

CHAPTER 36

ENVIRONMENT

KIRK R. SMITH

Senior Fellow, Environment
East-West Center



“Are we adequately protecting our environment?”

Hawai‘i’s natural environment is in great shape (relative to all other places inhabited by human beings), even in and around Honolulu, our only big city. But we really can’t take much credit for that.

Honolulu is the most isolated big city in the world. Our water and air come across 2,500 miles of ocean, cleansed to the maximum extent possible by natural processes. We have no heavy industry, and what air pollution is produced by cars, power plants, Big Island volcanoes, and agricultural burning is usually swept out to sea by the trade winds. We have not done a great job in some areas (e.g., controlling pesticides), but the fact remains, compared to other contemporary cities, Honolulu is near or at the top of the “clean” list for all major environmental health hazards.

Hawai‘i’s moderate climate plays an important role in our environmental health. The demigod Maui chose the ideal spot on Earth to create his islands. We are farther from the continents than any other island group in human times. We are at the edge of the tropics, close enough for coconuts and coral, but still in the trade winds for ventilation. By comparison with other coastal areas, we seem to be at low risk from extreme storms, even hurricanes. Our latitude and winds combine with the temperature buffering of the world’s largest ocean to produce the lowest maximum daily temperature and the highest minimum daily temperature of any in the United States. Even our volcanoes erupt

moderately, although more often than any others on Earth today.

We're number one. Three recent national ratings found Honolulu to be number one among U.S. cities in "green conditions." Each rating was composed of a different mixture of dozens of environmental indicators, such as those for water and air pollution, toxic and other waste, auto fuel efficiency, facilities releasing chemical carcinogens, and community and worker health. Not only is Honolulu always first, there is sometimes a big gap between it and the next-cleanest city in the nation.

Honolulu also fares well in comparisons to cities around the world. In thousands of daily outdoor air pollution measurements taken here, not even one has exceeded World Health Organization recommendations in recent years, a rare boast in the world today. Some Scandinavian cities have equally clean air during summers, but they slip in quality during cold winters when fuel burning increases. Indoor air pollution, which is the largest source worldwide for exposures to some pollutants, is low here as well. This is because, unlike households in Japan, Europe, and the U.S. mainland, Honolulu's are well ventilated; and unlike other well-ventilated residences in the tropics, ours do not rely upon dirty fuels such as biomass, coal, charcoal, and kerosene.

The recently completed Hawai'i Environmental Risk Ranking Study concluded that our highest risks are of the same magnitude as the lowest risks on the mainland. In turn, the environmental health hazards in the United States as a whole are at the low end of the range when compared to the rest of the world.

Problems in paradise. It is ironic that the very factors that make Hawai'i so environmentally healthy also make it extremely vulnerable to another type of environmental damage: loss of our precious and unique natural heritage. This is the paradox of Hawai'i's geography: although extremely moderate in seasonal and daily changes, Hawai'i nurtures the most concentrated aggregation of different ecological zones in the world. Just ask any snorkeler who looks up from the fish off Kona to see the snowy summit of Mauna Kea. Between Hawai'i's offshore reefs and its peaks lie examples of nearly every major ecological zone, tropical to arctic.

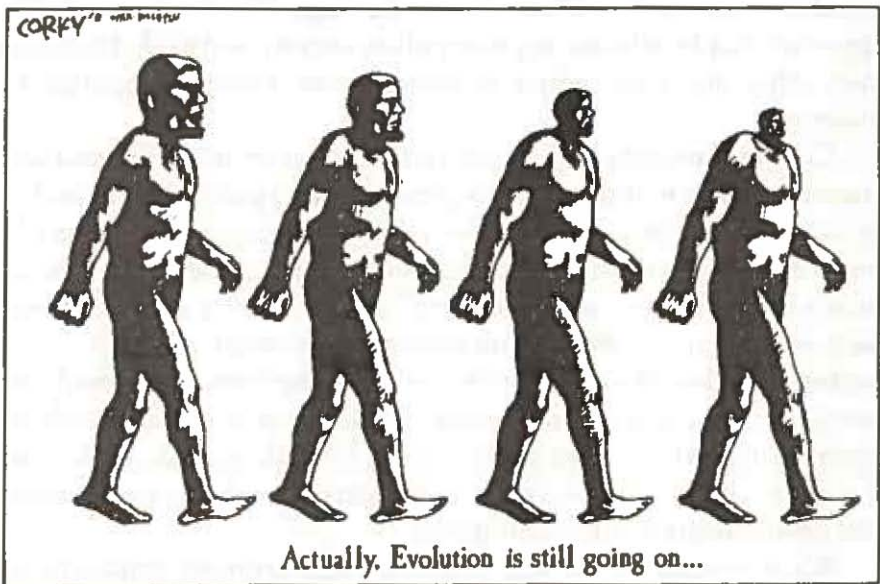
Because the Hawaiian Islands have never been connected or even close to any large land mass, the few hundred animals and plants that

did arrive during the first 70 million years were free to evolve rapidly to fit into the extensive range of ecosystem niches available here. Before humans arrived, only about one new species arrived every 100,000 years, but evolution has produced more than 10,000 species here that exist nowhere else on the planet.

Globally, therefore, Hawai'i has one of the largest and most important sets of endemic species (ones existing nowhere else). This is simply because the Islands are so remote from other lands. The factors that made the Galapagos Islands so well suited for Charles Darwin's deductions about natural selection have operated here to an even greater degree.

Another result of this isolation is that Hawai'i was one of the last places of any size on Earth to be inhabited by humans. Compared to Africa, Asia, and Europe, humans spread relatively recently to the Western Hemisphere and Australia. Still, these migrations occurred tens of thousands of years earlier than the A.D. 400 arrival of the first Polynesians in Hawai'i. By comparison, this arrival is so recent that Hawai'i's natural environment is still reeling from the first shocks that inevitably accompany human inhabitation.

This, then, is another aspect of Hawai'i's uniqueness. Our lands



have lived under the destructive yoke of humanity for a shorter time than almost any other. Hawai'i thus has much left to teach us about what it means to be "natural."

Our assigned stewardship. Communities on the mainland with typically long lists of environmental challenges may have difficulty choosing priorities, but our responsibility is quite clear. Our assigned stewardship is to assure that the world does not suffer further destruction of the special ecosystems and endemic species that make Hawai'i unique.

It is up to us to stop the ecosystem destruction, particularly to our reefs, occurring through soil erosion and poorly planned development. We could achieve much benefit just by enforcing the existing regulations. Very few projects would have to be stopped, if everyone simply followed the law.

It also is up to us to rid the Islands of foreign species brought by humans over the past 1,600 years which threaten our land's very soul. There are dozens of introduced animals and plants that destroy our precious natural heritage, but the worst is the large feral pig. What possible justification can there be for preserving a species dumped here by foreign ships only a short two hundred years back? What a mocking irony is the claim that the hunting of those destructive animals is somehow part of Hawaiian cultural heritage. The truth is just the opposite: only by eliminating them where we can, and excluding them from other important native ecosystems, can Hawaiian heritage be preserved.

Convince neighbors. The rate that new species are introduced into Hawai'i today is millions of times greater than in prehuman times. It is up to us to convince our neighbors that such introductions must be limited as much as possible. We must keep foreign species away from our shores, even if it means less-colorful gardens, duller pet shops, and tedious inspections. We must understand, for example, that those seed packets sent from the mainland by well-wishing friends and family are extremely hazardous to our heritage. Although most of those seeds are harmless and others are of plants already here, there is too high a risk that the packet will contain another banana poka or haole koa to spread and further degrade our environment.

We must support our state and federal government actions to set

lands aside in Hawai'i so that the natural ecosystems can be preserved. We must encourage our politicians to give more support to the federal Fish and Wildlife Administration and the Hawai'i Department of Land and Natural Resources to enhance their ecosystem management capabilities. Private efforts through such organizations as the Nature Conservancy also deserve our support. We must enhance environmental education at all levels to make islanders of every age proud of our uniqueness and aware of ways to preserve it.

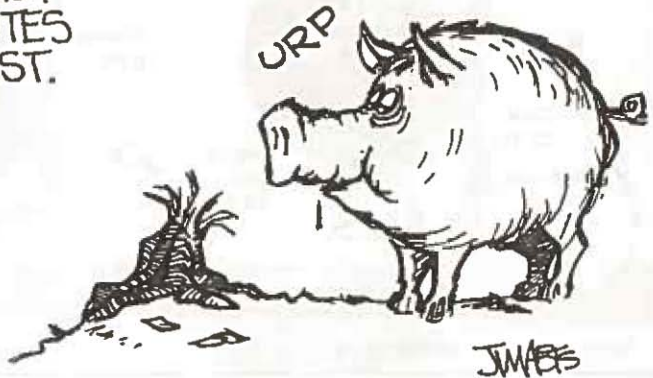
These are our duties and a small price indeed for being able to share life in paradise.

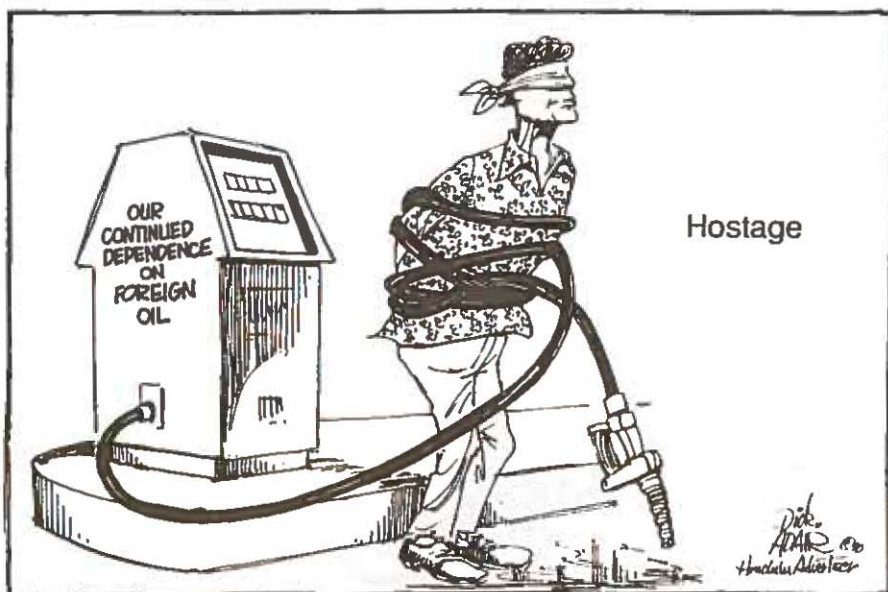
THIS PLANT
IS FOUND
ONLY IN
HAWAII.



IT TOOK 70
MILLION YEARS
TO EVOLVE...

...AND ONLY
70 MINUTES
TO DIGEST.





What keeps Hawai'i going

Hawai'i is much more dependent on oil than is any other state.

