

## THE SOUTHERN RIGHT WHALE *EUBALAENA AUSTRALIS* (DESMOULINS, 1822) IN THE STRAIT OF MAGELLAN, CHILE

LA BALLENA FRANCA AUSTRAL *EUBALAENA AUSTRALIS* (DESMOULINS,  
1822) EN EL ESTRECHO DE MAGALLANES, CHILE

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### ANTECEDENTS

Southern right whales (*Eubalaena australis*) are distributed throughout the Southern Hemisphere, where they seasonally migrate between high-latitude feeding grounds and low-latitude calving and breeding grounds (Mackintosh 1942). They live mainly in nearshore and shelf waters, however there are probably also offshore feeding grounds (Kenney 2002) and during migrations they may be found in pelagic waters.

In the Southeast Pacific, the southern right whale is nowadays distributed principally in Chile, with occasional sightings along the Peruvian coast (Van Waerebeek *et al.* 1992, 1998, Santillán *et al.* 2004). In Chilean waters, the presence of the species has been reported from Arica (18°29'S) to Cape Horn (55°58'S), and its general distribution is known from studies based on whaling data (Townsend 1935, Clarke 1962, 1965, Aguayo 1974, Martinic 1977), dedicated whale cruises (Clarke 1962, Clarke *et al.* 1978) and occasional opportunistic sightings (Aguayo & Torres 1986, Guerra *et al.* 1987, Canto *et al.* 1991, Aguayo *et al.* 1992).

The history of Chilean right whale hunting begins between 1785 and 1790 (Clarke 1965). Most catches took place in the 19<sup>th</sup> century, mainly by foreign whaleboats, with 6,262 southern right whales hunted (Townsend 1935). At the early 20<sup>th</sup> century, the whaling operations were principally carried out by local companies, and catches were greatly reduced. *Corral's Whaling Company*, operating mainly between Mocha Island (38° 23'S) and Huafo Island (43°40'S), captured seven southern right whales of a total of 899 whales hunted between 1913 and 1914 (Martinic 1977). Between 1914 and 1915, *A. Andresen's Whaling Company* captured just five southern right whales from a total of 327 whales hunted from Chiloé Island to Drake Passage (Martinic 1977). In a summary report, Martinic (1977) established that between 1907 and 1963 two hundred and fifty-two southern right whales were hunted in Chilean waters. These facts indicated that by the early 1900s, the Chilean population of the southern right whale was greatly depleted and the species was regarded as at least very rare (Clarke 1965, Aguayo 1974).

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Although international protection for the southern right whale was granted since 1935, and their protected status continued under the International Convention for the Regulation of Whaling (ICRW) signed in 1946, the species has not shown clear signs of recovery. At present, the World Conservation Union (IUCN), formerly "International Union for Conservation of Nature" Red List of Threatened Animals lists the South Eastern Pacific stock as Low Risk (conservation dependant) (IUCN 2004).

After the commercial whaling period, their presence has been barely documented in Chilean waters. Between 1964 and 1998, different authors gathered a total of 46 sightings of the species (Clarke 1965, Aguayo 1974, Aguayo & Torres 1986, Guerra *et al.* 1987, Cárdenas *et al.* 1987, Canto *et al.* 1991, Aguayo *et al.* 1992, Aguayo *et al.* 1998b). Between 1982 and 1998, 17 sightings are mentioned for Chile's north coast (from 18°S to 32°S), 21 for the central coast (32°S to 40°S) and only three for the south coast (40°S to Cape Horn), one of them dated November 1985 in Laredo Bay (52°58'S) in the central area of the Strait of Magellan (Aguayo *et al.* 1992). All these sightings were opportunistic records that were not registered in most systematized surveys performed in Chile in those years (Gillmore 1971; Gallardo & Pastene 1983, Oporto 1986, Aguayo *et al.* 1998a, Capella *et al.* 1999, Findlay *et al.* 1998, Pastene & Shimada 1999).

In this report, we analyze data of sightings and strandings of southern right whales in the southern Chilean fjords in order to examine the local distribution in the Strait of Magellan. We discuss findings in search for clues for a possible relationship between the eastern Strait of Magellan and the Atlantic stock of southern right whales.

Surveys were carried out along inner waters in the southern Chilean fjords, between the south of Penas Gulf (47°40'S) and the Beagle channel (55°S). The area under study includes three sections: Patagonian fjords, from the south of Penas Gulf to the western area of the Strait of Magellan (52°40'S); the Strait of Magellan, a 570 km long V-shaped channel that connects the Pacific and the Atlantic Oceans and separates the southern part of the continent from Tierra del Fuego Island. In contact with the Strait are Almirantazgo, Otway and Skyring Sounds; Tierra del Fuego fjords, located south of the Strait of Magellan.

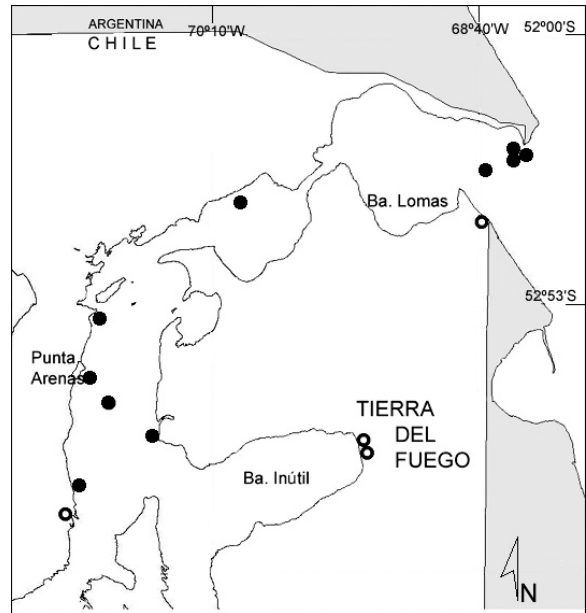


Fig. 1. Distribution of the southern right whale sightings (dots) and strandings (circles) on the Strait of Magellan.

In the Patagonian fjords, 16 excursions were carried out, with a total of 126 days of fieldwork: 52 days in 1997, 47 in 1998, 25 in 2000 and two in 2001. In Tierra del Fuego fjords, seven excursions were made in December 1999, April, August, October and November 2000 and February 2001, with a total of 63 days of fieldwork. In the Strait of Magellan, systematic and non-systematic surveys were undertaken. In the First Narrow, crossings were made from Delgada Point at the continent (52°29'S – 69°30'W) to Azul Bay (52°29'S – 69°31'W), onboard of commercial ferries during 22 days of fieldwork distributed on a semimonthly basis between May 2000 and June 2001 and 20 days distributed between October 2004 and September 2005. In the central area of the Strait of Magellan (Paso Ancho), excursions were made between Punta Arenas (53°07'S-70°51'W) and Chilota Bay, Tierra del Fuego Island (53°18'S-70°26'W), onboard of commercial ferries, during 24 days distributed on a semi-monthly basis between June 2000 and June 2001, and 20 days between October 2004 and September 2005.

Between Otway Sound and the south portion of the Strait of Magellan, surveys along a predetermined (entire or partial) track line of 259 km were conducted. A total of 85 days in 30 months from 1999 to 2005 were dedicated to surveys.

Also, shore based surveys around Carlos III Island and sea surveys along the Strait of Magellan from Punta Arenas to the western mouth of the Strait were occasionally conducted. Searches for southern right whales in the central sector of Strait of Magellan, in Francisco Coloane Marine Park waters (53°37'S-72°21'W), were undertaken during 250 vessel-days from 1999 to 2005, principally between January and March-April each year, except in 2004 as far as June. Skyring Sound was surveyed by non-systematic sampling on February 3<sup>rd</sup> and 21<sup>st</sup> and on March 30<sup>th</sup>, 2001. Almirantazgo Sound, was surveyed on September 1<sup>st</sup>, 2000, on February 8<sup>th</sup>, 2001 and on May 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup>, 2005.

The presence of the southern right whale was confirmed in the Beagle Channel and in the central and eastern part of the Strait of Magellan (Fig. 1). The species was seen every year in 2002 - 2006, and there was also one sighting in 1985. Between November 1985 and June 2006, we obtained 11 sightings, including at least one mother-calf pair and one single calf (Table 1) between Dungeness Point and Paso Ancho. The group size ranged from 1 to 3. We presume that sightings on 25, 26 and 27 of June 2003 probably belonged to the same groups.

A freshly dead animal stranded in Holy Spirit Cape (52°39'S - 68°38'W) in December 1998, and bone remains were encountered in San Juan (53°37'S-70°56'W) (Gibbons *et al.* 2000) and Inútil Bay (53°26'S-69°18'W and 53°22'S-69°20'W) (Fig. 1). The San Juan Bay specimen was a calf.

The nine new sightings of southern right whales reported here for the Strait of Magellan and one for the eastern part of the Beagle Channel are proportionally higher than previous accounts for the Strait (one) and for the entire Chilean fjords area (four). In addition, it represents an important number of records in comparison with all Chilean coast sightings collected ( $n = 46$ ) between 1964 and 1998 (Aguayo *et al.* 1998b).

The data presented in this paper, although still scanty, plus the absence of sightings of Southern right whale in the western part of the Strait of Magellan, Patagonian and Tierra del Fuego Fjords, suggest that the central and eastern part of the Strait of Magellan is visited by specimens likely belonging to the Southwestern Atlantic right whales stock that migrates along the Atlantic waters of South America.

The Southwestern Atlantic stock of southern right whale, one of the largest remaining population of the species (Cooke *et al.* 2001), has been studied

TABLE 1. Sightings of southern right whales in the Strait of Magellan and Beagle Channel between 1985 and 2005.

Date	Observer	Number of individuals	Location	Pictures/ video
11 November 1985	C. Venegas	1	Laredo Bay	yes
February 2002	E. Couve	1	Dungeness Point	yes
25, 26, 27 June 2003	J. Ramírez	30 (groups of 1 - 3)	Between Daniel & Catalina Point	yes
August 2003	E. Couve	2 - 3	Dungeness Point	no
27 September 2004	F. Gazitúa La Prensa Austral	1 calf	Punta Arenas Port	yes
29 March 2005	L. Pedreros	1	Dungeness Point	yes
9 September 2005	V. Alarcón	1	Paso Ancho 53°13'270-7041074	no
11 September 2005	J. Quezada - N. Núñez	2 (1 calf)	30 kms southern of Punta Arenas	yes
13 September 2005	V. Alarcón	1	Paso Ancho 53°28'18-702913	no
20 December 2005	La Prensa Austral	1	Puerto Williams Bay Beagle Channel	yes
June 2006	E. Eterovic	1	San Gregorio Bay	no

since the mid- 1960s on their nursery ground at Valdés Peninsula, Argentina (Payne 1986). 1,208 individuals have been identified from photographs taken during annual aerial surveys. However, there is limited data on the migratory route and destinations of southern right whales in the Southwestern Atlantic; three individuals from Valdés Peninsula were sighted on feeding grounds off Shag Rocks and South Georgia (Rowntree *et al.* 2001). There is no evidence of relations with the South-eastern Pacific stock. On the other hand, some right whales from Valdés Peninsula showed carbon and nitrogen isotope ratios very similar to those seen in right whales off South Africa, while others showed distinctive isotope ratios indicating that they fed in a different area (Best & Schell 1996).

The relationship of the southern right whales of the Strait of Magellan with the Argentina breeding population must be studied through further sampling and analysis of genetic and photo-identification evidence.

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