

# 2011 “YEAR OF THE TURTLE”

## Map Turtles



*Escambia Map Turtle (Graptemys ernsti)*  
*Escambia River, Florida*  
*Photos: Molly O'Connor*

Map turtles are very common turtles in the United States but not so much in the state of Florida. Maps are *very* close relatives of terrapins but do not venture into brackish water; they are however very selective about their habitats as terrapins are. Map turtles prefer alluvial rivers with strong currents, plenty of fallen trees for basking, and sandy beaches for nesting. In our state this includes the Escambia, Yellow, Choctawhatchee, Chipola, and Apalachicola Rivers. Map turtles can be distinguished from other turtles of these river systems by their highly domed carapace with “saw-toothed” scales down the mid-ridge. There are two species found in our state, the Escambia Map Turtle (*Graptemys ernsti*) and the Barbour’s Map Turtle (*Graptemys barbouri*). DNA studies suggest that these are in fact distinct species but physically they greatly resemble each other therefore there has been reclassification of the group several times over the years. The simplest method for distinguishing the two species is the river drainages in which they are found. The Escambia Map is found only in alluvial rivers that drain into the Pensacola Bay system; Barbour’s Maps are found in rivers which feed the Apalachicola River system. The only river where problems could arise would be the Choctawhatchee River; biologists recently recorded Barbour’s Maps in this river but believe Escambia Maps could be there as well.



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Distinguishing mature male map turtles from mature females maps is very easy – the females are more than twice the size of the males; a greater size difference than any other turtle on the planet. They grow at about the same rate until they reach the age of 4 years and then the females “take off”! Females tend to have carapace lengths of 20-cm whereas the males may only reach a carapace length of 8-cm! Like terrapins, maps lay more than one clutch of eggs each season, prefer high/dry sandy beaches, and nest during the mornings. The Escambia Maps are the most common turtle found in the rivers where they live. Molly and I saw 11 at one time while paddling the Escambia River. One research paper suggests there is an Escambia Map every 10-15 ft of river bed!

Maps, like their terrapin cousins, love shellfish – particularly bivalve mollusks. It is believed that the low pH of tannic rivers, like Blackwater and Perdido, do not allow shell formation in mollusks – no mollusks- thus no map turtles. Raccoons and crows raid high numbers of map turtle nest; maybe as high as 90% of them. There is also evidence that adults have been attacked by raccoons, bobcats, and even alligator snapping turtles.

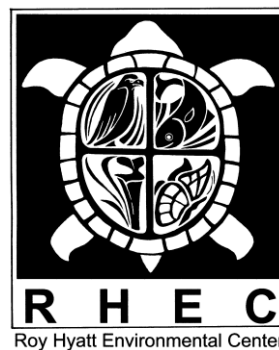
There are several ecological threats to the Florida populations of both species of map turtles causing great concern for these because they occupy so little habitat in our state. Collecting Barbour’s Maps by humans along the Chiploa River probably still occurs, though this is one of only four non-marine species listed in our state and collecting is illegal. A practice called “*plinking*”, where locals shoot them with small guns while the turtles are quietly basking on trees, is also a problem... and illegal! There have been legal battles over water rights from these rivers as they pass through states north of us. The reduction of water flow into the Florida portion of the drainage basin could have a negative effect on map turtle biology; however this is not totally understood. Another river issue is the dredging projects conducted by the U.S. Army Corp of Engineers. Many of the sandy beaches used by maps have been made during these projects; but they can also bury active nests and may bury mollusks these turtles need for food. Adding to the problem is the popularity of riding ATV’s on the sandy beaches – crushing many turtles and nests. Locals tend to remove tree snags because they appear unsightly to us but they are very important to map turtle biology and can certainly affect their population numbers. Finally there is the question of water quality. There is a paper mill on the Escambia River just across the state line in Alabama and the effects of the chemical waste from this plant, as well as agriculture further upstream, could be problematic for these turtles. These industries could indirectly affect the turtles by negatively affecting their food source – benthic mollusks. If you get a chance, paddle one of these beautiful rivers and see them first hand; they are truly a treasure of Northwest Florida



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Rick O’Connor  
Sea Grant Agent  
Escambia County Extension  
University of Florida / IFAS  
3740 Stefani Road  
Cantonment, FL 32533



Molly O’Connor  
Escambia County School District  
Roy Hyatt Environmental Center  
1300 Tobias Road  
Cantonment, FL 32533  
(850) 937-2117