



# The REDHEAD

## Red-headed Woodpecker Recovery



Winter 2021

A Special Committee of the Audubon Chapter of Minneapolis

Vol. 15 No. 1

### RHWO NEWS

#### Bioacoustics

Wikipedia states that Bioacoustics is a cross-disciplinary science that combines biology and acoustics. Mcloughlin<sup>1</sup> says Bioacoustics is the study of the production, transmission and reception of animal sounds. A few years ago I invested in an moderately priced recording device that recorded the calls of bats and an internal program that identified the bat species. Today that device costs about 2/3rd's of what I paid and the program is much better. I found it extremely interesting that I could know what bats were in the vicinity of my house or flying around my favorite lake. I was able to identify five species of bats, one moderately rare and I never saw them!

This is the beauty of this new science. You can "hear" a target species even though it is not in sight and maybe a mile away. Audio recorders can cover much more area than a camera. Bioacoustic methods are getting more and more automated. Researchers are using remote recorders that automatically collect data. These recorders are called passive acoustic monitors (PAM) or autonomous recording units (ARU).<sup>2</sup> "If it chirps, squawks, crows, howls, whistles, peeps, croaks, gurgles or belches, then the PAM can capture the sound, which is stored on a memory card and then analyzed using image recognition software."<sup>2</sup> An example of this type of technology is Merlin® ([www.MerlinBirdID.com](http://www.MerlinBirdID.com)), a phone app developed by the Cornell Lab of Ornithology ([www.birds.cornell.edu/home/](http://www.birds.cornell.edu/home/)).

This opens up avenues of research that is far more extensive. PAM's can be used like trail cameras. Analysis of animal sounds can be used for individual detection, species detection, location detection and population monitoring. Bioacoustics has been used to track whales, bats and frogs. But the practice has turned out to be particularly effective for studying birds. That's because their songs are so clear and consistent that recordings now can be mined for powerful scientific data. For example by using recorders in urban environments, scientists have learned that urban birds are singing louder<sup>3</sup> and at a higher pitch<sup>4</sup> than their rural counterparts. Connor Wood led a study of the en-dangered spotted owl across California's 38,000 square-mile Sierra Nevada range. Looking at the size of the landscape, he was undecided on how to do the study until he heard about bioacoustics. "Over two years, he and his crew set up a network of hundreds of recording devices the size of lunch-boxes, moving them gradually across the range to capture "soundscapes" of the forest. They indeed picked up the hoots of the owls as they searched the data."<sup>5</sup> PAMs have many uses and applications, but one of the primary goals for ecologists is being able to collect and analyze data at large spatial scales to monitor status, trends, distribution and habitat use of wildlife species — all of which are important targets of management or indicators of successful management.<sup>2</sup>

In marine mammal science, the most common method of

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### A Note from the Chair

Winter 2021

While many of Minnesota's Red-headed Woodpeckers are elsewhere for the winter, the Red-headed Woodpecker Recovery Project (RHWP) here is busy. Plans for the upcoming research season are underway. The Steering committee, the Research committee, and a Volunteer Planning committee have all met in the last few weeks. Our member fund drive and requests for grants are in progress with very good response to date. One of the research technicians from last summer is returning this spring and summer to work with Dr. Elena West from the U of M on field research activities at Cedar Creek ESR. And, if the Minnesota Legislature approves the requested funding package from the LCCMR (Legislative and Citizen Commission on Minnesota Resources), Dr. West will begin work this summer to expand research on Red-headed Woodpeckers statewide.

Unfortunately, the Covid pandemic is requiring much of our volunteer work to continue to be on hold, but plans are in progress for some activities when existing safety requirements are lifted as that becomes possible. In the meantime, by the time this newsletter reaches you, over 100,000 videos from last summer's RHWO nest cameras will be in a final BETA testing mode. As that is completed in a few weeks, the videos will become available for each of us to review and assist in compiling data on what was happening at each nest in 2020. Watch for updates on this opportunity coming very soon.

We are hoping that all the Red-headed woodpeckers that are carrying tracking devices will return this Spring so we can recapture them, remove the devices and discover where they spent the winter and the routes they traveled.

Thank you to all who have made donations. We have learned extensive new information about RHWOs in the last few years, with the promise of much more in the very near future.

Siah St. Clair, Steering Committee Chair

## Note From the Editor

In this issue it was necessary, due to their length, to print two of our articles in a smaller font than we usually use. We apologize if this causes you problems reading them.

The second article on page 3 has been divided into two parts, the first printed in this issue and the second will be printed in the Spring issue.

Hope you had a good start to the new year and stay healthy!

Editor

*Marine, Continued from page 1*

determining the location of an animal is known as passive acoustic sonar. Passive acoustic sonar place an array of evenly spaced microphones that records the sound of an individual, and then they calculate the difference from the time of arrival of the vocalization between all microphones and triangulate the location.<sup>1</sup>

Wildlife Acoustics ([www.wildlifeacoustics.com](http://www.wildlifeacoustics.com)) produce several types of monitors, including some that record higher frequencies for detecting bats. They also produce a device (Echo Meter Touch 2) that turns a smartphone into an interactive bat detector. SWIFT ([www.birds.cornell.edu/ccb/swift/](http://www.birds.cornell.edu/ccb/swift/)) is a terrestrial passive acoustic recording unit produced by the Cornell Lab of Ornithology. Audiomoth ([www.openacousticdevices.info](http://www.openacousticdevices.info)) is a unit developed by Open Acoustic Devices (only \$70). The unit is a full-spectrum acoustic logger than can detect a wide range of frequencies. Frontier Labs ([frontierlabs.com.au](http://frontierlabs.com.au)) produce advanced bioacoustic audio recorders (BAR) with a built-in GPS.

PAMs are great. They collect a lot of data. However, this brings up a problem. How do you sort, process and identify all of the species in the data? The audio files need to be converted to spectrograms. Fortunately there are commercial software programs available to help sort and identify calls. Commercial packages go beyond playback and viewing of spectrograms by providing methods for detection, measurement and other analyses. A couple of packages, Kaleidoscope (Wildlife Acoustics) and Raven (Cornell Lab of Ornithology), can be helpful.

Populations of northern bobwhite quail have been declining across their range, with declines ranging from 68-75% in Oklahoma and Texas during the past five decades. From 2008 to

*Continued on page 2 Column 2, Quail*

*Quail, Continued from page 2 column 1*

2018, Noble Research Institute<sup>2</sup> "conducted spring whistle counts for bobwhite to look at trends in populations as they relate to environmental and habitat conditions. Starting in 2019, PAMs replaced traditional human surveys, allowing researchers to monitor 29 sites simultaneously across two study sites. PAMs collected data for three days during four separate sessions (12 days total) during the spring of 2019 and 2020, which coincides with the calling activity of many species of birds. The PAMs now offer a permanent record of all recorded species that are important for understanding biodiversity, changes in populations and habitat use. Current research is developing acoustic matching templates for other species of conservation concern, or that are considered game, indicator or umbrella species. For example, dickcissels and eastern meadowlarks also have been experiencing long-term declines in their populations, so managers may want to keep a close eye on whether these species are present and in what numbers if present."<sup>2</sup>

Similar to the example above, Dr. Elena West has applied for a grant from the Legislative-Citizen Commission on Minnesota Resources (LCCMR) entitled "Bioacoustics for broad-scale species monitoring and conservation". The objectives of the grant are to -

1. Identify the current breeding distribution of red-headed woodpeckers in Minnesota and collect information on occupancy, reproduction, and breeding habitats.
2. Develop a monitoring protocol to rigorously detect red-headed woodpecker population trends and responses to habitat management.

The Audubon Chapter of Minneapolis is cited as a partner of the project. The Minnesota Legislature needs to pass legislation authorizing the expenditure. Dr. West's grant request is currently in House File 151 and at this time is in committee awaiting approval. While there does not appear to be any opposition, we can't count our chickens before they hatch. That will be in May 2021.

Jerry Bahls

1. McLoughlin MP, Stewart R, McElligott AG. 2019 Automated bioacoustics: methods in ecology and conservation and their potential for animal welfare monitoring. *J. R. Soc. Interface* 16: 20190225.

<http://dx.doi.org/10.1098/rsif.2019.0225>

2. Mike Proctor, senior research associate, Stephen Webb, Ph.D., staff scientist, December 2020 | VOL 38 | Issue 12, NOBLE RESEARCH INSTITUTE

3. Henrik Brumm (2004).

"The impact of environmental noise on song amplitude in a territorial bird". *Journal of Animal Ecology*. 73(3): 434-440. doi: 10.1111/j.0021-8790.2004.00814.x. S2CID 73714706.

4. Slabbekoom, H. & Peet, M. (2003). "Birds sing at a higher pitch in urban noise". *Nature*. 424 (6946): 267. Bibcode:2003Natur.424..267S. doi: 10.1038/424267a. PMID 12867967. S2CID 4348883.

5. Anders Gyllenhaal, [https://www.washingtonpost.com/science/with-bioacoustics-conservationists-try-to-save-birds-through-their-songs/2020/01/10/8b800048-0c9a-11ea-bd9d-c628fd48b3a0\\_story.html](https://www.washingtonpost.com/science/with-bioacoustics-conservationists-try-to-save-birds-through-their-songs/2020/01/10/8b800048-0c9a-11ea-bd9d-c628fd48b3a0_story.html)

## RhWR Contact Information

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## RhWR Fund Raiser

The Redheaded Woodpecker Recovery has a fund raiser to help us get the funds we need to continue our research efforts. **Jim Stengel** can be contacted by phone at **612 721-9083** or by email at **slheidiss@yahoo.com**. If you know of an organization or individual that will donate money for research, please contact Jim.

## Trails and Tribulations of attracting first pair of nesting Red-headed woodpeckers in Rice County.

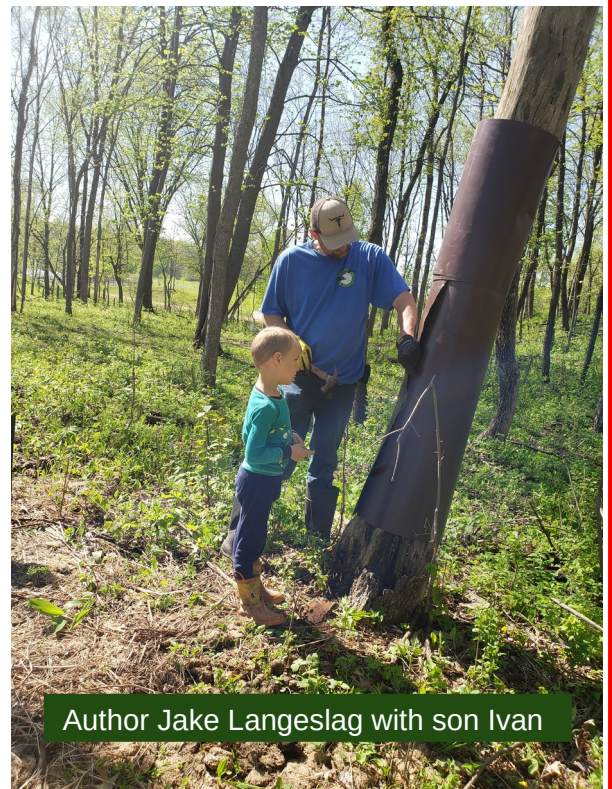
Red-headed woodpeckers (RHWOs) need our help in Minnesota. Especially the outstate woodpeckers that are not found at the woodpecker mecca known as Cedar Creek Ecosystem Science Reserve (CCESR). I have spent years enhancing my property to hopefully attract RHWOs. I have visited CCESR and tried to figure out what makes that such a special place. After about 4 years of habitat improvement I was finally able to get RHWOs to my property in Faribault, Minnesota. I was able to watch their every move, I knew where they fed, where they nested, and they became a close "friend" of mine. You will see that the ending was not what I expected. I hope my experiences and observations can help others modify their property in hopes of attracting them. If one is lucky enough to get them to nest I hope my experience will help others increase their chances that the birds will successfully nest for them. I had hoped to write this years ago when it happened, but having a family with young children and starting a new goat rental company took more time than I thought! I was also super depressed about the ending of my RHWO's story and it has taken me a few years to finally get over it and write about them. While I may have forgotten some of the details like exact dates, I remember vividly some of the main parts and pieces of my RHWO story.

Before getting nesting woodpeckers, I always assumed that my RHWO story would start in the Spring after the birds came back from migration. However that was not the case for me. My story started in the FALL when a single male woodpecker moved in about the time the leaves were falling. I remember thinking – why has that bird not migrated yet? Then one day I noticed the bird on the ground and he picked up an acorn and flew up about 40 feet and stashed the acorn in a tree. As I watched longer he flew down and grabbed another, and another... and then he did this for close to two weeks! I thought - maybe this bird is going to stay around. He sure did! He also started to come to my suet feeder that I put up in the fall when things start to cool off. I would look out the window when the temps were below zero wondering if he was going to make it. Sure enough every morning he would sun himself up in the trees that got the first sunlight and go to the acorn cache or the suet feeder. It was also fun to watch him viciously guard his acorn stash from squirrels. He would chase them away very aggressively and the squirrels didn't put up a fight. They just ran. This made for some entertainment watching a bird finally take it to the squirrels for once! This bird was also a very diligent "greeter." Every time I would enter his territory he would give out a single little chatter call. I am sure he was trying to alert other birds in the area that someone was entering the woods. I like to think he was saying "Hi" to me every time I heard it. His greeting call would brighten the mood of any day.

As a trained ecological scientist, I wanted to start to study this bird's behavior. Since I was part of the Red-headed Woodpecker Recovery (RhWR) program – I thought Ok Jake – here you go. You have a new colonizing pair of RHWOs... You better not let it go to waste and collect some DATA! One day I decided to follow him to see where he was roosting and I waited until dusk and tried to follow him. It was not as easy as I thought. Even though I thought I was far enough away he still was nervous to show me his spot. Then I finally found the tree – a three trunk older burr oak with the middle trunk that was mostly dead with many holes approx. 40 feet up. He would go in the hole and peek his head out for sometimes as long as 5 minutes looking around. Making sure the coast was clear and that I was not going to try anything fancy. One day I was closer to the tree – still about 60 yards and was watching him go through his nightly bedroom routine. This night I was too close and he took off out of the tree and flew to my front yard (he typically didn't go my front very often) to an area of the woods by my mailbox. About 400 feet away. I ran as fast as I could as to not lose him to see what he was doing as it was getting just past dusk now and odd for him to go this far from his home tree. I found him in another cavity in a living aspen tree in an old woodpecker hole about 25 feet up sticking his head out. I kept my distance and he ended up sleeping in this hole. What I believe I learned from that experience and that this was his "back-up hole", since he preferred to sleep in the oak. I only ever noticed him do this once and the rest of the winter he slept in the triple trunk oak tree. This event and also watching following migrating woodpeckers in the Spring, I notice they really like to have lots of options for cavities and I believe the birds do a good scan of the woods to know of other potential holes to be used in a pinch.

Then April came and I wondered if he would be leaving soon and maybe head back to places like Cedar Creek Reserve. However, he started to call almost all day long, and especially in the morning drumming and calling away. He was giving my place a shot in hopes of attracting a female! Then in April one day I woke up and I thought I was in RHWO heaven. I had RHWOs everywhere! I counted 6 birds and they were all paired up and chasing each other. I noticed my wintering buddy had found a female of his own and I could see him hanging out in his favorite trees with her. He then started to excavate a nest hole in a dead elm tree that was broken off at the top. This hole was only about 18 feet up in a tree and was very easy for me to watch. It also surprised me that this tree was in the MIDDLE of my woods. Not out in the open, where I had left snags in my prairie. He made a glorious hole and the female was hanging around the snag with him. I was on cloud nine! After about a week the other RHWO pairs had moved on and all that was left was my guy and his gal. I was bummed the others left but still super excited that the main pair stayed. *[To be continued]*

*[Editors note: Due to space limitations Jake's story will be continued in the Spring "The REDHEAD" issue. If you have a story to tell, please send it to me at [rhwracm@comcast.net](mailto:rhwracm@comcast.net). I will happily print it, regardless how long or short it is.]*



Author Jake Langeslag with son Ivan

## RhWR Volunteer Opportunities

The Red-headed Woodpecker Recovery (RhWR) has a need for many volunteers now and through the Spring. Here is a list of them in the order of priority and a very brief description of the duties -

### Communications Representative on Steering Committee -

Oversee website, newsletter and Facebook™ page and be communications advocate on Steering Committee

Newsletter Editor - Coordinate publication of newsletter

Webmaster - Manage the RhWR website

Lead Citizen Science Projects - Recruit and organize volunteers of RhWR citizen science projects

Do Citizen Science Projects (2020) – **All projects at**

**CCESR are cancelled until further notice.** Watch for information to monitor nest camera photos at home.

Email rhwracm@comcast.net to sign up for any of these volunteer opportunities or to ask any questions. Send this info to your friends and bird lovers.

Red-headed Woodpecker Recovery  
Audubon Chapter of Minneapolis  
PO Box 3801  
Minneapolis MN 55403-0801

## Next RhWR Steering Committee Meeting

The RhWR Steering Committee usually meets on the 3rd Wednesday of the month at 7:00 pm. The next *virtual* meeting will be on March 17, 2021 at 7:00 pm. If you would like to participate, please contact Siah St. Clair to be added to the call list. All are welcome and encouraged to attend. Please encourage friends to attend also. For information check our website at [www.RedheadRecovery.org](http://www.RedheadRecovery.org).

## Important Dates

ACM Board Meeting	February 22, 2021
Steering Committee Meeting	March 17, 2021
Research Team Meeting	March 31, 2021

ALL meetings are *virtual* until further notice.

# Save that Snag!

Place  
Stamp  
Here

## Red-headed Woodpecker Recovery Program Membership Application

*I'd like to join!* Please add me as a member of the Red-headed Woodpecker Recovery (RhWR) at the rate of \$20/year! Please send my membership information to the address at right.

*I'd like to renew!* Renew my RhWR membership for \$20/year.

*I'd like to contribute to Audubon Chapter of Minneapolis also!* Please add me as a member of the Red-headed Woodpecker Recovery (\$20) and as a donor to Audubon Chapter of Minneapolis (suggested donation \$20). Please send my membership information to the address at right.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

E-MAIL \_\_\_\_\_

**Send this application and make check payable to:**

Audubon Chapter of Minneapolis - RhWR  
PO Box 3801  
Minneapolis, MN 55403-0801