



SIERRA CLUB

HAWAII CHAPTER

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2 September 2003

Docket Management Facility: US Department of Transportation
400 Seventh Street, SW
Nassif Building, Room PL-401
Washington, DC 20590-001

RE: Docket number FAA-2003-14830

The Sierra Club, Hawaii Chapter, with nearly 4500 dues-paying members in the state of Hawaii, offers the following comments on docket number FAA-2003-14830, related to SFAR 71.

MINIMUM ALTITUDE REQUIREMENTS

The Sierra Club believes that the altitude minimum in SFAR 71 (and the multitude of waivers from the rule) does not adequately protect human health, the environment, and the special wilderness qualities of our state and national parks and other wild areas. Studies have shown that human health can be adversely affected by exposure to constant noise. Hikers, campers, and residents in or near areas that are popular for air tour operations have to deal with ongoing noise from helicopter rotors and engines that legally fly as low as 500 feet. The incessant thrum of helicopters can also adversely impact Hawaii's fragile wildlife. According to wildlife biologists, birds are probably most affected by the noise because repeated disruptions interrupt courtship and mating activities, nest-building, and searching for food, leading to higher mortality rates or abandonment of habitat. (Please see attached *Environment Hawaii* article on the impacts of helicopters on forest birds.)

The Sierra Club supports maintaining the 1500 foot minimum altitude for air tour flights, although the Club believes that a higher altitude minimum is warranted in certain areas to reduce the visual and noise impacts. The Sierra Club does not support the petition to reduce the minimum altitude requirement to 300 feet.

The Sierra Club requests that waivers to the 1500 foot minimum altitude restriction be eliminated.

RESTRICTING OVERFLIGHTS

The Sierra Club is requesting that the FAA go further in protecting the tranquility and wildlife in Hawaii's wild areas. We ask that the FAA grant the state the ability to designate areas over certain state wilderness parks as no-fly areas as well as granting the National park service the same power

for Hawaii's national parks. The Sierra Club is particularly concerned about flights over Volcano and Haleakala National Park and Na Pali Coast state park. In an increasingly noisy world, surely there are some areas that can be declared as refuges free from noise pollution.

Thank you for the opportunity to comment on this docket.

Sincerely,

Jeff Mikulina
Director, Sierra Club, Hawai'i Chapter

ATTACHMENT

Environment Hawai'i

Volume 3 Number 11 (May 1993)

Hawai'i's Endangered Forest Birds Face Further Harm from Helicopters

Amid the furor and controversies generated by the recent marked increase in tour helicopter traffic on the Big Island, Harry Kim, the county's Civil Defense administrator, voiced his usual good sense and fresh perspective:

"We need someone to speak for the birds." Kim's observation was made at an at-times rancorous meeting March 1, 1993, of members of the public with representatives of the Federal Aviation Administration, the agency that claims complete, unbreachable jurisdiction over every cubic inch of navigable airspace in the United States. Delegates of community organizations in the heavily impacted Puna and Ka'u districts of the island told the FAA representatives their concerns about the unbearable levels of noise generated by the tour helicopters. It was left largely to Harry Kim and Dan Taylor, chief of resources management at Hawai'i Volcanoes National Park, to raise the point that the helicopters noisy presence is more than a nuisance to humans; for Hawai'i's surviving native forest birds, many species of which already are perilously close to extinction, the helicopters may present stresses sufficient to cause further population declines.

Stressed Out

As with many other threats to natural resources, tour helicopter traffic in the state has been allowed to develop without regulation to the point that, today, it has reached a size and scope that defies belated attempts at control. Because of this lack of regulation, the studies that might indicate the ways in which this industry harms Hawai'i's environment- natural and social - have not been done. No environmental impact statement has been prepared; no mitigating measures have been identified. Perhaps understandably, federal regulators have taken their mandate to supervise industry safety to refer only to the health and welfare of humans.

In any event, for whatever reason, there are no studies of the impact of helicopter traffic on Hawai'i's forest birds.

To say that, however, is not to say that there is no impact on the state's birds. Far from it. In one of the earliest known incidents, a golden eagle living in Kauai's Waimea Canyon was "turned into mincemeat through a fatal encounter with a chopper." as the late noted biologist Wayne Gagne put it in a letter to the Honolulu Advertiser in August 1987. (Just how the golden eagle came to reside in Waimea Canyon in the first place remains a mystery.)

Such encounters may be rare. But other types of disturbance, short of direct hits, can be just as serious and life-threatening.

Taylor, the resources chief at Volcanoes National Park, says that although hard data may be lacking, enough evidence is at hand already to support restrictions on helicopter over flights of areas inhabited by native birds. "Birds have a very tight energy budget," he said in a recent interview. In this budget, there's no room for extraneous activity, according to Taylor. "If something alarms them or causes them to depart from their routine, the birds have to rely on their energy buffer- if they have one."

Helicopters can and do disturb the birds' behavior, Taylor says. "The overhead noise is especially disruptive. It is something that is totally new; the birds have not evolved with it. It causes them to lose contact with other birds. It disrupts their sense of territoriality since they cannot hear other birds calling. It interrupts courtship and mating activities, and nest-building.

"The birds' search for food is disturbed, since they cannot hear other birds signaling to them. When low-flying helicopters cause them to abandon their nests, their young can be left vulnerable to predators or starvation."

And should they survive all that, Taylor says, the very stress of dealing with the helicopter noise can leave birds more susceptible to avian pox and avian malaria - scourges that already have decimated Hawai'i's forest bird populations. "Birds aren't all that different from humans in their reaction to stress," Taylor says. "Their immune systems can be weakened by stress, just like ours."

Observed Behavior

To observe the effects of helicopters on birds, Taylor has had to do no more than look out the window of his office in the park. "I had been watching an apapane build its nest," he says. "It would perch on a branch of that young koa tree, then drop to the ground, have a look around, pick up a straw, hop about with it a few seconds, then return with it to the branch where it was building its nest."

Taylor says he watched the bird, and its growing nest, for several days. Although his office is not in an area of the park that is regularly overflown by helicopters, one day a low-flying helicopter passed overhead. The apapane took flight immediately and never returned to complete its nest. Hawai'i's state bird is the nene, an endangered species of goose that, if it were allowed to continue uninterrupted on its evolutionary course, would probably be flightless in a few millennia. The nene today is a heavy bird and reluctant enough to take to the air that many people consider it incapable of flight.

The slowness of the nene to resort to flight may have led some to think that these birds are more tolerant of helicopters. Testimony to this effect was given, for example, when Hawai'i County was considering allowing a helipad near a golf course in Volcano known to be frequented by nene. (Installation of the helipad was approved, by the way.)

Taylor, however, reports that park staff have seen even nene take flight. "A flock of them were subjected to three quick overflights in a tow," he says. "After the first one, they did nothing. After the second one, they scattered. After the third one, they flew out of the area." Taylor says that park staff reported that the nene never did return to that site.

'Common Sense'

Richard Wass, manager of the U.S. Fish and Wildlife Service's Hakalau Forest National Wildlife Refuge, acknowledges that there have been no rigorous scientific studies of the impact of helicopter traffic on birds. Still, he says, it's just "common sense" to think that the helicopters have a detrimental effect.

"We know birds react to loud noises and stimuli that are startling," he said in a recent telephone interview. "We're concerned about helicopter traffic for that reason, particularly during nesting season, when birds are on their nests, either incubating eggs or protecting or feeding their young. When startled, they can jump up quickly, causing eggs or young to fall out of the nest and to break or be lost.

"Also, the loud noise can be a stress and can affect their normal behavior. I don't want to be anthropomorphic, but what you can call the birds' maternal instincts can get disrupted by stress. They forget to feed their young, to come back to nest. Some of this is speculation, of course. It's difficult to prove.

Helicopter flights over the Hakalau refuge do not occur as frequently as they do over areas in the national park, Wass noted. The refuge is frequently clouded in. "There are no spectacular waterfalls or other scenery - just acres and acres of green forest," he said. Even so, Wass believes that the helicopters are disturbing to the endangered birds of the refuge.

"There's a couple of things about helicopters. First, there's the noise. The wop-a-wop-a-wop-a is unnatural and alarming."

Second, Wass said, "the fact of any object flying over the birds brings on what he described as the predator stimulus."

"Hawaiian forest birds have been preyed on in the past by hawks and owls," Wass said. "As the predators fly over, they create a shadow. This, too, is disruptive to the forest birds." For these reasons, Wass said, he is "leaning towards asking for helicopter overflights to be excluded from the refuge or limited to flying at least 2,000 or more feet above the refuge."

Studies Elsewhere

Assessments of the impact of aircraft noise on wildlife anywhere are relatively uncommon. One of the consultants who has done them on the mainland is Douglas Gladwin, whose firm, *Sterna fuscata*, is based in Colorado.

In a recent telephone interview Gladwin said studies had found three basic types of impacts on birds: physiological, behavioral, and reproductive, with all of them somewhat related. Noise from overflights can trigger such physiological changes as quickened respiratory and heart rates, changes in body chemistry and damage to hearing. The hearing damage - changes in the threshold levels at which birds can detect noise - may be temporary but so long as it lasts, can have severe impacts on the affected animal. Mating behavior can be changed, as well as predator-prey relationships.

In the area of behavioral changes, noises have been known to drive birds from their habitat, Gladwin said. "If overflights are frequent enough, they could preclude the birds' use of prime habitat." Birds driven from their habitat are also more likely to be killed or injured while dislocated, he said.

Finally, the impacts of noise on breeding can lead to diminished fertility rates and eventual declines in population, Gladwin said. While there is not a lot of evidence that noise itself kills, "there is evidence that on being disturbed, parents will be driven from their nests and leave their young exposed to predators," he added.

The Hit List

On the Big Island and on Maui, helicopters regularly carry tourists at virtually treetop level over areas that are home to rare and endangered birds. Wilderness areas in two national parks - Hawai'i Volcanoes, on the Big Island, and Haleakala, on Maui - are not the only affected areas. Other sensitive areas on the Big Island include the 15,000-acre Hakalau Refuge, the Waimanu Valley National Estuarine Research Reserve, the state's Natural Area Reserves at Pu'u Maka'ala (12,100 acres adjoining Volcanoes National Park) and Pu'u o Umi (10,100 acres), and the new Pu'u Wa'awa'a wildlife sanctuary, where the state hopes eventually to be able to reintroduce to the wild captive-raised endangered birds.

On Maui, besides Haleakala National Park, there are the Nature Conservancy's Waikamoi Preserve, adjoining the park, and the lands on West Maui, at Pu'u Kukui, that the Conservancy manages under the state's Natural Area Partnership program for Maui Land and Pineapple Company. The state's 7,500-acre Hanawi Natural Area Reserve is in East Maui, also abutting the national park. The state's West Maui Natural Area Reserve consists of four parcels totaling 6,700 acres.

Among the endangered species of birds found in these areas are the 'akepa, the 'akiapola'au, the Hawai'i creeper, the Maui creeper, the 'io (Hawaiian hawk), the 'o'u, the nene, and the palila (depicted on page 1.) On the Big Island, some of the same areas are inhabited by the endangered Hawaiian hoary bat, the state's only native land mammal.

All of these areas also contain native plants, including many that are federally listed as endangered or threatened. Plants cannot, of course, respond to noise in the same fashion as animals, but they

nonetheless can be affected. If native birds disappear; the plants can lose their natural pollinators - and thus their ability to reproduce.

According to Wass, manager of the Hakalau Forest National Wildlife Refuge, "It's quite likely that there's a relation between forest birds and endangered plants. In many cases, birds are their normal pollinators. Birds also spread seeds in their droppings."

"There's speculation that the decline of birds is one of the reasons for the decline of plants," Wass added.