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Tourism and the Green Turtle in Conflict on Wan-An Island, Taiwan

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The green turtle, *Chelonia mydas*, has been classified as an endangered species in Taiwan, Republic of China (ROC) for more than 20 years. Both the animal and its habitat are currently under the protection of various environmental and wildlife-related laws. Among existing nesting sites in Taiwan and adjacent islands, the rookeries at Wan-An Island (23°N, 119°E), Peng-Hu Archipelago (located southwest of Taiwan in the Taiwan Straits) are the most stable. There are 11 beaches on the island, but nesting green turtles have been found on only nine of them. Nesting ecology and conservation problems on the island were recently investigated (Chen and Cheng, *in press*; Cheng and Chen, *in prep.*). All but two beaches are isolated from Dong-an and She-an villages. In March 1994, the Peng-Hu National Scenic Area Preparatory Administration (PNSAPA), which is under the ROC Tourism Bureau, built two cement pathways and a large-scale bath house and toilet facility on the two beaches close to these adjoining villages.

The elevation and 90° edge of the cement walkways make it impossible for hatchlings to climb over. A nesting female can easily crawl over the cement to reach the vegetated zone. However, hatchlings from such nests would be unable to reach the sea. In contrast, the existing elevated wooden walkway is not elevated enough for a nesting female to crawl under. In fact, one could probably get stuck under it. In addition, lights on the bath house/toilet facility can scare away nesting turtles and any hatchlings produced on the beach can be disoriented and attracted to the facility. The construction of these inappropriate and ill-planned recreational facilities prompted concern by a non-profit conservation group, the Wild Bird Association. However, expression of these concerns to PNSAPA did not receive much attention and the work went on as planned.

On 1 April 1994, as a result of strong protests by the Wild Bird Association, a negotiation meeting hosted by PNSAPA was held in the Town Hall on Wan-An Island to resolve the conflict. I was invited to the meeting in the capacity of an expert regarding the influence of the construction on the green turtle. All the meeting participants were against construction on the beaches, except the host and a few country officers. The conservation parties demanded that all construction be removed and the beaches be returned to their natural status. I expressed concern over the interference of the construction on the nesting behavior of the green turtle, as well as the destruction of the fragile balance of the beach ecosystem. Both these problems are serious, and may destroy this nesting beach for the green turtle. However, PNSAPA insisted, without considering all ramifications, that the pathway would actually limit the activities of the tourists on the beach. Thus, interference by tourists would be, in their view, minimized. In the end the meeting, though successful in raising national attention, and did not solve any problems.

After the meeting, construction proceeded at an increased pace. This, and the refusal to acknowledge

any wrongdoing on the part of the PNSAPA, agitated all the conservation parties. The extensive public outcry over the turtle issue gained the attention of the legislators. On April 19 a public Congressional hearing was held and the problems surrounding the turtle conservation issues were discussed. After a brief debate between the conservation parties, the scholars, and the local tourism developers (representing both PNSAPA and the Tourism Bureau), the legislators proposed a field trip to the island to finalize the debate. Ten days later, a field trip to be led by the Deputy Director of the Council of Agriculture was scheduled. In the interim, PNSAPA removed part of the cement path way as a compromise to meet the conservationist's demands . The conclusions of the field trip were

1. to establish as a refuge the nesting sites of the green turtle on the Wan-An Island as soon as possible and
2. to satisfy the tourism industry in this underdeveloped area by allowing the existing construction on the nesting beach to remain untouched.

For its part, PNSAPA promised to replant shrubbery around the construction as a means of compensation.

National wildlife conservation laws stipulate that no one may destroy the habitat of protected wildlife. Therefore, the second conclusion reached, while keeping the developers happy, is actually acting as a model for violating the law by the Tourism Bureau. The unsatisfied Wild Bird Association made another appeal to the Department of Control. On May 30, two Control Yuans made a visit to the island to investigate the case. After a brief review they came to the same opinion that, despite the "strange look" of the construction, the facilities on the beaches should not be removed. They firmly believed that removal of the construction, after having already spent NT\$ 37 million [NT\$ 26 = US\$ 1] building them in the first place, would be a waste of public funds. So, as the developers and PNSAPA would wish it, the construction survived the struggle. The bottom line seems to be that there can be no compromise when it comes to the interests of the Tourism Bureau. Certainly the survival of wildlife is not a top priority.

Ironically, the conflict has made the green turtle the wild animal with the most media exposure in Taiwan, next to the rhino. Local individuals, by constantly promulgating news about the turtles, publicized the importance of Wan-An Island. This past summer, tourists packed into the ill-equipped restaurants and golden beaches on Wan-An Island and made a point of seeing the green turtle. These situations, though profitable to the local tourism industry, are actually bringing another major threat to the green turtle; namely, human disturbance. Making things worse, investments made in the areas of wildlife conservation and sanitation on the island by various agencies are, in general, inadequate. Even the local government has been slow in submitting a proposal to establish nesting beaches as refuge sites. My project, funded by the Council of Agriculture at the expense of NT\$ 1.6 million for the last two years, is the only effective tool for the study and protection of the green turtle. Today, the big rush in development has forgotten the true concept of ecotourism.

As of late August 1994, the bath house and toilet facility had weathered two major typhoons and new problems were created on the nesting beaches. Most of the replanted vegetation did not survive. Typhoon storm waves eroded the sand in front and beneath the building. PNSAPA failed to clean up the remaining cement debris on the beach after they finished the construction. The blocked sewage pipe from a nearby restaurant has left a foul-smelling sewage creek on the resort beach. Worst of all, the pathway and facility have made the beach much more easily accessible to tourists than in previous years. Tourists crowd onto the beach at night to look for turtles, and disturbances frighten the female turtles away from this nesting site. No turtle could be found nesting within 300 m of the heavily visited areas this year, compared to at least 2 to 3 turtles nesting there in past seasons.

Chen, T.-H. and I.-J. Cheng. The breeding biology of the green turtle, *Chelonia mydas* (Reptilia: Cheloniidae), at Wan-An Island, Peng-Hu Archipelago, Taiwan, I. Nesting ecology. *Mar. Biol. in press.*

Cheng, I.-J. and T.-H. Chen. The breeding biology of the green turtle *Chelonia mydas* (Reptilia: Cheloniidae), at Wan-An Island, Peng-Hu Archipelago, Taiwan, II. Conservation, with discussions of the conservation problems of marine turtles in Taiwan. *in prep.*

Note: It is my pleasure and honor to introduce Dr. I-Jiunn Cheng of Taiwan to readers of the Marine Turtle Newsletter. With limited resources, Dr. Cheng has recently embarked upon an ambitious and challenging program to protect and study sea turtles and their remaining nesting habitats in his country. There is much to be accomplished. However, after visiting and working with Dr. Cheng this past summer, I am convinced that he has the unique talents and opportunity to make significant progress at this particular time in his nation's development. A campaign aimed at raising public awareness for the green turtle as a "flagship species" for environmental conservation has already produced tangible results. Please welcome Dr. Cheng to the international sea turtle conservation and research community. I know that he will be appreciative for any appropriate forms of assistance and advice that you may want to offer. -- George Balazs, Honolulu Laboratory, National Marine Fisheries Service.