

Shining new light on stingrays

by Susan Cocking
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If you have ever flown or taken a cruise to Grand Cayman Island, there's an excellent chance you visited Stingray City. It is one of the most popular dive sites in the world, with tour guides feeding squid to scores of Southern stingrays and tourists swimming and frolicking with the animals.

But with as many as 5,000 people per day interacting with the stingrays since the mid-1980s, are the animals being overfed, overhandled and overdomesticated?

World-famous marine artist Guy Harvey decided to find out.

The artist, who lives on Grand Cayman and holds a doctorate in marine biology, launched a two-year, \$280,000 study on the life history, biology, behavior and economic value of Grand Cayman's stingrays in February.

Two graduate students from the Guy Harvey Research Institute at Nova Southeastern University Oceanographic Center in Dania Beach are working with Harvey -- capturing, tagging, tracking and taking DNA samples from nearly 175 rays so far. When the study is completed around June 2003, the scientists will publish their findings and produce a video documentary of the project.

"Nobody knows the first thing about [the stingrays'] biology and natural history," Harvey said. "The key is to find out whether the rays are affected detrimentally by this interaction."

To learn more, Harvey and graduate students Mark Corcoran and Hillary Ganz capture stingrays at several sites: Stingray City -- a 15-foot-deep sandy area fringed by a reef; the Sandbar, a popular wading spot about two miles east; and areas in North and South Sounds where stingrays are not fed.



Corcoran said the stingrays collected at the feeding sites are much tamer than the ones caught elsewhere, which stick their barbed tails straight up in warning as divers approach. To avoid getting stung, the scientists clamp a paper clip over the barbs of captured rays, then remove them when the rays are released.

Corcoran said stingrays' stings are not fatal to humans but are incredibly painful.

"The spine itself is like a knife," he said.

"It has recurved barbs and a venom gland. If it got in you and broke off, you have to have it surgically removed."

The rays are weighed and measured (so far, the largest collected was 4 feet 3 inches across and weighed 126 pounds; the smallest measured 1-1 and weighed 2 pounds 6 ounces), and a tag the size of a grain of rice is inserted.

A tiny piece of the left pectoral fin is clipped to sample DNA to tell which rays have been handled.

Corcoran said the team has found many pregnant rays, which tend to stay near the Sandbar where they are fed. The males, he said, range up to two miles away. He theorizes the females, which are twice the size of the males, outcompete them for food, forcing the males to forage elsewhere.

Harvey said another interesting finding is that the same stingrays that hover around waders and divers seeking handouts feed naturally on mollusks in the sand when there are no divers.

"They do it at night and in the early morning before the crowds," he said.

The rays' main predators are hammerhead and Caribbean reef sharks, which occasionally plunder them as startled tourists look on.

The Cayman Islands' dive industry is cooperating with Harvey's study, and dive operators are eager to see the results.

"The dive operators do listen when something comes up that might affect the marine life," said Leslie McClain Day, sales and marketing manager for Bob Soto's Reef Divers. `` There's true concern for the marine environment. It's not just the dollars."

For more information about the Guy Harvey Research Institute, or to make donations for FISH CONSERVATION RESEARCH:

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