

PICEAS – Pacific Island Cetacean and Ecosystem Assessment Survey
Weekly Report, September 22-28, 2005

Lisa T. Ballance – Cruise Leader

Gads – another day without a cetacean sighting. There have been 3 of these this week, and 2 more with only a single school detected. Empathizing with my looming weekly report deadline, the Commanding Officer helpfully offers up suggestions each time he walks past my stateroom (“Just press down the z key.”). Examples of daily highlights include Oscar falling overboard (“This is only a drill”) and an off-effort Rough-toothed Dolphin sighting made by the birders (the only sighting of that particular day). At the same time, what weather! The forecast of FANTASTIC has come through. Saturday was our best example – Beaufort 2 conditions for most of the day as we steamed northeast, directly into what should have been the trades. If ever one could believe the results of a visual survey, this would be that time. Stephen Barry (our weather officer) – you have earned your keep this week.

We may not get many sightings out here, but what we do see is mighty interesting (did I say that last week?). One of our one-sighting days brings a tropical species highlight – killer whales! Abundant in high latitudes, these animals are rare, but regular, in tropical waters. What they could be eating out here is a real mystery (squid? – which are interestingly plentiful at this evening’s dipnet station). An hour of patient sneaking around with the ship gets us nothing but distant looks so we try the small boat. This increases the pace, and gives our biopsy specialists and photographers slightly closer looks (“They appear to be offshore types.” “No kidding.” – is the response from the flying bridge - when are they going to re-name these ecotypes?) – but after another hour, which develops into a decidedly rodeo-esque atmosphere (with the whales calling the shots), we throw in the towel. These animals will keep their genetic secrets for another day.

Without a doubt, the species highlight for the week comes with an odd (but welcome!) six-sighting day in the middle of this desert with no oceanographic hint as to why there is such a pileup of animals here. (Or is this simply “patchiness” in action? And if so, of what? The cetaceans? Their prey?) And an interesting mix it is – Risso’s dolphin, Rough-toothed dolphin, and a couple of probable Bryde’s whales – but the best of the best is melon-headed whale. A shy and somewhat secretive species, this is a large school, today, decidedly unconcerned with our presence. This behavior and the spectacular weather combine to treat us all, scientists, officers, and crew alike, to near unprecedented views of piles and piles of animals slowly swimming flank to flank in the clear blue water just below the smooth surface, rolling on their sides to look up at us and surfacing right below the bow, showing those diagnostic (and usually all but impossible to see) white lips! Photos? Thousands. Yahoo! This is what a survey in the tropics is all about!

Next week – Johnston! (Yes, we visited the atoll this week, but will do so again next week. Reports of both visits will come with the next weekly. Hey – we have to have some reason for you to tune in...)

Erratum: Apologies to the engineers and particularly to Don Hilliard – I really do know who you are, that you are not Don Pratt, and want to thank you, again, for fixing the electrical switch on our big eyes stand last week. (Don Pratt – thank you for getting our CTD on board last night. And you too Lacey.) Oh – to the rest of you – that story next week too.



Melon-headed whale. Photo by Sophie Webb.

Marine Mammal Sighting Summary

092205	0712	N16:31.62	W169:27.12	61.5 nmi	3.7
	1911	N16:46.33	W169:22.61		
092305	0709	N16:21.00	W170:42.05	95.2 nmi	3.3
	1912	N17:44.30	W169:45.01		
092405	0705	N18:22.71	W169:18.15	68.0 nmi	2.3
	1902	N19:31.01	W168:32.40		
092505	0708	N19:46.37	W169:38.17	115.5 nmi	4.1
	1901	N21:26.67	W168:30.22		
092605	0708	N21:40.11	W169:36.80	111.6 nmi	4.0
	1906	N20:06.01	W170:40.53		
092705	0709	N18:58.36	W170:09.24	123.1 nmi	4.7
	1908	N17:14.40	W171:18.48		
092805	0725	N18:22.23	W171:48.52	116.5 nmi	4.6
	1905	N16:41.06	W172:54.25		

CODE	SPECIES	TOT#
002	Stenella attenuata (offshore)	1
015	Steno bredanensis	2

021	Grampus griseus	1
031	Peponocephala electra	1
037	Orcinus orca	1
049	ziphiid whale	1
061	Ziphius cavirostris	1
077	unid. dolphin	2
099	Balaenoptera borealis/edeni	2
177	unid. small delphinid	2
	TOTAL	14

Acoustics Squeakly Report (Shannon Rankin & Sara Heimlich)

We managed to have a single decent detection of dolphins, consisting of four good whistles while the array was tied in a knot (don't ask). We were able to determine that the location of the dolphins was within the lagoon of Johnston Atoll – in an area we are unable to approach. Other than that, we have had endless hours of working on the array, listening to static. In-between bouts of static, we can confirm that this area is, indeed, devoid of life (both within the dry lab and without).

Employment Opportunities: Do you like to work with whales and dolphins? Have you always wanted to be able to communicate with these ambassadors of the sea? Do you dream of traveling to exotic tropical islands by ship, to study these magnificent creatures?

Have we got a job for you! Requirements: (1) the ability to spend endless hours listening to ship noise, broken up by bouts of intense static, in a dungeon whose temperature rivals the Antarctic; (2) testing and re-testing electronic equipment for days on end, in order to obtain a few more hours (maximum) of static-free listening; (3) on the rare chance that you actually detect dolphin vocalizations, you will be required to immediately run 7 computer programs simultaneously, take copious detailed notes and continual updates on vocal behavior, and provide moral support to the visual observers when they lose sight of the animals; and (4) despite rarity of item #3, you must compose an intriguing squeakly report.

On the third leg of PICEAS, our squeakly report to thee:

12 minutes of recordings

11 insults from Lacey

10 cups of coffee

9 hours without static

8 cinnamon rolls

7 temperamental hydrophones

6 corroded connections

5 HOURS SLEEP!!!!!!

4 computers crashing

3 frostbitten fingers

2 aggravated acousticians

and a faint whistle

Birder Blurb (Michael Force & Sophie Webb)

From some perspectives, this week's tracklines traversed a watery desert cursed by low productivity and a correspondingly low cetacean density. However, from the perspective of a seabird observer, it was a phenomenal binocular-busting week. We witnessed such an incredible diversity one doesn't even know where to begin. It was a record-setting week: 32 species of seabirds! This includes nine species of *Pterodroma*, five species of terns, four species of shearwaters, and a Stercorariid grand slam—Pomarine, Parasitic and Long-tailed Jaegers and South Polar Skua—the entire North Pacific contingent of the family Stercorariidae. We found our first Mottled Petrels of PICEAS, a scattering of Stejneger's Petrels, and a somewhat northerly Collared Petrel, our first in almost a month. Although it doesn't feel like autumn, we are clearly witnessing fall migration in the central tropical Pacific. The floodgates opened on southbound Short-tailed Shearwaters - on some days there were hundreds streaming past in small groups of 30 to 60 birds. And what are Wilson's Storm-Petrels doing this far north in the central Pacific? We found three, another PICEAS first. Almost all of these species are transient through this resource-poor region. With little incentive to remain to feed, it is best for these birds to get through here as quickly as possible on their way to productive high latitude feeding and nesting areas. Our 300-meter survey width necessarily limits our search effort. If it wasn't for the sharp-eyed mammal observers, who stumble on to many of these remarkable seabirds during their scans with the 25x binoculars, many of these seabirds would pass undetected. Thanks to all for sharing the wealth!

Biopsy Weekly Report

	Weekly Total	Cruise Total
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Hooray!!! Something to report!

Bryde's whales	0	1
Pilot whales	0	2
Humpback whales	0	3
Melon-headed whales	10	51
Sperm whales	0	4
False killer whales	0	18
Spotted dolphins	0	2
Spinner dolphins	0	3
Rough-toothed dolphins	0	2
Bottlenose dolphins	0	11
TOTAL	10	97

Photo-ID Weekly Report**Weekly
Total****Cruise
Total*****Three new species added to our list this week***

Humpback whale fluke IDs	0	4
Bryde's whale	0	4
Melon-headed whale (# groups)	1	3
False killer whales (# groups)	0	3
Pilot whales (# groups)	0	11
Striped dolphins (# groups)	0	2
Spotted dolphins (# groups)	0	3
Spinner dolphins (# groups)	0	5
Fraser's dolphins (# groups)	0	2
Killer whales (# groups)	1	1
Risso's dolphins (# groups)	1	1
Rough-toothed dolphins (# groups)	1	1

Oceanographic Data Collections (Mindy Kelly and Lacey O'Neal)

DATE RANGE	DAY	CTD	XBT	Bongo	Manta	
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> PICEAS05 Leg 3 9/22 to 9/28 </div>	Thursday	2	2	0	0	
	Friday	2	3	1	1	
	Saturday	2	3	1	1	
	Sunday	2	3	1	1	
	Monday	2	3	1	1	
	Tuesday	2	3	1	1	
	Wednesday	1	3	0	0	
	Totals		13	20	5	5

This has been a week of great productivity for our oceanographic team. As you can see most all of the scheduled operations were completed successfully. We did fall short of one XBT, one bongo and one manta tow (due to our stop at Johnston), and squalls forced cancellation of Wednesday evening's operations. We had to hold back somewhere; we did not want the rest of the scientific party becoming jealous of all the fun work we get to do out here. We have offered to share some of our fun work but it seems no one has jumped at this wonderful opportunity, hmmm.

The surface temperatures have balanced between 27°C (80.6°F) and 29°C (84.2°F) throughout the week as the thermocline plummeted to depths of around 75 meters during our XBT launches. Net tow operations have been streaming along like well-rehearsed skits. This is thanks to the superb help of Teresa Moss (watch stander), the XO (bridge man) and visiting scientist Nacho Vilchis, thanks to you all.

As we head into the next week we look forward to a visit to Johnston Atoll and hope for plentiful net tows, flawless CTD casts and wonderful seas with nothing but clear skies ahead.

Dipnetting Chronicles (Jim Cotton and Robert Pitman)

Among the tens of thousands of flyingfish we have hoisted over the rails of various research vessels over the past 18 years, one has to be the biggest of all. And the honor of felling the General Sherman of exocoetids went to James Cotton this last week. A pair of spawning *Cheilopogon spilonopterus* chased in under the lights one evening, too busy being amorous to notice the flailing dipnets and country western music blaring in the background. We caught the female first and the male just wouldn't leave the area. Cotton waited patiently, then struck, like a dolt of lightning. As he lifted the lunker out of the water, we had no idea it was to be the father of all flyingfish. Total length was 38 cm (17 in) with lovely wine-colored wings. The same evening we also caught two butterflyfish and three spotted boxfish - they are happily ensconced in our onboard aquarium. Sophie, the Queen of Flakes, has been feeding and doting over them; we will take them over to the Waikiki Aquarium when we get back to Honolulu. This makes up for a lot of dull dipping over the last couple of weeks. Johnston Island, we look forward to sampling your waters next week.



Finally, the mystery of Sophie's Red-winged Petrel is solved!



A boy and his fish; notice the large, protruding belly.