

We eavesdropped on some Canadian lynx: What we heard was surprising

June 24 2021, by Rachael Derbyshire, Allyson Menzies and Emily Studd



Credit: Anna Nekrashevich from Pexels

Wildlife ecologists study what drives animal behavior, and trying to figure it out is tricky. Not only are ecosystems incredibly complex, behaviors are driven by various [internal and external factors](#) and the

simple observation of behavior is an eternal problem.

As wildlife ecologists, we know that when we observe wildlife, we cannot know what effect our presence has on the behavior of our subject—not to mention the difficulties of observing animals in the wild, including those which roam across vast forested landscapes. So we must resort to sneakier ways.

In [a recently published research study](#), we unlocked a new and effective way to monitor the behavior of one of the most elusive predators in the boreal forest: the Canada [lynx](#). Although [GPS tracking of wildlife is not new](#), it is typically only used to monitor movement behavior of wildlife.

In our case, we wanted to delve deeper into the secret lives of this mysterious cat and record their soundscapes. After multiple failed attempts and some clever solutions, we figured out how to safely attach a small microphone to our lynx collars—and it opened a whole new world.

Effective audio recordings

Much to our excitement, these recorders were very effective at [capturing the behavior of the lynx](#): "cats being cats" (grooming, sleeping); social behavior (aggressive interactions, purring, long-distance social calls); and hunting behavior (chases, kills, feeding).

Over the five years of our study in the Yukon's Kluane region, we collected over 14,000 hours of audio recordings from 26 individual lynx. After using various methods of data processing, we were able to identify kills by Canada lynx with 87 percent accuracy—an impressive feat.

Previously, to know that a single kill had been made often required a full day of intensive snowshoeing and tracking during the short winter days in the Yukon. But by recording multiple lynx, we could collect

information 24 hours a day, while we warmed our feet by a wood stove in a rustic cabin.

In addition to audio recorders, we also attached accelerometers—small devices that measure activity over time like you would find in a FitBit. Together with GPS tracking devices, these "[biologging technologies](#)" provide unprecedented insight into the complex behaviors of these cats.

Lynx and hares

Of particular interest to us is hunting behavior.

Canada lynx and the snowshoe [hare](#) populations follow a cycle of population booms and busts. When hare populations are high, lynx have lots to eat—but then the high numbers of lynx cause hare populations to crash, consequently leading to a crash in lynx populations. When hares are preyed on less due to lower lynx numbers, the [population](#) increases again, thus [re-starting the cycle](#). This all occurs over a period of about eight to 10 years.

But the story may be more complex: lynx switch to alternate prey—like [red squirrels](#)—when hares are not available. Our custom-built collars are helping to understand when this switch may happen, as well as whether individual lynx respond differently to declining numbers of snowshoe hare.

Intriguingly, we also noticed much more social behavior than we originally expected. Lynx are known as solitary animals that live and hunt on their own for most of the year. But many of our collared lynx, especially [adult females](#), appeared to interact extensively with each other in groups of two to three: sleeping, grooming, traveling and even hunting side-by-side.

Although our collars revealed this surprisingly social behavior, it seems that lynx don't share food: after a kill, we would often hear lots of growling and snarling as if to ward off feeding attempts by other lynx. So, does this social behavior influence their ability to find and kill prey? This is one of the many new questions we have about lynx behavior as we continue to delve into the lives of these amazing boreal predators.

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