

REPORT OF THE GRAY WHALES CENSUSES IN SAN IGNACIO AND OJO DE LIEBRE BREEDING LAGOONS, MEXICO.

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ABSTRACT

Boat surveys at Laguna Ojo de Liebre during the 2011 winter season showed an increment of 97% in the maximum numbers of cow-calf pairs and 65% in single whales. In Laguna San Ignacio the increment was of 54% in cow-calf pairs and 9% in single whales. After three years of decrement in maximum counts of cow-calf pairs in these lagoons, the number registered during 2011 are similar to the ones presented during the decade of the 80's.

INTRODUCTION

Laguna Ojo de Liebre (Scammon's Lagoon), and Laguna San Ignacio (LSI) are two of the three calving-breeding lagoons of the Eastern Pacific gray whale (*Eschrichtius robustus*). The lagoons are located in the west coast of the Baja California Peninsula in Mexico (Fig 1). These lagoons are part of El Vizcaino Biosphere Reserve. Here we present the results of our annual censuses compared in relation with previous years.

METHODS

Boat Surveys (census)

The survey method has been described in previous reports. See Swartz *et al.* 2008 and Urbán *et al.* 2003. By convention, we considered "cow-calf pairs" (*i.e.*, female whales with calves of the year) as a single unit and counts of these pairs are equivalent to calf counts. "Single whales" refer to non-parturient females, adult males, and immature animals.

RESULTS

Laguna Ojo de Liebre (Scammon's Lagoon)

Historical surveys indicate that Laguna Ojo de Liebre is the most important breeding and calving lagoon in terms of the number of whales that occupy it during the winter breeding season. The maximum counts during the 2011 winter season were 862 total adult whales, 544 cow-calf pairs and 318 single whales. These numbers represent an increment of 45%, 97% and 54% respectively, in relation with the 2010 winter season (Figures 1, 2, 3).

Laguna San Ignacio

The maximum counts during the 2011 winter season were 394 total adult whales, 133 cow-calf pairs and 261 single whales. These numbers represent an increment of 65%, 565% and 9% respectively, in relation with the 2010 winter season (Figures 1, 2, 3). The peak numbers of the season was in the first week of March (Figure 4). The cow-calf pairs stay longer, during the first week of April more than 120 cow-calf pairs stay at the lagoon (Figure 5), and in May 12th eight cow-calf pairs still remain in Laguna San Ignacio.

DISCUSSION

We are in the process to analyze these data and we do know the reason for the increment of the whales in the lagoons. Perryman *et al* (2002) have suggested that there is a link between the timing of the melt of seasonal ice in the Arctic and calf production in this population the following winter.

In previous years, the fluctuations of the numbers of cow-calf in the lagoons were similar to changes in the estimates of northbound gray whale calves based on shore-based surveys conducted from the Piedras Blancas Light Station in California (Perryman *et al.* 2010), which indicates that the changes in the abundance in the lagoons are a reflection of what happened in the population. We expect to have the opportunity to know soon the results of these shore-based surveys from this season.

References

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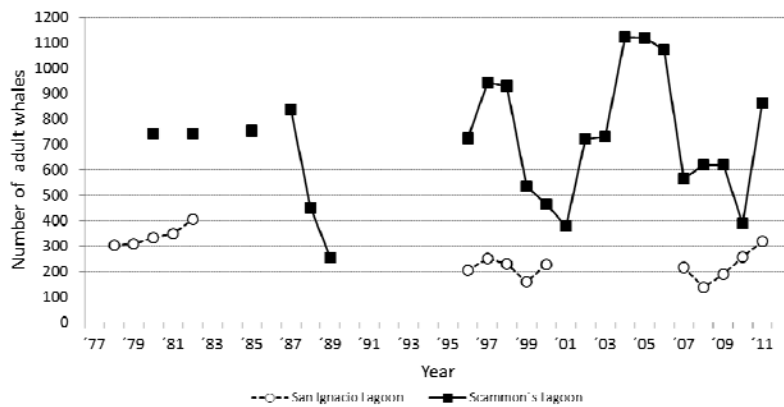


Figure 1. Adult whales counted in San Ignacio and Ojo de Liebre Lagoons. Lines between points represent surveys in continuous years.

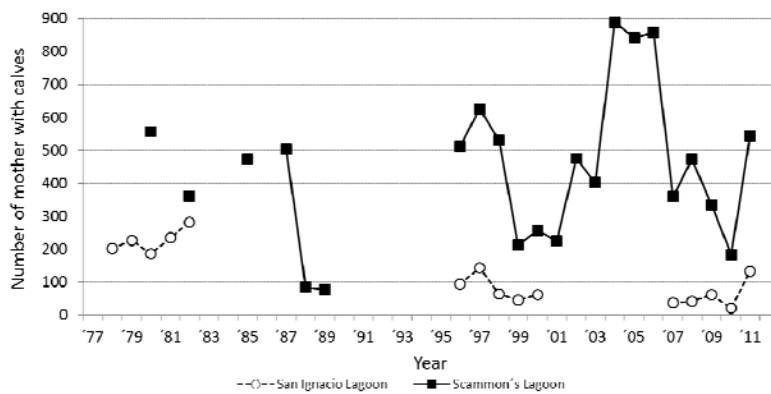


Figure 3. Cow-calf pairs counted in San Ignacio and Ojo de Liebre Lagoons. Lines between points represent surveys in continuous years.

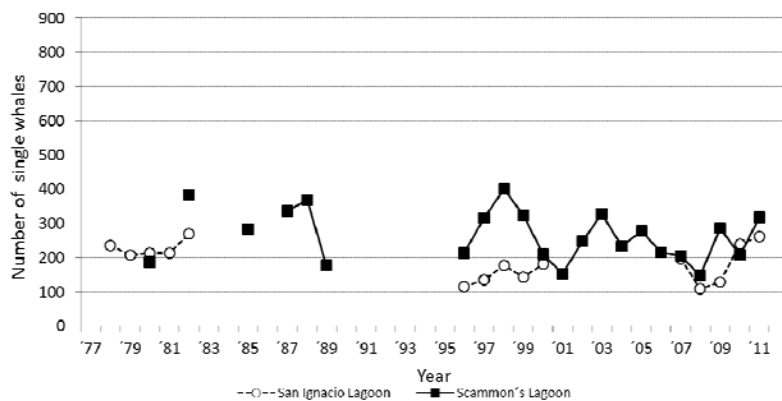


Figure 4. Single whales counted in San Ignacio and Ojo de Liebre Lagoons. Lines between points represent surveys in continuous years.

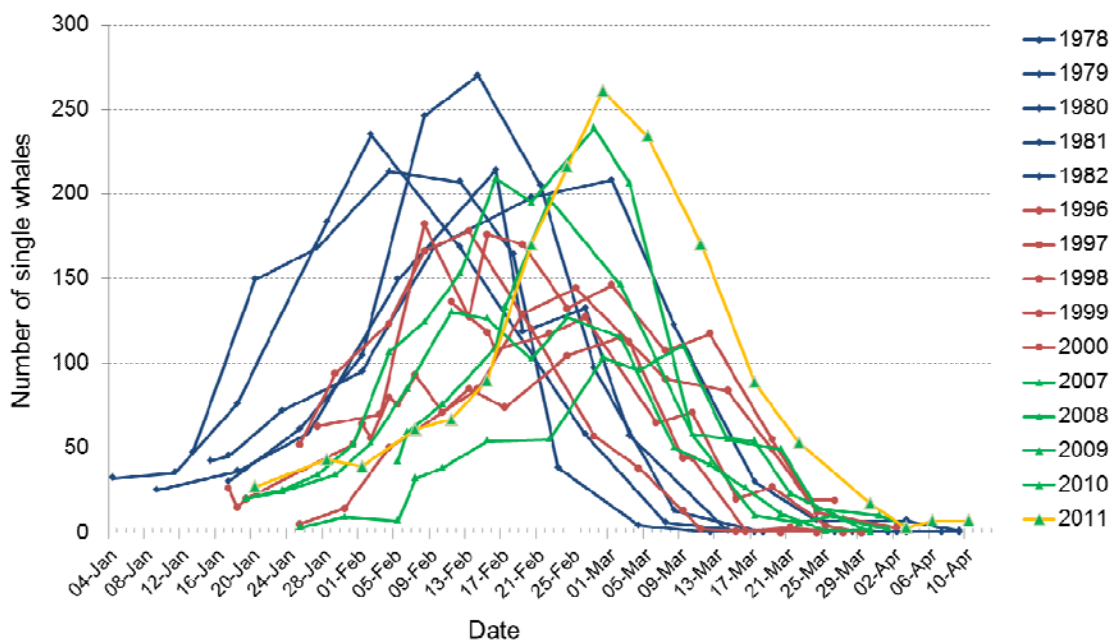


Figure 4. Single whales censuses at Laguna San Ignacio 1979-2011.

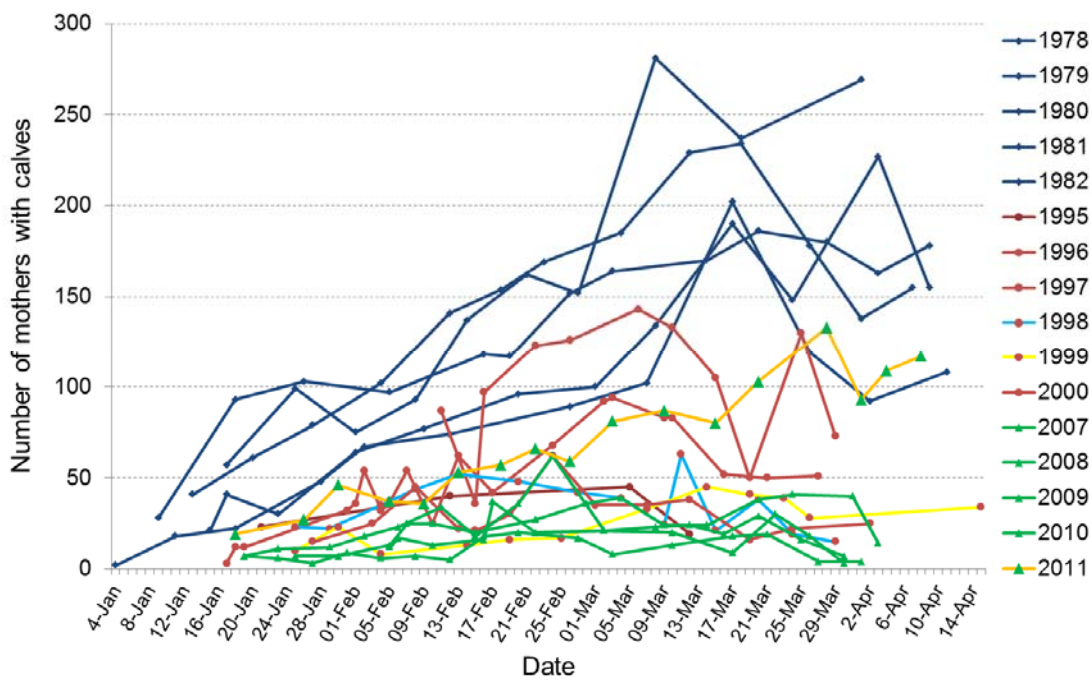


Figure 5. Cow-calf censuses at Laguna San Ignacio 1979-2011.