

Conservation Status and Threats to North American Bats

STATE



ROOT

THE



BATS

NORTH AMERICA

2023

AT A GLANCE

Bats are Beneficial

Bats benefit people and our planet in many ways. Bats help farmers by consuming insect pests, which improves crop yields and reduces pesticide use. Nectar-feeding bats pollinate plants and fruit-eating bats disperse seeds in tropical forests. Spectacular bat flights generate ecotourism dollars. Bat research leads to scientific discoveries, inspiring technology, medicine, and art.

Bats Face Many Threats

The forces of global change threaten bats worldwide. In North America, experts report the top threats to bats include climate change, habitat loss, wind energy, and a bat disease called white-nose syndrome that has killed millions of hibernating bats in the United States and Canada. Destruction and disturbance of bat roosts is a major threat, especially for bats in caves. Bats become more vulnerable when multiple threats occur.

EXPERTS ESTIMATE EXTINCTION RISK OF BATS

From 2020 to 2022, bat experts in North America convened virtually to systematically assess the extinction risk of bat species. Using criteria from NatureServe, 100 scientists evaluated the scope and severity of threats to bats and their population status. The extinction risk of bat species reported here reflects the consensus of these expert opinions on the State of the Bats in North America.

Extinction Risk is Rising

Experts now estimate that 52% of bat species in North America are at risk of populations declining severely in the next 15 years.¹ As the scope and severity of threats increase, so does the need for collaborative research, monitoring, and public support for bat conservation. We must act now to reduce or eliminate threats.

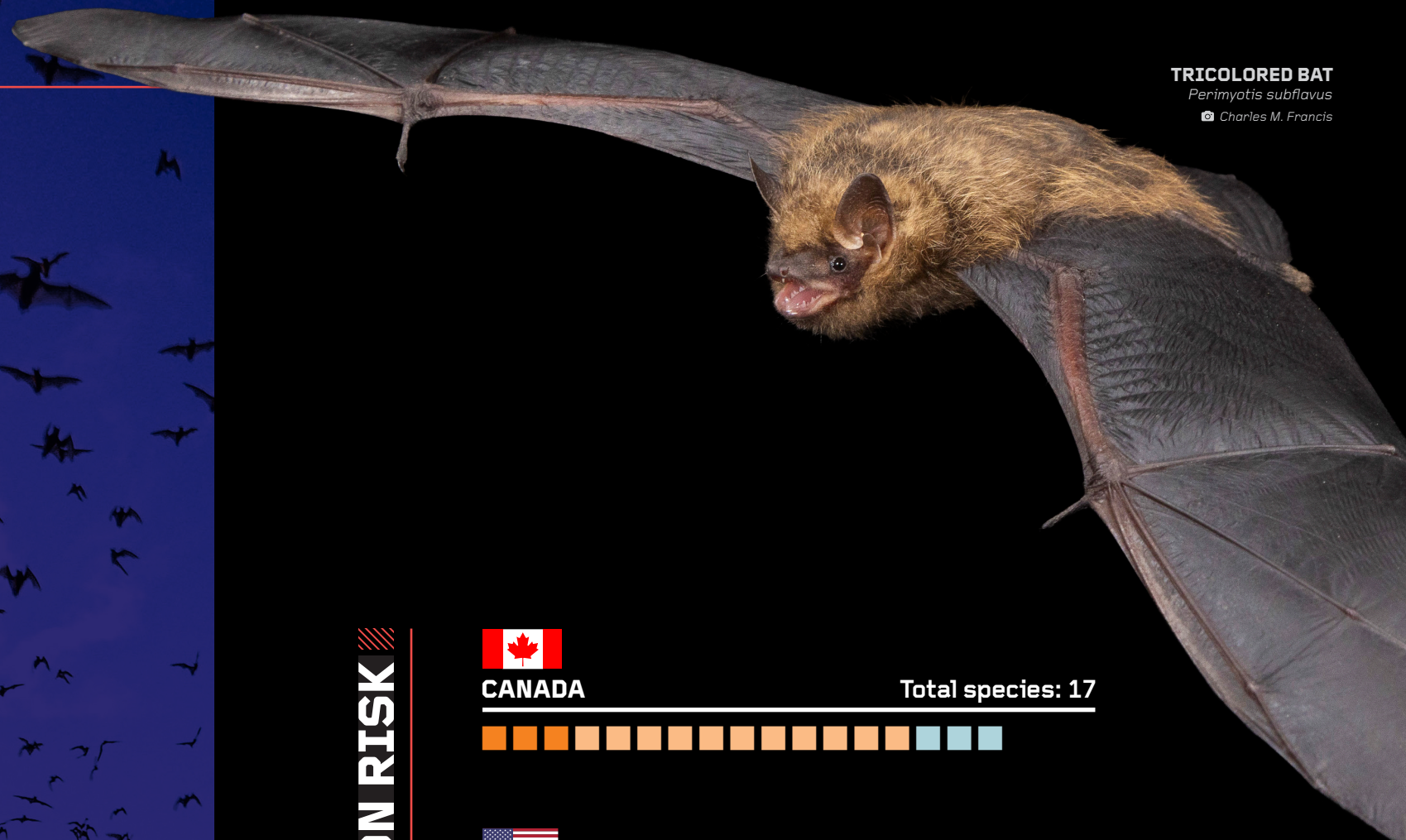
Bats Depend on Us

We can make a difference to reduce threats to bats. The next 15 years are critical for ensuring a better future. Protecting bats and their habitats helps create a healthier, safer world for our forests, our farmers, and ourselves. Bat conservation benefits us all.

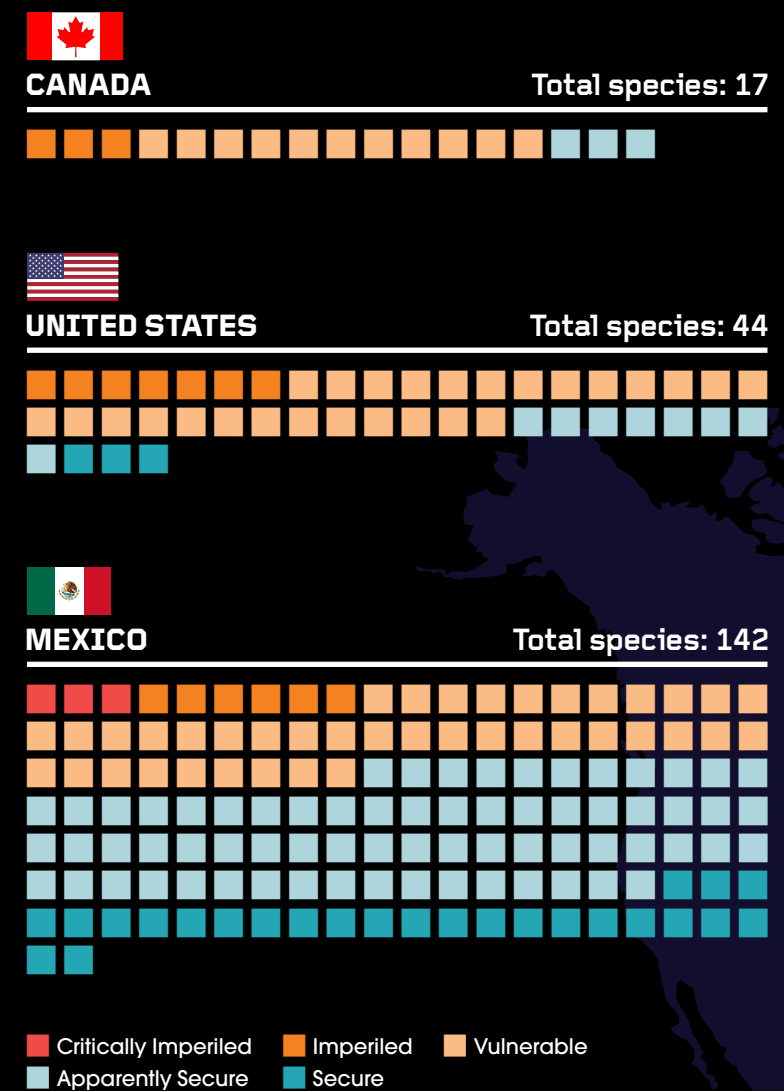
52%

OF NORTH AMERICAN BAT SPECIES NEED CONSERVATION ACTION

TRICOLORED BAT
Perimyotis subflavus
© Charles M. Francis



EXTINCTION RISK



© Jonathan Alonzo

THE INCREDIBLE DIVERSITY OF BATS

North America's bats are diverse. By working together, we can ensure their survival.

Over 1,460 bat species exist worldwide, of which 154 species occur in North America. Most bat species support ecosystem health in our forests, deserts, grasslands, and agricultural lands by devouring insects every night. The forests of southern Mexico boast the most bat species, including species with important ecological roles, such as pollination and seed dispersal.

Conservation relies on identifying threats and determining the status of each bat species. Knowing the state of North America's bats informs how we prioritize and design conservation actions. Legal protection, local action, research attention, public support, and cross-boundary collaboration all contribute to safeguarding our bats.

SPOTTED BAT

Euderma maculatum

Lives in cliffs in western North America. Huge ears for hunting moths.

CAN/USA Vulnerable
MEX Apparently Secure

📷 Bruce D. Taubert

LITTLE BROWN BAT

Myotis lucifugus

Endangered in Canada. Found coast-to-coast. Threatened by white-nose syndrome.

CAN Vulnerable
USA Imperiled

📷 Charles M. Francis

PALLID BAT

Antrozous pallidus

Eats scorpions and drinks cactus nectar. Lives in western North America.

CAN Imperiled
USA/MEX Apparently Secure

📷 Michael Durham/Minden Pictures, Bat Conservation International

FISH-EATING BAT

Myotis vivesi

Endangered in Mexico. Only found on islands in the Gulf of California hunting small fish.

MEX Imperiled

📷 Marco Tschapka

LITTLE YELLOW-EARED BAT

Vampyressa thonyae

Leaf-nosed bat that has a fondness for figs.

MEX Vulnerable

📷 Charles M. Francis

CALIFORNIA LEAF-NOSED BAT

Macrotus californicus

Lives in caves in the deserts of Mexico and southwestern United States. Hunts crickets and katydids.

USA Vulnerable
MEX Apparently Secure

📷 Michael Durham/Minden Pictures, Bat Conservation International

NORTHERN LONG-EARED BAT

Myotis septentrionalis

Endangered in Canada and USA. Hibernates in caves and mines, but 99% have died from white-nose syndrome.

CAN/USA Imperiled

📷 Michael Durham/Minden Pictures

MEXICAN FREE-TAILED BAT

Tadarida brasiliensis

Huge colonies live in bridges and caves. Flies high and fast, eating crop pests.

USA Secure
MEX Apparently Secure

📷 Bruce D. Taubert

SPECTRAL BAT

Vampyrum spectrum

Largest bat in the Americas. Hunts rats, birds, and bats. Lives in southern Mexico.

MEX Imperiled

📷 Price Sewell

HOARY BAT

Lasiurus cinereus

Lives in tree foliage and migrates long distances. Found coast-to-coast.

CAN/USA/MEX Apparently Secure

📷 Michael Durham/Minden Pictures

BIG-EARED BAT

Corynorhinus townsendii

Hunts moths. Lives in old trees and caves.

CAN/USA Vulnerable
MEX Apparently Secure

📷 Michael Durham/Minden Pictures, Bat Conservation International

FLORIDA BONNETED BAT

Eumops floridanus

Endangered in USA. Found only in southern Florida. Threatened by urban development and climate change.

USA Imperiled

📷 Micaela Jemison, Bat Conservation International

LESSER LONG-NOSED BAT

Leptonycteris yerbabuena

Pollinates cactus and agave flowers. Recovered from endangered in Mexico and USA.

USA Vulnerable
MEX Apparently Secure

📷 Bruce D. Taubert

FRINGE-LIPPED BAT

Trachops cirrhosus

Eats frogs and insects. Lives in southern Mexico.

MEX Vulnerable

📷 Charles M. Francis

© Price Savell

TOP THREATS TO NORTH AMERICAN BATS

White-nose Syndrome

Millions of bats have perished from white-nose syndrome, a deadly fungal disease of hibernating bats first discovered in New York in 2007. The fungus has spread across the United States and Canada, killing 9 out of 10 little brown bats, northern long-eared bats, and tricolored bats. Twelve North American bat species are known to be susceptible to white-nose syndrome when they hibernate during winter. Innovative research and management combined with legal protection of the most at-risk species are vital to ensure these species don't disappear forever.



Climate Change

Climate change harms bats. In North America, extreme temperatures and drought are the biggest threats to bats from climate change. Bats fail to reproduce or die without enough water. Heat waves and severe winter storms have already killed many bats, and these extreme conditions continue to threaten bats and other wildlife. Renewable energy, such as wind and solar power, emit little to no greenhouse gases and are helpful toward combating climate change; however, wind energy must be managed carefully to avoid killing unsustainable numbers of bats.



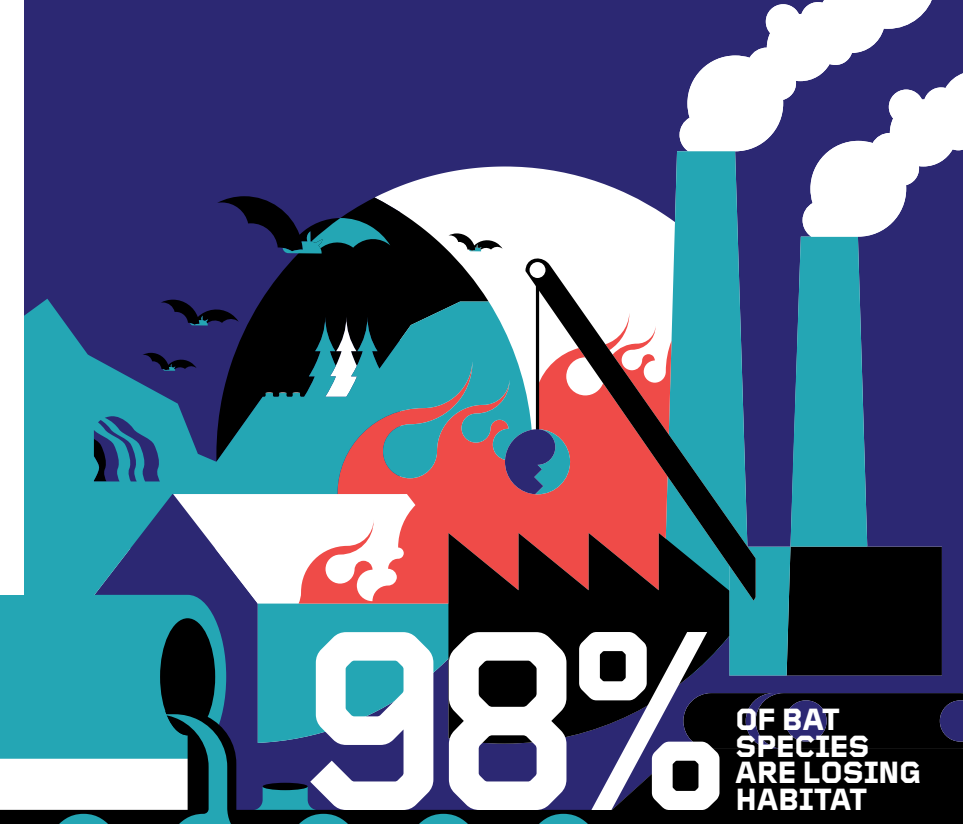
82% OF SPECIES AT RISK FROM CLIMATE CHANGE OVER NEXT 15 YEARS¹



90% DECLINE OF THREE BAT SPECIES

Threats to Bat Habitats

Healthy bats need healthy and safe habitats. Bat species across North America are threatened by degradation and destruction of their roosts and foraging areas. Different bat species choose different kinds of homes—some species live in trees, others in caves or mines, and some in rock crevices. Bats that live in caves can be especially vulnerable to persecution and disturbance. Bat experts identify logging and urban expansion in Canada, fire and fire suppression in the United States, and livestock ranching in Mexico as major threats to bat habitats.¹



98% OF BAT SPECIES ARE LOSING HABITAT



45 SPECIES ARE THREATENED BY ENERGY PRODUCTION

Energy Production

To help meet electricity demands with renewable sources, wind energy capacity is predicted to increase by more than 500% by 2050. In North America, roughly half a million bats die each year from colliding with wind turbines and are most vulnerable during autumnal migration. Experts predict that four bat species will lose more than half of their populations due to collisions with wind turbines in the next 15 years if effective conservation actions are not taken soon.¹ Partnerships between wind energy development, management agencies, and researchers have identified effective solutions that reduce bat fatalities from wind turbines. Working together to implement these solutions will ensure bats are safe.

Conservation works best when people are empowered with data



The North American Bat Monitoring Program (NABat) provides a framework, guidance, and support for collaborative monitoring and informed analysis to guide conservation of bats. NABat unites scientists, resource managers, policy-makers, and bat enthusiasts to work together to understand how bats are doing. nabatmonitoring.org



GRAY BAT
Myotis grisescens
↑16%
INCREASE IN SUMMER DISTRIBUTION
© J. Scott Altenbach

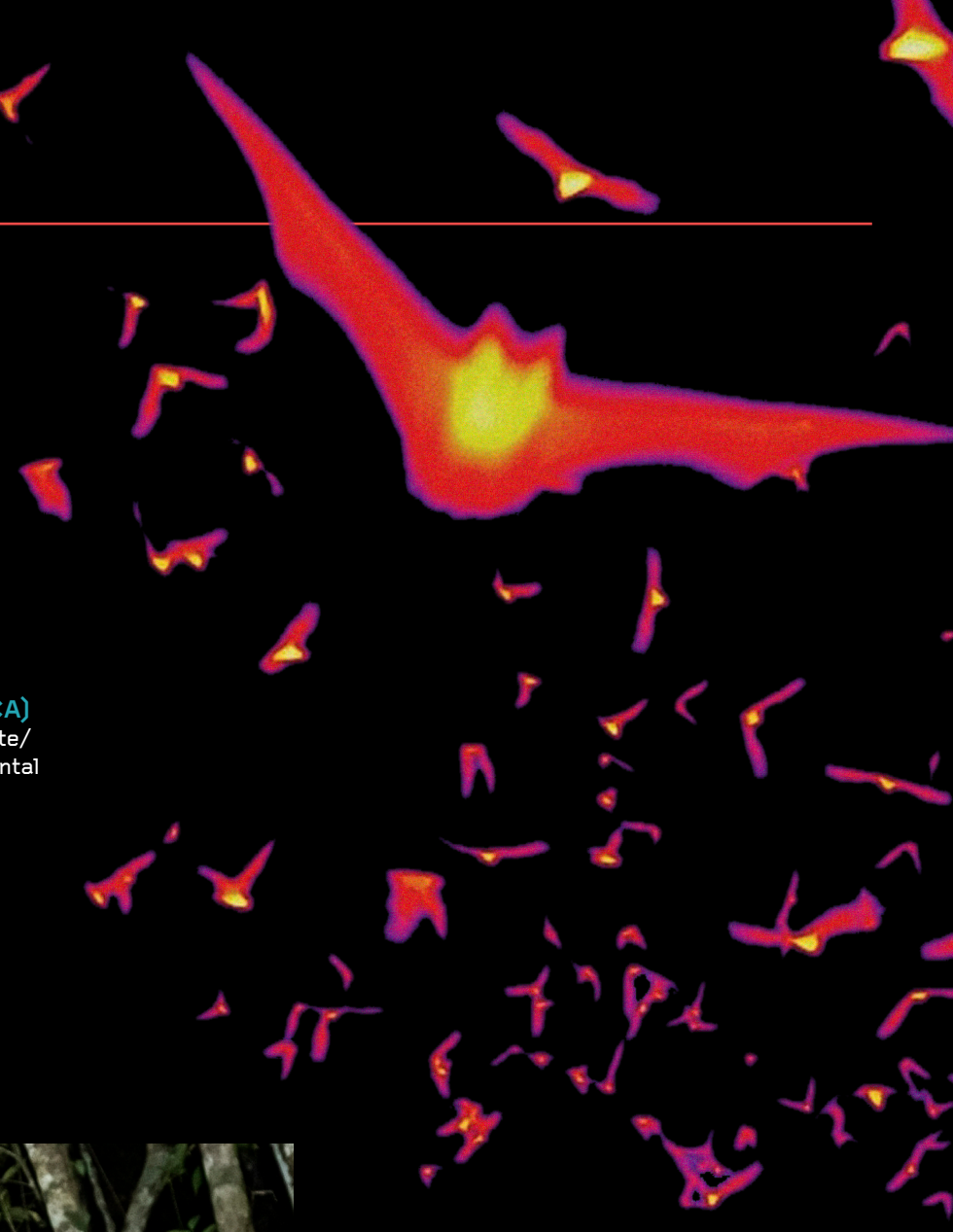
TRICOLORED BAT
Perimyotis subflavus
↓50%
DECREASE IN SUMMER DISTRIBUTION
© J. Scott Altenbach



NORTHERN LONG-EARED BAT
Myotis septentrionalis
↓40%
DECREASE IN SUMMER DISTRIBUTION
© J. Scott Altenbach



The North American Bat Conservation Alliance (NABCA) brings together federal and state/provincial/territorial governmental agencies and nongovernmental groups to promote and guide bat conservation. The Alliance supports gathering and sharing information to identify priority needs for the benefit of bats, people, and their ecosystems. batconservationalliance.org



Shannon Hilty surveying caves for bats in Montana, USA. Trained biologists count bats when they hibernate in caves and mines to monitor bat health.

© Dave Bobbitt



The White-nose Syndrome Response Team brings together 150 governmental and nongovernmental partner organizations to collaboratively address the threat of the disease and help hibernating bats across North America survive and recover. The Response Team has focused research efforts to develop innovative disease management solutions and to use those tools to prevent the risk of extinction for susceptible native bat species. whitenosesyndrome.org



Javier Torres Cervantes records the echolocation call of a spectral bat as it flies back into the forest. Building a sound library of bat calls helps experts study bats to protect them.

© Armando Vega



The Commission for the Knowledge and Use of Biodiversity, CONABIO, works with many Mexican scientists to monitor bats. Many people contribute to the Mexican Bat Conservation Program which plays a crucial role in monitoring threatened and endangered species in Mexico. The System for Acoustic Monitoring of Bats (SIMMA) employs acoustic monitoring in federally protected areas and collaborates with CONABIO to inform management plans and decision-making. gob.mx/conabio/en

BENEFITS OF BATS

WE NEED BATS

Bats benefit society. As voracious consumers of insects, bats help farmers and keep forests healthy. Bats inspire innovation and creativity from scientific discoveries and new technologies to visual arts and literature, and even superheroes.

AGRICULTURAL PEST CONTROL

In North America, bats save the agricultural industry billions of dollars annually. By eating crop pests, bats improve crop yields and reduce pesticide use.

ECOTOURISM

Every summer, tourists flock by the thousands to watch spectacular bat flights, bringing ecotourism dollars to communities and building relationships between people and nature.

SCIENTIFIC ADVANCEMENTS

Bats inspire scientific advancements benefiting people, including blood-clot medications, navigational aids for the blind, and military sonar.



HEALTHY FORESTS

From tropical to ww forests, bats help forests by eating insects that damage trees and spreading nutrients. Many bats live in old, big trees in forests.

POLLINATION

Nectar bats are the hummingbirds of the night. In Mexico and southwestern United States, bats pollinate valuable plants like cacti and agaves. Toast bats for tequila!

SEED DISPERSAL

Fruit-eating bats in tropical forests are messy eaters, dropping seeds in places that help regenerate degraded forests. Bats particularly love figs.



BATS NEED US

Bats are in trouble from many threats including climate change, the disease white-nose syndrome, and habitat loss. We can help protect bats and their habitats. Bat conservation inspires collaboration, combining grassroots efforts led by nonprofit conservation organizations, landowners and local communities, academic researchers, and governmental and multinational programs focused on protecting bat species in need.

Everyone has a role to play. Being a bat enthusiast builds support for wildlife conservation and the policies and actions that protect our natural world for a better future. Bats do a lot for us, let's make a difference for them.

MEXICAN LONG-NOSED BAT

Leptonycteris nivalis

© Winifred Frick/
Bat Conservation International





WHAT YOU CAN DO FOR BATS

CREATE AND PROTECT BAT HABITATS IN YOUR OWN BACKYARD

- Protect old trees as nature's bat houses
- Trim trees in fall and spring to avoid harming bat pups
- Create a bat-friendly garden by planting native species and reducing pesticides
- Create water sources for wildlife, especially in arid habitats
- Keep cats indoors
- Use reputable wildlife experts to safely evict and exclude bats from buildings—visit batcon.org/about-bats/

EXPLORE NATURE RESPONSIBLY

- Avoid disturbing bats during hibernation or when they have pups in summer
- Report bat observations to your wildlife agency
- Respect cave and mine closures and advisories
- Practice clean caving and climbing by decontaminating all gear—visit whitenosesyndrome.org

CHOOSE CLIMATE-FRIENDLY AND GREEN OPTIONS TO HELP THE PLANET, INCLUDING BATS...

- Reduce your energy use and carbon footprint
- Use sustainable forest products
- Buy organic and local
- Choose bat-friendly tequila

SPEAK UP FOR BATS

- Be a bat enthusiast on social media and with your friends and family
- Share with others the importance of bats and bat conservation
- Support conservation efforts and policies that protect nature and wildlife
- Become a bat biologist and work for bat conservation

There are many ways to support bat conservation with your actions, your choices, and your voice



Follow Us



Environment and Climate Change Canada

Environnement et Changement climatique Canada

¹State of the Bats in North America Expert Elicitation, for more info see batcon.org/stateofthebats. Cover photos, clockwise from top: Eastern Red Bat (*Lasiurus borealis*) by Price Sewell; Allen's Big-Eared Bat (*Idionycteris phyllotis*) by Josh Hydeman; Trumpet-Nosed Bat (*Musonycteris harrisoni*) by Rodrigo Medellín. Back cover photo by Ivan Yates, National Parks Service.