

CSCAPE 2005: NOAA Ship McArthur II
Weekly Science Report – Leg 1b

29 July, 2005

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SCIENCE SUMMARY: 21 July – 27 July 2005

Success - last week ended with two more days of transect lines to survey, and we amazingly completed all of them by Friday, July 22. Although low clouds and fog still limited our visibility, we enjoyed improved weather and continued to see many, many animals. Humpback whales were our most frequently seen species, feeding on small schooling fish throughout the survey area. We were also treated to several active schools of Pacific white-sided dolphins, northern right whale dolphins, and Risso's dolphins, as well as the ever-entertaining Dall's porpoises and a few minke whales. Our interesting find for the week was a nice aggregation of blue whales, fin whales, and Cassin's Auklets at the southern end of the Monterey Bay National Marine Sanctuary. These krill-eating species had been conspicuously absent from most of our study area, and it appears they have found krill in this region just off Point Piedras Blancas. One group of blue whales was unusually active – lunging, breaching, and showing flukes when diving. The 'ooohs' and 'aaahs' could probably be heard all the way to Highway 1 on the coast... We spent some time with them and were able to obtain nine blue whale identification photos.

After completing our lines Friday, we hoped to spend our last full day at sea in Monterey Bay conducting small boat operations on humpback whales and also obtaining sediment samples for a NOAA colleague, Ian Hartwell. Ian was kind enough to swap ship time with us to give us a contiguous three-week leg within the central California National Marine Sanctuaries. In exchange, we agreed to obtain some July (post-rainy season) sediment samples for him. Despite some technical difficulties with the grab sampler, we obtained seven samples from Monterey Canyon, Soquel Canyon and the shallow areas of Monterey Bay. And we discovered that playing with mud is fun, too! The small boat operations were unfortunately not possible, because our pesky friend, the fog, was back all day.

Our cruise aboard the *McArthur II* ended on Sunday morning in beautiful San Francisco, and we spent the rest of the week preparing to continue the project aboard the *David Starr Jordan*, based in San Diego. Cornelia Oedekoven, Tim O'Toole, Holly Fearnbach, Liz Zele, Peter Pyle and I will continue on the *Jordan*, along with returning colleagues Annie Douglas and Gary Friedrichsen (welcome back!). We would also like to welcome our new CSCAPE participants, marine mammal observer Laura Morse, seabird observer Thomas Staudt, oceanographer Candice Hall, teacher-at-sea Greta Lyons, and Jason Larese who will be working as an Independent mammal observer. Finally, I'd like to bid a fond farewell to our colleagues who will not continue on CSCAPE with us: Jim Cotton, Ernesto Vazquez, Juan Carlos Salinas, Sophie Webb, Rich Pagen, Mindy Kelley, Jan Roletto, Sage Tezak, and Kim Pratt. Thank you all for your excellent contributions to this project – we could not have done it without you. And Rich, we hope to see you again in a few weeks!

Sightings and Effort Summary for Marine Mammals

Date	Start/Stop	Position Time	Total Distance	Avg. Beaufort
072105	0625	N36:09.55 W122:24.90	83.1 nmi	2.5
	1956	N35:42.98 W121:36.39		
072205	0620	N37:09.47 W122:24.68	64.2 nmi	3.3
	1341	N37:40.74 W122:35.59		
072305		– No Effort		
072405		– Arrive San Francisco		
072505		– Scientific team transfers to the <i>David Starr Jordan</i>		
072605		– Training and setup of <i>David Starr Jordan</i> in San Diego.		
072705		– Training and setup of <i>David Starr Jordan</i> in San Diego.		

CODE	SPECIES	WEEKLY TOTAL#	CSCAPE TOTAL#
017	Short-beaked common dolphin	-	1
021	Risso's dolphin	10	49
022	Pacific white-sided dolphin	8	87
027	Northern right whale dolphin	1	25
037	Killer whale	-	8
040	Harbor porpoise	-	57
044	Dall's porpoise	18	127
046	Sperm whale	-	4
049	Ziphiid whale	-	1
051	Mesoplodon sp.	-	4
061	Ziphius cavirostris	1	2
069	Gray whale	-	2
070	Balaenoptera sp.	-	3
071	Minke whale	2	7
074	Fin whale	4	15
075	Blue whale	16	27
076	Humpback whale	94	358
077	unid. dolphin	3	30
079	unid. large whale	5	26
096	unid. cetacean	-	2
TOTAL		162	835

Note: Pinnipeds not included; mixed groups are counted once for each species.

Biopsies (Juan Carlos Salinas, Tim O’Toole, Ernesto Vazquez)

<u>Species</u>	<u>Weekly</u>	<u>Cumulative CSCAPE *</u>
Humpback whale	2	18
Blue whale	-	4
Fin whale	-	1
Sperm whale	-	11
Pacific white-sided dolphin	-	16
Northern right whale dolphin	-	6
Dall’s porpoise	-	3
Killer whale	-	5
GRAND TOTAL	2	64

* corrected totals – please disregard last week’s cumulative CSCAPE biopsy totals

Photo-Project (Cornelia Oedekoven and Holly Fearnbach)

Blues, blues and more blues! That pretty much sums it up for the past few days. We were mostly in passing mode, but were still able to obtain nine blue and seven humpback whale IDs, a few photos of fin whales and some close shots of Risso’s dolphins. We launched one last time on a cow/calf blue whale pair and several humpbacks, and were quite successful. Photos and biopsies were collected from the humpbacks (along with some fabulous breach photos from the ship) and the speedy blues only gave up a few photo IDs. It has been a great leg for sightings and photographs despite all of the fog and we look forward to the rest of CSCAPE as we board the David Starr Jordan. A big thanks to everyone on the McArthur II for a great start to the cruise!

<u>Species</u>	<u>Weekly</u>	<u>Cumulative CSCAPE</u>
Humpback whale IDs	7	82
Blue whale IDs	9	20
Fin whale IDs	1	7
Sperm whale IDs	-	14
Killer whale IDs	-	53
Northern right whale dolphins*	-	6
Pacific white-sided dolphins*	2	12
Risso’s dolphins*	2	7
Dall’s porpoise*	1	2

*number of groups photographed

Bird Blurb (Sophie Webb, Rich Pagen and Peter Pyle)

It was mentioned in the last report that the Cassin’s Auklets were being observed in unusually low densities throughout the three Marine Sanctuaries so far. Well, we finally found a few of them off the Big Sur coast on Thursday the 21st, in the far southern portion of the Monterey Bay NMS, but numbers were in the 10’s to low 100’s rather than

the 1,000's that we often encounter. Furthermore, these were quite a distance from the nearest major breeding colony at the Farallones, indicating that birds currently breeding there need to travel far to find krill, their prey of choice. The Cassin's Auklets and other seabirds are currently suffering a widely publicized reproductive failure on the Farallones and elsewhere off California this year. Lack of upwelling in April coupled with too much consistent upwelling in late May-June has not provided the right conditions to jump start the marine ecosystem. But Cassin's Auklets can continue to lay eggs and fledge chicks as late as October and their season can turn on a dime, so perhaps it is not too late. As soon as we saw the Cassin's Auklets we alerted the mammal observers to the possibility of Blue Whales, as both are often found together over schools of krill. Sure enough, within a few moments the first of several Blue Whales that day was spotted.

Densities and species of birds during the 21st-23rd were otherwise what one would expect in near-shore waters at this time of year. The dominant species was Sooty Shearwaters, which come to the productive California Current from New Zealand by the millions each summer to molt. Second in abundance was Common Murres, many of which were of father-chick pairs. These jump off breeding cliffs when the chicks are just 10-14 days old, and will remain together for a month or so to until the chicks learn to catch anchovies on their own. The Baja contingent was also moving north in good force, with lots of Brown Pelicans, Heermann's Gulls, and our first Elegant Terns.

Oceanographic Operations (Mindy Kelley, Liz Zele, and Lacey O'Neal)

<u>Date</u>	<u>CTDs</u>	<u>Bongo tows</u>	<u>XBTs</u>	<u>Other</u>
07/21	1	0	3	
07/22	1	1	3	
07/23	0	0	0	7 grab (sediment) samples
07/24	In port, San Francisco			
07/25	In port, San Francisco			
07/26	In port, San Francisco			
07/27	In port, San Francisco			