

LEAST BELL'S VIREO

The Issue

With the halting or even reversing of the destruction of its habitat, the least Bell's vireo population has grown robustly since its 1986 listing as endangered.

Natural History

The least Bell's vireo is a small, olive-gray, migratory songbird that nests and forages almost exclusively in river-related (riparian) woodlands. It feeds almost entirely on insects.

Historically, the least Bell's vireo ranged from Red Bluff, California, at the top of the Central Valley south to northwestern Baja California, and as far east as Owens Valley, Death Valley, and the Mojave River. Currently, the species occupies a very small fraction of its former range. In 1996, the population was estimated at approximately 1,400 breeding pairs.

Highly territorial, least Bell's vireos generally begin to establish breeding territories, ranging in size from 1 to 4 acres, by mid to late March. Nesting habitat typically consists of well-developed overstories and understories and low densities of aquatic and herbaceous cover. The understory frequently contains dense vegetation.

Most breeding least Bell's vireos depart their breeding grounds by the third week of September, and very few winter in the United States.

As much as 90 percent of California's original riparian woodlands have been eliminated, and most of the remaining 10 percent is in a degraded condition.

Studies suggest that least Bell's vireos nesting in areas with a high proportion of degraded habitat produce fewer young than do those in areas of high-quality riparian woodland.

Additionally, widespread habitat loss has fragmented most remaining populations into small, widely separated subpopulations. Fragmentation increases nest predation and parasitism.



Least Bell's vireos are sensitive to human disturbance, including night lighting and persistent human presence. Excessive noise can cause vireos to abandon an area. The birds depend on riparian woodland vegetation that generally contains both canopy and shrub layers and that includes some associated uplands. Primary threats include habitat destruction, development, increases in human activities, stream channelization, water impoundment or extraction, water diversion and intensive recreation. Parasitism by brown-headed cowbirds, which lay their eggs in vireo nests, probably contributed to the least Bell's decline. When cowbirds hatch, they typically kill other chicks.

Listing

The U.S. Fish and Wildlife Service listed this bird in 1986 as an endangered subspecies of Bell's vireo.

Management

The vireo population has grown almost tenfold since its 1986 listing, from 291 known territories to 2,968, thanks primarily to improvements in habitat abundance and quality and to efforts to control brown-headed cowbirds, a native North American nest parasite (see above under *Natural History*) that spread into California during the first half of the 20th century, perhaps as the result of habitat changes human use brought to the area. The U.S. Fish and Wildlife Service has initiated several long-term habitat-protection agreements under its Habitat

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Conservation Program, which rewards private landowners for their conservation efforts. The listing of the bird itself provided stronger protection for riparian areas by giving federal agencies a strong mandate to protect vireo habitat. In 2005, the first least Bell's vireos sighted in the Central Valley in 60 years nested along the San Joaquin River in the San Joaquin National Wildlife Refuge complex. The birds nested in an area planted with row crops just four years earlier.

A riparian forest restoration effort by the refuge staff brought rapid growth of foliage and quick recolonization by the vireos.

Cowbird nest parasitism has been reduced on a local level in southern California, where 99 percent of nesting least Bell's vireos are found. Cowbird trapping is well established at Camp Pendleton and within the Prado Basin of the Santa Ana River, two sites that support the two largest concentrations of vireos (nevertheless, these populations have declined by up to 15 percent for unknown reasons, according to surveys conducted in 2006). Wholesale loss and degradation of riparian habitats has halted, and restoration efforts are under way, suggesting the bird is no longer in danger of extinction throughout all or a significant portion of its range. Consequently, the Service is considering downlisting the subspecies to threatened.

Funding

Funding from all government sources for least Bell's vireo recovery ranks the species at 108 out of 1,311 species, according to the U.S. Fish and Wildlife Service fiscal year 2004 report (the most recent available) to Congress, *Federal and State Endangered and Threatened Species Expenditures*.^{*} Total recovery funding for this vireo from all government sources that year was about \$922,000, with \$176,000 coming through the Service. "The least Bell's vireo has taken significant strides toward recovery, but the process of getting it there could have been more efficient had Congress provided Fish and Wildlife, the lead federal wildlife agency, with all the funding needed for the job," says John Kostyack, director of Wildlife Conservation Campaigns at the

National Wildlife Federation. "Measures such as habitat acquisition and monitoring require Fish and Wildlife to be able to move nimbly on the ground, which it can do only if its work is fully funded and earmarked at the outset and is not delayed by a scramble for money as needs arise."

Local Contacts

National Wildlife Federation Northwest Natural Resource Center, 206-285-8707; Fish and Wildlife California/Nevada Operations Office, Endangered Species Program, 916-414-6464; California Department of Fish and Game, 916-653-4633.

Other Threats

In important parts of its range, such as Camp Pendleton, survival for the vireo will depend on cowbird control. New studies have questioned the use of cowbird trapping as the only long-term management tool in vireo recovery, suggesting that additional research is needed to resolve this issue.

* The U.S. Fish and Wildlife *Federal and State Endangered and Threatened Species Expenditures* report incorporates subjective estimates provided by regulated entities without any independent verification and without effort to segregate Endangered Species Act expenditures from other related expenditures. However, for most listed species, no other funding data is available.

THREATS FROM GLOBAL WARMING



Global warming is

contributing to the expansion of harmful invasive species such as salt cedars throughout

California's riparian areas, which

is causing a significant reduction in important nesting habitat for the bird. Global warming also is altering the snowpack that feeds rivers in least Bell's vireo range, a major threat to the bird's riparian habitat.