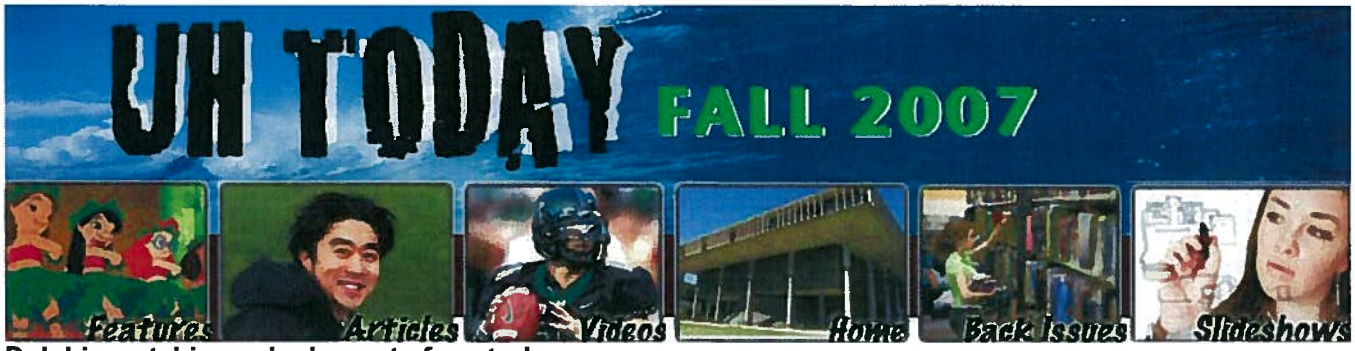


Dolphin watching spinning out of control

Human curiosity causes chronic stress

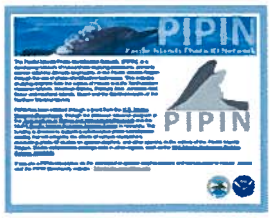
By Rachel Manuel, Brooke Hutchins and Nai'a Watson

Many researchers are saying the health and wellbeing of Hawai'i's spinner dolphins is in jeopardy. The actions of wild life viewers and tour operators that run boat-based and kayak viewing tours, as well as swim-with-dolphin activities are negatively affecting the dolphin's physiology and social structure.

Dolphins of the Northwestern Hawaiian Islands enjoying an uninterrupted swim–something their comrades in the main Hawaiian Islands are in need of. Photo by James Watt, courtesy of NOAA.

"We know that intensive tourism adversely effects dolphins in other areas," said Dr. Dave Johnston, a research scientist at the Joint Institute for Marine and Atmospheric Research at the University of Hawai'i at Mānoa and team leader for cetacean research at NOAA's Pacific Islands Fisheries Science Center. "Right now there is a great deal of uncertainty about the status of spinners in Hawaii, but it is beginning to look problematic."

Dr. Marc Lammers, a research assistant with the Hawai'i Institute of Marine Biology, said, "Back in 1996, when I initially started my dolphin research along the Wai'anae Coast, and before the dolphin tours began, it was common to see many small pods of 20 to 30 (spinner) dolphins swimming together." Lammers, whose research no longer focuses on the spinners in the Wai'anae area specifically, says that he has heard from many colleagues they are now seeing pods of close to 100 individuals. "I can't say for certain but I suspect that one possible reason could be that the dolphins are trying to find safety in numbers."



Watch audio slideshow on PIPIN.

Of the many species of cetaceans (marine mammals in the family of whales, dolphins and porpoises) in the waters surrounding the Hawaiian Archipelago, the Humpback whale used to be the main attraction. Now, the Hawaiian spinner dolphin, with its mid-air flips and high-speed spins, has become one of the most popular marine mammals to view in the wild.

But despite the spinner dolphins' new found popularity, more research is needed to better understand their population biology. In an October 2006 article, *A Hard Day's Night, Spinner Dolphins Need Their Rest*, Johnston wrote, "The best available estimate of their abundance in Hawai'i is approximately 3,300 individuals, but we don't know whether these animals form a single breeding population or regularly move among island regions or between island waters and offshore areas." With this need for more data, Johnston and a growing number of local researchers are working together through an organization called PIPIN, short for the Pacific Islands Photo Identification Network. Their goal is to combine their research efforts in order to grow the knowledge of spinner dolphin populations more quickly.

Socio-economic Pressure

But it is not just about the desires of wild life watchers to view spinner dolphins (or any other cool animal for that matter). The profits from wild life viewing eco-tours and dolphin encounter operations have grown, enticing more people to set up shop (or conversely to close up shop). Money, as usual, is a driving force behind the industry's slicker marketing campaigns, and the offering of specialized packages, to attract more people.

In the August 2007 article Hawaii wildlife generated $402.3M, Christie Wilson, a Honolulu Advertiser reporter, cited the preliminary findings of the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation, which showed that 22 percent of Hawai'i's population 16 years and older participated in fishing, hunting or wildlife-watching during the year, and that residents and tourists collectively spent $256.3 million on transportation, lodging, gear and other expenses. This is up from the $131.6 million spent in 2001.

Health impacts
The most consistent argument against unchecked human-dolphin interaction has been that viewing and/or swim-with-dolphin activities taking place during the day when dolphins are at rest in shallow coastal waters, caring for their young and avoiding predators. Thus, repeated encounters with humans disrupts their group cohesion, causes changes in surfacing patterns, imposes chronic stress and may ultimately cause a decrease in the overall dolphin population.

Even though researchers at the Joint Institution for Marine and Atmospheric research are still learning about the spinner dolphins, Johnston said, "We do know that dolphin populations have been adversely effected in other areas by tourism, and dolphins in Hawaii may already be experiencing reduced individual fitness due to lack of rest and sleep, higher mortality due to increased predator interactions, increased calf mortality due to the impacts just mentioned, and habituation to human interactions."

Johsnton said that he feels the worst outcome of unregulated human-dolphin interaction would be "depletion of the population(s) and loss of biodiversity."

In New Zealand, where wild-life encounters with marine mammals are also popular, research by the New Zealand Whale and Dolphin Trust supports the concerns expressed by Hawai'i's scientists. The trust's efforts have helped to provide "time out" periods when dolphins need to rest, and time limits on how long tour boats can stay close to dolphins. New Zealand's Department of Conservation has also placed a moratorium on further permits for watching sperm whales at a location called Kaikoura.

Dolphin Tour Opperators in Kailua-Kona.

Click on image to view an article on Habitat Analysis.

Federal Protection
To date, Hawai'i residents have been able to do more than simply debate this issue in their living rooms. The marked increase in complaints to the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS), of people closely approaching dolphins and interactingwith them by vessel or in the water, have initiated a process to issue an Environmental Impact Statement (EIS). The hope is that an EIS will further strengthen the existing guidelines and laws that currently define how people can participate in marine mammal viewing.

Spinner dolphins. Image by James Watt, courtesy of NOAA.

The EIS notice was posted in the Federal Register on October 2, 2006. It stated that NMFS would "assess the potential impacts" of human-dolphin interaction, and provide a public scoping process to include public scoping meetings. In April of this year, the formal report documenting the need for, and outcomes of, the public scoping process was published. There are several more steps that must be completed before the final EIS is put forth; until then, the exisiting guidelines and federal laws are still in force.

At present, the Marine Mammal Protection Act (MMPA) specifically prohibits the "pursuit and feeding" as well as the "take" of any marine mammal. "Take" is defined in the MMPA as "to harass, hunt, capture, or kill or attempt to harass, hunt, capture or kill any marine mammal." But the public comment from the scoping meetings shows that many people do not feel that setting an appropriate viewing distance is an enforceable solution.

For researchers like Johnston a "precautionary approach" is what's needed. In his 2006 article he stated, "we need not wait for definitive evidence that spinner dolphins have been adversely affected by dolphin-based tourism before we set limits on our activities." A year later he's still leaning towards doing more to protect dolphins. "Unlimited growth is not an option," said Johnston. "We must accept this and set limits on what we think is sustainable for future generations."

Creating a positive future for spinner dolphins
Like all issues relating to mankind's impact on the natural world, there are many points of view to consider. Both fisherman and eco-tour operators are worried that their business will suffer, and many people feel that a distinction must be made between responsible versus irresponsible tour operations.

"I think that the idea is to not restrict any coastal fishing when it comes to regulating dolphin-human interactions but to focus on aggressive tour operators," said Johnston.

Lammers sentiments are similar. "Dolphins aren't so fragile that they can't adapt to human presence," he said. "Our coastal areas have been urbanized for quite a while, so dolphins are accostomed to people, whether it be fisherman or swimmers." Lammers said that the point is not zero interaction between humans and dolphins. "People have to realize that there is a big difference between boats or people who happen to be in the dolphin's environment with their own focus, and individuals or tour operators who make dolphins the focus and follow them around."

Image by James Watt NOAA and James Watt

Additional resource links

- Spinner Dolphins in Hawaii: Biology, Abundance and Distribution (poster).
- Federal Register notice of the EIS currently being developed for the protection of marine mammals.
- Complete trasncript of public comments given at the October 17, 2006 public scoping meeting on O'ahu.
- The Hawai'i Institute of Marine Biology's Marine Mammal Program
- NOAA Fisheries Pacific Islands Regional Office June 2007 update on the spinner dolphin-human interaction EIS.
- To view a variety of dolphin watching tour web sites simply google: dolphin tours (Hawaii)