OCCURRENCES OF SEA TURTLES IN EASTERN LOUISIANA

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OCCURRENCES OF SEA TURTLES IN EASTERN LOUISIANA PARISHES

INTRODUCTION

For several years now, stranding data on endangered and threatened sea turtles have been collected regularly along the more accessible beaches of the Louisiana coast as part of a National Sea Turtle Stranding and Salvage Network (STSSN) established by the National Marine Fisheries Service. The extensive marshes, bays, and barrier islands of the south-eastern parishes (St. Bernard and Plaquemines) are only accessible by boat. Even though informal interviews with local fishermen confirm the presence of sea turtles in these areas and they are believed to provide important habitat for sea turtles (Hildebrand 1982), there has been very little stranding data collected to substantiate this because of the logistical problem associated with collecting the data. The main thrust of this project was to expand the coverage of the Sea Turtle Stranding and Salvage Network (STSSN) providing a baseline of stranding data for the marshes of St. Bernard Parish through the use of a regularly scheduled survey of selected beaches.

METHODS AND MATERIALS

Approximately 8 stretches of small natural and shell beaches St. Bernard Parish were identified with the help of a local manager (Figure 1). Interestingly enough, he had observed a dead sea turtle on one of these beaches in the past. With the assistance of the marine extension agent, I was able to hire a reliable person who had access to a small boat and was familiar with the marshes. This person was supplied with identification keys, report forms, notebooks, and a camera in order

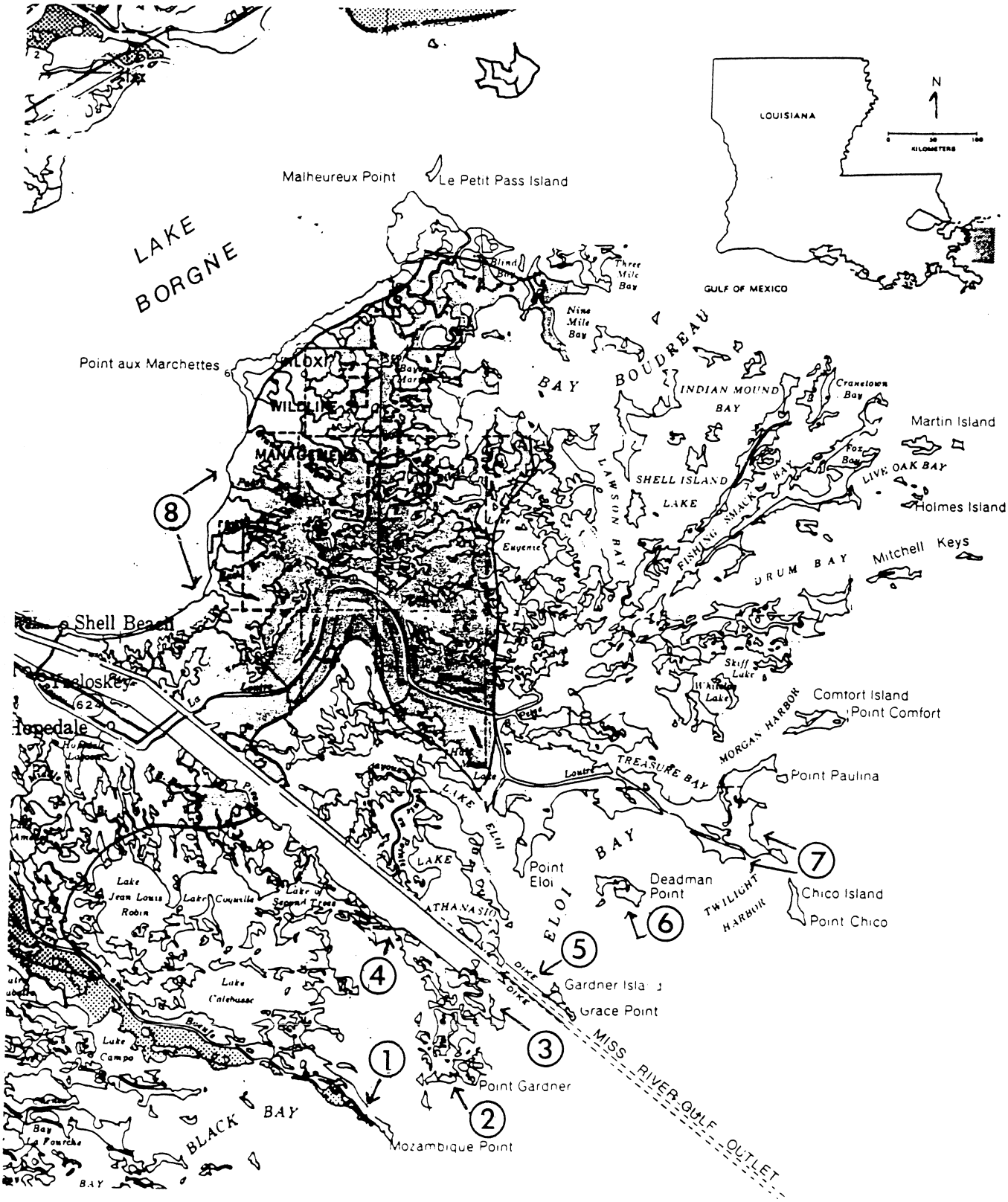

Figure 1. Location of beaches and marsh edge surveyed for sea turtle strandings in St. Bernard Parish, Louisiana, 1988.

to completely record any strandings he might find. The beaches were surveyed on a two-day, approximately twice a month schedule, weather permitting, from the end of February through mid-June.

The observer recorded the location, number, and type of sea turtles observed. In addition, information on other factors that might affect sea turtle mortality and strandings such as weather, commercial fishing activity, and oil and gas activity were noted. Surveys were conducted by walking the beach wherever possible. In some areas the survey was conducted from a small boat cruising along the shore. Each beach was surveyed from four to ten times during these six months (Table 1). In conjunction with another study, stranding data was collected on the Breton and Chandeleur barrier island chain during June and July (Figure 2). In addition, informal conversations with fishermen and other marine oriented individuals were also used to obtain information on sea turtle distribution in the southeastern Louisiana parishes.

RESULTS AND DISCUSSION

No sea turtle strandings were observed during the beach surveys in St. Bernard Parish. This was somewhat surprising for the Lake Borgne area, as I usually receive several reports of sea turtle sightings or captures from this area each year. It was not so surprising for the inner marsh survey areas because the probability of finding a stranded sea turtle on one of these beaches is dependent on so many different factors. The survey beaches were initially chosen to cover two areas of active shrimping activity, the Lake Borgne area and the marshes north and south of the Mississippi River Gulf Outlet (MRGO). Conversations with fishermen and biologists familiar with this area indicated that when shrimping activity is good in one of these places it is usually good at

Table 1. Number of stranding surveys conducted at each beach between February and June 1988, St. Bernard Parish, Louisiana.

Beach Number	Beach Name	Number of Survey Trips
1	Mozambique Point	6
2	Point Gardner	7
3	Fiddler Point	4
4	Back Levee Shell	8
5	North Side Rocks	8
6	Dead Man Island	10
7	Twilight Harbor	10
8	Lake Borgne	10

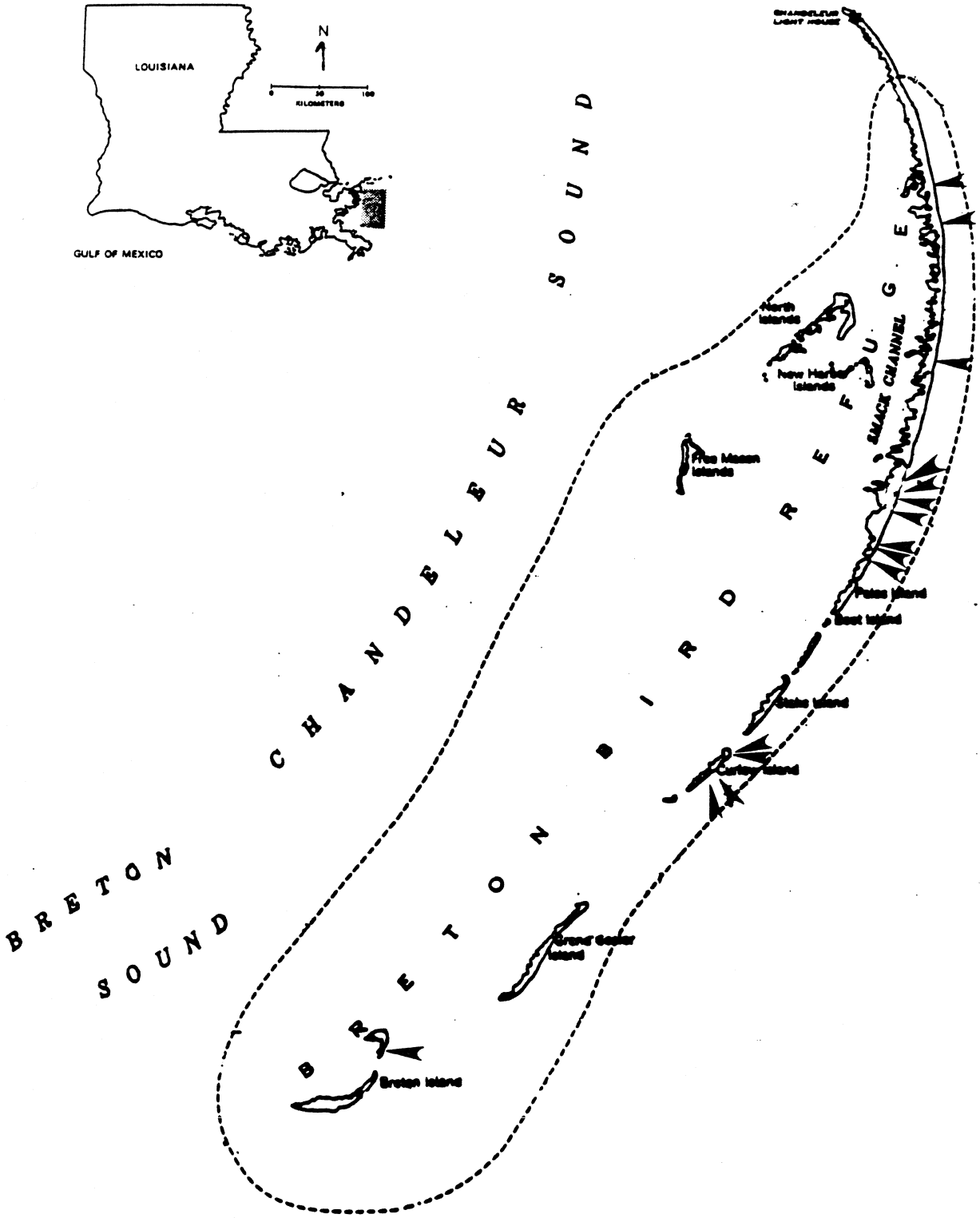

Figure 2. Location of sea turtle strandings on the Chandeleur and Breton Islands, Louisiana, 1988.

the other. This past year, however, while there was a lot of shrimping activity in the Lake Borgne and passes area at the beginning of the season, it dropped off rapidly. The shrimp appeared to concentrate in the upper marshes in the vicinities of the Biloxi Management Area, Bay Boudreaux, Drum Bay, and Nine Mile Bay. As a result, shrimping effort dropped off in both the Lake Borgne and MRGO areas. Although this was a near average shrimp season compared to past years, shrimpers considered it poor and as the season wore on shrimping effort decreased quickly. The shrimping effort offshore was probably not as high as in other years, with more shrimpers staying in the northwestern marsh-bay areas. Lower shrimp production in Lake Pontchartrain also caused shrimpers to move north, away from the areas of our stranding surveys. We adjusted our surveys in order to cover the more northerly beaches more often but still did not observe any strandings. The lack of strandings may be due to any one or a combination of the following factors: (1) the low incidental capture/mortality of sea turtles in the marsh survey areas, (2) the presence of incidental capture and mortality of turtles, but a low likelihood of the smaller turtle carcasses making it to shore (i.e., tidal and current conditions, faster decomposition, or more likely to suffer predation by crabs and fish), and (3) the small amount of beach surveyed in relation to the surrounding marsh and bay habitat.

From earlier studies (Fuller and Tappan 1986) most fishermen say that they catch turtles more towards the Chandeleur Sound area and that the turtles they catch are large turtles. This is supported by the number of strandings of larger turtles found on the Chandeleur Islands during June and July (Figure 2). Sixteen stranded sea turtles were found on these islands during the six-week period from 20 June 1988 to 29 July

1988. Most of the identifiable turtles were Loggerheads, with one green turtle and possibly one Kemp's ridley being found. Several of these turtles which were relatively fresh strandings, were missing their heads. On one in particular it appeared that the head was severed very cleanly. In talking with fishermen in the area, it was suggested that these turtles had been caught by longline fishermen. On pursuing more information concerning this, I received several different reports of longliner fishermen catching turtles and severing the heads off to free the line. Normally longline fishermen are quite far offshore, however, with the low flow of the Mississippi River this year, fishing was occurring closer inshore. It is also interesting to note that this year for the first time, approximately 90% of the fishermen in this area have gone to using live bait. Of course, there is no hard evidence to suggest that such mortality is occurring but it merits further investigation. There are at least two references in the literature that report incidental capture of sea turtles by longline fishermen in the Gulf of Mexico (Lopez et al. 1979, Witzell 1984).

Other miscellaneous reports of sea turtle sightings include: (1) reports of small turtles being captured in trawls at the mouth of the Mississippi River at the beginning of the brown shrimp season, (2) large sea turtles swimming in the water between Curlew and Gosier Islands in the Chandeleur chain, (3) report of a sea turtle crawl on Breton Island during the first week of June 1988 (Dwight Bradshaw, pers. comm.), and (4) a sighting by a diver of a large leatherback sea turtle in open water about 20 miles east of the Mississippi River in July. In southwestern Louisiana I received a report of numerous small sea turtles being caught

in Calcasieu Lake during the end of June and beginning of July. There was also an abundance of crabs in the lake at this same time.

CONCLUSIONS AND RECOMMENDATIONS

Because we were not able to observe any sea turtle strandings in the coastal marshes of St. Bernard Parish we are left with a description of sea turtle occurrence based on verbal reports (Fuller and Tappan 1986). As there are no other strandings studies done inside the coastal marshes, we were not able to determine if the lack of strandings was due solely to a lack of sea turtle mortality or the low probability of finding a stranding. The stranding survey in St. Bernard Parish has been a very labor intensive project. If we are to continue trying to collect stranding data, the survey needs to be modified in some way to improve the "data collected-to work" ratio. We may need to locate a few beaches likely to receive sea turtles strandings, and concentrate our efforts there. Another alternative would be to cover more areas over a shortened time span immediately after the opening of shrimp season. It may also be that while sea turtles do occur in the marshes they are not subject to high mortality factors. If this is true then the data collection needs to be shifted from the collection of stranding data to the collection of data on the occurrence of sea turtles in the marsh. This would require some type of boat surveys which is also a labor intensive effort. In this type of coastal area one thing is for certain and that is the necessity to rely on reports from fishermen and others of the times and places of sea turtle occurrences so that we can better expend our efforts.

From the reports on the Chandeleur Islands it appears that there is quite a bit of sea turtle stranding occurring during the summer months.

Most of these turtles are adult Loggerheads. In addition there have been several reports of adult turtles swimming in the Chandeleur Sound area. This agrees with verbal reports provided by fishermen (Fuller and Tappan 1986). There are also reports that suggest limited sea turtle nesting still occurs on the Chandeleur Islands. Continued walking and aerial surveys of the beaches with extra effort aimed at firm documentation of nesting should continue to provide important information on the occurrence of sea turtles here. Also because of the clarity of the water aerial surveys or the observations from people such as menhaden or helicopter pilots could be a good source on the occurrence and distribution of larger sea turtles in the Chandeleur and Breton Sound area.

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