

# **NOAA Technical Memorandum NMFS**

**JANUARY 2024** 

# EASTERN NORTH PACIFIC GRAY WHALES MIGRATING NORTH OFF THE CENTRAL CALIFORNIA COAST: A PHOTO-IDENTIFICATION CATALOG OF MOTHER-CALF PAIRS 2012-2019

James W. Gilpatrick Jr., Chelsea Parrish, Alexa K. Kownacki, Morgan S. Lynn, Wayne L. Perryman, and David W. Weller

> NOAA Southwest Fisheries Science Center Marine Mammal and Turtle Division La Jolla, California

> > NOAA-TM-NMFS-SWFSC-693

U.S. DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration National Marine Fisheries Service Southwest Fisheries Science Center

### About the NOAA Technical Memorandum series

The National Oceanic and Atmospheric Administration (NOAA), organized in 1970, has evolved into an agency which establishes national policies and manages and conserves our oceanic, coastal, and atmospheric resources. An organizational element within NOAA, the Office of Fisheries is responsible for fisheries policy and the direction of the National Marine Fisheries Service (NMFS).

In addition to its formal publications, the NMFS uses the NOAA Technical Memorandum series to issue informal scientific and technical publications when complete formal review and editorial processing are not appropriate or feasible. Documents within this series, however, reflect sound professional work and may be referenced in the formal scientific and technical literature.

SWFSC Technical Memorandums are available online at the following websites:

SWFSC: https://swfsc-publications.fisheries.noaa.gov/

NOAA Repository: https://repository.library.noaa.gov/

### Accessibility information

NOAA Fisheries Southwest Fisheries Science Center (SWFSC) is committed to making our publications and supporting electronic documents accessible to individuals of all abilities. The complexity of some of SWFSC's publications, information, data, and products may make access difficult for some. If you encounter material in this document that you cannot access or use, please contact us so that we may assist you. Phone: 858-546-7000

### Recommended citation

Gilpatrick, James W. Jr., Chelsea Parrish, Alexa K. Kownacki, Morgan S. Lynn, Wayne L. Perryman, and David W. Weller. 2024. Eastern North Pacific gray whales migrating north off the central California coast: A photo-identification catalog of mother-calf pairs 2012-2019. U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-693.

https://doi.org/10.25923/m0m6-5p71

### Eastern North Pacific Gray Whales Migrating North off the Central California Coast: A Photo-Identification Catalog of Mother-Calf Pairs 2012-2019

James W. Gilpatrick, Jr., Chelsea Parrish, Alexa K. Kownacki, Morgan S. Lynn, Wayne L. Perryman and David W. Weller

### Introduction

The majority of eastern North Pacific gray whales (*Eschrichtius robustus*) annually migrate southward from summer feeding grounds in the Pacific Arctic to wintering areas off Baja California, Mexico (Rice and Wolman, 1971). Both the southward and northward migration are segregated, to a large extent, by age, sex and reproductive condition. During the northward migration, females with their calves of the year are the last to depart the Baja wintering areas. These mother-calf pairs are observed on the migration route between late March and late May and typically arrive to the summer feeding grounds sometime between May and June.

Between 1994 and 2023, shore-based counts of northbound gray whale calves have been conducted each spring by NOAA's Southwest Fisheries Science Center off central California (Fig. 1) and the results most recently published in Stewart and Weller (2021) and Eguchi et al. (2023). Between 2012 and 2019, shore-based photo-identification efforts of mother-calf pairs were carried out simultaneously with the visual survey and the images collected are represented in this catalog of identified individuals.

### **Materials and Methods**

Shore-based marine mammal observers collected digital images of gray whale mother-calf pairs as they passed close to shore (normally within 200-400 m). Photos were taken during the eight-year period (2012-2019) with various models of Canon DSLR cameras equipped with either a 100-400mm or 800mm lens. Image file formats were set at JPEG, RAW or both. Cameras were mounted on a tripod located directly in front of the visual survey observation platform (35° 39' 51" N, 121° 17' 3" W). Most photos captured the right-side flanks of mothers with their calves as they migrated north. The position of the calf relative to the mother was recorded in a separate data file, in addition to what was captured in the associated images, to differentiate their respective position to one another.

For the purpose of individual matching, the quality of photographic images contained in this catalog include those that are generally of good or better quality, documenting mottling and scarring patterns of individual whales, but are not necessarily suitable for other analytical purposes. Native resolution digital images were archived and saved using Adobe InDesign software. For the purpose of this printed publication, digital photographs were converted to PDF files. This file format conversion resulted in some reduction in the resolution of the photographs. The native resolution images are available on request, however, for confirmation of individual matching in cases where the pdf images provided herein are insufficient.

Photo-identification matching was conducted by the lead author using native resolution digital images. These images were later edited using the Adobe Photoshop to standardize them for placement in Adobe InDesign photo templates upon which the individual catalog entries are based.

#### **Catalog Description**

This catalog is comprised of adult female gray whale mothers that were accompanying calves at the time they were photographed. Additionally, calves (those with sufficient markings to be reliably individually-identified) associated with their mothers are included in this catalog. The age class for several adult females and calves are denoted as "probable" in the supplemental information for specific images. Inter-annual resigntings of two

individuals were recorded<sup>1</sup>. Two mothers were photographed and matched at 3-year intervals. One of these females (GW12-PB-023-R) was first photographed in 2012 with a calf and then photographed again with a calf in 2015. The other female (GW13-PB-023-R) was first photographed in 2013 with a calf and then photographed again with a calf in 2016 (see Fig.2).

The overarching objective of making this catalog openly available is to facilitate regional and international cooperation and collaboration amongst research groups collecting data on gray whales in the North Pacific.

#### **Terms and Definitions**

Interpretation of the text boxes (below) associated with each individual image in the catalog is provided in Table 1.

#### Acknowledgements

Our shore-based surveys of gray whales conducted from the Piedras Blancas Light Station would not be possible without the support and hospitality provided by U.S. Department of Interior's Bureau of Land Management. We are particularly indebted to the support, over decades, provided by John Bogacki, Jim Boucher, Ryan Cooper, and Jodie Nelson.

#### References

Eguchi, T, Lang, A.R. and Weller, D.W. (2023) Eastern North Pacific Gray Whale Calf Production 1994-2023. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-685.

Rice, D.W. and Wolman, A.A. (1971) The Life History and Ecology of the Gray Whale (*Eschrichtius robustus*). American Society of Mammalogists Special Publication No. 3. 142 pp.

Stewart, J.D. and Weller, D.W. (2021) Estimates of Eastern North Pacific Gray Whale Calf Production 1994-2021. NOAA Technical Memorandum NOAA-TM-NMFS-SWFSC-653.

<sup>&</sup>lt;sup>1</sup> Refer to the catalog 2012, GW023 (120511 0807hrs. PB-0023-SWFSC-PhotoID (Female) R (fr.1417)) and catalog year 2013, GW023 (130502 1548hrs. PB0054-SWFSC-PhotoID (Female) R (fr.492)) for further information on these resightings.

**Figure 1.** (A) The Piedras Blancas Light Station (Bureau of Land Management) at San Simeon, California. The NOAA calf production visual survey and photo-identification research are co-located along the coastal bluff to the left of the lighthouse; (B) 25x150 binoculars are used to scan the nearshore study area for gray whale mother-calf pairs.



(B)



(A)

Figure 2. Inter-annual resightings of two adult females (mothers).



Gray Whale Mother (GW12-PB-023). Piedras Blancas Gray Whale Survey 2012. This female was photographed again at Piedras Blancas in 2015 (below).



Gray Whale Mother (GW15-PB-185). Piedras Blancas Gray Whale Survey 2015. This female was photographed previously at Piedras Blancas in 2012 (above).



Gray Whale Mother (GW13-PB-023). Piedras Blancas Gray Whale survey 2013. This female was photographed again at Piedras Blancas in 2016 (below).



Gray Whale Mother (GW16-PB-047). Piedras Blancas Gray Whale Survey 2016. This female was photographed previously at Piedras Blancas in 2013 (above).

**Table 1.** Terms and definitions associated with each image of an individual in the catalog.

### **Upper Text Box**

GW0065

Lower Text Box

150529 1202hrs. PB-0204-SWFSC-PhotoID (Female) R (fr.3892) Calf inside and at R side of Female.

### Description of Terms: Upper Text Box

### GW0065

GW0065 marks this as the 65th gray whale (either a female or calf or both together as seen above) photographed in a specific year.

#### **Description of Terms: Lower Text Box**

150529

Date the image was taken: yymmdd

**1202hrs** Time the image was taken (local PST)

PB-0204

PB = Piedras Blancas study area; 0204 = image number recorded consecutively during the sampling years

### SWFSC-PhotoID

NOAA, Southwest Fisheries Science Center Gray Whale Photo-Identification Project

(Female) R

Right side (R) of the female (i.e. mother) recorded in the photograph

(fr. 3892) Photo frame number recorded by the camera

Calf inside and at R side of Female Supplemental information on the image(s)

### Piedras Blancas Gray Whale Photos 2012

## GW0001



120423 1318hrs. PB-0001-SWFSC-PhotoID (Female) R (fr.121) (Female is left; Calf is right in the photograph)

### GW0002



120423 1318hrs. PB-0002-SWFSC-PhotoID (Calf) R (fr.121) (Female is left; Calf is right in the photograph)



120423 1410hrs. PB-0003-SWFSC-PhotoID (Female) R (fr.179)

### GW0004 & GW0004a



120423 1526hrs. PB-0004-SWFSC-PhotoID (Female & Calf) R (fr.261) (Calf on the outside)



120425 1128hrs. PB-0005-SWFSC-PhotoID (Female) R (fr.354)

## GW0006



120425 1425hrs. PB-0006-SWFSC-PhotoID (Female) R (fr.477)



120425 1447hrs. PB-0007-SWFSC-PhotoID (Female) R (fr.521) Calf on the inside; R side of the Female

### GW0008



120426 1143hrs. PB-0008-SWFSC-PhotoID (Female) R (fr.610)



120426 1310hrs. PB-0009-SWFSC-PhotoID (Female) R (fr.669)

# GW0010



120426 1641hrs. PB-0010-SWFSC-PhotoID (Female) R (fr.689)



120426 1707hrs. PB-0011-SWFSC-PhotoID (Female) R (fr.732)

## GW0012



120427 1205hrs. PB-0012-SWFSC-PhotoID (Female) R (fr.865)



120427 1745hrs. PB-0013-SWFSC-PhotoID (Female) R (fr.898)

# GW0014



120501 1651hrs. PB-0014-SWFSC-PhotoID (Female) R (fr.951)



120502 1455hrs. PB-0015-SWFSC-PhotoID (Female) R (fr.1047)

## GW0016



120503 1109hrs. PB-0016-SWFSC-PhotoID (Female) R (fr.1129)



120503 1108hrs. PB-0017-SWFSC-PhotoID (Female) R (fr.1127)

# GW0018

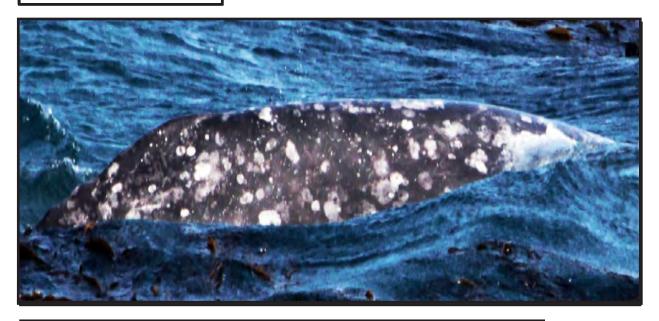


120507 0832hrs. PB-0018-SWFSC-PhotoID (Female) R (fr.1369)



120507 1730hrs. PB-0019-SWFSC-PhotoID (Female) R (fr.1379) Calf on the inside; R side of the Female

## GW0020



120507 1730hrs. PB-0020-SWFSC-PhotoID (Female) R (fr.1387)



120508 1439hrs. PB-0021-SWFSC-PhotoID (Female) R (fr.1397)

## GW0022



120509 1117hrs. PB-0022-SWFSC-PhotoID (Female) R (fr.1400)



120511 0807hrs. PB-0023-SWFSC-PhotoID (Female) R (fr.1417)

**Photo-ID match with:** 150513 1247hrs. PB-0185-SWFSC-PhotoID (Female) R (fr.2539)

### GW024



120511 1115hrs. PB-0024-SWFSC-PhotoID (possible Calf) R (fr.1428)



120511 1826hrs. PB-0025-SWFSC-PhotoID (Female) R (fr.1481)

## GW0026



120515 07371hrs. PB-0026-SWFSC-PhotoID (Female) R (fr.1508) Calf on the inside; R side of the Female



120515 0742hrs. PB-0027-SWFSC-PhotoID (Female) R (fr.1526)

## GW0028



120515 1008hrs. PB-0028-SWFSC-PhotoID (Calf) R (fr.1557)



120512 0635hrs. PB-0029-SWFSC-PhotoID (Female) R (fr.1625)

## GW0030



120516 1646hrs. PB-0030-SWFSC-PhotoID (Female) R (fr.1632) (Female/Calf pair; Calf inside; R side of the Female)



120516 1647hrs. PB-0031-SWFSC-PhotoID (Female) R (fr.1634)

### Piedras Blancas Gray Whale Photos 2013

# GW0001



130417 0911hrs. PB-0032-SWFSC-PhotoID (Calf) R (fr. 56)

## GW0002



130417 1614hrs. PB-0033-SWFSC-PhotoID (Female) R (fr. 63)



130419 1248hrs. PB0034-SWFSC-PhotoID (Calf) R (fr.146) (Calf inside; Female outside in the photograph)

### GW0004



130419 1248hrs. PB-0035-SWFSC-PhotoID (Female) R (fr.146) (Calf inside; Female outside in the photograph)



130422 1315hrs. PB0036-SWFSC-PhotoID (Female) R (fr. 211)

## GW0006

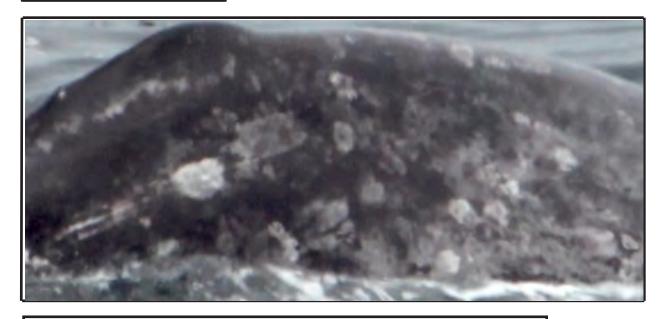


130422 1501hrs PB0037-SWFSC-PhotoID (Calf) R (fr. 240)



130423 1407hrs. PB0038-SWFSC-PhotoID (Calf) R (fr. 254)

# GW0008



130423 1413hrs. PB0039-SWFSC-PhotoID (Female) R (fr. 265)

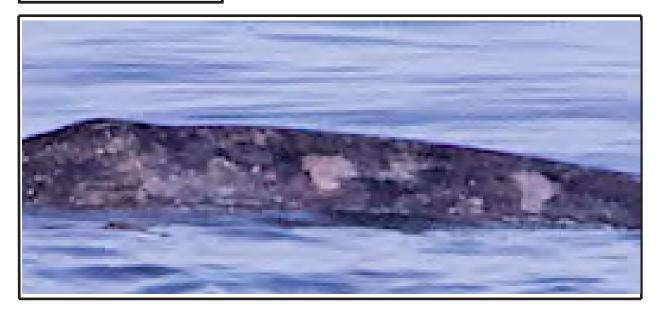


130423 1751hrs. PB0040-SWFSC-PhotoID (Female) R (fr. 292)

## GW0010



130424 1529hrs. PB0041-SWFSC-PhotoID (Female) R (fr. 344) (Calf inside; Female outside in the photograph)



130425 0756hrs. PB0042-SWFSC-PhotoID (Female) R (fr. 394)

## GW0012



130425 0847hrs. PB0043-SWFSC-PhotoID (Female) R (fr. 429) (Calf inside; Female outside in the photograph)



130425 1115hrs. PB0044-SWFSC-PhotoID (Female) R (fr. 454)

# GW0014



130425 1756hrs. PB-0045-SWFSC-PhotoID (Calf) R (fr. 579)



130426 1352hrs. PB0046-SWFSC-PhotoID (Female) R (fr. 715)

## GW0016



130426 1355hrs. PB0047-SWFSC-PhotoID (Female) R (fr.723)



130426 1427hrs. PB0048-SWFSC-PhotoID (Female) R (fr.751)

## GW0018



130430 1019hrs.PB0049-SWFSC-PhotoID (Calf) R (fr.41) Associated with Female (GW0019).



130430 1019hrs. PB0050-SWFSC-PhotoID (Female) R (fr.52) Associated with Calf (GW0018).

## GW0020



130430 1900hrs. PB0051-SWFSC-PhotoID (Calf) R (fr.175)



130501 1649hrs. PB0052-SWFSC-PhotoID (Calf) R (fr. 310)

## GW0022



130502 0843hrs. PB0053-SWFSC-PhotoID (Calf) R (fr.426)



130502 1548hrs. PB0054-SWFSC-PhotoID (Female) R (fr.492) Match with: 160509 1112 hrs. PB-0251-SWFSC-PhotoID (Female) R

### GW0024



130503 0942hrs. PB0055-SWFSC-PhotoID (Female) R (fr.27)



130503 0949hrs. PB0056-SWFSC-PhotoID (Calf) R (fr.52)

## GW0026



130503 1135hrs. PB0057-SWFSC-PhotoID (Calf) R (fr.155)

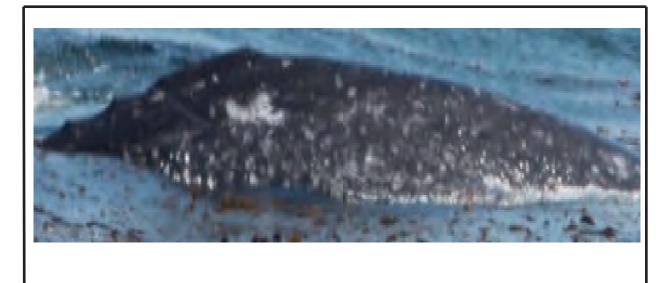


130503 1321hrs. PB0058-SWFSC-PhotoID (Calf) R (fr.358)

## GW0028



130503 1446hrs. PB0059-SWFSC-PhotoID (Calf) R (fr.400)



130503 1452hrs. PB0060-SWFSC-PhotoID (Female) R (fr.416)

## GW0030



130503 1505hrs. PB0061-SWFSC-PhotoID (Female) R (fr.449)



130503 1627hrs. PB0062-SWFSC-PhotoID (Female) R (fr.464) Photo-id Match: 160509 1112 hrs. PB-0062-SWFSC-PhotoID (Female)

#### GW0032



130503 1635hrs. PB0063-SWFSC-PhotoID (Calf) R (fr.468)



130507 1752hrs. PB0064-SWFSC-PhotoID (Female) R (fr.90)

#### GW0034



130507 1822hrs. PB0065-SWFSC-PhotoID (Female) R (fr.208)



130509 0935hrs. PB0066-SWFSC-PhotoID (Calf) R (fr.316)

### GW0036



130509 1231hrs. PB0067-SWFSC-PhotoID (Female) R (fr.378)



130509 1233hrs. PB0068-SWFSC-PhotoID (Calf) R (fr.384)

## GW0038



130509 1343hrs. PB0069-SWFSC-PhotoID (Female) R (fr.396)



130509 1503hrs. PB0070-SWFSC-PhotoID (Female) R (fr.454)

#### Piedras Blancas Gray Whale Photos 2014

## GW0001



140411 1656hrs. PB-0071-SWFSC-PhotoID (Female) R (fr.60)

#### GW0002



140415 1020hrs PB-0072-SWFSC-PhotoID (Female) R (fr.167)

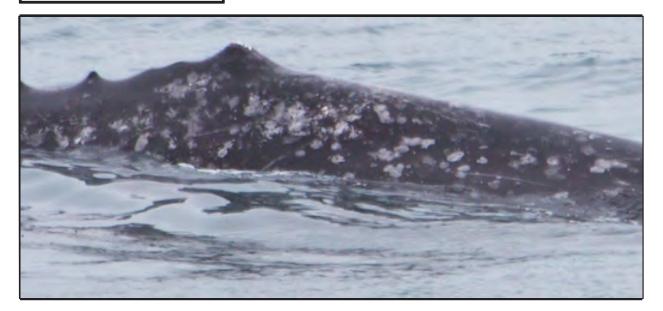


140417 1537hrs. PB-0073-SWFSC-PhotoID R (fr.520) (possible Calf)

#### GW0004



140418 1103hrs. PB-0074-SWFSC-PhotoID (Female)R (fr.580)



140418 1544hrs. PB-0075-SWFSC-PhotoID (Female) R (fr.659) Associated with Calf below (GW0006).

#### GW0006



140418 1544hrs. PB-0076-SWFSC-PhotoID (Calf) R (fr.667) Associated with Female above (GW0005).



140418 1808hrs. PB-0077-SWFSC-PhotoID (Female) R (fr.706)

## GW0008



140423 1654hrs. PB-0078-SWFSC-PhotoID (Female) R (fr.1067)



140423 1830hrs. PB-0079-SWFSC-PhotoID (Calf) R (fr.1090) Calf associated with Female below (GW0010).

#### GW0010



140423 1832hrs. PB-0080-SWFSC-PhotoID (Female) R (fr.1100) Female associated with Calf above (GW0009).



140423 1858hrs. PB-0081-SWFSC-PhotoID (Female) R (fr.1139)

#### GW0012



140423 1859hrs. PB-0082-SWFSC-PhotoID (Female) R (fr.1151)



140424 0816hrs. PB0083-SWFSC-PhotoID (Calf) R (fr.1210)

#### GW0014



140425 1056hrs. PB0084-SWFSC-PhotoID (Female) R (fr.1269)



140425 1252hrs. PB0085-SWFSC-PhotoID (Female) R (fr.1289)

### GW0016



140425 1650hrs. PB0086-SWFSC-PhotoID (Calf) R (fr.1293)



140425 1734hrs. PB0087-SWFSC-PhotoID (Female) R (fr.1295)

### GW0018



140428 0738hrs. PB-0088-SWFSC-PhotoID (Female) R (fr.1314)



140428 1259hrs. PB0089-SWFSC-PhotoID (Calf) R (fr.1405)

#### GW0020



140415 1737hrs. PB0090-SWFSC-PhotoID (Female) R (fr.1446) Calf at R side of Female.



140428 1846 hrs. PB0091-SWFSC-PhotoID (Female) R (fr.1462)

### GW0022



140429 1000 hrs. PB0092-SWFSC-PhotoID (Female) R (fr.1506)



140429 1058 hrs. PB-0093-SWFSC-PhotoID (Female) R (fr.1521)

### GW0024



140429 1102 hrs. PB-0094-SWFSC-PhotoID (Female) R (fr.1529)



140429 1639 hrs. PB-0095-SWFSC-PhotoID (Female) R (fr.1648)

#### GW0026



140430 0723 hrs. PB-0096-SWFSC-PhotoID (Female) R (fr.1711)



140430 1025 hrs. PB-0097-SWFSC-PhotoID (possible Calf) R (fr.1783)

#### GW0028



140430 1143 hrs. PB-0098-SWFSC-PhotoID (possible Calf) R (fr.1889)



140430 1325 hrs. PB-0099-SWFSC-PhotoID (Female) R (fr.2065)

#### GW0030



140501 0837 hrs. PB-0100-SWFSC-PhotoID (Female) R (fr.2204)



140501 1300 hrs. PB-0101-SWFSC-PhotoID (Female) R (fr.2314)

#### GW0032



140501 1445 hrs. PB-0102-SWFSC-PhotoID (Female) R (fr.2326)



140501 1454 hrs. PB-0103-SWFSC-PhotoID (Female) R (fr.2394)

#### GW0034



140501 1705 hrs. PB-0104-SWFSC-PhotoID (possible Calf) R (fr.2468)



140501 1705 hrs. PB-0105-SWFSC-PhotoID (Female) R (fr.2479)

#### GW0036



140501 1716 hrs. PB-0106-SWFSC-PhotoID (Female) R (fr.2519)



140502 0740 hrs. PB-0107-SWFSC-PhotoID (Female) R (fr.2577)

#### GW0038



140502 0840 hrs. PB-0108-SWFSC-PhotoID (possible Calf) R (fr.2589)



140502 0843 hrs. PB-0109-SWFSC-PhotoID (Female) R (fr.2599)

#### GW0040



140502 0916 hrs. PB-0110-SWFSC-PhotoID (Female) R (fr.2694)



140502 1638hrs. PB-0111-SWFSC-PhotoID (possible Calf) R (fr.2862)

#### GW0042



140502 1639hrs. PB-0112-SWFSC-PhotoID (Female) R (fr.2877)



140502 1607hrs. PB-0113-SWFSC-PhotoID (Calf) R (fr.2809)

#### GW0044



140502 1617hrs. PB-0114-SWFSC-PhotoID (possible adult Female) R (fr.2837)



140505 0755hrs. PB-0115-SWFSC-PhotoID (Female) R (fr.2925)

#### GW0046



140507 1558hrs. PB-0116-SWFSC-PhotoID (Female) R (fr.3188)



140507 1658hrs. PB-0117-SWFSC-PhotoID (Female) R (fr.3287) Calf at lower left (white spot) near Female i.e., the Mother

#### GW0048



140507 1739hrs. PB-0118-SWFSC-PhotoID (Female) R (fr.3366)



140508 0738hrs. PB-0119-SWFSC-PhotoID (possible Calf) R (fr.3407)

#### GW0050



140508 0844hrs. PB-0120-SWFSC-PhotoID (Female) R (fr.3441)



140508 0949hrs. PB-0121-SWFSC-PhotoID (Calf) R (fr.3453)

#### GW0052



140508 1624hrs. PB-0122-SWFSC-PhotoID (Female) R (fr.3714) Calf inside; at R side of Female.



140512 0712hrs. PB-0123-SWFSC-PhotoID (Female) R (fr.4031)

#### GW0054



140512 0744hrs. PB-0124-SWFSC-PhotoID (Female) R (fr.4107)



140512 0745hrs. PB-0125-SWFSC-PhotoID (Calf) R (fr.4114)

#### GW0056



140513 1120hrs. PB-0126-SWFSC-PhotoID (possible adult Female) R (fr.4344)



140514 0752hrs. PB-0127-SWFSC-PhotoID (Female) R (fr.4378)

#### GW0058



140514 0832hrs. PB-0128-SWFSC-PhotoID (Calf) R (fr.4392)



140514 1501hrs. PB-0129-SWFSC-PhotoID (Calf) R (fr.4451)

## GW0060



140515 1023hrs. PB-0130-SWFSC-PhotoID (Female) R (fr.4511)



140515 1435hrs. PB-0131-SWFSC-PhotoID (Female) R (fr.4551)

## GW0062



140515 1452hrs. PB-0132-SWFSC-PhotoID (Calf) R (fr.4570)



140519 1438hrs. PB-0133-SWFSC-PhotoID (Female) R (fr.4657) Calf inside; R side of Female

## GW0064



140520 1925hrs. PB-0134-SWFSC-PhotoID (Female) R (fr.4676)



140520 1420hrs. PB-0135-SWFSC-PhotoID (Female) R (fr.4702) Calf inside; R side of Female

#### GW0066



140520 1420hrs PB-0136-SWFSC-PhotoID (Female) R (fr.4743) Calf on R side of Female



140520 1524hrs. PB-0137-SWFSC-PhotoID (Female) R (fr.4763) Calf is inside; R side of Female (not visible in this resized image).

#### GW0068



140521 1808hrs PB-0138-SWFSC-PhotoID (Female) R (fr.4803)



140529 1713 PB-0139-SWFSC-PhotoID (Female) R (fr.4878) Calf inside at R side of Female.

#### Piedras Blancas Gray Whale Photos 2015

## GW0001



150410 0913hrs. PB0140-SWFSC-PhotoID (Female) R (fr.35) Calf is inside on the R side of the Female

#### GW0002



150414 1320hrs. PB0141-SWFSC-PhotoID (Female) R (fr.96)



150415 1043hrs. PB-0142-SWFSC-PhotoID (Female) R (fr.106)

## GW0004



150420 1331hrs. PB-0143-SWFSC-PhotoID (Female) R (fr.255)



150421 0746hrs. PB-0144-SWFSC-PhotoID (probable Calf) R (fr.287) Likely associated with adult Female below GW0006

#### GW0006



150421 0746hrs. PB-0145-SWFSC-PhotoID (Female) R (fr.288) Likely associated with GW0005 Calf



150421 0747hrs. PB-0146-SWFSC-PhotoID (Calf) R (fr.297)

# GW0008



150421 0945hrs. PB-0147-SWFSC-PhotoID (Female) R (fr.311)



150421 1256hrs. PB-0148-SWFSC-PhotoID (Female) R (fr.367)

## GW0010



150421 1403hrs. PB-0149-SWFSC-PhotoID (Female) R (fr.375) Calf inside at R side of Female.



150423 1135hrs. PB-0150-SWFSC-PhotoID (Female) R (fr.455)

# GW0012



150423 1607hrs. PB-0151-SWFSC-PhotoID (Female) R (fr.469)



150424 0902hrs. PB-0152-SWFSC-PhotoID (Female) R (fr.482)

## GW0014



150427 1657hrs. PB-0153-SWFSC-PhotoID (Female) R (fr.703)



150427 1731hrs. PB-0154-SWFSC-PhotoID (Female) R (fr.726)

## GW0016



150501 1430hrs. PB-0155-SWFSC-PhotoID (Female) R (fr.1165)



150501 1734hrs. PB-0156-SWFSC-PhotoID (Female) R (fr.1254)

## GW0018



150501 1734hrs. PB-0157-SWFSC-PhotoID (Female) R (fr.1256)



150504 0856hrs. PB0158-SWFSC-PhotoID (Calf) R (fr.1309)

## GW0020



150504 1754hrs. PB0159-SWFSC-PhotoID (Female) R (fr.1390)



150505 1026hrs. PB-0160-SWFSC-PhotoID (Female) R (fr.1394)

## GW0022



150505 1140hrs. PB-0161-SWFSC-PhotoID (Calf) R (fr.1416)



150505 1329hrs. PB-0162-SWFSC-PhotoID (Female) R (fr.1461) Calf is inside and at R side of Female

## GW0024



150505 1334hrs. PB-0163-SWFSC-PhotoID (possible Calf) R (fr.1507)



150505 1627hrs. PB-0164-SWFSC-PhotoID (possible Calf) R (fr.1580)

## GW0026



150506 1055hrs. PB-0165-SWFSC-PhotoID (Female) R (fr.1617)



150506 1357hrs. PB-0166-SWFSC-PhotoID (Female) R (fr.1662) Calf is inside at R side of adult Female

#### GW0028



150507 1143hrs. PB-0167-SWFSC-PhotoID (Calf) R (fr.1754) Adult Female is outside; Left side of the Calf



150508 0853hrs. PB-0168-SWFSC-PhotoID (Female) R (fr.1891) Calf was at the R of the Female and trailing.

#### GW0030



150508 1248hrs. PB-0169-SWFSC-PhotoID (Female) R and farther offshore (fr.1995). Two Female/Calf pairs close together.



150508 1042hrs. PB0170-SWFSC-PhotoID (Female) R (fr.2002)

## GW0032



150508 1305hrs. PB0171-SWFSC-PhotoID (Calf)R (fr.2039)



150508 1320hrs. PB-0172-SWFSC-PhotoID (possible Calf) R (fr.2057)

## GW0034



150508 1608hrs. PB-0173-SWFSC-PhotoID (Calf) R (fr.2076)



150508 1733hrs. PB-0174-SWFSC-PhotoID (Female) R (fr.2092)

## GW0036



150511 1016hrs. PB-0175-SWFSC-PhotoID (Female) R (fr.2147)



150511 1106hrs. PB-0176-SWFSC-PhotoID (Female) R (fr.2161)

# GW0038



150511 1107hrs. PB-0177-SWFSC-PhotoID (Female) R (fr.2172)



150511 1110hrs. PB-0178-SWFSC-PhotoID (Calf) R (fr.2187)

## GW0040



150511 1239hrs. PB-0179-SWFSC-PhotoID (Calf) R (fr.2228)



150512 1127hrs. PB-0180-SWFSC-PhotoID (Female) R (fr.2206)

## GW0042



150512 1242hrs. PB-0181-SWFSC-PhotoID (probable Calf) R (fr.2329)



150512 1236hrs. PB-0182-SWFSC-PhotoID (Calf) R (fr.2346)

## GW0044



150513 0755hrs. PB-0183-SWFSC-PhotoID (Calf) R (fr.2382)



150513 1036hrs. PB-0184-SWFSC-PhotoID (Female) R (fr.2425)

#### GW0046



150513 1247hrs. PB-0185-SWFSC-PhotoID (Female) R (fr.2539) **Photo-ID match with:** 120511 0807hrs. PB-0023-SWFSC-PhotoID (Female) R (fr.1417)



150513 1317hrs. PB-0186-SWFSC-PhotoID (Female) R (fr.2544)

#### GW0048



150513 1407hrs. PB-0187-SWFSC-PhotoID (probable Calf) R (fr.2603) Female at outside at left side of Calf.



150515 1036hrs. PB-0188-SWFSC-PhotoID (Female) R (fr.2848)

## GW0050



150515 1222hrs. PB-0189-SWFSC-PhotoID (Female) R (fr.2867)



150515 1248hrs. PB-0190-SWFSC-PhotoID (Female) R (fr.2875)

## GW0052



150515 1259hrs. PB-0191-SWFSC-PhotoID (Female) R (fr.2918)



150515 1331hrs. PB-0192-SWFSC-PhotoID (Female) R (fr.2497)

## GW0054



150515 1738hrs. PB-0193-SWFSC-PhotoID (possible Calf) R (fr.2997)



150518 0833hrs. PB-0194-SWFSC-PhotoID (probable Calf) R (fr.3012)

## GW0056



150518 1310hrs. PB-0195-SWFSC-PhotoID (Calf) R (fr.3027)



150518 1722hrs. PB-0196-SWFSC-PhotoID (Female) R (fr.3074)

## GW0058



150519 0712hrs. PB-0197-SWFSC-PhotoID (Calf) R (fr.3129)



150519 1300hrs. PB-0198-SWFSC-PhotoID (Female) R (fr.3190)

## GW0060



150519 1807hrs. PB-0199-SWFSC-PhotoID (Female) R (fr.3216)



150520 0900hrs. PB-0200-SWFSC-PhotoID (possible Female) R (fr.3303)

## GW0062



150520 1530hrs. PB-0201-SWFSC-PhotoID (Female) R (fr.3322)



150521 1710hrs. PB-0202-SWFSC-PhotoID (Female) R (fr.3507)

## GW0064



150522 1242hrs. PB-0203-SWFSC-PhotoID (Female) R (fr.3573)



150529 1202hrs. PB-0204-SWFSC-PhotoID (Female) R (fr.3892) Calf inside and at R side of Female.

### Piedras Blancas Gray Whale Photos 2016

## GW0001



160404 1151 hrs. PB-0205-SWFSC-PhotoID (Female) R (fr. 055)

### GW0002



160405 1611 hrs. PB-0206-SWFSC-PhotoID (Female) R (fr. 087)



160407 1627 hrs. PB-0207-SWFSC-PhotoID (Female) R (fr. 126)

# GW0004



160411 1459 hrs. PB-0208-SWFSC-PhotoID (Female) R (fr. 135)



160412 1225 hrs. PB-0209-SWFSC-PhotoID (Female) R (fr. 146)

## GW0006



160418 1119 hrs. PB-0210-SWFSC-PhotoID (Female) R (fr. 219)



160418 1703 hrs. PB-0211-SWFSC-PhotoID (Female) R (fr. 387)

## GW0008



160418 1727 hrs. PB-0212-SWFSC-PhotoID (Female) R (fr. 399)



160418 1726 hrs. PB-0213-SWFSC-PhotoID (Female 1L) R (fr. 410)

## GW0010



160418 1728 hrs. PB-0214-SWFSC-PhotoID (Female 3L) R (fr. 411)



160418 1727 hrs. PB-0215-SWFSC-PhotoID (Female) R (fr. 420) Calf on the inside; R side of the Female

### GW0012



160418 1727 hrs. PB-0216-SWFSC-PhotoID (Calf) R (fr. 420) Calf on the inside; R side of the Female



160420 1208 hrs. PB-0217-SWFSC-PhotoID (Female) R (fr. 556)

## GW0014



160420 1209 hrs. PB-0218-SWFSC-PhotoID (Female) R (fr. 564)



160420 1823 hrs. PB-0219-SWFSC-PhotoID (Female) R (fr. 603)

## GW0016



160420 1824 hrs. PB-0220-SWFSC-PhotoID (Female) R (fr. 622)



160420 1828 hrs. PB-0221-SWFSC-PhotoID (Female) R (fr. 641)

## GW0018



160421 1712 hrs. PB-0222-SWFSC-PhotoID (Female) R (fr. 725)



160421 1811 hrs. PB-0223-SWFSC-PhotoID (Female) R (fr. 742)

## GW0020



160426 1146 hrs. PB-0224-SWFSC-PhotoID (Female) R (fr. 751)



160428 0722 hrs. PB-0225-SWFSC-PhotoID (Female) R (fr. 850)

## GW0022



160428 1149 hrs. PB-0226-SWFSC-PhotoID (Female) R (fr. 877)



160429 0836 hrs. PB-0227-SWFSC-PhotoID (Female) R (fr. 890)

## GW0024



160429 1203 hrs. PB-0228-SWFSC-PhotoID (Female) R (fr. 919)



160429 1457 hrs. PB-0229-SWFSC-PhotoID (Female) R (fr. 936)

## GW0026



160429 1457 hrs. PB-0230-SWFSC-PhotoID (Female) R (fr. 949)



160429 1623 hrs. PB-0231-SWFSC-PhotoID (Female) R (fr. 982)

## GW0028



160502 1636 hrs. PB-0232-SWFSC-PhotoID (Female) R (fr. 1000)



160503 0749 hrs. PB-0233-SWFSC-PhotoID (Female) R (fr. 1012)

## GW0030



160503 1314 hrs. PB-0234-SWFSC-PhotoID (Female) R (fr. 1027)



160503 1436 hrs. PB-0235-SWFSC-PhotoID (Female) R (fr. 1036)

### GW0032



160504 1646 hrs. PB-0236-SWFSC-PhotoID (Female) R (fr. 1108) Calf is inside; R side of Female; surfacing ahead of the Mother



160504 1402 hrs. PB-0237-SWFSC-PhotoID (Female) R (fr. 1123) Calf on the inside; to the right of the 2 adults

#### GW0034



160504 1402 hrs. PB-0238-SWFSC-PhotoID (Female) R (fr. 1129)



160505 1024 hrs. PB-0239-SWFSC-PhotoID (Female) R (fr. 1156)

## GW0036



160505 1131 hrs. PB-0240-SWFSC-PhotoID (Female) R (fr. 1181)



160505 1245 hrs. PB-0241-SWFSC-PhotoID (Female) R (fr. 1212)

## GW0038



160505 1247 hrs. PB-0242-SWFSC-PhotoID (Female) R (fr. 1223)



160506 0740 hrs. PB-0243-SWFSC-PhotoID (Female) R (fr. 1261)

## GW0040



160506 1000 hrs. PB-0244-SWFSC-PhotoID (Female) R (fr. 1300)



160506 1003 hrs. PB-0245-SWFSC-PhotoID (Female) R (fr. 1307)

## GW0042



160506 1205 hrs. PB-0246-SWFSC-PhotoID (Female) R (fr. 1358) Calf on the inside; to the R of the Female



160506 1205 hrs. PB-0247-SWFSC-PhotoID (Calf) R (fr. 1358) Calf on the inside; R side of the Female

### GW0044



160506 1207 hrs. PB-0248-SWFSC-PhotoID (Female) R (fr. 1372) Calf is forward and on the inside of the Female; to the R of the Female



160506 1507 hrs. PB-0249-SWFSC-PhotoID (Female) R (fr. 1397)

### GW0046



160509 1050 hrs. PB-0250-SWFSC-PhotoID (Female) R (fr. 1410) Calf is on the inside and to the R of the Female



160509 1112 hrs. PB-0251-SWFSC-PhotoID (Female) R (fr. 1421) **Photo-id Match:** 130503 1548hrs. PB0054-SWFSC-PhotoID (Female) R (fr.492)

#### GW0048



160509 1117 hrs. PB-0252-SWFSC-PhotoID (Female) R (fr. 1436)



160509 1222 hrs. PB-0253-SWFSC-PhotoID (Female) R (fr. 1457)

## GW0050



160510 1338 hrs. PB-0254-SWFSC-PhotoID (Female) R (fr.1500 approx.)



160510 1338 hrs. PB-0255-SWFSC-PhotoID (possible Calf) R (fr. 1505 approx.)

## GW0052



160511 0743 hrs. PB-0256-SWFSC-PhotoID (Female) R (fr. 1718)



160511 1747 hrs. PB-0257-SWFSC-PhotoID (Female) R (fr. 1811) Calf is on the outside; L of the Female

#### GW0054



160511 1747 hrs. PB-0258-SWFSC-PhotoID (Calf) R (fr. 1811) Calf is on the outside; L of the Female



160511 1846 hrs. PB-0259-SWFSC-PhotoID (Female) R (fr. 1850)

## GW0056



160512 0934 hrs. PB-0260-SWFSC-PhotoID (Female) R (fr. 1914)



160512 0935 hrs. PB-0261-SWFSC-PhotoID (Female) R (fr. 1921)

## GW0058



160512 1124 hrs. PB-0262-SWFSC-PhotoID (Female) R (fr. 1930)



160512 1624 hrs. PB-0263-SWFSC-PhotoID (Female) R (fr. 2016) Calf on the inside; to the R of the Female

#### GW0060



160512 1630 hrs. PB-0264-SWFSC-PhotoID (Female) R (fr. 2043)



160512 1710 hrs. PB-0265-SWFSC-PhotoID (Calf) R (fr. 2055)

## GW0062



160513 0827 hrs. PB-0266-SWFSC-PhotoID (Female) R (fr. 2140)



160513 0848 hrs. PB-0267-SWFSC-PhotoID (Female) R (fr. 2172)

## GW0064



160513 0848 hrs. PB-0268-SWFSC-PhotoID (Female) R (fr. 2178)



160513 0910 hrs. PB-0269-SWFSC-PhotoID (Calf) R (fr. 2224) Calf on the inside; to the R of the Female

#### GW0066



160513 1631 hrs. PB-0270-SWFSC-PhotoID (Female) R (fr. 2329)

#### Piedras Blancas Gray Whale Photos 2017

#### GW0001



170411 1710 hrs. PB-0271-SWFSC-PhotoID (Female) R (fr. 192)

#### GW0002



170414 0806 hrs. PB-0272-SWFSC-PhotoID (Female) R (fr. 214)



170418 1157 hrs. PB-0273-SWFSC-PhotoID (Female) R (fr. 246)

#### GW0004



170418 1158 hrs. PB-0274-SWFSC-PhotoID (Female) R (fr. 253) Calf is inside; R of the Female



170419 1635 hrs. PB-0275-SWFSC-PhotoID (Female) R (fr. 366)

## GW0006



170419 1639 hrs. PB-0276-SWFSC-PhotoID (Female) R (fr. 383) Calf on the inside; R side of the Female



170419 1724 hrs. PB-0277-SWFSC-PhotoID (Female) R (fr. 396) Calf on the inside; R side of the Female

#### GW0008



170419 1751 hrs. PB-0278-SWFSC-PhotoID (Female) R (fr. 411)



170420 0824 hrs. PB-0279-SWFSC-PhotoID (Female) R (fr. 420) Calf on the inside; R side of the Female

#### GW0010



170420 1826 hrs. PB-0280-SWFSC-PhotoID (Female) R (fr. 472)



170421 0954 hrs. PB-0281-SWFSC-PhotoID (Female) R (fr. 545)

# GW0012



170421 1015 hrs. PB-0282-SWFSC-PhotoID (Female) R (fr. 554)



170421 1100 hrs. PB-0283-SWFSC-PhotoID (Female) R (fr. 557)

# GW0014



170424 1123 hrs. PB-0284-SWFSC-PhotoID (Female) R (fr. 580)



170424 1223 hrs. PB-0285-SWFSC-PhotoID (Female) R (fr. 611)

## GW0016



170424 1244 hrs. PB-0286-SWFSC-PhotoID (Female) R (fr. 615)



170424 1546 hrs. PB-0287-SWFSC-PhotoID (Female) R (fr. 631)

# GW0018



170424 1544 hrs. PB-0288-SWFSC-PhotoID (Female) R (fr. 635)



170424 1824 hrs. PB-0289-SWFSC-PhotoID (Female) R (fr. 655)

# GW0020



170425 0947 hrs. PB-0290-SWFSC-PhotoID (Female) R (fr. 664)



170425 1321 hrs. PB-0291-SWFSC-PhotoID (Female) R (fr. 684)

# GW0022



170425 1546 hrs. PB-0292-SWFSC-PhotoID (Female) R (fr. 698)



170425 1550 hrs. PB-0293-SWFSC-PhotoID (Female) R (fr. 721)

# GW0024



170425 1617 hrs. PB-0294-SWFSC-PhotoID (Female) R (fr. 730)



170426 0713 hrs. PB-0295-SWFSC-PhotoID (Female) R (fr. 738)

## GW0026



170426 1357 hrs. PB-0296-SWFSC-PhotoID (Female) R (fr. 742)



170427 1152 hrs. PB-0297-SWFSC-PhotoID (Female) R (fr. 766)

## GW0028



170427 1152 hrs. PB-0298-SWFSC-PhotoID (Female) R (fr. 771)



170428 0719 hrs. PB-0299-SWFSC-PhotoID (Female) R (fr. 784)

## GW0030



170428 0913 hrs. PB-0300-SWFSC-PhotoID (Female) R (fr. 790)



170428 0913 hrs. PB-0301-SWFSC-PhotoID (Female) R (fr. 793)

#### GW0032



170428 1139 hrs. PB-0302-SWFSC-PhotoID (Female) R (fr. 802) Calf on the inside; R of the Female



170430 1053 hrs. PB-0303-SWFSC-PhotoID (Female) R (fr. 818)

# GW0034



170501 1522 hrs. PB-0304-SWFSC-PhotoID (Female) R (fr. 831)



170501 1839 hrs. PB-0305-SWFSC-PhotoID (Female) R (fr. 835)

## GW0036



170502 1622 hrs. PB-0306-SWFSC-PhotoID (Female) R (fr. 866)



170502 1622 hrs. PB-0307-SWFSC-PhotoID (Female) R (fr. 868)

## GW0038



170502 1607 hrs. PB-0308-SWFSC-PhotoID (Female) R (fr. 853)



170502 1608 hrs. PB-0309-SWFSC-PhotoID (Calf) R (fr. 858)

#### GW0040



170502 1751 hrs. PB-0310-SWFSC-PhotoID (Calf) R (fr. 882) Calf on the inside; to the R of the Female



170503 1249 hrs. PB-0311-SWFSC-PhotoID (Female) R (fr. 699)

# GW0042



170503 1250 hrs. PB-0312-SWFSC-PhotoID (Female) R (fr. 704)



170503 1357 hrs. PB-0313-SWFSC-PhotoID (Female) R (fr. 927)

## GW0044



170503 1446 hrs. PB-0314-SWFSC-PhotoID (Female) R (fr. 947)



170503 1845 hrs. PB-0315-SWFSC-PhotoID (Female) R (fr. 954)

## GW0046



170504 1411 hrs. PB-0316-SWFSC-PhotoID (Female) R (fr. 977)



170504 1537 hrs. PB-0317-SWFSC-PhotoID (Female) R (fr. 1000)

## GW0048



170504 1631 hrs. PB-0318-SWFSC-PhotoID (Female) R (fr. 1001)



170504 1720 hrs. PB-0319-SWFSC-PhotoID (Female) R (fr. 1007)

# GW0050



170505 0722 hrs. PB-0320-SWFSC-PhotoID (Female) R (fr. 1050)



170505 0936 hrs. PB-0321-SWFSC-PhotoID (Female) R (fr. 1050)

## GW0052



170505 0937 hrs. PB-0322-SWFSC-PhotoID (Female) R (fr. 1063)



170505 1553 hrs. PB-0323-SWFSC-PhotoID (Female) R (fr. 1117)

#### GW0054



170509 1734 hrs. PB-0324-SWFSC-PhotoID (probable Calf) R (fr. 1132) Calf was on the inside; R side of Female



170511 0816 hrs. PB-0325-SWFSC-PhotoID (Female) R (fr. 1146)

# GW0056



170518 1251 hrs. PB-0326-SWFSC-PhotoID (Female) R (fr. 1176)



170524 1552 hrs. PB-0327-SWFSC-PhotoID (Female) R (fr. 1218)

#### Piedras Blancas Gray Whale Photos 2018

## GW0001



180330 1115 hrs. PB-0328-SWFSC-PhotoID (Female) R (fr. 009)

#### GW0002



180402 0853 hrs. PB-0329-SWFSC-PhotoID (Female) R (fr. 046) Calf on the inside; to the R of the Female



180404 1345 hrs. PB-0330-SWFSC-PhotoID (Female) R (fr. 074)

#### GW0004



180406 1038 hrs. PB-0331-SWFSC-PhotoID (Female) R (fr. 105) Calf on the inside; to the R of the Female



180411 1648 hrs. PB-0332-SWFSC-PhotoID (Female) R (fr. 209)

#### GW0006



180411 1656 hrs. PB-0333-SWFSC-PhotoID (Female) R (fr. 225)



180413 0826 hrs. PB-0334-SWFSC-PhotoID (Female) R (fr. 300)

#### GW0008



180419 1335 hrs. PB-0335-SWFSC-PhotoID (Female) R (fr. 455)



180420 1132 hrs. PB-0336-SWFSC-PhotoID (Female) R (fr. 493)

## GW0010



180425 1735 hrs. PB-0337-SWFSC-PhotoID (Female) R (fr. 683)



180425 1737 hrs. PB-0338-SWFSC-PhotoID (Female) R (fr. 686)

## GW0012



180425 1753 hrs. PB-0339-SWFSC-PhotoID (Female) R (fr. 703)



180426 1025 hrs. PB-0340-SWFSC-PhotoID (Female) R (fr. 733)

#### GW0014



180426 1732 hrs. PB-0341-SWFSC-PhotoID (Female) R (fr. 760) Calf on the inside; to the R of the Female



180427 0929 hrs. PB-0342-SWFSC-PhotoID (Female) R (fr. 772)

### GW0016



180427 1701 hrs. PB-0343-SWFSC-PhotoID (Female) R (fr. 814)



180430 1026 hrs. PB-0344-SWFSC-PhotoID (Female) R (fr. 837)

## GW0018



180502 0844 hrs. PB-0345-SWFSC-PhotoID (Female) R (fr. 992)



180502 1249 hrs. PB-0346-SWFSC-PhotoID (Female) R (fr. 1004)

### GW0020



180502 1606 hrs. PB-0347-SWFSC-PhotoID (Female) R (fr. 1008)



180502 1621 hrs. PB-0348-SWFSC-PhotoID (Female) R (fr. 1014)

#### GW0022



180502 1838 hrs. PB-0349-SWFSC-PhotoID (Female) R (fr. 1029)



180503 1023 hrs. PB-0350-SWFSC-PhotoID (Female) R (fr. 1056)

### GW0024



180503 1345 hrs. PB-0351-SWFSC-PhotoID (Female) R (fr. 1069)



180503 1904 hrs. PB-0352-SWFSC-PhotoID (Female) R (fr. 1099)

### GW0026



180508 0759 hrs. PB-0353-SWFSC-PhotoID (Female) R (fr. 1163)



180510 1047 hrs. PB-0354-SWFSC-PhotoID (Female) R (fr. 1223)

### GW0028



180515 1125 hrs. PB-0355-SWFSC-PhotoID (Female) R (fr. 1275)



180515 1200 hrs. PB-0356-SWFSC-PhotoID (Female) R (fr. 1284)

### GW0030



180515 1621 hrs. PB-0357-SWFSC-PhotoID (Female) R (fr. 1303)



180516 1213 hrs. PB-0358-SWFSC-PhotoID (Female) R (fr. 1320)

### GW0032



180517 0820 hrs. PB-0359-SWFSC-PhotoID (Female) R (fr. 1327)



180517 1517 hrs. PB-0360-SWFSC-PhotoID (Female) R (fr. 1380)

## GW0034



180518 0859 hrs. PB-0361-SWFSC-PhotoID (Female) R (fr. 1441)



180522 1833 hrs. PB-0362-SWFSC-PhotoID (Female) R (fr. 1508)

### GW0036



180524 1718 hrs. PB-0363-SWFSC-PhotoID (Female) R (fr. 1519)

#### Piedras Blancas Gray Whale Photos 2019

## GW0001



190415 0944 hrs. PB-0364-SWFSC-PhotoID (Female) R (fr. 182)

### GW0002



190415 1114 hrs. PB-0365-SWFSC-PhotoID (Female) R (fr. 230)



190418 1025 hrs. PB-0366-SWFSC-PhotoID (Female) R (fr. 542)

### GW0004



190419 1127 hrs. PB-0367-SWFSC-PhotoID (Female) R (fr. 602)



190423 0631 hrs. PB-0368-SWFSC-PhotoID (Female) R (fr. 633) Calf on the inside; to the R of the Female

#### GW0006



190423 0840 hrs. PB-0369-SWFSC-PhotoID (Female) R (fr. 701)



190423 1031 hrs. PB-0370-SWFSC-PhotoID (Female) R (fr. 741)

### GW0008



190423 1218 hrs. PB-0371-SWFSC-PhotoID (Female) R (fr. 810)



190423 1220 hrs. PB-0372-SWFSC-PhotoID (Female) R (fr. 832)

## GW0010



190425 1212 hrs. PB-0373-SWFSC-PhotoID (Female) R (fr. 890)



190425 1622 hrs. PB-0374-SWFSC-PhotoID (Calf) R (fr. 962)

### GW0012



190426 0747 hrs. PB-0375-SWFSC-PhotoID (Female) R (fr. 1000)



190426 0935 hrs. PB-0376-SWFSC-PhotoID (Female) R (fr. 1129)

### GW0014



190426 0944 hrs. PB-0377-SWFSC-PhotoID (Female) R (fr. 1193) Calf on the inside; on the R side of the Female



190426 0947 hrs. PB-0378-SWFSC-PhotoID (Female) R (fr. 1219)

### GW0016



190426 1010 hrs. PB-0379-SWFSC-PhotoID (Female) R (fr. 1296)



190426 1532 hrs. PB-0380-SWFSC-PhotoID (Female) R (fr. 1314)

## GW0018



190428 0748 hrs. PB-0381-SWFSC-PhotoID (Female) R (fr. 1378)



190428 0814 hrs. PB-0382-SWFSC-PhotoID (Female) R (fr. 1410)

## GW0020



190428 0938 hrs. PB-0383-SWFSC-PhotoID (Female) R (fr. 1464)



190429 1451 hrs. PB-0384-SWFSC-PhotoID (Female) R (fr. 1538)

### GW0022



190429 1455 hrs. PB-0385-SWFSC-PhotoID (Female) R (fr. 1558)



190429 1541 hrs. PB-0386-SWFSC-PhotoID (Female) L (fr. 1670)

### GW0024



190430 1638 hrs. PB-0387-SWFSC-PhotoID (Female) R (fr. 1757)