



Interviews with Fishermen suggest European Longlining Threatens Sea Turtle Populations in Cape Verdean Waters

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Introduction

Pelagic longlines may represent the single most serious global threat to sea turtles such as loggerheads and leatherbacks¹ (Fig.1). Virtually nothing is known on sea turtle bycatch levels in pelagic longlines in the tropical eastern Atlantic², although this information is likely critical for the conservation of the Cape Verde loggerhead population (third-most globally important) (Fig. 2), as well as for many other Atlantic sea turtle populations passing through these waters on their migration routes.

Methods

Preliminary informal discussions with local fishermen working on the international fishing fleet operating around Cape Verde suggested that mortality levels of turtles might be important. This prompted us to carry out more systematic interviews in order to obtain a first general appraisal of the situation. Interviews took place between November 2011 and February 2012.

Interviews were obtained from 17 fishermen from 4 Cape Verde islands (identities not disclosed). The diversity of information on fishermen origins, areas fished and on-board practices, suggests that they covered a wide range of experiences. All fishermen had worked on board Spanish vessels, and six also had worked on Portuguese vessels. Generally, the fishermen work for six months, and then rest for the remainder of the year. Interviewed individuals had 4.3 ± 2.0 SD (range 1-8) years of fishing experience.

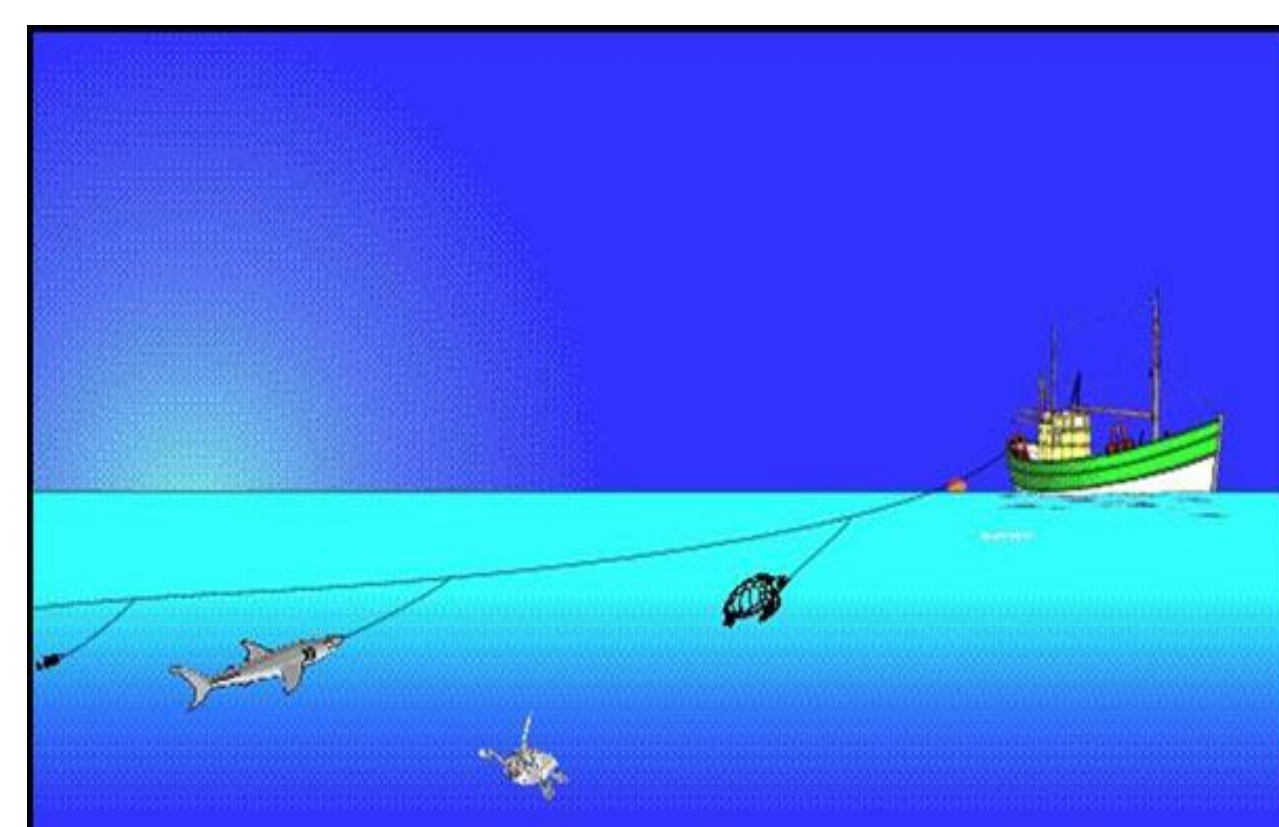


Figure 1: Explanatory scheme of the turtles bycatch by longliners (source: www.horta.uac.pt).

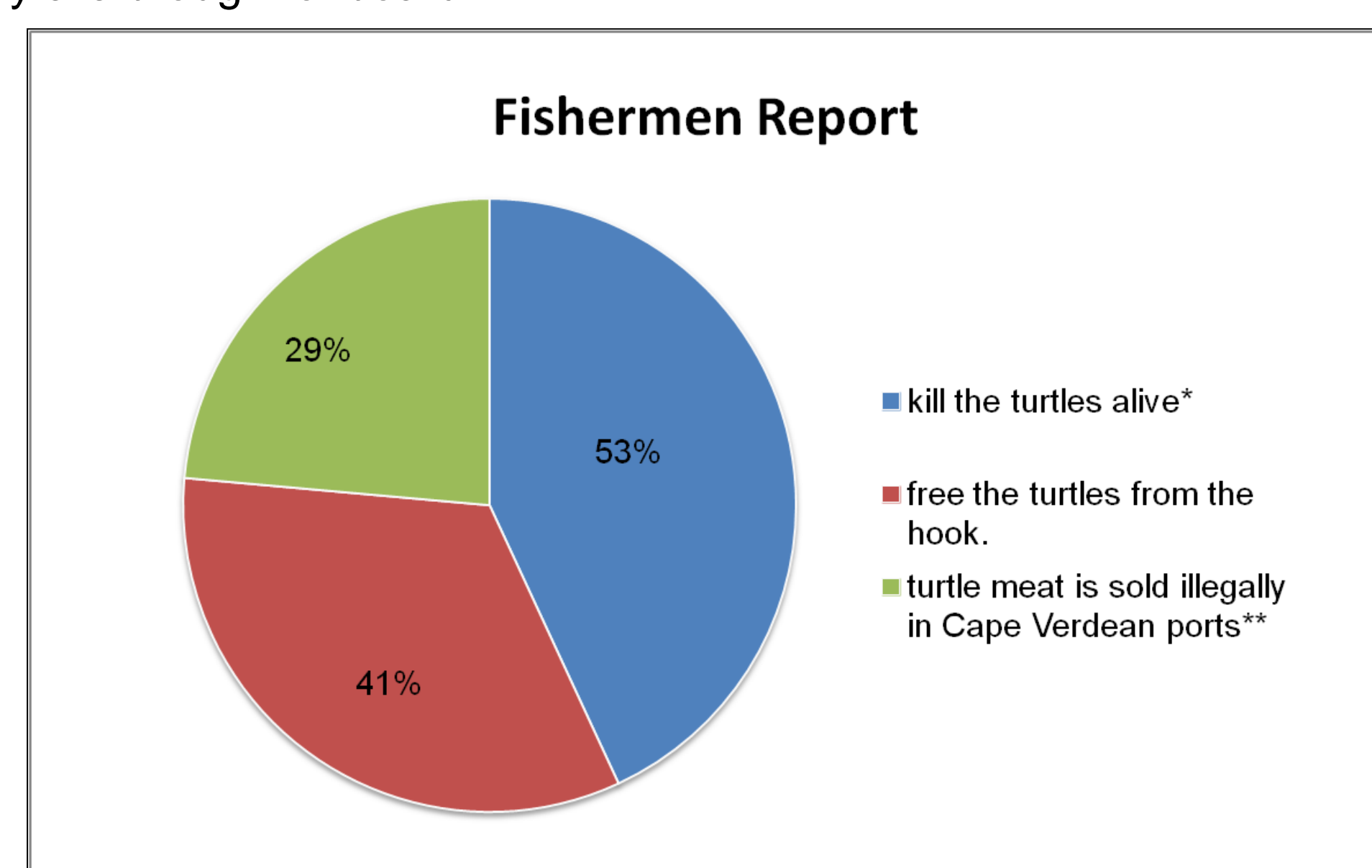


Figure 2: Loggerhead turtle nesting on Santa Luzia island.

Results

All fishermen reported that sharks are the main target of the fishery, despite the fact that vessels are licensed to catch tuna and sharks are officially bycatch. Squid is the main bait used.

All fishermen reported that turtles are regularly captured. Overall, 10 fishermen were willing to present figures and estimated that a mean of 4.2 ± 1.5 SD (range 2-7) turtles were caught per longline set. Most turtles captured are presumed to be loggerheads (reported to be "of a large size"), but several fishermen reported the regular capture of leatherbacks. Most fishermen mentioned that the majority of turtles were dead by the time they are brought onboard.



**only 5 fishermen

*to retrieve the hooks and/or to use their meat

Discussion

According to the fisheries agreement signed with the EU in November 2011: 35 longliners are licensed to fish in Cape Verdean waters: 26 from Spain and nine from Portugal. Furthermore, there is clear evidence of IUU (illegal, unreported and unregulated) longline fishing in Cape Verdean waters, including vessels from Asia, which might be important given the low levels of surveillance and marine law enforcement.

Data provided by customs authorities who receive declarations of landings at Mindelo (the main landing port of Cape Verde) indicate declared landings of **1400, 2300 and 12000 tons of shark** respectively in 2009, 2010 and 2011, while the corresponding values for **tuna were 700, 670 and <600 tons**.

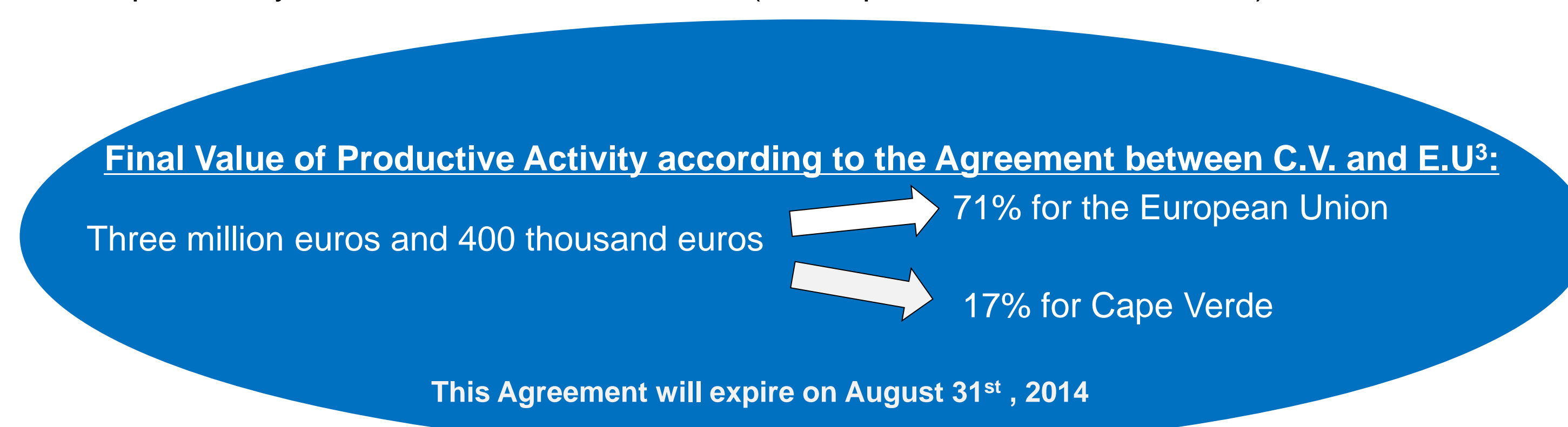
Bycatch of sea turtles in long-line fisheries is particularly dire in Cape Verde. The situation is affecting one of the most important loggerhead populations in the world and, according to the present study, the common practice is to kill the turtles that are still alive when they come onboard. In Cape Verde there is a strong tradition of eating loggerhead turtle meat, primarily females taken on nesting beaches. With the increasing control of illegal harvest ashore, the demand for turtle meat promotes the capture at sea and subsequent trade. Hence, there are at least two driving factors for the slaughter of live bycaught turtles: rapid recovery of the hook and profit made from selling turtle meat.

There are limitations of the present study, including: the lack of an estimate of current mortality levels or standardized values of captures per 1000 hooks, and the uncertainty surrounding figures presented here. Nevertheless, there are important lessons to be learnt:

- **First**, there is a need to stop the unnecessary, illegal and widespread killing and commercialization of turtles caught alive by longliners;
- **Second**, in future fisheries agreements, licenses should make mandatory the adoption of bycatch-minimization measures (developed and tested worldwide).

Solution:

- implementation of an effective fisheries observer program;
- awareness campaigns;
- use of circle-hooks;
- setting of lines at greater depths;
- use of alternative baits, such as fish instead of squid².



Measures aimed at the reduction of IUU longline fishing around Cape Verde probably are also a necessity.

Finally, more data and monitoring are needed to quantitatively estimate bycatch and mortality levels and monitor their evolution in response to changes in fisheries practices and conservation initiatives.

Literature cited:

¹ LEWISON, R.L., S.A. FREEMAN & L.B. CROWDER .2004. Quantifying the effects of fisheries on threatened species: the impact of pelagic longlines on loggerhead and leatherback sea turtles. Ecology Letters 7: 221–231.

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