

Cascadia Research RHIB Surveys and Satellite Tagging at SCORE

Preliminary trip summary, 27 July 2009

Erin Falcone and Greg Schorr conducted Cascadia's first RHIB survey of the year at SCORE in coordination with M3R monitoring from 18-26 July 2009. One goal for this year of the study is to implement a more flexible survey approach, where we can better take advantage of suitable weather windows and available range time to facilitate data collection from beaked whales and deploy enough satellite tags to define home ranges, habitat use, and typical movement patterns for multiple range species. This survey ended up being pre-scheduled to coordinate with a line-transect survey by the Sproul and aerial surveys, and so was less weather-dependent than we hope future surveys in 2009-2010 will be. We utilized a single RHIB, and during times when the range was not available due to conflicting operations or poor weather, we shifted operations inshore to adjacent regions of the SOCAL OPAREA, as data from animals in this region will ultimately be essential to defining population structure in naval training areas.

Cascadia's RHIB surveys in July included 81.3 hours of effort covering 777 nm of track lines, with most surveys in the vicinity of San Clemente Island, but also some effort along the mainland coast between Oceanside and Long Beach, along the east side of Santa Catalina Island, and over the basins and banks between San Clemente and the coast. Six of nine days were spent working on the instrumented range. While no range surveys were terminated due to poor weather, conditions were generally not well-suited to sighting beaked whales, with moderate winds and significant swell heights on most days. Despite this, 76 cetacean sightings were recorded from the Cascadia RHIB, including five sightings of Cuvier's beaked whales and one sighting of three unidentified cetaceans likely to be beaked whales (three of these sightings were not directed by acoustic detections). In contrast to previous surveys, where on days with calm winds beaked whale sightings were extended, all but one of these sightings consisted of only a single surfacing series. Table 1 summarizes our cetacean sightings, and figures 1-3 display their distribution.

Table 1. A summary of cetacean sightings at SCORE and in adjacent regions of the SOCAL oparea made by the Cascadia RHIB from 18-26 July 2009.

Species	Groups Sighted	Total Individuals	Avg Group Size	IDs	Tissue Samples	Sat Tags Deployed
Minke Whale	2	2	1	2		
Blue Whale	8	11	1	11		
Fin Whale	7	19	3	15	1	5
Long-beaked Common Dolphin	12	429	36		1	
Short-beaked Common Dolphin	16	2333	146			
Common Dolphin, Sub-species unknown	5	53	11		1	
Risso's Dolphin	12	267	22	136	3	1
Pacific White-sided Dolphin	1	10	10			
Bottlenose Dolphin	7	144	21	60	2	1
Small Cetacean, Probable beaked whale	1	4	4			
Cuvier's Beaked Whale	5	10	2	4		1

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Eight satellite tags were deployed on 4 different cetacean species: Cuvier's beaked whale (1), bottlenose dolphin (1), Risso's dolphin (1) and fin whale (5). Four of the fin whales were tagged in a single aggregation in the northwestern quadrant of the range and subsequently split up moving in different directions across the range. In the following maps, the red dots represent the most recent location of each tagged individual. Argos locations displayed in figures 4-6 are of all quality levels, so some points are not representative of actual movement and may be filtered from the final dataset.

FIGURES

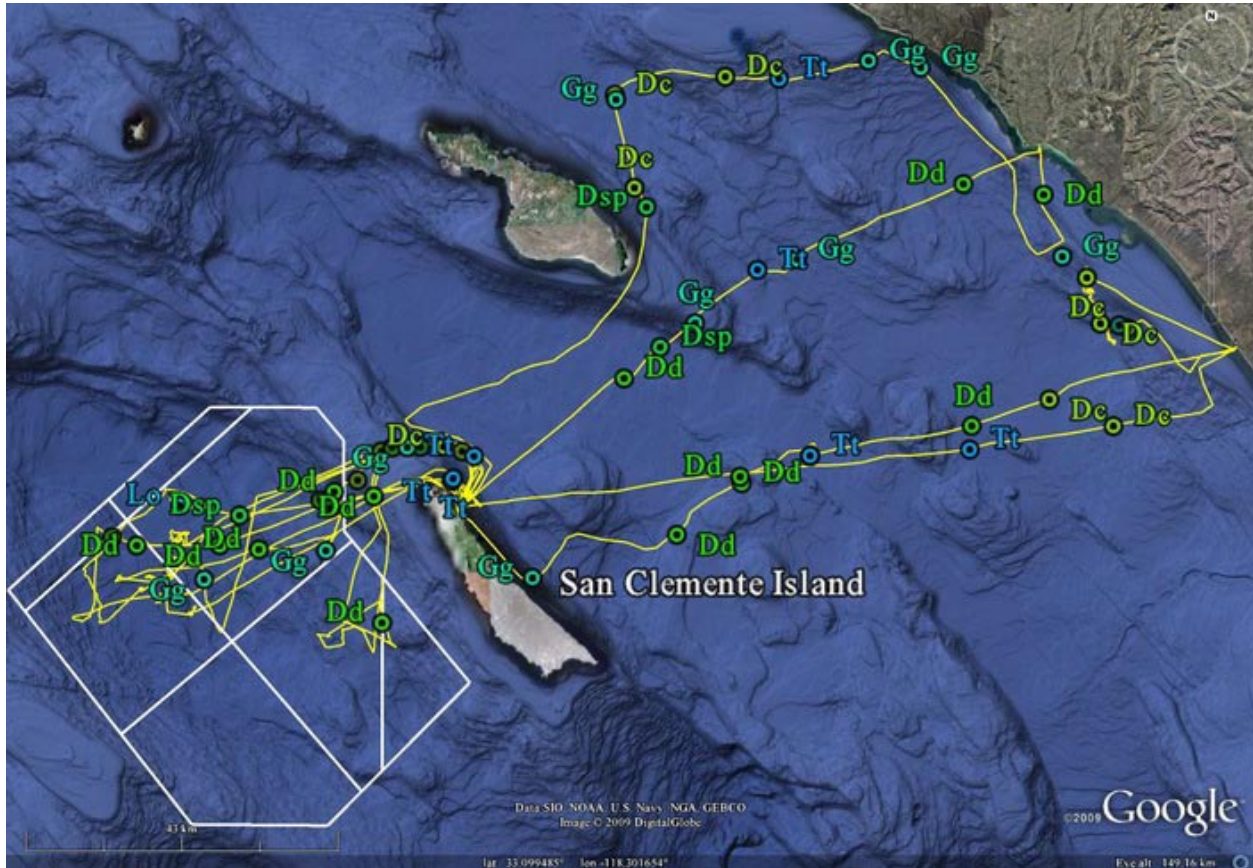


Figure 1. Delphinid sightings during surveys July 2009, yellow lines represent vessel tracks.

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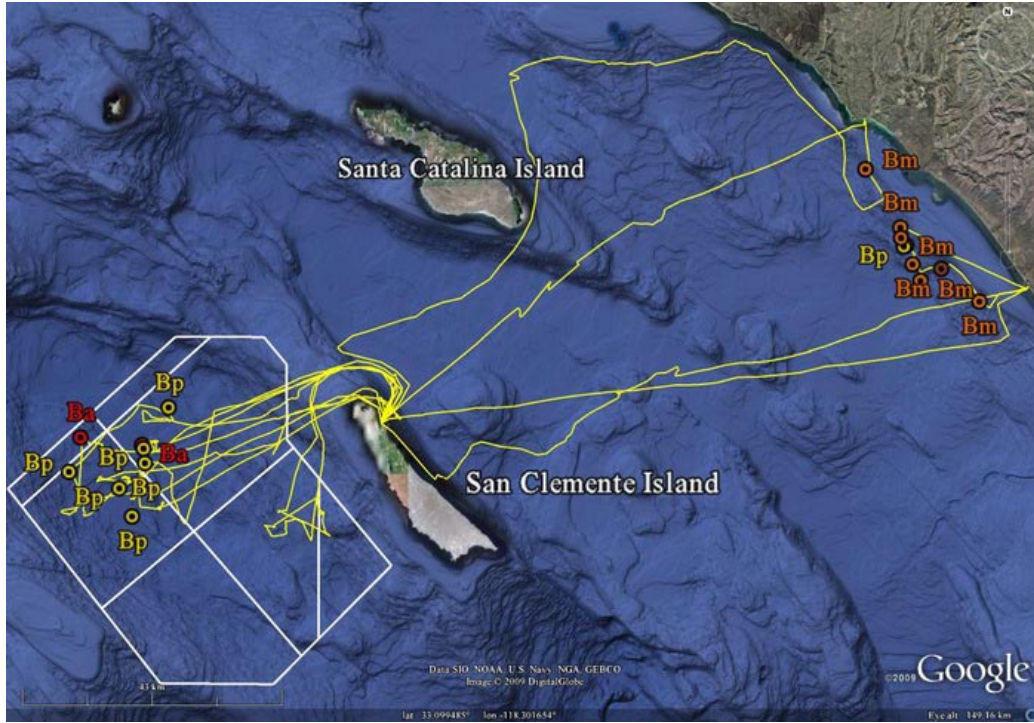


Figure 2. Mysticete sightings during surveys in July 2009, yellow lines represent vessel tracks.

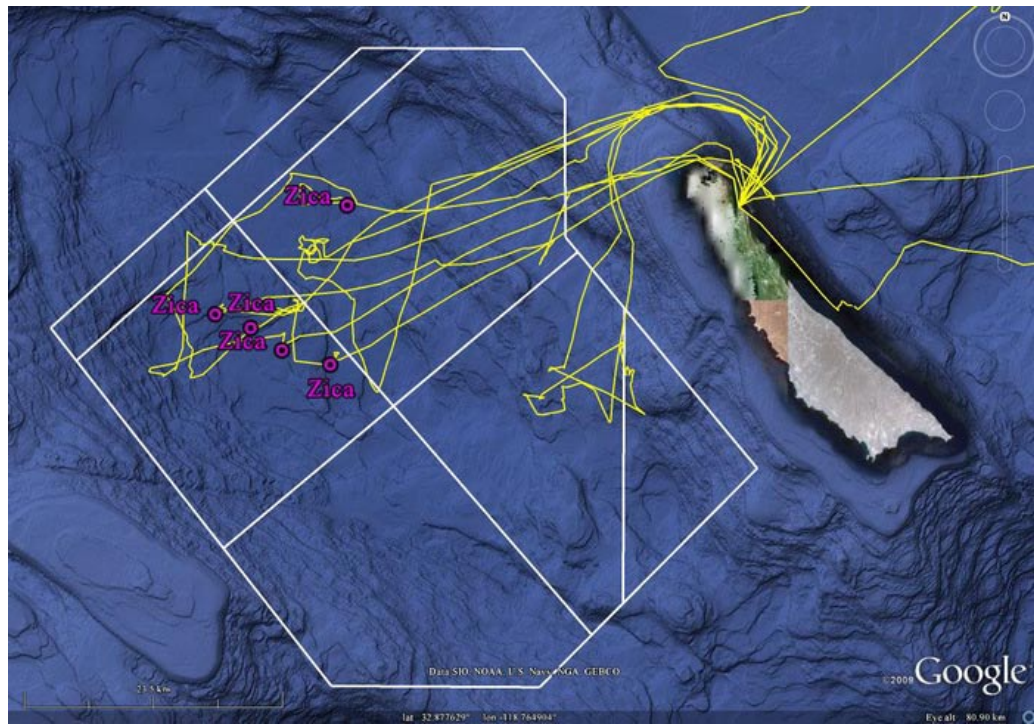


Figure 3. Cuvier's beaked whale sightings during surveys in July 2009, yellow lines represent vessel tracks

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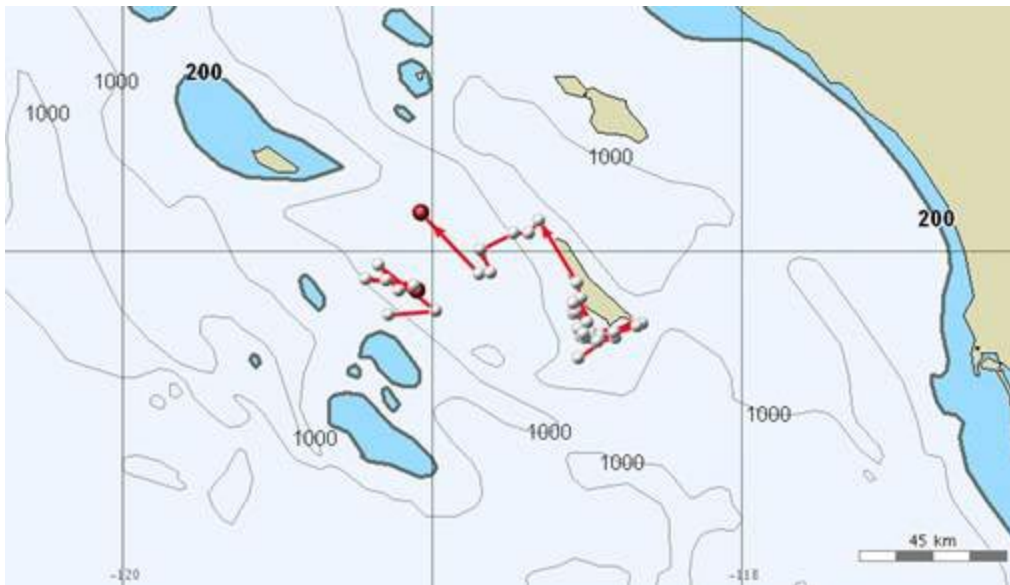


Figure 4. Three days of movements of an adult male Cuvier's beaked whale (west side of the range) and a Risso's dolphin (near the island). The Cuvier's was tagged on the west side of the range and has moved northwest of the range on at least one occasion over the six days it has been transmitting.

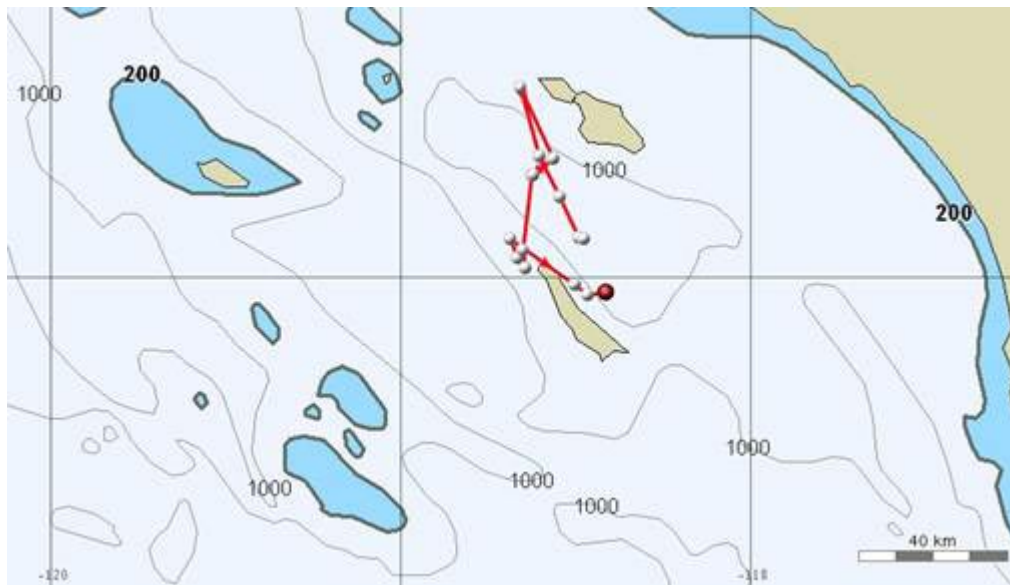


Figure 5. Four days of movements by a bottlenose dolphin.

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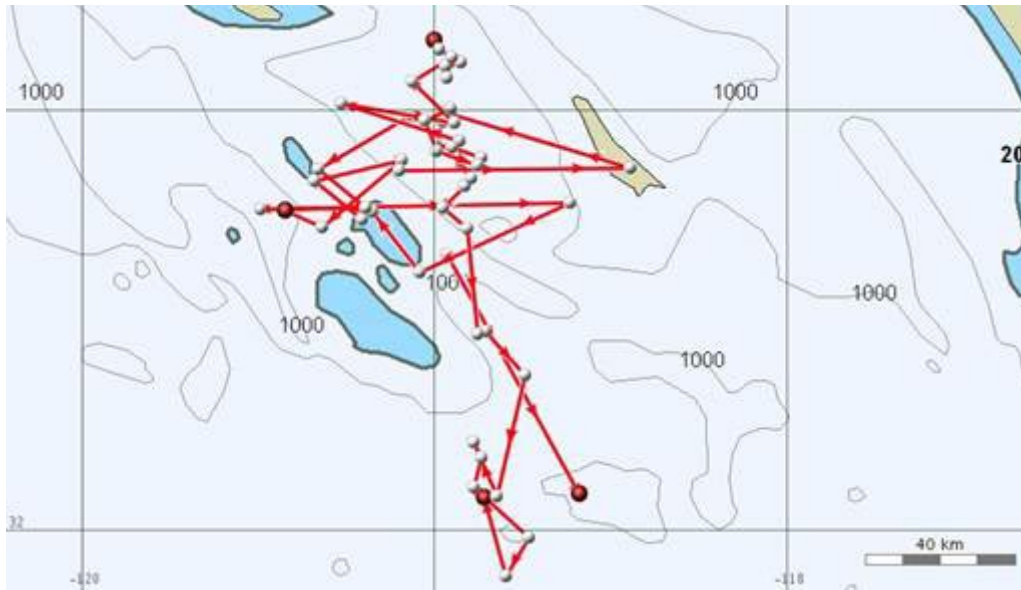


Figure 6. Two days of movements by four fin whales which were all in a single loose aggregation on the day of tagging.