

From: Russel Barsh
Date: Sat, Jan 16, 2021 10:14 AM
To: Jim & Karen Vedder;
Cc:
Subject: Bat recordings at Three Meadows

I wanted to check in with you to confirm that my "bat detector" is still recording every night, and monthly exchanges of batteries and data cards continue! Thank you so much for the opportunity to maintain a complete record of bats at Three Meadows.

The data from this recorder and its siblings on Lopez and Orcas are now so voluminous and complex that we've taken a young physicist-mathematician on board to devise maths to pick out patterns. Leah is starting work on this challenge next week, and I hope to have a better sense of how island bat populations fluctuate, move and change, in a few months. I'll be sure to share her findings with you as soon as I've reviewed them. One big question is how bat activity was affected by major weather shifts since recording began five years ago. We think there was a decline in 2019, and in 2020 we saw a rise in bat conflict with humans (e.g. bats flying around inside homes) that may signal a big burst of reproductive activity.

Our lab also added a disease ecologist in 2020, and she is curious about island bats' health and the extent to which they are reservoirs for pathogens that can affect other mammals. We're also looking at ticks and tick-borne pathogens, which have a big impact on bats as well as other wildlife (and people). Right now the ticks seem focused on lizards (really!) in the islands, but more study is needed.

Incidentally, a couple of times in 2020 we found the cover of the bat detector unlatched and hanging open. No damage or data loss, but it made us wonder if anyone--possibly children--at Three Meadows is unfamiliar with the recorder and was trying to figure it out, i.e. acts of curiosity rather than vandalism. We're a bit sensitized to this sort of thing nowadays -- during the pandemic, a KWIAHT acoustic device in Moran State Park was stolen, another was damaged, and one of our sea kayaks was purloined by a tourist (we did track it down and there was a bit of a confrontation getting it returned--the tourist was certain that "everything is free" in the islands unless it is locked and chained). Similar experiences reported by our colleagues at State Parks and the National Park Service. But again, I think someone was just curious at Three Meadows, though it did happen

twice.

And before I forget, much appreciation for keeping access to the tree and bat detector clear and safe! The landscaping touches have made monthly maintenance much easier.

Eventually, we hope to be able to afford to switch over to the recently released, newest generation of bat recorders... a "mini" version of the one that's now at Three Meadows, just four inches in diameter, with a new generation rechargeable battery system that powers the device for about six months. It takes a terabyte data card! Like computers... acoustic engineering is just accelerating in power and efficiency. We feel like we were dinosaurs when we began studying bats in 2012!

Warmest best wishes for the new year, which is beginning both a little more hopeful than last year, if also somewhat scary.

Russel.

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