

SAVING THE RED-EYED VIREO

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Abstract.- I propose that at the local level conservationists focus on conserving their principal natural systems: those where they have a realistic chance of having a meaningful effect. The Red-eyed Vireo, one of Connecticut's most abundant birds, provides a case study into the challenges of regional conservation. It lives in forests, yet forests are being lost and fragmented at a substantial rate. Moreover, the species predominates in particular types of forests, oak-dominated forests, which are under threat from an introduced parasite. Given the finite resources of the conservation community, and the difficulties of ensuring the future of even widespread systems and the species they support, conservation efforts should not be dissipated in efforts that generate little substantive impact.

The time to extinction equals zero. This expression is of a calculus concept: a reflection on that point on a graph when the rate of population decline approaches infinity. My first practical experience with the idea came from the remote island of Guam, where a colleague had described for me his experience in trying to save the Guam Flycatcher (*Myargia freycineti*). From the time of developing a plan to captive breed birds to actually implementing it, a matter of a few months, the species had gone from savable to extinct. Unknown to him, the rate of population decline had reached during those months infinity. Free fall.

Coping with real endangerment, then, is dire business. I have observed species that conservationists on the Hawaiian Islands have simply let go, because there were not the resources to deal with all of the concurrent catastrophes being faced. With the finite capabilities of the conservation community, confronting endangerment can indeed involve making choices and cutting losses. Even here in Connecticut, we cannot begin to address adequately all of the conservation issues that face us. Communities across our region are, for example, under constant siege from richly funded development pressure, to which the nominally funded conservation perspective offers weak counterpoint.

As I continue to demonstrate through ongoing field studies conducted throughout southern New England (Craig et al. 2003), even our most widespread natural systems and the species they support are far from "saved." It is my goal to have the species in our prevailing systems not also reach that point where their time to extinction equals zero. To do so, I propose that conservationists not dissipate their efforts into issues where, from a continental perspective, local programs generate little substantive impact. What I propose instead is that we focus on conserving our principal natural systems, those where we have a realistic chance of having a meaningful effect (Craig 2002a, b).

The Red-eyed Vireo, one of Connecticut's most abundant birds, provides a case study into the challenges of regional conservation. It lives in forests, which presently cover over 60% of Connecticut. Yet, despite its abundance, its future in our region is less than clear. To begin, 6,000 acres of forest are lost to the state through development each year. The forests that remain are becoming increasingly fragmented, and fragmented forests are demonstrably inferior for maintaining populations of forest interior species than are contiguous ones (Robinson et al. 1995). Moreover, the species' distribution in eastern Connecticut (Fig. 1) illustrates a fact about the region's forests: they are not uniform. In fact, they vary geographically in structure and composition. In the case of the Red-eyed Vireo, I have found that the species predominates in

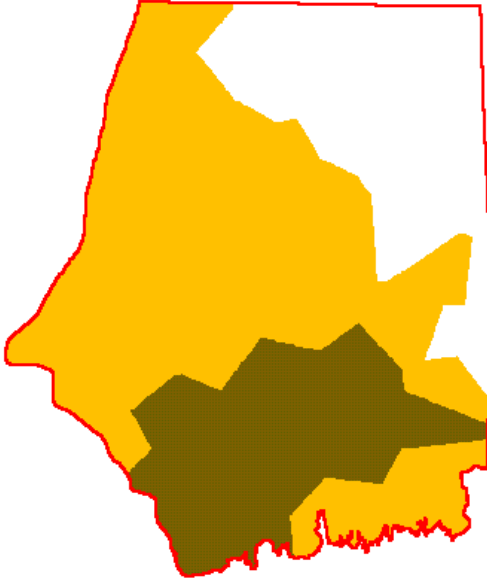


Fig. 1. Population densities of the Red-eyed Vireo are greatest in southwestern portions (dark areas) and least in northeastern portions (white areas) of eastern Connecticut (from Craig et al. 2003).

closed canopy oak forests, the ones that are present particularly in southeastern Connecticut. Consequently, the bulk of the Red-eyed Vireo's population is present there.

In the eastern Connecticut region I have studied to date, conifers and maples characterize forests to the north, pines and oaks dominate those of the eastern border, and those of the southwest are principally oaks. No one tract, not even a large one, functions similarly to others in terms of its ability to provide habitat for a given bird species. Not all of the region's forest bird species even occupy any particular tract. Furthermore, the importance for birds of particular tracts changes from summer to winter. With all this in mind, it is clear that adequately preserving the southern New England forest ecosystem, the system that supports the bulk of the region's biodiversity, will be a daunting task. With the small fraction of state land presently preserved as forest, it is a task that has barely begun.

To add to the ecological mix, oak forests

in Connecticut now face a threat of Hawaiian proportions, an environmental catastrophe that could dwarf most others that have occurred in our region: Sudden Oak Death. This alien fungal disease (*Phytophthora ramorum*) has the potential to eradicate the nine species of oaks that form the backbone of Connecticut's forests. The disease also infects a number of forest understory species, like rhododendrons and the fruit bearing viburnums and huckleberries.

To be sure, the Red-eyed Vireo should persist even in the event of oak disappearance, but its populations will likely plummet to a fraction of their present level. Considering that we are also losing to imported parasites the Eastern Hemlock (*Tsuga canadensis*), and have already lost the American Chestnut (*Castanea dentata*) and most American Elms (*Ulmus americana*), we may ask at what point our forest ecosystems and species they support will start to collapse. What is to become of species like the Blue Jay (*Cyanocitta cristata*), Wild Turkey (*Meleagrus gallopavo*), and numerous mammal species that rely on acorns for a substantial part of their food? Clearly, our forest systems are in need of all-out conservation efforts.

Should we, then, be expending Connecticut funds on projects such as creating and maintaining artificial prairies for several dozen pairs of birds that in the prairie provinces of the continent have populations in the millions? Should we be investing conservation efforts into bird species that are rare within state boundaries solely because they are at their range limits? I believe such funds would be better spent for acquiring forest parcels that will increase connectivity between existing forest preserves, and for acquiring tracts that represent different geographic regions of the state. I suggest also that conservation funds are more prudently spent researching control of Sudden Oak Death, so that the forests where over 100

species of native birds reside are protected.

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