

PICEAS – Pacific Island Cetacean and Ecosystem Assessment Survey

Weekly Science Report

November 18 - 24, 2005

Dave Johnston – Cruise Leader

Well, often the best is saved to the last – and that is certainly what has happened with the weather on Leg 5 of PICEAS! We've been basking in Beaufort 4 conditions (and frequently lower) pretty much continuously since we scooted east past the end of the Hawaiian Archipelago. It's abundantly clear to me now that the little happy face displayed on the WinCruz main screen needs an attitude adjustment. As I sit writing this, it's a wonderful Beaufort 3 – glassy calm compared to leg 4 - and he hasn't even cracked a smile yet! We've been making great time in this weather, and generated enough wiggle room to launch the small boat to allow Jen Pettis to conduct underwater recordings of the Mac II as she passes by (more below). We've had a few sightings, including a good glimpse of sperm whales blowing near the horizon. If we continue to make good time we may be able to switch to closing mode and approach any critters we find on the way in.

Marine Mammal Sighting Summary

Sightings and Effort Summary for Marine Mammals

	Start		Total	Avg.
Date	Stop	Position	Distance	Beaufort
111905	1524	N21:21.89 W157:11.88	21.6 nmi	5.3
	1740	N21:32.07 W156:51.45		
112005	0636	N21:59.51 W154:40.46	102.4 nmi	4.0
	1719	N22:17.37 W152:50.40		
112105	0619	N22:42.77 W150:16.68	105.5 nmi	4.2
	1652	N23:02.89 W148:11.11		
112205	0559	N23:27.72 W145:36.11	105.3 nmi	4.4
	1639	N23:46.25 W143:40.59		
112305	0645	N24:12.38 W141:06.24	112.1 nmi	3.8
	1714	N24:32.82 W139:02.23		

CODE	SPECIES	TOT#
013	Stenella coeruleoalba	1
046	Physeter macrocephalus	1
070	Balaenoptera sp.	1
077	unid. dolphin	1
177	unid. small delphinid	2
	TOTAL	6

Biopsy Weekly Report (Suzanne Yin & Mark Deakos)

No biopsy opportunities

Photo-ID Weekly Report (Chris Cutler & Beth Goodwin)

	Weekly Total	Cruise Total
Humpback whale fluke IDs	0	4
Bryde's whale	0	4
Melon-headed whale (# groups)	0	5
False killer whales (# groups)	0	5
Pilot whales (# groups)	0	15
Striped dolphins (# groups)	0	3
Spotted dolphins (# groups)	0	4
Spinner dolphins (# groups)	0	10
Fraser's dolphins (# groups)	0	2
Killer whales (# groups)	0	1
Risso's dolphins (# groups)	0	2
Rough-toothed dolphins (# groups)	0	1
Bottlenose dolphins (# groups)	0	3

Acoustics Squeakly Report (Jen Pettis)

The array is recovering safe from its gremlins back in San Diego. But some acoustics continues out here. I am dropping sonobuoys to opportunistically record baleen whales and hopefully record some minke whale boings for Shannon. One sonobuoy was dropped to record an unidentified baleen whale this week, but the sonobuoy was defective and the whale was quickly out of range. But as we approach the California coastline, I hope we will have more chances to get some recordings (blue whales!). When the weather cooperates, I am also working on a project to record received levels of the ship's scientific echosounder (EK60) at different distances from the McArthur II. This is a part of a project with Tim Gerrodette and Jay Barlow to determine what sort of sound levels marine mammals may be receiving at different distances from the ship. Dave, Kevin, and I went out on the small boat this week and got some recordings of the echosounder at about 1, 2, and 3-km perpendicular distance. Some debugging of equipment remains but I'm hoping for one or two more good weather opportunities.... even tomorrow looks good! Thanks to Kevin for patiently detangling some (a lot of) line (oops) and Dave for his help debugging

Seabirds (Michael Force & Sophie Webb)

We cashed in our chips at the motherlode—the PICEAS study area. Those heady days racking up 18 or 20 species are now distant memories as we transit across the “Great Empty Zone,” struggling to reach double-digit days. We are now getting a taste of what the mammal observers had to stomach for the past few months—low abundance and diversity—and documenting what is already a well-known fact: these sub-tropical waters on the southern fringe of the eastern Pacific gyre are indeed very empty. Our species total of 16, the majority recorded during the first two days while we were still within the Hawaiian EEZ, is almost a 50% drop from previous weeks; we had better get used to it. Most of our birds were southbound Sooty Shearwaters, with White-tailed Tropicbirds being the next most abundant species, an interesting mix. Black-winged

Petrel, a crowd favourite, was seen a couple of times early on. We suspect that could be the end of a delightful run on this lovely Pterodroma, seen everyday since mid-September. A single Buller's Shearwater and a few Mottled Petrels brightened an otherwise mediocre week.

Oceanographic Data Collections (Mindy Kelley & Lacey O'Neal)

DATE RANGE	DAY	CTD	XBT	Bongo	Manta	Comments
PICEAS05 Leg 4 11/19 to 11/23	Thursday	--	--	--	--	In Port
	Friday	--	--	--	--	In Port
	Saturday	0	3	0	0	
	Sunday	0	3	0	0	
	Monday	0	4	0	0	
	Tuesday	0	4	0	0	
	Wednesday	0	4	0	0	
	Totals	0	18	0	0	

Continuing on through our final leg toward San Diego, we are conducting XBT casts, collecting surface chlorophyll and TSG salt samples as well as POM filtration samples (Particulate Organic Matter). All other oceanographic operations have been put to rest until the next field season leaving Lacey and I walking in circles with our new task of cleaning, calculating and packing everything away.

With only a few more days of XBT casts and one more run of salts on the portasal, we are certainly looking forward to our arrival in San Diego next Wednesday.