NATURE

HAWAIʻI & PALMYRA

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Conservation Science Volunteers Cassidy Crittenden and Lauren Rocheleau with some inquisitive juvenile red-footed boobies © Dana Sabine/TNC

Volunteers Transform Science at Palmyra Atoll

Since TNC purchased Palmyra Atoll in 2000, there have been no long-term human residents at this remarkable marine wilderness, now a global hope spot and U.S. Fish and Wildlife national wildlife refuge. Previously, the majority of science and monitoring led by TNC at our preserve and research station was done during short visits. But a development opportunity for young professionals has transformed science at Palmyra and is building a network of profoundly motivated conservationists.

For the last five years, conservation science volunteers (CSVs) spend six-month terms at Palmyra, providing year-round science support to TNC and our partners. While the individuals gain first-hand experience that inspires personal growth and bolsters careers, their constant presence is informing and improving science, dramatically increasing Palmyra's research portfolio and capabilities and making discoveries that may have been missed otherwise.

CSVs work with scientists from TNC and partners around the world to implement, monitor, and report on meaningful research projects that can inform the management of islands elsewhere in the world. They gather data year-round, significantly enhancing research on projects ranging from coral reef science to tropical rainforest restoration and ecology. They have worked with partners to record

"Being on Palmyra will always give me hope for the future, and remind me this work will always be worth the fight."

Lauren Rocheleau, Conservation Science Volunteer

the sound of healthy coral reef with acoustic recorders. They conduct coral reef monitoring with underwater photography to document how Palmyra's reefs recover after a bleaching event. And they record information from Fish Aggregating Devices that drift into Palmyra's waters.

Their personal experiences are also significant. Says Lauren Rocheleau, "Whenever I feel doubt in myself or the future of the world, I think back to Palmyra and the joy I felt there, from the daily interactions of boobies flying around me to the meaningful relationships I will carry the rest of my life."

TNC's seabird social attraction project at Palmyra is a rousing successs. Several species of seabirds were conspicuously absent at Palmyra even after rat removal. To entice them back, CSVs installed bird decoys, mirrors and sound systems that play recorded calls of targeted seabird species. Now, five of the eight species have been observed at Palmyra, and CSVs have documented both returning birds and their chicks.

In another example of Palmyra's discoveries informing global conservation efforts, plans are underway to apply these successful seabird social attraction methods in Tetiaroa Atoll, French Polynesia, later this year. Learn more at nature.org/hawaiipalmyra.

Plentiful seabirds like boobies and marine life like sharks enhance Palmyra's robust health. © Kydd Pollock/TNC

The Magic of Palmyra's Resilience

Islands represent a small portion of the world's land mass but host the majority of its biodiversity. Their health and vibrancy is essential to the well-being of billions of people who depend on sustenance from the ocean's bounty. On a rapidly changing planet, speeding our ability to understand what helps islands and coral reefs thrive and stay reslient, despite adversity, is more important than ever. Palmyra Atoll provides an unapparelled opportunity to do just that.

TNC's purchase in 2000 catalyzed the protection of Palmyra's entire ecosystem from boundary to boundary. Partnering to improve Palmyra's vitality led to bold management actions, such as entirely eliminating the threat of invasive rats. Integrated research projects at Palmyra are changing how we understand island resilience. For example, healthy coral reefs require abundant predators like sharks, as well as prolific seabird colonies whose guano provides nutrients benefiting reefs and marine animals alike. The Palmyra Atoll Rainforest and Reef Resilience Project illustrates the essential and reciprocal benefit to oceans of protecting land. Healthy forests provide habitat for seabirds, increasing the seabird-guano nutrient benefit to corals, and healthy corals protect coastlines from storms and rising seas.

Finally, the ability of Palmyra's reefs to rapidly recover from bleaching caused by marine heatwaves is strong evidence that healthy atoll ecosystems can persist despite climate change. By applying lessons from Palmyra around the world, we help islands continue to thrive, incubating the globe's biodiversity and nourishing life across oceans. Learn more at nature.org/hawaiipalmyra.

Rewilding is working: Sihek mate and lay eggs!

Sihek have laid their first wild eggs in almost 40 years at Palmyra Atoll. Nine young sihek, or endangered Guam kingfishers, were released at Palmyra last fall in an effort to establish a breeding population outside of human care. The four pairs will likely need several cycles of laying, incubating and caring for eggs to refine their skills and successfully hatch chicks. Nonetheless, these eggs demonstrate both the tremendous resilience of these remarkable birds and the power of conservation to create a second chance for species on the brink of extinction. Extensive research shows Palmyra's forests are ideal for the sihek, and sihek will have minimal effects on native wildlife there.

Hinanao and Tutuhan mate at Palmyra Atoll.
© Martin Kastner/TNC-ZSL

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A Passion for Science

Balbi Brooks is deeply connected to nature. Although she is not a scientist, she makes science happen and understands that doing what is best for nature sometimes requires patience and innovation.

A TNC donor since 1990, Balbi's passion project resulted from a trip to Palmyra Atoll in 2016, where she fell in love with the remoteness and the scientific opportunities she learned about while there. As a result, she is part of the forest bird translocation project for the sihek (Guam kingfisher) and conservation of the the bokikokiko (Christmas Island warbler).

Balbi Brooks at Palmyra Atoll © Lori Admiral/TNC

Balbi is a steadfast supporter of these endangered tropical birds and understands conservation takes time. Thanks to decades of protection and conservation at Palmyra, the birds have a chance at survival in the wild.

TNC purchased Palmyra Atoll in 2000, and today it is one of the healthiest land and ocean ecosystems on the planet. It's free of rats, is carefully studied and monitored, and is fully protected as a national wildlife refuge. For birds like the sihek, and potentially other tropical birds like the bokikokiko, Palmyra is a safe, forest home to grow their populations before eventually returning to their home islands.

This unfolding success story couldn't happen without donors like Balbi, whose passion for nature is making an impact at one of its greatest hope spots.

The Nature Conservancy

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