



Migratory birds in peril

By Lyann Comrack
and Ann Overholser

Willow flycatcher © B. "Moose" Peterson. Just 50 years ago, this bird nested throughout California. Now, the Sierra Nevada is its last stronghold.

Each May, the persistent song of willow flycatchers enlivens thickets around Red Lake in the Sierra Nevada. The birds have just returned to nesting grounds from their winter home in the Central and South America — a long arduous journey they often make in just a few days.

Seeking dense, shrubby stands of willows near slow-moving streams, the flycatchers build their open cup nests within 10 feet of the ground, rear their young, and then leave for their wintering grounds by August.

In 1944, ornithologists described California's willow flycatchers as common. The birds nested throughout the state — anywhere there was suitable willow vegetation. By the late 1970s, however, breeding willow flycatchers had disappeared from most of California. The Sierra Nevada represents a last stronghold for the species.

Destruction of riparian habitat, increased pressure from predators and parasites all seemed to contribute to the drastic population decline. In 1991, the California Fish and Game Commission listed the willow flycatcher as "endangered."

Sadly, the willow flycatcher is not

alone. Numerous other neotropical migratory birds are suffering serious population declines. Biologists fear California may be losing a vital part of its biotic diversity.

What are neotropical migratory birds?

Neotropical migratory birds include shorebirds, songbirds and raptors which share a common survival strategy: They breed in North America during spring and summer, then fly to tropical regions of Mexico, Central and South America and the Caribbean during fall and winter.

The birds exploit each hemisphere's seasonal abundance of critical resources — food, water and cover. At least half of all land birds that breed in North America migrate to the tropics during the non-breeding season and include such familiar species as the barn swallow, mourning dove and the yellow warbler.

Migrants may travel as far north as Canada's boreal zone and as far south as the Bolivian Andes. Most of California's migratory songbirds, however, spend the winter in western Mexico and northern Central

America.

In 1965, the U.S. Fish and Wildlife Service began a Breeding Bird Survey program, a nationwide network of volunteers conducting annual censuses of birds nesting in key habitats in North America. Analysis of the data accumulated over the past 25 years show population declines for 75 percent of the forest-dwelling neotropical migratory birds.

Although these declines are most pronounced on the east coast, the western states have not been spared. California supports more than 200 species of migratory birds, 140 of which breed regularly in the the Golden State.

Declines in populations are occurring statewide — in different habitats, across elevational zones. A variety of species, from flycatchers to hummingbirds, have been affected. The complex pattern of the decline in California is poorly understood by biologists.

The one-two-three punch

While exact reasons for the decline are unknown, strong evidence suggests at least three main areas of



Riparian habitats, such as Morongo Valley in San Bernardino County, are crucial resting and breeding areas for migrating land birds. Unfortunately, riparian habitat in California is severely depleted. Much of what remains is disturbed or degraded. Photo © B. "Moose" Peterson.

concern: habitat destruction on the breeding grounds, increased predation and parasitism, and loss of wintering habitat.

Habitat alteration in California has occurred statewide. Particularly important to neotropical migrants is the loss of riparian woodland habitat. Riparian woodland supports a greater density and diversity of breeding bird species than any other habitat type in California. These streamside ecosystems provide a seasonal abundance of food (insects), water, nesting substrate and cover for both migratory and resident species.

Prior to European settlement of California, riparian woodland lined all permanent waterways, often with belts of vegetation several miles wide. The Central Valley alone held 924,000 acres of riparian forest. By 1979, only about 100,000 acres remained, 85 percent of which is in disturbed or degraded condition.

The situation is even worse today. Riparian habitats are naturally fertile and are preferred for farming and

ranching operations. Human settlements placed within flood plains usually require massive alteration of the natural streamside ecosystem — cleared vegetation, levees, rip-rapping and channelization.

The habitat alteration and loss has devastated California's birdlife. Forty-six percent of land bird species listed as endangered, threatened or of special concern in California require riparian habitat for migration stop-offs or for breeding purposes.

Still, habitat destruction alone cannot account for the decline of the neotropical migrants. Rather, the declines are linked to a mosaic of problems related to human population growth and urbanization.

Predators and parasites

With urbanization comes an increase in predatory species tolerant of human company — house cats, raccoons, opossums. These urban predators can devastate local bird populations.

Another kind of predatory creature, the brown-headed cowbird, may be having an even bigger impact. It is a nest parasite. The females neither build their own nests nor care for their young. Instead, they secretly lay their eggs in the nests of a wide number of other species who then raise the cowbird young as their own.

Cowbird eggs tend to hatch first and cowbird nestlings tend to be bigger and more aggressive than their host's young. Therefore, the host may raise only cowbirds at the expense of its own offspring. Because of their adaptation to open habitats and their taste for grains, brown-headed cowbirds were once largely confined to the Great Plains regions, living in association with the large plains mammals. As forest land was cleared for farms and ranches, and as artificial feeding stations — bird feeders, dairies, feed lots — were established, cowbirds were able to expand north, east and west into areas previously unavailable to them.

California, with virtually no record

of cowbirds prior to the turn of the century, saw a major population explosion in the 1930s which continues unabated.

Small, migratory land birds are the preferred host of the cowbird although nests of hawks, ducks and even hummingbirds have all been used. So successful are brown-headed cowbirds as nest parasites that of 220 host species parasitized, 144 are known to have raised cowbird young.

The expansion of the cowbird's range, coupled with a severe decrease in breeding habitat for favorite host species, is a major concern for bird lovers. Virtually all of the small flycatchers, vireos and warblers that nest in the state may disappear if present trends continue.

Another severe threat to migratory bird populations is destruction of tropical forests. An area the size of Florida is lost each year and the rate of destruction is increasing. Weary migrants arriving at their southernmost stopping points find decreased cover, foraging opportunities and increased competition for limited resources with resident species.

Although some migrants can survive or even flourish in second growth forest in the tropics, in many areas the forests are not merely being felled for wood. They are then converted to pasture.

Since neotropical migratory birds travel through many different ecosystems, they are an excellent indicator of the general health of the environment. Their declining numbers signal a severe problem in the tropical environment and our own.

"Partners in Flight - Aves de las Americas"

There is an encouraging sign that all is not lost for these migrant birds. In July, 1990, the National Fish and Wildlife Foundation recognized the plight of neotropical migratory birds. It established The Neotropical Migratory Bird Conservation Program — also known as "Partners in Flight - Aves de las Americas" — to coordinate neotropical migrant research and conservation efforts among government, academia, conservation organizations and the affected international community.

Under the auspices of the national

This young brown-headed cowbird is in the nest of a Hutton's vireo. The mother cowbird secretly lays her eggs in the nest of other bird species. The host bird then raises the cowbird as its own, often at the expense of its own offspring. Photo © B. "Moose" Peterson.



program, California recently formed a state chapter of Partners in Flight. This voluntary association involves more than 40 different entities including the California Department of Fish and Game, U.S. Forest Service, National Park Service, Point Reyes Bird Observatory, Coyote Creek Riparian Station, National Audubon Society, and representatives from several campuses of the University of California and State University systems.

Plans are underway to provide long-term monitoring of California's migrant bird populations and trends, identification of important nesting and migratory habitats, and development of conservation strategies. The key to success is to focus on species and their ecosystems before they are threatened with extinction. Endangered species, such as the willow flycatcher, will also benefit as land managers work together on comprehensive, ecosystem management plans.

This long-term vision will undoubtedly provide relief for more than just neotropical migratory birds. With interest and cooperation high, Partners in Flight may well provide a

model for future conservation programs.

For further reading:

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Bird species with doubtful futures

Western wood pewee

Of all the neotropical migratory land birds, western wood pewees have a particularly long route to travel. They winter as far south as Bolivia and breed as far north as central Alaska. The pewee's preference for the fast-disappearing mature tropical forest as wintering habitat may have contributed to its decline.

Loggerhead shrike

The loggerhead shrike nests in open fields with scattered trees and shrubs from Canada through southern Mexico. It feeds on large insects and small vertebrates. The species has experienced local, regional, national and global declines, necessitating listing as endangered in Canada and classification as a candidate for listing by the U.S. Fish and Wildlife Service. In California, habitat destruction and pesticide contamination may be the causes of decline.

Western bluebird

Western bluebirds are short distance migrants, breeding from southern Canada through southern Mexico. A cavity nester, the bluebird population has declined in recent years, especially in northern California, possibly as a result of reduction of snags needed for nesting and competition with the aggressive, non-native European starling for the few nest cavities available.

Yellow warbler

Once common to locally abundant in the riparian habitats of California, the yellow warbler no longer nests throughout much of its former range. Although riparian habitats have been decimated in California, the absence of this species from apparently suitable vegetation suggests that brown-headed cowbird nest parasitism may be the key factor involved in its decline.



Western wood pewee © B. "Moose" Peterson.



Loggerhead shrike © B. "Moose" Peterson.



Western bluebird © B. "Moose" Peterson.

You can help the birds

Something has happened to California's birds. Data collected from over 20 years of surveys show an alarming decline in the populations of many species of native birds.

Particularly hard hit are those species which nest in the northern latitudes and migrate to wintering grounds in the tropics. These so-called "neotropical migratory birds" include such familiar species as the barn swallow, yellow warbler, western bluebird and the willow flycatcher.

The exact reasons for their decline are mysterious. The most likely culprits include some combination of the following:

- nesting habitat degradation and loss in California;
- forest fragmentation and destruction of their wintering habitats in Central and South America and the Caribbean;
- predation from feral cats and other urban wildlife;
- increased nest parasitism from brown-headed cowbirds;
- nest site competition from the non-native and aggressive European starling;
- persistent drought;
- environmental pollution.

Although there are a few conservation mechanisms already in place to help declining species (California and federal Endangered Species Acts, for example), and there are several organizations in the state dedicated to the study and conservation of California's birdlife (such as Point Reyes Bird Observatory and National Audubon Society), no comprehensive program has been developed to do anything about the potential tragic loss of California's bird diversity. Until now.

There is hope

Partners-in-Flight (PIF), part of the national Neotropical Migratory Bird Conservation Program, is a voluntary, cooperative effort whose broad goal is to conserve neotropical migratory birds and their habitats at a local, national and international level. PIF has developed a multi-disciplined approach to meeting this goal through programs focusing on research, monitoring, management, information and education.

After only two years in existence, PIF has much to show for itself but much more needs to be done, especially at a local level. The newly established California chapter is already looking at ways for the public to participate in the enhancement and protection of California's bird life. Some suggestions include:

- participate in a breeding bird survey;
- plant native hardwoods;
- join with your neighbors in the development of backyard habitats — bigger is better;
- build and erect nest boxes;
- keep your cats indoors;
- join California PIF and share your ideas.

The future success of PIF and its California chapter is dependent on the hard work and persistence of dedicated conservationists. If you would like to get involved, contact the Department of Fish and Game's Nongame Bird Program at (916) 327-1261 for details on the latest chapter activities. Your participation can make something significant happen for California's birds.

