



The REDHEAD

Red-headed Woodpecker Recovery



Summer 2022

A Special Committee of the Audubon Chapter of Minneapolis

Vol. 16 No. 3

RHWO NEWS

A Note from the Chair

Spectrograms of CCSR Red-headed Woodpecker Primary Calls and Drum

Summer 2022

The research focus for the upcoming red-headed woodpecker field season will include the deployment of autonomous recording units (ARUs) around the state of Minnesota to record the presence (or absence) of red-headed woodpeckers. As part of this process, the calls made by individual red-headed woodpeckers at Cedar Creek Ecosystem Science Reserve (CCESR) last year, are being sorted into spectrogram files. This will create a library of specific spectrograms that will be used as a template for machine learning algorithms to search for and detect the calls of interest from the many thousands of hours of sound files researchers will have at the end of the season.

On page 3, there are example spectrograms of the four primary sounds made by red-headed woodpeckers at CCSR last summer, which were collected from ARUs. The pictures are grainy and pixilated, but give an idea of the range of these sounds.

The "Kweeah" call is the most common territorial call of the red-headed woodpeckers at CCSR. It is loud and can be heard from over 100 yards away. The Churr-series call is a slurred series of "Churr" sounds that seem to be all one call to human ears. The Churr-series call is often heard at the culmination of a territorial dispute with the pair together. It is loud and can last for 5 seconds. Drumming by red-headed woodpeckers often follows a series of "Kweeah" and/or "Churr" calls. The Drum lasts for one half to one second and is at a rate of around 20-22 hits per second, at least with the red-headed woodpeckers recorded at CCSR that was watched on the spectrogram.

The "Chatter" call is a bit softer, and lasts about 2 tenths of a second, with 3-4 chatters inside that time frame. This call is most often heard when the red-headed woodpecker perceives a threat or some kind of intrusion into its territory. As can be seen, red-headed woodpecker calls cover most of the spectrogram range, top to bottom, especially if the bird is close. Compare that with the one spectrogram that shows a field sparrow as a narrow band of black on the right, and the red-headed woodpecker Churr-series call going from top to bottom of the range of sound on the left.

See Spectorgrams on page 3.

- Siah St. Clair and Dr. Elena West

It has been a good year for gathering additional information about Red-headed Woodpeckers (RHWOs). And there is more of the summer left and more to do and learn. Red-headed Woodpecker Recovery (RhWR) volunteers (18 volunteers) have completed 2 Breeding Bird Surveys at Cedar Creek ESR on 13 one kilometer long transects with 5 count points on each transect. A third survey will be completed in the next few weeks. Many of these transects are within the Red-headed Woodpecker nesting areas at Cedar Creek. Other Project volunteers found over 20 Red-headed Woodpeckers at Nerstrand Big Woods State Park on one of the surveys RhWR conducts at other sites.

The on-going research on Red-headed Woodpeckers led by Dr. Elena West at Cedar Creek ESR continues to document new and interesting information about the RHWOs and their nest cavities and behavior. As of July 28 RHWO nest cameras have created 75,000 new videos of action at nest cavities in 15 different nest tree locations. The nest cameras have documented evidence this year of other species using RHWO cavities as a place for their own nesting. A pair of European Starlings and a pair of Tree swallows each built a nest in a RHWO cavity that had a camera attached. A pair of Kestrels is nesting in what appears to be an old RHWO nest cavity. The nest cameras have documented both the male and female Kestrel trying to get at birds inside active RHWO nest cavities.

Dr. West hired four summer research technicians to primarily conduct work this season placing autonomous recording units (ARUs) around the State to collect info on the presence of RHWOs in Minnesota. Two of these technicians were employed with funds provided by the RhWR. The work by these technicians has been completed for this year, but will be starting again in May of 2023.



There is also administrative activity ongoing with RhWR. A 2023 budget (\$31,175) for RhWR was approved in June by the steering committee. In a few months more information will be sent out as we continue activities to raise funds needed for next year.

Siah St. Clair, Steering Committee Chair

Note From the Editor

Only a brief note due to content. The Red-headed Woodpecker Recovery is still in critical need of volunteers to run the organization. Please check out the list on the back page of this issue. It is critical that we fill these positions to insure the smooth operation of the organization. Thanks for Volunteering!!

Jerry Bahls, Editor

Spectrogram, from column 2 this page

Black-backed Woodpecker, Ruffed Grouse, and Purple Martin. When the location was updated, the recordings with Virginia's Warbler, Great Kiskadee, and a couple of odd-lot vireos were gone.

An interesting feature of Merlin is that it shows a spectrogram of the call as it is being recorded. (see below) The Field Sparrow has a very distinctive pattern as do others. Merlin also allows the user to click on the image of the bird, which takes you to the portion of the recording for that particular bird. By noting the time stamp of that call, we were able to extract just the few seconds using another app called Audacity. Then an individual bird call can be e-mailed since the full 10 minute recording is too large.

Based on this first experience, we encourage other Breeding Bird Survey teams to try using Merlin both to increase confidence in identification of bird songs and to increase the number of bird species identified in survey sites.

John Arthur, Keith Olstad, Jim Stengel

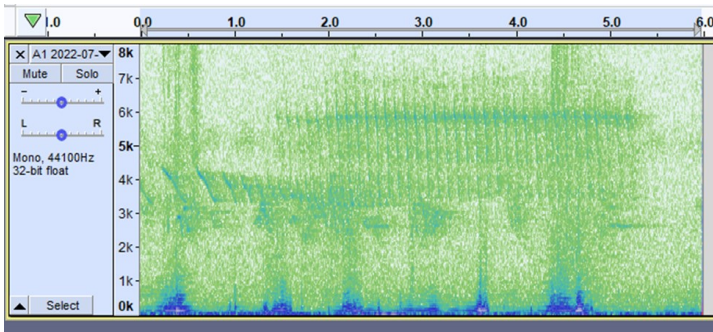


Figure 1 Spectrogram of Field Sparrow Call (Edited with Audacity)

Merlin Bird ID and the Breeding Bird Survey at CCSR

[Editor's Note: With the help of Red-headed Woodpecker Recovery members, Cedar Creek Ecosystem Science Reserve (CCESR) is establishing a new Breeding Bird Survey Route at CCSR. The route was surveyed for birds three times during the 2022 breeding season.]

The survey team's second breeding bird trip at CCSR started out much the same as the first one. This time we had a couple of changes. First, the biting flies were so happy to see us, much more so than the earlier outing. Second, we had the additional tool of Merlin Bird ID, an app from the Cornell Lab of Ornithology that identifies bird calls via recordings. John Arthur used an iPad Pro with a directional microphone, and Jim Stengel used his phone with the built-in microphone.

Both units gave surprisingly accurate results, with Keith Olstad verifying or adding his expertise to confirm. Some birds were heard first by Keith, then confirmed by Merlin, and other times, the reverse. We agreed that the app is about 80-90% accurate, with a few erroneous identifications, such as the Burrowing Owl that we agreed was an error. In Merlin's defense, when John updated the recording with the location of East Bethel, MN, the Burrowing Owl disappeared from the list. Other birds were tentatively identified, but also left the list, once the location was updated. Merlin can add the location of an encounter automatically via GPS.

One thing Merlin did NOT record for us, was the Ruby-throated Hummingbird that we saw on one of our stops. No call, no recording.

In spite of Merlin's home page urging users to get as close to the bird as possible, we were pleasantly surprised by how well Merlin picked up faint sounds. For example, several times we probably would have missed Cedar Waxwing songs if Merlin hadn't cued us about their presence. When Merlin picked up the song, we could then listen specifically for the CEWA's high pitched, hard to detect whispering. Without Merlin's cues, we could easily have missed a distant Brown Creeper and/or American Goldfinch. Merlin also increased our confidence in distinguishing easily confused bird songs, like the similar trills of Chipping Sparrows and Pine Warblers—especially because they can occupy the same territory. Another example of assistance from Merlin was distinguishing between Piliated Woodpecker calls from Northern Flicker calls and the call notes of Veery from the call notes of Great Crested Flycatcher.

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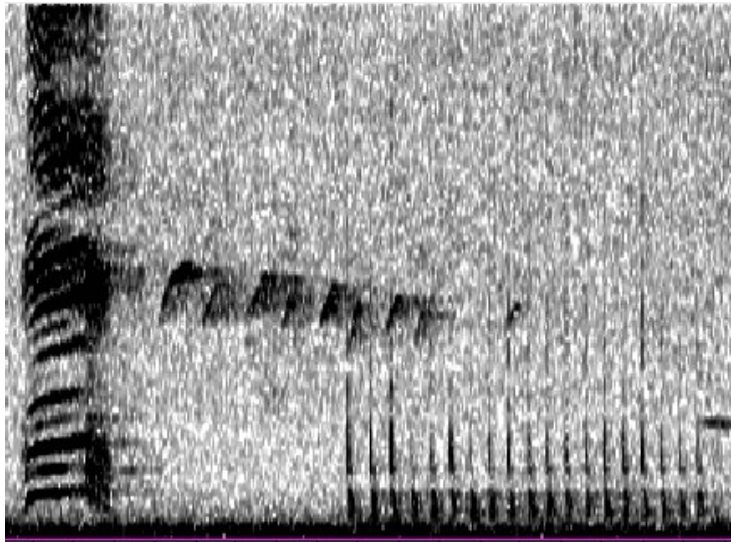
On August 6, we went out for our 3rd and final survey for the season. We gave Merlin another workout to verify its accuracy. This time instead of Keith Olstad, Jim Howitz joined Jim Stengel and John Arthur. Jim Howitz is a very experienced birder and is extremely knowledgeable about ALL things at Cedar Creek.

Once again, Merlin proved how accurate it is in identifying bird calls/songs. The birds were mostly quiet that day. The few birds that were questionable this time were a Common Loon,

(Continued in column 1 this page, Spectrogram)

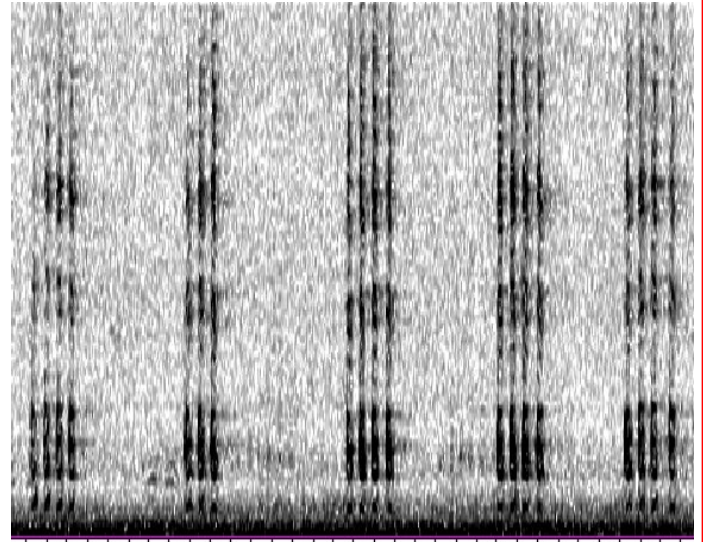
RHWO Spectrograms

Below are four spectrograms of red-headed woodpecker calls recorded by Dr. Elena West at Cedar Creek Ecosystem Science Reserve.



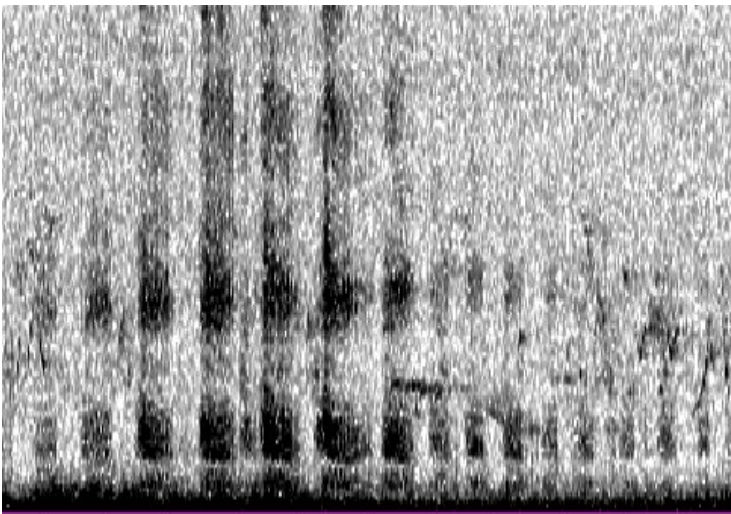
1:01.5 1:02 1:02.5

"Kweeah" call and then Drum



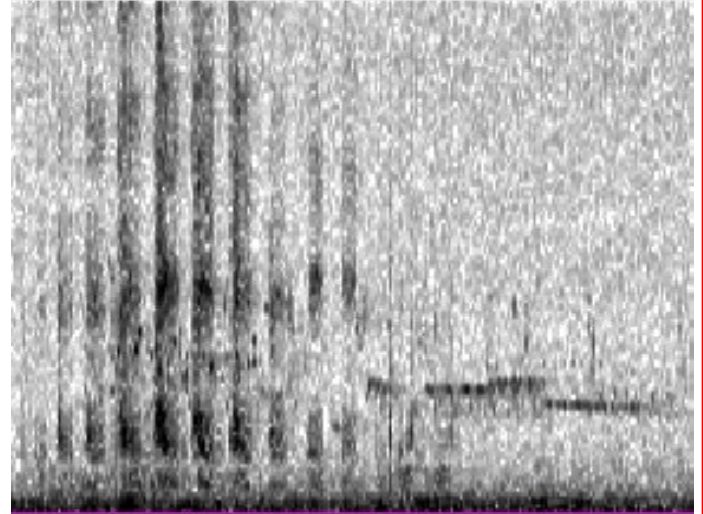
1.5 2:39 2:39.5 2:40 2:40.5 2:41 2:41.5

5 Chatter Calls in 3 seconds



1:10 1:11 1:12 1:13 1:14 1:15

One Churr-Series Call



2:55 3:00

Churr-Series left Field sparrow on right

These are the calls that will be used as training data to create a classifier within different software programs that can then search for and detect the calls of interest from the many thousands of hours of sound files that Dr. West and her team have collected and will collect in 2023. Data from the classifier will then be used to build a model that will estimate red-headed woodpecker occupancy across the state. Dr. West and her team will collect audio data from around the state again next summer (2023).

The Red-headed Woodpecker Recovery is helping to fund this research by supporting two research technicians each summer. You can help by sending donations to Red-headed Woodpecker Recovery, PO Box 3801, Minneapolis, MN 55403-0801.

RhWR Volunteer Opportunities

The Red-headed Woodpecker Recovery (RhWR) has an increasing need for many volunteers now and through 2022.

Here is a list 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 and Facebook

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

Do Citizen Science Projects (2022) – *Watch for announcements.*

Classify RhWR videos at <https://z.umn.edu/woodpeckercams>

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

Next RhWR Steering Committee

The RhWR Steering Committee usually meets on the 3rd Wednesday of the month at 7:00 pm. The next *virtual* meeting will be on Sep 21, 2022 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.

Important Dates

ACM Board Meeting	Aug 22, 2022
Steering Committee Meeting	Sep 21, 2022
Research Team Meeting	TBA 2022

ALL meetings are *virtual* until further notice.

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

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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 (\$50 is suggested rate)! Please send my membership information to the address at right.

I'd like to renew! Renew my RhWR membership for \$20/year (\$50 is suggested rate).

Yes, I'd like to join Audubon Chapter of Minneapolis also! Please add me as a member of the Red-headed Woodpecker Recovery (\$20, \$50 suggested) and the Audubon Chapter of Minneapolis (\$20) at the rate of \$40/year. 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