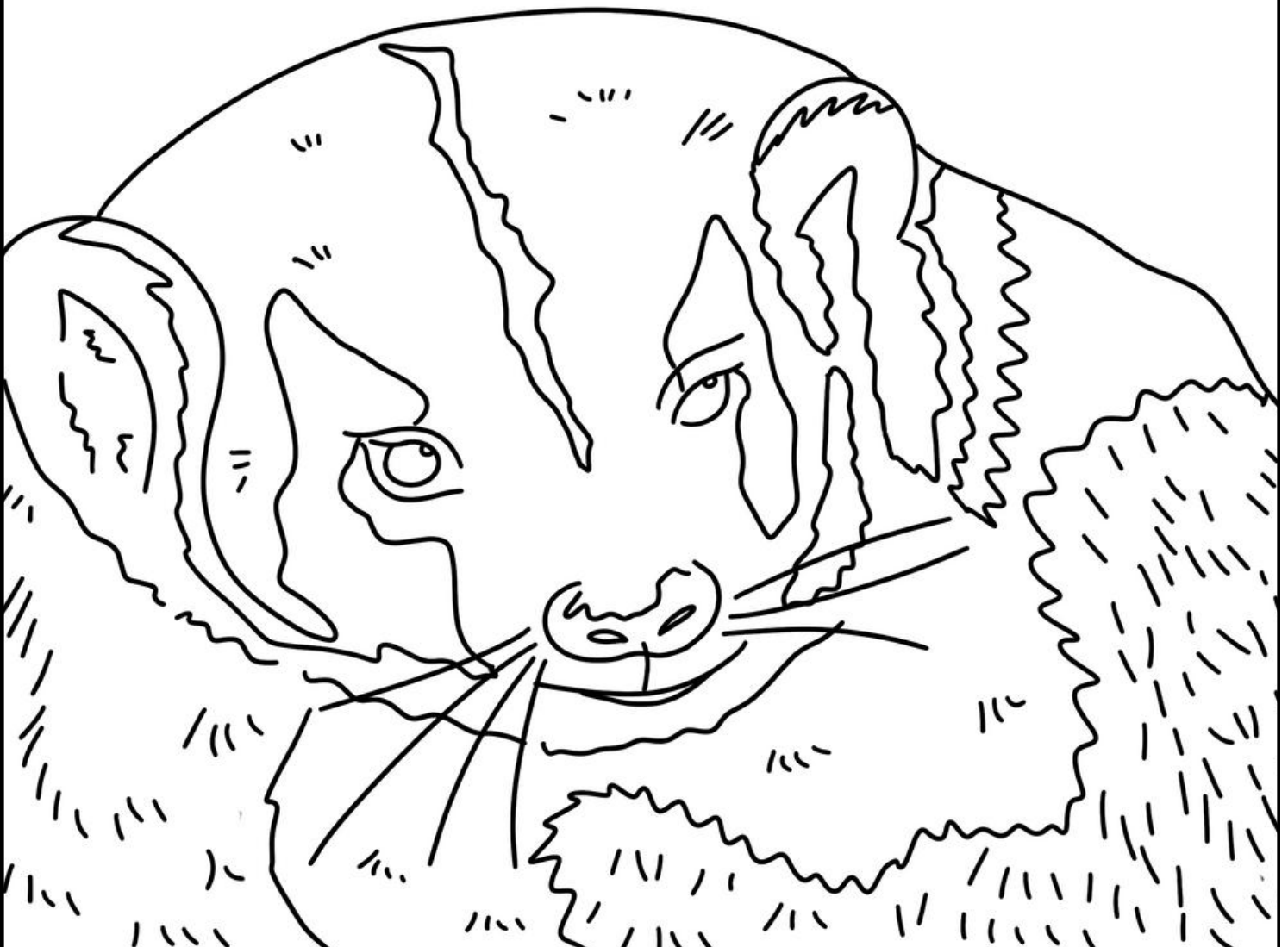


AMERICAN BADGER

RANGE - Southern Ontario - Anishinaabe, Haudenosaunee, Attawandaron, and many other Indigenous Territories

SPECIES STATUS - Endangered

American Badgers (*Taxidea taxus jacksoni*) throughout their range suffer from vehicle-animal interaction resulting in them becoming road-kill. Habitat loss and degradation result from housing development, forest in-growth and encroachment, orchards and vineyards, and cultivation (row-crop) agriculture. The use of rodenticides in crops has resulted in deaths of badgers.



COLLARED PIKA

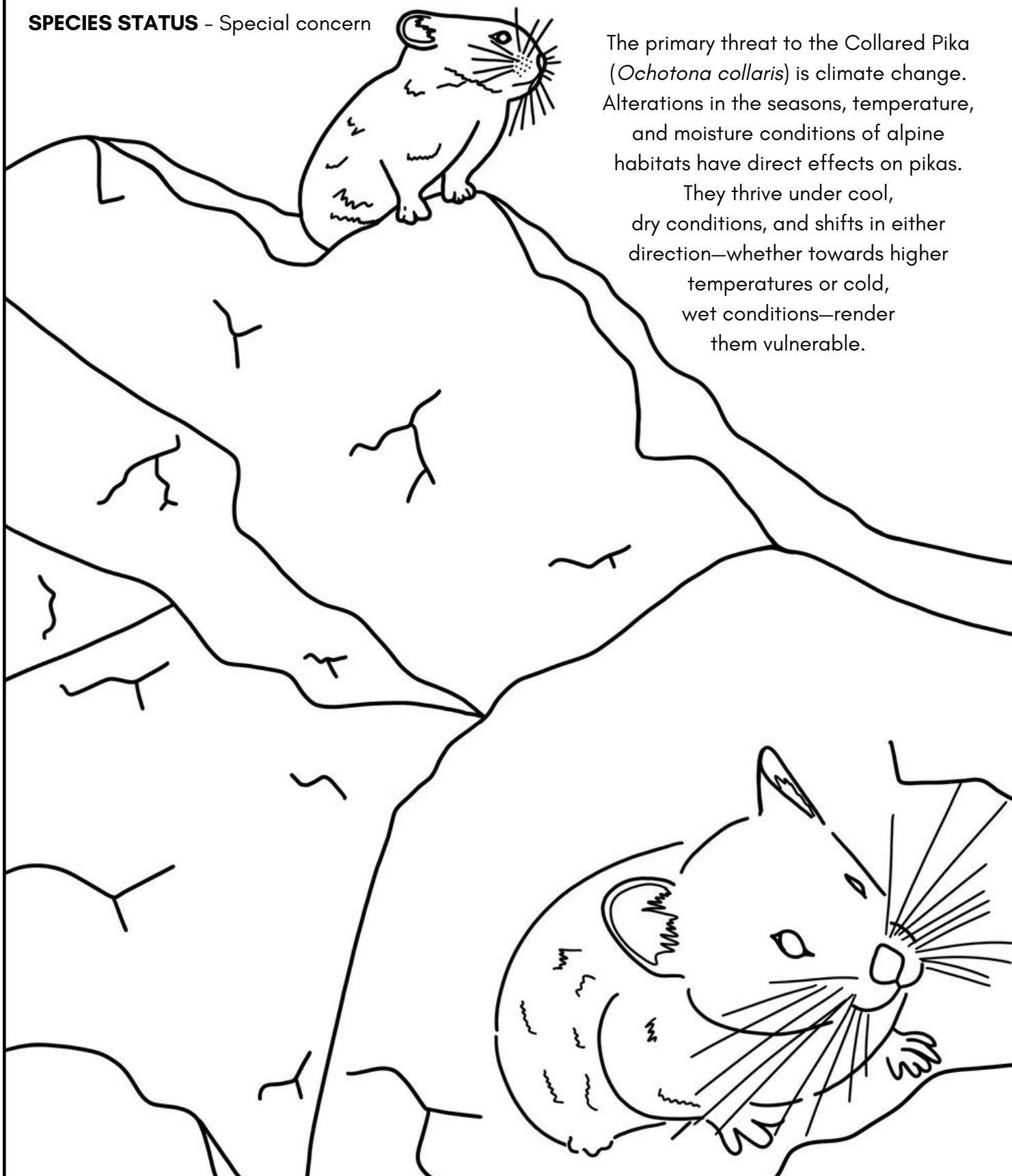
RANGE - Northern British Columbia, Yukon and Northwest Territories - Gitksan, Wet'suwet'en, Tahltan, Kwanlin Dün, Ta'an Kwäch'än, Gwich'in, Inuvialuit, Sahtu, Dene, and many other Indigenous Territories.

SPECIES STATUS - Special concern

The primary threat to the Collared Pika (*Ochotona collaris*) is climate change.

Alterations in the seasons, temperature, and moisture conditions of alpine habitats have direct effects on pikas.

They thrive under cool, dry conditions, and shifts in either direction—whether towards higher temperatures or cold, wet conditions—render them vulnerable.

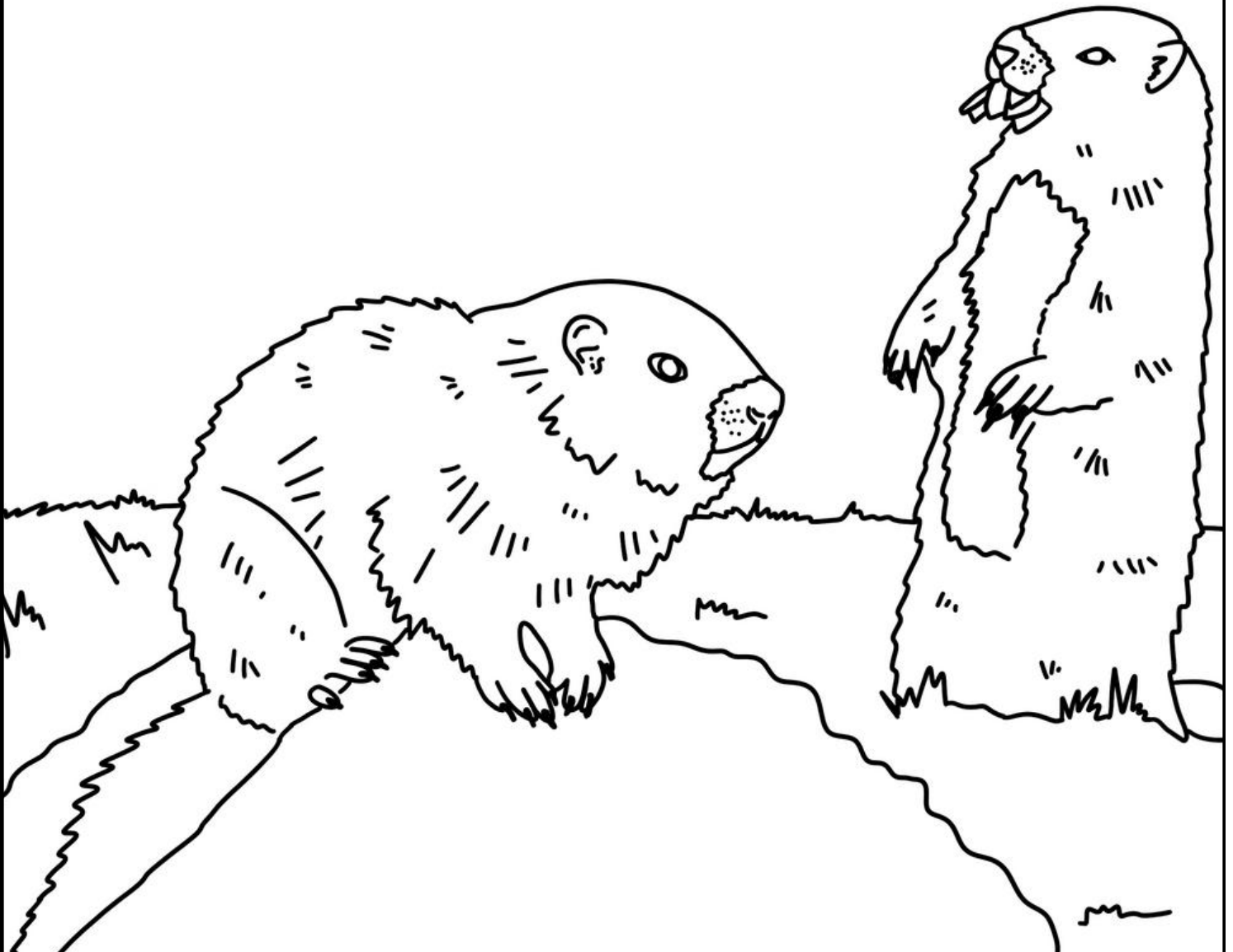


VANCOUVER ISLAND MARMOT

RANGE - Vancouver Island - Coast Salish, Nuu-chah-nulth, Kwakwaka'wakw and many other Indigenous Territories.

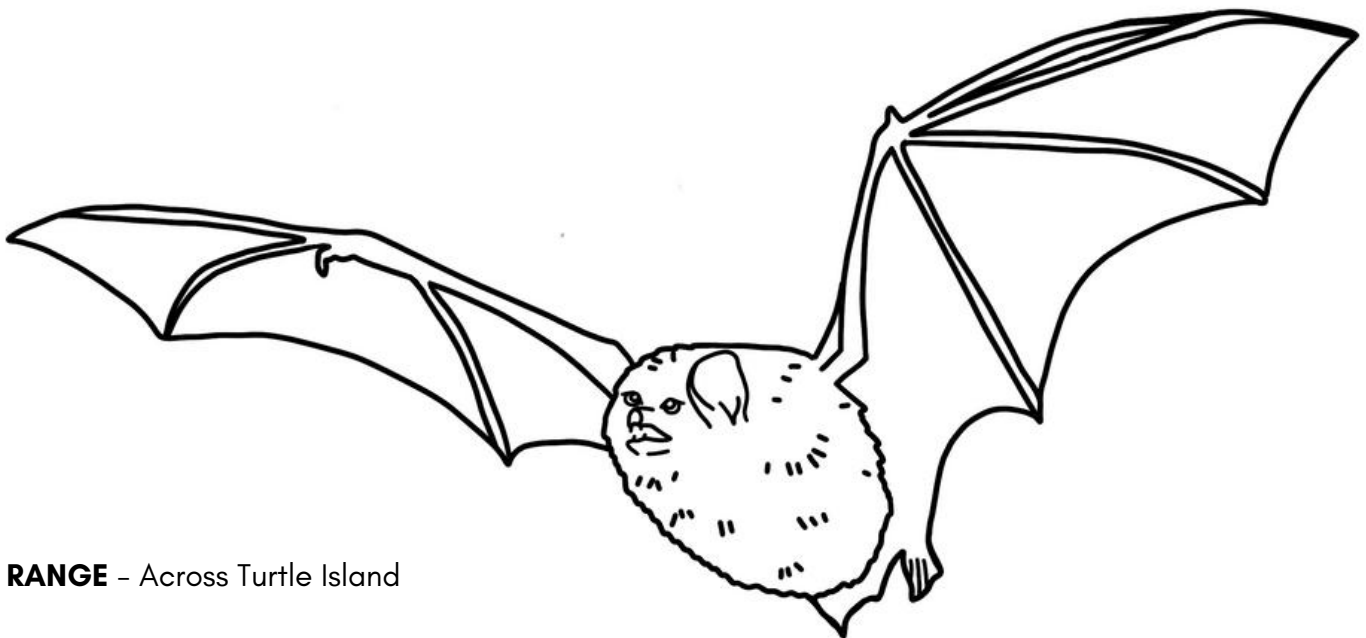
SPECIES STATUS - Endangered

Vancouver Island Marmot (*Marmota vancouverensis*) is threatened by climate change, which affects them in multiple ways. To hibernate, these marmots need specific conditions. If they're starting hibernation late or ending it early, they can be left vulnerable to predators.





SILVER HAIRED BAT



RANGE - Across Turtle Island

SPECIES STATUS - Endangered

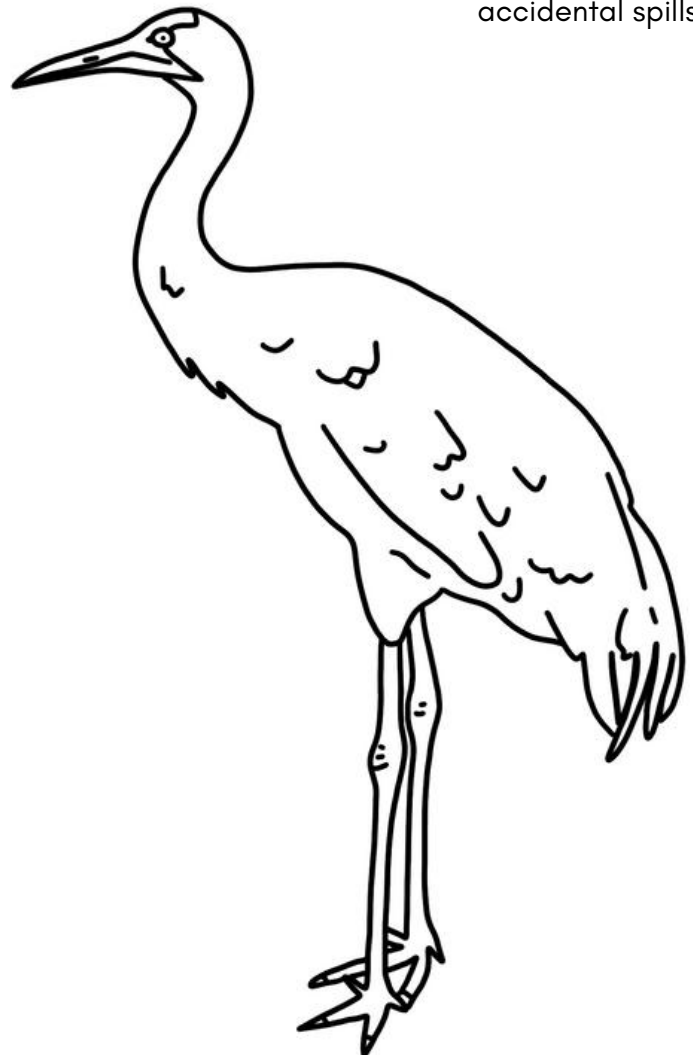
The Silver-haired Bat (*Lasiorycteris noctivagans*) population in Canada has declined dramatically in recent years. During their migration, Silver-haired Bats are exposed to many threats including collisions with wind turbines. Widespread declines in insect abundance, loss of forested habitat and pollution have also impacted them greatly.

WHOOPING CRANE

RANGE - Alberta, Manitoba, Northwest Territories and Saskatchewan
- Blackfoot Confederacy, Cree, Dene, Métis, Anishinaabe, Cree, Oji-Cree, Dakota, Inuvialuit, Gwich'in, Sahtu, Sauteaux, Dakota, Nakota, and many other Indigenous Territories

SPECIES STATUS - Endangered

Whooping Cranes (*Grus americana*) are threatened by risks faced during migration and factors affecting their wintering grounds than those affecting their breeding grounds. Some critical habitat has heavy boat traffic where petrochemicals are transported, which can result in habitat degradation, contamination and increased possibility of accidental spills.

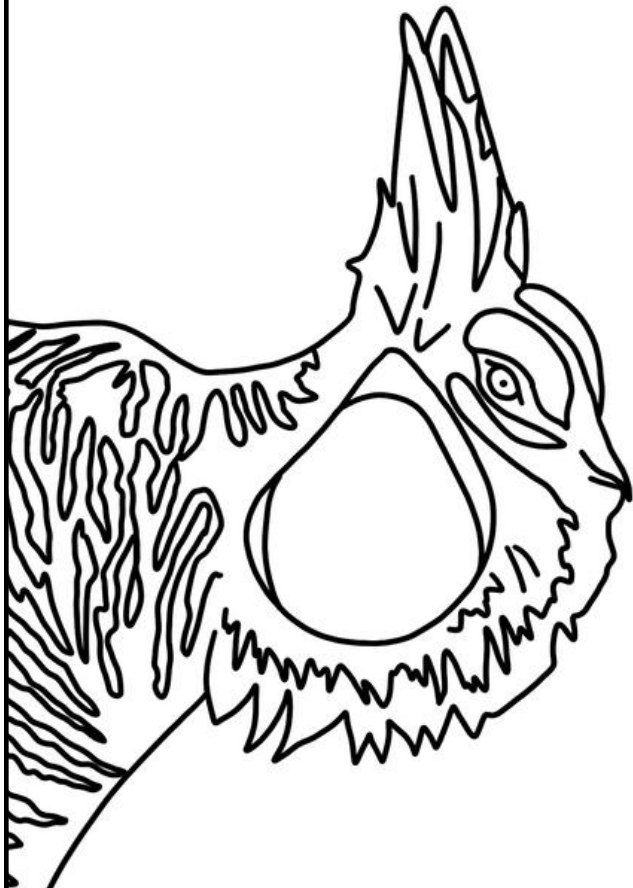
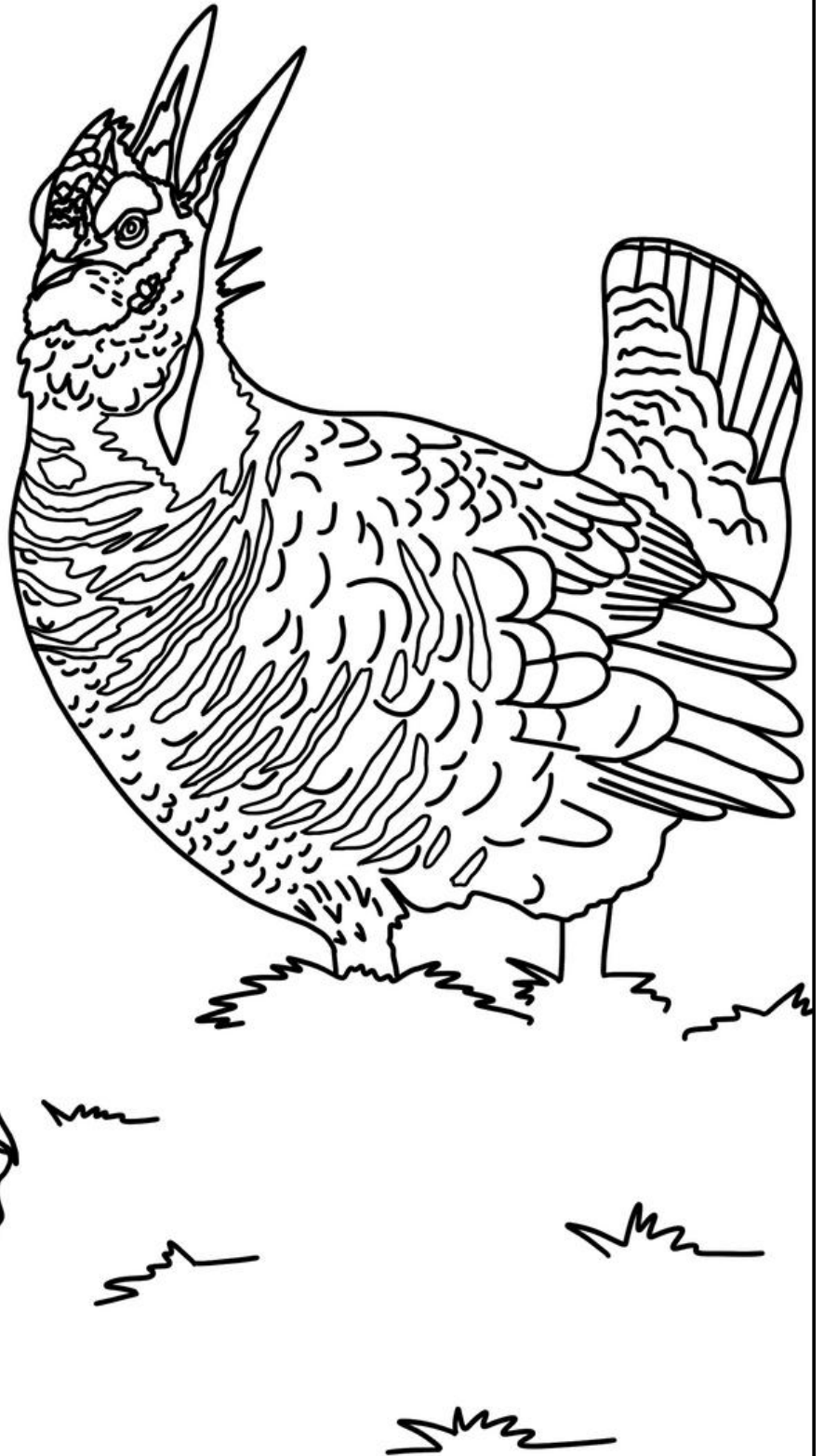


GREATER PRARIE CHICKEN

RANGE - Alberta, Manitoba, Ontario and Saskatchewan - Blackfoot Confederacy, Cree, Dene, Anishinaabe, Cree, Oji-Cree, Dakota, Haudenosaunee, Huron-Wendat, Saulteaux, Dakota, Nakota, Métis and many other Indigenous Territories

SPECIES STATUS - Extirpated

Greater Prairie-Chicken
(*Tympanuchus cupido pinnatus*) is threatened by habitat fragmentation, resulting in population isolation and loss of genetic variability through hybridization with Sharp-tailed Grouse. The lack of extensive, lightly grazed blocks of grassland limits their available habitat and further threatens their viability as a species.

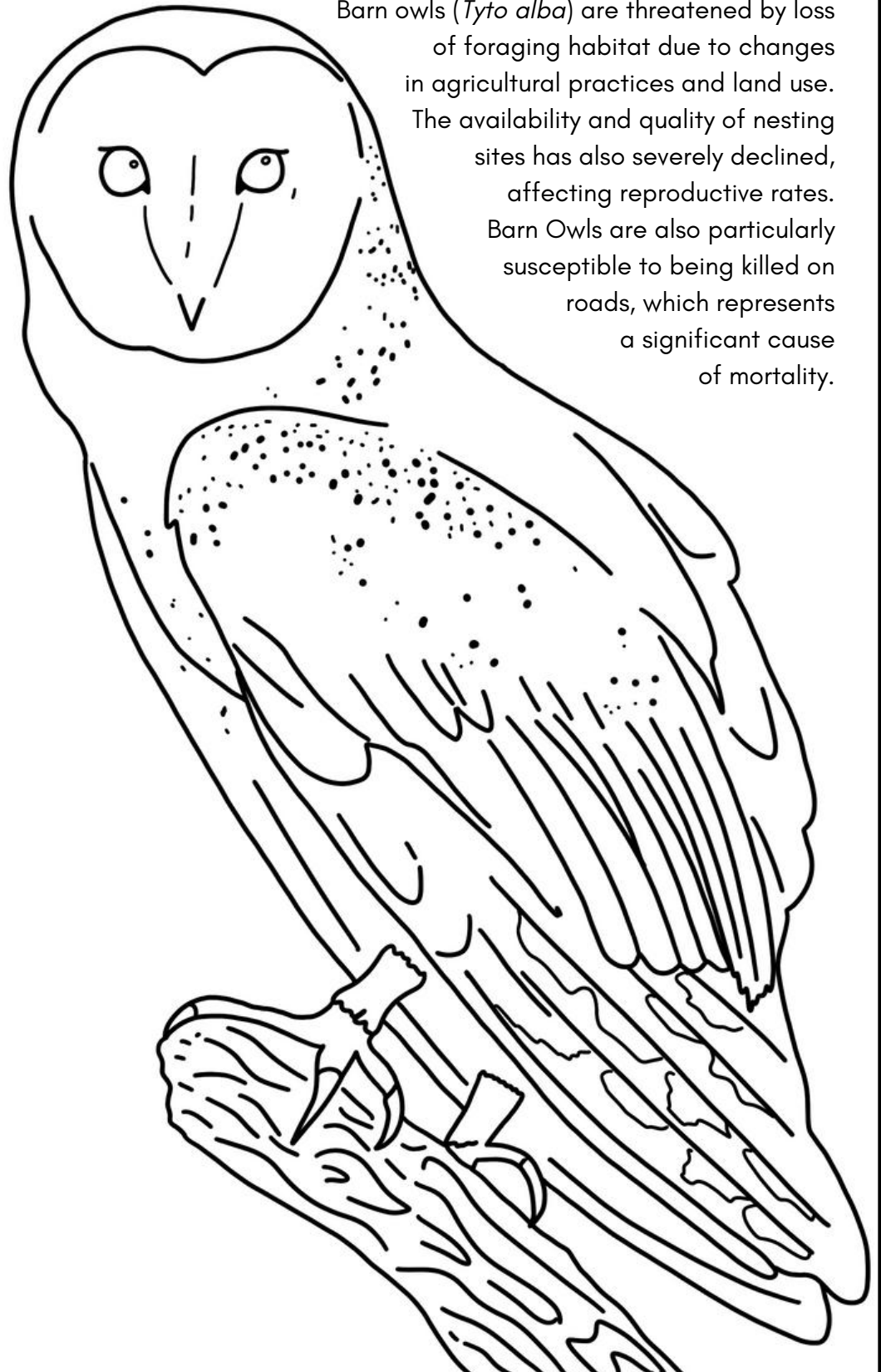


BARN OWL

RANGE - Across Turtle Island

SPECIES STATUS - Threatened

Barn owls (*Tyto alba*) are threatened by loss of foraging habitat due to changes in agricultural practices and land use. The availability and quality of nesting sites has also severely declined, affecting reproductive rates. Barn Owls are also particularly susceptible to being killed on roads, which represents a significant cause of mortality.





THANK YOU CHI-MIGWECH

Sources for the text include
Government of Canada
NOAA
Nature Canada
Nature Conservancy of Canada
Ontario Nature

Canada's conservation efforts are making a positive impact, with initiatives spanning vast landscapes and diverse ecosystems. Conservationists, communities, and government agencies collaborate to protect and restore habitats, ensuring the well-being of numerous species. Together we can all play a role in conserving and protecting our species!

ABOUT THE AUTHOR

Rae Landriau is a graduate student with a passion for the environment and activism. They enjoy spending their free time in nature, finding inspiration in the environment and biota. The quiet cracking of trees in the forest, the trickling of water in a creek, and the rustle of leaves in the wind bring them a sense of peace. Driven by a desire to make a difference in the world, Rae engages in community service projects and educational outreach through @createchangecollective.



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