

# PACUARE RESERVE

Ecology Project International and Pacuare Reserve in Costa Rica steward one of the most important nesting beaches on the planet for the threatened leatherback sea turtle. The 3.7 mile beach slices a line between a jungle teeming with life and the turquoise waters of the Caribbean. At the center of it all, you'll find dedicated individuals of all ages and backgrounds working and learning together in the name of conservation.

In 2022, the species of the Reserve were monitored by...

**149** LOCAL STUDENTS AND TEACHERS

**256** ECO-TRAVELERS

**193** VOLUNTEERS, RESEARCH ASSISTANTS, AND STAFF MEMBERS

2022 was a year of national recognition for Pacuare Reserve. The Reserve signed a partnership with the Costa Rican Red Cross to strengthen the resilience of communities to climate change, protect natural resources, and implement Sustainable Development Goals. Additionally, the Costa Rican Ecological Blue Flag Program recognized the Reserve with three white stars for outstanding beach conservation and education.



PHOTO BY EDUARDO RODRIGUEZ ROMANO



**ECOLOGY PROJECT INTERNATIONAL**

ADULT LEATHERBACK SEA TURTLE ON THE BEACH OF PACUARE RESERVE

## SEA TURTLE'S NEW HABITAT IN A CLIMATE CHANGED ECOSYSTEM

### Rewriting Human's Relationship to Turtles

Ancient, iconic, and threatened, the leatherback sea turtle is the primary focus of research, education, and conservation efforts at Pacuare Reserve. Between historic overharvesting of sea turtle eggs, disrupting nesting habitats with development, and climate change affecting survival rates, human's have played a major role in the decimation of sea turtles.



PHOTO BY KAROL CANO

Now, people from around the world come together at the Reserve to protect the critical species whose success reflects the environmental health of the marine ecosystem at large.

Under the leadership of Pacuare Reserve's

Research Coordinator, Claudio Quesada Rodriguez, hundreds of people are able to play a part in protecting thousands of sea turtles annually. By relocating nests to the safety of the Reserve's hatchery, moving and cleaning sand, and monitoring the beach every night, the Reserve is now a safe haven for female leatherback sea turtles to ensure their hatchlings make it out of their nests and into open waters.



<b>435</b>	LEATHERBACK, GREEN, & HAWKSBILL NESTS MONITORED
<b>36,097</b>	EGGS PROTECTED
<b>31,000</b>	MILES WALKED TO MONITOR NESTING FEMALES

In 2022, 73% of sea turtles hatched in the hatchery survived, compared to the less than 1% who survived otherwise.

### Methodology

Walking nearly four miles under the starlight, volunteers and researchers conduct nightly beach censuses evaluating the safety of nests. High-risk nests are relocated to the beach or to the hatchery, where they are monitored every 20 minutes. Once hatchling's biometric data is collected, they are released to where they belong: the sea.



# PACUARE RESERVE

## RESEARCH & EDUCATION

Once a 1,700-acre plot of land scarred by deforestation and development, Pacuare Reserve is now a biodiverse rainforest home to thousands of species, with felines, primates, agami herons, and sea turtles at the center of scientific research and conservation efforts. In addition to protecting some of the most vulnerable plants and animals on the planet, Pacuare Reserve is a real-world classroom for people learning about wildlife biology and climate change's profound effects on ecosystems- a true intersection of conservation and education. Local and international visitors engage with the Reserve through educational programs, ecotourism, research assistantships, and internships.

### NOTABLE RESEARCH

#### Agami Herons

Pacuare Reserve is the only known agami heron nesting colony between Mexico and Colombia, and is home to the birds during the crucial reproductive stage of their lives. In 2022, 16 research assistants monitored the birds' courtship and nesting behavior, two process that are still widely unknown in the scientific community. The researchers also recorded 186 adult herons, 93 nests, and 181 chicks at the Reserve. In hopes of increasing protective measures for the decimating population of agamis, Pacuare Reserve and the Group of Experts from IUCN are working to declare the bird as endangered.

#### Felines & Primates on Camera

Thanks to the camera traps placed in the heart of the Reserve's jungle, our researchers have access to 2,300 hours of footage of predators and prey migrating throughout the landscape. The camera trap footage helped our researchers identify two troops of spider monkeys, three troops of howler monkeys, three troops of capuchin monkeys, ten jaguars, and seven ocelots. By increasing knowledge of these species populations at Pacuare Reserve, researchers are better able to inform conservation strategies and protection for the animals.

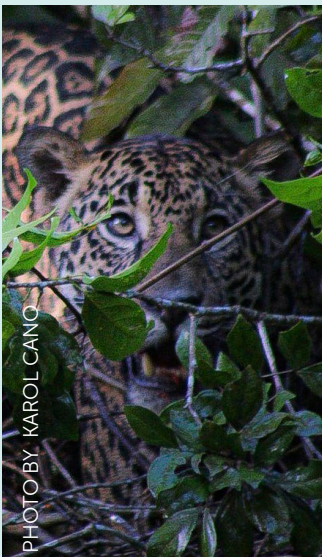


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ONE HUNDRED PERCENT OF AGAMI HERON NESTS AT PACUARE RESERVE SUCCESSFULLY PRODUCED CHICKS



### ECOTOURISTS & RESEARCH ASSISTANTS

#### Not Your Average Tropical Vacation

Pacuare Reserve hosted 256 ecotourists from around the world this year, all of which were presented with hands-on educational ways to engage with the Reserve. Ecotourists left the Reserve with an invigorated passion for conservation and significant increase in their ecological understanding of Costa Rica and beyond.

During the day, attendees had the opportunity to participate in research program presentations and beach protocol lectures, gaining valuable insights into the Reserve's research practices from the experts themselves. Ecotourists then work alongside researchers on birding walks and boat tours, where they aid in critical species data collection.

For the especially adventurous visitor, the end of the day was just the beginning of the excitement. Ecotourists could help with the night sea turtle censuses, or follow a researcher on a night hike through the jungle, where seldom-seen nocturnal amphibians, birds, primates, mammals, and anthropods are just starting their days.

#### Local & International Researchers

Pacuare Reserve is a classroom for people of all education levels. This year, PhD candidate Ellie Weir from Victoria Univeristy used the Reserve to analyze the effects of micoplastics on the leatherback nest relating to hatchling success.

The successful conservation, research, and education efforts are made possible by our funders, partners, staff, volunteers, students, teachers, and supporters like you!

To partner with or donate to EPI, please visit our website at:  
[www.ecologyproject.org](http://www.ecologyproject.org).