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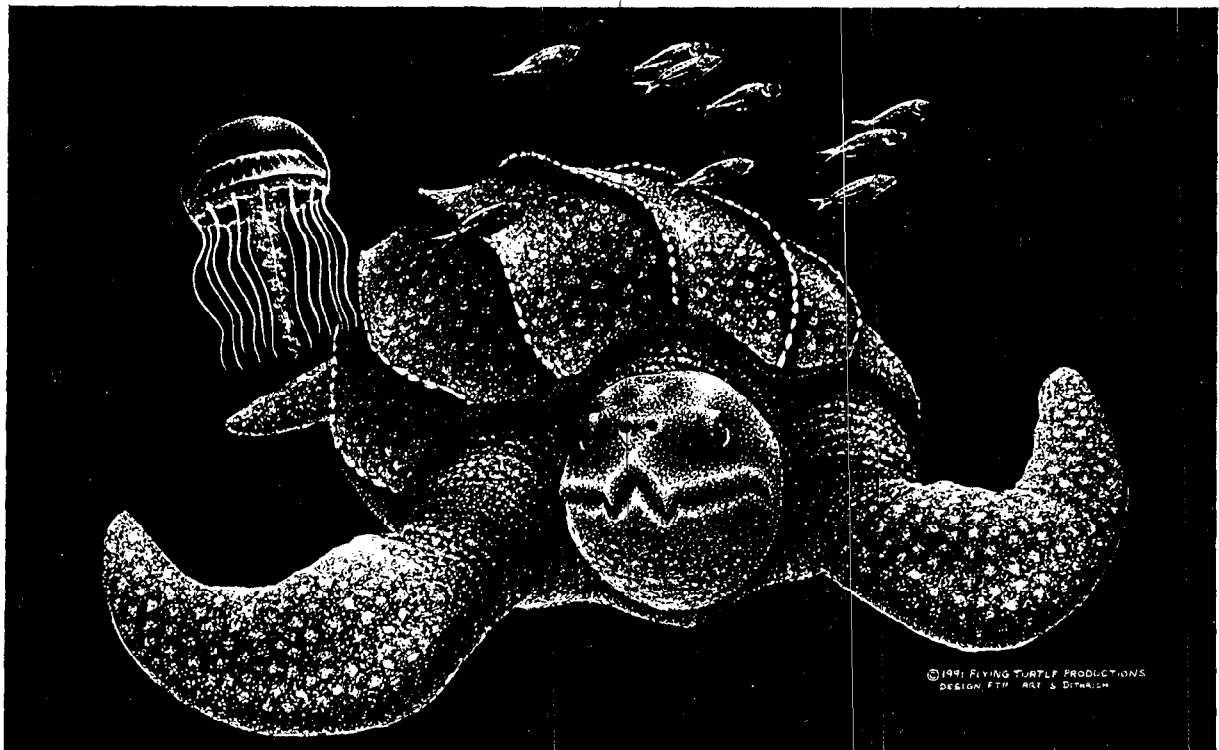
PROCEEDINGS OF THE ELEVENTH ANNUAL WORKSHOP
ON SEA TURTLE BIOLOGY AND CONSERVATION



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INCIDENTAL CATCH OF SEA TURTLES IN GREECE: THE CASE OF LAKONIKOS BAY

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INTRODUCTION

Three species of sea turtles are found in Greece; the loggerhead turtle Caretta caretta, the green turtle Chelonia mydas and the leatherback turtle Dermodochelys coriacea. Of these, only the loggerhead turtle is known to nest on the coasts of Greece. A known nesting area with moderate nesting activity is found in Lakonikos Bay in southern Peloponnesus (Figure 1). A turtle monitoring programme is carried out on the nesting beaches of Lakonikos since 1984.

The Bay faces to the south and has an opening of about 60 km. Nesting beaches in Lakonikos total about 23 km and are found at the head of the bay. At sea, in front of the nesting areas, there is a relatively extensive shallow shelf; the isobath of 50 m passes at about 3 km from the shore. After that shelf, the depths grow rapidly inside the Bay.

Although it is known that sea turtles are often caught in nets and long lines, the extent of incidental catch has not been investigated in Greece. Discussions with fishermen, during the turtle monitoring programme, revealed that turtles are frequently caught in the bay during winter. This information triggered the initiation of a study on the impact of fishing activities on marine turtle populations in Greece.

The present paper describes preliminary results of the work done in Lakonikos Bay during the fishing period 1989-1990.

METHODS

Three trawlers and eight beach seines comprise the professional fishing fleet at Gytheion, the main port in Lakonikos. The skippers and the crews of the vessels were approached and were invited to participate in the study. Their response was immediate and a genuine collaboration was established. All fishing trips of the monitored vessels, the duration of fishing effort and their catch were recorded during the fishing period (1 October to 31 May).

In case of incidental catch of a sea turtle, the following data were recorded: species, status, approximate size, and locality and depth of capture. All captured turtles were released as soon as possible.

RESULTS

Trawlers fish for 9-10 hours per fishing day. Trawling times range from 1 to 3 hours, depending on the area. Trawling depths vary from 36 to 270 m. Beach seines fish for 5-7 hours per fishing day in depths 5-30 m. Trawling time of beach seines averages 1 hour. During the 8-month fishing season the eleven monitored vessels worked for 1,314 days in total. Of these, 818 days were allocated to the eight beach seines and 496 days to the three trawlers.

Forty four turtles, 38 loggerheads (86.4%) and 6 greens (13.6%), were accidentally caught by the monitored boats during the fishing season. Of the captured loggerheads, 32 individuals (84%) were of mature size. All captured greens were immatures.

All but one of the captured turtles were alive and in good condition. One loggerhead was found dead, presumably drowned after a long trawl. Most of the turtles were captured during January and February. No turtles were caught during April and May (Fig. 2).

DISCUSSION

The present study shows that incidental capture of sea turtles in Greece is very high. Fishermen in Lakonikos admitted that they used to kill captured turtles because they considered them as pests. The onset of the turtle monitoring programme in 1984, gradually improved the attitude of the fishermen and after the present collaboration it can be said that no more turtles are deliberately killed in Lakonikos, at least by the professional fishermen of Gytheion.

The presence of marine turtles during the winter in the sheltered bay indicates a wintering area there. Since no turtles tagged in other areas have been recovered so far in Lakonikos, it is assumed that a population of Caretta caretta resides in the bay. This can be corroborated by marking the accidentally captured individuals, which is planned for the fishing season 1990-1991.

A very interesting result of the study is the presence of Chelonia mydas, a species that does not nest in Greece. Here it must be noted that almost all turtle nests on Lakonikos beaches are closely monitored, in the context of the monitoring programme, and no Chelonia nest has ever been found. The fact that all captured green turtles were immatures suggests that Lakonikos Bay might be a developing area of the green turtle in the Mediterranean.

ACKNOWLEDGEMENTS

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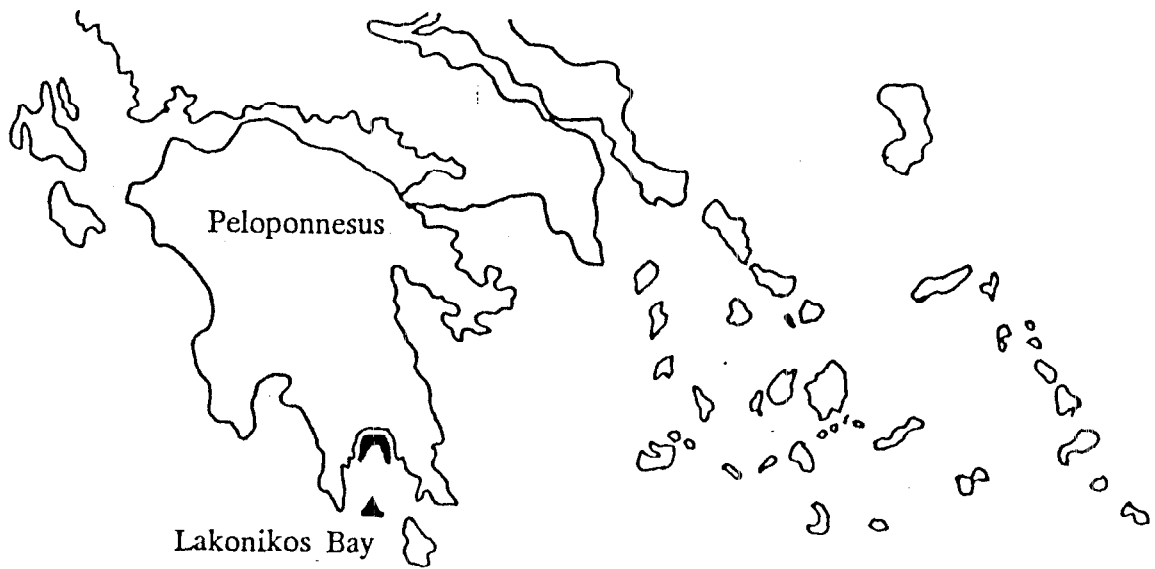


Fig.1. Sketch map of southern Greece showing position and main fishing areas in Lakonikos Bay.

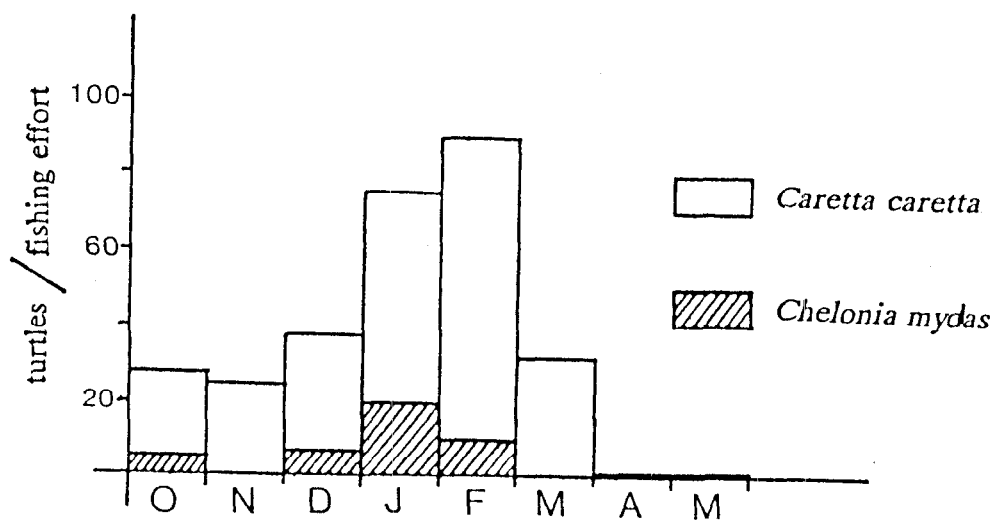


Fig.2. Incidentally captured turtles per fishing effort over the fishing season (October-May) in Lakonikos Bay, Greece.