

MIGRATORY CONNECTIONS BETWEEN THE WESTERN AND EASTERN NORTH PACIFIC GRAY WHALES POPULATIONS

J. Urbán R., D. Weller, O. Tyurneva, S. Swartz, A.
Bradford, Y. Yakovlev, O. Sychenko, H. Rosales
N., S. Martínez A., A. Burdin and
A. Gómez-Gallardo U.

PACIFIC WIDE STUDY OF POPULATION STRUCTURE AND
MOVEMENT PATTERNS OF NORTH PACIFIC GRAY WHALES



WESTERN GRAY WHALE POPULATION

Estimate size: 130-150 individuals

EASTERN GRAY WHALE POPULATION

Estimate size: 20,000 individuals

J. CETACEAN RES. MANAGE. 4(1):1-5, 2002

1

Genetic differences between western and eastern gray whales (*Eschrichtius robustus*)

R.G. LeDuc*, D.W. Weller**, J. Hyde*, A.M. Burdin**, P.E. Rosel**, R.L. Brownell, Jr.*, B. Würsig # AND A.E. Dizon *

?

2011

SC/63/BRG10

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Genetic analysis of stock structure and movements of gray whales in the eastern and western North Pacific

A.R. Lang¹, D.W. Weller¹, R. LeDuc¹, A. M. Burdin², V.L. Pease¹, D. Litovka³, V. Burkanov^{2,4},
R.L. Brownell, Jr.⁵

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IUCN: Critically endangered (CR)

IUCN: Least concern (LC)

New Information

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Genetic analysis of stock structure and movements of gray whales in the eastern and western North Pacific

A.R. Lang¹, D.W. Weller¹, R. LeDuc¹, A. M. Burdin², V.L. Pease¹, D. Litovka³, V. Burkanov^{2, 4}, R.L. Brownell, Jr.⁵

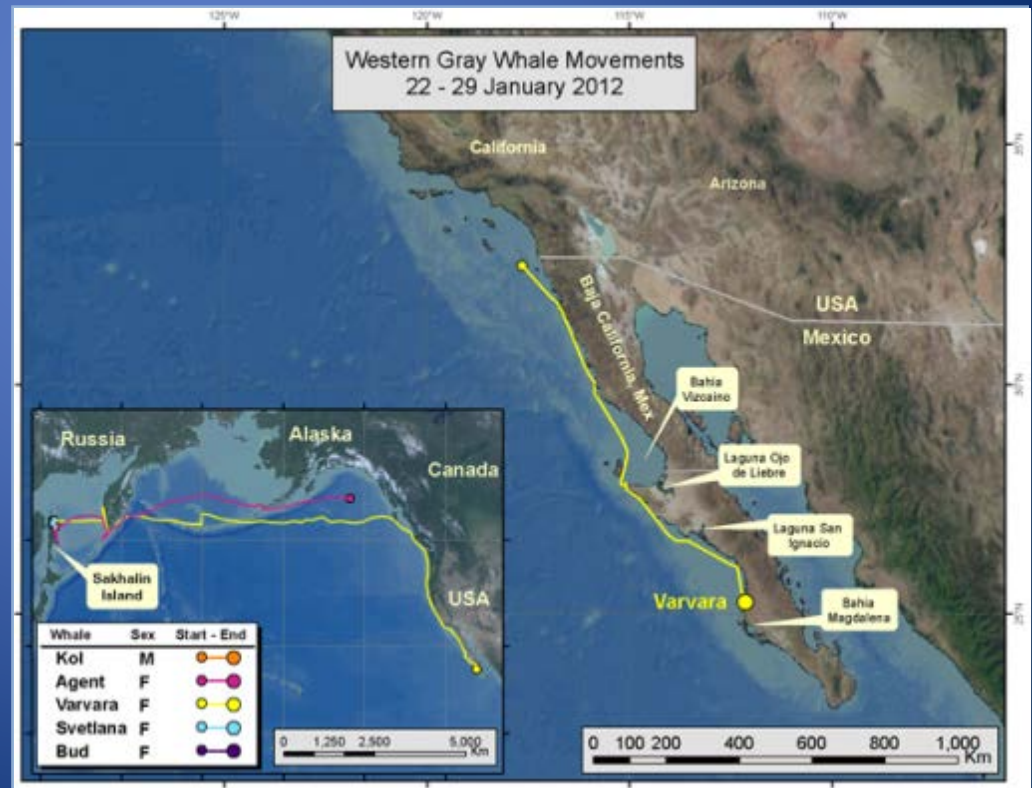
Two adult individuals sampled off Santa Monica in 1995 and in Sakhalin I. in 1998 and 2000.

Presumed critically endangered western gray whales migrate to the eastern North Pacific

Mate, Bruce

20th Biennial Conference on the Biology of Marine Mammals Dunedin, New Zealand, 9-13 December 2013

Three tagged whales moved to the eastern North Pacific





International
Whaling
Commission

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2011

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PACIFIC WIDE STUDY ON POPULATION STRUCTURE AND MOVEMENT PATTERNS OF NORTH PACIFIC GRAY WHALES

2012 **SC/64/BRG13 REVISED**

REPORT ON THE PHOTOGRAPHIC COMPARISON OF THE WESTERN AND MEXICAN GRAY WHALE CATALOGUES.

J. Urbán R.¹, D. Weller², O. Tyurneva³, S. Swartz⁴, A. Bradford⁵, Y. Yakovlev³, O. Sychenko⁶, H. Rosales N¹., S. Martínez A¹., A. Burdin⁶ and A. Gómez-Gallardo U.¹

SC/65a/BRG08

2012 PHOTO-IDENTIFICATION STUDY OF WESTERN GRAY WHALES (*Eschrichtius robustus*) OFFSHORE NORTHEAST SAKHALIN ISLAND AND SOUTHEAST KAMCHATKA PENINSULA, RUSSIA

Olga Yu. Tyurneva^{1*}, Yuri M. Yakovlev¹, Vladimir V. Vertyankin²

1 - A.V. Zhirmunsky Institute of Marine Biology, Far Eastern Branch of the Russian Academy of Sciences (IMB FEB RAS), Vladivostok, 690041, Russia. (E-mail: olga-tyurneva@yandex.ru)

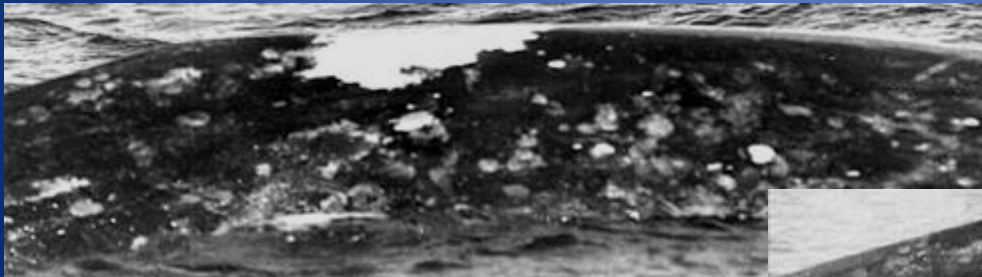
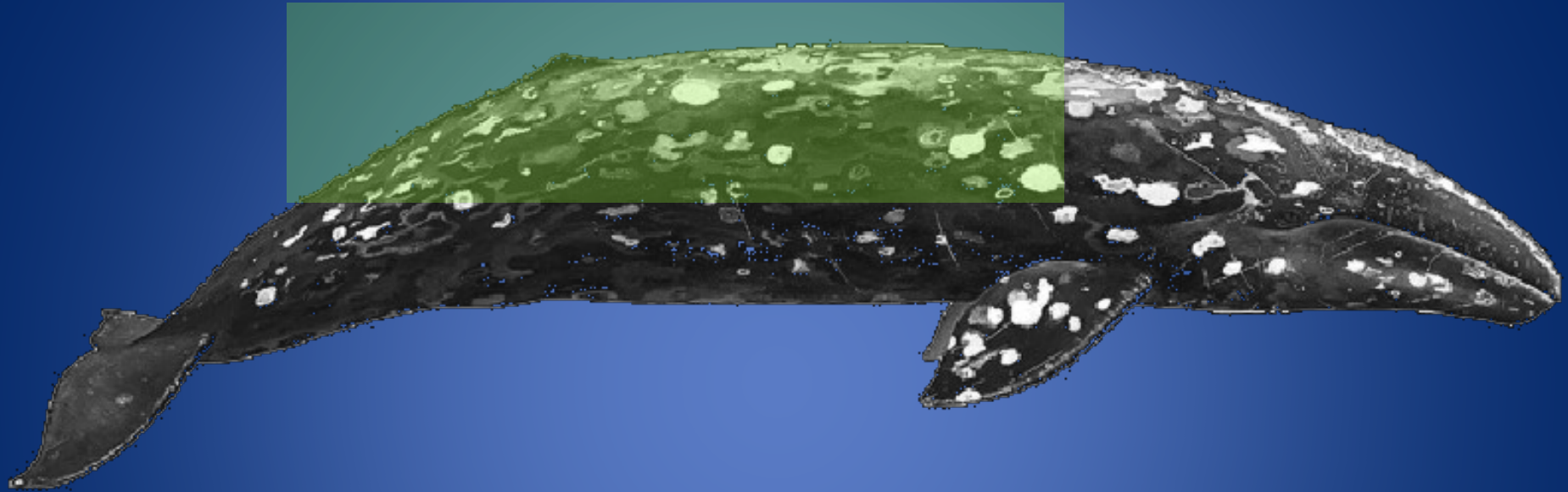
2 - Kronotsky State Biosphere Reserve, Elizovo, 684000, Russia.

2013 **SC/65/BRG04**

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

J. Urbán R.¹, D. Weller², O. Tyurneva³, S. Swartz⁴, A. Bradford⁵, Y. Yakovlev³, O. Sychenko⁶, H. Rosales N¹., S. Martínez A¹., A. Burdin⁶ and A. Gómez-Gallardo U.¹

Photo-identification



**WESTERN GRAY WHALES OFF SAKHALIN ISLAND, RUSSIA:
A CATALOG OF PHOTO-IDENTIFIED INDIVIDUALS**

CATALOG OWNERS

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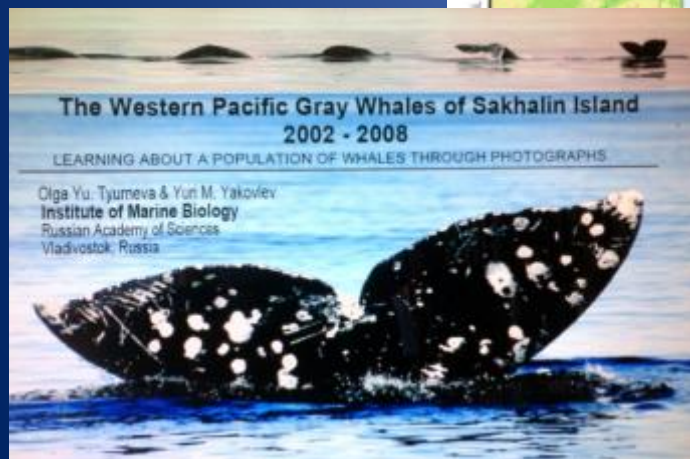
AMANDA L. BRADFORD

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



**The Western Pacific Gray Whales of Sakhalin Island
2002 - 2008**

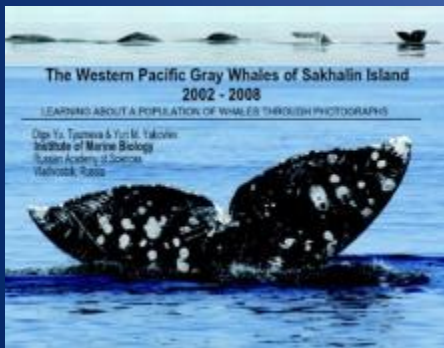
LEARNING ABOUT A POPULATION OF WHALES THROUGH PHOTOGRAPHS

Olga Yu. Tyurneva & Yuri M. Yakovlev
Institute of Marine Biology
Russian Academy of Sciences
Vladivostok, Russia

**Burdin *et al.*,
1994-2011 (205)**



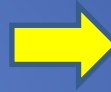
VS



Tyurneva y Yakovlev
2008-2012 (193)

232 photo-id whales

VS



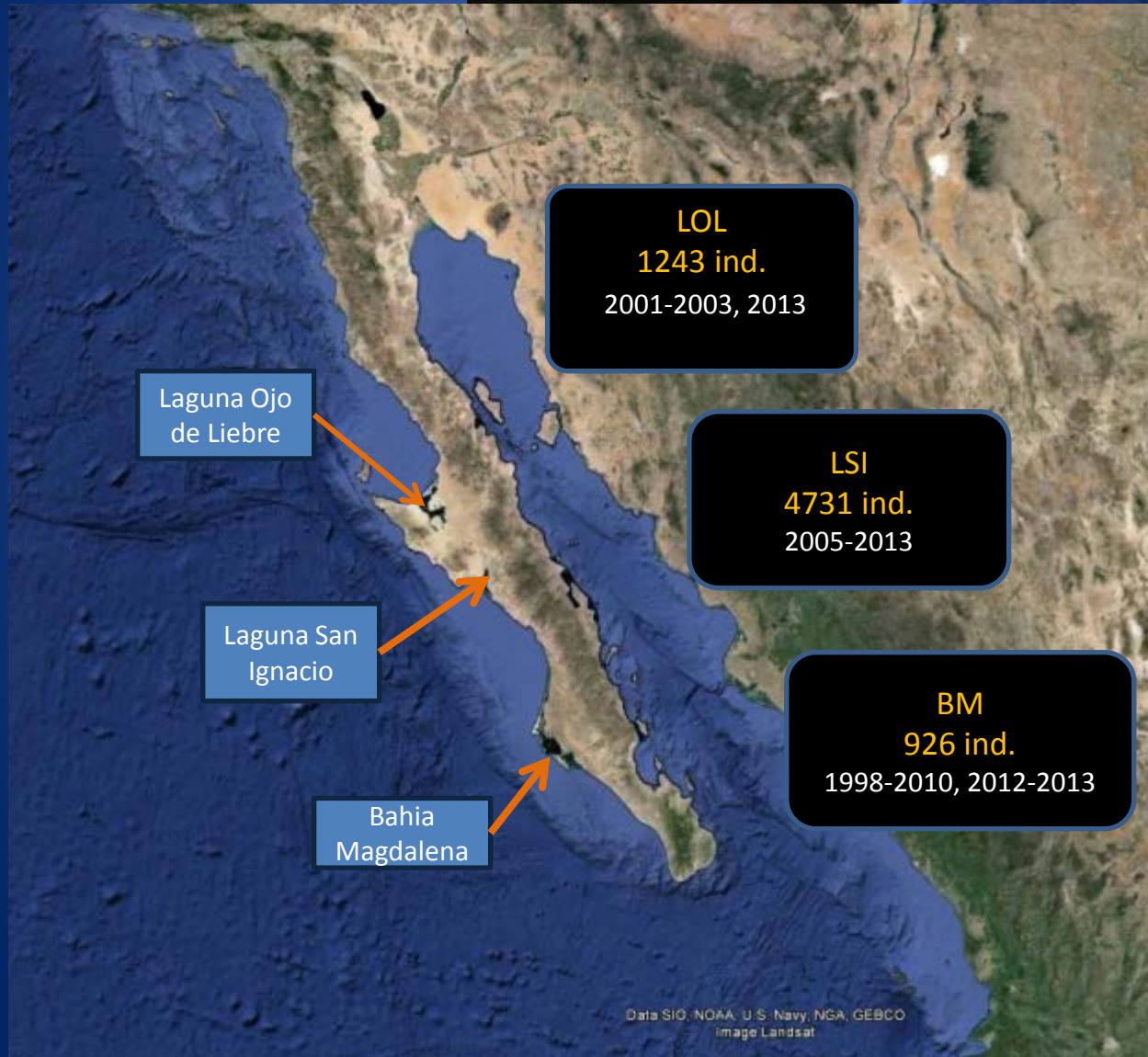
Tyurneva y Vertyankin
2004-2011 (149)



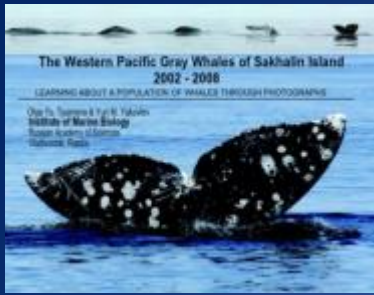
291 photo-id whales

- 142 only Sakhalin
- 65 only Kamchatka
- 84 in both places

Baja California Peninsula, Mexico



DAA, U.S. Navy, NGA, GEBCO
Image Landsat
Image IBCAO



VS



291

VS

6900

11

23 matches

23 MATCHES

- 15-18% of the Western gray whales' population size
- 10 females, 8 males, 5 unknown sex
- 7 matches from Mexico with Sakhalin I. and Kamchatka P.
- 12 matches from Mexico with only Sakhalin I.
- 4 matches from Mexico with only Kamchatka P.

- 19 whales (8 females, 8 males, 3 unknown sex) were registered in two or more consecutive seasons
- 13 matches in two consecutive seasons
- 10 matches in three consecutive seasons
- 7 of the ten females were sighted with calf in Mexico
- 6 females with calf in Mexico were sighted next summer, three with calf and three without calf

Example #1 Male (Rus-US 52, IBM 26)

Summer

Winter

Sakhalin 2006



México 2007

Sakhalin 2009



México 2010

Sakhalin 2010



Example #2 Female (Rus-US 42, IBM 90, K 01)

Summer

Winter

Kamchatka 2008



Kamchatka 2009



Sakhalin 2011



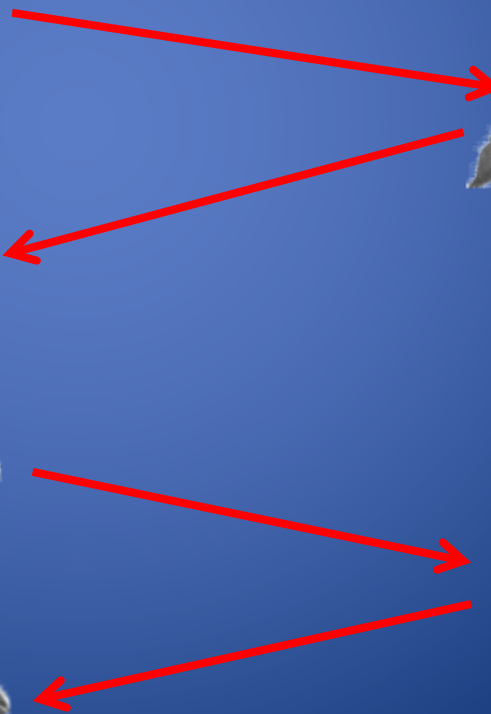
Sakhalin 2012



México 2009



México 2012

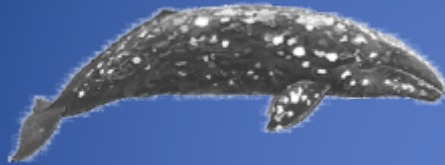


Example #3 Female (Rus-US 85, IBM 519)

Summer

Winter

Sakhalin 2007



México 2008



Sakhalin 2008



Sakhalin 2009



México 2010



Sakhalin 2011



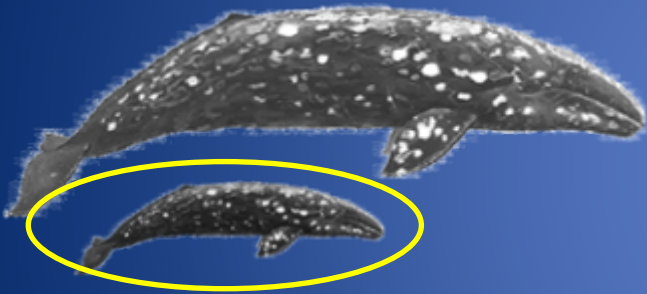
México 2012



Example #3 Female (Rus-US 85, IBM 519)

Summer

Winter



Sakhalin 2011

México 2012

Conclusions

- This is the most complete information of individual movements during the migratory cycle of any whale population.
- This results, together with the genetic matches and the movements of the tagged whales open the door for a reconsideration of the population structure of the gray whales in the North Pacific Ocean.
- The results could suggest that some eastern gray whales occupied historical feeding grounds of the western gray whales.

Conclusions

- And, in a different matter but not less important, this study pointed out the importance of a multinational coordination of different research groups in the study of migratory whales.



Pieter Folkens



Greg Donovan



Thank you



Example #3 Female (Kam 114)

Summer

Winter

México 2012



Kamchatka 2012



México 2013

