Ka Pili Kai

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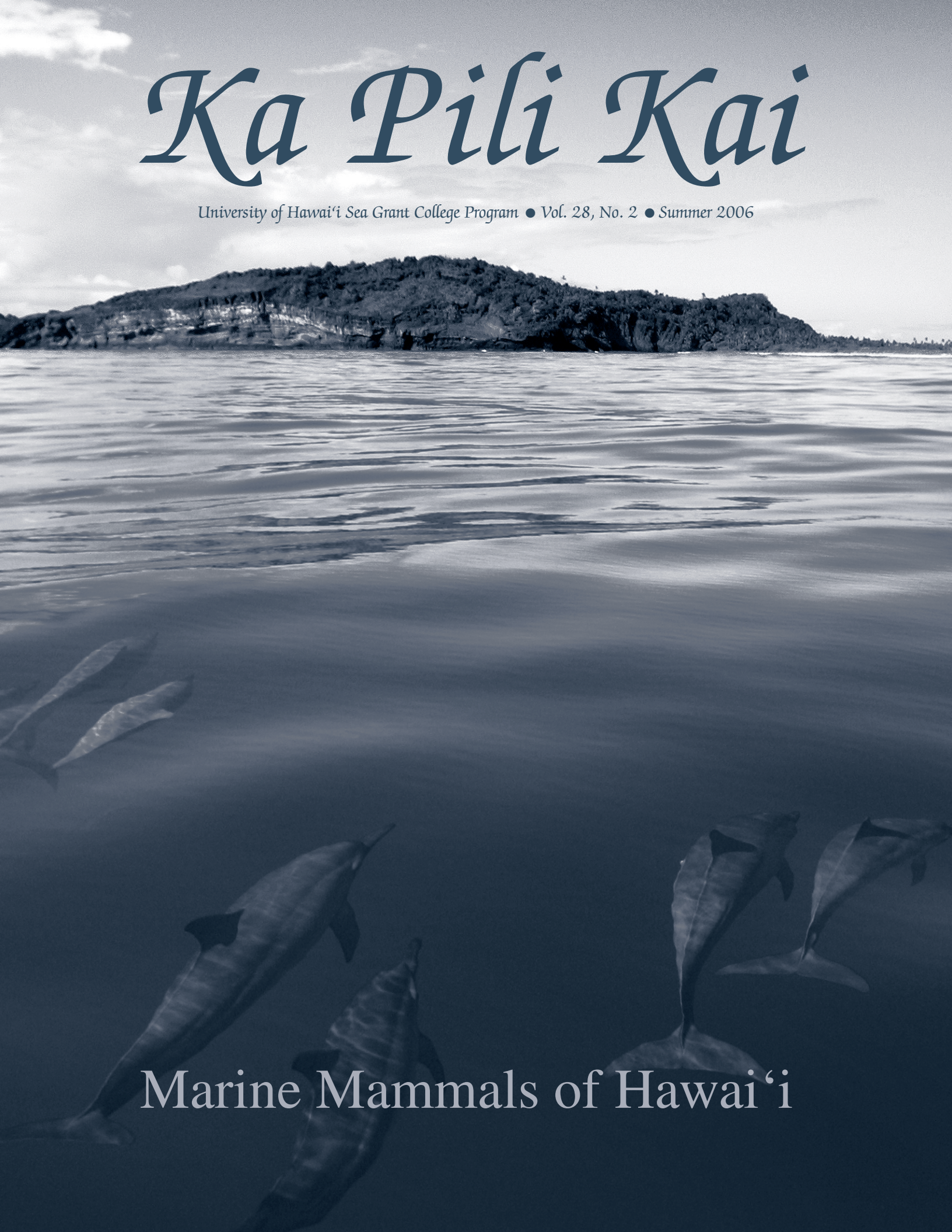

Marine Mammals of Hawai'i

A Hard Day's Night
Spinner Dolphins Also Need Their Rest

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For many people, vacationing in Hawai'i and seeing dolphins in their natural habitat are likely to be dreams come true. People traveling from around the globe seek to slip into the clear, warm waters of Hawai'i and hopefully witness the grace of wild dolphins. Ideally, this relationship would benefit humans and wild dolphins, providing unparalleled ocean experiences for people while illustrating, through increased awareness, how precious dolphins are to local people and indeed, to those around the world. As with most human endeavors, however, we must recognize the potential effects of our activities on the ecosystems we inhabit, and this is especially true with dolphin-based tourism in Hawai'i. Too much human attention can be a bad thing.

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Spinner dolphins (or simply "spinners") are probably the most frequently encountered cetacean in Hawai'i. Swimmers, kayakers, and snorkelers see them throughout the year. Still, we know little about spinner dolphin abundance and population biology. 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.

Spinner dolphins have a long narrow beak and they are usually grey in color – light grey underneath, dark grey on top with a medium grey along their flanks. They get their common name from the impressive axial spins they perform during social encounters, almost corkscrewing through the air as they leap from the water. Spinners are found coastally during daylight hours, often in calm bays where they engage in various social activities and spend time in a behavioral mode often referred to as "resting." It is during this period that they are most accessible to humans. Since the late 1980s, there have been concerns that unregulated human access to groups (pods) of spinner dolphin in resting areas may result in dolphin disturbance that could have adverse effects on individual dolphins or the population as a whole. These concerns are growing as commercial dolphin-based tourism develops in Hawai'i. In areas outside of Hawai'i, where similar industries has developed, negative effects of tourism on dolphin populations are being demonstrated.

A day in the life of a spinner dolphin

Spinner dolphins in Hawai'i work the night shift, making their living by foraging at night then resting and socializing by day. They feed on a variety of small fishes and invertebrates that occur in dense horizontal patches deep in the ocean, in what is often referred to as the mesopelagic boundary layer (MBL). During the day, the organisms forming the MBL remain in

deep waters offshore. Then, as the sun sets, they make extensive vertical migrations to inshore surface waters where they are readily accessible to spinners. Spinner dolphins take advantage of the vertical MBL migration by feeding at night, optimizing their foraging efforts by making shallower dives on prey while the MBL is close to the surface. UH Sea Grant-supported researchers Dr. Kelly Benoit-Bird (now at Oregon State University) and Dr. Whitlow Au (from the Hawai‘i Institute of Marine Biology) have studied the foraging behavior of spinner dolphins in detail, revealing a complex pattern of cooperative feeding by groups of dolphins that track the upward and inshore movements of the MBL. Groups of dolphins, working in pairs, surround patches of prey, corralling and concentrating them into tighter patches. The pairs of dolphins then take turns snatching bites from these dense balls of prey.

As the sun rises and the MBL once again deepens and moves offshore, spinner dolphins return to sheltered bays, generally along the leeward coasts of the Hawaiian Islands. Here they engage in social behaviors, attend to their young, and as the day progresses, retreat into a period of synchronous extended diving sequences, often referred to as resting behavior. During this rest period, spinner dolphins tend to surface quickly and unobtrusively and do not exhibit the aerial activity seen during social encounters. To people, this may not seem like resting at all – the dolphins don’t even stop swimming! But while dolphins don’t rest in the same way humans do, they need their rest all the same. In the afternoon, spinners once again engage in social behaviors, and as night falls head out for another night of foraging.

Disturbing resting spinner dolphins

Biologists have been studying spinner dolphins in Hawai‘i since the 1980s, but still know very little about how important “rest” is for individual dolphins and how individual dolphins and their populations are affected when humans disrupt their resting behavior. Researchers from Texas A&M University and San Francisco State University have studied interactions between humans and dolphins in Hawaiian waters. Most studies have indicated that dolphin behaviors can indeed be altered by frequent encounters with humans. Some studies indicate that dolphins may also change their residency patterns in “resting” bays. These findings may be precursors to demonstrable effects at the population level, such as those recently observed in Australia. Research in Monkey Mia Bay and Redcliff Bay in Western Australia indicates that dolphin reproductive patterns can

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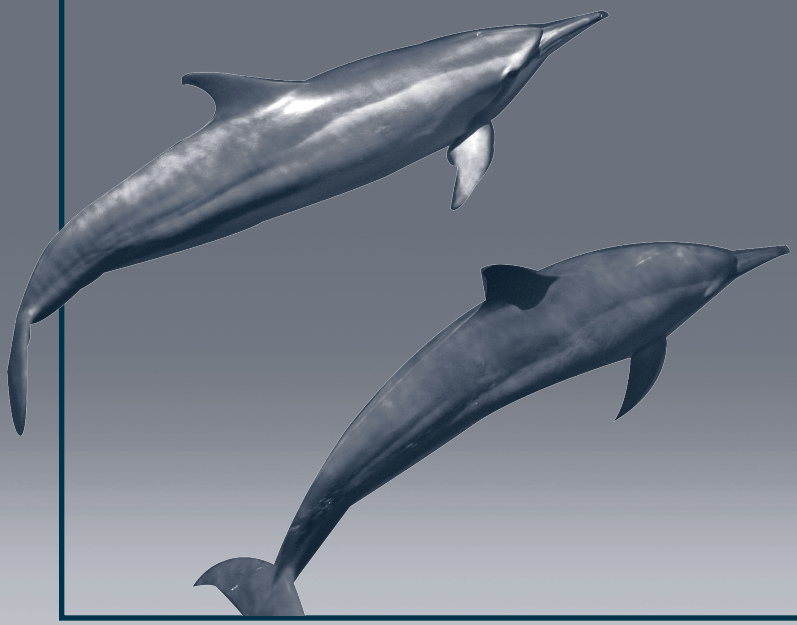
be altered by interactions with tour operations and that some dolphins can also be displaced from important habitat by frequent encounters with humans. As a result, the Australian government recently reduced the number of active dolphin tour licenses in Monkey Mia Bay.

Conserving Hawaiian spinner dolphins

As we learn more about spinner dolphins in Hawai‘i and other species of dolphins around the world, we begin to understand their needs and discover that even well-intentioned actions on our part can negatively affect them, both as individuals and as populations. In the present case, further research is required to fully understand their stock structure, their abundance, and how human disturbance in resting bays may affect them. Despite our lack of definitive information, there are ways to ensure the sustainability of spinner dolphin populations in Hawai‘i. We can take a precautionary approach to how we manage tourism around this important resource and explicitly accept the idea that 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. We can act now, before it is too late.



A first step on the road to conserving spinners in Hawai‘i is through public education. Currently, NOAA Fisheries publishes guidelines for responsible marine wildlife viewing (available on the Web at http://www.nmfs.noaa.gov/pr/education/viewing.htm). The guidelines remind people to keep a safe distance (at least 50 yards) from dolphins and not to chase, closely approach, swim with, or attempt to touch them. Extra caution is advised in sensitive dolphin habitat, including resting areas.

As another step, the NOAA Fisheries Pacific Islands Regional Office is convening a series of public information meetings around the state to inform people about spinner dolphins and sustainable ecotourism in Hawai‘i. The following are the details on these meetings:

Where: O‘ahu, Oct. 17, 2006, 6 p.m. – 9 p.m.
Location: McCoy Pavilion
Ala Moana Regional Park
1201 Ala Moana Boulevard
Honolulu, HI, 96814
Phone: (808) 823-1636

Where: Kaua‘i, Oct. 19, 2006, 6 p.m. – 9 p.m.
Location: Aloha Beach Resort Kaua‘i
Pi‘ikoi Room, 3-5920 Kūhiō Hwy
Kapa‘a, HI, 96746
Phone: (808) 823-1636

Where: Maui, Oct. 25, 2006, 6 p.m. – 9 p.m.
Location: Hawaiian Islands Humpback
Whale National Marine Sanctuary
Headquarters office
726 S. Kīhei Road
Kīhei, HI, 96753
Phone: (808) 879-2818 or (800) 831-4888

Where: Hawai‘i, Oct. 26, 2006, 6 p.m. – 9 p.m.
Location: King Kamehameha’s Kona Beach
Hotel
75-5660 Palani Road
Kailua-Kona, HI, 96740
Phone: (808) 329-2911