

Net nights yield a wealth of batty data

Study proves Lillooet a mecca for bats

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A team of chiropterologists (those who study bats) were out and about around Lillooet in the dead of night between July 23 and 29, capturing bats in nets as part of an ongoing study of the nocturnal flying mammals.

A joint project between McMaster University, Thompson Rivers University and Wildlife Conservation Society Canada (WCS), the study aims to increase knowledge of bat populations, their genetic makeup, and potential resistance to White Nose Syndrome—a fungal infection that has severely impacted bats in Eastern North America.

"They're underappreciated," said local bat-enthusiast Vivian Birch-Jones of the diminutive, leathery-winged bug-hunters. "There's a whole lot that's unknown about them."

Birch-Jones—who traces her interest in all things batty to an old house on Main Street she and her wildlife photographer husband Ian Routley inadvertently shared with a bunch of bats—said the couple's role in the study was one of helping with logistics, such as contacting property owners and providing the researchers with "pie and ice-cream."

"We'd been involved in all the previous research," she said. "In 2004, I was involved in having bat houses installed underneath the Old Bridge. That's when I got linked into the whole bat world."

The recent bat-bagging mission saw researchers sample several sites in the area, including one near Pavilion, two on Highway 12, and a couple in the Seton corridor, after consultations with Splitrock/Sek'wel was First Nation.

"Lillooet is on the 'bat map' for sure," said Birch-Jones, "our bat diversity, like our bird diversity, is outstanding."

Or, as Cori Lausen, director of bat conservation for WCS and adjunct pro-

fessor at TRU put it:

"The unique combinations of eco-types on the east versus the west side of the Fraser provide very different species assemblages."

Put somewhat plainer, Lillooet, said Lausen, is a place where she and her colleagues "can capture more species in a short time than anywhere else."

One site of particular interest, as she explained, was the Blue Goose (aka Diamond S) Ranch, near Pavilion. According to Lausen, the fields of the ranch below Highway 99 are the "only place in BC where we can reliably capture the Spotted bat," a variety she described as "a prize species."

Although they are occasionally found across Western North America, the only other site where Spotted bats are reliably captured is in Arizona. Nor are the big-eared bug-chasers easy to net, given that they are a particularly high-flying species, requiring the use of several extension poles to set nets high enough to catch them.

Although this year's netting operation logged 11 of B.C.'s 15 bat species (compared to 12 species in previous years), the numbers of Little Brown bats were down significantly, a fact that Lausen described as "a red flag."

The decline in Little Brown numbers, she explained, could be the result of the species being affected by White Nose Syndrome—a fungus affecting bats primarily during their winter hibernation period.

Although no cases of the disease have yet been confirmed in BC, it has been observed in both Alberta and Washington State. As Lausen explained, Little Brown bats habitually migrate as far as several hundred kilometers between their winter hibernating and summer breeding sites—meaning Lillooet's summer popula-



Researchers from TRU, McMaster University and Wildlife Conservation Society Canada say that Lillooet is a particularly rich place to capture and study bats, such as the Spotted Myotis specimen pictured above—a species that can only reliably be caught at Pavilion's Diamond S ranch, and one other site in Arizona. At left are Fringed and Evot's bats.

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tion of Little Browns could well hibernate south of the border, where White Nose Syndrome might be infecting their winter colonies.

By way of contrast, Lausen pointed out the numbers of the very similar but genetically different Yuma Myotis—a species that typically doesn't migrate very far between summer and winter territories—remain strong in Lillooet.

Concerns about the disease have prompted efforts to develop a probiotic that could combat the fungal infection. In order to isolate a microorganism that could potentially provide anti-fungal properties for researchers to use in their quest for a prophylactic against WNS, Dr. JP Xu of McMaster

University was collecting swab samples from under the wings of bats captured around Lillooet this year.

Similar sampling, was done when the team was in town in 2017, and some probiotic compounds have since been developed, and are being experimentally applied to bat boxes in the lower mainland and elsewhere, in what Lausen described as "a cross-border project."

Heat is also a potential threat to bats, especially during the early summer period when they give birth to their pups.

"Climate change is a big issue for bats," observed Lausen, who described the range of survivable temperature during the summer as "a very fine line."

Although she de-

scribed the ideal temperature for bat moms to birth and nurse their pups ranging as high as 42 degrees Celsius, she noted that a mere two-degree rise to 44 would prove lethal.

In order to track temperatures in bat boxes at the sample sites around Lillooet, Lausen and her team installed temperature-logging equipment in order to establish a set of pilot data for the "hot bat" study that will bring more bat researchers to town in the summer of 2023.

Lausen said she also plans to conduct a program next year through the TRU campus at the Old Mill Plaza to train more biologists—including members of local First Nations—to safely capture and study bats. The aim of the program, she said, is "building capacity for bat work in Lillooet."

Birch-Jones—whom Lausen referred to as "Lillooet's bat ambassador"—also expressed an interest in educating the general public about the best ways

to handle bats. Namely: don't.

Citing what she called "a lack of appreciation, lack of understanding," Birch-Jones pointed out that to harm or even disturb roosting bats is illegal in BC.

"It's best to leave them alone," she said, "don't hit them with a broom, or put them in a jar."

Birch-Jones also took pains to point out the many beneficial features of a healthy bat population, from consuming large quantities of mosquitos, to playing a role in controlling agricultural insect pests.

"Some bats will actually pick bugs right off the plants," she explained.

"We now have a pretty solid B.C. group working on bats," she said, adding that the website www.bcbbats.ca was a good resource for those who want to learn what's going on, report problems, or ask questions about the state of bats and bat populations across the province.