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2016 RESEARCH REPORT FOR LAGUNA SAN IGNACIO & BAHÍA MAGDALENA



PROGRESS ON OUR GOALS AND OBJECTIVES

Developing an information base sufficient to detect, describe, and understand trends in wild cetacean populations and their habitats requires a long term commitment by researchers and sufficient of resources to sustain the research over many years. Such is the case with the Laguna San Ignacio Ecosystem Science Program which has been fortunate to have the ongoing support of a family sponsors since it began in 2006. Thanks to this support 2016 marks the 11th year of the program. The information acquired by our researchers during this period enables us to describe with certainty many details of the gray whales' biology, behavior, and their winter occupation of Laguna San Ignacio and Bahía Magdalena. Long-term time series information like this unprecedented for any other large cetacean population.

Our researchers have documented increases and decreases in the number of gray whales that utilize the Laguna San Ignacio habitat, and shifts in the timing of their arrival and departure each winter. Long-term photographic identification research confirms the average time that individual whales spend in this breeding lagoon, the frequency that female whales give birth to calves, the minimum ages of breeding female gray whales (currently 26-46 years), which whales return to this lagoon each winter, and those that move between different lagoons and aggregation areas. Our long-term databases now allow us to correlate the of the gray whales' behavior with environmental factors such as the El Niño y La Niña cycles (ENSO), the Pacific Decadal Oscillation (PDO), sea surface temperatures (SST), and the recent history of the population including the major mortality event of 1998-2000. We also have characterized the genetic structure of gray whales from Laguna San Ignacio for comparison with Western gray whaaes, and the we have began to study the feeding ecology and the areas where they migrate using stable isotopes. We eagerly await additional new findings that the future research will reveal.

We continue to see our researchers complete their academic graduate and undergraduate training, and we are very proud of their accomplishments. In 2015 and 2016 the following program researchers completed their academic degrees: Sergio Martinez A. (Ph.D.); Kerri Seger (Ph.D); Vinnie Caicero García (Bachelor's degree); and Diana Carina López (Master's degree). These graduates bring the total number of our researchers with completed academic degrees to: 5 undergraduate degrees in marine science, 4 Master's Degrees, and 4 Ph.D. degrees. Two additional studentst will finish

their thesis works in 2016: Liliana Paredes will complete her Masters degree working at the Bahía Magdalena-Bahía Almejas Lagoon Complex, and Natalia Serna Urrea will complete her Bachelor's degree working at San Ignacio Lagoon.



2016 LEADERSHIP AND RESEARCH STAFF

The 2016 Laguna San Ignacio Ecosystem Science Program was directed by Drs. Jorge Urban R., Steven Swartz, Alejandro Gómez Gallardo (Laguna San Ignacio), and Hiram Rosales-Nanduca (Bahía Magdalena). Collaborating researchers include: Dr. Georgina Brabata (UABCS avian research); Dr. Aaron Thode (Scripps Institute acoustic investigations); Sr. Ranulfo Mayoral (sealion colonies in Laguna San Ignacio); and Dr. Sergio Martínez Aguilar (UABCS, Laguna San Ignacio Field Chief, and photographic identification program manager). We welcomed returning researchers Natalia Serna Urrea (Medellin, Colombia/UABCS), Carlos Alberto López Montalvo (UABCS), and Vinnie Caicero García (Mexico City/UABCS). New student researchers from UABCS included: In Laguna San Ignacio, Gabriela Noemi Salazar Sánchez, Eder Antonio Belmont Sánchez, and in BM, Liliana Paredes, Miwako Yokoo Guerrero, and Omar Castañeda also from UABCS. Our research program is conducted under scientific research permits issued by the Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT) of Mexico. Desde nuestro corazón, gracias a todos.

Bahía Magdalena Research Team 2016.



RAFAEL RIOSMENA RODRÍGUEZ

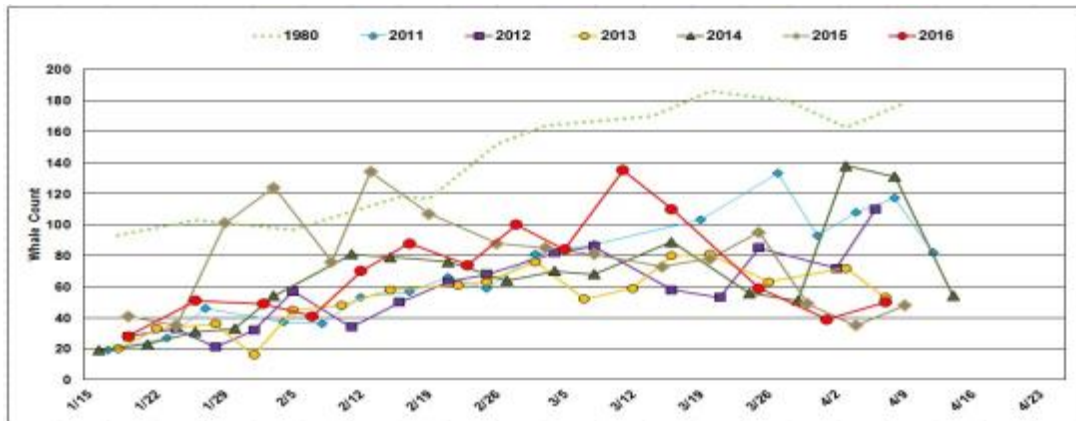
We were saddened by the loss of our longtime colleague and research collaborator Dr. Rafael Riosmena Rodriguez of UABCS who passed away suddenly in March 2016. For many years Rafael lead the marine botany research in Laguna San Ignacio, and throughout Baja California. His contribution as a conservationist of endangered marine environments, as a teacher and a mentor is unsurpassed, and he will be missed.

GRAY WHALE ABUNDANCE MONITORING



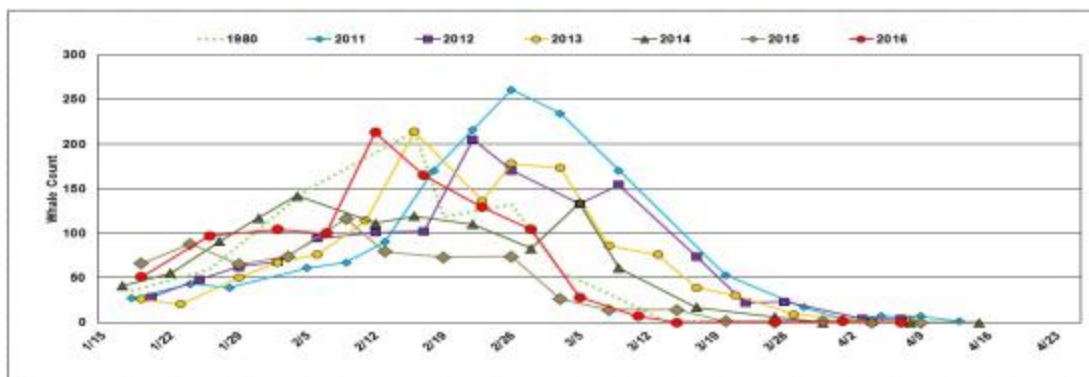
Warmer than average sea surface temperatures (SST) or "El Niño" conditions prevailed along the Pacific coast of Baja California during the 2016 winter. In **Laguna San Ignacio** 14 surveys of gray whales were completed to monitor seasonal abundance and habitat use (Table 1). Surveys began on January 19 and continued until April 7. In general the overall number of gray whales and their seasonal occupation of the lagoon was consistent with that seen in the 5 previous winters, however in 2016 the seasonal decline in gray whales numbers occurred 1-2 weeks earlier than expected and that was observed in previous winters.

From mid-January to April **female-calf gray whale pairs** occupied the entire lagoon particularly the northern basin north of the Islands. The highest count of female-calf pairs was 124 pairs observed on 11 March. Their numbers then decreased through March, and only 50 pairs were counted in the last survey on 7 April.



Counts of female-calf pairs in Laguna San Ignacio during the winters of 1980, and from 2011-2016.

The abundance of **single adult gray whales** (whales not accompanied by a calf of the year) reached a high count of 213 whales on 12 February, after which their abundance declined with few to no singles whales were observed after mid-March. Trends of gray whale abundance along the Pacific coast of Baja California are influenced by sea surface temperatures in the winter, and it reasonable to conclude the warm El Niño conditions that prevailed during the 2016 winter contributed to the early departure of gray whales from Laguna San Ignacio.



Counts of single adult gray whales in Laguna San Ignacio during the winters of 1980, and from 2011 to 2016.

The 2016 census surveys of gray whales in the **Bahía Magdalena** lagoon complex were conducted in three different areas during three different time periods: 16-18 January, 5-7 February, and 4-6 March (nine surveys in all). Overall the 2016 distribution of gray whales was concentrated in these three areas: (1.) the Florida area near of Puerto Lopez Mateos in the Canal de la Soledad and Boca de la Soledad; (2.) in La Bocana of Bahía Magdalena (the passage between Punta Redonda on the north end of Isla Santa Margarita and Punta Estrada); and (3.) the area along the north shore of Isla Creciente and the passage that connect Bahía Magdalena and Bahía Almejas. The highest counts of gray whales were consistently observed in the Canal de la Soledad near Lopez Mateos, which is the area with highest number of mother-calf pairs of all Bahía Magdalena lagoon complex areas.

Combined counts of whales in all three areas were: in January, 39 adults (27 mother-calf pairs and 12 single whales); in February, 88 adults (63 mother-calf pairs and 25 single whales), and in March, 7 adults (five mother-calf pairs and 2 single whales). The highest counts of gray whales were obtained in on 6 February in the Canal La Soledad, and was of 59 individuals (55 mother-calf pairs and four single whales), while the lowest count was 1 single whale in Bahía Magdalena in March 4 (Table 2). As was observed in Laguna San Ignacio, few whales remained in the Bahía Magdalena complex by mid-March, so surveys there were discontinued.

While mother-calf pairs were seen in seven of the nine surveys, no mother-calf pairs were seen in Bahía Magdalena in January and March. Previously, the highest counts in Bahía Magdalena were 50 single whales in March 2012 and 74 single whales that occurred in February 2013; however, the number of whales observed in this area has been 15 single whales in February of 2015 and 2016, suggesting a decline in the use of Bahía Magdalena by gray whales. Other species sighted included humpback whales near and west of the mouth of Bahía Magdalena, including one mother-calf pair of humpback whales inside of Bahía Magdalena.

Whale sightings in Bahía Magdalena lagoon complex and surrounded waters: blue circles gray whale single animals; red circles gray whale mother-calf pairs; and green circles humpback whales. (LM = Puerto Lopez Mateos; BM = Bahía Magdalena; BA = Bahía Almejas)

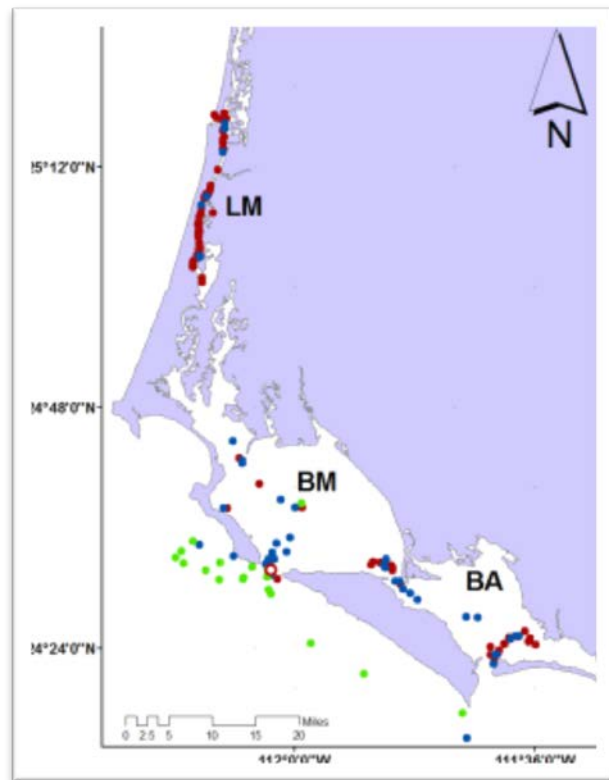


PHOTO-IDENTIFICATION, PHOTO ARCHIVING AND MANAGEMENT



Our researchers spent 320 hours over 56 days photographing gray whales in Laguna San Ignacio. A total of 11,882 digital images were obtained from 830 gray whale sightings that yielded 688 individual whales. These included 439 single whales that averaged 7.9 days in the lagoon (range 1 to 31 days), and 249 females with calves that averaged 32.8-days in the lagoon (range 1 to 80 days). Program researchers working in the Bahía Magdalena region obtained 3,546 digital images of gray whales during 185 hours of effort over 18 days. These included 143 sightings during the 2016 season, representing 151 individual whales (75 single whales and 76 mother-calf pairs). Of these, five single whales that averaged 1.5 days in the lagoon complex (range 1-15 days), and 34 mother-calf pairs that were re-sighted two or more times that averaged 7.2 days in Bahía Magdalena lagoon complex (range 1 to 50 days).

The average interval between the birth of calves (**Calving Interval**) is a key indicator of the reproductive health of the population. Photographs of known breeding female gray whales obtained from 2006-2015 were compared to calculate an estimate of female gray whale calving-interval of 2.52 ± 0.57 years. This estimate is compared to an interval of 2.11 years during the 1977-1982 time period suggesting that female gray whales are not reproducing as frequently as in the previous decades which could account for the lower number of female-calf pairs observed in the lagoon in recent years compared to the higher counts of these whales seen during the 1980's. The range-wide mortality event in 1998-2000 significantly reduced the number of breeding female gray whales, and as the breeding population recovers with new females reaching breeding age, we should expect the average calving interval to again approach 2 years.

The **minimum ages** of breeding female gray whales were determined from photographs obtained during the 1977-1982 (Jones and Swartz), the 1996-2000 (Urban et al.), and the 2005-2016 (LSIESP) time periods. Recaptures (matches) of individual whales were used to estimate their ages from the time of the earliest photograph to the most recent. Photographs of "re-captured" whales confirmed female whale ages ranging from 26 to 46 years, and that these females are continuing to reproduce and visit Laguna San Ignacio with their new calves each winter. These are the oldest photographic identification data for any living gray whales, and clearly demonstrate the fidelity of breeding female gray whales to Laguna San Ignacio.



As in previous years, all photographs from 2016 will be archived, placed into digital catalogs, compared with the catalogs from 2006-2015, and with photo ID catalogues of Laguna Ojo de Liebre, Bahía Magdalena, and the Western North Pacific gray whale population to determine the number and movements of gray whales that are utilizing these lagoon areas. All photo-ID catalogs are posted on the LSIESP website and are available to researchers for review and to search for matches with photographs of gray whales from other portions of the species range (e.g., Arctic, Western Pacific, etc.).

HEALTH AND CONDITION



An important aspect of the part of the photo-identification research is to document the health, condition, and injuries to individual gray whales observed in the breeding lagoons. Photographs of the head, body flanks, and scapula were compared to estimate the proportion of the number of whales that exhibited evidence of poor nutritive condition, or the syndrome of skinny or "flaca". These include a depression of the post cranial, protruding scapula, and concave body flanks resulting from a decrease in the volume of body fat. The preliminary review of the 2016 photographs suggest that less than 1% of the whales observed exhibited evidence of nutritional stress. In addition, calves of the year appeared to be healthy and

"fat", suggesting that their mothers were able to provide them with nutrition sufficient for their growth while in the breeding lagoons. For the second year, a female whale with an unusual "peeling" and "blistering" of the skin on her back was observed in Laguna San Ignacio. At this time we have no explanation for the cause of this injury.



The most common injuries observed on gray whales appeared to be the result of collisions with vessels, entanglement in fishing gear, and the distinctive "rake-mark" scars associated with killer whale (orca) attacks.



BOTTLENOSE DOLPHIN PHOTO-IDENTIFICATION CATALOG ESTABLISHED



A catalog of digital photographs of bottlenose dolphin (*Tursiops truncatus*) dorsal fins obtained opportunistically in Laguna San Ignacio since 2005 was compiled in 2106. This catalogue will serve as the baseline for Bottlenose dolphin research that will begin in 2017. Gabriela Noemi Salazar Sánchez and Fabian Missael Rodríguez Gonzáles from UABCS will begin research to document the distribution and abundance of bottlenose dolphins that reside in the Laguna San Ignacio lagoon complex and its estuaries. The new catalog will be shared with Bottlenose dolphin researchers in other areas along the Pacific coast of Baja California and the United States to better define the range of this species in Mexico.

UNDERWATER ACOUSTIC RESEARCH AND MONITORING



Dr. Aaron Thode, Dr. Kerri Seger and Ph.D. candidate Ludovic Tenorio placed digital recorders in Laguna San Ignacio again in 2016 to obtain updated baseline information on the underwater sounds around Punta Piedra and in the eco-tourism whale-watching zone in the lower portion of the lagoon nearest the entrance. Their report summarizing the findings of underwater digital recordings made in Laguna San Ignacio from 2006 to 2013 was published in December 2015 Journal of the American Acoustical Society. This report addresses diel cycles of biological sounds, annual trends and variations, and characteristics of underwater ambient noise from whale-watching boats, marine fish and invertebrates, and gray whale vocalizations. An interactive web-page featuring recordings of gray whales and other underwater sounds in Laguna San Ignacio was posted on the LSIESP's new website (www.sanignaciograywhales.org).

AVIAN RESEARCH PROGRAM BEGINS NEW SURVEYS



Dr. Georgina Brabata from UABCS lead avian surveys in August 2015 and March 2016 to inventory the seasonal diversity, abundance, and habitat requirement of the marine birds that gather and reside in Laguna San Ignacio. These preliminary surveys establish a new baseline for ongoing avian research by Dr. Brabata and her graduate students. Her research includes investigation of the nutritional needs of marine birds, their diets, and evaluating the problem of coyote predation on the lagoon's ground nesting bird colonies. This research will provide a comparison with historical information on the

avian fauna found at the lagoon in previous years and the evaluation in trends of avian abundance and diversity at the lagoon.



GRAY WHALE DISENTANGLEMENT EFFORTS

Following disentanglement workshops in 2014 (NRDC) and 2015 (SEMARNAT), the capacity to respond to whales entangled in fishing gear in Laguna San Ignacio has continued to improve. Fishing gear and float lines were successfully removed from 4 gray whale calves during the 2015 winter. Some previously entangled whales were subsequently observed and photographed swimming normally with their mothers in the days following the disentanglements. In 2016 three attempts were made to remove lines and floats from a gray whale calf, but unfortunately these attempts were unsuccessful. Basic training in the use of disentanglement gear and methods is now provided to all program researchers. Program researchers met with whale-watching pangueros (boat drivers) that have attended the training workshops, to discuss specific actions to improve coordination of the response to entangled whales.



SEALION MONITORING ON ISLA PELICANOS



In the last decade California sealions (*Zalophus californianus*) began gathering during the summer months on the southern island of Isla Pelicanos in Laguna San Ignacio. Local resident and naturalist Ranulfo Mayoral began keeping records of the number and behavior of the sealions that continued to occupy the southern shore of Isla Pelicanos. In 2015

Ranulfo completed the seventh year of monitoring and documenting the expansion of the sea lion colony. Counts of sealions on the island are greatest from September to December, with from 25-34 individuals present (Table 3). As in previous years the group of sealions on the island appears to be composed of all males of various ages from young to very old, with no females or pups present during the summer months. Ranulfo has recently observed aggressive interactions between the sealions and coyotes that are present on the island. He has also documented several individuals with injuries and with others carrying derelict fishing lines and gear which are resulting in open cuts and injuries.



PUBLIC AND PROFESSIONAL OUTREACH AND EDUCATION

Our public outreach activities included interviews and discussion with Mexican and other international media groups that visited the lagoon. Field Chief Sergio Martinez, researcher Natalia Serna Urrea and Co-Director Steven Swartz made several presentations on gray whales and the lagoon to local school groups and visiting eco-tour groups including "Andiamo" Eco-Tours, Nature Adventures Inc., and the Natural Resources Defense Council.



For the second year our researchers hosted a class of 30 university students from the Autonomous University of Baja California Sur (UABCS) and their instructor our own Dr. Alejandro Gómez Gallardo from 1-5 March. This 5-day field trip was part of a vertebrate zoology course "Marine Amniotas" taught by Alejandro at the university. The students were divided into 6-teams, and each day they participated in field exercises including: obtaining photographic identification data from gray whales in Laguna San Ignacio; processing, analyzing, and comparing digital photographs of gray whales; and conducting avian surveys to estimate bird abundance and diversity. Their field trip concluded with a visit to the oyster culture facility in the nearby community of El Cardón.

COMMUNITY REUNION 2016



The 10th annual “Community Reunion” and science symposium was held at the Kuyimita Eco-Tourism Campground on March 2, 2016. Presentations included: an update on trends in gray whale abundance in Laguna San Ignacio from 2011 to 2016; the results of preliminary avian surveys in 2015-2016 to document the current distribution, abundance, and species diversity of birds in Laguna San Ignacio; the determination of female gray whale ages from historical photographic identification re-captures between 1977 and 2016; and an overview of gray whale vocalizations and other biological and human sounds recorded by the acoustics research team in Laguna San Ignacio. Approximately 125 guests attended the reunion and included UABCS students, Eco-Tour Operator Staff and naturalists, local residents, and eco-tourists visiting the lagoon.

Our public Outreach included interviews and discussion with Mexican and other international media groups that visited the lagoon, and several presentations on gray whales and the lagoon to various visiting eco-tour groups. Before arriving at the lagoon, Co-Director Steven Swartz lectured on the Laguna San Ignacio conservation program and gray whales at the Cabrillo National Monument, American Cetacean Society San Diego Chapter, and the San Elijo Lagoon Conservation Foundation in San Diego in January. LSIESP researchers attended and present papers and posters at the December 2015 Society for Marine Mammalogy's Biennial Conference held in San Francisco, California, and the May 2016 meeting of the Mexican Marine Mammal Society (SOMEMMA) in La Paz, B.C.S., Mexico, and they are preparing papers documenting the findings of gray whale research for the May-June 2016 meeting of the Scientific Committee of the International Whaling Commission. The LSIESP website will be updated with the new findings and publications arising from the 2016 research.

OUR STUDENTS, GRADUATES, AND COOPERATING SCIENTISTS



Two of our program researchers completed their Ph.D. degrees: In January 2016 Sergio Martinez successfully defended his Ph.D. research at UABCS on “Population identity of the gray whale (*Eschrichtius robustus*) in the Baja California peninsula, Mexico.” In April 2016 acoustic researcher Kerri Seger from Scripps Institute of Oceanography defended her Ph.D. research on “Ambient acoustic environments and cetacean signals: baseline studies from humpback whale and gray whale breeding grounds.” In addition, in July 2015 researcher Vinnie Caicero García completed his undergraduate thesis at UNAM on “Habitat suitability models for *Delphinus delphis* and *Delphinus capensis* in the Eastern Tropical Pacific,” and in December 2015 researcher Diana Carina López Arzate completed her Master’s degree on “Changes in the structure of the humpback whale song (*Megaptera noraeangliae*) in Los Cabos, Baja California Sur, Mexico” at UABCS.

Visiting Researchers in 2016 included: Kia Hayes and Mary Hyden investigating contaminant transfer from mother to calf whales, and the determination of steroid hormones in gray whale blubber (Texas Tec University, in Lubbock, TX), and Laura Pagés-Barceló investigating sea turtle distribution, dietary diversity and isotope analyses (University of New Mexico, Albuquerque, NM). We were also pleased to have Ben Scheelk from The Ocean Foundation make a site visit to Laguna San Ignacio and spend several days meeting and working with our researchers, students, and support staff.

ACADEMIC ACHIEVEMENTS

The following Laguna San Ignacio Ecosystem Science Program students and researchers have completed and/or have degrees in progress:

Bachelor's:

Jessica Robles - Intervalos de nacimientos de la ballena gris (*Eschrichtius robustus*) en la laguna San Ignacio BCS, México, durante las temporadas de 2005 a 2011.

Erandi Calderón - Análisis corporal de las ballenas grises (*Eschrichtius robustus*), que visitaron la laguna San Ignacio, durante las temporadas 2008 a 2011.

Mauricio Najera - Cambio en la distribución de las madres con cría de ballena gris (*Eschrichtius robustus*), en la Laguna San Ignacio, durante tres períodos de estudio (1978-82, 1996-00 Y 2007- 11).

Liria del Monte - Diagnostico de la actividad turística de observación de la ballena gris (*Eschrichtius robustus*) en la laguna San Ignacio (*in progress*).

Lizabeth Sanchez - Distribución y abundancia de la ballena gris (*Eschrichtius robustus*) en la laguna San Ignacio, BCS, con relación a parámetros ambientales.

Vinnie Caicero García - "Modelos de idoneidad del hábitat para *Delphinus delphis* y *D. capensis* y su relación con la estacionalidad oceanográfica en el Pacífico Oriental Tropical."

Natalia Serna Urrea (*in progress*) will complete her Bachelor's degree working at San Ignacio Lagoon.

Masters:

Diana Carina López Arzate - Changes in the structure of the humpback whale song (*Megaptera novaeangliae*) in Los Cabos, Baja California Sur, Mexico.

Anaid Urbán - Sonidos de la ballena gris (*Eschrichtius robustus*), en su área de crianza y reproducción en la laguna San Ignacio, BCS, México.

Sergio Gonzalez - Filopatria de la ballena gris (*Eschrichtius robustus*) en la laguna San Ignacio BCS, México 1996-2005.

Sergio Martínez Agular - Un modelo de abundancia absoluta de la ballena jorobada (*Megaptera novaeangliae*) en a las islas del archipiélago de Revillagigedo, México.

Liliana Paredes (*in progress*) will complete her Masters degree working at the Bahía Magdalena-Bahía Almejas Lagoon Complex.

Doctorate:

Hiram Rosales-Nanduca - Macroecology of marine mammal species in the Mexican Pacific Ocean: diversity and distribution.

Melania Guerra - Passive acoustic detection and localization of vocalizing east Pacific gray whales by means of Autonomous sensors in multiple array configurations.

Sergio Martínez Agular - Identidad poblacional de la ballena gris (*Eschrichtius robustus*) en la Península de Baja California, México.

Kerri Seger - Ambient acoustic environments and cetacean signals: baseline studies from humpback whale (*Megaptera novaeangliae*) and gray whale (*Eschrichtius robustus*) breeding grounds.

Carlos A. López - Origen migratorio, estado energético y reproductivo de la ballena gris (*Eschrichtius robustus*) durante el invierno (*in progress*).

Please visit our website at <http://www.sanignaciograywhales.org/> to read more details about the Laguna San Ignacio Ecosystem Science Program, find links this year's reports and presentations, and to download our data sets, photo-identification catalogs, and articles.



"Laboratorio de Investigación de Laguna San Ignacio Francisco 'Pachico' Mayoral, 24 febrero 2015."



Table 1. Counts of gray whales in Laguna San Ignacio during the 2016 winter season.

Survey	Date	Female-calf Pairs	Singles	Total Adults
1	19-Jan-16	28	51	79
2	26-Jan-16	51	97	148
3	02-Feb-16	49	104	153
4	07-Feb-16	41	100	141
5	12-Feb-16	70	213	283
6	17-Feb-16	88	165	253
7	23-Feb-16	74	129	203
8	28-Feb-16	100	104	204
9	05-Mar-16	84	28	112
10	11-Mar-16	135	7	142
11	16-Mar-16	110	0	110
12	25-Mar-16	59	1	60
13	01-Apr-16	39	1	40
14	07-Apr-16	50	0	50

Table 2. Number of gray whales (Singles, Female-calf pairs, and Adults) counted during surveys in the Bahía Magdalena complex and surrounding areas during the 2016 winter.

Survey Dates in 2016	Bahía Almejas	Bahía Magdalena	Lopez Mateos	Totals
<u>Single Whales</u>				
January 16-18	1	2	9	12
February 5-7	7	14	4	25
March 4-6	1	1	0	2

<u>Female-calf pairs</u>				
January 16-18	1	0	26	27
February 5-7	7	1	55	63
March 4-6	1	0	4	5

<u>Adult Whales</u>				
January 16-18	2	2	35	39
February 5-7	14	15	59	88
March 4-6	2	1	4	7

Table 3. Counts of sealions on Isla Pelicanos observed by Ranulfo Mayoral in Laguna San Ignacio in 2015.

Sealions in ISLA PELICANOS 2015

WEEK	MALES	FEMALES	TOTAL
ENERO,7,2015	11	----	11
ENERO,16,2015	11	----	11
FEBRERO,3,2015	9	----	9
FEBRERO,15,2015	7	----	7
MARZO,2,2015	5	----	5
MARZO,17,2015	5	----	5
ABRIL,16,2015	3	----	3
ABRIL,29,2015	----	----	----
MAYO,14,2015	----	----	----
MAYO,29,2015	----	----	----
JUNIO,15,2015	2	----	2
JUNIO,30,2015	3	----	3
JULIO,8,2015	7	----	7
JULIO,25,2015	10	----	10
AGOSTO,7,2015	10	----	10
AGOSTO,23,2015	17	----	17
SEPTIEMBRE,10,2015	----	----	----
SEPTIEMBRE,29,2015	23	----	23
OCTUBRE,9,2015	26	----	26
OCTUBRE,20,2015	28	----	28
NOVIEMBRE,3,2015	33	----	33
NOVIEMBRE,17,2015	32	----	32
DICIEMBRE,5,2015	25	----	25
DICIEMBRE,22,2015	14	----	14