

# GREEN AWAKENING IN A POOR COUNTRY

*Despite its slash-and-burn farming, rapid population growth, and sluggish economy, Honduras may be forging a home-grown social contract to save its forests.*

by Howard Youth

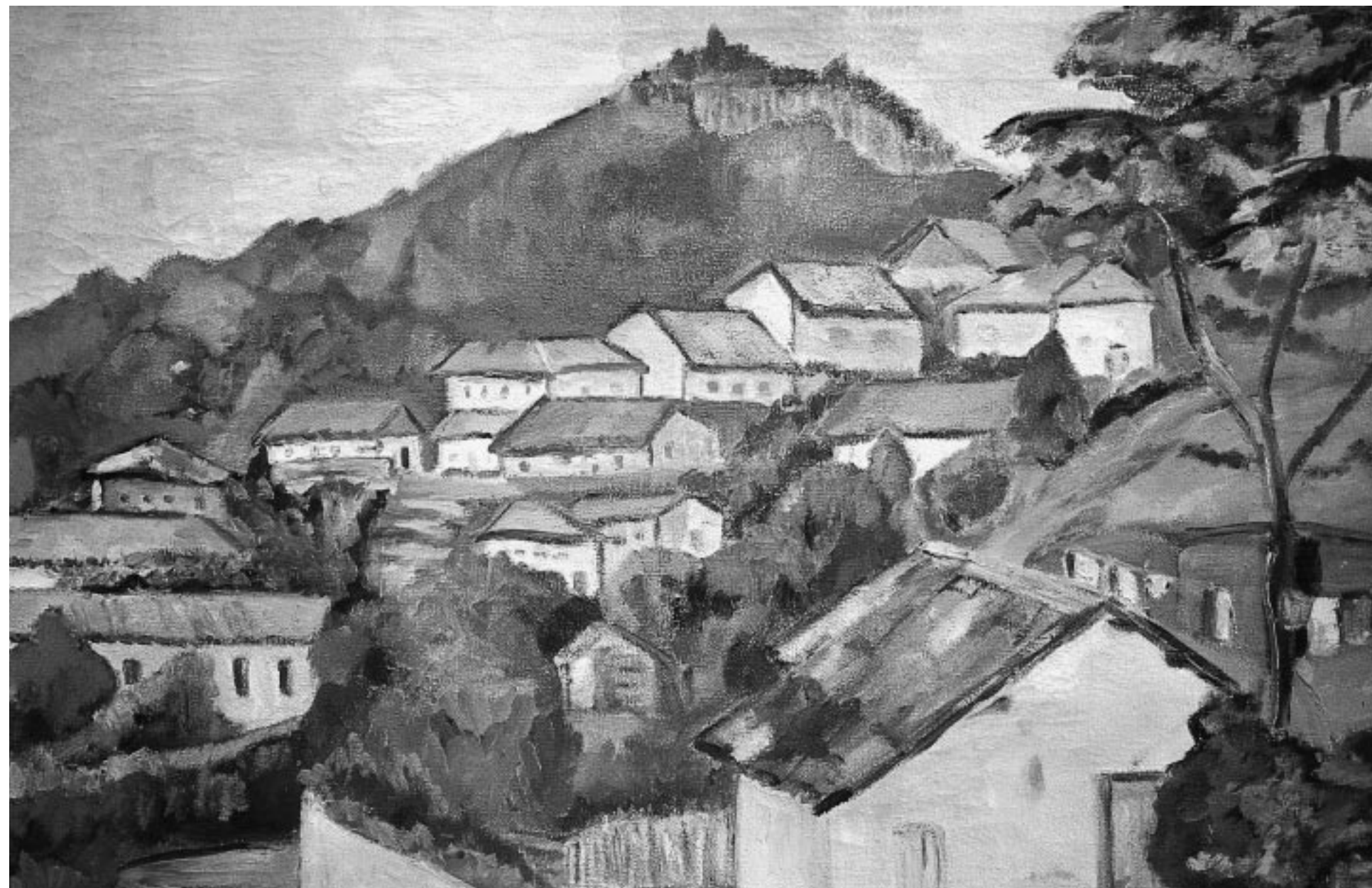
Juan Carlos Carrasco expertly paddles his kayak between the intertwined prop roots of 20-foot-tall red mangroves, silently gliding through a rare slice of Central America—11,300 hectares of flooded forest, wetland, and beach known as Punta Izopo National Park. The park is home to such threatened animals as jaguars, manatees, and crocodiles, and Carrasco oversees it—alone. He is solely responsible for defending the property from poachers, from farmers hoping to clear some land, and from people who want to treat the park as a dump site. There's a local palm oil plant, for instance, that sometimes dumps chemicals in the park's core zone.

Carrasco works for an NGO called PROLANSATE, and divides his time between patrolling the park and doing office work in the nearby Atlantic coast town of Tela. (See map, page 32.) Though the Honduran forest service, COHDEFOR, has jurisdiction over Punta Izopo and the country's other protected areas, the agency is cash-poor and relies upon local NGOs to staff many parks. Carrasco hopes one day to have park guards, a community relations person, and more boats for patrolling the watery refuge. But that may not happen anytime soon: PROLANSATE's humble \$100,000 budget, provided in pieces by various international organizations and the Honduran government, is already spread thin between 23 employees and four large parks. Yet despite the difficulties, Carrasco smiles and says "I believe the future of this park is bright."

It's not hard to understand Carrasco's optimism: eight years ago, the park and his NGO employer didn't even exist. In Honduras, environmental issues command more government and press attention these days than ever before. The government has adopted a number of promising conservation laws and is open to outside assistance. Honduran NGOs are varied and enthusiastic. Some observers think the country is poised to become one of Central America's conservation leaders.

But watching Honduras develop its conservation strategies is like watching a performer on a tight-rope. Honduras is one of the poorest nations in the Western Hemisphere; it is heavily dependent on foreign aid; its population is growing rapidly, and its extraordinary wilderness areas are coming under increasing pressure from poor farmers and rich landowners alike. Many Hondurans share Carrasco's optimism. But one need only look to the country's best known archaeological site, Copán, for a hint of a less happy ending. Many experts believe the Mayan culture that built the great ceremonial center collapsed in large measure because of overpopulation, forest loss, and soil depletion.

The Honduran balancing act has much to tell us, not just about the fate of its own natural areas, but about the *realpolitik* of conservation in many of the world's relatively small and valuable places—places like Costa Rica, Belize, and



Town of Santa Lucia, outside of Tegucigalpa. Oil painting by Gabriela Tavantzis (1983), from the private collection of Susan Zelle and Terry Nickelson. Photograph by Marta Youth.

the Caribbean island nation of Dominica. There are analogues outside the region too, such as Bhutan in the Himalayas and Botswana in southern Africa. Like Honduras, all of these countries have substantial tracts of highly valuable wildlife habitat remaining in them. All have a recent history untroubled by war. All have relatively new environmental movements, bolstered by governments that are, in varying degrees, credibly committed to preserving their natural wealth. And all of them are facing the same kinds of pressures that are building in Honduras.

**H**onduras is Central America's second-largest country (after Nicaragua) and like the rest of the region it is a crossroads for northern and southern wildlife. Within its borders live typically North American species such as Steller's jays and northern raccoons, as well as tropical creatures like howler monkeys and quetzals, the resplendent birds revered in pre-Columbian Mayan culture. Cecropia trees poke out of pine forests. Alders and firs, reminiscent of Canadian landscapes, grow upslope from stands of tropical genera, like *Podocarpus*, a mainstay of tropical foresters, and *Ceiba*, which includes the kapok tree, one of the tallest species in Amazonia.

Honduras far surpasses temperate-zone norms in terms of species diversity—as forested tropical countries usually do. The country has 2.7 times more native mammals than occur in the U.S. state of Tennessee, which is roughly the same size. Its native bird count is 93 percent that of the entire United States, which is 83 times as large. It has as many amphibians as Japan, nearly 30 percent more freshwater fish than the United Kingdom and about as many flowering plants as Spain—countries that are respectively three, two, and four-and-a-half times its size. At least 23 of its vertebrates occur nowhere else.

In a tropical context, Honduran nature looks more modest, at least when compared with such mega-diversity countries as Brazil, Indonesia, or Colombia. (Colombia, for example, has about 1,800

bird species, 360 mammals, and at least 330 endemics.) Even within its own region, Nicaragua, Costa Rica, Panama, and Guatemala have more species. (See table below.) But Honduras has some of the healthiest surviving habitat in the region. For example, jaguars and Baird's tapirs, which are rare or extinct in many parts of Central America, continue to thrive in Honduras' trackless mountain forests.

In Honduras, a wide range of habitats occur in close proximity, depending upon variations in elevation and rainfall. Moisture from the Caribbean douses the lowland rainforests on the North Coast. Some mountains are topped with cloud forests, which are bathed in perpetual rain and fog. The cloud forests drain the moisture from the skies, creating pockets of semi-desert in the valleys below. Elsewhere, especially along the coast, there are expanses of swamp forest and mangrove stands, which provide critical fish and bird habitat. Much of the heart of the country is dry, hilly, and covered in tall pines, reminiscent of the ponderosa pine forests of the western United States.

This natural bounty is threatened as Honduras draws heavily upon its natural resources to feed a sputtering economy. Only about one-quarter of this rugged country is arable, and virtually all the best farmland is already in use. More than half of rural Hondurans remain landless, and many roam into hilly forests to scratch out an existence on poor, highly erosive soil. Slash-and-burn agriculture is standard procedure for most subsistence farmers. Established fields may be burned again, to control pests and create charred mulch for plantings. The fires often burn out of control, engulfing surrounding forests. In the spring of 1998, for example, El Niño cut the rainy season short by one month. Forest fires, many started by farmers, raged from Honduras to Mexico; smoke drifted as far north as Wisconsin.

Commercial logging is chewing up some forests as well, while agricultural runoff is polluting waterways. The mining of silver, lead, zinc, and gold has disturbed some sensitive wetland and forest ecosys-

tems. Along the Gulf of Fonseca, on the country's Pacific coast, shrimp farms are displacing mangrove stands. According to the UN Food and Agriculture Organization and COHDEFOR, Honduras lost about 20 percent of its forest cover between 1965 and 1990. Between 1990 and 1995, the estimated rate of loss was 2.3 percent per year, a rate that puts Honduras between neighboring Guatemala (2 percent) and Nicaragua (2.6 percent). Overall, the country has already probably lost about half its original forest cover.

Thus far, at least, Honduras has yet to develop the kind of social infrastructure that would support more sophisticated manufacturing and service sectors, which might go easier on the land. The country still relies on hefty doses of foreign aid. In 1996, its aid infusion ran to \$275 million, or 6.8 percent of its GDP, according to the World Bank. Its combined underemployment and unemployment rate in that year amounted to a full 30 percent of its labor force, and 72 percent of its households fell below the poverty line. Almost half the population lacks access to safe water, and about one-third is illiterate. It's still an enormous challenge to provide even basic services—like electricity or safe water—in the hundreds of tiny, isolated villages cut into the rugged countryside.

Yet despite all of the disadvantages, Honduras has distinguished itself in recent decades by its relative political calm—no small achievement in a country whose history is scarred by indigenous revolts, military coups, and several invasions since it won independence from Spain in 1821. The recent history of Honduras' neighbors makes its social peace all the more remarkable: all three of them have been devastated by civil war. The fighting in Guatemala went on sporadically for 36 years, until 1996. Of more immediate concern to Honduras were the wars in El Salvador and Nicaragua, which drove tens of thousands of refugees across the borders. During the 1980s, as the United States sought to assist the rebel "Contra" forces in Nicaragua and the government forces in El Salvador, Honduras became home to a substantial U.S. military presence. Along the borders, refugees carved camps out of the forests. Near the Nicaraguan border, the formerly pristine Mosquitia region became a refuge for Contra groups. The Nicaraguan frontier is quiet now—but it's still lined with mine fields.

**T**he region's relentless population increase, however, may prove to be a greater threat to wildlife than its wars. Flying over the Honduran countryside, you can almost see the country grow: spreading brushfires, new towns, new roads, new swatches of forest cut from the slopes create a patchwork of human activity. When Columbus came ashore briefly during his final voyage in 1502, the land

that is now Honduras was inhabited by fewer than 1 million people. Today, Honduras' population is 5.8 million—still relatively low by modern standards—but it's growing by 2.8 percent per year. That's down from 3 percent in 1993, but it's still so fast that the population is expected to double within 25 years.

The rate of contraceptive use among Honduran women of reproductive age (15 to 44) grew from 26.8 percent in 1981 to 50 percent in 1996, but the trend has since leveled off. By Central American standards, the Honduran rate is solid but not stellar. In Guatemala, for instance, the rate is only 31 percent. It's 53 percent in El Salvador, which has the second-best rate in the region. The best belongs to Costa Rica, which far excels its neighbors with a rate of 75 percent. The increase in the Honduran rate was achieved largely through improved contraceptive use in cities. But the highest population growth is occurring in the countryside—in villages scattered widely over rugged terrain—and in many of these places, contraceptives are not readily available. According to one recent study, it took urban women 45 minutes, on average, to reach a contraceptive source; rural women averaged nearly two hours.

Even though contraceptives themselves can still be difficult to get, the idea of family planning seems to have very broad appeal. A 1996 survey of 7,505 Honduran women of child-bearing age found that among those who were married and not using contraceptives, 73 percent wanted to use them, either at the time of the survey or in the future. Richard Monteith, an advisor on health and population issues in the Tegucigalpa office of USAID (the U.S. foreign aid agency), finds such numbers encouraging. "These data," he says, "tell me that knowledge is not the problem."

So what is the problem? Partly, it's cost: simply stocking condoms in the 800 or so government health units that are scattered around the countryside would be—by Honduran standards—an expensive proposition. Paying family planning counselors would presumably cost even more. But it's also partly a lack of government commitment: Honduras still has no national family planning program. Yet such programs have already proven themselves. Costa Rica owes its success to just that kind of commitment: family planning is promoted there through the national health care system. In Honduras, as in so many developing countries, population trends can affect everything—wildlife conservation, public health, education, employment, housing, or any other form of economic development. Almost half the population in Honduras today is under the age of 15. Most government programs are already under serious financial strain, and virtually all of them will face an enormous challenge over the next decade, as these children begin to bear children of their own.

#### A CENTRAL AMERICAN BIODIVERSITY SAMPLER

	Mammals	Birds	Reptiles	Amphibians	Freshwater Fish	Flowering Plants
Belize	125	533	107	32	63	2,750
Costa Rica	205	850	214	162	130	11,000
El Salvador	135	420	73	23	16	2,500
Guatemala	250	669	231	99	220	8,000
<b>Honduras</b>	<b>205</b>	<b>715</b>	<b>152</b>	<b>56</b>	<b>46</b>	<b>5,000</b>
Nicaragua	200	750	161	59	50	7,000
Panama	218	929	226	164	101	9,000

SOURCES: Conservation Monitoring Centre and Pilar Sherry Thorn, National University of Honduras.

Honduras' environmental movement began in the capital city of Tegucigalpa in 1969, when the National University of Honduras established its forestry school and biology department. The university became a venue for conservation training provided by U.S. Peace Corps volunteers. In 1976, a group of teachers, government administrators, and others formed the country's first environmental NGO, the Honduran Ecological Association. Honduras' first national park—La Tigra—was created in 1980 to protect a cloud forest, along with the watershed that supplies at least 30 percent of Tegucigalpa's water. The same year saw the designation of the enormous Río Plátano watershed in the eastern part of the country as a UNESCO Biosphere Reserve—the first such reserve in Central America. Since then, Honduran parks and conservation programs have benefited from German, Canadian, and Danish assistance, as well as that of USAID and other

U.S. agencies. The U.S. Peace Corps, for example, has one of its largest presences in the world here—around 200 volunteers at any one time.

One of the reasons for the movement's early success was a relative lack of tension between the rich and poor. Unlike Guatemala, for example, or the Mexican state of Chiapas, Honduras does not have a close-knit social caste of wealth, distinct from the rest of the population, nor are wealthy Hondurans closely allied with the military. (See Michael Renner, "Chiapas: An Uprising Born of Despair," January/February 1997.) Some 90 percent of the population is mestizo—of mixed indigenous and European descent; the lack of an ethnic fault line between rich and poor may also help bind the country together. Some of Honduras' most outspoken environmentalists have been high-society figures, and their causes have often brought them into close alliance with the middle class and the poor.

The movement also benefited, in a way, from the chronically sluggish Honduran economy. Slow development, a relatively low population, and rugged terrain—these factors have tended to keep a good deal of the landscape intact. Andrew Stoll, a former Peace Corps volunteer and cofounder of PROLANSATE, puts it with disarming candor: "The last kid on the block to develop will still have natural resources remaining."

The movement ran into its first major crisis during the 1980s, as the wars in Nicaragua and El Salvador spilled into the forests along the borders. The U.S.-backed Contras began operating in the Mosquitia region, where the Biosphere Reserve had just been set up. Anxious to prevent the wars from engulfing Honduras, Washington responded with heavy doses of military and economic aid—during the war years, U.S. economic aid alone was more than double its 1997 level of \$40 million. Many Honduran environmentalists were less than enthusiastic about the role the United States was playing in the region's civil wars, but within Honduras, U.S. aid during that era did support Honduras' growing environmental movement.

One legacy of the war era, for example, was a sustainable farming initiative financed primarily by USAID. For the past 17 years, the program has been teaching soil conservation techniques, integrated pest management, and other farming practices suitable for highly erosive, hillside terrain. As a result of this effort, about 31,000 families have adopted sustainable farming practices on more than 54,600 hectares of hillside in southern and central Honduras. And of course, the more successful those families are at farming the land they're working now, the less likely they are to cut more forest.

In the early 1990s, the pioneer Honduran Ecological Association fizzled, and a period of rapid organizational change ensued. "We didn't take the time to strengthen the internal workings of the organization," says one of its founders, Jorge Betancourt, a Honduran who now works on environmental issues in the Peace Corps' Tegucigalpa office. But, he says, "once the NGO fell apart, the members across the country decided to start their own."

A group called FUCSA, for example, now watches over the Cuero y Salado Wildlife Refuge, a 13,000-hectare expanse of wetland on the Caribbean coast that is home to howler monkeys, manatees, and other rare animals, as well as rare species of palms. Pepe Herrero, the group's founder, is an entrepreneur who, among other things, owns a pepper farm, a tree farm, and one of the country's oldest sausage-making factories. "I'm a businessman and a tree farmer and I believe in my country," says Herrero, who uses his connections to promote conservation among politicians and big business people. Under his direction,

FUCSA has helped build a visitor center for the refuge and a health care center for the 84 families that live within the natural area. "Conservation is millimeter by millimeter," says Herrero. "But we've been at it 11 years now and have made a lot of progress."

Since the early 1990s, dozens of groups like FUCSA—ranging from small rural councils to conservation associations founded by wealthy urbanites—have sprung up around the country. Many of them help run particular natural areas—a group called MOPAWI, for example, works in the Río Plátano Biosphere Reserve.

Civil activism has helped foster a growing legal activism. The first comprehensive legislative effort to protect the country's natural areas was the Cloud Forest Act, passed in 1987, a dry year marked by widespread forest fires. The Act set aside 37 cloud forests as protected areas. The country's network of protected areas now includes 107 sites (of which 37 are still in the proposed stage). During the 1990s, a series of bills was passed that required municipalities to set up local environmental commissions, mandated environmental content in school curricula, and required environmental impact statements for changes in land use.

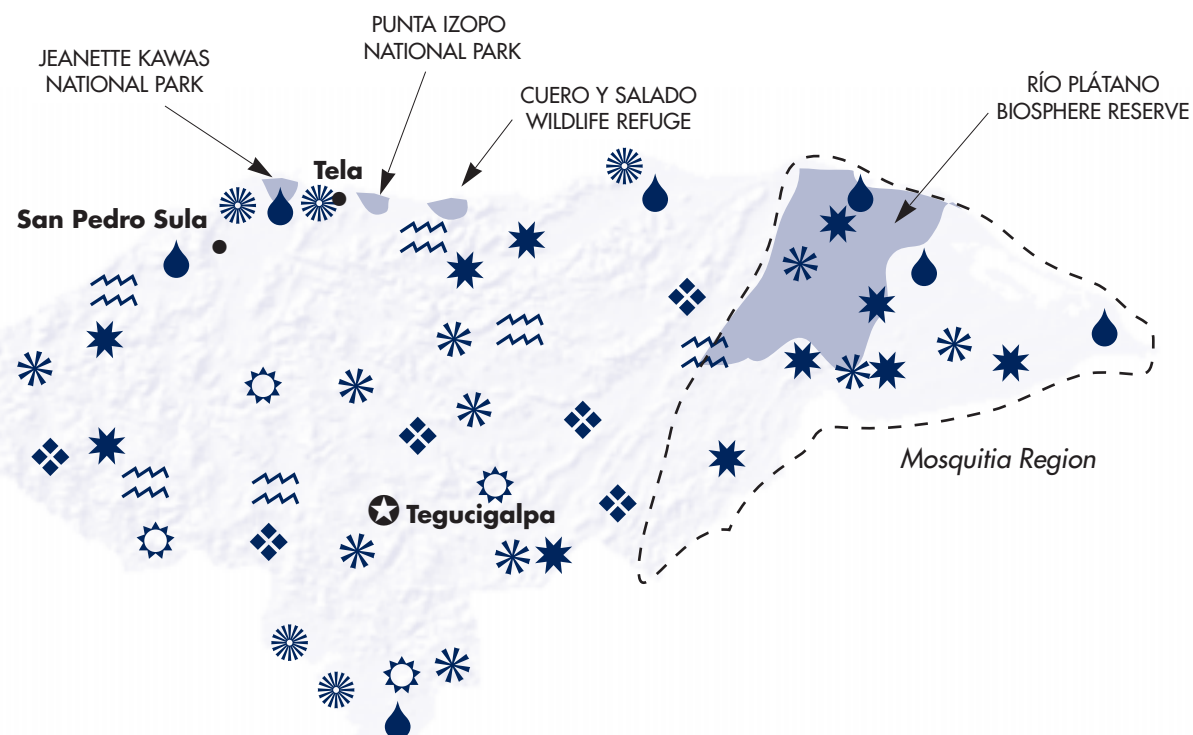
None of this legislation has been fully implemented—even many of the "protected areas" are protected only on paper. Hondurans, of course, are well aware that so far at least, the environmental laws often lack teeth. "Tortuguismo" ("moving as slow as a turtle") is a term many Hondurans use to describe the sluggishness that pervades their country's bureaucracy, and conservation law enforcement can be a very slow turtle indeed. The system has a chronic case of corruption, although the level of infection has varied considerably from one administration to the next. Violators often go free or receive only symbolic punishment. For example, 300 hectares of flooded forest within the Cuero y Salado Wildlife Refuge were burned in 1994 by a well-connected rancher who then fenced the area and released his cattle there. (The burning occurred in the refuge's buffer zone, an area where certain types of land use are allowed but deforestation is prohibited.) The violator was briefly jailed, then released to continue grazing his livestock on the land. He is still there today, and recently burned more forest.

It's not just the trees that are at risk. In February 1995, Jeannette Kawas, an affluent leader of PROLANSATE, was shot and killed in her home, possibly by someone whose interests were threatened by the group's efforts to protect wild areas near Kawas' home town of Tela. In 1993, park activist Hector Rodrigo Pastor Fasquelle was murdered near San Pedro Sula. The victim's mother founded an NGO in his name; it monitors two parks in the area, and promotes environmental education and wildlife

## FOREST DIVERSITY IN HONDURAS



Honduran forest cover is a highly varied natural mosaic. Moist forest (★) predominates in the Mosquitia region and in some other lowland areas. Mountain summits are often covered by cloud forests (☁). Valleys in the "rain shadows" of nearby mountains may support dry forests (☀), which are among the most endangered types of tropical woodland. Where the moisture regime is midway between the moist and dry forests, there are pines (🌲), or a mixture of pines and broadleaf species (◊). Along the coasts, flooded forests (💧)—a type of woodland swamp—intergrade with mangroves (🌿)—the stilt-rooted trees that are a basic and rapidly disappearing part of tropical coastal ecosystems all over the world.



study. A guard working in Pico Pijol National Park, in the northwestern part of the country, was also killed recently. So was an activist who was trying to protect the forests in the department of Olancho, to the east of Tela. Several other conservationists have been threatened, probably by loggers active in the parks. No arrests have been made for any of these murders or threats.

"There's a lot of fear of what our opponents can do to us," says one North Coast conservationist. In the NGO community, the violence has made building local support, already a high priority for ensuring protection of natural areas, even more important. One of the most successful efforts in this direction was launched by PROLANSTATE among the Garífuna people living in or near the reserve now known as Jeannette Kawas National Park, in honor of that activist. The Garífuna are of African and indigenous Carib descent; their ancestors were brought to the country's Atlantic coast by the British in the late 1700s. Today, they still live in beachside villages, making their living from the sea. The Garífuna have joined with campesinos (small-scale, predominantly mestizo farmers) from neighboring villages to form the first Honduran community park council, which helps protect the park and works for community rights. As a result, Jeannette Kawas National Park is one of the few national parks where local residents report illegal activities, sometimes even implicating their own neighbors.

**W**hy risk death for a park? Perhaps the best way to understand what's at stake in Honduras is to visit the Mosquitia region, Honduras' "wild east"—a vast tract of forest and wetland that covers most of the eastern quarter of the country and extends into Nicaragua. The gem of the Mosquitia is the Río Plátano Biosphere Reserve, more than 800,000 hectares of flooded forest, mangrove, rain forest, and savanna—a park so large it accounts for roughly 7 percent of the entire country. Unlike the more settled western and northern parts of Honduras, most of the Mosquitia remains remote and trackless. The reserve is home to some of Central America's rarest wildlife species, including the jaguar and the jabiru stork. It is also home to the scarlet macaw, Honduras' national bird, which has all but vanished from the country outside the department of Gracias a Dios, within which the reserve lies.

But because of the reserve's growing human population, park management is becoming an increasingly complex and urgent task. The traditional inhabitants of the reserve include about 16,000 people of four ethnic groups—the Miskito, Tawahka-Sumu, and Pech indigenous peoples, and the Garífuna. They are joined by a growing number of land-hungry campesinos.

The 1992 presidential ruling that expanded the

reserve to its current size also designated parts of it for different uses: 215,000 hectares for strict protection as a core zone, 350,000 hectares for the indigenous and Garífuna peoples, and 250,000 hectares as a settlement zone, designed to limit campesino activities to the southern and western parts of the reserve. Until last year, however, few of the campesinos drifting into the area had even been aware they were entering a reserve. Many of the boundaries are still unmarked. And COHDEFOR, which manages the reserve, had no presence there until late 1997, when a staff of four was moved into a newly-built office near the northern boundary. The agency hopes to have a staff of 38 within the reserve eventually. But in the meantime, the cover is disappearing steadily: by 1996, almost one-tenth of the reserve had been deforested, including parts of the core zone.

The fate of the reserve is attracting a great deal of attention from both NGOs and foreign governments. COHDEFOR has gotten assistance in one form or another from the Nature Conservancy, the World Wildlife Fund, and a Honduran organization called the Fundación Río Plátano. Last year, the German government launched a \$13.5-million program through COHDEFOR to help zone the park, mark boundaries, and work on ecotourism, land tenure, and social service projects. The Honduran affiliate of World Neighbors, an NGO based in the United States, has been working with campesinos already in the reserve. In an effort to reduce slash-and-burn, logging, and poaching, World Neighbors is introducing sustainable agriculture techniques, fish farming, and a set of light-on-the-land cash income projects. Pine-resin tapping, handicraft production, and the cultivation of medicinal plants and shade coffee are among the techniques campesinos are learning. MOPAWI, the local NGO, just wrapped up a three-year collaboration with USAID, the Peace Corps, and the U.S. Department of the Interior. Among the results of this venture are sea turtle and iguana conservation programs, and two more small steps towards a sustainable wilderness economy: a butterfly farm, and a training program for resident ecotourism guides.

Such measures are encouraging, but the reserve is still threatened by the profound and unresolved struggle for land. The traditional inhabitants and the campesinos are coming into territorial conflict—and the trouble is exacerbated by legal uncertainties. "Permitted land uses within the proposed Indigenous and Ladino settlement areas were not legally defined, much less regulated," reads a U.S. Department of the Interior paper summarizing the situation. "The indigenous and Garífuna peoples of the reserve had no rights to the lands they had used traditionally, and no legal means to repel squatters." In January 1997, the Honduran government offered

the indigenous peoples of the entire Mosquitia region legal control over their traditional land, in the form of renewable 40-year land use rights. The indigenous federation of Honduras responded with a demand for clear title to the land, but the government, fearful that some land might eventually be sold to developers, stuck to its earlier offer. COHDEFOR's general manager, who had been instrumental in the negotiations, was replaced following national elections in November 1997. At the time this article went to press, talks remained stalled.

The troubles in Río Plátano echo those in the other two major wilderness areas remaining in Central America—Panama's Darién region and the Mayan Forest, a network of biosphere reserves and parks spanning Guatemala's northern frontier, southeast Mexico, and northwestern Belize. Increasing demand on the land, coupled with poor or corrupt law enforcement, is eroding the integrity of the parks. Land use zoning and wildlife laws often go unheeded, as farmers, hunters, and loggers make their way into the parks. It's true that much of this illegal activity is occurring in the buffer zones, which are meant to mitigate the effects of development. But the buffers are critically important to the ecological integrity of these places as a whole. Without their buffers and the associated wildlife corridors that con-

nect one protected area to the next, many parks are doomed to become remnant patches in an otherwise altered landscape.

This isolation of wild ecosystems is an increasingly common phenomenon worldwide. It can be seen in places as diverse as Spain's Coto Doñana National Park, Kenya's Lake Nakuru and Nairobi national parks, the Everglades National Park in the United States, and India's Guindy National Park. And the effects can be read in the wildlife—in Coto Doñana's dwindling Spanish lynx population, for example, and Guindy's blackbuck herd, which is now too small to be genetically viable and must be augmented with animals from hundreds of miles away. Apart from the unhealthy effects of inbreeding, dwindling wildlife populations grow increasingly susceptible to disaster—a single oil spill, for example, or one bad burning season, and a small population may be swallowed up entirely.

**O**ne of the best ways of protecting parks is to make them profitable, and probably the most lucrative wildlife industry is tourism. Though not a panacea, ecotourism is proving that it can generate jobs and cash, with minimal effect on the landscape. Ecotourism is already a big business in some other small societies with spectacular natural



Honduran village. Oil painting by C. Garay, from the private collection of Susan Zelle and Terry Nickelson. Photograph by Marta Youth.

assets—for example, Botswana, Costa Rica, Dominica, and Belize.

Honduras is enjoying a tourism boom as well. The industry is now one of the country's top foreign exchange earners, exceeded only by bananas, shrimp, and coffee. Between 1994 and 1997 tourist revenue increased nearly five-fold, from \$32 million to \$155 million, according to Erasmo Sosa Lopez, an ecotourism expert at the government's Honduran Tourism Institute. Sosa estimates that 20 percent of foreign visitors come to Honduras just to visit its parks, scuba dive off its coastal Bay Islands, or visit cultural sites such as Copán—and that percentage is growing every year. (The other tourists come to visit the cities and a growing network of resorts.) Many high potential ecotourist sites, however, are still largely inaccessible, since they lack trails, local guides, or accommodations.

Developing this ecotourist potential will have to be done with great care. A good example of what *not* to do may soon emerge in the buffer zone of Jeannette Kawas National Park. A huge Canadian-owned resort complex planned for the area is likely to hasten development of the shoreline between the city of Tela and the still-remote park. One 1997 Honduran guide book reads, somewhat ominously, "Enjoy Tela today, before it becomes a more popular international tourist destination." Poorly planned development can easily ruin the natural beauty that attracts ecotourists to such areas in the first place.

In general, ecotourism seems to work best when it's working in the interests of the local people. If your job depends on the ecological integrity of your region, you have a vested interest in conservation. Victor Gamez is living proof of this. "I used to only watch birds with a slingshot," says 38-year-old Gamez, who leads nature walks for some of the 43,000 ecotourists who visit the 275-hectare Lancetilla Botanical Garden, near Tela, each year. Gamez started his job as a naturalist guide a few years ago. Last year, he improved his (non-lethal) birding skills at a training course held in Honduras by the Philadelphia-based conservation group, the RARE Center for Tropical Conservation.

There are other potential "light-on-the-land" industries besides ecotourism but thus far, these are represented by only a few tentative experiments in Honduras—like those in the Río Plátano reserve. A more complex option that may one day pay off is "ecoprospecting." Ecoprospectors examine wild species (usually plants) in an attempt to identify valuable chemicals and the genes that produce them. Pharmaceutical and biotechnology companies are sometimes interested in negotiating the rights to these parts of a country's genetic wealth, as has been done, for example, in Costa Rica.

But one of the most promising options may also be one of the simplest: a more ecologically conscious brand of farming. The Honduran landscape—its patchwork of small farms and forest—could probably be integrated in ways that would benefit both farmer and wildlife. It might, for instance, be possible to combine the husbandry of some wildlife species, such as iguanas (large lizards that are hunted for meat), with a mixture of conventional annual crops and long-term tree crops, such as fruits and tropical hardwoods. The result could be a more diverse and valuable farm out-put, a reduced need to slash and burn, and a gentler gradation between farmland and forest.

**T**wenty years ago, talk about the environment was just a wish. It's not that everything has turned to action, but we are working in that direction," says the Peace Corps' Betancourt. "I'm frustrated yet satisfied," he says of the growth in Honduras' environmental movement over the years. Betancourt believes the conservation message can reach Hondurans at all economic levels. "I've seen campesinos struggling to produce food for today who are all of a sudden exposed to new ideas and have their hearts touched."

"I tell the PROLANSTATE people that every day their doors are open they're accomplishing something," says Stoll of the organization he helped found in 1990. "It has all been worthwhile—there's a whole new activism in Tela regarding conservation that was really limited before."

The Honduran environmental awakening has come at just the right time, providing hope while there is still much to save. And there's nothing mysterious about the formula for continued progress—it follows in a fairly obvious way from the country's recent experiences. Strict, fair enforcement of the progressive laws already enacted, a major commitment to family planning, expanded sustainable agriculture programs, and improved social services for the poor: this social framework could make the most of NGO activities and foreign aid.

And if it can be done in Honduras, it can be done elsewhere—in many other countries with major biodiversity and modest budgets. Conservation, after all, is no luxury. It's the preservation of the most basic form of wealth: a country's biological identity, the living things that make it more than just another spot on the map. So when Juan Carlos Carrasco talks of the future of the park that he oversees, he's not just talking about forests and jaguars—he's talking about the future of the Honduran people.

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Howard Youth, a former associate editor of *WORLD WATCH*, is a freelance writer specializing in wildlife conservation issues.