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Compilers:

Heather Kalb
Thane Wibbels

U.S. DEPARTMENT OF COMMERCE
Norman Mineta, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
D. James Baker, Administrator

National Marine Fisheries Service
Penelope Dalton, Assistant Administrator for Fisheries

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The Role of a Non-Governmental Organization in Sea Turtle Conservation and Management Planning in Greece

CHARLES IRVINE^{1,2}, DIMITRIS MARGARITOULIS¹ & THOMAS ARAPIS¹

The Sea Turtle Protection Society of Greece

¹P.O. Box 51154, GR-14510, Kifissia, Greece ; E-mail stps@compulink.gr

²6340 Mercer, Houston, TX 77005 USA; E-mail charles@heartstone.com

The European Union passed the Habitats Directive (92/43) in 1992, which lists habitat types and species within Europe that are considered important for preservation. The Directive instructs Member States to designate and protect “Special Areas of Conservation” where these are found. The loggerhead sea turtle, *Caretta caretta*, is listed as a highest priority, and since Greece is the only E.U. country that hosts any significant nesting activity, every main nesting beach was proposed for designation. The significant experience of the STPS regarding sea turtle conservation and management in Greece over the last years, led E.U. and Greek authorities to rely on this NGO to draft plans and protection legislation. In nesting areas where it had been monitoring and protecting nests for many years, the STPS found itself in the unique role of preparing the management plans. This allowed the organisation to actually begin and test implementation strategies in cooperation with the local authorities. These activities build support at the local level, facilitate the passage of protection legislation at the national level, and allow the NGO to focus and improve their sea turtle protection efforts.

Introduction

The Sea Turtle Protection Society of Greece has been monitoring nesting beaches throughout Greece since 1984. A nationwide survey during the 1980s allowed us to identify the areas of densest nesting, and led to the establishment of permanent monitoring and nest conservation projects in the six most important areas. These are on the island of Zakynthos, Kiparissia and Lakonikos on the Peloponnesus and three beaches on the island of Crete (Rethimno, Hania, and Messara). On these six monitored beaches there are a

total of between 2,000-3,800 Loggerhead sea turtle nests laid each year. These summer projects involve beach monitoring, nest protection, and public awareness of both locals and tourists.

Much of this work has been funded by various mechanisms of the European Union. (including ACNAT & MEDSPA). Although sea turtles are legally protected under several Greek national laws (PD 67/81), only one of the nesting areas has ever received any legal protection or conservation designation: this is Zakynthos. Protection measures here were strict, but provided little in the way of alternatives for the local tourism-driven economy, and have remained largely unenforced. This has led to a long campaign by STPS and other NGOs for the establishment of a National Marine Park.

In 1992 the E.U. passed the so-called Habitats Directive (92/43), which contains a comprehensive list of habitat types, and endangered species that require conservation within Europe. This directive ‘instructs’ member states to identify sites where these habitat types or species occur, submit this list the E.U., develop conservation management plans, and pass legislation to establish these protected areas. This network of Special Areas of Conservation (SACs) is collectively known in Europe as Natura 2000.

The loggerhead sea turtle (*Caretta caretta*) is listed as a ‘priority’ species under Annex II, meaning that any site where they occur in significant numbers requires protection. Greece is the only country in the E.U. that hosts nesting beaches of significance. All six main nesting areas were included in the first list of SCIs (Sites of Conservation Importance) proposed by the Greek government. In some areas, the entire nesting beach was included (e.g. Messara,

Kiparissia), whilst in others only parts of the beach fell inside the site (Rethimno, Hania, Lakonikos). In all cases the sites included many other habitat types (e.g. sand dunes, river corridors, wetlands) and several sites included large marine areas of Seagrass (*Posidonia*) beds.

A funding mechanism, LIFE, was instituted by the E.U. to enable member states to implement the Habitats Directive. This funds projects in areas proposed for inclusion as SCI/SAC. STPS has been the recipient of three-year duration LIFE projects in Crete, Lakonikos and Kiparissia, the latter two of which are currently ongoing. These projects run all-year round, with lobbying for conservation measures and preparation of management plans, and monitoring and nest protection operations during the nesting season.

Why did the job of preparing management plans fall to an NGO?

This is a role usually undertaken by the relevant departments of the Ministry of Environment. In Greece, with hundreds of sites, covering 15% of the country's surface area, the task of setting up the Natura 2000 network was a huge one. The prevailing political climate afforded zero support for large-scale expansion of the size of the civil service. This left the E.U. and the Ministry of Environment nowhere to go but to the NGOs. Luckily, there were several national NGOs with existing long-term projects, and considerable experience in both the subjects and the sites. The STPS has been operating for 15 years, and had successfully completed several large E.U.-funded projects in this time, often under difficult and adverse conditions. For sea turtles, sand dunes, and general coastal management issues, the STPS is recognized as the main authority in Greece.

Strategy

In the first LIFE project on Crete, which ran from 1995-97, the STPS discovered that in the process of preparing management proposals for the E.U., they were forced to analyse their conservation priorities, and develop strategies and techniques to best suit. It was realised that there was no need to simply make proposals, when the LIFE-funding enabled them actually begin to try out these management activities. The benefits of this were two-fold:

1. *Get the Proof:* It was felt that if it could be proven that particular management proposals had already been tried out, and successfully so, then the E.U. and the Greek Ministry of Environment would be much more likely to adopt them in the eventual legislation. Also, it was known from experience in Zakynthos, that both local authorities and local residents dislike 'surprise' laws from Athens regarding 'their' environment. By being able to involve them in the actual management activities, this was proof of *true local support*, or at least a real acceptance.

2. *Don't Wait for a Protected Area:* Once again, experience in Zakynthos showed that maybe the establishment of a Protected Area should not be the main objective in Greece. Rather, the objective should be to involve local

individuals and authorities in some of the regular management activities, and in such a way, that although entirely voluntary to begin with, it becomes increasingly obligatory as time goes on. This means that even if the legislative protection is a long-way off, the conservation activities are continued.

Some examples from Crete: umbrellas and sunbeds.

In Greece, it is possible to lease space on public beaches to install permanent umbrellas and sunbeds, which are then rented out to tourists. This is a highly profitable enterprise and has led to large stretches of nesting beach at Rethimno being so covered. These obstacles on the beach impede and block the female sea turtles from reaching the back of the beach where they prefer to nest. A little bit of analysis about where turtles like to nest, and their behaviour as they climb the beach, allowed us to come up with this simple diagram (**Fig. 1**).

This shows how the layout of umbrellas and sunbeds affects both availability of, and accessibility to nesting space. STPS project volunteers started clearing up the sunbeds at night on the most densely nested section of Rethimno. This wasn't exactly ideal, but it was the first time that anyone in the area had begun to change standard practices. Then cooperative owners started after contact with us. We allowed them to 'choose' whether they wanted to stack sunbeds behind umbrellas or remove them from the beach completely.

This was combined with a lobbying effort to Local Authorities in order to maintain significant areas of the beach free from umbrellas (often between 50-75% of the area). Two years later, the stacking of sunbeds has been included as an obligation in the lease contract from the State Land Office.

A decision-tree (**Fig. 2**) was developed to help volunteers decide whether to cage a nest *in situ*, or transfer it away from umbrellas. This helped those STPS volunteers working on the beaches understand a little better that umbrellas are not necessarily the worst thing on the beach, and that turtle nests can happily coexist with umbrella operators.

The Blue Flag is recognized throughout Europe to signify clean, safe bathing beaches, and is much sought after by hoteliers and Local Authorities. Until recently, there was no endangered species component in their criteria. After some lobbying by the STPS on Crete, it was decided to include turtle-friendly beach management as one of the criteria. This included stacking sunbeds and reducing light pollution as factors.

Cleaning the beach

Cleaning of the beaches was carried out by the Local Authorities using either heavy machinery, or not done at all. Over several years, STPS succeeded in the public relations department by performing regular clean-ups by volunteers. This, and regular complaints about the use of heavy machinery on the nesting beaches, led to the STPS being invited to participate in a decision-making capacity on a new

local government body responsible for beach cleaning in Rethimno. From here we were able to guide the selection of appropriate technologies and methods.

Lighting

Light pollution causes severe hatchling disorientation. Previously this was dealt with by transferring nests laid

in lit areas, or by ‘nest shading’ where a darkened runway is created forcing the hatchlings towards the sea. Thanks to some excellent information material from the USA, the efforts of the project workers were redirected to switching off the problem lights or shielding them. This allowed us to greatly reduce the number of times we had to ‘interfere’ with the nest or hatchlings.

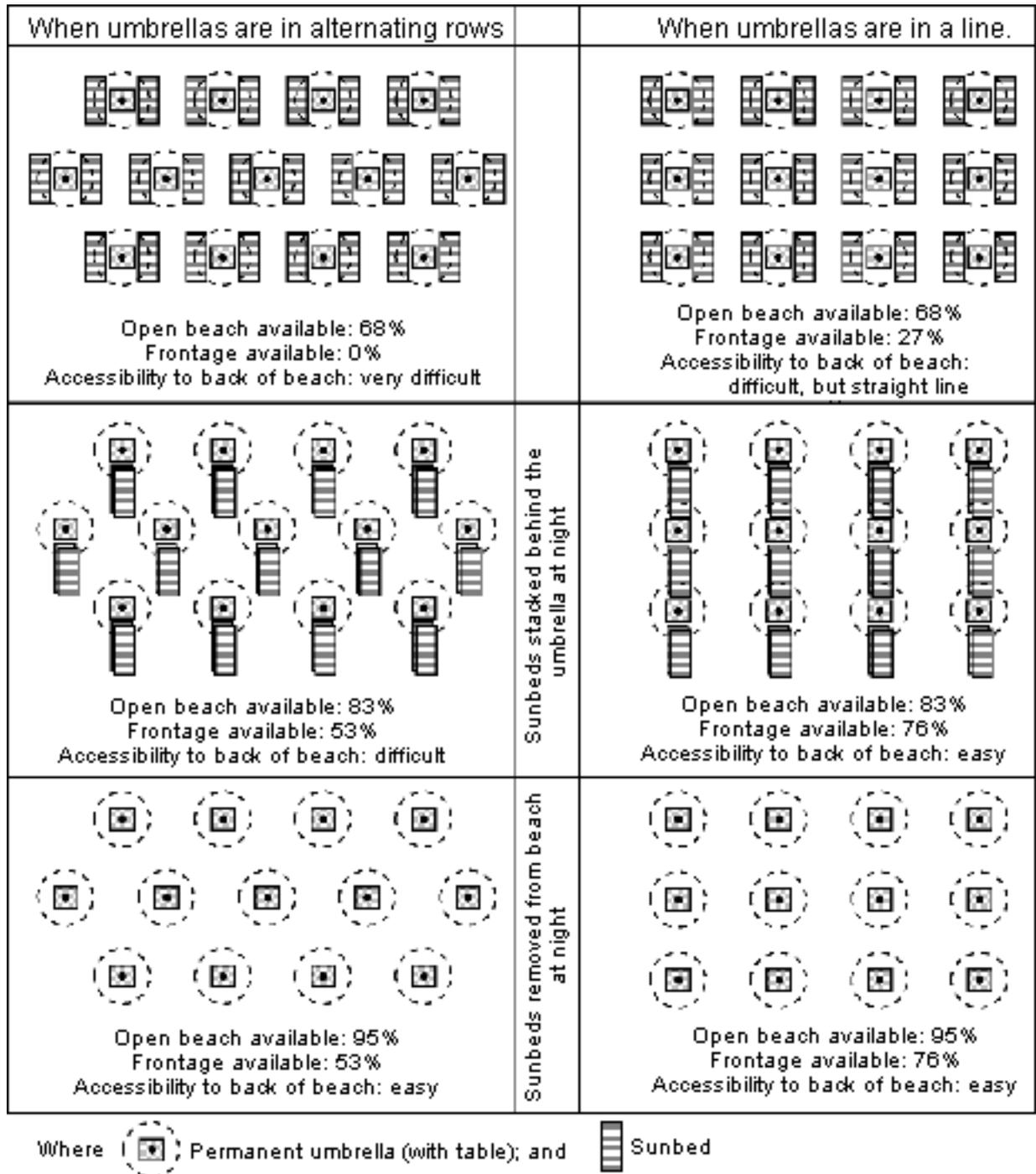


Figure 1. Layout of umbrellas and sunbeds affects both availability of, and accessibility to nesting space.

umbrellas.

Conclusion

To conclude, we have outlined several of the new techniques used by STPS for conservation management:

- voluntary compliance before obligations (sunbeds/lighting);
- enhancement of existing institutions (Blue Flag), and
- establishment of new institutions that include STPS in decision-making (beach cleaning).

We believe that these solutions increase support for turtle conservation, and establish a good foundation, whether or not the area eventually receives legal protection.

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