

Observations of Red-headed Woodpeckers Including New Life History Behaviors

Red-headed Woodpecker Management Considerations



Observations, Text and Photography by Siah L St. Clair



The Red-headed Woodpecker Recovery project (RhWR) was organized in 2007 and is a 501(c)(3) tax-exempt non-profit organization.

Investigation and research activities about Red-headed Woodpeckers (RHWOs) at Cedar Creek Ecosystem Science Reserve began in 2008 when Cedar Creek ESR gave a permit to the RhWR to initiate those activities on site. The RhWR has continued investigation and research activities since 2008 both at Cedar Creek ESR and at other locations.

Field observation efforts for included information occurred between 2012 and 2025 in all 12 months of the year, with a combined 2,563 days and 15,438 hours by Siah St. Clair and work partner Jim Howitz. All observations were made during a succession of RHWO study and research projects. Many activities required extensive experience and expertise as well as special permits and permissions.

By conducting these observation activities new natural history behaviors of RHWOs have been documented and will be used to help reduce the decline of this species and other species impacted by the presence of RHWOs.

Unless otherwise noted, the information and photographs provided herein are based solely on observations by Siah L St. Clair, a volunteer of the Red-headed Woodpecker Recovery project.



Red-headed Woodpecker

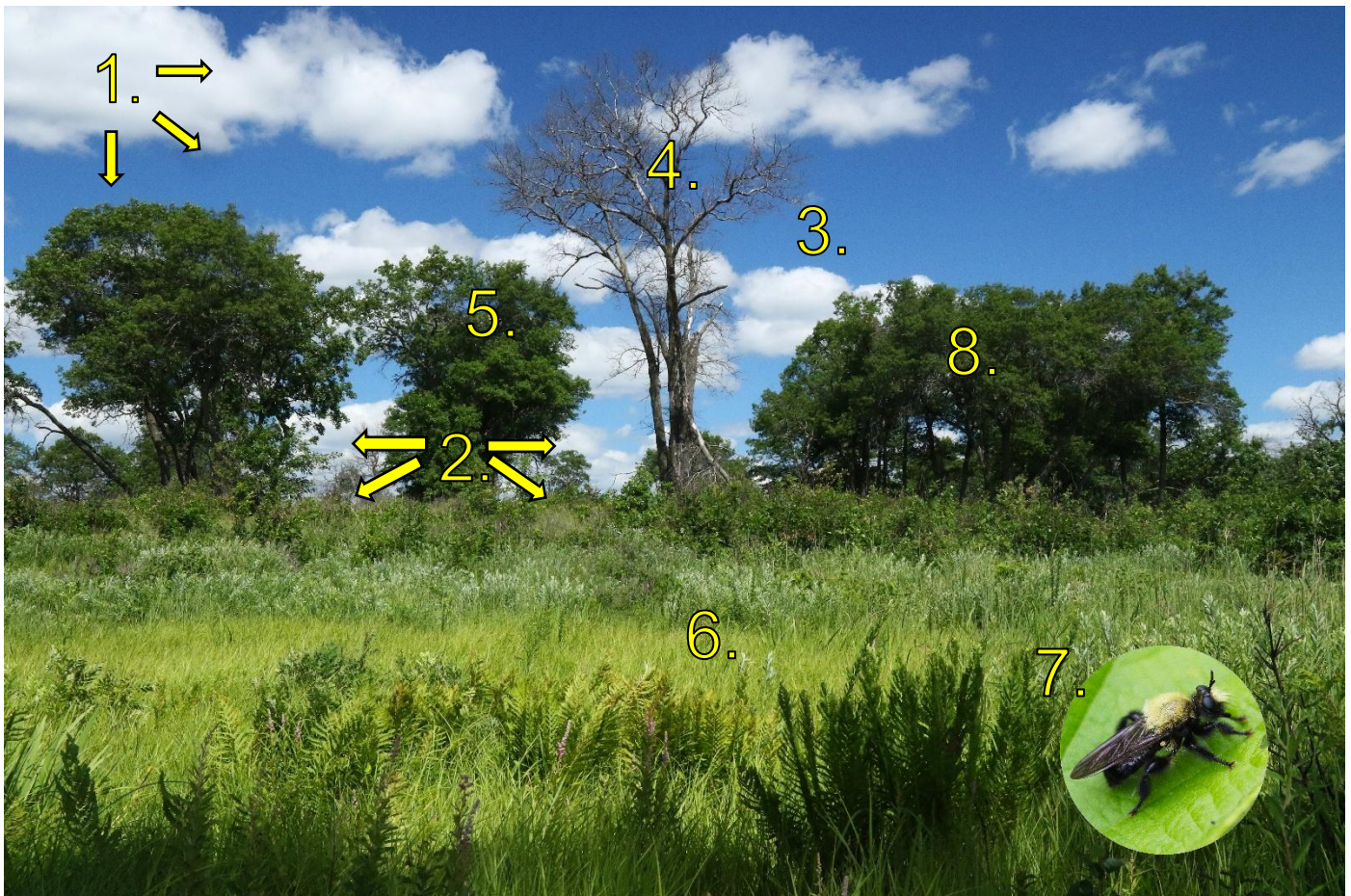
Management Considerations

Observations, Text and Photography by Siah L St. Clair

Red-headed Woodpeckers (RHW) are nesting opportunists within some general parameters. Below is a list of some primary parameters (needs) followed by a discussion of each. Interested landowners/managers, or anyone, may find these observations useful. Red-headed Woodpeckers are ecosystem engineers and create many cavities that at least three dozen other vertebrates interact with, resulting in a vibrant ecosystem.

Parameters (needs)

1. Habitat may be savanna, sloughs, open forests, tree blowdowns, or agricultural area tree islands
2. Mostly open understory
3. Some or several areas of open canopy
4. Dead trees with soft heartwood for nests and roosts
5. Live trees nearby as hiding places for new fledglings
6. Water/wetlands nearby
7. Plentiful presence of forageable invertebrates
8. Presence of non-nesting season food supply



Red-headed Woodpecker habitat at Cedar Creek ESR with habitat components shown. The dead tree in the center was a RHW nest tree for several years. The numbers correlate with the list of needs above.

The observations discussed, and the pictures shown here, are partly from Cedar Creek Ecosystem Science Reserve (Cedar Creek ESR) in East Bethel, Minnesota. There has been a breeding population of Red-headed Woodpeckers (30-50 pairs) at this site for several decades, with over 600 nests between 2012 and 2025. The following comments about management considerations are based on observations made there and at other RHWO nesting areas.

1. Habitat may be savanna, open forests, floodplain sloughs, tree blowdowns, or agricultural woods

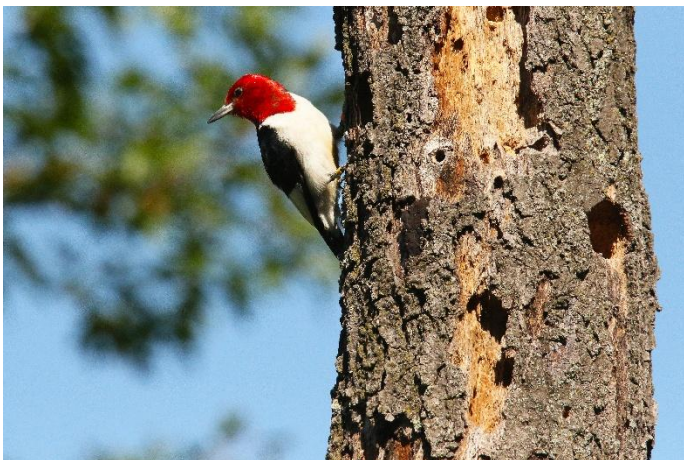
- A. The habitat Red-headed Woodpeckers (RHWOs) nest in at Cedar Creek ESR is mixed oak savanna, most of which is regularly subject to prescribed burns. This habitat is mostly open, with scattered northern pin oak and bur oak trees. Other trees present, to a lesser degree, include big-toothed aspen, quaking aspen, black cherry, paper birch, red maple, white oak, green ash, and Siberian elm. All these tree species had active RHWO nests, some each year, between 2012 and 2025. Eighty percent of the nests were in northern pin oak trees. Over 90% of the nests were in dead trees or dead branches of live trees (JH).
- B. RHWO nest sites observed away from Cedar Creek ESR have been in flood plain sloughs or in areas where windstorms have created blowdowns, or open forests, or agricultural areas with small, treed islands. The RHWOs have usually shown up a few years after blowdowns.
- C. A nesting territory may be a couple of acres or 10+ acres, depending on areas to forage for food.



There were active Red-headed Woodpecker nests in each of the pictures above at the time the pictures were taken. All nest trees are in the center of the picture. Top pictures are oak savanna habitat, and bottom pictures are floodplain slough. These pictures show the variability of RHWO habitat.

2. Mostly open understory

- A. Red-headed Woodpeckers prefer in their nesting territory that the area, both under the trees and beyond the trees that are present, be mostly open with minimal shrubs and brush. Occasional small islands of heavier growth are tolerated. RHWOs use this open area to forage for food and is particularly important in lean invertebrate years or when few insects are flying.



Open understory allows Red-headed Woodpeckers to forage for invertebrates to feed nestlings. The adult will perch on a low branch, the side of a tree, or from a downed log and fly down to ground level for observed food, like the captured grasshopper in the lower right picture above.

3. Some or several areas of open canopy

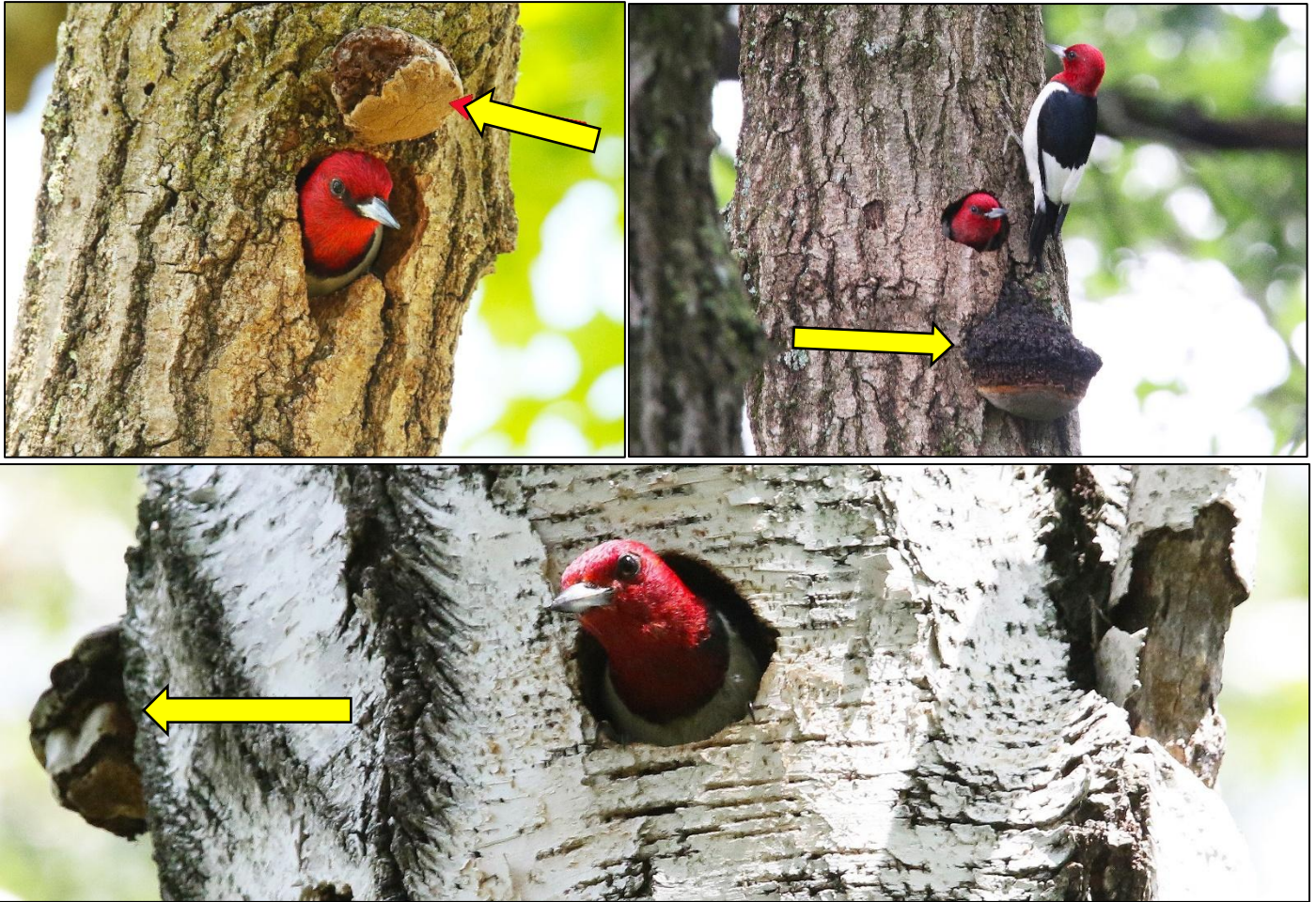
- A. Red-headed Woodpeckers prefer some open canopy within their nesting territory. A primary reason for this is that their preferred food foraging technique is flycatching. Adults will sit on a high perch on a dead branch and watch for flying insects. They will sally out and easily capture dragonflies, cicadas, beetles, butterflies, and other flying insects. Red-headed Woodpeckers will have several areas where they perch to accomplish their flycatching and need considerable open space for this foraging activity.
- B. Another possible reason RHWOs prefer open canopies is to spot potential predators. Kestrels, Merlins, Red-shouldered Hawks, Northern Harriers, Cooper's Hawks, and other predators are easier to spot and escape in open areas, and all have been observed frequently in these areas.



Red-headed Woodpeckers use quite different foraging techniques from almost all other woodpeckers in the summer. They do not peck holes in trees for food. They mostly fly catch, fly to the ground for exposed invertebrate food, and glean invertebrates from tree bark. They also eat small amounts of fruit and nuts. Open canopies allow Red-headed Woodpeckers to forage for food by flycatching. The woodpecker perches on a high open spot and then sallies out to capture fast flying insects. RHWOs are very successful with this foraging technique as can be seen with the captured darner dragonfly in the lower left picture.

4. Dead trees with soft heart wood for nests and roosts.

- A. At Cedar Creek ESR, 91.5 % of 611 Red-headed Woodpecker nests from 2012 to 2025 were in dead trees (78.5%) or dead branches of live trees (13%) (Data information from Jim Howitz). There were also many roost cavities for the adult male and female and for each of their fledglings. Many of these roosts were in dead trees. Dead trees are critical for Red-headed Woodpecker nesting success.
- B. Red-headed Woodpeckers are primary cavity excavators, which means that they excavate their own cavities for nests and roosts. This provides essential housing for many other animals that cannot excavate cavities. But RHWOs are considered weak primary cavity excavators, which generally requires the tree's heartwood to be soft for them to excavate a cavity. At Cedar Creek ESR heart rot fungi are very common in both living and dead trees. These fungi are also common in floodplain slews and blowdowns. The heart rot fungi soften the heartwood in trees, which enables RHWOs to easily excavate cavities for both nests and roosts. Dead trees with soft heartwood are critical for Red-headed Woodpecker nesting success.



Red-headed Woodpeckers need dead trees whose heart wood has been softened by heart rot fungi. The fruiting bodies of the fungi are frequently seen close to RHWO nest cavities, as seen in the pictures here.

5. Live trees nearby as hiding places for new fledglings

- A. Newly fledged Red-headed Woodpeckers need live trees nearby as places to hide while their flight feathers grow and they gain skill to fly. Almost all fledgling RHWOs that survive the first two weeks out of the nest generally survive the rest of the summer and fall.



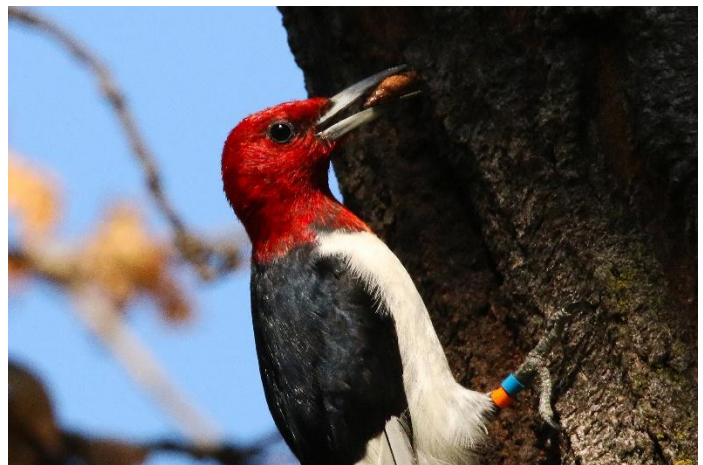
Newly fledged RHWOs hide extremely well in the leafy treetops of the live trees near their natal nest cavities. They can be very hard to find.

6. Water/wetlands nearby

- A. At Cedar Creek ESR Red-headed Woodpecker nests are almost always found close to wetlands of some kind. Some of the wetlands have open water and some are ephemeral. Red-headed Woodpeckers need water to drink, and they have been observed drinking from these wetlands. A primary advantage for RHWOs to have wetlands within their territory is that they produce many invertebrates that RHWOs have been observed utilizing for food. Wetlands generally have open spaces above their surface which can be used to forage by flycatching.



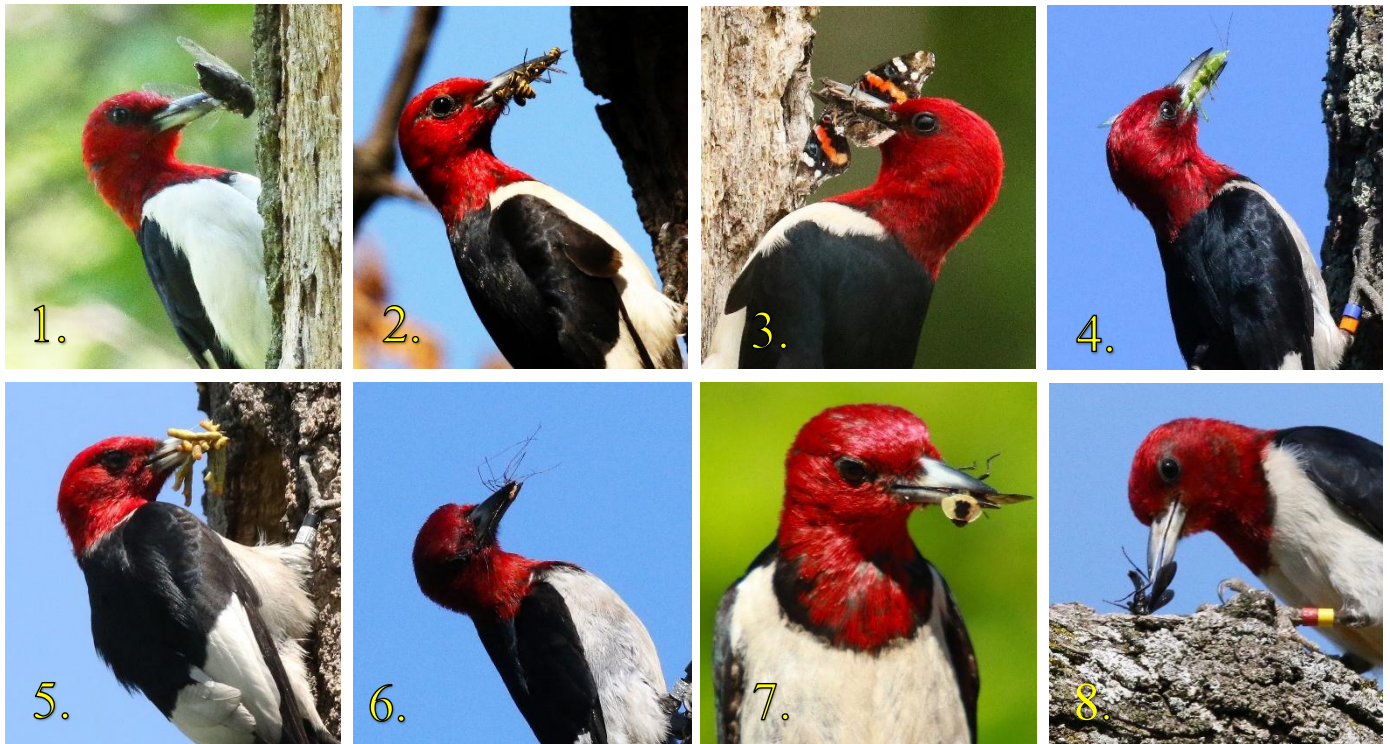
Wetlands are often covered by vegetation that is a different color from the surrounding landscape. Above on the left is an ephemeral wetland in savanna with light green sedges for cover, and on the right a floodplain slough. There are Red-headed Woodpecker nest trees in each of the pictures above.



Open-water wetlands are used for foraging by RHWOs and other wildlife like the migrating Solitary Sandpiper above left. In addition to flycatching over wetlands, RHWOs will sometimes take snails and other invertebrates from the vegetation. The RHWO on the right above is shown bringing a snail to its nest to feed to the nestlings.

7. Plentiful presence of forageable invertebrates

- A. During the nesting season, invertebrates are the primary food source utilized by Red-headed Woodpeckers at Cedar Creek ESR (Possibly as much as 95%). I have documented over 50 species of insects and spiders foraged by either flycatching, flying down near or on the ground, or gleaned from the bark of trees. Successful foods captured include dragonflies, grasshoppers, butterflies, moths, beetles, flies, wasps, bees, katydids, walking sticks, cicadas, mayflies, and several species of spiders. Red-headed Woodpeckers do not peck holes in trees in search of food. They flycatch, glean, and go to the ground surface.



The pictures above show a variety of food items foraged by Red-headed Woodpeckers. Some of these items would have been caught by flycatching, some by foraging on or near the ground, and some by gleaning off leaves, branches, or bark. The pictures are heavily cropped, and some are fuzzy. The food items in the pictures are as follows: 1. Cicada, 2. Yellow-jacket Wasps, 3. Red Admiral Butterfly, 4. Cone-headed Katydid, 5. Geometrid Moth Caterpillars, 6. Daddy-long Legs or Harvestman Arachnid, 7. American Carrion Beetle, 8. Mud-dauber Wasp.

- B. Red-headed Woodpeckers, in addition to invertebrates, also include in-season fruit and nuts (acorns in Minnesota) as part of their nesting season diet. Of 326 documented nest visits with food during June, July, and August over two nesting seasons, less than 5% of the food items identified were fruits or nuts. The fruit observed was juneberry, and the nut was bur oak acorn pieces. No other species of acorns have been recorded, but black cherries and blueberries have.
- C. There are reasons that this percent for fruit/nut food is so low. Fruits (juneberries, black cherries, blueberries) are each available for only a short time during the 90-day window when nestlings may be present. Juneberries are available in very late June and early July. Black cherries are not ripe until August, so only second broods will receive them. Bur oak acorns are not ripe until late July and into early August, so, as with black cherries, only second broods, if they occur, will receive bur oak acorn pieces as food.

- D. Another factor likely reducing fruit and nut use as food is caloric value. A quick search found sites stating that 30 grams of grasshopper have 86 calories while 28 grams of juneberry have only 15 calories. While 28 grams of acorn have 110 calories, only small chips of an acorn can be fed at one feeding. In addition, the plants that grow these foods need to be present, with fruit, in the woodpecker's territory.



Bur oak acorns (8-10-23), above left, Juneberries (6-30-20), center, and Black Cherries (8-1-19), right, and other fruits and nuts, are a small portion (5%) of the nesting season diet of Red-headed Woodpeckers and their nestlings at Cedar Creek ESR. Caloric values, compared to invertebrates, and limited time availability while ripe, both influence this small diet percentage.



Adult Red-headed Woodpeckers at the nest feed nestlings with bur oak acorn pieces at left, two juneberries in center, and two black cherries on the right. Pictures taken, left to right, 8-17-18, 7-10-19, 8-15-19. Parents often need several attempts to feed this type of food as nestlings have been observed spitting it out.

8. Presence of non-nesting season food supply

- A. In Minnesota a non-nesting season food supply for Red-headed Woodpeckers means acorns. At Cedar Creek ESR it is almost entirely northern pin oak acorns. Non-nesting season foods for RHWOs are very different than the insect-rich diet they have while nesting in the summer.



In Minnesota, Red-headed Woodpeckers will use oak savanna habitat, floodplain sloughs, and blowdowns with mostly open understory and mostly open canopy to stay and breed. Dead trees with soft heartwood are essential for the excavation of nesting and roosting cavities. Live trees need to be nearby for new fledglings to hide in during their first two weeks out of the nest. Having wetlands nearby is important, partly for access to water, but especially for the associated presence of many flying insects and other invertebrates.

The presence of an accessible supply of invertebrates beyond the wetlands is also essential for Red-headed Woodpeckers to consider nesting in an area. A pair of Red-headed Woodpeckers will defend a territory that has nest and roost trees, live trees, water, and productive forage areas. All these needs may be found within a couple of acres or may require 10 or more acres. In the winter at Cedar Creek ESR, RHWOs territories shrink to the trees and area that house cached acorns. Each individual of a pair appears to have its own smaller territory within the summer nesting area.

Red-headed Woodpeckers are, however, facultative migrants, and only need these winter territories if they decide to stay through the winter. The decision to stay is primarily determined, at Cedar Creek ESR, by the production amount of northern pin oak acorns. If pin oak acorn production is very small, all, or most, of the RHWOs will migrate away. If the pin oak acorn production is very large, most or all will stay. When the woodpeckers migrate away, if they return the following spring, they will often return to the same nesting area they had the previous year, although the boundaries of a territory itself often change from year to year.



Red-headed Woodpecker preparing for the non-nesting season (winter) with a temporary cache of northern pin oak acorns at Cedar Creek ESR. Picture taken 10-10-2023. These exposed acorn pieces will be re-cached in much more hidden locations over the next several weeks.