

CSCAPE 2005: NOAA Ship *David Starr Jordan*
Weekly Science Report – Leg 5
 27 October 2005, Jim Carretta – Cruise Leader

SCIENCE SUMMARY: 20 October – 26 October 2005

Weather is everything and we finally got some nice sea states this week as we made our way out of northern California waters and into Oregon. Marine mammal highlights included at least two sightings of sei whales (*Balaenoptera borealis*), a species that may be more common off northern CA and Oregon than we've previously thought. Both of our positive species IDs for this species involved whales that continually swam away from the vessel, blowing very infrequently, showing not much more than an aft view of the animal. We almost accidentally learned that the best way to get a good profile view of sei whales is to begin a large, slow circle of the area, which neutralizes the whale's strategy of always 'turning its back to us'. We also encountered a blue whale on our last day before Astoria, got a few ID photos from the Jordan in 16 foot swells, and Liz successfully deployed a sonobuoy. The finale was a sighting of killer whales near the end of the day just outside Astoria, which we followed around with the Jordan, leisurely taking photographs.

Sightings and Effort Summary for Marine Mammals

Date	Start Stop	Position	Total Distance	Avg. Beaufort
102005	0742 1833	N41:20.75 W125:52.70 N42:23.20 W126:41.82	21.9 nmi	2.1
102105	0923 1819	N42:27.87 W127:00.48 N43:33.12 W126:42.92	54.0 nmi	3.2
102205	0750 1817	N43:37.50 W125:03.15 N45:11.98 W124:28.60	94.2 nmi	3.7
102305	0753 1749	N45:12.36 W124:31.55 N46:17.86 W124:13.56	56.6 nmi	2.9
102405	IN PORT, ASTORIA			
102505	IN PORT, ASTORIA			
102605	IN PORT, ASTORIA			

CODE	SPECIES	TOT#
037	Orcinus orca	1
040	Phocoena phocoena	1
044	Phocoenoides dalli	25
049	ziphiid whale	1
070	Balaenoptera sp.	2
071	Balaenoptera acutorostrata	1
073	Balaenoptera borealis	2
074	Balaenoptera physalus	5
075	Balaenoptera musculus	1
076	Megaptera novaeangliae	5
077	unid. dolphin	1
079	unid. large whale	1
096	unid. cetacean	1
TOTAL		47

Biopsies (Tim O’Toole, Gary Friedrichsen, Laura Morse, and Paula Olson)

Species	20-26 October	CSCAPE cumulative
Minke whale		1
Humpback whale		21
Blue whale		8
Fin whale		1
Sperm whale		11
Baird’s beaked whale		2
Short-beaked common dolphin		111
Pacific white-sided dolphin		21
Northern right whale dolphin		6
Striped dolphin		2
Dall’s porpoise	9	13
Killer whale		5
Risso’s dolphin		4
All species		206

Photo-Project (Cornelia Oedekoven, Holly Fearnbach, and Kathy Hough)

This week was short and spicy. What we got might be small in number, but oh boy, it was good – finger-licking good. Firstly, we got a couple of fin whales and one blue whale id – always nice, but been there done that. Then, on 21 October, we finally found our first sei whale for the cruise – very exciting. The hooked dorsal fin was captured on photo – unfortunately not a ‘quality 1’ picture though. The crème de la crème, however, was when finally the orcas reentered our viewfinders again (it has been so long...). Although the sun was setting during the sighting and the group very spread out we got stand-alone id pictures of four adult whales and an id-able picture of a calf.



Killer whale displaying an open saddle-patch and nicked dorsal fin (photo: Holly Fearnbach).

Summary:

Blue whales: 1

Fin whales: 2

Killer whales: 4 (+1)

Seabird Report: (Rich Pagen and Peter Pyle)

With an Astoria inport looming just over the horizon, this week has proved to be a short one as far as survey time is concerned. Heading north, we had Ashy Storm-Petrels within 8 miles of the California/Oregon border but the fog rolled in and we were thwarted in our attempts to get a first confirmed record for Oregon (despite manning the Canons). Later we were able to photograph Cook's Petrel in Oregon waters and also had a probable tropicbird. A Cattle Egret landed on the ship around the time of the tropicbird sighting, and we secretly hoped that the bright white glow of its plumage would attract the tropicbird like a bee to honey (or a tropicbird to a tropicbird look-alike), but it was not to be. Farther north, our trackline took us over Heceta Bank and along the Oregon shelf break, where we attempted to keep track of hundreds of birds (mostly gulls and fulmars) that were in our survey zone at any one time. On the rare occasions when it was possible to step back, take a deep breath, and look behind the ship, our stomachs dropped at the sight of 2500 birds trailing along in our wake. The culprits were mainly California, Western, Herring, and Glaucous-winged Gulls, as well as Northern Fulmars, Black-footed Albatross, Sooty Shearwaters and Cassin's Auklets. We calculated (based on a conservative extrapolation of our survey data) that on the 22nd, 3,000 Black-footed Albatross, 45,000 Northern Fulmars and 75,000 gulls passed within 3 km of the ship. Other highlights included a distant but satisfactory look at a Parkinson's Petrel (another first for Oregon), and a very aberrant, blond-headed Black-footed Albatross which roused the name, Short-tailed Albatross, from its deep slumber in the

back of our minds. However, closer inspection confirmed that its identity was indeed Black-footed Albatross.

Oceanographic Operations (Candice Hall and Liz Zele)

We had an interesting find in our Bongo sample the other night, two specimens of *Beroe abyssicola*! They are oblong in shape, with 8 comb rows of approximately the same length. Apparently the *Beroe sp.* are continual hunters that search for their prey in the same way as our observers' do for mammals – headfirst with their mouths closed to maintain a streamlined profile (it gets windy up on the Flying Bridge!).

What is fascinating to us is their deep rose colouration, as see in the photograph below. Wrobel and Mills (1998) state that this colour is produced by symbiotic flagellates that are entrenched in the pharyngeal lining. Ouch?!



Beroe abyssicola (Photo: Candice Hall)

And for those who like interesting tidbits of information, *Beroë* was the mythical daughter of Aphrodite and Butes the Argonaut. The species name, *abyssos*, is Greek for 'deep-sea' and – *cola* is a suffix that means 'inhabitant'. So... can we assume that *Beroe abyssicola* are the 'Gods of the bottom dwellers'?

Speaking of 'ARGO'navts, I am thrilled to say that all three ARGO profiling buoys that we deployed this leg are operating perfectly. They communicated, via satellite, with their home base and all three are now sitting at 1000m in their respective locations, drifting with the

currents. Watch this space for more in ~10 days time.

Quote for the week: Jim Anthony's (the ET) signed comment on the last ARGO float was the cleverest of all. He wrote "Call home when you can. Let us know where you are and what's happening!"

<u>Date</u>	<u>CTD's</u>	<u>XBT's</u>	<u>Bongo Tows</u>	<u>Comments</u>
10/20	1	3	1	
10/21	2	3	1	
10/22	1	2	1	
10/23	1	0	0	
10/24	0	0	0	Arrive in Astoria.

Wrobel, D. and Mills, C. 1998. Pacific coast pelagic invertebrates: a guide to the common gelatinous animals. Global Interprint, Hong Kong. Pg: 66 &92.

Squeakly Report (Liz Zele and Laura Morse)

We are happy to report a lucky turn of events on our last day of this leg. Though many a sonobuoy have been deployed on a blue whale, we have consistently not acquired any vocals. On our last day before Astoria, however, our luck changed! Though we cannot yet directly attribute the vocals to the blue whale we were photographing, we are hopeful that the low frequency downsweeps recorded were from the same animal (as it was the only animal in the area). Recording something other than our engines was a nice change of pace and satisfying way to end acoustics on Leg 5! Our final sighting was perfect, a group of killer whales just outside Astoria. Lots of whistles on the bow hydrophone!