

RIMPAC 2006
NEARSHORE MONITORING
FIELD REPORT
JULY 2006



Chelonia mydas, green sea turtle

Kapa`a Beach Park, Kohala, HI

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INTRODUCTION

In support of RIMPAC 2006, nearshore monitoring for marine mammals and sea turtles was conducted during July 16-20 from Kekaha Beach, Kauai, Hawaii and July 24-26 from Mahukona and Kapa`a Beach Park, Kohala Coast, Hawaii. The locations were chosen based upon their proximity to the Kalaukahi (between Kauai and Ni`ihau) and Alanuihaha (between Hawaii and Maui) Channels. The purpose of the monitoring was to 1) provide the Navy ships with information on species in the nearshore waters, 2) provide observations of marine mammal behavior before, during and after swept-channel (choke point) exercises, and 3) to monitor the beach and nearshore waters for marine species exhibiting abnormal behavior (offshore animals nearshore, congregations of offshore animals, strandings, etc).

METHODS

Shore-based monitoring was conducted from 0700 to 1830 hours with two observers using hand-held 10x42 binoculars and un-aided eye. Monitoring schedule corresponds to one day before and after each planned swept-channel exercise, two in the Kalaukahi channel and one in the Alanuihaha Channel. All observations were conducted by one experienced Navy marine mammal observer and one field assistant.

Kekaha Beach observations were conducted essentially at sea level. The sandy beach allowed for observers to walk the length of the beach north to the PMRF, Barking Sands Boundary and south to the end of Kehaka Beach (3 miles). Walks were conducted between two and four times per day. One observer would remain on station (near the lifeguard tower) as the other walked up the beach. The horizon from sea level is a distance of approximately 5 km.

Observations were conducted from Mahukona on July 23rd from 0700 to 1200 hours, but Kapa`a Beach Park was chosen for the rest of the 2.5 days since it offered a better view of the Alanuihaha Channel. Kapa`a Beach Park is a boulder beach, and observations were conducted at approximately 7m above sea level (horizon distance approximately 5 miles). A point to the north of the beach park resulted in a consistently lower sea state close to shore than in the open channel. On two days, portions of the coastline to the north of Kapa`a Beach Park (between Upolu Point and Mo`okini Heiau) was driven using a 4x4 vehicle to check the boulder beaches for stranded or distressed animals.

Data were collected on visibility, Beaufort sea state, marine mammals observed, sea turtles observed, and Navy ships/operations observed. While at Kehaka, data were also collected on commercial tour boats that were observed interacting with resident spinner dolphins.

RESULTS

Table 1 provides daily observation information. Only two species of marine mammals were observed, spinner dolphins (*Stenella longirostris*) and bottlenose dolphins

(*Tursiops aduncus*). Both are typically nearshore species. Two species of sea turtles were observed – green (*Chelonia mydas*) and leatherback (*Dermochelys coriacea*). All were observed exhibiting normal behaviors.

The following is provided as a summary of marine mammals and sea turtles observed during the two nearshore monitoring periods.

Kekaha:

16 July 2006: A school of approximately 100 spinner dolphins (*Stenella longirostris*) are observed approximately 300m offshore (0747 hrs). Animals are slowly heading south and are being followed by a catamaran. When first vessel leaves, a series of RHIBs and catamarans stop and follow animals, one after the other. Animals are last seen at 0826 hrs approximately 0.5 miles offshore. Behavior overall is slow travel to south, with several spins. This is largest group that was seen during the five day period.

16 July 2006: A turtle (presumed green) is seen surfacing approximately 100m offshore.

17 July 2006: A school of approximately fifteen spinner dolphins is observed heading slowly south (0830 hrs) being followed by a tour catamaran. Dolphins are last observed at 0910 hrs. Behavior overall is slow travel to south, with several aerial spins.

17 July 2006: Green sea turtle is observed approximately 4 m offshore.

18 July 2006: A small school of ten to fifteen spinner dolphins are observed approximately 0.25 miles offshore, with two tour boats (0835 hrs). Dolphins are very low in the water and would be very difficult to see without boats as “cue”. Dolphins not seen after boats leave at 0845 hrs.

19 July 2006: Unidentified dolphins, cue is splash and idling tour boat, at horizon (0715 hrs.).

19 July 2006: Unidentified dolphins (presumed spinners) observed at southwestern horizon splashing, heading north (0858 hrs.).

19 July 2006: Spinner dolphins observed heading north towards Barking Sands (0922 hrs.). They continue to north out of view.

20 July 2006: Spinner dolphins observed in resting mode about 400m off southern shore of Kekaha Beach. Group size is approximately 20 animals, and they are milling at 0730 hrs. At 0745 hrs, they are traveling slowly to the north towards Barking Sands. They bowride as a boat approaches and follows them. Dolphins last seen at 0847 hrs.

Mahukona:

(0730 hrs to 1300 hrs.)

24 July 2006: Leatherback turtle (*D. coriacea*) observed approximately 300m offshore. Turtle is identified as a leatherback based upon very large carapace size (estimated 5-6 ft across) and huge rounded head. Back and head were seen simultaneously at the animal breathed. Turtle was observed at the surface for 1-2 minutes then dove (0759 hrs).

Kapa`a Beach Park:

24 July 2006: Group of approximately 20 bottlenose dolphins (*Tursiops aduncus*) are observed, first seen heading southwest (1630 hrs). A third of the group are calves. Animals travel steadily to the SW, except stopping to mill for about 3 minutes near a group of shearwaters and tuna feeding on bait fish. Dolphins contour shoreline to the south and disappear from view at 1646 hrs.

Bottlenose dolphins reappear from the south, heading west (1725 hrs). The dolphins are much more surface-active during this sighting, porpoising and leaping out of the water. At 1749 hrs, after a long dive (5 minutes), they resurface with obvious blows and change direction to the southwest and appear to be feeding along the edge of a large aggregation of shearwaters, tuna and bait fish.

25 July 2006: Small turtle (green?) observed just offshore (0858 hrs).

26 July 2006: Small green turtle observed hugging coastline and “riding” the surge (1415 hrs).

DISCUSSION AND CONCLUSIONS

All marine mammals and turtles were observed exhibiting normal behavior. No adverse behavior, strandings, or offshore species were observed.

Land based, stationary monitoring has known deficiencies. The low height of eye above water provides a limited distance to the horizon and species identification can be difficult as there is no option to approach animals. However, given the purpose of this project, the goals were achieved. This monitoring gathered adequate data on the lack of behavioral change exhibited by resident groups of spinner dolphins at Kekaha, Kauai and Kohala, Hawaii. Additionally, we were able to monitor the length of Kekaha Beach, by foot, for stranded or distressed animals. The Kohala coast presented more of a challenge as it was comprised of boulder beaches. However, we utilized a 4x4 vehicle to access areas to the N (towards the channel) from our monitoring station at Kapa`a Beach.

Additionally, anecdotal data collected on interactions between commercial tour catamarans and RHIBs might prove to be useful to regulatory agencies such as the State of Hawaii and National Oceanographic and Atmospheric Association.

TABLE 1

Date 2006	Location	Time (24 hr)	Beaufort Sea State	Species	Observations
7/16	Kekaha	0700	2		Begin watch. Great visibility, overcast skies
	Kekaha	0747		<i>S. longirostris</i>	Spinners with catamaran. Slowly bowriding on vessel (Aladin?). Couple of spins seen after cat leaves. Located about 300m offshore, moving south. Group size ~100.
7/16	Kekaha	0750		<i>S. longirostris</i>	Catamaran leaves dolphins
7/16	Kekaha	0755		<i>S. longirostris</i>	RHIB runs up to animals and follows them
7/16	Kekaha	0759		<i>S. longirostris</i>	RHIB leaves dolphins
7/16	Kekaha	0809		<i>S. longirostris</i>	Still heading slowly S
7/16	Kekaha	0826			Two new RHIBs with S.I., about 0.5 mile offshore
7/16	Kekaha	0850		<i>C. mydas</i>	Green turtle seen about 100m offshore
7/16	Kekaha	1230	3		Sea state change
7/16	Kekaha	1430	4		Occasional rain squalls passing over
7/16	Kekaha	1600	3		Squalls clear. Navy ship seen on horizon heading from N coast to the S
7/16	Kekaha	1655	2		Sea state change
7/16	Kekaha	1745			Complete watch
7/17	Kekaha	0700	3		Begin watch, sunny skies, good visibility
7/17	Kekaha	0745			Two helicopters and 3 Navy ships seen on horizon. Helos ahead of ships along with three small red RHIBs inshore of ships
7/17	Kekaha	0815			Three Navy ships seen N of Barking Sands and head SW through the channel, one right after the other.
7/17	Kekaha	0830		<i>S. longirostris</i>	Spinners seen bowriding on catamaran. Cat is heading N but stops and does u-turn through spinners and follows them south for ~ 5 min.
7/17	Kekaha	0835		<i>S. longirostris</i>	Just as cat leaves dolphins, a RHIB goes through them while heading N.
7/17	Kekaha	0850	4	<i>S. longirostris</i>	Na Pali Kai III catamaran seen doing u-turn and following dolphins to

Date 2006	Location	Time (24 hr)	Beaufort Sea State	Species	Observations
					S. They stay with the dolphins heading S until 0910 hrs. Few spins from dolphins. Visibility changes to moderate due to higher Beaufort.
7/17	Kekaha	1015	4		Glare, moderate visibility. Have lost sight of dolphins due to sea conditions.
7/17	Kekaha	1053	3=inshore 4=offshore		Visibility improves as wind dies down.
7/17	Kekaha	1345	4		Sea state change
7/17	Kekaha	1612	4	<i>C. mydas</i>	Turtle seen at surface about 4 m offshore.
7/17	Kekaha	1830			Complete watch
7/18	Kekaha	0700	1		Begin watch
7/18	Kekaha	0835		<i>S. longirostris</i>	Small group of spinners (~15 animals) observed ~.25 miles offshore. One RHIB and one cat stop with dolphins and proceed slowly through them.
7/18	Kekaha	0845		<i>S. longirostris</i>	Boats leave dolphins and head N
7/18	Kekaha				Catamaran seen stopping ~ 0.5 miles offshore towards N. Can't see dolphins but assume that is why they are stopping.
7/18	Kekaha	1005	3		Still sunny...
7/18	Kekaha	1700			Cruise ship comes from N, heads through channel and continues to the S over horizon
7/18	Kekaha	1830			Complete watch
7/19	Kekaha	0700	1		Begin watch, swell 2-3 ft.
7/19	Kekaha	0715		Unidentified dolphin	Catamaran and two RHIBs are stopped on horizon. Appear to be slowly following marine mammals, but other than one splash, I cannot identify them to species.
7/19	Kekaha	0858		Unidentified dolphin	School of dolphins (presumed spinners) seen at SW horizon, splashing, heading N
7/19	Kekaha	0922		<i>S. longirostris</i>	Spinners seen heading N off Kekaha. Catamaran comes up to them and

Date 2006	Location	Time (24 hr)	Beaufort Sea State	Species	Observations
					slowly moves through them. Group size ~20.
7/19	Kekaha	0955	3		Sea state change
7/19	Kekaha	1515			Three red RHIBs head out of Portlock heading N through channel (we are later told these are part of RIMPAC ops).
7/19	Kekaha	1530	2		Swell 1-2 ft.
7/19	Kekaha	1644			1 st Navy destroyer enters channel. Second one ~1 mile behind it. Helo overhead and doing sweeps ahead of ships (and has been for about an hour over the horizon). Ships appear to be moving slowly through channel.
7/19	Kekaha	1703			Second ship leaves channel. Helo has been dipping sonar ahead of 2 nd ship. 1 st ship N of Lehua and over horizon.
7/19	Kekaha	1706			2 nd ship passes Lehua heading N and goes over horizon.
7/19	Kekaha				3 red Navy RHIBs pass Kekaha.
7/19	Kekaha	1800			Complete watch
7/20	Kekaha	0700	1		Begin watch with great visibility, partly cloudy.
7/20	Kekaha	0715		<i>S. longirostris</i>	Spinners in resting mode about 400m offshore, off southern shore of beach. Milling behavior, group size ~20. No boats with dolphins, the boats appear to not see them.
7/20	Kekaha	0730		<i>S. longirostris</i>	Spinners are now just N of lifeguard tower heading N.
7/20	Kekaha	0753		<i>S. longirostris</i>	Tour boat Makana stops with dolphins and they slowly bowride.
7/20	Kekaha	0800	0		Sea state change
7/20	Kekaha	0804		<i>S. longirostris</i>	Makana still slowly following spinners to the N, then S. They are really staying with them longer than most boats do, following the milling dolphins back and forth.
7/20	Kekaha	0811		<i>S. longirostris</i>	Makana leaves dolphins
7/20	Kekaha	0814		<i>S. longirostris</i>	Tour RHIB runs up on dolphins, then u-turns and follows them.
7/20	Kekaha	0820		<i>S. longirostris</i>	As RHIB leaves, catamaran "Lucky Lady" comes slowly up to them and sits with dolphins.

Date 2006	Location	Time (24 hr)	Beaufort Sea State	Species	Observations
7/20	Kekaha	0828		<i>S. longirostris</i>	“Lucky Lady” leaves dolphins
7/20		0840		<i>S. longirostris</i>	Another cat on spinners, N of Kehaka. Does u-turns and runs through them a few times at slow speed.
7/20	Kekaha	0847	1	<i>S. longirostris</i>	Cat leaves dolphins, heads N
7/20	Kekaha	1234	2		Overcast skies, great visibility
7/20	Kekaha	1800			Complete watch. Total beach monitored with 2-3 beach walks daily is 3 miles (includes all of Kekaha Beach to Barking Sands boundary)
7/24	Mahukona	0730	2=inshore 3=offshore		Begin watch. Walked up to point north of harbor for better view of channel and Maui. Partly cloudy skies, good visibility.
7/24	Mahukona	0759		<i>D. coriacea</i>	Leatherback turtle observed. Carapace was 5-6 ft across and a huge rounded head, which is seen simultaneously during surfacing. (There is a kayaker offshore of turtle which we used for a size comparison). Turtle is observed breathing at surface for about 1 minute, then dives.
7/24	Mahukona	0951	4=offshore 3=inshore		Sea state change
7/24	Kapa`a Beach Park	1330	2=inshore 4=offshore		Change monitoring station to Kapa`a Beach Park, which is just N of Mahukona towards Hawi. It offers a better view of the channel, Maui and provides a protected inshore area with better viewing conditions. Cloud cover is 90%.
7/24	Kapa`a	1630		<i>T. aduncus</i>	Group of ~ 20 bottlenose dolphins are observed heading SW, about 400m offshore. Does not appear to be mixed species, however, about 1/3 of the group are calves. Group is traveling slowly and steadily to the SW, except for stopping for about 3 minutes near a group of shearwaters and tuna feeding on bait fish. Group stayed about the same distance offshore and heads SW out of view (at 1646 hrs.)
7/24	Kapa`a	1725		<i>T. aduncus</i>	Group of ~20 bottlenose dolphins are observed again, coming from around the point where they were last seen. They are heading to the W. They are moving more quickly this time, porpoising out of the water.

Date 2006	Location	Time (24 hr)	Beaufort Sea State	Species	Observations
					As they lift heads higher to prepare for a dive, several of them flip their tails up. Reappear after five minutes with very visible blows.
7/24	Kapa`a	1749		<i>T. aduncus</i>	Ta change direction to SW and appear to be feeding. They are working the margin of a large school of tuna and shearwaters which feeding on bait fish. The dolphins behavior includes direction change, leaps out of the water, and a few tail slaps. The group is a little more spread out too, than before. They continue this behavior for about 5 minutes, then regroup and head slowly offshore to the SW out of sight.
7/24	Kapa`a	1800			Complete watch. Drive up 4x4 road towards Hawi to check coastline for any strandings or other animals that might be out of sight.
7/25	Kapa`a Beach Park	0715	2=inshore 4=offshore		Begin watch. Three Navy ships and one other unid ship are observed over horizon towards Maui, in the channel. They are heading W.
7/25	Kapa`a	0745			Ships have disappeared over W horizon
7/25	Kapa`a	0858		<i>C. mydas</i> ?	Small turtle (green?) seen just off cove, about 100m offshore.
7/25	Kapa`a	0917	3=inshore 4=offshore		Sea state change
7/25	Kapa`a	1200			Leave beach park to drive up to Upolu Point and down to Mookini Heiau and Kam I birthplace to monitor other boulder beaches closer to channel.
7/25	Kapa`a	1300			Return to Kapa`a Beach Park
7/25	Kapa`a	1400	4=inshore 5=offshore		Sea state change
7/25	Kapa`a	1830			Complete watch for the day.
7/26	Kapa`a	0700	2=inshore 3/4offshore		Begin watch, excellent visibility inshore. Mostly sunny skies.
7/26	Kapa`a	1200	3=inshore 4=offshore		Sea state change

Date 2006	Location	Time (24 hr)	Beaufort Sea State	Species	Observations
7/26	Kapa`a	1415		<i>C. mydas</i>	Small green turtle observed hugging coastline. Observed for about 30 minutes riding the surge back and forth around the rocks. Last seen at 1445 hrs. Lots of glare inshore.
7/26	Kapa`a	1630	4=inshore 5=offshore		Continues to be lots of glare, covering approximately 1/3 of viewing range.
7/26	Kapa`a	1800			Complete watch (head to airport).