A PROPOSAL TO UNDERTAKE THE BREEDING OF HAWKSBILL TURTLES IN CAPTIVITY AT SEA LIFE PARK

by

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Background

Three hawksbill turtles (Eretmochelys imbricata, an Endangered Species) are in captivity for commercial display purposes at Sea Life Park on the island of Oahu. The largest of these animals is a female of Hawaiian origin measuring 86 cm in carapace length that has been at the facility since the 1960s. The second largest is a 79-cm female that is the sole survivor of four hawksbill transferred to Sea Life Park by the author during 1974. These four turtles were originally obtained as hatchlings from Western Samoa in March of 1972. The third and smallest hawksbill (73 cm) is a male that was found as a hatchling at Malakahana Bay on Oahu in January of 1975.

The two female hawksbills are presently being held in Sea Life Park's "turtle lagoon" along with 19 green (Chelonia mydas) and two loggerhead (Caretta caretta) turtles. The male hawksbill resides in the Park's reef tank display along with a single 75-cm green turtle. During recent months the male has been repeatedly observed attempting to mate with the green turtle. It is not known if actual copulation has taken place, but such an occurrence is a distinct possibility. The male's tail has exhibited significant lengthening and enlargement, however, the size and characteristics of a fully mature adult have not yet been obtained.

The approximate ages of the three hawksbills are as follows:

86-cm Hawaiian female	>20 years
79-cm Western Samoan female	9 years
73-cm Hawaiian male	6 years

Experimental Procedure

An appropriate time has been reached to undertake a small breeding project with the hawksbills at Sea Life Park. As a first step, each female should be brought together with the male during separate time periods. Considering the smaller and therefore presumably more compatible size, the female from Western Samoa appears to offer the best possibility for copulation taking place. Each female could be alternately introduced into the reef tank display where the male is now located.

Another option would be to transfer the male-female pair to one of the holding tanks situated outside of the Park's display area. It would not be advisable to move the male to the turtle lagoon display due to the presence of relatively large numbers of turtles of different species.

The artificial sand beach associated with the turtle lagoon has been successfully used for nesting and hatchling production by green turtles in both 1976 and 1980. Hawksbills in the wild are generally less discriminating than green turtles in their nesting site requirements. It is therefore reasonable to expect the captive hawksbills at Sea Life Park to use the artificial beach should they become gravid.

The green turtle that has been the focus of the male hawksbill's attention and possible fertilization should eventually be transferred from the reef tank to the turtle lagoon so that access exists to a nesting beach. Although rare, specimens thought to be hybrids of the hawksbill and green turtle have been reported from other areas of the world.

Outcome

The breeding and successful production of hawksbill hatchlings in captivity at Sea Life Park would constitute the first case for this species known to the author. Few facilities that display sea turtles are equipped with a sand beach, consequently, the opportunities for captive breeding are currently very limited. Further achievements in this field by Sea Life Park will promote sea turtle conservation and serve as a model for other marine display facilities.