By Robert L. Pitman

From a ship, the first view of Clipperton Island is the jagged silhouette of a landmass flanked by a scattered line of shimmering palm trees, some appearing to sprout right up out of the ocean a mile offshore. A few miles closer, the “island” turns out to be a very large rock, with palms firmly rooted on the atoll that surrounds it. Once ashore, all illusions—of floating palms or tropical island paradises—give way to the reality of coral rubble underfoot, rusty skeletons of abandoned military equipment, and the raucous calls of tens of thousands of breeding seabirds.

A French possession, Clipperton lies roughly halfway between the southern tip of Baja California and the equator, some 600 miles off the coast of mainland Mexico. Like most atolls, Clipperton originated as a fringing coral reef around a volcanic island. Centuries of rainfall and sloshing tides wore the island away, leaving behind a low ring of coral and a lagoon to mark where the island once stood. The island has been called an “almost atoll,” with 68-foot-high Clipperton Rock standing as the last vestige of
its earlier incarnation. Only two and a half miles across at its widest point, Clipperton has a total land area of less than one square mile, including several islets dotting the north and west sides of the lagoon. Vegetation is scarce: one large grove of coconut palms on the west side of the island, a few smaller groves and individual palms scattered here and there, and the tiny green islets.

The island is currently uninhabited by humans, as it has been throughout most of its history. For twenty years near the turn of the century, phosphate miners eked out a tenuous living, with the help of regular supplies from the mainland. The United States manned a weather station on the island toward the end of World War II; now half-buried munitions and abandoned equipment attest to that period. Other than that, only occasional shipwreck victims, curious ocean travelers, or scientists have crossed the calamitous reef break at Clipperton to wander on its remote shores. For me, Clipperton offers an opportunity to learn how past events have altered this fragile island ecosystem and the fortunes of the birds that breed there.

The smaller an island is, the fewer

breeding colonies of masked and brown boobies in the world.

Atoll
species it can sustain. Clipperton is home to only two kinds of terrestrial vertebrates—one skink species and one gecko. These live mainly in the palm grove and on Clipperton Rock. There are no resident land birds, although a few misguided migrants stop on the island every spring and fall. For most of these waifs—which over the years have included hawks, ducks, egrets, warblers, and sparrows—Clipperton is a halfway point to nowhere. This is especially true in the fall when young birds, making their first trip south, are apt to end up far off course over the open ocean. The few dozen exhausted birds that trickle into Clipperton each year are a sure sign that thousands more lose their way and perish at sea.

The common gallinule, a sort of rail-turned-duck, is the only nonseabird that breeds on Clipperton. As recently as 1968, however, that honor belonged to the closely related American coot. From at least 1901 until 1968, as many as 200 coots lived and nested in the lagoon. By the time I first visited in 1987, the coots were gone, and a population of gallinules, descended perhaps from individuals blown to the island by a storm, had taken their place. The gallinules may have driven the local coot population to extinction by outcompeting it for Clipperton’s limited resources. Or a bout of bad weather may have killed the freshwater plants on which coots feed. (Clipperton is on the southern edge of a hurricane belt, and during large storms, waves break over the lowest parts of the island, spilling saltwater into the lagoon.) Alternatively, disease might have snuffed out the small enclave. Whatever the reason, or reasons, the coots’ demise illustrates the precarious existence of small populations tied to small islands.

Seabirds, which nest on land but gather their food from the vast surrounding sea, would seem less vulnerable, and indeed, eight species manage to breed on this tiny landmass: four terns, three boobies, and a tropicbird. But even for most of these, Clipperton proves less than a tropical paradise. Only one or two pairs of red-tailed tropicbirds, for example, nest on the island, perhaps because these birds normally build their nests on the ground beneath low vegetation, which is all but nonexistent on Clipperton. A few hundred brown noddies and sooty terns nest on the islets, and tree-nesting white terns, black noddies, and red-footed boobies take advantage of the coconut palms.

The true stars of the island, however, are two species of ground-nesting boobies for whom this flat, barren island is a haven. Clipperton’s breeding colonies of masked and brown boobies are by far the largest in the world. With combined numbers totaling more than 100,000, these birds are so abundant that they are the landscape over much of the island.

Masked boobies start breeding mainly in the fall, while brown boobies nest throughout the year. Mated pairs of both species defend nesting territories that extend only as far as they can jab with their pointed beaks while sitting on the nest. Masked booby nests are little more than depressions in the ground lined with small pebbles. Brown boobies like to arrange plant matter into a more traditional nest but must make do on Clipperton with bird bones, feathers, and plastic debris gleaned from the shoreline.

Every morning, long, orderly lines of boobies fly out from the island in search of schools of tuna. When they find a feeding school, the orderly lines disinte-
grate into roiling, squawking flocks of up to several hundred birds, all in pursuit of squid and flyingfish chased to the surface—and sometimes clear out of the water—by the voracious tuna below. The birds plunge into the water from fifty feet or higher; sometimes they pluck hapless flyingfish right out of the air. Late in the afternoon, most of Clipperton's boobies commute back to the island, some having ventured as far as 100 miles from the nesting colony.

Back on the island, the boobies and all the other ground-nesting seabirds must contend with huge numbers of reddish orange land crabs that clamber over most of the island. These crabs, about five inches across, live on several islands in the eastern Pacific and mainland Mexico, but nowhere do they reach the astounding densities that they do on Clipperton. In the late afternoon, the crabs come down to drink water and feed on algae along the edge of the lagoon. At these times, the lagoon appears to be ringed by a bright orange band, six to nine feet wide in some places. The crabs are voracious omnivores. On a recent visit, this “Red Army” joined me in my camp and ate paper labels off food cans, chewed large holes in plastic bags, ate my leather binocular strap, and attacked my canvas shoes whenever I stood still for more than a few seconds. The original weed eaters, they keep the island almost completely stripped of vegetation. They also immediately dispose of any bird carcasses or fallen comrades. Through their efforts, Clipperton is a downright tidy place.

The crabs may limit seabird numbers, either directly, by preying on the smaller ground-nesting species, or indirectly, by consuming vegetation the birds need for nesting. If it were not for the crabs’ taste for palm seedlings, for example, coconut palms would probably cover most of the island, and tree-nesting seabirds would be much more numerous.

Even the much larger masked and brown boobies are not safe from the crabs, which often form circles around nesting boobies, just outside the parents’ jabbing range, ready to snap up unattended eggs, chicks pushed out of the nest by siblings, and any spilled food regurgitated by the adults for their young. The only birds relatively unaffected by the crabs are those nesting on the islets, for the crabs seem unable to swim the short distance out to them.

Prior to the mid-1800s, the lagoon at Clipperton was open to the sea, and the crabs were much less of a factor. Written accounts of early observers all stressed the immense numbers of seabirds present and reported that low vegetation covered the island. Crabs must have been present but in such low numbers that they were not even mentioned. Sometime between 1839 and 1858, however, the entrance to the lagoon was sealed off—probably by coral debris piled up in the channel entrance by storm surf. After the closure, the lagoon began to retain rainwater. This provided fresh water and algae for increasing numbers of crabs. The growing crab population then grazed the island's vegetation into oblivion.

During the 1890s, phosphate miners took up residence, bringing pigs and coconut palms. Later, the miners abandoned their project and the pigs roamed the island, feeding on crabs, bird eggs, and any birds they could catch. In 1958, when biologists came to survey the flora and fauna of Clipperton, the marauding pigs were still on the island and crabs were scarce. Vegetation, including...
twenty-six species of flowering plants, once again carpeted the island. Seed stock for the greening of Clipperton came in part from plants on the lagoon’s islets. The rest of the plants probably arrived as seeds dispersed by the wind or ocean currents or were brought to the island inadvertently by humans or migrating birds.

The pigs also nearly exterminated Clipperton’s once immense seabird populations. Fortunately, one member of the 1958 survey team was Ken Stager, an ornithologist from the Los Angeles County Museum of Natural History, who had brought along a shotgun to collect bird specimens. Turning his sights on the pigs, Stager shot fifty-seven animals; one more—the last on the island—was killed a month later.

The island’s response was fast and dramatic. When a group of French scientists resurveyed Clipperton in 1968, they found that an estimated 11.5 million land crabs had once again stripped the main island of all plant life except mature coconut palms. The seabirds had also staged a phenomenal comeback. Stager had estimated 150 masked boobies; from aerial photographs we took in 1990, we counted more than 61,000, and the population was still growing! Although the island’s brown boobies have not yet been counted, they probably number close to 40,000 individuals.

France has periodically expressed interest in maintaining a 200-mile Exclusive Economic Zone around Clipperton Island, but according to article 121 of the Law of the Sea Treaty, “Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.” The only sure way for France to claim the 125,000 square miles of seabed and waters around the island, then, would be to establish a human presence there.

In recent years, organizations with such names as the Société d’Etude, Développement, et Exploitation de L’îlot Clipperton and the Mining Syndicate of Clipperton have been given permission by the French government to develop the island. Proposals for a remodeled Clipperton have included excavating a channel through the lagoon and installing everything from a yacht harbor with a motel to a processing and shipping facility for magnesium nodule mining operations. So far, no development project has proved practicable, and France’s Ministry of Overseas Development and Territories recently stated that for the time being, the island will remain a “nature reserve.”

Clipperton’s ultimate fate, however, remains uncertain: it will probably be decided in comfortable quarters on the opposite side of the planet, many thousands of miles away from the island’s blinding coral beaches, by people who have almost certainly never experienced the din and spectacle of its magnificent seabird colony. Ironically, the most lasting protection for Clipperton may come from the violent hurricanes that occasionally steamroll over the atoll. While these storms cause only temporary damage, the specter of giant waves crashing over the atoll might be enough to dampen the spirits of even the most ardent proponents of the rezoning of Clipperton and thus prevent a more permanent destruction.