



Nora Lea, Kanawha State Forest's very own Northern Long-eared Bat
Courtesy, All Star Ecology

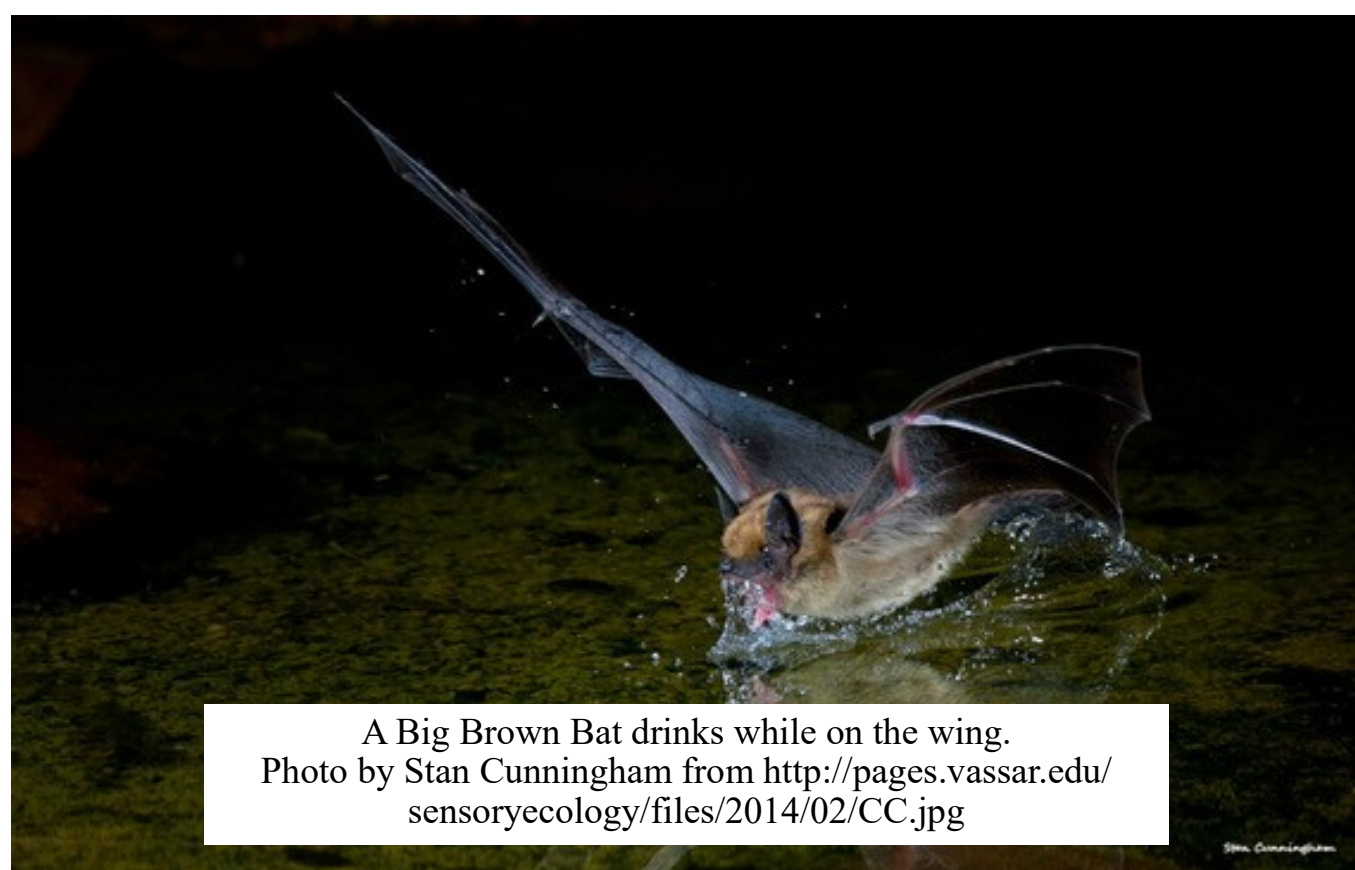
Kanawha State Forest: The Best of Habitats

Nine species of bats are known to live in Kanawha State Forest in the summer. All are suspected of breeding and raising young in the Forest, which indicates high quality habitat. Without adequate food, water, air, shelter, health-care essentials, and social interaction space, raising healthy new generations would be impossible. Native plants support many more species of insects that fall prey to bats, than do non-natives, such as Tree-of-Heaven and Oriental Bittersweet. Kanawha State Forest is now being invaded by non-natives, but overall, it still has a large percentage of native plants.

Clean water is also important to bats, not only for drinking-on-the-wing, but for the production of a great diversity of the winged adult stage of aquatic insects. Severely polluted streams, like mine-impacted Kanawha Fork on the Forest's eastern border, cannot support healthy aquatic communities. Although that stream is acidic and sediment-choked, most of the Forest's streams have clean water and good stream bottom habitat.

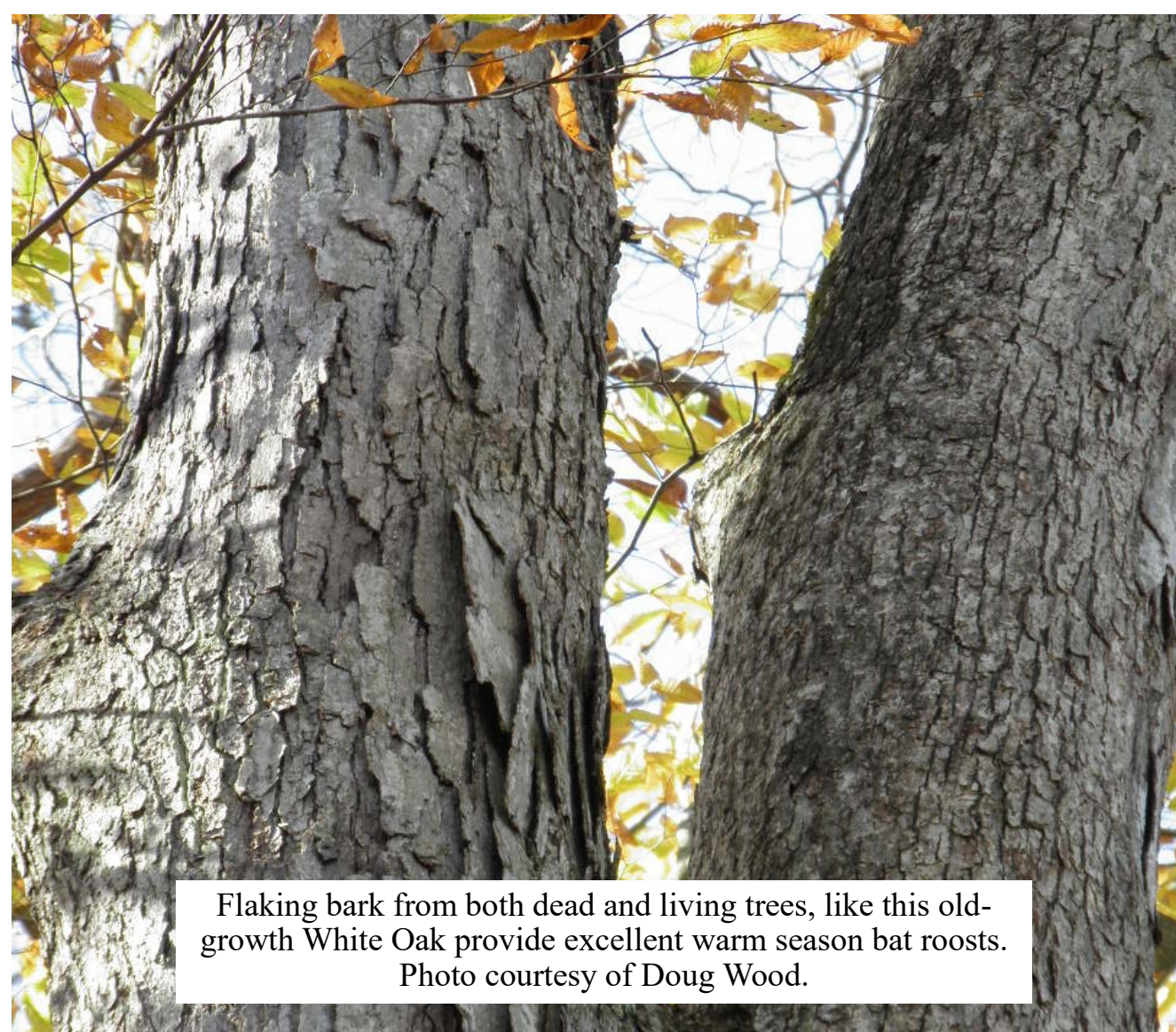


A Fishfly lays eggs on a leaf above a clean stream, wherein the hatching larvae drop, becoming aquatic nymphs before eventually emerging as adults.
Photo courtesy of Doug Wood.



A Big Brown Bat drinks while on the wing.
Photo by Stan Cunningham from <http://pages.vassar.edu/sensoryecology/files/2014/02/CC.jpg>

Rough tree bark and leaves provide excellent shelter not only for bats' insect prey, but also for the bats themselves. During their dormant daytime hours, several bat species prefer hanging from twigs surrounded by leaves, while others like to hide under flaking tree bark. Shagbark Hickory trees are particularly useful because of their plate-like bark that develops even when the trees are young. Several tree species, as they mature, develop flaky bark, and Kanawha State Forest has old-growth tracts full of them.



Flaking bark from both dead and living trees, like this old-growth White Oak provide excellent warm season bat roosts.
Photo courtesy of Doug Wood.

Still other trees provide good cover due to fungus-caused heartwood rot, the slow hollowing of a tree's core. Frost cracks, fire scars, wind-broken limbs, woodpecker chiselings, and squirrel excavations may start the rotting process. The end results include fissures, crevices, and holes through which bats may enter a waterproof and windproof space, perfect for rearing young.



Kanawha State Forest has many hollow trees, like this American Beech that fits one human or 100 bats.
Photo courtesy of Dianne Anestis.

Bat pups are born blind and bald, making them very vulnerable to the elements and to predators. Nursing mothers are also more vulnerable in their lactating condition, when they must acquire enough food to sustain themselves and to produce milk for their pups. Hollow trees provide some protections from the dangers of exposure.



A blind, nursing bat pup fallen from the safety of the roost.
Photo courtesy of Doug Wood.

Humans have the ability to harm or help bats. Over much of human history, fear and ignorance has driven humans to wage war against bats. However, new scientific research and revived indigenous wisdom has helped more recent generations to appreciate the ecological importance and economic benefits of bats. The protections provided to the Forest's Indiana Bat and Northern Long-eared Bat by the Endangered Species Act is an outcome of this enlightenment, as are efforts to enhance warm-season bat roosting needs by erecting bat boxes of various styles. Although many natural roosting areas are scattered throughout Kanawha State Forest and maternity colonies of endangered bats have been found by researchers, you may see several bat boxes scattered around the Forest in forest openings, thanks to boy scouts and other volunteers who wanted to do something kind for bats. Please respect their efforts and do not disturb the bats inside.



Where natural bat roosts are scarce, several types of bat boxes can be used with varying levels of success.
Photo courtesy of Doug Wood.



A Northern Long-eared Bat peers out from its flaking bark day roost.
Merlin Tuttle image from http://www.batcon.org/images/mjemisonImages/BATS_magazine/northern-long-eared-bat_Myotis-septentrionalis_8284104_CREDIT--Merlin-D.-Tuttle_400px.png

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