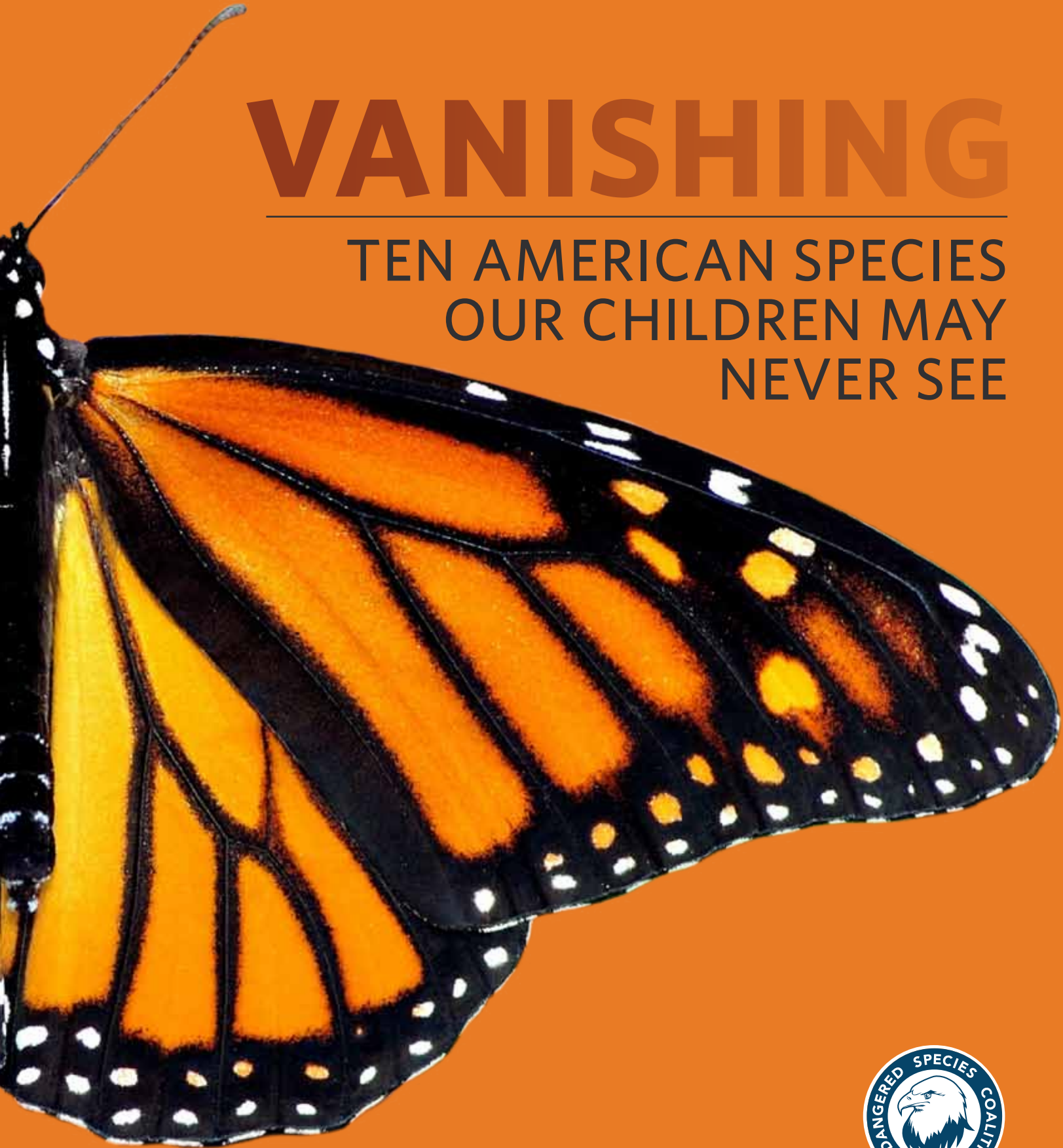


# VANISHING

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TEN AMERICAN SPECIES  
OUR CHILDREN MAY  
NEVER SEE



# INTRODUCTION

**There is nothing quite like the magic and surprise of nature, with every day bringing the promise of something unique and new. For us, and maybe for you, so many childhood memories are closely linked to the natural world: feeling the light touch of a monarch butterfly landing on your arm, hearing a bumblebee's buzz announcing the arrival of summer, or spotting the sleek silhouette of a frog hugging the shoreline of a pond—its golden eyes catching light reflected off the water, its legs folded just so—inches beyond reach.**

With each passing day, though, our children are less and less likely to experience the full beauty of nature. And it isn't just the fault of video games. Yes, getting kids outdoors in our increasingly structured world is a challenge. But even when our kids are in nature, they are less likely to see a monarch butterfly than they were just ten years ago. And monarchs are not the only vanishing species; countless plants, insects, and animals are struggling to survive.

The plight of some of our historically common species is downright scary. As the migration of monarch butterflies throughout North America is collapsing, native bumblebees are disappearing, too. Bats are dying out, and frogs are in dire peril. In short, some of our most treasured species are vanishing right now—in our lifetimes, in our children's lifetimes—before our very eyes.

**NOT ONLY IS NATURE BEAUTIFUL, ITS COMPLEX DIVERSITY IS ESSENTIAL TO OUR WELL-BEING.**

Losing species isn't a problem for just the plants and animals that are dying off, though. Their disappearance hurts us, and our children, too. Scientists are constantly discovering ways in which biodiversity benefits us. You probably already know that we all need native pollinators for our food, healthy forests for the air we breathe, and unpolluted water reserves to sustain us. But what about the health of our, and our children's, immune systems? Nature offers so much promise in the way of medicines and cures. Nature can also help us focus our attention,

support our memory, increase our self-control, and improve our outlook on life.

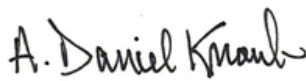
And what about local economies that thrive on tourism centered around nature and wildlife? When nature is healthy, it raises our quality of life.

But most importantly, what about the legacy we leave to future generations? A lost species is a species our children's children will never know. Are we willing to let extinction happen on our watch?

This report and its companion website, [VanishingWildlife.org](http://VanishingWildlife.org), show you how you can help. Whether you want to get your hands dirty creating a butterfly garden, throw a beach clean-up party, or knock on the doors of decision-makers, there are dozens of ways you can contribute. You *can* make a difference. Let's bring vanishing species back from the edge of extinction, together.



George Fenwick  
AMERICAN BIRD  
CONSERVANCY



Daniel Knaub  
CETACEAN SOCIETY  
INTERNATIONAL



Leda Huta  
ENDANGERED SPECIES  
COALITION



Joseph Bogaard  
SAVE OUR WILD SALMON



Cathy Liss  
ANIMAL WELFARE INSTITUTE



Kierán Suckling  
CENTER FOR BIOLOGICAL  
DIVERSITY



Frances Beinecke  
NATURAL RESOURCES  
DEFENSE COUNCIL



Scott Hoffman Black  
XERCES SOCIETY  
FOR INVERTEBRATE  
CONSERVATION



Andrew Walker  
BAT CONSERVATION  
INTERNATIONAL



Jamie Rappaport Clark  
DEFENDERS OF WILDLIFE



Andrew Sharpless  
OCEANA

## CREDITS

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# ACKNOWLEDGEMENTS

This year, Endangered Species Coalition member groups from across the country nominated species whose stories underscore the extinction crises that are impacting wildlife and their habitats throughout the United States. Our thanks go out to each individual who contributed to this year's nominations, and to these organizations whose ten stories are included in our report:

## **American Bird Conservancy**

Steve Holmer, Robert Johns, and Clare Nielson

## **Animal Welfare Institute**

Nancy Blaney and Chris Heyde

## **Bat Conservation International**

Katie Gilles

## **Center for Biological Diversity**

Tierra Curry, Mollie Matteson, Patrick Sullivan, and Shaye Wolf

## **Cetacean Society International**

Bill Rossiter

## **Defenders of Wildlife**

Haley McKey, Mark Salvo, and Courtney Sexton

## **Natural Resources Defense Council**

Jay Branegan, Sylvia Fallon, Josh Mogerman, and Christine Wilcox

## **Oceana**

Ashley Blacow, Amanda Keledjian, and Amelia Vorphahl

## **Save Our Wild Salmon**

Joseph Bogaard and Gilly Lyons

## **Xerces Society for Invertebrate Conservation**

Sarina Jepsen and Matthew Shepherd

We extend our deepest appreciation, as always, to our board member, Dr. Jan Randall, Professor Emeritus of Biology at San Francisco State University, for organizing the judging by our Scientific Advisory Committee (SAC). Once again, our judges brought broad knowledge and thoughtfulness to bear as they supported our efforts this year. In addition to Jan, members of our SAC who participated in judging include Richard Buchholz, Ph.D., Associate Professor of Biology, University of Mississippi; Gregory S. Butcher, Ph.D., Coordinator of Wings Across the Americas for the U.S. Forest Service International Programs; Sylvia Fallon, Ph.D., Director of the Wildlife Conservation Project, Natural Resources Defense Council; David Inouye, Professor, Department of Biology, University of Maryland; Gary Meffe, Ph.D., Adjunct Professor, Department of Wildlife Ecology and Conservation, University of Florida; Camille Parmesan, Ph.D., National Marine Aquarium Chair in the Marine Institute, Plymouth University (UK) and Professor of Integrative Biology, University of Texas at Austin; and Peter Raven, Ph.D., President Emeritus, Missouri Botanical Garden.

We're particularly grateful to Nancy Welch for writing the report, tracking down terrific photographs, and organizing dozens of details that went into making the report complete. Derek Goldman, Mitch Merry, Mark Rockwell, and Tara Thornton also dedicated time and energy to help us find just the right species.

Finally, we would like to once again thank Janet Leydon, our talented and creative designer, for scouting additional photos, creating rich infographics, and organizing so much information into such a dynamic and readable report.

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# POISONS AND PREDATORS: DRIVING FROGS TO EXTINCTION



Frogs have been hopping along since dinosaur days, but today they're one of the most threatened groups of animals on the planet—more than 30 percent face extinction. Mountain yellow-legged frogs were once so abundant that you could trip over them on a hike around an alpine lake. Now, more than 95 percent of southern Sierra Nevada and Southern California populations have gone extinct, and remaining colonies have only about ten adults. And it's all about us; we are degrading and destroying their habitats.



**Now or Never: We don't have much time to save the frogs from extinction**

## Here Fishy, Fishy

We've stocked Sierra Nevada lakes with trout for more than a century. Fishermen love trout, and trout love tadpoles. Mountain yellow-legged frogs can't survive with predators flooding their lakes and streams.

## Killing Fields

Frogs are highly sensitive to toxic chemicals—they are born malformed, rendered sterile, or killed outright. Pesticide contamination is one of the biggest threats that frogs face.

## Kids in the Cold!

At high elevations, tadpoles may weather several severe winters before transforming into adults.

## SOS

Mountain yellow-legged frogs are protected by law, but there's no recovery plan in place to save them from extinction. They need much more support if they're going to survive.

## Hoover, meet Dyson

Frogs are great at cleaning up. Tadpoles graze on algae, and adults eat a host of insects including wasps, flies, ants, spiders, and beetles.

## Act Now

Don't use pesticides at home, and ask your local golf course to switch to organic practices for turf maintenance.



# HOW FRANKEN-CORN IS KILLING MONARCH MIGRATION

You've heard of genetically-modified food, but did you know that Big Ag has planted more than **150 million acres** of GMO corn and soy across the Midwest?

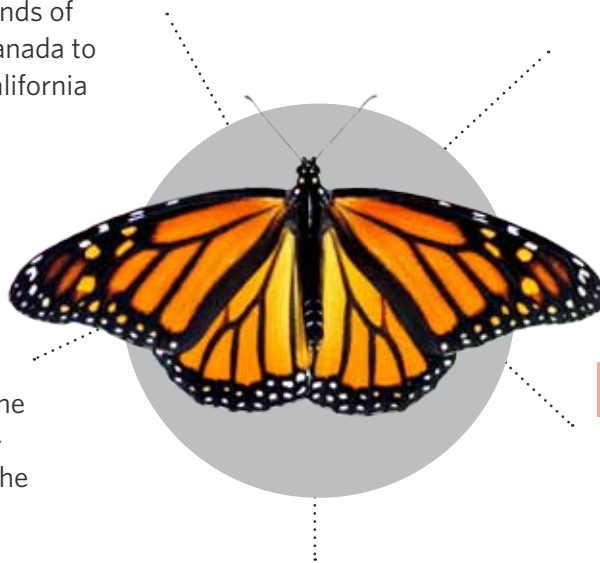
Many of these plants have been genetically modified to resist Roundup™, and millions of pounds of this toxic herbicide are sprayed on crops—and on milkweed growing on these same acres—every year. Milkweed is the only plant that monarch caterpillars can eat—they cannot survive without it. Now, great swaths of the country are devoid of milkweed, and the once-common monarch is becoming a thing of the past.

## Long Distance Travelers

The monarch is a migratory butterfly, traveling hundreds, even thousands of miles from as far as southern Canada to overwintering sites along the California coast and in central Mexico.

## Mystery

There's a lot that scientists still don't understand about how a monarch finds its way to the same overwintering site that its great-great-grandparent migrated to the year before.



## Disappearing

Up to a billion monarchs used to color our skies every summer. Now, only about 33 million remain. We're losing monarchs so fast that they may disappear in our children's lifetime.

## Act Now

Buy organic corn and soy products, and plant a butterfly garden with native milkweed and nectar plants. See [VanishingWildlife.org](http://VanishingWildlife.org) for more information and ways you can help.

## Nature's Web

Monarchs are pollinators and also serve as food for birds and other animals.



# Empty Skies: Without milkweed, monarchs will vanish—and it's happening now

# WITH ONE FLUKE OUT THE DOOR, THIS WHALE'S JUST ABOUT GONE

## North Pacific right whales are the rarest and most endangered whales on earth.

There may be only thirty left in U.S. waters. But this hasn't always been true. In the mid-1800s, when blubber was big business, these whales were very easy to find—as many as 30 thousand of them were killed in a single decade. And it didn't stop in the 1800s; well into the 1960s, whaling drove the North Pacific right whale just about to extinction.



## Not Much in the Fridge

As ocean temperatures rise and waters become more acidic, the entire ocean ecosystem is affected. Phytoplankton has been measurably declining since the 1950s, and this depletion impacts zooplankton, the right whale's critical food source.

## Limited Genes in a Diminishing Pool

Only about eight breeding female North Pacific right whales remain. Without many new babies, and without diversity in their gene pool, these whales are doomed.

## Who's making all that racket?


We're making the ocean a very noisy place. The Navy's use of sonar—part of live testing exercises—may affect whales' feeding, breeding, and communicating, and is believed to cause mass beachings.

## Save the Whales

Humans are making the ocean home of all whales less and less friendly. Whales are hit by ships, threatened by oil spills, and tangled in fishing gear—literally tons of nylon and plastic. There are now a dozen once-common whale species that our kids may never see.

## Act Now

Organize or participate in a beach cleanup. See [VanishingWildlife.org](http://VanishingWildlife.org) to learn more.

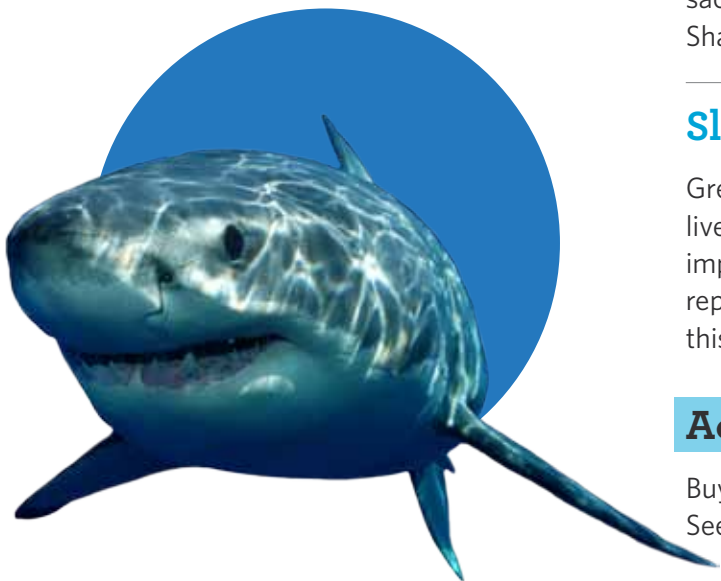


Countdown to Zero: Unless we act now, these whales may vanish in *our* lifetime

# BYCATCH IS KILLING GREAT WHITE SHARKS



The California coast is home to great white sharks—together with white sharks off of Mexico, they are a genetically distinct and geographically isolated population. Older great whites spend much of their time near marine mammal hot spots feeding on seals and sea lions, and then swim thousands of miles to places like the Hawaiian Islands and the “White Shark Café” in the Pacific, where scientists believe they breed or feed. But Northeastern Pacific population estimates off California and Mexico total fewer than 350 adults.



**SOS: Help protect these sharks and their waters, or they are on their way to oblivion**

## Gotcha! Oops...

Commercial fishing for great whites is illegal. But gillnet fishing in important nursery areas off California and Mexico snags and unintentionally kills more than 200 shark pups every year. And there is no limit on this “bycatch.”

## Hot and Fast

Great white sharks are warm-blooded and can swim fast and far—even in cold water. A great white can speed up to 35 mph and leap out of the water to attack its prey.

## White Shark Secrets

Scientists still don’t know when and where great white sharks breed, when they learn to migrate, or why they sacrifice so much energy for their long trips to the White Shark Café.

## Slow and Low

Great whites grow slowly, reach maturity late, and can live to be more than 70 years old—and they play an important role in maintaining healthy ecosystems. But low reproductive rates, small populations, and bycatch keep this species at risk of extinction.

## Act Now

Buy sustainably caught seafood to reduce bycatch. See [VanishingWildlife.org](http://VanishingWildlife.org) to learn more.



## THESE BATS ARE BARELY HANGING ON

**A once-common sight on a summer's evening, little brown bats were among the most widespread bats in North America.** Today they are virtually extinct in the Northeast, the core of their range. White-nose syndrome, a fungal disease, has killed up to 99 percent of little brown bats in affected areas. This disease continues to spread rapidly, and so far, there's no known cure. Without our help, the future of these bats looks grim.

### Live Long and Prosper!

For a small mammal, little brown bats live very long lives; the oldest one found in the wild was 31. Since we don't yet have a treatment for white-nose syndrome, we must eliminate other threats—cave disturbance, habitat destruction, pesticides—to help bats regain a foothold.

### Mosquito Buffet

Bats eat up to half their body weight in insects every night. An estimated 694 tons of insects—55.5 school buses worth—are alive today because bats have died from white-nose syndrome. We can't predict how this may impact landscapes, forests, and farms.



### A Globe-trotting Fungus

A fungus from Europe causes white-nose syndrome. It likely hitched a ride thanks to international travel and then spread like wildfire through bat colonies. Since white-nose syndrome appeared in North America in 2006, nearly 7 million bats have died.

### Blind as a...

Bats aren't truly blind, but they rely on echolocation—a kind of high-frequency biological sonar—to find and identify insect prey. Their calls in the night are so high-pitched that humans can't hear them.

### Act Now

Bats need dispersed habitat—build a bat house! Visit [VanishingWildlife.org](http://VanishingWildlife.org) for more bat information and help building a house.



**Help these bats today, or they may be gone from our night skies tomorrow**



# GLOBAL WARMING AND WHITEBARK PINES—AN ENTIRE LANDSCAPE UNRAVELS

**The whitebark pine is an alpine jack-of-all-trades. Its roots stabilize soil, and its branches protect saplings that are just getting a foothold.** Mature pines provide food and shelter for many different animals and birds. In some areas, grizzly bears rely on the high fat content of the pine's seeds to make it through winter hibernation and give birth to healthy cubs.

Whitebark pines aren't thriving in our warming weather, though. They are being attacked by fungus and rapidly devastated by mountain pine beetles. These beetles have reached epidemic numbers because our winters aren't cold enough to kill them off. A staggering 85 percent of whitebark pines have already disappeared from some parts of their historic range. If we don't act on climate change, these magnificent and critical trees will vanish.

## Want a cone? Get ready to stand in line for 50 years or so...

Whitebark pines produce cones when they're 50 to 70 years old. These slow growers also like to move in where forest fires burn out other trees.

## This Answer is Not Blowing in the Wind

Whitebark pine seeds are too heavy to blow in the wind. Instead, birds spread these seeds across the western United States and Canada.

## Mother Nature's Watering Can

Scientists believe that this pine's limbs shade snow long into the summer, allowing it to slowly melt and provide water when it's needed the most.

## Act Now

Go to [VanishingWildlife.org](http://VanishingWildlife.org) and pledge to cut your emissions by leaving your car at home and biking or walking at least twice a week.



**Beetle Mania: But this time there's a lone bugle playing Taps as these trees die off**

# RUSTY PATCHED BUMBLEBEES ARE BEING PUSHED TO THE EDGE OF EXTINCTION



The rusty patched bumblebee once buzzed over millions of acres in the United States, but it has disappeared across 87 percent of its range. Rusty patched bumblebees may be catching diseases from commercially managed bees. Also, over 3 million pounds of neonicotinoid insecticides are used on U.S. agricultural and residential developments each year, and plants that are sprayed may have toxic pollen and nectar.

Insecticides may keep plants free of pests, but they're harming many native bees, too. Bumblebees and other native pollinators are worth \$3 billion to the agricultural industry every year. They keep our flower gardens beautiful and put fruits and vegetables on our tables.



## BZZZZZ!

The rusty patched bumblebee is a buzz pollinator, grabbing a flower and then vibrating its entire body to shake out the flower's pollen. Buzz-pollinated tomatoes make better fruit, and the non-native honey bee can't perform this incredible act.

## Hide and Seek

Nobody knows for sure how many rusty patched bumbles are left, but they're in only a handful of locations in their northeastern range.

## Sick and Sicker

Rusty patched bumblebees may be catching diseases from commercial bumblebees—and perhaps from honey bees, too. Deadly illnesses are thought to be a major factor in the rusty patched bee's decline.

## This Gene Pool's Getting Shallow

With so few rusty patched bumblebees left, they face a real problem due to lack of genetic diversity.

## Act Now

Urge your community leaders to ban the use of bee-killing neonicotinoid pesticides. Visit [VanishingWildlife.org](http://VanishingWildlife.org) for more information and resources.

**Go Green: If we don't clean up our act, our pollinators' buzzing will go silent**



## PROTECTING THE GREATER SAGE-GROUSE WILL SAVE OUR WILD, WILD WEST

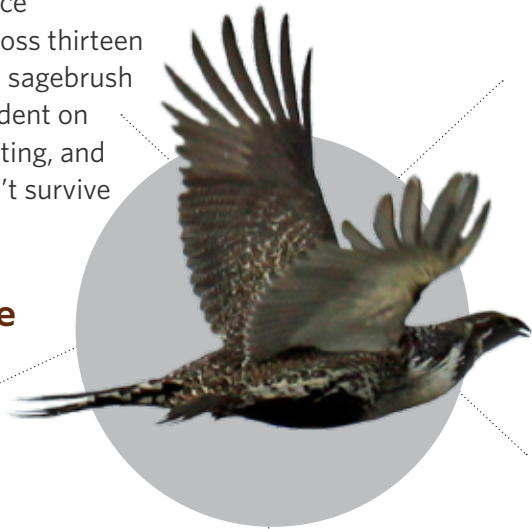
This stunning and skittish bird has a lot to grouse about right now—its sagebrush home is under demolition. Why? Because sagebrush grasslands are at the epicenter of massive oil drilling, particularly on federal public lands out West. Add to that livestock grazing, wind farms, roads, and land cleared for hundreds of miles of power lines, and you'll be hard-pressed to find any safe harbors left in the Sagebrush Sea.

### A Symbol of the West

The greater sage-grouse's range once encompassed 297 million acres across thirteen western states—virtually anywhere sagebrush grew. These birds are totally dependent on sagebrush for nutrition, shelter, nesting, and raising their young; they simply can't survive without it.

### Saving the Sage-grouse Saves You, Too

Conserving sage-grouse requires protecting sagebrush habitat for them—and for hundreds of other species, too—even as recreation, development, and drilling continue on the landscape.



### Struttin' Their Stuff

The male sage-grouse is renowned for its amazing mating display that combines dramatic wing movements and chest-puffing with a boisterous call. Their displays are so spectacular that tourists flock to watch and snap selfies with these totally cool birds.

### Act Now

Ready to buy new appliances? Choose ENERGY STAR for energy efficiency and savings! Learn more at [VanishingWildlife.org](http://VanishingWildlife.org).

### Doc in the 'Hood

Sage-grouse are an excellent indicator of the overall health of the sagebrush ecosystem. If they're suffering, it means that the whole neighborhood is in trouble.



## Destroy their sagebrush grasslands, and this iconic bird is going, going, gone...

# YOU CAN TURN DOWN THE HEAT FOR POLAR BEARS

**The Arctic ice is melting, and polar bears are in trouble.** Their lives depend on ice—they hunt off of it. These bears can eat huge amounts of fat—as much as 100 pounds in a single meal—and then fast for days. But a 1,400-pound polar bear needs an average of 4 to 5 pounds of seal blubber every single day just to keep from losing weight.

Polar bears were not born to be dumpster-diving marathon swimmers. But as global warming melts more and more ice, they can't hunt. Their choices are to raid inland dumpsters—but soggy French fries won't keep them alive. Or they swim incredible distances—hundreds of miles, even—searching for ice. Some drown before they find enough ice to stand on.



## So How Big is Big?

Polar bears are the largest predators on land. An adult male can weigh 1,500 pounds—that's three-quarters of a ton of bear that's very, very hungry.

## First on the List

Polar bears were the first mammals listed by the Endangered Species Act specifically because of global warming.

## Earth to Alaska: Wakeup Call!


Scientists say that **all the polar bears in Alaska could be gone in 35 years** if we don't do something really big, really fast about global warming.

## All of that Seal Blubber...

Polar bears catch seals by crouching near a hole in the ice and sniffing for seal breath. They also sneak up on seals on the ice, then rush the last 10 yards or so to make their catch.

## Act Now

You can make a difference! Start by getting green power for your home. Find out how—and get tips for reducing your energy use—at [VanishingWildlife.org](http://VanishingWildlife.org).

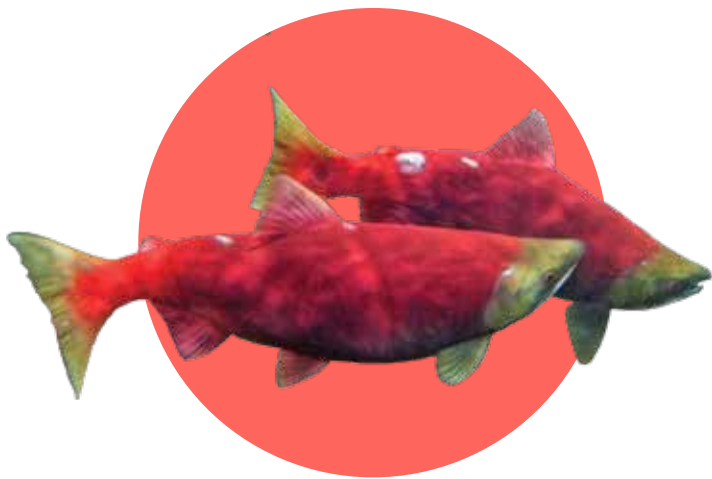


**Prediction: Two-thirds of all polar bears could vanish by 2050**

## SOCKEYE SALMON: THEY CAN'T GET THERE FROM HERE



**Snake River sockeye salmon are in big trouble.** Four federal dams block the lower Snake River, making it almost impossible for sockeye to migrate back to their spawning grounds in the Rocky Mountains. Historically, some 40,000 sockeye returned to Idaho's Redfish Lake—in the biggest, wildest, and best-protected salmon habitat remaining in the continental United States. But in 1992, only one fish—Lonesome Larry—made it home. Sockeye are the most endangered salmon in the world, but scientists agree they can make a comeback—if we help them return to Redfish Lake.



### Salmon Olympians

Adult sockeye swim 900 miles and 7,000 vertical feet to Redfish Lake—the longest, steepest migration of any salmon. During their ocean phase, they can swim to Japan and back, some 5,000 miles each way.

### Best-dressed List

While in the ocean, Snake River sockeye have blue backs and silver sides; when they migrate back to Redfish Lake, their bodies take on a crimson color, and their heads turn bright green.

### Crash Cart to the Recovery Room, Stat!

In 2010, Snake River sockeye reached their highest population since being added to the endangered species list in 1992. But this population totaled 180 fish – *just 7 percent* of their recovery goal. And now they're back down to double digits.

### Many Depend on Snake River Sockeye

Bears, eagles, wolves, and at least 135 other species benefit from the nutrients that salmon carry from the oceans into Northwest rivers and lakes.

### Act Now

Host a screening of the documentary *DamNation*. Visit [VanishingWildlife.org](http://VanishingWildlife.org) to learn more.

**Dammed: If we don't give them a healthy river, Snake River sockeye will vanish forever**

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Mason, Rosemary, et. al. 2012. Immune suppression by neonicotinoid insecticides at the root of global wildlife declines. (*Journal of Environmental Immunology and Toxicology*, STM Publishing, September/October)

## SNAKE RIVER SOCKEYE SALMON

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USFWS species profile: [ecos.fws.gov/speciesProfile/profile/speciesProfile.action?scode=E06Y](http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?scode=E06Y)

Save Our Wild Salmon (SOS): [www.wildsalmon.org/blog/one-of-a-kind/](http://www.wildsalmon.org/blog/one-of-a-kind/)

NOAA: [www.fishwatch.gov/seafood\\_profiles/species/salmon/species\\_pages/sockeye\\_salmon.htm](http://www.fishwatch.gov/seafood_profiles/species/salmon/species_pages/sockeye_salmon.htm)

## WHITEBARK PINE

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USFWS species profile: [www.fws.gov/mountain-prairie/species/plants/whitebarkpine/](http://www.fws.gov/mountain-prairie/species/plants/whitebarkpine/)

NRDC: <http://www.nrdc.org/wildlife/whitebark/>

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Please refer to citations for specific species; see also:

[http://e360.yale.edu/feature/behind\\_mass\\_die\\_offs\\_pesticides\\_lurk\\_as\\_culprit/2228/](http://e360.yale.edu/feature/behind_mass_die_offs_pesticides_lurk_as_culprit/2228/)

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## Neonicotinoids

Farm chemicals impact monarchs, bees, bats, frogs & more



Neonics were introduced by Bayer CropScience in the early 1990s

Farm areas with **increasing neonic** use have **decreasing wildlife** populations



Neonics are likely weakening immune systems of frogs & bats—making them susceptible to disease



Bats are especially vulnerable: little bodies + long life spans = heavy doses of toxic pesticides in their bodies

More than **1,800** amphibian species face extinction worldwide. Insecticides move with the wind, settling in air, snow, and water—and inside amphibians.



At least **4** once-common bumblebees are seeing catastrophic declines. Neonicotinoids are highly toxic to bumblebees.

### Act Now:

Garden organically. Create pollinator gardens. Hang bat boxes. Advocate for neonic-free golf courses and city lands.

## Energy + Climate

Burning fossil fuels = global warming = extreme weather, more wildfires, invasive species, & extinctions



The biggest increase in oil production in U.S. history has occurred from 2009-2013



Currently climate change commits **18% to 35% of all species** to extinction by 2050



Whitebark pine trees die off as invasive beetles and fungi thrive

**44%**

of the most important remaining habitat for sage-grouse is at risk of energy development



Polar bears struggle to hunt, travel, breed, and den as sea ice melts

**ACT NOW**  
[WWW.VANISHINGWILDLIFE.ORG](http://WWW.VANISHINGWILDLIFE.ORG)  
Spread the word, share now

### Act Now:

Park your car and walk or bike. Switch to green electricity; get an estimate for solar panels. Sign a pledge at [VanishingWildlife.org](http://VanishingWildlife.org)

## Oceans in Peril

Wildlife is hearing, seeing, and feeling the decline of oceans



Naval SONAR travels up to hundreds of miles and disrupts endangered whales

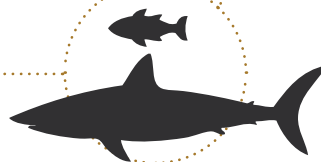
Sharks, salmon, and other species that swim near coastlines face higher contamination than ever. More than 66,000 dams sit on U.S. rivers, blocking fish from reaching the ocean.

Some ocean populations are tiny: 30 North Pacific right whales, < 100 wild sockeye salmon, and only 350 great white sharks off California + Mexico



Plastic trash in the ocean = a garbage patch 2x the size of Texas

Great white shark pups and other imperiled species are frequently caught in fishing nets and die



Acidic waters kill the prey species that whales and salmon eat

### Act Now:

Clean up beaches! Organize a SONAR protest at your Navy recruitment center. Buy only sustainably-caught fish.

REPORT  
DEVELOPED BY:



*In partnership with:*



REACHED YOUR **ACT NOW** GOALS?

PASS THIS REPORT ALONG  
TO ANOTHER ACTIVIST!

