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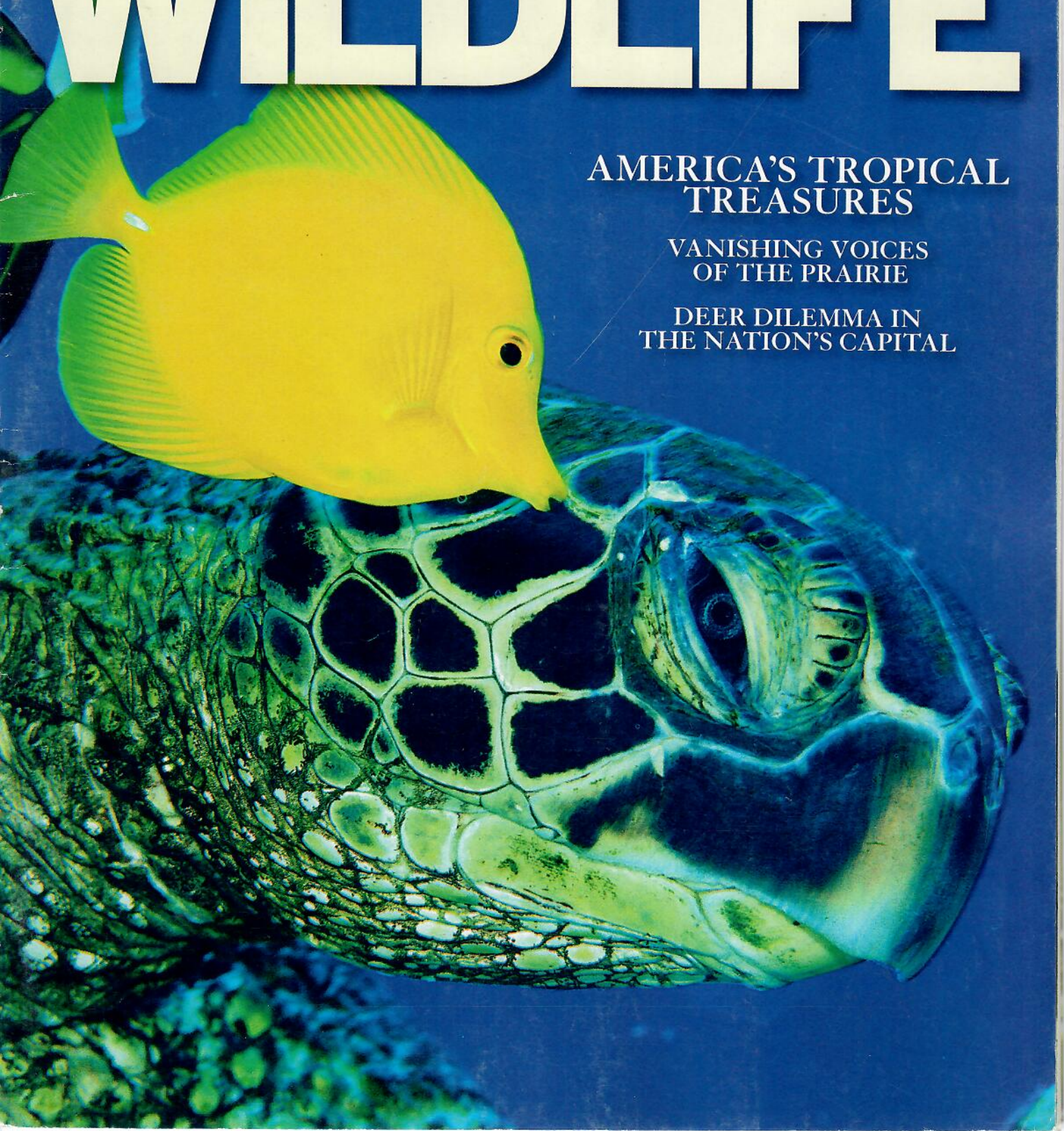
OCTOBER/NOVEMBER 2010 WWW.NWF.ORG WORLD EDITION

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AMERICA'S TROPICAL
TREASURES

VANISHING VOICES
OF THE PRAIRIE

DEER DILEMMA IN
THE NATION'S CAPITAL





AMERICA'S TROPICAL TREASURES

BY PAUL TOLMÉ

*U.S. marine national monuments in the Pacific
comprise some of the planet's healthiest ecosystems, yet even in these remote
locations, refuge managers struggle to erase the human imprint*





THE RICHES of America's Pacific national monuments include (clockwise from left): the endangered Laysan duck; palm-shrouded islands; a fairy tern nestling; Rose Atoll, a volcano remnant; a milletseed butterflyfish off Lehua Rock; and leathery anemones at Kingman Atoll.

A mother Laysan duck and her fuzzy brown ducklings waddle through the grass on Midway Atoll, a U.S. national wildlife refuge in the western Pacific Ocean. Biologist John Klavitter, assistant refuge manager, smiles at the sight. The Laysan is the second-most endangered duck species in the world; it once lived on many islands in the Hawai'i Archipelago, but invasive rats and habitat loss reduced it to one isolated island uninhabited by people. Now, thanks to a team of scientists, including Klavitter, Laysan ducklings are an increasingly frequent sight at Midway.

In 2004 and 2005, Klavitter and colleagues translocated 42 of these tiny ducks to the island. Other duck species might have colonized Midway on their own by flying here, but Laysans evolved without land predators and thus have small wings good for only short bursts of flight rather than long ocean journeys. So far, the project is a success—the Midway population has grown to 473 ducks. “Our dream of seeing Laysan ducks thriving at Midway has come true,” Klavitter says.

Located at the outer edge of the Hawaiian island chain, 1,200 miles from Honolulu, Midway is part of a grand new experiment in the restoration and conservation of Pacific islands and their wildlife. It is part of Papahānaumokuākea Marine National Monument, in the Northwestern Hawaiian Islands. Encompassing almost 140,000 square miles of ocean and a string of tiny uninhabited islands, it is one of four U.S. marine monuments in the Pacific. Little-known to the public, these monuments cover 215 million acres of open ocean, islands, atolls, reefs and chunks of the seafloor.



CLOCKWISE FROM TOP LEFT: JAMES D. WATT (OCEANSTOCK), AIR SURVEY HAWAII, DOUG FERRINE (SEAPICS.COM)

FACT

ONE HUGE MONUMENT

Papahānaumokuākea Marine National Monument is the largest U.S. conservation area, encompassing 139,797 square miles of Pacific Ocean—making it larger than all U.S. national parks combined.

The monuments also provide scientists with an opportunity to study ocean ecosystems that are virtually unaffected by human activity. In addition to translocating endangered species such as the Laysan duck, U.S. Fish and Wildlife Service (FWS) officials who manage the refuges are working to erase damage done by military bases, commercial fishing and other human activities. “It’s difficult to call any place on the planet pristine anymore, but these remote island ecosystems are as close as you get,” says Project Leader Barry Stieglitz, who oversees the federal wildlife refuges within the Pacific islands.

The reason is simple: Nobody lives nearby to mess them up. Midway, with a year-round staff of refuge workers and employees who carry out restoration projects, maintain the federal airport and oversee the upkeep of former military buildings, is the only refuge with a significant population. Consequently, refuges within the four monuments are home to some of the world’s largest seabird nesting colonies and some of the healthiest coral reef ecosystems. The diversity and abundance of fish species within the monuments, where commercial fishing is prohibited, is off the charts. Sharks, mercilessly overfished throughout the world’s oceans, exist in numbers and varieties seldom seen anywhere else. “The waters around these islands provide a vision of the apex predator ecosystems that used to exist around the world,” Stieglitz says.

Discoveries are frequent. A potentially new species of beaked whale was recently documented off Palmyra Atoll, where schools of rare melon-headed whales reside. In 2008, a

research expedition discovered 100 new coral and fish species in Papahānaumokuākea. “The Pacific is the last frontier,” says FWS coral reef biologist Jim Maragos. “The coral reef ecosystems out here have not been degraded to the extent of reefs elsewhere in the world. That means we can monitor and study them in the absence of direct human influence. That is very rare these days.”

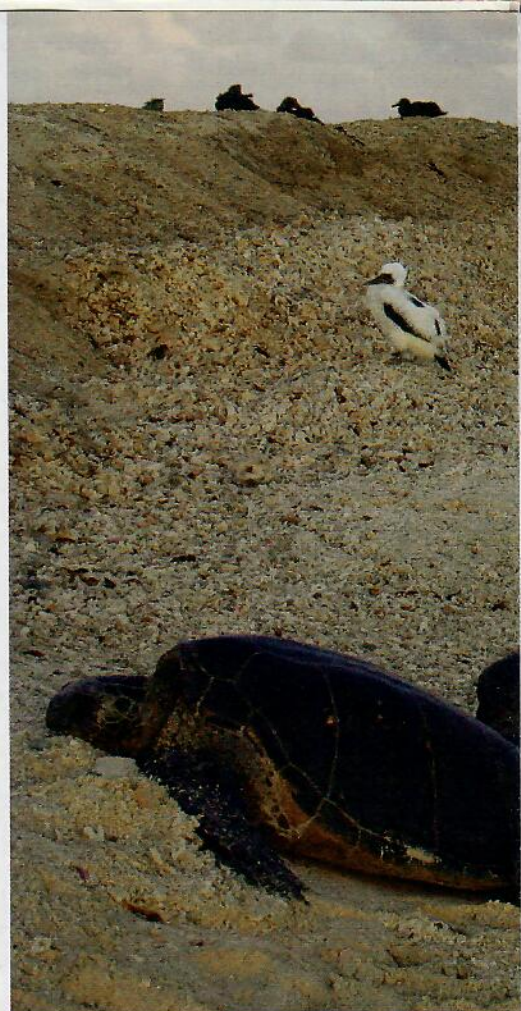
The four marine monuments are the newest additions to a national system that includes 10 terrestrial monuments, such as Colorado’s Dinosaur National Monument. The marine monuments were created between 2005 and 2009 by President George W. Bush, representing perhaps the single great conservation achievement of an administration known primarily for rolling back environmental protections. First Lady Laura Bush, who visited the Northwestern Hawaiian Islands, is believed to have been a key persuader.

REFUGE RICHES

Rose Atoll Marine National Monument is located west of Tahiti in American Samoa. It covers 13,451 square miles and includes two islets totaling 21 acres, a fringing reef with an enclosed lagoon, plus the surrounding waters out to 50 nautical miles. The reefs and nearby waters are home to giant clams, green and hawksbill turtles and at least 270 species of reef fish.

The islands and atolls of the Pacific Remote Islands Marine National Monument—Howland, Baker and Jarvis Islands in addition to Palmyra Atoll, Kingman Reef and the waters surrounding Johnston and Wake Atolls—span the equator and are among the most isolated U.S. territories. These dots of land are vital nesting grounds for millions of seabirds

AT THE PAPA HĀNAUMOKUĀKEA monument green sea turtles gather to bask on a beach, a rarely seen behavior; a male great frigate bird stretches its wings; and an endangered monk seal, one of the world’s rarest seals, finds refuge from threats that imperil it.



ROBERT SHALLENGER/GETTY IMAGES.COM; TOP, U.S. FISH AND WILDLIFE SERVICE; FAR RIGHT, JAMES D. WATT/OCEANSTOCK



LAYSAN ALBATROSSES perform a bonding ritual. Mating for life, both sexes incubate the single egg laid each year. Their nests on Laysan Island (below) and elsewhere may be little more than scrapes in the sand.



DISTANT SHORES

FOR MARINE MONUMENT STAFF, GETTING TO THE WORKPLACE IS HALF THE CHALLENGE

FEDERAL CORAL REEF biologist Jim Maragos was diving off Baker Island in 2008 when his boat captain lost sight of him for several hours. As sharks circled, Maragos yelled for help until the boat crew finally located him. On another occasion, off Palmyra Atoll, Maragos again got separated from his boat and was spotted only when brown boobies began circling him. "Thank God for boobies," Maragos says.

Working conditions are challenging for the federal officials who oversee the distant wildlife habitats in the four U.S. marine national monuments. Just getting to the monuments can be a trial, because there are only three airplane runways in the system. Most islands must be visited by ship, a journey that can take weeks. "You can't just jump in a pickup truck like on most refuges," says the U.S. Fish and Wildlife Service's (FWS) Susan White, who oversees three of the marine monuments. "We need ships and airplanes. Getting there is a logistical challenge."

In the future, federal officials would like to establish a remote monitoring network of audio and video equipment that would beam images and sounds back to workers in Honolulu and the mainland. This would not only alert researchers to the arrival of seabirds or whales but also would provide a law-enforcement tool to supplement the Coast Guard planes and cutters that patrol the monuments for illegal fishing and other trespassing. But money is short. The annual FWS budget for the marine monuments is just \$16 million. "We are so far away from Washington," says Barry Stieglitz, who oversees federal wildlife refuges in the marine monuments. "We would like to be on the radar screen of the American people."





GIANT CLAMS, here on a Rose Atoll coral reef, are the world's largest mollusks and among the most endangered clams. The monuments protect them from the exploitation that jeopardizes them in other areas. Some giants grow to 54 inches across and to more than 700 pounds.

THREATS AND PROGRESS

Preventing the introduction of invasive species to the monuments is a primary objective. Researchers who visit any of the protected sites, aside from Midway and Tern Islands and Palmyra Atoll, must wear new clothing that has been frozen to kill any invasive seeds or insects. But accidents happen. Nonnative yellow crazy ants recently turned up on Johnston Atoll. These aggressive insects threaten ground-nesting seabirds. Nobody knows how the ants arrived; they could be evidence of an illegal visit.

Shipwrecks are a threat to pristine coral reefs because they leak fuel and their iron hulls spur the growth of blue-green algae harmful to certain corals. Currently, shipwrecks lie off Palmyra Atoll and Kingman Reef; officials are struggling to find the estimated \$10 million needed to remove them.

Plastic trash is another problem. It

not only washes up on refuge shores in ever-growing amounts but also is transported inland by albatrosses, which eat plastic lighters, bottle caps and other bits of colorful floating trash and feed it to chicks, with sometimes fatal results. Over time, the amount of plastic is dramatically increasing on Midway, Laysan, Tern and other islands in Papahānaumokuākea. Colorful bits of trash glint in the sun where once there was only white sand.

Global warming is the biggest threat to these low-lying islands. Rising seas will eliminate nesting grounds for seabirds and sea turtles. Already, changes in ocean currents are altering the locations of prime feeding grounds. Endangered monk seals in Papahānaumokuākea, the rarest seals in U.S. waters at only 1,300 individuals, must now travel farther to find food, unwelcome news for a species in decline.

But it is easy to forget the bad news

when visiting Midway, where I watch a Laysan duck flutter clumsily through the air on its way to a nearby pond. In the next few years FWS scientists hope to translocate the endangered Nihoa millerbird to Laysan and Midway. These moth-eating warblers survive only on Nihoa, also located within Papahānaumokuākea. Millerbirds were extirpated from Laysan in the early 1900s when introduced rabbits denuded the island of vegetation, wiping out a native honeycreeper and a native rail as well.

“Some people might say, ‘If these places are doomed, why bother restoring them?’” Brown, the Midway refuge manager, says. “But the opposite argument can be made. Let’s make these habitats as productive as we can so these species have the best opportunity to persist.”

California writer **PAUL TOLMÉ** is a frequent contributor to National Wildlife.

ADOPT A WILDLIFE ACRE

Yellowstone wildlife face tough odds when they wander outside park borders. Discover the challenges threatening iconic species such as bison, grizzlies and bighorn sheep and find out what you can do to help. Visit NWF's new Adopt a Wildlife Acre website at www.nwf.org/wildlifeacre for more details and the latest updates.

CHILDREN'S HEALTH REPORT RELEASED

For parents who want their kids to be fit, focused and feeling good, the first step should be out the door. NWF has issued a report, *Whole Child: Developing Mind, Body and Spirit through Outdoor Play*, which reveals how U.S. childhood's move inside during the last 20 years has affected children's health and wellness.

"American kids are out of shape, tuned out and stressed out because they're missing something essential to their health and development: unstructured time outdoors," says NWF Senior Vice Presi-



dent of Education Kevin Coyle. "It's not just about a loss of innocence, the detachment from all things growing and green. It's a serious public health issue we all need to care about."

Epidemic childhood obesity and rising rates of pediatric depression are among the effects discussed in the report, which reveals the ways in which nature can help combat these problems and improve quality of life. To read the report, which was reviewed by medical experts, go to www.nwf.org/beoutthere.

»»ENDANGERED SPECIES

LAWSUIT FILED TO PROTECT HABITAT

Groups fight to stop development that threatens sea turtle nesting sites in Florida

As the oil disaster continues to imperil sea turtles in the Gulf of Mexico, NWF and the Florida Wildlife Federation (FWF) are fighting to preserve key nesting sites for the marine reptiles. In July the groups filed a lawsuit against the Federal Emergency Management Agency (FEMA) for failing to protect endangered sea turtles from the impacts of its National Flood Insurance Program, which promotes development in vital habitat.

"Countless numbers of sea turtles are being poisoned and killed by the spill in the gulf," says Manley Fuller, FWF president. "If we hope to give these majestic animals a fighting chance, it is imperative that we protect what remains of their nesting habitat along the Florida coast."

Ninety percent of all sea turtle nesting in the United States takes place on The Sunshine State's beaches. Inappropriately



sited coastal development can significantly impact sea turtles by discouraging females attempting to nest, disorienting hatchlings trying to reach the ocean and interfering with beach processes.

As part of their lawsuit, NWF and FWF seek a ruling that would require FEMA to consult with the U.S. Fish and Wildlife Service on the effects of its flood insurance program.

»»IN THE GULF

VOLUNTEERS TAKE TO THE GROUND

Early efforts focus on gathering data about the BP oil spill's effects

NWF, its five gulf-state affiliates and other partners established a Gulf Coast Wildlife Surveillance Network to observe, track and report on impacts of the oil disaster.

Surveillance volunteers, mostly skilled wildlife observers such as birders and anglers who know gulf waters and shores, have been making weekly tours of the coast to note wildlife and habitat changes, such as absence of species or wildlife not behaving normally. When the volunteers encounter animals in need or oil in new areas, they contact rescue teams or the appropriate authorities. "Volunteer observers play a critical role in gathering data documenting the spill's

ecological impacts on land and sea and how wildlife are adapting to these ecosystem changes," says Eliza Russell, NWF education director.

"You never know when a bird will be oiled on land or in beach areas that I can report and get help for," says wildlife photographer and volunteer Darlene Eschete, who regularly scouts Louisiana's Terrebonne Parish in July. "You can only imagine how I feel about those birds drowning in the gooey crude oil," she adds. "It's heartbreaking."

NWF is transitioning its volunteer efforts to focus on habitat restoration. See www.nwf.org/oilspill.

October/November 2010

**NATIONAL
WILDLIFE®**
WORLD EDITION

Published by the
National Wildlife Federation®
Volume 48 Number 6
www.nwf.org



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FRONT COVER: James D. Watt (*SeaPics.com*) photographed a yellow tang cleaning a green sea turtle in Hawaiian waters. Both species are among the tropical creatures found in the nation's four far-flung marine national monuments in the Pacific. See page 36.

BACK COVER: Judd Patterson photographed an eastern meadowlark perched on a pole in central Florida. For more about meadowlarks and other grassland birds, turn to page 22.

CLOCKWISE FROM TOP: JOHN CINCALOSI (ORN), RICK A. BROWN, JEROME GREENBERG, CHARLIE FRIEDEL (ASSOCIATED PRESS)