

Incidental sightings of southern right whales off Peru, 1987-2007: recovery remains uncertain

Koen Van Waerebeek [§], Luis Santillán [§] and Edith Suazo ⁺

[§] Centro Peruano de Estudios Cetológicos (CEPEC), Museo de Delfines, Pucusana, Lima-20, Peru

⁺ suazoedith@yahoo.com

The International Whaling Commission at a 1983 workshop covering a global review of southern right whales *Eubalaena australis* provisionally first recognized a 'Chilean stock' in the Southeast Pacific (IWC, 1986). However, then, as now, relatively little information has been available for Chile (e.g. Clarke, 1965; Aguayo, 1974; Cárdenas *et al.*, 1987; Guerra *et al.* 1988; Canto *et al.*, 1991; Aguayo *et al.*, 1992). Peru was not mentioned.

Cataloguing whaling grounds, lieutenant M.F. Maury (1851) charted right whales in two 5° lat.-long. blocks off northern Peru, between 05°-15°S and 80-85°W, but it is impossible to evaluate how accurate this is. Kostriksy (1952) also mentioned the species for Peru but neither provided any substantiation. Clarke (1965) discussed at some length the possible occurrence of southern right whales, mostly from vague whaling records, and concluded that up to 1963 there have been no right whales recorded from the coast of Peru. The first authenticated record of *E. australis* in Peru dates from 1987 (Van Waerebeek *et al.*, 1992), and the first female-calf pair was not sighted until 1996. Until April 2008 there were six confirmed sightings, one of which a probable re-sighting, and one unconfirmed record (Table 1). Five of the six confirmed sightings have in common that the whales were opportunistically spotted from land. Three records (2, 3, 4) occurred in relatively desolated stretches and bays of the Peruvian coast.

#	DATE	POSITION	LOCATION	COMPOSITION	NOTES	SOURCE
1	25 Nov 1987	17°38'S, 71°20'W	Off the port of Ilo	2 animals estimated at 10-15m length	Remained 3 days in vicinity before heading south	Van Waerebeek <i>et al.</i> (1992)
2	7 Sept 1996	16°13'S, 73°42'W	Atico, department of Arequipa	mother-calf pair	Remained two months in same area until 12 Nov.	Van Waerebeek <i>et al.</i> (1998)
3	mid-Dec 1996 (re-sighting?)	16°26'S, 73°08'W	La Planchada, department of Arequipa	mother-calf pair	Believed to be re-sighting of Atico pair (#2) because of close location	Van Waerebeek <i>et al.</i> (1998)
4	26 August 2003	15°08'S, 75°21'W	San Fernando Bay, department of Ica	mother-calf pair	Reportedly left the bay at the end of September. Figure 2.	Santillan <i>et al.</i> (2004)
5	30 July 2005	12°29'S, 76°48'W	Pucusana, department of Lima	mother-calf pair	moved north and then west (details see text).	Van Waerebeek, pers. observations, this paper
6	early August 2005	04°S, 80°58'W	off Punta Sal	2 individuals (one large)	Possible right whales; in the vicinity of some humpback whales	Liesel Stahr-Arrarte, in Email; this paper
7	5 April 2007	12° 24.3' S, 77° 10.58' W	off department of Lima	one adult	observed from seismic vessel	E. Suazo, pers. observations, this paper

Table 1. Six confirmed sightings and one possible record (#6) of southern right whales in Peru, chronologically ordered, 1987- 2007.

New positive sighting # 5

30 July 2005. Mother-calf pair of right whales incidentally spotted by KVV at 13:22h by naked eye, ca.1km from CEPEC's observation platform (ca. 15m above sea level), then observed through 10x50 binoculars from 13:23-14:00h. Visibility was very good, with sea state 2Bf and moderate swell. All diagnostic features of right whale were confirmed over a 30min period. The whales slowly travelled near shore (<500m), on a NNW course, following the general outline of the rocky coastline. At 13:50h, an industrial purse-seiner, from the south, headed towards the whales in a collision course (then at ca.800m from observer). The seiner, without deviating nor slowing down, clearly heading to Pucusana port, crossed the track of the whales which submerged moments before. When resurfacing, the large whale, as startled, exposed much of its head and anterior body. It markedly increased swimming speed and changed course, now heading NWW in offshore direction. KVV hurried to the port, hired a 5m outboard-powered fishing boat and at 14:20h set out to sea in an attempt to locate and photo-identify the whales. At 16:25h, however, a fruitless search was aborted for running low on fuel, the low-lying boat and increasing swell hindering efforts.

New positive sighting # 7

5 April 2007 (at 17:46h) A large individual (adult) southern right whale was sighted off central Peru (Table 1), at 500m radial distance from the seismic vessel *Gulf Supplier*. Conditions were favourable with good visibility, wind Bf 3, low swell (wave height <2m). The animal was positively identified based on its characteristic V-shaped blow, its broad, flat dorsum without dorsal fin, and black colour. The whale moved slowly in 210° direction. The vessel was carrying out a 3D-seismic survey in an area referred to as Z33 located off Lima and Ica Departments, from 3-30 April 2007. During that month, the total sighting effort

was 229.12 hours (sighting rate: 0.0044 individuals/hour). In comparison, 62 other cetacean sightings were registered over that period. Vessel speed was a constant 3-4 knots and no airguns were firing during the right whale sighting. No photographs could be taken.

Possible sighting # 6

A sighting of two possible southern right whales in the vicinity of some humpback whales was reported off Punta Sal, northern Peru (Liesel Stahr-Arrarte, in Email to G. Engblom, 5 August 2005) in late July or early August 2005. Photographs taken at distance, while consistent with *E. australis*, are not sufficiently diagnostic to constitute a confirmed record. One of us (KVV) has observed mixed groups of *M. novaeangliae* with *E. australis* travelling together in Drake Passage, south of Tierra del Fuego.

Northern distribution limit in the Southeast Pacific

Sightings # 5 and # 7, some 50km south of Callao/Lima, are the current northernmost confirmed occurrence of *E. australis* in the SE Pacific and off South America. Although latitudinally comparable to the SW Atlantic northernmost record at 12°58'S, 38°29'W off Salvador, Bahia, Brazil (Baracho *et al.*, 2002), modal differences in latitudinal range may exist between the SE Pacific and the SW Atlantic Oceans. In Brazil, considering the usual northernmost distribution range of 18°S-25°S (Lodi *et al.*, 1996; Santos *et al.*, 2001), Salvador appears an extralimital record. In Peru, the positions of the few confirmed sightings have gradually been shifting northward with time (see Figure 1), and central Peru is unlikely to be extralimital. Mother-calf pair # 5, off Pucusana, was seen while moving in northerly direction following the coastline. Broadly similar neritic habitat of cool coastal upwelling extends to about Cabo Blanco (04°15'S, 81°14'), northern Peru (Gunther, 1936). It certainly puts Clarke's (1965) remarkable premise into new perspective, of 'whether in a few cases southern right whales may take advantage of the cold Humboldt Current to move into very low latitudes in the region of Ecuador'. There is no doubt that right whales elsewhere do occasionally penetrate equatorial waters. A right whale was taken off Cap López, Gabon, at ca. 01°S (Budker, 1952). IWC (1986) cautioned that it cannot be attributed to either Northern or Southern Hemisphere stocks.

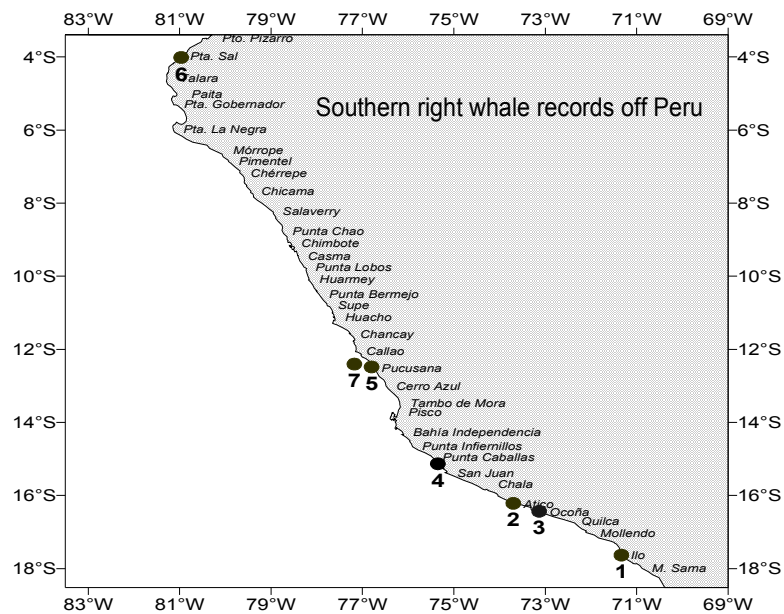


Figure 1. Distribution of southern right whale sightings off Peru. Sighting numbers are chronologically ordered (see Table 1) and reveal a gradual northbound tendency. All are positive sightings except for the northernmost # 6, which is unconfirmed.

Uncertain population trend

Surprisingly little indication of an increase has been observed in the SE Pacific population. Other populations (Argentina, Australia and South Africa) have shown increases of sightings with doubling of numbers in about a decade. The maximum 1-day count of only four whales in Chile (Aguayo, 1974; Aguayo *et al.*, 1992) and two whales in Peru (this paper) is extremely low compared to maximum 1-day counts of 15, 40, 155 and 256 (2 days) off, respectively, SE Australia, SW Australia, Argentina and South Africa two decades ago (see table 3, p. 9 in IWC, 1986). Nearshore dwelling right whales may be more likely detected now than before due to human population growth, more artisanal fishermen and many new settlements along the Peruvian coast. However, while whales may raise curiosity among coastal communities, they are not necessarily reported to the relevant national institutions. As there are no systematical coastal surveys, and a reporting tradition is lacking, the true frequency of occurrence of right whales in Peru may be underestimated. However, this would equally apply to the past as to the present.

Chronologically successive records seem to suggest a north-bound tendency, as if reflecting a gradual range expansion (Figure 1). Despite temporal sighting intervals (9, 7, 2, 0, 2 yrs) decreasing over the past two decades, in view of the small number of confirmed sightings (n=6) we believe it is premature to try distinguish a trend for southern right whale presence off Peru. However, if the current pattern of a higher sighting rate and apparent range expansion would be consolidated over the next few years and decades, then a guarded optimism may be warranted for a future recovery of *E. australis* in Peruvian waters. Systematic coastal surveys, especially in winter months, are strongly recommended to reveal a more accurate image of the actual usage of these coastal waters by *E. australis*.

The current sightings are sufficient to argue that *E. australis* is not a mere vagrant in Peru, and possibly, as is the case for several other cool-water adapted Southern Hemisphere cetacean species (e.g. *Lissodelphis peronii*, *Lagenorhynchus obscurus*, *Phocoena spinipinnis*), Peruvian waters may be their most boreal normal range on the planet due to the Humboldt Current System, the strongest of eastern boundary currents, with its associated year-round cold upwelling system.

Acknowledgements

Gunnar Engblom (Kolibri Expeditions) kindly informed us about the Stahr-Arrarte whale record off Punta Sal. Salvatore Siciliano provided references for Brazil. CEPEC research has benefited from long-term support by the International Fund for Animal Welfare. Van Waerebeek attends IWC/60 as head of scientific delegation for Belgium's Federal Public Service, Public health, Food Chain security and Environment, Brussels.

References

- Aguayo, A. 1974. Baleen whales off continental Chile. pp. 209-217. In: W.E. Schevill (ed.). *The Whale Problem: a Status Report*. Harvard University Press, Cambridge, Mass.
- Aguayo, A., Cárdenas, J.C. and Torres, D. 1992. Análisis de los avistamientos de *Eubalaena australis* (Desmoulins, 1822) en aguas chilenas, desde 1983 hasta 1989. *Sér. Cient. INACH*. 42:77-91.
- Aguayo, A. and Torres, D. 1986. Records of the southern right whale, *Eubalaena australis* (Desmoulins, 1822) from Chile between 1976 and 1982. *Rep. Int. Whal. Commn (Special Issue)* 10:159-160.
- Baracho, C. G., Más Rosa, S. and Marcovaldi, E. 2002. Primeiro registro da baleia-franca-do-sul (*Eubalaena australis*) no litoral norte da Bahia-Brasil. In: 10^a Reunion de Trabajo de Especialistas en Mamíferos Acuáticos de America del Sur. 4^o Congresso de la Sociedad Latinoamericana de Especialistas en Mamíferos Acuáticos, 2002, Valdivia. [In Portuguese].
- Budker, P. 1952. Quelques considérations sur la Campagne Baleinière 1951 au Cap López (Gabon). *Mammalia* 16(1): 1-6. [In French].
- Canto, J., Ruiz, P. and Cárdenas, J.C. 1991. Necropsia de ballena franca austral *Eubalaena australis* y consideraciones sobre sobre manejo de la especie. *Bol. Museo Nac. Hist. Nat. Chile* 42: 105-111. [In Spanish].
- Cárdenas, J.C., Torres, D., Oporto, J. and Stutzin, M. 1987. Presencia de ballena franca (*Eubalaena australis*) en las costas de Chile. Anais da 2^a Reunião de Trabalho de especialistas em mamíferos aquáticos da América do sul, Rio de Janeiro. [In Spanish].
- Clarke, R. 1965. Southern right whales off the coast of Chile. *Norsk Hvalfangst-Tidende* 54: 121-128.
- Guerra-Correa C., Van Waerebeek, K., Portflitt, G. and Luna, G. 1987. Presencia de cetáceos frente a la segunda región de Chile. *Estud. Oceanol.* 6:87-96. [in Spanish].
- Gunther, E.R. 1936. A report on oceanographical investigations in the Peru coastal current. *Discovery Reports* 13: 107-276.
- IWC. 1986. Report of the Workshop on the Status of right whales. *Rep. Int. Whal. Commn (Special Issue)*10: 1-33.
- Kostritsky, L. 1952. Las ballenas y su aprovechamiento en el Perú. *Pesca y Caza, Lima* 4: 33-48. [in Spanish].
- Lodi, L., Siciliano, S. and Bellini, C. 1996. Ocorrencias e conservação de baleias-francas-do-sul, *Eubalaena australis*, no litoral do Brasil. *Papéis Avulsos de Zoologia, S. Paulo* 39(17): 307-328. [In Portuguese].
- Mauzy, M.F. 1851. Whale Chart. National Observatory, Bureau of Ordnance and Hydrography, USA.
- Santillán, L., Roca, M., Apaza, M., Rosa de Oliveira, L. and Ontón, K. 2004. New record of mother-calf pair of southern right whale, *Eubalaena australis*, off the Peruvian coast. *Latin American Journal Aquatic Mammals* 3(1):83-84.
- Santos, M.C. de Oliveira, Siciliano, S., Pacheco de Souza, S. and Altmayer Pizzorno, J.L. 2001. Occurrence of southern right whales (*Eubalaena australis*) along southeastern Brazil. *J. Cetacean Res. Manag. (Special Issue)* 2: 153-156.
- Van Waerebeek K., Reyes, J.C. and Aranda, C. 1992. Southern right whales (*Eubalaena australis*) off southern Peru. *Marine Mammal Science* 8(1): 86-88.
- Van Waerebeek, K., Reyes, J.C. and Van Bresse, M.F. 1998. Sighting of a mother-calf pair of southern right whale *Eubalaena australis* in Peruvian waters. *Estud. Oceanol.* 17: 105-107.

Figure 2. Mother-calf pair *E. australis* filmed at San Fernando Bay, Ica, Peru, in August 2003 (see Table 1). Selected stills taken from videofilm by L. Santillán.

