

## REPORT ON THE PHOTOGRAPHIC COMPARISON OF THE SAKHALIN ISLAND AND KAMCHATKA PENINSULA WITH THE MEXICAN GRAY WHALE CATALOGUES.

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### ABSTRACT

Photographs of 382 identified gray whales obtained from summer feeding grounds off Russia (232 from Sakhalin Island 1994-2012; and 150 from Kamchatka Peninsula 2004-2011), were compared with 4,352 photo-identified individuals from winter calving lagoons off the Baja California Peninsula, Mexico between 2006 and 2012. The Sakhalin, Kamchatka and Mexico catalogs comparison resulted in a total of 9 confirmed matches of individuals, including 1 males, three females and five of unknown sex. Two whales were observed in the three places, three in Sakhalin and Mexico and four in Kamchatka and Mexico. Eight of the 9 whales in Mexico were sighted in Laguna San Ignacio and one in Bahía Magdalena. Seven of the 9 whales were photographed in Mexico only in one year, one in two years and one in three years. Five whales were sighted in consecutive seasons. These results offer the first complete migratory information for some gray whales that summer off Russia and provide new information important to the evolving understanding of gray whale population structure in the North Pacific. The matches made between whales sighted off Sakhalin, Kamchatka and the Mexican Pacific are the results of the second year of the multinational collaboration “PACIFIC WIDE STUDY ON POPULATION STRUCTURE AND MOVEMENT PATTERNS OF NORTH PACIFIC GRAY WHALES” initiated under the coordination and support of the International Whaling Commission in 2011.

### INTRODUCTION

Recent results of genetic and photographic identification comparisons between western and eastern North Pacific gray whales (Lang *et al.* 2011; Weller *et al.* 2012) suggest a mixing of these populations during the winter reproductive season, and illustrate the great conservation and management importance of a more comprehensive examination of gray whale movement patterns and population structure in the North Pacific. The Scientific Committee recommended that a collaborative Pacific-wide study be developed under the auspices of the IWC, recognising that *inter alia* this will contribute to the Committee-endorsed Conservation Plan for western North Pacific gray whales and incorporate previous recommendations made by the Committee. Such a study will involve collaborative analysis and sharing of existing data as well as the collection of new data. This report summarizes the results of

the comparison of the gray whales photo identified off Sakhalin Island and the Kamchatka Peninsula with the Mexican gray whale catalogue.

## **METHODS**

The comparison was done based on:

1. The combination of two catalogues from Sakhalin Island. **217 individuals**

Burdin, A. M., Weller, D., Sychenko, O., and Bradford, A. 2012. “*WESTERN GRAY WHALES OFF SAKHALIN ISLAND, RUSSIA: A CATALOG OF PHOTO-IDENTIFIED INDIVIDUALS*”. 205 individuals. Period 1994-2011 (Russia-US)

Tyurneva, O. Yu. and Yakovlev, Yu. M. 2010. “*THE WESTERN PACIFIC GRAY WHALES OF SAKHALIN ISLAND 2002-2008, LEARNING ABOUT A POPULATION OF WHALES THROUGH PHOTOGRAPHS*”. (IBM) 165 individuals. Period: 2002-2008

2. A catalogue from Kamchatka. **150 individuals**

Tyurneva, O. and V.Vertyankin. 2012. *THE NORTH PACIFIC GRAY WHALES MASTER CATALOGUE 2004-2011*. Kamchatha. Institute of Marine Biology Russian Academy of Sciences

3. New photo-identified whales from Sakhalin from the Institute of Marine Biology Russian Academy of Sciences. **15 individuals**

4. The catalogue from Mexico 2006-2011. **3,405 individuals**

5. The catalogue from México 2012. **947 individuals** (including 670 from Laguna San Ignacio and 272 from Bahía Magdalena).

## **RESULTS.**

The Sakhalin, Kamchatka and Mexico catalogs comparison resulted in a total of 9 confirmed matches of individuals, including 1 male, three females and five of unknown sex. Two whales were observed in the three places, three in Sakhalin and Mexico and four in Kamchatka and Mexico. Eight of the 9 whales in Mexico were sighted in Laguna San Ignacio and one in Bahía Magdalena. Seven of the 9 whales were photographed in Mexico only in one year, one in two years and one in three years. (Table 1).

Five whales were sighted in consecutive seasons. Whale #2, female, was observed in Kamchatka in 2008, in San Ignacio in 2009, with a calf, and again in Kamchatka in the summer 2009. The same whale was observed again in San Ignacio 2012 and Sakhalin 2012.

The whale #4 also a female, was observed in Sakhalin 2007, San Ignacio 2008 and Sakhalin 2008. The same whale was observed in Sakhalin 2009 and San Ignacio 2010 and again Sakhalin 2011 and San Ignacio 2012.

These two whales, #2 and #4 were reported last year (Urbán *et al.* 2012) and they were photographed again during the winter season of 2012 at Laguna san Ignacio.

Table 1. Sighting summary information for 9 gray whales matched between Mexico against Sakhalin and Kamchatka. \* = With calf.

| #             | Sex | Mexico          | Sakhalin                                  | Kamchatka     |
|---------------|-----|-----------------|---|---------------|
| 1             | U   | 09-0506-D-LSI   | IBM 166                                   | IBM KAMGW 015 |
| Years sighted |     | 09              | 11  | 04            |
| 2             | F   | 09-0696-D-LSI-M | R-US 42; IBM 90                           | IBM KAMGM 01  |
| Years sighted |     | 09*,12          | 97,98,99,00,03,04,05,11,12                | 08,09         |
| 3             | M   | 12-0436-LSI     | R-US 47; IBM 9                            |               |
| Years sighted |     | 12              | 95,98,99,00,01,02,03,04,05,07,08,10,11,12 |               |
| 4             | F   | 08-0051-D-LSI-M | R-US 85; IBM 51                           |               |
| Years sighted |     | 08*,10,12*      | 99,01,04,05,07,08,09,11                   |               |
| 5             | U   | 12-0551-LSI     | R-US 200; IBM 191                         |               |
| Years sighted |     | 12              | 11 (calf)                                 |               |
| 6             | U   | 11-0362-LSI     |   | IBM KAMGW 134 |
| Years sighted |     | 11              |   | 10            |
| 7             | U   | 11-0308-LSI     |   | IBM KAMGW 036 |
| Years sighted |     | 11              |   | 07            |
| 8             | U   | 12-0272-BM      |   | IBM KAMGW 114 |
| Years sighted |     | 12              |   | 09            |
| 9             | F   | 12-0229-LSI-M   |   | IBM KAMGW 117 |
| Years sighted |     | 12*             |   | 10            |

In summary the results of this report together with the report from last year (Urban *et al.* 2012) are show in the figure 1:

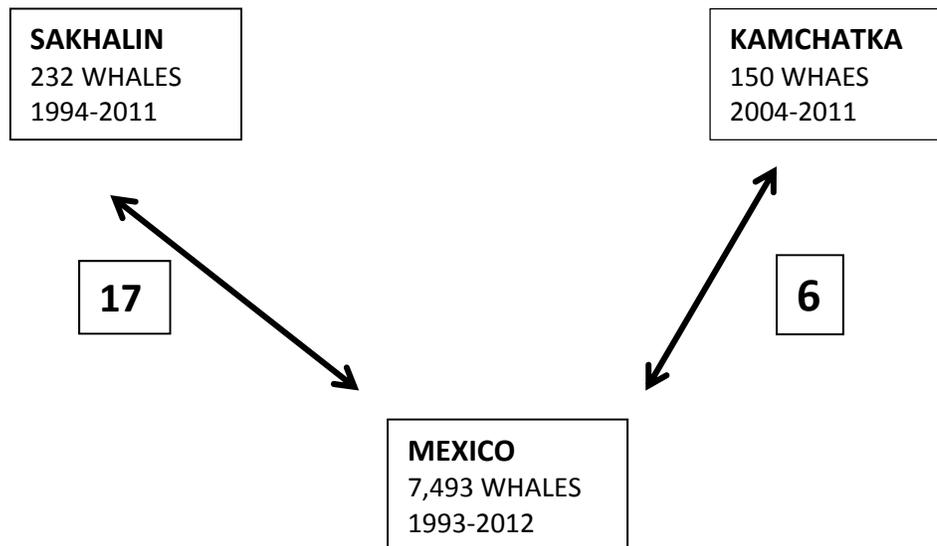


Figure 1. Matches between the two feeding areas: Sakhalin and Kamchatka with Mexico. A total of 21 whales considering that two individuals were observed in the three places. 7 females, 7 males and 7 of unknown sex.

## DISCUSSION

Recent results of genetic, telemetry and photographic identification comparisons between western and eastern North Pacific gray whales suggest a mixing of these populations during the winter reproductive season. These findings illustrate the great conservation and management importance of a more comprehensive examination of gray whale movement patterns and population structure in the North Pacific.

These results offer the first complete migratory information for some gray whales that summer off Russia and provide new information important to the evolving understanding of gray whale population structure in the North Pacific.

The matches made between whales sighted off Sakhalin, Kamchatka and the Mexican Pacific are the results of the second year of the multinational collaboration “PACIFIC WIDE STUDY ON POPULATION STRUCTURE AND MOVEMENT PATTERNS OF NORTH PACIFIC GRAY WHALES” initiated under the coordination and support of the International Whaling Commission in 2011 (IWC, 2011)

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