Continued from previous issue

THE IMPACT OF FERAL CATS AND DOGS ON POPULATIONS OF THE WEST INDIAN ROCK IGUANA, *CYCLURA CARINATA*

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Abstract

A population of rock iguanas, *Cyclura carinata*, inhabiting Pine Cay in the Caicos Islands was nearly extirpated during the three years following construction of a hotel and tourist facility. The decline, from an estimated adult lizard population of nearly 5500, was due primarily to predation by domestic dogs and cats introduced to the island simultaneously with hotel construction. Population declines on other nearby islands were also attributed to predation by these feral mammals.

As emergence time approaches, cats employ their usual sit-and-wait strategy (Christian, 1975) near lizard burrows. Emerging lizards are torpid and easily obtained; *Leiocephalus* and juvenile *Cyclura* suffer heavy mortality by this method. This technique is also commonly used by natives in securing adult *Cyclura* for food. This sit-and-wait strategy is to some extent used during the lizard's normal activity period, but active stalking is much more common. Cats were observed to take *Cyclura* up to 235 mm snout-vent length and 510 g, subduing them immediately with neck bites. Unlike dogs (see later), the cats always ate the lizards they killed. Only three scats from feral cats on Pine Cay were found during the course of the field work, but two of these contained skin and skeletal elements of adult iguanas. During two months of field work in early summer of 1974, pet cats were observed daily bringing lizards (*Leiocephalus* and *Cyclura*) to their kittens. Most of the offspring of the cats became feral as they matured, and thus subsisted entirely on native wildlife.

The feral cat population on Pine and Water Cays increased continually during the study. In 1974, feral cats were encountered at a rate of about 1/two weeks of field work. By June 1976, daily sightings were the rule. Cat tracks on sandy roads were rare in 1973 at a time when iguana tracks were so plentiful that estimating lizard numbers on this basis was impossible. By late spring 1976, lizard spoor was almost non-existent and that of cats could be found virtually everywhere on both Pine and Water Cays.

Rand (1967) also believed that domestic cats were the most important predators on *Anolis lineatopus* in Jamaica, and their detrimental effects on other natural ecosystems are well documented (review in McKnight, 1964; Coman & Brunner, 1972; George, 1974).

Dogs -- Grant (1937) and Hirth (1963) both considered dogs the most serious predator on the iguanas, *Cyclura pinguis* and *Iguana*, respectively. Free-ranging dogs on Pine Cay were also responsible for killing many iguanas. Though the total dog population only averaged between two and three during the study, these few spent most of each day chasing and killing iguanas. Dogs frequently ranged over the entire island in a single day. They often crossed the

Turks and Caicos Rock Iguana, *Cyclura carinata*. A thriving population resides on Little Water Cay. June 1988. David W. Blair photo.

sandy isthmus to Water Cay and were observed making forays on its most southerly shores, nearly 5 km from human habitation. They were frequently observed chasing and killing adult *Cyclura*, and attempting to exhume lizards they had chased into retreats. This latter behavior was probably responsible for the deaths of more iguanas than direct predation, since the dogs frequently succeeded only in plugging the lizard's burrow, entombing it within. Dogs on Pine Cay apparently chased and killed *Cyclura* mainly for "sport"; they were regularly fed by humans and left as many carcasses as they consumed. Freshly killed iguanas were often taken from the mouths of dogs (and cats); sometimes only portions of the bodies could be salvaged. Fresh carcasses of 18 obviously dog-killed adult *Cyclura* were collected on Pine Cay and Water Cay during field work, although many more were seen.

Whereas lizard numbers near the SW Blind decreased slowly during most of the study period (due to its distance from the center of the dogs' activity ranges at that time), between November 1975, and May 1976, the population was finally totally extirpated. The majority of the burrows showed evidence of digging by dogs; many had caved in and all were inactive.

During this same time-interval, the dogs began swimming the channel separating Pine Cay from Grouper and Fort George Cays, both with dense iguana populations. Prior to that time, only one iguana carcass had ever been found during four visits to Fort George, but during a half day in June 1976, four were discovered (they were not the object of search) in a small area at the western end of the island. While adults seemed to be less abundant than in the past, inactive lizard burrows were unquestionably more common. In June the dogs were visiting Grouper and/or Fort George Cays daily. The iguanas on these islands will probably suffer the same fate as those on Pine Cay.

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Editor's Note -- This article represents portions of a paper originally published in Biological Conservation (1978) and used here with permission of the author. I.I.S. intends to assess the current status of *Cyclura carinata* on the Turks and Caicos Islands.

The International Iguana Society, Inc. is an international membership, non-profit organization dedicated to the preservation of the biological diversity of the iguanas through habitat preservation, active conservation, research, and the dissemination of information. Iguana Times, the newsletter of the Society is distributed quarterly to members and member organizations. Additional copies are available at a cost of $4.00 including postage.