

American Cave Adventures

PRODUCED BY THE AMERICAN CAVE CONSERVATION ASSOCIATION

Bats Need Clean Water Too!

by Cullen Geiselman, Education Programs Assistant, Bat Conservation International



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How can mammals which spend their nights flying through the air and their days sleeping in caves, old barns, or tree hollows be affected by water pollution? Like other animals, bats must drink water every day. Because it is unsafe for them to land and drink, bats drink water while flying, or “on the wing.” Bats can become sick or even die if they drink water that has been contaminated by pesticide or fertilizer runoff from farms, golf courses, or lawns. This type of pollution is called nonpoint

source pollution. As the name suggests, it is hard to figure out the source of this kind of pollution. Since most bats fly over large areas every night, it is even more difficult to determine exactly where poisoned bats drank polluted water.

Kentucky is home to fourteen species of bats which are all *insectivorous*, meaning

Above: Townsend's big-eared bat (Corynorhinus townsendii) drinks from a pond.

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Left: Big brown bat (Eptesicus fuscus) in flight with a moth. Right: Volunteers build a cave gate to protect Townsend's big-eared bats.

that they eat insects. Some of their favorite snacks include moths, beetles, mayflies, and mosquitoes. Many of these insects hatch out of water. Runoff of pesticides, fertilizers, other pollutants, and soil can change the aquatic habitat so that the numbers and types of insects decrease, leaving bats hungry. Bats must move out of an area if they can't find enough to eat. To protect water resources for bats, people should consider using fewer chemicals and maintaining buffer zones around streams, rivers and lakes. Buffer zones are areas with trees and other vegetation that help filter pollution and prevent soil from washing into a stream or waterway.

Farmers are learning that bats can be good neighbors. Farmers want to decrease insect pests on their crops and bats want to eat some of the same insects. It's a win-win situation! However, when farmers count on pesticides instead of bats, there can be problems. Bats that have eaten insects sprayed by pesticides can become ill or die.

Then, not only do bats lose, but so do the farmers since fewer bats mean more pests on the crops and more expensive applications of pesticides. Farmers can encourage bats to stay near their farms by building bat houses, keeping water resources clean, and reducing the use of pesticides.


You can help keep water resources clean for bats, other wildlife, and humans by encouraging people to use fewer pesticides and fertilizers, by disposing of garbage and other waste products in the appropriate places, and by teaching a friend or neighbor to do the same. We all share water resources!





To learn more about bats,
visit Bat Conservation
International's web site at:
www.batcon.org or write to


Bat Conservation International, Inc.,
P.O. Box 162603, Austin, TX 78716


Fantastic Bat Facts


 Bats are the world's **only flying mammal**. Flying squirrels actually spread their legs, jump, and glide through the air. Bats have wings!


 There are nearly 1,000 different kinds of bats in the world. We have 14 bat species in Kentucky.

 The **largest bat** in the world is the gigantic flying fox, found in Asia. It weighs over 2 pounds and has a wing span of about 6 ft.! This bat eats a lot of fruit!

 Bats are found on every continent except Antarctica.

 The **smallest bat** (and the world's smallest mammal) is the hog-nosed bat, found in Thailand. It weighs 2 grams—the same as a dime!

 Most bats in the United States eat insects. The little brown bat can eat as many as 600 mosquito-sized insects **each hour!**

 Vampire bats are found in Mexico, Central America, and South America (not in the U.S.) and do not feed on people. They make small bites on large farm animals and lap up about 2 tablespoons of blood per night.



Ernie Coffman

Protecting Bats

The American Cave Conservation Association is dedicated to protecting caves and cave resources, including bats. Together with partners such as Bat Conservation International, we design gates that are installed over cave entrances to protect bats that use the caves as places to hibernate or raise their young. The cave gates allow bats to enter and exit the caves and protect them from human disturbance.

Bats of Kentucky

Rafinesque's big-eared bat (*Corynorhinus rafinesquii*)
 *Townsend's big-eared bat (*Corynorhinus townsendii*)
 Big brown bat (*Eptesicus fuscus*)
 Silver-haired bat (*Lasionycteris noctivagans*)
 Red bat (*Lasiurus borealis*)
 Hoary bat (*Lasiurus cinereus*)
 Southeastern myotis (*Myotis austroriparius*)
 *Gray myotis (*Myotis grisescens*)
 Small-footed myotis (*Myotis leibii*)
 Little brown myotis (*Myotis lucifugus*)
 Northern long-eared myotis (*Myotis septentrionalis*)
 *Indiana myotis (*Myotis sodalis*)
 Evening bat (*Nycticeius humeralis*)
 Eastern pipistrelle (*Pipistrellus subflavus*)

*an endangered species

A Puzzling Bat

JBCQQHI

ZACTOJNRW

LPVIGGLQSLRO

JKNNULJEJKML

TOELKMLCJLH

HSTJLEKTKYK

EFARMERSDLR

XHXBESA

FETIOJTG H

CKAEBBKANIYC

KALULTENIIH

RLVLJAKRWL

PDULEJBFEKRD

TFDNDGFRBAAF

TVAMPIREBATFLKDAFLKDFOLFOLLUTIONAAILTF

RFOLITTLBROWNBATLAKEPLDKFQLFDTHLE

VAMPHOGNOSEDBATYANTARCTICAFJE

XJADFKPESTICIDESJLLKFJCB

QFMJDFLIKDNKLZDAFJXP

JFMZFUDEGKLDMFLQ

BFARFKFLFMKZ

FLIOHA

GJXM

Word Search

Hibernate	Hog-nosed Bat
Cave Gate	Little Brown Bat
Farmers	Antarctica
Bat	Fruit
Caves	Pollution
Mammal	Water
Flying Fox	Runoff
Wings	Insects
Pesticides	Vampire Bat

*See if you can find and
circle all 18 batty words!*