

A Report to the Institut National de Recherche Halieutique, Casablanca, Kingdom of Morocco

Sea Turtle Surveys in Southern Morocco (Plage Blanche – Porto Rico) in July 2006

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Introduction

A survey of the Atlantic coast of Morocco from Larache to Cap Sept in July 1999 concluded that there were no major nesting beaches in Morocco; only the occasional account of nesting or of hatchlings was mentioned by fishermen. However, most of Plage Blanche and southern Morocco remained unsurveyed because of logistical difficulties. Additionally, Pasteur and Bons (1960) had reported extensive nesting by loggerheads and possibly green turtles at Plage Blanche. Therefore the objective of this trip was survey Plage Blanche and previously unsurveyed stretches of southern Morocco.

Methods

Beaches were surveyed between Plage Blanche and Porto Rico, 93 km south of Dakhla, between 8 and 12 July 2006. Summer is the nesting season in the region and therefore July was considered an appropriate time of the year to survey Moroccan beaches for any evidence of nesting. Beaches were surveyed on foot or from the top of a land rover. Fishermen were interviewed at different villages to compile local knowledge of turtles.

Results

Plage Blanche was partially surveyed on foot and more extensively surveyed from the top of a land rover driving close to the tide line on 9 July 2006. No evidence of nesting was found (between Auerora and Ras Noun). Only three stranded loggerhead, *Caretta caretta*, carapaces were located. Tissue samples were collected for genetic analyses. The curved carapace length (CCL) and curved carapace width (CCW) measurements were as follows:

- 1) CCL = 55.2 cm; CCW = 53.0 cm
- 2) CCL = 44.8 cm; CCW = 40.5 cm
- 3) CCL = 42.0 cm (this is only an approximate measurement because the marginal scutes were missing; no CCW was taken)

Three fishermen we encountered described having observed strandings, but never a nesting turtle. Ten dolphins and a whale were also among the strandings counted at Plage Blanche.

The stretch between Tan Tan and Laayoune was surveyed on 10 July 2006. A survey of the beach at Oued Chbika revealed a wide but short sandy stretch, which is covered during high tide; no stranding or evidence of nesting was found. Further south, we did an approximately half hour-long survey on foot of the beach at Baie Khnifise. Only a single loggerhead stranding was found (CCL = 44.2 cm; CCW = 40.8 cm). Local fishermen described often seeing turtles in the Bay and capturing them in their nets and subsequently releasing them. Turtles appear to be very common in May and June. Their description of the reddish coloring of the carapace suggests that these are probably loggerheads.

In Laayoune, we met with members of the Association d'Environnement which works between Laayoune and Dakhla. They reported that fishermen find lots of turtles at sea, and also reported observations of hatchlings in the years 1984-1985 at 6 km south of Marsa. We were also informed of two leatherback strandings at 2 km south of Laayoune in December 2005. We discussed future collaborations and their role in sea turtle data collection and management in the region.

At Laayoune port, we interviewed the captain of a trawler that had just returned after a sojourn at sea. They fish 4-5 km from shore and each trawl lasts about 2 hours; apparently one or two turtles are captured per trip.

On 11 July 2006, we surveyed the stretch between Laayoune and Dakhla and stopped at 4 fishing villages: Aghti Elghazi, Boujdour, Cap Sept, and Ntirift. At all locations, fishermen claimed never to have seen a nesting turtle and no carapaces were found with them; their knowledge of nesting turtles comes from television programs. In Aghti Elghazi, fishermen described seeing turtles not too far offshore when the ocean is calm for example in September; turtles were not seen in the winter when the ocean is rough. Their color description of medium sized turtles suggested they may be loggerheads; apparently, once a week or once a month a turtle is caught in a fishing hook, but it is not eaten and is released on capture. One fisherman mentioned observing a turtle crawl up the beach and return to sea. At Boujdour, fishermen see turtles from March to May and catch loggerheads and leatherbacks in their nets. At Cap Sept, fishermen also reported seeing turtles (probably loggerheads and leatherbacks) when the sea is calm and catching them in vertical nets; they also added that region was too rocky for nesting. Fishermen appear to spend only a few months of the year at the beach, e.g., 2 to 4 months of the year at Cap Sept and 2-3 months of the summer at Ntirift. Some fishermen immediately return turtles caught in their nets because they believe that turtles are inauspicious.

On 12 July 2006 we surveyed 93 km south of Dakhla to Porto Rico. At El Aghroub we surveyed the beach on foot from end to end. No stranding or evidence of nesting was observed. A local on the beach described a stranding of between 10 -20 kg a month ago; he had never seen a live turtle. A last stop was made at Porto Rico at the base of the Marine Royale from where a sandy stretch could be seen further south but was not surveyed.

Finally, we visited with the Direction de Pêche in Laayoune and Dakhla to discuss sea turtle workshops for fishermen in both locations.

Conclusions

No evidence of nesting was found and only stranded turtles were seen on the beaches, further corroborating that Morocco does not support major nesting beaches. It has been more than 4 decades since Pasteur and Bons (1960) reported nesting at Plage Blanche; a decline in nesting numbers has been observed in other sea turtle populations over a shorter period of time (National Research Council 1990, Bjorndal et al. 1993, Chan and Liew 1996, Sato et al. 1997, Valverde et al. 1998).

Juvenile and subadult loggerheads appear to be most commonly reported from this region and only immature animals were encountered during this survey. Assessing impact of accidental capture is extremely important: the size classes most often encountered, juveniles and subadults, are considered to be the most valuable in terms of population dynamics. Preliminary genetic analyses of previously collected samples showed that the majority of loggerheads had haplotypes found in the western Atlantic stock (unpublished data). Therefore, the accidental capture of sea turtles in the waters of northwestern Africa is likely impacting various turtle populations in the wider Atlantic.

Recommendations

- Given the large scale fishing in this region, the impact of fisheries on sea turtles demands thorough investigation.
- Tissue collection for genetic analyses needs to be pursued rigorously.
- Although it is unlikely that any major nesting sites exist between Porto Rico and the Mauritanian border because the region is very rocky, a quick survey should be conducted in the summer of 2007 to evaluate the region.
- An interview with older fishermen (> 40 years) who have spent their entire lives in the same area is necessary to determine if indeed there was extensive nesting in the past and if nesting numbers have declined dramatically in Morocco.
- Longer surveys of Plage Blanche and neighboring beaches during the summer months would be appropriate to verify the absence of nesting in this region.
- A network should be established to monitor all sea turtle strandings along the Moroccan coast.

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