

Marine Turtle Newsletter

Record 42 Kemp's Ridley Nests Found in Texas in 2004

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A record 42 Kemp's ridley sea turtle (*Lepidochelys kempii*) nests were found on the Texas coast during 2004, between 5 April and 22 June. Of the 42 nests, 25 were located on North Padre Island (including 22 at Padre Island National Seashore [PAIS]), two on Bolivar Peninsula, two on Galveston Island, one near Surfside, three on Mustang Island, five on South Padre Island, and four on Boca Chica **Beach** (Figure 1).

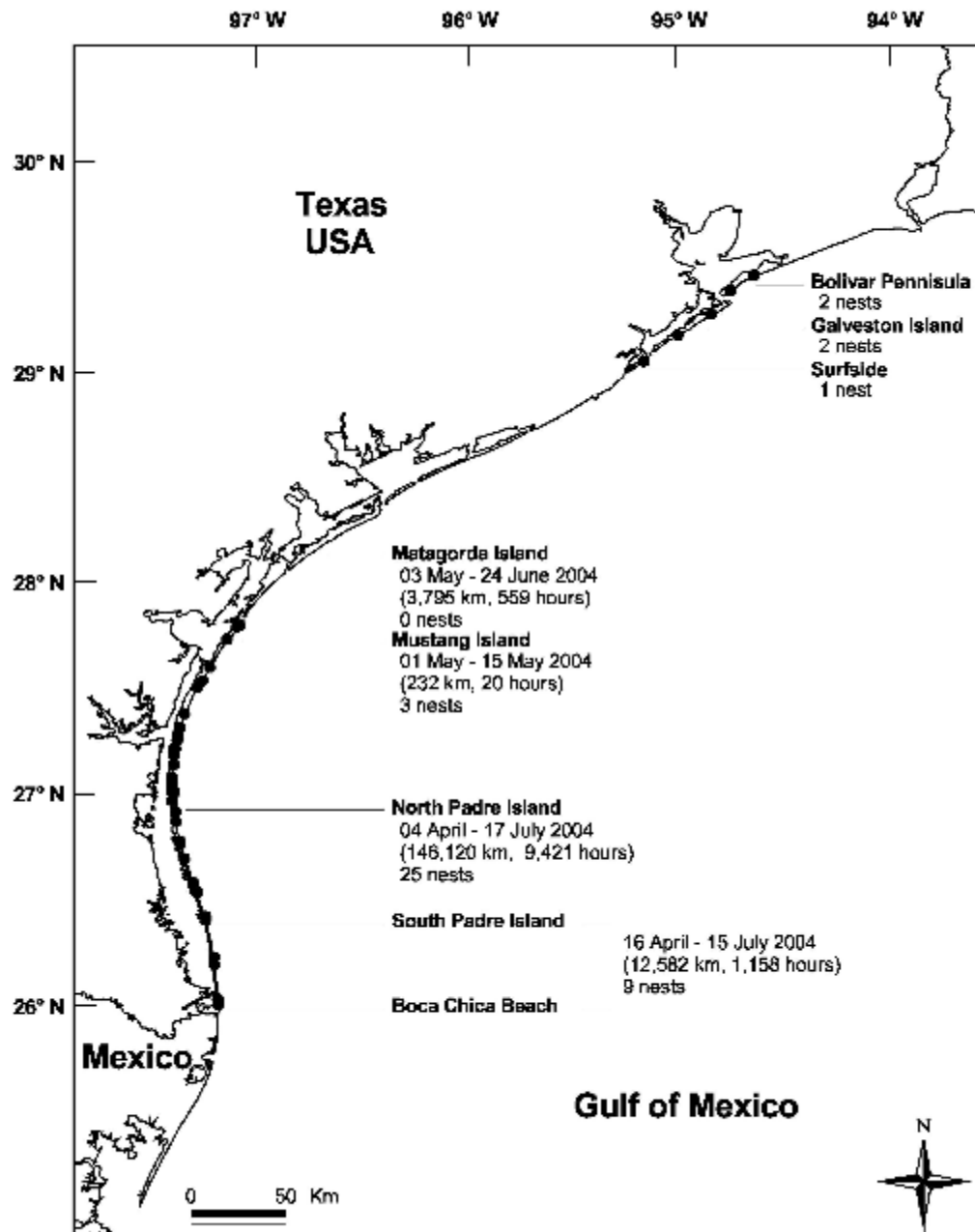


Figure 1. enteses)
and confirmed Kemp's ridley nests located by the public or patrollers in 2004.

From 1978 through 1988, a Mexico-USA experimental project was conducted to establish a secondary nesting colony of Kemp's ridley turtles at PAIS to help preserve this native species (Shaver 1990; Shaver & Miller 1999; US Fish and Wildlife Service and National Marine Fisheries Service 1992). Turtles in the project were hatched from eggs collected (approximately 2,000 each year) at the primary nesting beach at Rancho Nuevo, Tamaulipas, Mexico and incubated at PAIS. Hatchlings were "experimentally imprinted" to the beach at PAIS then head-started at the National Marine Fisheries Service (NMFS) Laboratory in Galveston, Texas.

The turtles were tagged and released (within their first year) into the Gulf of Mexico or adjacent bays (Caillouet *et al.* 1995; 1997). Additionally, from 1989-2000, between 178 and 2,000 [hatchlings](#) per year were [taken](#) directly from Mexico as [hatchlings](#), reared (head-started) at the NMFS Laboratory for 9-33 months, and released into the Gulf of Mexico off the Texas coast, with the expectation that these individuals, if [imprinted](#) on Mexican [beaches](#), would return to nest in Mexico at maturity.

In 1986, the National Park Service began a nest detection patrol program on North Padre Island; this was the first systematic patrol effort conducted on the Texas coast. Beginning in 1999, patrols were initiated on some additional [beaches](#) on the Texas coast and these patrols have expanded. Today, systematic patrols of varying intensity are conducted during much of the nesting season (April through mid-July) on Matagorda Island, Mustang Island, North Padre Island, South Padre Island, and Boca Chica [Beach](#) (Figure 1). Nests were found during these patrols as a result of information provided by the public. Of the 42 nests found during 2004, turtle patrollers located 25 and [beach](#) visitors 17.

Overall, 46 Kemp's ridley nests were found in the USA during 2004. The four nests located outside Texas were discovered in northwest Florida, between 30 May and 24 June (Sandra Caches, Mark Nicholas, and Lorna Patrick, personal communication).

Records of Kemp's ridleys nesting on the Texas coast date back to the late-1940s (Carr 1967; Francis 1978; Hildebrand 1963; Shaver 1990; Werler 1951), but from then through the mid-1990's only in the region of one Kemp's ridley nest was documented every three years (Shaver & Caillouet 1998). During the last decade, the number of Kemp's ridley nests found on the Texas coast has increased (Shaver 1994, 1995, 1996a, 1996b, 1997, in press; Figure 2). Additionally, during the last 50 years, more confirmed Kemp's ridley nests have been found at PAIS than at any other location in the USA (Shaver in press).

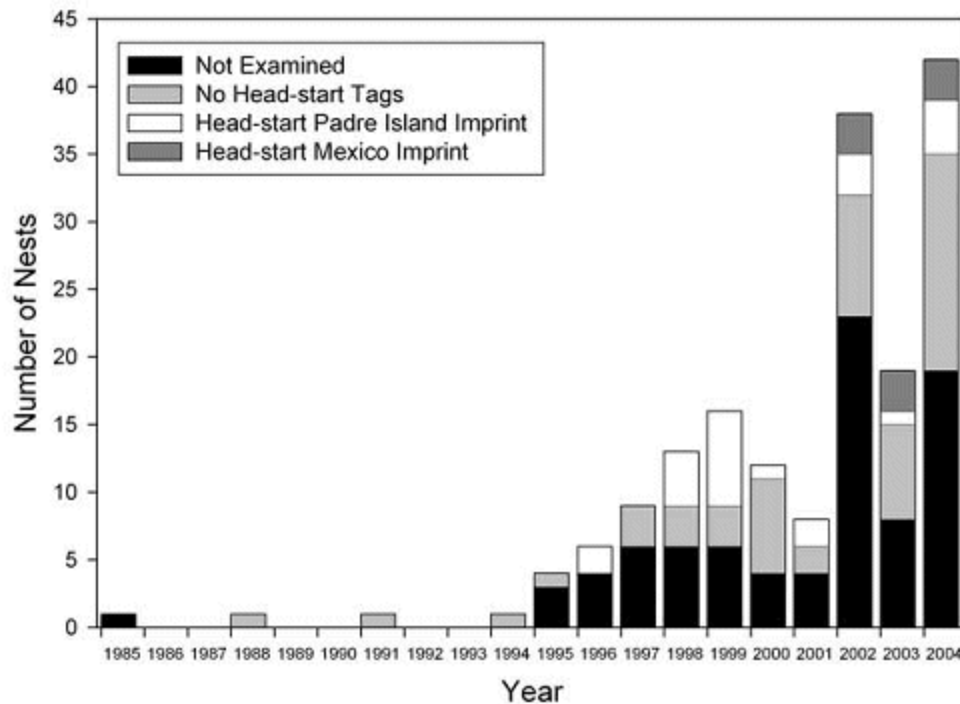


Figure 2. Number of Kemp's ridley nests confirmed on the Texas coast from 1985 through 2004. These are separated into turtles that were not seen and those that were seen and identified: Head-start Mexico imprint = nest from a turtle that had been taken from Mexico as a hatchling and reared at the NMFS Laboratory for the first year of life; Head-start Padre Island imprint = nest from a turtle that had been taken from Mexico as an egg, exposed to PAIS sand and surf, and reared at the NMFS Laboratory for the first year of life; No head-start tags = nest from a turtle that was examined but had no tags indicating it had been reared at the NMFS Laboratory; Not examined = nest from a turtle that was not observed.

Documentation to date shows that 13 different individuals from the experimental project to establish a secondary nesting colony laid 23 nests in Texas. These nesters were identified from living tags, coded wire tags, PIT tags, and/or flipper tags. Three of these individuals were found nesting at PAIS and nearby on Mustang Island during 2004 and were recorded laying a total of four clutches of eggs (Figure 2). These three turtles had been hatched from eggs incubated at PAIS in 1986, 1987, and 1988. During 2004, the individual from the 1987 year class was documented nesting twice at PAIS, while the individuals from the 1986 and 1988 year classes were recorded nesting once on south Texas beaches.

Additionally, eight different individuals that had been taken directly from Mexico as hatchlings between 1989 and 1993 and head-started for 9-11 months at the NMFS Laboratory have also been recorded producing a total of nine nests in Texas. During 2004, three of these individuals (from the 1989, 1991, and 1992 year classes) were each documented laying one clutch of eggs on the upper Texas coast.

Nesting turtles were observed and examined for tags at 16 other nest sites (all in south Texas), but the 13 individuals that laid these clutches lacked tags linking them to the experimental imprinting and head-starting projects. Three of these individuals were documented nesting twice on south Texas beaches. Another was recorded nesting on South Padre Island on 26 April and at

Rancho Nuevo on 23 May 2004. Nesting turtles were not seen at the remaining 19 nests, but hatchlings confirmed the species.

Kemp's ridley turtles often nest in aggregations called arribadas. It is possible that, as nesting numbers increase in Texas, we are starting to see indications of social nesting. The year 2004 was the first year when five or more nests were recorded on the Texas coast on two days. The first was on 22 May 2004, when six nests were found (including four at PAIS) and the second on 5 June 2004, when five nests were found (all at PAIS). Winds were out of the southeast at 30–40 km when nests were found on those two days.

Forty-one of the nests were found during nest deposition, but one was discovered at hatching on Mustang Island and thus incubated unprotected, in-situ. Eggs from the 32 Kemp's ridley nests found during deposition on North Padre Island and northward on the Texas coast were transferred to the incubation facility at PAIS. Eggs from the nine Kemp's ridley nests found on South Padre Island and Boca Chica Beach were transferred to a protective corral on South Padre Island. Emergence success (Table 1) for the 42 nests was 84.0%; median emergence success for nests from head-started (96.2%) and wild (94.4%) turtles did not vary significantly (Mann-Whitney Rank Sum Test in SigmaStat, $T = 92.5$, $P > 0.05$). From the 42 nests, 3,298 hatchlings were released on Texas beaches in 2004.

<i>Clutch Number</i>	<i>Origin of Nesting Female</i>	<i>Number of eggs</i>	<i>Emergence Success (%)</i>	<i>Incubation Period (days)</i>
1	Head-start Mexico imprint	77	70.1	48
2	Head-start Mexico imprint	83	96.4	45
4	Wild	83	90.4	53
6	Head-start Padre Island imprint	105	96.2	48
7	Wild	117	100.0	48
8	Wild	112	96.4	47
10	Wild	91	96.7	44
11	Head-start Mexico imprint	99	96.9	45
16	Wild	87	95.4	45
18	Head-start Padre Island imprint	105	95.2	46
20	Wild	69	84.1	47
21	Head-start Padre Island imprint	102	97.1	45
22	Wild	96	42.7	48
26	Wild	83	88.0	49
27	Head-start Padre Island imprint	97	88.7	42
28	Wild	102	94.1	41
31	Wild	77	94.7	46
32	Wild	115	100.0	44
33	Wild	89	98.9	46
35	Wild	89	95.5	45
36	Wild	77	90.9	43
41	Wild	64	82.8	44
42	Wild	93	32.3	43

Table 1. Number of eggs, emergence success, and incubation period for 23 Kemp's ridley nests found on the Texas coast during 2004 at which the nesting turtles were seen and identified.p>

Kemp's ridleys that nest in Texas are a mixture of turtles from the experimental imprinting and head-starting projects and others from the wild stock. They could also include survivors (or their

offspring) from [hatchlings](#) released in a project started at South Padre Island in 1967 (Francis 1978). As the Kemp's ridley [population](#) continues to increase (TEWG 1998) and more turtles from the egg translocation and captive rearing projects as well as their offspring reach maturity, it is likely that increasing numbers of Kemp's ridleys will come to Texas to nest.

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