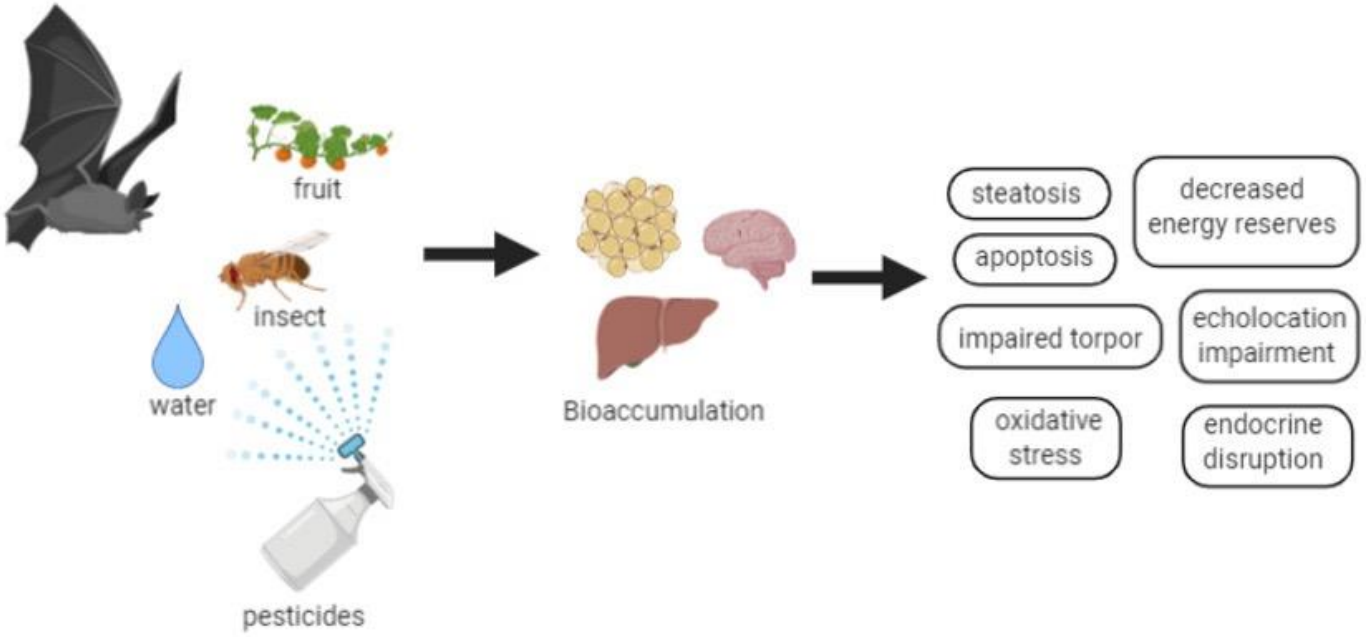
Bloomfield Leisure Services & Wintonbury Land Trust
Nature Lecture Series

“Bats of Connecticut”
May 4, 2022

The webinar ended with a Question & Answer session.
Richard Taylor, Master Wildlife Conservationist, and
Dr. Devaughn Fraser, CT DEEP Wildlife Division,
provided the following notes from that session with
more detailed answers and links to additional references.

1. How do pesticides impact bats and their health, considering bats may eat thousands of insects per night/week? (Asked by Windy)

Recent studies have suggested that **bats may be at greater risk regarding pesticides exposure than previously expected**. Pesticide exposure in bats can occur through food and water contamination or through skin contact in their roosting areas. Residues can bioaccumulate in their tissues and compromise their health. It has been suggested that if long term exposure to pesticides compromise bat health and a compromised bat contracts White Nose Syndrome during hibernation, they will struggle even harder to survive, but more research is needed to yield a definitive answer since we have not directly studied the interaction between pesticides and WNS. Chart: Major endpoints of the consequences of bats exposure to pesticides from article in **Brazilian Journal of Biology**.



The Connecticut Senate and House recently passed a law to prevent the use of the pesticide chlorpyrifos, an insecticide from golf courses. The bill will go to the Governor's desk for final approval.
https://e360.yale.edu/features/behind_mass_die_offs_pesticides_lurk_as_culprit

2. Are medications available to address White Nose Syndrome? (Asked by Windy)

Not yet. As stated in the presentation, scientists are working to develop a solution to WNS and biological agents, the right combination of antifungal treatments and treatments field testing are all being considered, but it could take years to find a solution.

3. A bat was seen during the winter in the area of Kettletown State Park in Southbury. What should be done when bats are observed in the winter?

It's possible bats could be hibernating in the area, but unlikely there is a large hibernaculum that DEEP does not know about. Sometimes bats will overwinter in people's home. We also have migratory tree bats that have been documented to remain in the area over winter. We have evidence two silver haired bats stuck around this winter in CT. Contact CT DEEP Wildlife, deep.batprogram@ct.gov, so the wildlife biologists can research situations like these.

4. A suggestion was made by a program participant to create a misting station at the openings of the hibernacula to apply an antifungal agent to bats.

Perhaps … many options are being explored. We are awaiting field validation for some of these types of suggestions and hopefully will have treatment options soon. But it could still be a while away from a scalable and safe solution. Note, these are the types of solutions that scientist and biologists are researching. Thank you.

5. Where are the best locations for bat houses? (Asked by Nancy & Sharon)

Bat houses can be mounted on wooden posts, steel poles, pivot poles, or on the sides of buildings, but should **not** be mounted on trees for three reasons: they receive less sun among the branches, bat tenants are more vulnerable to predators sitting in trees, and obstructions in the form of branches and surrounding vegetation make it more difficult for bats to drop into flight.

Bats find houses mounted on poles or buildings in less than half the time it takes them to find tree-mounted roosts. Houses mounted under the eaves on wood or stone buildings, but still exposed to the sun, tend to be better protected from rain and predators and have been especially successful.

Buildings offer good mounting sites almost everywhere, but they are essential in very cool or dry climates. In dry areas, where day-to-night temperatures may vary more than 28° F, buffering from nighttime extremes is needed. Buildings are also the right choice if installing only one, single-chamber bat house. Unless two are installed back-to-back, pole-mounted singled-chamber roosts don't offer enough options for bats to move in response to temperature fluctuations.

Bat house installation tips

- Bat houses should be mounted in an area that gets 6-8 hours of direct sunlight (facing either East or South).
- To the extent possible, locate all houses 20 to 30 feet from tree branches or other obstacles and 12 to 20 feet above ground (or above the tallest vegetation beneath the bat house).
- The most successful locations typically are near the largest water source in the area or adjacent to the most diverse or natural vegetation. Streams, rivers, lakes or forests are natural bat flyways.

Instructions on how to build a bat house:

- http://www.ct.gov/deep/wildlife - follow links to Bat Fact sheet
- Plans are also available at Bat Conservation and Management web site: http://www.batmanagement.com
- Bat Conservation International: http:wwwbatcon.org

Reference: https://batweek.org/install-bat-house/

6. What are the best trees for bats? Deciduous or evergreen?

They'll use both. Oak, beech and ash are particularly suitable for bats, but any woodland or tree has potential for a bat roost especially if it has cavities in the trunk or branches, woodpecker holes, loose bark, cracks, splits and thick ivy.

Many bats will roost under exfoliating bark of dead or dying trees, or under the bark of trees like shagbark hickory. Others roost in trees with furrowed bark like walnut, locust, fir, and some pines. Red bats roost in the foliage of deciduous and coniferous trees.

Bats prefer forests that are open, don't have a thick undergrowth, and mid story of trees and brush. Different species have different preferences. I wouldn't recommend managing/planting trees specifically for bats. Rather, manage the habitat for biodiversity (especially insect) and the bats will benefit.

Reference: https://www.srs.fs.usda.gov/compass/2021/05/06/forests-for-bats/

7. Will CT DEEP Wildlife work to transplant bats into a vacant bat house?

No. Bats make the decision about where they establish maternity colonies.

8. How does artificial light effect bats? (Asked by Robert)

Artificial light impacts bat behavior and they avoid light. Light makes bats more susceptible to predators, interferes with reproduction, and drives bats away from roost sites. While light sensitivity varies between species, bats tend to have a higher tolerance for red visual light than white light. Short wave frequency (UV) light is most disturbing for bats. This is due to the fact that bats have a higher proportion of rods in their retina compared to cones.

https://www.batcon.org/article/hiding-from-the-lights/
https://greathollow.org/news/new-publication-on-the-impacts-of-light-pollution-to-bats/