

ENDANGERED *Species* BULLETIN

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To a large extent, the need to list plants and animals as endangered or threatened species represents a failure of natural resource management at the federal, state, and local levels. After all, the most effective way to ensure the health of wildlife and its habitats is to conserve species before they reach the brink of extinction. Doing so requires careful planning, the resources to carry out the plans, a commitment to achieving conservation goals, and monitoring the results to see if any additional management changes are necessary. A milestone in conservation took place last year with the approval of State Wildlife Action Plans for all 56 states and territories. These plans will go a long way towards promoting cooperative efforts for vulnerable wildlife and habitats.

ENDANGERED Species BULLETIN

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On the Cover

The yellow-throated vireo has been identified in some State Wildlife Action Plans as a species of concern due to population declines in many areas. It requires large blocks of forested habitat. This bird was photographed at the Minnesota Valley National Wildlife Refuge.

Photo by Leopoldo Miranda-Castro

The Endangered Species Bulletin is now an on-line publication. Three electronic editions are posted each year at www.fus.gov/endangered/bulletin.html, and one print edition of highlights will be published each year. To be notified when a new on-line edition has been posted, you can sign up for our list-serv by clicking on "E-Mail List" on the [Bulletin web page](#).

The Bulletin welcomes manuscripts on a wide range of topics related to endangered species. We are particularly interested in news about recovery, habitat conservation plans, and cooperative ventures. Please contact the Editor before preparing a manuscript. We cannot guarantee publication.

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Please send us your comments and ideas! E-mail them to us at esb@fus.gov.

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Saving Saipan's White-eye

by Gayle Martin and
Shelly Kremer



Curt Kessler

**Sarigan Island, near the center
of the Mariana archipelago
(see opposite page).**

*T*he little known Commonwealth of the Northern Mariana Islands (CNMI) is an archipelago of 14 tiny islands in the mid-Pacific region of Micronesia. Nestled just north of Guam and south of Japan, the entire Mariana archipelago spans 420 miles (675 kilometers). This story is about Sarigan, a volcanic island in the CNMI only 1.9 square miles (5 square kilometers) in size.

You could hike across Sarigan in a day if you didn't mind scrambling over boulders, hacking your way through dense vegetation with a machete, hunching down through thick hibiscus vines, trying to keep your balance walking over moss-covered coconuts, climbing precariously steep slopes, and getting really

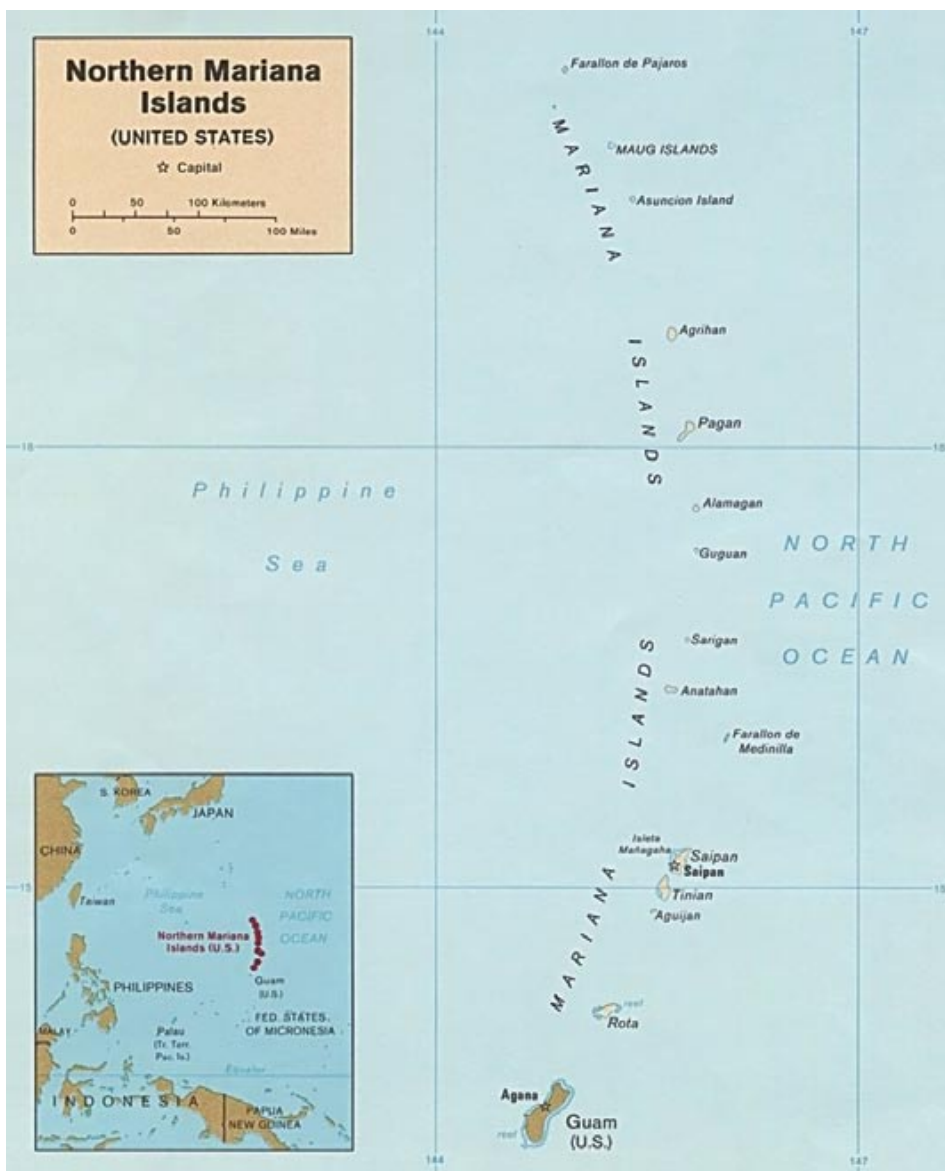
sweaty. Although Sarigan's northern and western slopes are blanketed with tall coconut trees, its plateau and ravines support pockets of native forest. Only grasses and ferns cover its precipitously steep eastern and southern slopes.

The Chamorros, Carolinians, Germans, and Japanese who inhabited Sarigan in

Saipan bridled white-eye



Shelley Kremer



the early 20th century planted coconuts by the thousands and brought goats and pigs to the island for food. Once humans abandoned the island, the pigs and goats they left behind became numerous and began eating all vegetation within reach. With no natural defenses against these non-native ungulates, Sarigan's native forests began to disappear. But through the cooperative efforts of the U.S. Navy, the U.S. Fish and Wildlife Service, and the CNMI Division of Fish and Wildlife (DFW), feral goats and pigs were eradicated from the island by 1998. Vegetation surveys before and after eradication demonstrated that the forest began to recover more quickly than anyone had ever imagined.

The CNMI's Comprehensive Wildlife Conservation Strategy (CWCS) identified 24 species as species of special conservation need. Of these, 18 are endemic, occurring nowhere else in the world. Endemic wildlife species are not evenly distributed throughout all the islands in the archipelago. For example, nine of the 11 endemic forest bird species occur on only four or fewer islands. Being small places removed from other land masses, islands tend to support comparatively few numbers of species and small population sizes, making wildlife species susceptible to extinction, and the Mariana Islands are no exception. The non-native brown treesnake (*Boiga irregularis*) devastated Guam's endemic forest



Robby Kohley takes a blood sample from a Sarigan Island bird, the Micronesian honeyeater.

bird species, and it is slithering its way northward aboard cargo ships and planes to the other populated islands of the archipelago—Rota, Tinian, and Saipan.

The accidental introduction of the brown treesnake was identified as one of the biggest threats to wildlife in the CWCS. This nocturnal predator has the potential to drive all of the Marianas' terrestrial wildlife species to extinction, including all 14 species of endemic forest birds, one endemic freshwater bird (Mariana common moorhen), two endemic mammals (Mariana fruit bat and sheath-tailed bat), two native geckos (Micronesian gecko and rock gecko), and one endemic skink (tide-pool skink). Conservation actions identified in the CWCS to combat this threat include interdiction of the snake on the populated southern islands through installation of snake barriers and traps at ports, teams of detector dogs, a rapid response program, public education, establishment of a captive breeding program for native bird species, and translocation of native birds to uninhabited northern islands in the archipelago.

This brings us to the Saipan bridled white-eye (*Zosterops conspicillatus*

saypani), the first candidate chosen by the DFW for translocation. The diminutive insectivore is the most abundant endemic bird in the southern islands of the CNMI. Although not yet endangered, its distribution is limited to only three islands. White-eyes were the first avian species to become extinct on Guam as a result of brown treesnake infestation. Successful translocation of the white-eye will promote translocation plans for other species in the future.

Sarigan was the first island chosen to receive translocated birds because its feral animals have been eradicated, its native forests are recovering, and transportation costs and time to Sarigan are less than for the more remote northern islands. In April 2006, the DFW and its partners embarked on an expedition to Sarigan with a field crew of 22 to assess the recovery of Sarigan's ecosystem and to determine if its habitat was suitable for the white-eye.

The Sarigan expedition was a huge undertaking. Biologists surveyed the island's birds, vegetation, reptiles, small mammals, and invertebrates. They also sampled for avian disease, examined the stomach contents of monitor lizards, and conducted a census of fruit bats. All of this work was done over a two-week period. Although the quantitative data have not yet been analyzed, we have already learned much from our qualitative observations. We confirmed that the native forest is returning with gusto on Sarigan's plateau and in ravines following the removal of goats and pigs. Other changes are not as encouraging; mono-specific coconut plantations are being perpetuated by young coconuts and the invasive wood rose vine (*Operculina ventricosum*) has blanketed the native forest, although tree seedlings are beginning to emerge through the vine mat. The steep grassy slopes of Sarigan are still devoid of birds, but abundance of birds in newly vegetated areas appears to be increasing. Native tree snails were present in higher densities than ever seen before. The size of the resident Mariana fruit bat (*Pteropus mariannus*) colony



was reassuringly stable, and a new survey protocol for coconut crabs (*Birgus latro*) was tested in the field.

The most encouraging news is that Sarigan is a potential refuge for Saipan bridled white-eyes. To test for presence of avian disease on Sarigan, biologists captured Micronesian honeyeaters (*Myzomela rubrata*) and collared kingfishers (*Halcyon chloris*) by mist-net and took blood samples, with a subsample of birds subjected to necropsies. (We are anxiously awaiting analysis of these data.) The invertebrate abundance survey indicated that there is enough prey on Sarigan to support a population of approximately 6,000 Saipan bridled white-eyes. In May 2006, we began to develop trapping and holding procedures with a group of zoological experts by capturing 40 white-eyes for captive breeding. We are looking forward to translocating white-eyes to Sarigan in 2007 with our partners from the American Zoo and Aquarium Association.

Funds from the DFW's State Wildlife Grant paid for two round-trip vessel charters and supplies. This expedition would not have been possible, however, without the generous support of person-

nel, expertise, supplies, helicopter time, and additional vessel charters from our partners: the Fish and Wildlife Service, Navy, Workforce Investment Agency, University of Guam, volunteers, residents of Alamagan Island, Institute of Wildlife Studies, Brown Treesnake Program, and University of California at Davis.

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Above left: Native tree species have thrived since the removal of feral animals eight years ago.

Above: The humped tree snail, a species endemic to the Mariana Islands, is a candidate for listing under the Endangered Species Act.