

Protecting hatchling turtles from light pollution

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Tourism developments close to or directly facing turtle nesting beaches very often cause light pollution that can disorientate turtle hatchlings as they emerge from their nests. On the island of Silhouette (Seychelles) the Environmental Impact Assessment for a major new hotel development highlighted the importance of protecting the turtle nesting beach. To this end, great care was taken to maintain and to increase the beach-crest vegetation. Requests to change the external lighting on rooms situated immediately behind the beach crest led to minor but wholly inadequate modification to shades over the lamps.

The first turtle nesting season after the opening of the hotel proved how inadequate these measures were. Some 200 hatchling hawksbill turtles (*Eretmochelys imbricata*) were rescued from under and around the hotel buildings. These were released on an unlit area of the same beach about 1,000 meters to the south-east.

Prior to the next turtle nesting season discussions were held with the hotel management and a decision was taken to try a novel solution to the problem of hatchling disorientation. This led to the construction by the hotel maintenance staff of a large box to be placed over the nest in order to obscure the hotel lighting.

Turtle box construction

The box was made as large as possible, having the dimensions shown in Fig. 1. Waterproof plywood was used and the interior of the box was painted matt black. On the exterior of the box a large sign was painted to inform visitors to the hotel of the presence of the nest. Once the boxes have been made, they can be stored for future use.

Turtle nests are monitored by the hotel staff and are marked with a sign to prevent visitors walking on the nests. At 50 days after the eggs are laid, the light excluding box is placed over the nest site. The nest is covered by the back section of the box and the open end of the box faces the sea, allowing the hatchlings to start their journey to the sea in total darkness and to move down the seaward slope of the beach without seeing the lights.

Discussion

Protecting turtle nesting beaches where tourism development has been allowed requires cooperation between conservationists and hotel management and staff. The presence of nesting turtles and an indication that the hotel is involved in their protection will enhance visitor experience, benefitting the tourism development and, most importantly, will help to protect the turtles.

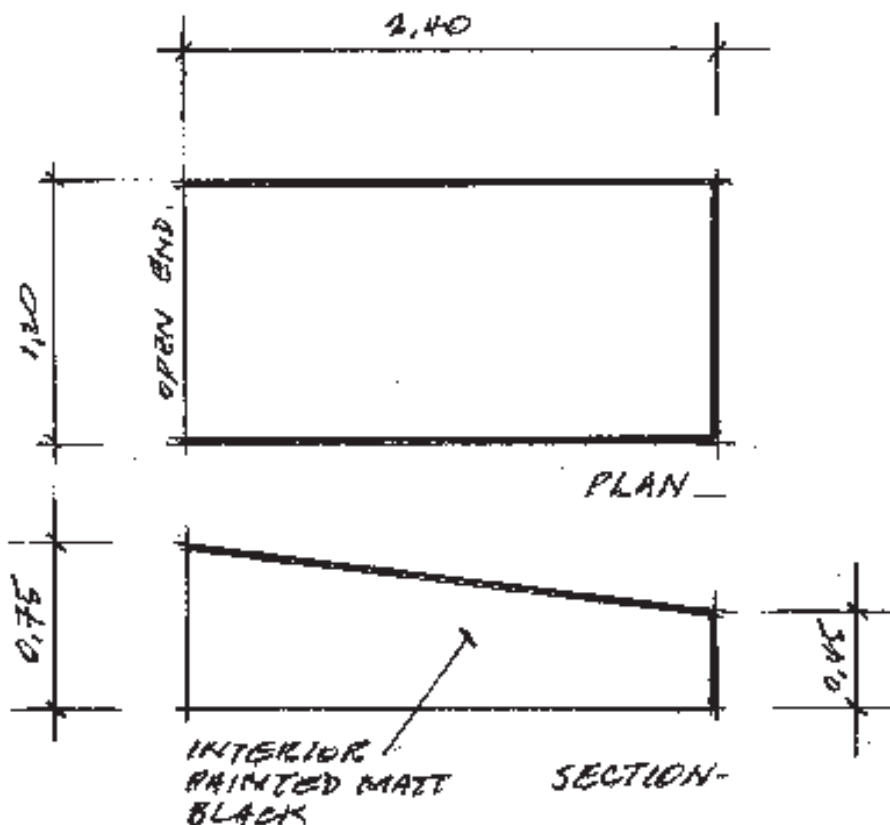


Fig. 1. Dimensions of the turtle box. Measurements in meters.

At the time of writing this note, the light excluding boxes have been used during two turtle nesting seasons. In 2008-9 only three hatchlings were rescued from the hotel grounds. In 2009-10 two hatchlings were rescued from the hotel lake and one more found on the road at the far end of the beach, away from the hotel rooms. This indicates that the light excluding box is effective in reducing hatchling disorientation. It is a reasonably low-cost solution for the protection of turtle hatchlings and requires only a basic level of carpentry skills.



Fig. 2. Turtle box in situ