Capturing the ‘i’iwi

The midday sun beat down on the jet black a’a lava of Mauna Loa Volcano. I had taken shelter in the shade of a shrubby ‘a’ali‘i bush. A notebook, pen, and pair of binoculars were perched atop my folded legs as I waited for an ‘i’iwi. The ‘i’iwi (pronounced “ee-EE-ve,” resembling its unique call) is the emblematic forest bird of Hawaii, but it is also facing serious threats. I am among the many researchers scrambling to study wildlife, like the ‘i’iwi, that define our communities and countries but that may not last another generation.

From beneath the shade, I stared at the mamane trees facing me. Hawaiian forest birds naturally flock to mamane for their nectar-rich flowers, but these trees were special. As part of my research, I had crafted and conspicuously nestled artificial flowers into the boughs of the trees. My hope was to attract an ‘i’iwi to my artificial flowers, a feat which no published work has recorded.

“Ee-ee, ee-ee” squawked an ‘i’iwi, its call more like a squeaky door hinge than a melodious song. A “happy personality and endless energy” was how the ancient Native Hawaiians described this bird. As the ‘i’iwi danced excitedly from one tree to another, it was no mystery to me as to how this bird earned its lively reputation.

Down it flew, into one of my mamane trees. It probed one natural flower and another. And then without skipping a beat, the ‘i’iwi dipped its beak into one of my artificial flowers. After a thorough probe it glanced up pointedly, dipped down for another sip, and departed seconds later.

Despite the biological significance of the event, child-like joy overwhelmed my usual scientific train of thought. In an instant, I had unknowingly joined the ranks of the fanatic bird watchers of today and Native Hawaiians from centuries past, all of whom share a common goal: to capture an ‘i’iwi.

The ‘i’iwi is an emblematic bird of Hawaii and the representative of the Hawaiian forest birds. “It is the poster child of Hawaiian Honeycreepers,” says Jack Jeffery, retired Wildlife Biologist of Hakalau Forest National Wildlife Refuge of Hawaii. Go to any gift shop on the islands and you will find this bird on postcards, calendars, and nature guide covers. Glimpses of the ‘i’iwi are coveted by serious bird watchers from around the world. The bird is also important in Hawaiian culture. The ancient Hawaiians wore ‘i’iwi feather capes into battle for protection, and the ‘i’iwis presence is pervasive in the Hawaiian chants and hulas of today. But this emblematic bird is disappearing. ‘I’iwi habitat is being compromised as a result of disruptions triggered by climate change. Mountains that once roared with the call of the bird now support not a single ‘i’iwi. As politicians and scientists tirelessly debate the issue of climate change, the people of Hawaii are watching their cherished icon fall. Across the world, similar emblematic wildlife is disappearing. The importance of biodiversity began as a scientific issue, but it is clear that the pervasive loss of species is diluting the communities and cultures of the world. It is
crucial that stronger protection of threatened species be put in place in order to preserve the integrity of our ecosystems and cultures.

The ‘i’iwi is part of the Hawaiian honeycreeper family, which is a group of 50 finch-like species that evolved from a common ancestor about 6.4 million years ago. Over the years, each of the honeycreepers evolved unique characteristics. The ‘i’iwi evolved magnificent vermillion feathers and a sickled orange beak, striking features that have captivated humans since the Polynesians arrived in Hawaii hundreds of years ago. The ‘i’iwi’s adaptations have served it well for millions of years, but a deadly problem now looms.

The Culex mosquito is a non-native insect found on Hawaii. Many of these mosquitoes carry avian malaria and avian pox, diseases that pose no threat to humans but are deadly to the forest birds. A cold-intolerant species, the Culex mosquito is normally incapable of surviving in the high mountain forests where ‘i’iwi flourish. But this has not been the case in recent years. The culprit? Climate change.

“With climate change…the habitat for mosquitoes is rising, which pushes the bird’s habitat higher and higher up the mountain,” explains Adrian Boone, Interpretive Ranger at Hawaii Volcanoes National Park.

And while other honeycreepers have developed some resistance to the diseases, the ‘i’iwi has not. To an ‘i’iwi, a bite by an infected mosquito is the “kiss of death.” 90 percent of infected birds die within 10 days of being bitten. “When ‘i’iwi fly downslope it is a one way trip,” says Boone.

Once prevalent on all eight of the main Hawaiian Islands, ‘i’iwi remain common only on Maui and the island of Hawaii. There is much evidence for the birds decline, both quantitative and anecdotal. From the late 1980s to 2006, photographer Jack Jeffery visited Kauai every year to photograph the ‘i’iwi. He would go in October, “when the koli’i would come into bloom,” he said. The koli’i is a plant that is heavily used by the ‘i’iwi, because its nectar-rich curved flowers can be easily navigated by the sickle-beaked bird. Beginning in 2002 and 2003, Jeffery remarked that the ‘i’iwi weren’t coming to visit the koli’i flowers as much. And in 2006, the ‘i’iwi abruptly stopped visiting the flowers altogether. Bird surveys were subsequently conducted, and it was determined that the die offs were due to the presence of disease-carrying mosquitoes.

Despite the recent significant ‘i’iwi diebacks on Kauai, Oahu, and Molokai, the species is not considered endangered because its populations remain relatively high on Hawaii and Maui. But the forest ecosystems of the Hawaiian Islands are fragile, and even the ‘i’iwi populations of Hawaii and Maui are beginning to feel a strain.

“There are reports that ‘i’iwi were common around volcano village and the visitor center of [Hawaii Volcanoes National Park, Hawaii] up till the early 90’s, and now these days you are hard-pressed to find one” says Boone.

Recently, Jeffery was leading a tour in Hawaii Volcanoes National Park. As they passed a lava cave located near the visitor’s center, he explained the plight of the ‘i’iwi. Soon after, as if
in defiance of Jeffery’s words, a juvenile ‘i’iwi cried out “eee-eee.” Jeffery was pleasantly surprised, but much less so when a dead juvenile ‘i’iwi was found near the lava cave not a week later. Avian malaria was determined as the cause of death.

Jay Robinson, visual information specialist at Hawaii Volcanoes National Park, is all too habituated to these stories: “In the fall when it gets cooler, younger birds move down to lower elevations and we see dead ‘i’iwi down at the visitor’s center.”

‘I’iwi diebacks have begun to foreshadow the biological repercussions that could result from an ‘i’iwi extinction. Because of the Culex mosquitoes, numerous low-elevation native Hawaiian plants that depend on the ‘i’iwi for pollination are no longer being pollinated. As a result, those plants have been reduced to near extinction. It is impossible to define just how many species may be affected by an ‘i’iwi extinction because of the complexity of the Hawaiian forest ecosystems.

And what of the Hawaiian culture? The natural world has always been of great spiritual, moral, and social importance to the Native Hawaiians. The ‘i’iwi and other forest birds hold numerous and prominent positions in the Native Hawaiian culture. For the ali’i, or Hawaiian royalty, the forest birds (including the ‘i’iwi) and their feathers were considered extensions of spiritual power. As a result, feathered objects such as kahili (feathered standards) and ‘ahu’ula (feathered capes and cloaks) were present in most every aspect of the ali’i lifestyle.

“The most valuable things [the ancient Hawaiians] could own were the feathers of birds,” says Robinson.

These Hawaiian arts, which have withstood centuries, are now at risk because of reductions in bird populations. “Since about the turn of the twentieth century, we [feather artists] have been using dyed goose and chicken feathers…We cannot gather feathers from the forest birds,” explains Paulette Kahalepuna, master feather artisan of Oahu, Hawaii. Because of the difference in size between forest bird feathers and those of goose and chickens, many traditional weaving techniques are no longer being used. As a result, those techniques will be lost to history.

Even the Hawaiian language is at threat. During his time as senior Wildlife Biologist at Hakalau, Jeffery led school groups through the National Wildlife Refuge. When discussing Hawaiian forest birds on one such trip, two girls mentioned that the ‘i’iwi was mentioned in the chants that accompany their hula dancing. “Have you ever seen an ‘i’iwi?” Jeffery asked. When the girls shook their heads, Jeffery immediately insisted that they all set out in search of an ‘i’iwi. When they finally spotted the crimson bird, the girls were so moved that they burst into tears. “All of a sudden the word ‘i’iwi had more meaning to them,” explained Jeffery. “If the ‘i’iwi were to go extinct, it would just be a meaningless word… It would just mean a bird that no one has ever seen before.”

The ‘i’iwi and other Hawaiian forests birds are not yet destined to follow in the footsteps of bird species such as the ‘alala (Hawaiian Crow) or the California Condor, which are extinct in the wild and remain on this earth only within the confines of a wire cage. However, conscious
actions must be taken to support the species back to healthy populations: forests must be preserved; pigs must be removed; scientists must continue research on the avian diseases.

If you discuss extinction with a scientist, they may mention the “plane analogy.” You’re flying from L.A. to Honolulu, over the middle of the pacific. You look out the window and notice a bolt on the wing wiggling loose. It’s small, so you remain unconcerned. Then, another piece loosens and breaks off. How many pieces will it take before we’re concerned? How many species must be lost before we realize the impact we are having on our planet? Before unique ecosystems and cultures, like those of Hawaii, exist only as history?