STAR 2000: McARTHUR WEEKLY REPORT
3 August 2000
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SCIENCE SUMMARY: 28 July - 2 August

The STAR 2000 field season officially began for the McArthur on 28 July, when we departed from San Diego in the early evening, bound for Hawaii (with a lot of zigs and zags in between). We began the next morning pre-sunrise with a full day of effort: mammal and seabird survey, oceanographic operations including an early morning CTD and all scheduled evening net tows, acoustic array out and being tested.

The first week out is always an interesting one, as it shows us the transition from temperate to tropical ecosystems. This year is no exception. We began the project in the 19 C degree waters off San Diego; this report is written as we steam through 25 C water temperatures. The Black-footed Albatross and California sea lions on day 1, have given way to tropical petrels (Kermadec, Tahiti, White-wing), tropicbirds, and striped dolphins, seen the past few days. On 2 August, we officially entered the tropics (with 23 C water); the first spotted dolphin school of the trip was recorded and Exocoetus flyingfish sheets were flushing from the water surface. (Actually, this is almost all that has been recorded. We are seemingly in a desert with respect to both mammals ...see the "negative data are good data" mammal summary below..., and seabirds ...with just a handful recorded each day.)

We have had the usual first-few-day quirks and bumps in our operations. All have been smoothed out with one exception: our XBTs refuse to communicate with us once launched. We have our best on the problem, including our exceptional ET, who has so far performed a number of miracles on all sorts of black boxes on the ship. We have high hopes for remedying this problem too in the next day or so.

The real success story comes from our acousticians (see report below). Most notably, the acoustic array picks up all kinds of cetacean sounds and allows for full speed turns of up to 180 degrees at a time, without restricting rudder angle beyond what is normally used. Perhaps even more important, we can tow handlines during regular survey. The fishermen have decided to let Jay remain on the ship for now.

Other notable events this week: the WEATHER, which has given us one of the easiest rides on the McArthur that this scientist remembers in recent times; first fish (a yellowfin tuna) courtesy Leroy Jordan - consumed 2 August during our first evening barbeque; Leach's Storm-Petrel dipnetted by James Cotton (who has yet to dipnet his first flyingfish); outrageous food which promises to put us all 30 pounds overweight by the time we reach Honolulu, one pound for every sea day.

ACOUSTICS REPORT

The hydrophone array and all associated systems are functioning very well. The array has been out every day (except the first) and there have been two sperm whale and several dolphin acoustic detections. Most interesting is the fact that many visual sightings are not detected acoustically and many acoustic detections are never seen. Overall, there have been more acoustic detections than visual sightings this week, but the visual observers are still claiming job security (because the acoustics team cannot estimate group size or species). The towed array is having almost no impact on turns or other ship maneuvers for marine mammals. Only once was there a need to bring in the array (to pick up biopsy bolts). New software is doing a good job at localizing sperm whales and is showing promise for estimating bearing lines to dolphin whistles.

One sonobuoy was launched successfully to measure ship noise and to test all systems.

SIGHTINGS AND EFFORT SUMMARY FOR MARINE MAMMALS: 28 July - 2 August

Date Start/Stop Time Lat Long Total NM Av. Beaufort

072900 0616 N31:13.73 W118:12.92 129.0 nmi 4.0
1945 N29:18.19 W119:35.65

073000 0632 N28:20.51 W120:15.64 121.6 nmi 3.5
1943 N26:19.62 W120:25.30

073100 0649 N25:28.70 W121:21.68 123.4 nmi 3.3
1900 N24:04.47 W123:00.96

080100 0645 N23:16.40 W123:58.04 128.9 nmi 4.0
1945 N21:48.50 W125:39.22

080200 0659 N21:06.26 W125:41.62 122.3 nmi 3.4
1631 N20:15.71 W124:12.93

CODE	SPECIES	TOT#
002	Stenella attenuata (offshore)	1
013	Stenella coeruleoalba	2
021	Grampus griseus	1
098	unid. whale	1
	TOTAL	5

COMMON DOLPHINS 0

SPOTTED/SPINNER 1

BLUE/HUMPBACK WH. 0

OTHER DELPHINIDS 3

OTHER CETACEANS 1

BIOPSY SUMMARY: 28 July - 2 August

This Week/ Total

0 / 0
(You can't get biopsy samples until you see animals....)

35 mm PHOTO SUMMARY: 28 July - 2 August

2 August Spotted Dolphin, Stenella attenuata (1 school)

TURTLE SUMMARY: 28 July - 2 August

This Week/ Total

0 / 0
(One juvenile turtle spotted as our first and only turtle sighting to date.)