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Western Ecological Research Center
Publication Brief for Resource Managers

Release: October 2004
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Sunrise Nest Attendance and Aggression by Least Bell's Vireos Fail to Deter Cowbird Parasitism

Cowbird parasitism is considered one of the factors responsible for declines in many sensitive riparian birds in California, especially those whose distribution and abundance have been severely reduced by habitat loss. The least Bell's vireo is one such host currently managed with cowbird removal programs to reduce the incidence of parasitism and boost annual production of vireo young. Because the least Bell's vireo is a recent host, co-occurring with cowbirds only during the last century, it may lack effective natural defenses against parasitism observed in mid-western Bell's vireos and other species that share a long evolutionary history with cowbirds. USGS scientists Dr. Barbara E. Kus and Bryan L. Sharp report the first video-documentation of least Bell's vireo response to cowbird parasitism in a recent publication in *The Wilson Bulletin*.

Management Implications:

- The prognosis for recovery of this endangered host requires an understanding of its ability to withstand parasitism in the absence of human intervention.
- Least Bell's vireos in this study were unable to prevent female cowbirds from parasitizing their nests once the cowbird had reached the nest.
- Parasitized pairs readily accepted cowbird eggs, presumably because either they did not recognize them as foreign, or could not eject them.
- Abandonment of parasitized nests followed by re-nesting may currently be this species' only natural defense against parasitism.
- Management should emphasize ways to reduce cowbird access to vireo nests, such as through habitat restoration and avoidance of land uses that concentrate cowbirds in riparian areas.

Host defense against parasitism can take a variety of forms, including nest sitting (rushing to the nest and sitting in it), aggression towards intruding cowbirds, ejecting cowbird eggs from the nest or burying them in the nest lining, and desertion of parasitized nests followed by re-nesting. Working at a long-term study site on the San Luis Rey River in San Diego County, the authors used miniature video cameras to record interactions between vireos and cowbirds at nests during the laying and early incubation stages, when cowbirds typically parasitize nests. Parasitism was recorded at three of 19 nests monitored. All instances occurred within half an hour of sunrise, and in all cases, at least one adult vireo was on the nest when the female cowbird arrived. Both members of each parasitized pair vigorously attacked the intruding cowbird, but in no encounter did a pair successfully defend its nest from parasitism. All three pairs accepted cowbird eggs and resumed normal nest attendance within three minutes of parasitism. None of the parasitized pairs in the camera study abandoned their nests, although vireos are known from other observations at the site to abandon parasitized nests (albeit at a low rate).

Sharp, B. L. and B. E. Kus. 2004. Sunrise nest attendance and aggression by Least Bell's Vireos fail to deter cowbird parasitism. Wilson Bulletin 116(1):17-22.