STAR 2000: McARTHUR WEEKLY REPORT
18 October 2000
Eric Archer

SCIENCE SUMMARY: 12 to 18 October 2000

We have visited the southwestern edge of the study area and I'm here to tell you it isn't pretty. On our run down, the seas were fairly steady at Beaufort 4, sometimes 5, with winds around 15 to 18 knots. As we neared the waypoint however, the winds picked up to 20 knots or greater with 6-8' swells. Beaufort 5 conditions became a fond memory and were quickly bypassed for 6. The eastward turn didn't bring any relief and we stayed in much the same seas for several days.

The weather improved slightly during the middle of this week, so the observers are back on effort doing their observing thing. However, as the sighting summary below details, there hasn't been much to see, and what they're seeing, they're not seeing much of. We're averaging 2-3 sightings per day, but most of the sightings are from early in the week. Because of weather and maybe some yet to be identified repulsive force field surrounding the ship, sightings have dropped significantly in the past few days. We've had a couple of days of no effort and one day of effort with nothing seen. That's would be zero... nada... zip, zilch, goose eggs, nil, nought, nix... you get the picture.

We have been lucky enough to make a few ziphiid sightings, but none close enough to be positively identified to species. We spent some quality time with a small school of rough-toothed dolphins (Steno bredanensis) mixed with another unidentified delphinid, possibly Tursiops. They were originally seen splashing and breaching, but were less playful as the ship approached and circled them. The Steno remained in loose subgroups, slowly surfacing in a chorus-line like fashion, but not running from the ship.

The ship also got close to a group of Tursiops associated with some pilot whales. An interesting feature of the Tursiops was their bright, creamy white ventral coloration extending from the anus to the length of the lower jaw. Some of these dolphins were also very active, breaching near the ship. One of the pilot whales that passed nearby was almost completely missing its dorsal fin, the result of some past (and we can only speculate, painful) injury.

As we watch temperatures drop entering the Humboldt Current, hopes are high for seeing some interesting marine fauna during our final week of Leg 3. On our wish list for the last Day near Peru are dusky dolphins, and if we're very good and eat all our veggies, maybe even penguins!

ACOUSTICS SQUEAKLY REPORT: (Shannon Rankin and Ann Chen)

Bad weather weeks such as this virutally (or literally) shut down the visual observer team, and allow us to have a sneak listen to get an idea of how many dolphin schools may be out there. There are those of you out there that will be happy to know that (as far as we

acousticians are concerned) there is not much out here for the observers to miss. Despite a slow week, we were able to obtain recordings from spinners, spotters, streakers, pilot whales, sperm whales, and several groups of unidentified dolphins.

The week started off great with acoustics locating vocal schools the observers missed and the observers finding schools that escaped our ears. On occasion we even shared a few sightings, when we weren't feeling too selfish. A highlight was a very vocal group of pilot whales that buzzed, clicked, and whistled there way through the morning (this was one of the few shared sightings for the week). As the week progressed and the winds picked up, we confirmed the observers hope that this is not a very happening spot. While the observers spaced through the movie marathon, Ann and I desperately fought off the Zzzzzz's as we spent two full whistle-less days listening to the drone of the Mac. We are truly looking forward to some excitement as we enter the Humboldt Current off Peru, hopefully those critters are vocal (or at least present).

BIRD SUMMARY: (Chris Hoefer and Brett Jarrett)

The bird news is that this isn't much of anything to note out here. A Cape Petrel showed up in the wake of the ship allowing everyone to get good, close views. Besides that, bird densities have been really low with Dark-rumped Petrels, Leach's, Galapagos, Harcourt's and Markham's Storm-Petrels and Masked Boobies making up the "bulk" of the population. Also observed were a few White-winged Petrels. Some days we saw more Dark-rumped Petrels than anything else. We even saw a flock of about 75 of these birds actively feeding on an unknown item.

SIGHTINGS AND EFFORT SUMMARY FOR MARINE MAMMALS: 12 - 18 October 2000

101200 0618 S03:10.08 W098:33.28 119.4nmi 4.0
1809 S04:42.78 W100:00.45

101300 0629 S05:43.41 W100:50.33 117.8nmi 4.7
1820 S07:12.40 W102:09.26

101400 0641 S08:11.28 W103:04.33 108.7nmi 4.8
1829 S09:35.08 W104:30.63

101500 0645 S10:05.85 W104:46.06 46.0nmi 5.5
1141 S10:08.12 W103:57.96

101600 0635 S09:55.60 W101:45.86 11.3nmi 5.9
0743 S09:53.59 W101:34.62

101700 0624 S09:42.32 W098:23.81 102.2nmi 5.0
1701 S09:36.90 W096:37.84

101800 0705 S09:31.00 W095:42.85 119.2nmi 4.8
1846 S09:24.06 W093:43.64

Code	Species	Tot#
99	Balaenoptera borealis/edeni	1
36	Globicephala macrorhynchus	2
21	Grampus griseus	1
51	Mesoplodon sp.	1
02	Stenella attenuata (offshore)	1
13	Stenella coeruleoalba	1
101	Stenella longirostris (SW)	1
11	Stenella long. hybrid (Whitebelly)	1
15	Steno bredanensis	1
18	Tursiops truncatus	1
49	unid. ziphiid	1
77	Unid. dolphin/porpoise	3
79	Unid. large whale	2
OTHER		2
TOTAL		19

Common dolphins 0
Spotted/spinner 0
Blue/humback wh. 0
Other delphinids 0
Other cetaceans 0

BIOPSY SUMMARY: (Juan Carlos Salinas)

Species	Number of Samples	Cumulative Total
Balaenoptera edeni	0	1
Globicephala macorhynchus	0	7
Stenella attenuata graffmani	0	1
Stenella attenuata subsp.	0	1
Tursiops truncatus	0	14
Grand Total	0	24

35mm PHOTO SUMMARY: (Paula Olson)

Species	Number of Schools/Individuals	Cumulative Total
Delphinus delphis	0	4
Stenella attenuata	1	7
Stenella attenuata graffmani	0	1
Stenella longirostris (SW)	0	7
Stenella longirostris (whitebelly)	1	1
Stenella coeruleoalba	0	2
Tursiops truncatus	0	2
Grampus griseus	0	1
Globicephala macrorhynchus	0	3
Indopacetus pacificus	0	1
Orcinus orca	0	2
Balaenoptera edeni	0	2
Physeter macrocephalus	0	1
Pseudorca crassidens	0	1
Grand Total	2	35

OCEANOGRAPHIC SUMMARY: (Dagmar Merkle)

Now that we are heading into the Humboldt Current, which is an upwelling system, off Peru showing signs of colder sea surface temperatures (presently at 21.29øC) and increased salinity (the highest yet, 35.39 ppt). As we nearer the Peruvian coast the water temperatures should decline still further.

The past week saw some very strong winds causing mixing of the surface waters. This pushed the thermocline down to 100m and below. Chlorophyll analysis substantiated this with the chlorophyll max being between 80 and 100m.

The species diversity of larvae in the Manta net tows has increased as we move further towards the coast. Initially most of the larvae caught were lantern fish, but in resent net tows there has been a greater variety of fish larvae. The bongo catches have been fairly constant, in both quantity and species mix. Ring net tows have been stopped as we are presently south of 5øS.

Sample	This Week	Total
CTDs	14	126
XBTs	21	209
Manta Tows	7	63
Ring Net Tows	1	32
Bongo Tows	7	63