

# Atlantic Ridley Turtle Update

By Milford R. Fletcher

The 1984 season was marked again by both successes and failures in our attempt to reintroduce the Atlantic Ridley Turtle to the beach at Padre Island National Seashore (NS). The Ridley turtle (*Lepidochelys kempii*) is the smallest, rarest, and most endangered of all sea turtles. There are probably fewer than 1,000 adults on the planet earth. Where they spend their time when not nesting is speculative. However, tagged hatchlings from this program, released in the Gulf of Mexico, have been located on an isolated beach in France and on the northern coast of Africa.

In brief, eggs are gathered directly from turtles in Mexico and placed in Padre Island sand, and then are transferred to Padre Island NS, where they are hatched. Upon hatching, the young turtles are released on the beach to enter the surf. This exposure to the beach and surf is thought to be essential to "imprinting" the hatchlings, a process much like that of salmon, which return to the exact streams in which they were hatched. The young turtles are immediately gathered from the surf, transported to the National Marine Fisheries Laboratory at Galveston, Texas and "head-started" for approximately 9 months. The details of this process have been reported previously in *Park Science*.

In 1984, the National Park Service received approximately 1,700 turtle eggs from Mexico. About 90 percent of these eggs hatched, which is a little better than usual and about what we expect when things are going well. This year, as an added factor, approximately 800 hatchlings were subjected to a "live-tagging" procedure, which consists of transplanting a plug of shell from the light-colored underside of the animal to the dark-colored dorsal side. In theory, this will result in a graft which will grow with the animal and will provide a visible, easily identifiable mark when they are adults. Within 2 or 3 days of tagging and imprinting, we noticed a considerable mortality — up to 50 percent of the marked animals. We immediately ceased the tagging operation, finished the imprinting and transferred the remaining hatchlings to the Galveston Laboratory.

The reason for the excessive mortality is still unknown. Previous research with the tagging operation of other species of marine turtles showed little or no mortality, and the subsequent marking of hundreds of loggerhead hatchlings revealed no mortality attributable to the marking process. In at least one incidence, there was a 50 percent mortality in a clutch in which no animals were grafted. This leads us to suspect a bacterial infection in the hatchlings and several laboratories are currently investigating this possibility. In the final analysis, approximately 1,100 hatchlings from the 1984 eggs were transferred to Galveston and will be released at sea in May or June of 1985. We will probably attempt to "live-tag" the remaining 600 or so untagged turtles next spring.

Of considerable interest is a report from the Cayman Turtle Farm in the British West Indies. In 1979, about 100 hatchlings were transferred from Galveston to the British West Indies — thus, these animals are now 5 years old. In May of 1984, personnel at the Cayman Turtle Farm noticed turtle eggs in one of the holding tanks. These animals were immediately moved to a natural beach area where one 5-year-old female weighing 44 pounds promptly crawled up on the beach, dug a nest and deposited 65 eggs. (The



***Hatchling and herd:*** An Atlantic Ridley turtle hatchling and a whole herd of its fellow creatures race toward the surf across the Padre Island National

mean weight of adult Ridleys is about 110 pounds – the average clutch size is about 100 eggs.) Whether the eggs were fertile or not is undetermined as yet. This observation is of great importance, since this is the first time that a Ridley turtle has been known to nest in captivity.

It has been speculated that it may take 7-10 years for these animals to reach reproductive maturity. The observation that Ridley turtles can reproduce (at least in captivity, and with a diet of high protein trout chow)



*Seashore sands. The loner who seems to be bucking the tide is the result of a flipped negative.*

at 5 years of age is of great significance, since our entire experiment is predicated on adult turtles returning to breed and nest at Padre Island in a 10-year time frame.

This is the 7th year of a 10-year effort to establish a new nesting beach for these animals. To date, none of the “head-started” turtles have returned to Padre Island to nest. Maybe next year.

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