

Biology of the Hicatee: A Critically Endangered River Turtle of Belize¹

Venetia Briggs-Gonzalez, Nathan Schwartz, Rebecca G. Harvey, and Frank J. Mazzotti²



Figure 1. Central American river turtle (*Dermatemys mawii*).
Credits: Dustin Smith

Natural History

The critically endangered Central American river turtle (*Dermatemys mawii*), known in Belize as the *hicatee* or *Tortuga blanca*, is the largest freshwater turtle in Belize and the only living species in the Dermatemydidae family. Adults have a smooth, grayish-green shell (carapace) connected by a broad bridge to a cream-colored belly (plastron).



Figure 2. Adult female *Dermatemys mawii*.
Credits: Thomas Rainwater

Females grow larger than males and can attain a weight of 22 kg (48 lbs), although today they rarely exceed 10–15 kg (22–33 lbs). Adult sizes range from 32–64 cm (12–25 in) long. Males have bright yellow heads and very large tails. Females have grayish-brown heads and much smaller tails.

Hatchlings are 5–5.8 cm (2–3 in) long and weigh 18–35 g (0.03–0.08 lbs). The tips of their nostrils are bright orange. They have a yellow eye stripe and a groove-edged shell with a keel (or ridge) running down the center.

1. This document is WEC359, one of a series of the Wildlife Ecology and Conservation Department, UF/IFAS Extension. Original publication date November 2015. Visit the EDIS website at <http://edis.ifas.ufl.edu>.

2. Venetia Briggs-Gonzalez, research ecologist; Nathan Schwartz, former wildlife biologist; Rebecca G. Harvey, environmental education coordinator; and Frank J. Mazzotti, professor; Fort Lauderdale Research and Education Center, UF/IFAS Extension, Davie, FL 33314.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For more information on obtaining other UF/IFAS Extension publications, contact your county's UF/IFAS Extension office.

U.S. Department of Agriculture, UF/IFAS Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Nick T. Place, dean for UF/IFAS Extension.



Figure 3. Female (left) and male (right) hicatee.
Credits: Mallory Clark



Figure 4. Juvenile hicatee inside shell of adult.
Credits: Sergio Gonzalez

Reproduction

Hicatees grow slowly and take about 10 years to reach adulthood. Females reach sexual maturity between 34–40 cm (13–16 in) long, and males at 32–38 cm (12–15 in). They nest during the rainy season (September–December) when water levels are highest and lay 6–16 eggs in wet soil along riverbanks, which hatch in 9–10 months (June–July). Colder temperatures produce more males and warmer temperatures more females.

Ecology

Hicatees are herbivores. They eat aquatic grasses, fallen leaves, and fruit. They are fast swimmers and live in large deep rivers and oxbow lakes throughout the year. During the rainy season, hicatees swim into flooded forests and marshlands to forage and build nests. In the dry season they congregate in deep pools. Hicatees are fully aquatic and are never seen basking.



Figure 5. Hatchling hicatee emerging from egg.
Credits: Belize Foundation for Research & Environmental Education

Why Hicatees Are Critically Endangered

The hicatee is one of the 25 most endangered turtle species in the world. Over-hunting for meat, eggs, and shells is driving them toward extinction. Hunting of prized egg-bearing females quickly depletes the population. Wild hicatees have been decimated in Mexico and Guatemala, and previously healthy populations in Belize have drastically declined. Given a 10-year generation time, hicatee populations will likely decline by about 80% in 30 years.



Figure 6. Save the Hicatee bumper sticker.
Credits: National Hicatee Conservation Monitoring Network

Conservation

Hicatees (*Dermatemys mawii*) are listed as **Critically Endangered** on IUCN's Red List, as **Endangered** according to the United States Endangered Species Act, and in **Appendix II** of CITES.

In Mexico, it is illegal to hunt and exploit hicatees, and in Guatemala the species is legally protected.

In Belize, it is illegal to buy or sell hicatee meat, eggs, and shells. Use of nets is prohibited, and size and catch limits are imposed year-round. It is illegal to hunt hicatees during the closed season of May 1–31. Hunting hicatees is prohibited in parts of the Belize River, New River, Rio Bravo, Cox Lagoon, Muckleheny Lagoon, Mussel Creek, Northern and Southern Lagoons and tributaries, and Sibun River. There is a \$2000BZ fine and/or imprisonment for any hicatee-related offence.



Figure 7. Eight confiscated hicatee turtles held by Belize Fisheries Department.
Credits: J. Marlin

For more information

Belize Fisheries Department: www.agriculture.gov.bz/Fisheries_Dept.html

Lamanai Field Research Center: <http://www.lamanai.org/projects/hicatees/>

University of Florida Croc Docs: crocdoc.ifas.ufl.edu/currentprojects/

Save the Hicatee River Turtle: <https://www.facebook.com/hicatee>