



A review of marine mammal records of Cuba

ARTICLE INFO

Manuscript type	Review
Article history	
Received	06 January 2012
Received in revised form	16 March 2012
Accepted	02 April 2012
Available online	27 January 2014
Keywords: Caribbean Sea, Cuban EEZ, occurrence, distribution, cetacean, pinniped, sirenian	
Responsible Editor: Daniel M. Palacios	
Citation: Whitt, A.D., Jefferson, T.A., Blanco, M., Fertl, D., and Rees, D. (2011) A review of marine mammal records of Cuba. <i>Latin American Journal of Aquatic Mammals</i> 9(2): 65-122. http://dx.doi.org/10.55.97/lajam00175	

Amy D. Whitt^{†,*}, Thomas A. Jefferson[‡], Miriam Blanco[§], Dagmar Fertl[¶] and Deanna Rees[#]

[†]Geo-Marine, Inc., 2201 K. Avenue, Suite A2, Plano, TX 75074, USA

[‡]Clymene Enterprises, 13037 Yerba Valley Way, Lakeside, CA 92040, USA

[§]Acuario Nacional de Cuba, Avenida 1^{ra} y 60, Playa, CP 11300, Habana, Cuba

[¶]Ziphius EcoServices, 8112 Springmoss Drive, Plano, TX 75025, USA

[#]Naval Facilities Engineering Command, Atlantic Division, 6506 Hampton Boulevard, Norfolk, VA 23508-1278, USA

*Corresponding author, e-mail: adwhitt@gmail.com

Abstract: There has been very little research on marine mammals in Cuban waters. Much of the information on marine mammals in this region is buried in historical and gray literature. In order to provide a comprehensive account of marine mammal occurrence in Cuba's Exclusive Economic Zone (EEZ), we reviewed and verified 659 published and unpublished sighting, stranding, capture, and tagging records. Eighteen extant species and four genera have confirmed records for Cuban EEZ waters. This includes 17 species of cetaceans (three baleen whales and 14 toothed whales) and one sirenian species. An additional 11 cetacean species and one extant pinniped species have been reported, but not confirmed, or may have the potential to occur in Cuban waters. Historical records of the Caribbean monk seal (*Monachus tropicalis*) are documented in Cuba; however, this species is now considered extinct. The only two species that are seen regularly and considered common in Cuban nearshore waters are the common bottlenose dolphin (*Tursiops truncatus*) and the West Indian manatee (*Trichechus manatus*).

Resumen: No hay mucha investigación sobre el tema de los mamíferos marinos en aguas cubanas. La mayoría de la información se encuentra enterrada en la literatura histórica y gris. A fin de proporcionar un informe completo de la presencia de mamíferos marinos en la Zona Económica Exclusiva (ZEE) de Cuba, hemos revisado y verificado 659 registros publicados y no publicados de avistamientos, varamientos, capturas y marcajes. Dieciocho especies existentes y cuatro géneros tienen registros confirmados para las aguas de la ZEE cubana. Esto incluye 17 especies de cetáceos (tres ballenas barbadas y 14 odontocetos) y una especie de sirenio. También se han reportado sin confirmar, o tienen el potencial de presentarse en aguas cubanas, 11 especies de cetáceos y una especie de pinnípedo. Existen registros históricos de la foca monje del Caribe (*Monachus tropicalis*) en Cuba, sin embargo esta especie se considera extinta. Las únicas dos especies que se ven regularmente y se consideran comunes en las aguas costeras de Cuba son el tursión (*Tursiops truncatus*) y el manatí antillano (*Trichechus manatus*).

Introduccion

Marine mammal occurrence is not well documented for Cuban waters. Although historical accounts are summarized in the older literature (*e.g.* Cuní, 1918; Aguayo, 1954), no recent comprehensive account of marine mammals of Cuba exists. Most records are based on historical accounts and gray literature; therefore, verification of records is often difficult. Very few surveys of marine mammals have been conducted in this region of the Caribbean Sea. Most of what is known about marine mammals in Cuban waters comes from stranding and/or capture information from local fishermen. Although these types of records are useful for identifying species presence, they do not provide adequate information on species abundance and distribution which can be estimated from systematic surveys. Abundance information is particularly important for determining population trends. One species that is known to have undergone a decline in Cuban waters is the West Indian manatee (*Trichechus manatus*). The Cuban manatee population decreased dramatically in the late 1800s due to a targeted fishery (Cuní, 1918). Captures of manatees are now prohibited in Cuba. However, Cuba maintains a direct live-capture fishery for common bottlenose dolphins (*Tursiops truncatus*) via annual quotas which are assigned to dolphinaria of various countries within the regulations established by the Convention on the International Trade in Endangered Species of Wild Flora and Fauna (CITES) (Espinosa and Orta 2007). To provide a comprehensive account of marine

mammals of Cuba, we reviewed all available records of marine mammals in Cuba's EEZ waters. This paper includes a summary of 659 available records through December 2008 and recommendations for future research efforts.

Materials and Methods

Study Area

The Study Area consists of the EEZ waters surrounding the mainland of Cuba and an archipelago of more than 3,000 small islands or keys (GDAIS 2004) (Figure 1). Cuba is surrounded by deep basins and trenches of the Caribbean Sea, Gulf of Mexico, the Straits of Florida, and The Bahamas (*e.g.* Old Bahama Channel, Windward Passage, Yucatán Channel, and Cayman Trench) (Figure 1). The Cuban platform can be divided into four wide-shelf areas, two on the north side (Sabana-Camagüey and Los Colorados Archipelagos) and two on the south side (Golfo de Batabanó and the area including Golfo de Ana María and Golfo de Guacanayabo). These wide-shelf areas are separated by narrow shelves (Claro *et al.*, 2002). Cuba has extensive seagrass beds within the coastline's substantial shelf and shallow waters. Where the insular shelf is narrow, deep waters are found within a few kilometers (km) of land.

Cuban waters are directly influenced by the Loop, Yucatán, and Florida Currents. Circulation patterns off northwestern Cuba are highly dependent on prevailing winds due to the shallow depths, while circulation off the north-central coast

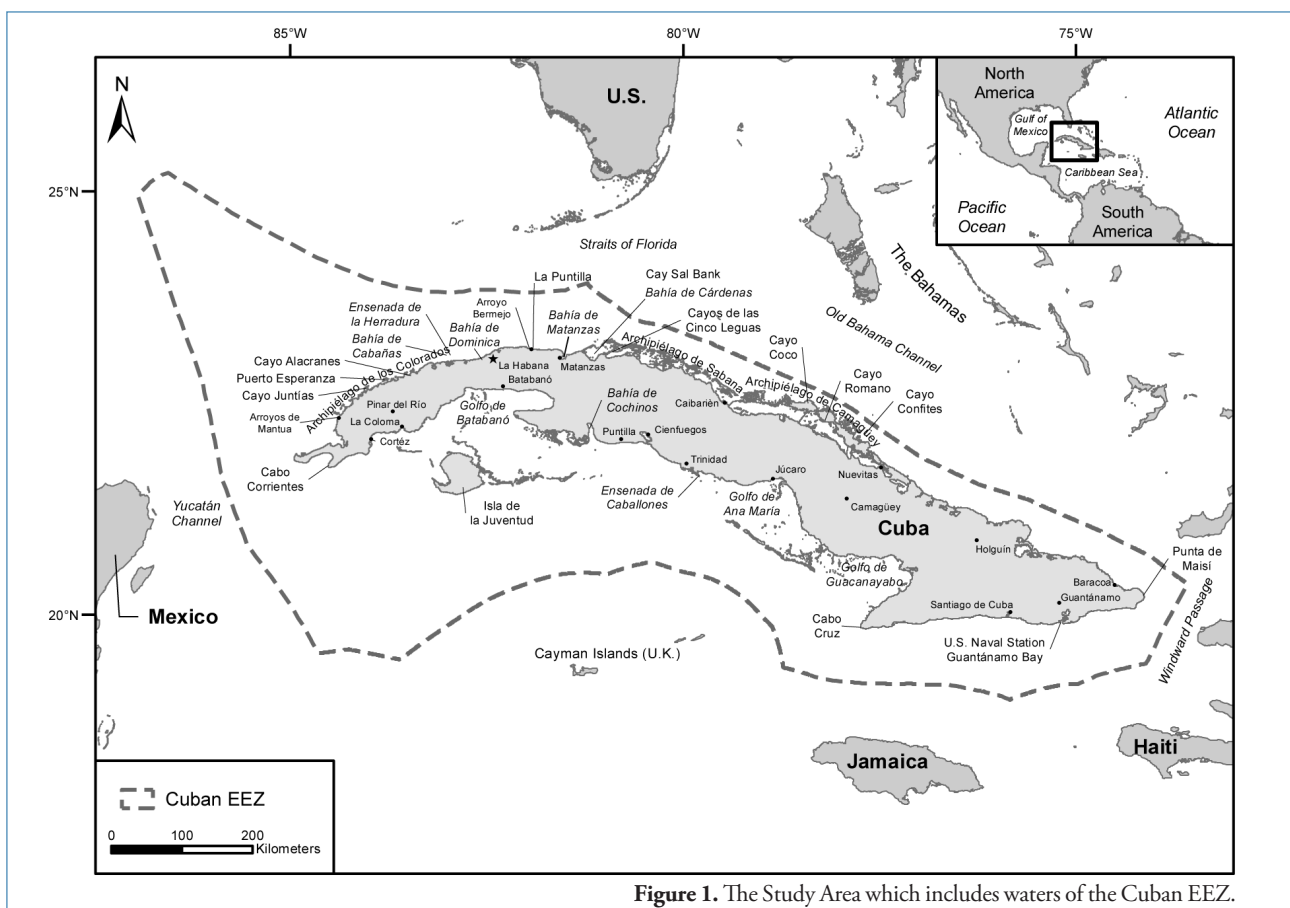


Figure 1. The Study Area which includes waters of the Cuban EEZ.

is determined mainly by tidal currents. The southern coast of Cuba is influenced by a diverse system of eddies (Claro *et al.*, 2002).

Sources of Data

We collected and assessed all available published and unpublished sighting, stranding, capture (including direct captures and bycatch records), and tagging records for marine mammals in Cuban EEZ waters through December 2008. In some cases, species' records were only available for waters directly outside of the EEZ. To provide the most complete account of each species, we discuss records in the near vicinity of the Cuban EEZ; however, these records are not included in the figures or appendix. Records located on the border of the EEZ were treated as occurring within the EEZ. A total of 659 records were compiled from a variety of sources. Some of the primary data sources are summarized below.

Published literature—A search of peer-reviewed and non-peer-reviewed literature uncovered several historical accounts of marine mammal occurrence in Cuban waters. For example, Cuní (1918) provided one of the first reviews about cetaceans captured near the Cuban coast and also included information on cetacean strandings and skeletons found in Cuba. Aguayo (1954) discussed sightings of several cetacean species in Cuban waters and provided general descriptions of other marine mammal species known to occur in Cuban waters. Alayo (1958) listed marine mammal species of Cuba but did not provide specific information on records. Varona (1973) summarized marine mammal records of Cuba but provided general location information instead of specific records of occurrence. Information on historical whaling catches near Cuba is summarized in Townsend (1935) based on whaling logbooks. Historical sighting records of unidentified cetaceans were collected from Coast Guard reports via the Cetacean and Turtle Assessment Program (CETAP 1982)¹. Some of the most extensive studies of marine mammals in Cuba have been conducted by researchers from the Acuario Nacional de Cuba (e.g. Blanco and Olachea, 1996; Pérez-Cao, 2004; Perez-Cao *et al.*, 2009; López *et al.*, in press). These studies have focused on collecting morphometric data and relative abundance and distribution information on common bottlenose dolphins along the northern coast of Cuba. Other records of marine mammals in Cuba are scattered throughout the literature.

United States (U.S.) Navy—The U.S. Navy has recorded opportunistic sightings of marine mammals (predominantly West Indian manatees) at U.S. Naval Station Guantánamo Bay (GTMO) since 1996. Base Natural Resources Managers encourage Base residents to report all sightings of this species². Opportunistic sightings are generically provided by pleasure boaters, fishermen, and recreational divers. Aerial, boat, and shore-based surveys were conducted by Base personnel

and volunteers from 1999 through 2003 on an irregular basis (approximately five times per year). These surveys were completed using the protocols described in Roca and Sedaghatkish (1998) and the GTMO (1996) for manatees³. Survey and opportunistic data collected at GTMO between July 1996 and January 2008 are included in this paper.

National Marine Fisheries Service (NMFS)—The NMFS-Southeast Fisheries Science Center (SEFSC) Pelagic Observer Program (POP), which monitors the mobile U.S. pelagic longline fleet, has collected marine mammal bycatch data for the east coast of Cuba. Most of these records are of unidentified cetacean species (e.g. Garrison and Richards, 2004; NMFS-SEFSC 2004). Several NMFS survey vessels have transited Cuban waters while en route to other areas of the Caribbean but did not collect data on marine mammals due to the lack of Cuban research permits (e.g. Swartz and Burks, 2000; Fulling and Clapham, 2004).

Other opportunistic sources—Several records of marine mammals in Cuban waters were obtained from personal accounts and observations. In addition, unpublished data from Hal Whitehead (Dalhousie University) are included in this paper. No specific survey information was available, but the sperm whale (*Physeter macrocephalus*) vocalization study for which these data were collected was described in Rendell and Whitehead (2003). Additional opportunistic sightings were recorded on oceanographic surveys in the southern Gulf of Mexico and the Yucatán Channel in March 1998 (Ortega-Ortiz, 2002) and on the U.S. Training Ship *Texas Clipper* in June 1991 (Jefferson and Lynn, 1994). Satellite-tagging data were obtained from the U.S. Minerals Management Service's Sperm Whale Seismic Study (SWSS) which was conducted during the summers between 2002 and 2005 in the Gulf of Mexico (Jochens *et al.*, 2008). Tracking data were also obtained from post-release monitoring of rough-toothed dolphins (*Steno bredanensis*) released after a mass stranding in the Florida Keys (Wells *et al.*, 2008).

Museum holdings—The U.S. National Museum-Smithsonian Institution National Museum of Natural History provided records of marine mammals in Cuban waters. None of the authors of this paper were able to travel throughout Cuba to assess local museum holdings of marine mammal specimens. All information on museum holdings was provided from literature or personal communications from colleagues. We were not able to confirm the locations of several specimens that are mentioned throughout this paper; however, we have included the locations of where certain specimens were thought to occur. It is possible that these locations will be able to be verified in the future. The following museums/institutions currently or have previously housed marine mammal specimens: Instituto de Biología, Museo Nacional de Historia Natural (formerly known as the Felipe Poey Museum), Instituto de Oceanología, Colegio de

¹ Kenney, R., University of Rhode Island, pers. comm., 22 July 2009.

² Howe, B., U.S. Navy, pers. comm., 24 August 2000.

³ Howe, B., U.S. Navy, pers. comm., 17 April 2006.

Belén, Instituto de Ecología y Sistemática, Museo Nacional de Historia Natural de Cuba, Academia de Ciencias Médicas, Físicas y Naturales, Museo Natural de Guanabo, and the Museo de Historia Natural de Santiago de Cuba (Tomás Romay Museum). Several specimens from the Tomás Romay Museum are included in this paper and were verified from photographs. The Felipe Poey collection was transferred to the Universidad de La Habana several years ago. Several whale and manatee specimens are currently on public display in the Science Building⁴. The Colegio de Belén is now the Instituto Técnico Militar (Military Technical Institute) in Habana. The Instituto de Ecología y Sistemática collection contains historical materials from Juan Gundlach and more recent specimens; it is unknown if marine mammal specimens are included in this collection⁴. The Museo Nacional de Historia Natural de Cuba is now in the former U.S. Embassy in Habana Vieja on Calle Obispo and contains several marine mammal specimens which could not be verified at this time⁴.

Unavailable data—With assistance from the Wildlife Trust, the Centro de Investigaciones Marinas has conducted aerial surveys and radio-telemetry studies of West Indian manatees in Cuban waters; however, none of these data have been published or were available for inclusion in this paper⁵. Additional manatee aerial surveys were flown over parts of southern Cuba between the mid-1980s and early 1990s. Results of these studies are discussed in the text of this paper, but the data could not be obtained.

Verification of Records

The following criteria were used to verify species identification of each record collected: photos or video showing diagnostic characters, drawings or detailed descriptions of diagnostic characters, skull or other voucher specimen showing diagnostic characters, or observations from reliable marine mammal experts. Criteria were not as stringent for easily recognizable species, such as the West Indian manatee, since a relatively inexperienced observer can typically identify this species correctly. Attempts were made to confirm all available records; however, many of the records could not be confirmed due to lack of proper documentation. Historical records, in particular, often did not include enough information to accurately verify the identification of a marine mammal to the species level. A designation of 'possible' or 'doubtful' was assigned to these questionable records based on the quality of available information. Errors in some of the original designations are discussed in the results section of this paper. Records from fishermen were designated as 'possible' instead of 'confirmed' due to the unreliable nature of observations from non-experts. All records found for marine mammals in the Study Area are listed in the appendix.

Some confirmed records located outside the Study Area are discussed in the appropriate species sections in order to provide a review of pertinent distribution information for those species that do not have any records within the EEZ but which are known to occur nearby. We also discuss species which have unverified records in close proximity to Cuba and assess the potential for their occurrence in the EEZ to help provide an accurate list of species that may be expected in Cuban waters. In addition, possible and doubtful records are discussed for species not thought to occur in the EEZ to provide a thorough assessment, particularly since many of these records are listed as confirmed in the literature.

Mapping of Records

Marine mammal records were accumulated from every available source; however, it was impossible to obtain every data source in existence for Cuba. To organize and store the available data, a master database was created in Microsoft® Access. The data format was standardized so that all the data could be merged and later used in a Geographic Information System (GIS). A GIS was used to store, manipulate, analyze, and display the spatial data and information of the records collected. Environmental Systems Research Institute, Inc.'s (ESRI) ArcView® version 9.2 GIS software was used to create the map figures. The latitude and longitude of each record was converted to decimal degrees, and the Mercator map projection was used for all figures.

Many records accumulated during our data search and collection process included geographical data points (latitude and longitude). For the records without geographical coordinates, latitude and longitude were estimated from given location descriptions when possible. For instance, many of the records for the Guantánamo Bay region did not include specific locations or coordinates. These records were plotted based on general locations, and the points were shifted on the maps so that each overlapping record is visible. Several records did not include coordinates or specific location descriptions and could not be plotted. Figures of common bottlenose dolphin sightings from Pérez-Cao (2004) and Álvarez Alemán *et al.* (2009) were digitized and geo-referenced into a GIS.

All sighting, stranding, capture, and tagging records were plotted regardless of their confirmation status. Capture records included bycatch, whaling, and other intentional captures while strandings include live or dead animals as well as osteological records. Group sizes are not depicted in the figures; however, group sizes are included in the appendix when known. Map figures were created for the following species and groups: large whales (Figure 2), Kogiidae (Figure 3), beaked whales (Figure 4), Delphinidae (Figure 5), common bottlenose dolphin (Figure 6), *Stenella* (Figure 7), West Indian manatee (Figure 8), and Caribbean monk seal (Figure 9). The data sources for the records plotted in these figures are included in the appendix.

⁴ Wiley, J., University of Maryland Eastern Shore, pers. comm., 5 April 2009.

⁵ Álvarez Alemán, A., Centro de Investigaciones Marinas, pers. comm., 25 April 2008.

Results

A total of 659 records of marine mammals were compiled. Eighteen extant species and four genera have confirmed records for Cuban waters. This includes 17 species of cetaceans (three baleen whales and 14 toothed whales), one species of sirenian, and one extinct species of pinniped. An additional 11 cetacean species and one extant pinniped species have been reported, but not confirmed, or may have the potential to occur in Cuban waters based on known distributions of the species in the Caribbean Sea (Table 1). Of the 659 total records, 612 were confirmed, 36 were designated as possible, and 11 were designated as doubtful. All records are listed in the appendix and discussed below in taxonomic order.

LARGE WHALES

North Atlantic right whale, Eubalaena glacialis

In the western North Atlantic, North Atlantic right whales are primarily found between Florida and Nova Scotia (Winn *et al.*, 1986). They are distributed on feeding grounds off the northeastern U.S. and Canada during the spring through early summer. During the winter (as early as November and through April), North Atlantic right whales are primarily found in coastal waters off North Carolina, Georgia, and northern Florida (Winn *et al.*, 1986; Kenney, 2001; Firestone *et al.*, 2008) but also occur throughout the mid-Atlantic and northeastern U.S. (Knowlton *et al.*, 2002; Mellinger *et al.*, 2007; NOAA Fisheries Service, 2008).

Right whales are not known to occur in the Caribbean Sea; there are no records of this species in Cuban waters. However, individuals (including cow-calf pairs) are documented on rare occasions during winter and spring in the Gulf of Mexico as far west as Texas. These occurrences are considered outside the normal range of this species (Moore and Clark, 1963; Schmidly *et al.*, 1972; Jefferson and Schiro, 1997; Anonymous, 2006). Sightings are also recorded year-round off the southeastern U.S. Atlantic coast (Winn *et al.*, 1986). Based on the confirmed records of this species in the Gulf of Mexico, extralimital sightings of North Atlantic right whales off the coast of Cuba are possible.

Humpback whale, Megaptera novaeangliae

In the North Atlantic Ocean, humpback whales are found from spring through fall on feeding grounds south of New England to northern Norway (Whitehead, 1982; Kenney and Winn, 1986; Weinrich *et al.*, 1997; Stevick *et al.*, 2003). During winter, most of the North Atlantic population is believed to migrate south to calving grounds in the West Indies (Winn *et al.*, 1975; Whitehead and Moore, 1982; Stevick *et al.*, 1998; Smith *et al.*, 1999). Most humpbacks are found in this region from January through March, with some animals arriving as early as November and a few remaining in the area until June (Erdman *et al.*, 1973; Winn *et al.*, 1975; Katona and Beard, 1991; Reeves *et al.*, 2001). Humpback whales in the northeastern Caribbean Sea are primarily found

off the northern coast of the Dominican Republic on Silver and Navidad Banks (Winn *et al.*, 1975; Mattila *et al.*, 1989) and in Samana Bay (Mattila *et al.*, 1994), as well as on the Virgin and Anguilla Banks of the eastern Leeward Islands (Mattila and Clapham, 1989) and in the Mona Passage off western Puerto Rico (Mignucci-Giannoni, 1998; Sanders *et al.*, 2005).

Townsend (1935) identified the Caribbean as a former humpback whaling ground. Based on logbook records, several humpback whales were taken off the northern coast of Cuba sometime between 1752 and 1902 (Townsend, 1935). Townsend mapped the locations of active whaling ships but did not provide coordinates or additional information for the humpback whale captures. Reeves *et al.* (2001) noted inconsistencies within logbooks which did not include information on presence or absence of humpbacks in Cuban waters. Schmidly (1981) estimated the coordinates from the Townsend charts; these coordinates place humpback whale captures just north of the Cuban EEZ in the Straits of Florida. No additional information, such as number of whales taken or exact dates of the takes, were provided in Schmidly (1981) or Townsend (1935).

Humpback whales may occur in Cuban waters during the breeding season (particularly November through June) but are not as likely to occur there during summer (July through September) when they are primarily on feeding grounds from south of New England to northern Norway. Humpback whales have been recorded along the coast of Cuba and around the smaller islands of Cuba. One sighting is confirmed during winter; this humpback whale was recorded in January 1999 near Boca de Jaruco, east of Habana, for six days before it died (Figure 2)^{6,7}. Bones of this stranded individual are supposedly housed at the Museo Natural de Guanabo (25km east of Habana). Other possible winter records include the following: a sighting along the shoreline of Habana in December 2004 (Blanco, 2008)⁸; a sighting off Punta Seboruco, Matanzas in January 2005 (Blanco, 2008)⁸; a stranding in Cayo Coco on the northern coast of Cuba in February 2000 (Figure 2) (the whale may have been harpooned offshore before it stranded in Cayo Coco) (González *et al.*, 2001); and a sighting 20 miles (37km) off Habana in December 1932 (Aguayo, 1954) (Figure 2). Würsig *et al.* (2000) incorrectly recorded this sighting as a stranding 7 nautical miles (NM) (12.4km) from Habana.

Other records of this species in Cuban waters during the breeding season include a sighting of two individuals confirmed off Baracoa in March 2008⁹; a possible sighting of

⁶ Humpback whale dies off Cuban coast. Accessed 1 December 2008. http://www.radiohc.org/Distributions/Radio_Havana_English/1999/99_jan/rhc-eng-01.20.99.

⁷ Blanco, M., pers. obs., 13 January 1999.

⁸ Yáñez, A., Patrón del Catamarán de Turismo DODY, pers. comm., February 2005.

⁹ Ballenas frente a las costas de Baracoa. 201 Lecturas by Soler Costafreda, A. Accessed 13 March 2008. www.portal.jovenclub.cu.

Table 1. Marine mammal species/groups with confirmed and possible occurrence in Cuban EEZ waters and their status under the International Union for Conservation of Nature (IUCN, 2011). Naming convention of cetaceans follows the approved International Whaling Convention (IWC) listing; naming convention of all other species follows Rice (1998).

Common Name	Scientific Name	IUCN Status
CONFIRMED OCCURRENCE		
Humpback whale	<i>Megaptera novaeangliae</i>	Least Concern
Fin whale	<i>Balaenoptera physalus</i>	Endangered
Bryde's whale	<i>Balaenoptera edeni</i> ^a	Data Deficient
Unidentified balaenopterid	<i>Balaenoptera</i> spp.	
Sperm whale	<i>Physeter macrocephalus</i>	Vulnerable
Pygmy sperm whale	<i>Kogia breviceps</i>	Data Deficient
Dwarf sperm whale	<i>Kogia sima</i>	Data Deficient
Pygmy or dwarf sperm whale	<i>Kogia</i> spp.	
Cuvier's beaked whale	<i>Ziphius cavirostris</i>	Least Concern
Gervais' beaked whale	<i>Mesoplodon europaeus</i>	Data Deficient
Rough-toothed dolphin	<i>Steno bredanensis</i>	Least Concern
Common bottlenose dolphin	<i>Tursiops truncatus</i>	Least Concern
Unidentified stenellid	<i>Stenella</i> spp.	
Pantropical spotted dolphin	<i>Stenella attenuata</i>	Least Concern
Atlantic spotted dolphin	<i>Stenella frontalis</i>	Data Deficient
Spinner dolphin	<i>Stenella longirostris</i>	Data Deficient
Risso's dolphin	<i>Grampus griseus</i>	Least Concern
False killer whale	<i>Pseudorca crassidens</i>	Data Deficient
Killer whale	<i>Orcinus orca</i>	Data Deficient
Short-finned pilot whale	<i>Globicephala macrorhynchus</i>	Data Deficient
Unidentified pilot whale	<i>Globicephala</i> spp.	
West Indian manatee	<i>Trichechus manatus</i>	Vulnerable
POSSIBLE OCCURRENCE		
North Atlantic right whale ^b	<i>Eubalaena glacialis</i>	Endangered
Blue whale	<i>Balaenoptera musculus</i>	Endangered
Sei whale	<i>Balaenoptera borealis</i>	Endangered
Common minke whale	<i>Balaenoptera acutorostrata</i>	Least Concern
Blainville's beaked whale	<i>Mesoplodon densirostris</i>	Data Deficient
Sowerby's beaked whale ^b	<i>Mesoplodon bidens</i>	Data Deficient
Striped dolphin	<i>Stenella coeruleoalba</i>	Least Concern
Clymene dolphin	<i>Stenella clymene</i>	Data Deficient
Fraser's dolphin	<i>Lagenodelphis hosei</i>	Least Concern
Melon-headed whale	<i>Peponocephala electra</i>	Least Concern
Pygmy killer whale	<i>Feresa attenuata</i>	Data Deficient
Hooded seal ^b	<i>Cystophora cristata</i>	Vulnerable

Note that several historical records of the Caribbean monk seal (*Monachus tropicalis*) have been documented in Cuba; however, this species is now considered extinct (NMFS 2008).

^a Nomenclature still unsettled.

^b Indicates species that would be extralimital.

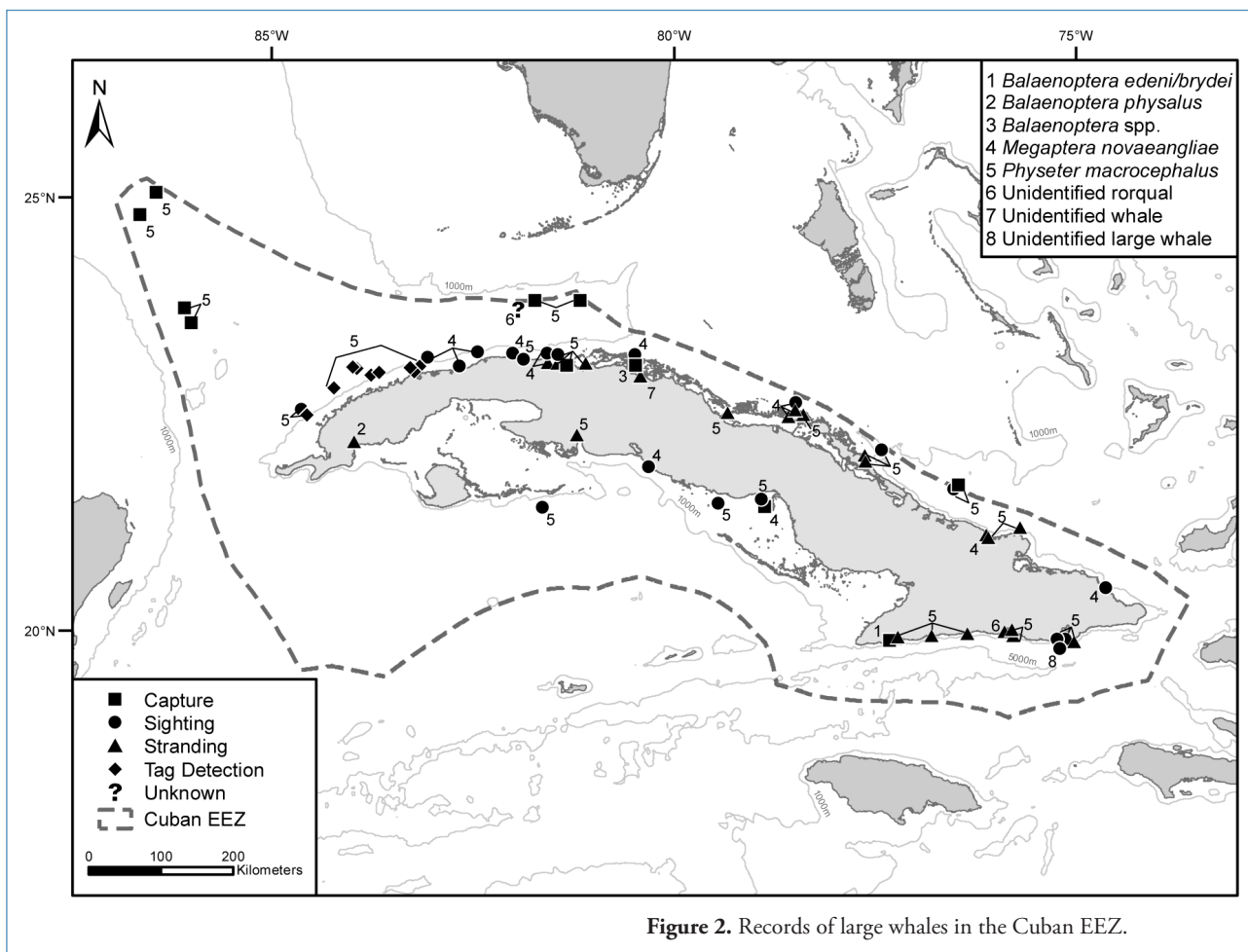


Figure 2. Records of large whales in the Cuban EEZ.

two individuals three miles from Playa Salado (Habana) in April 2006 (Blanco, 2008)¹⁰; a possible sighting in Bahía de Cádiz, (three miles from Faro, Villa Clara) in June 1997 (Blanco, 2008)¹¹; and a possible sighting of 12 individuals recorded off the coast of southern Cienfuegos Province in June 2000. The whales were sighted by tourists diving one mile away from the Guajímico tourist villa (between Cienfuegos and Trinidad) (Figure 2). The tourists supposedly took photographs but an accurate identification could not be made¹². The only records of humpback whales outside the breeding season include a confirmed stranding near Punta Tiburón, Cayo Coco and a confirmed sighting of two individuals off Cayo Coco (Blanco, 2008)¹³. Both records were documented in July 2002.

Seasonality is not known for the other records of humpback whales in Cuban waters. In 1839, a possible humpback whale skeleton was found at Punta de Maya, along the entrance to

Bahía de Mantanzas on the northeastern coast of Cuba (de la Torre, 1907; Cuní, 1918) (Figure 2). De la Torre (1907) listed this specimen as a 'ballenato', a whale calf. Cuní (1918) stated that this was an unidentified 'ballenato' based on the notes from Dr. J. Gundlach. Scaramuzza (1943) mentioned a 1922 capture of a large whale called a 'finback' on the southern coast of Cuba near Golfo de Ana María, close to Cayo Obispo, and to the south of Júcaro (Figure 2). Although Scaramuzza referred to this animal as a 'finback', the footnote in the article specifically stated that this animal was probably a humpback whale. Varona (1973) reported that humpback whales were also historically found near Cayo Bahía de Cádiz north of Las Villas on the northern coast of Cuba. A guidebook about Cuba mentioned a humpback whale specimen that was killed by mistake in 1978 and was housed in the Museo Historia Natural in Gibara (Northern Oriente); however, no location was given for this record (McAuslan *et al.*, 2003). We rejected the identification of this record as a humpback whale due to the lack of supporting details of how it was identified; therefore, this record is not included in the figures or appendix. In 1986, a humpback whale stranded near Jibara, Holguín off the northeastern coast of Cuba¹⁴.

¹⁰ Moreno, F. and Carvajal, A., Patrón y Maquinista del Yate de Turismo Marlin, pers. comm., April 2006.

¹¹ Carrillo, E. and Echemendía J., La Cooperativa de Pesca Caibarien Villa Clara, pers. comm., July 1997.

¹² Whales spotted on Cuba's southern coast. Accessed 1 December 2008. http://www.radiohc.org/Distributions/Radio_Havana_English/2000/2000_jun/Radio_Havana_Cuba-19_June_2000_22:00.

¹³ González, O., Ministerio de Ciencia Tecnología y Medio Ambiente de Cayo Coco, pers. comm., August 2002.

¹⁴ Guitart, D., Academia de Ciencias de Cuba, pers. comm., 1998.

Sei whale, Balaenoptera borealis

Sei whales are not expected to be common in Cuban waters due to their primary distribution outside tropical waters (Jefferson *et al.*, 2008). Five (considered extralimital) records are documented in the Gulf of Mexico; however, only four of these are reliable records (Jefferson and Schiro, 1997). There is one confirmed (likely extralimital) northeastern Caribbean stranding record from the Dominican Republic in July 1974 (Mead, 1977). Sightings designated as sei whales in the northeastern Caribbean (Erdman, 1970; Erdman *et al.*, 1973; Mignucci-Giannoni, 1989) are not confirmed records. Neither photos nor clear diagnostic features were provided for these unconfirmed records; the species identification was based on behavioral characteristics. Likewise, there are no confirmed records of sei whales in Cuban waters. Varona (1973) reported that sei whales were historically found near Ensenada de Mora (east of Cabo Cruz) along the southwestern coast of Cuba in the 1800s. Varona (1965) reported a sei whale captured in January 1963 near Ensenada de Mora. The skull was taken to the Instituto de Biología. The English summary provided in the paper incorrectly identified the species' common name as fin whale. Mead (1977) reidentified this animal as a juvenile Bryde's whale based on descriptions of the rostrum and close examination of the baleen.

Two strandings of sei whales are listed in Blanco Domínguez (2011). However, one of these is the 1963 Bryde's whale record. The other stranding was recorded on Playa Mar Verde, Santiago de Cuba in February 1975. This is the same record listed as Balaenopteridae in Blanco's 2008 paper (Blanco, 2008). According to Blanco, specialists of the Acuario de Baconao thought that it might be a sei whale, but it was very decomposed so the specialists confirmed it to be a rorqual. The source of this stranding is Antonio Soberats Barreiro (former director of Acuario de Baconao) who believed that the specimen may have been a sei whale. However, we were not able to confirm his identification. Therefore, we list this record as "unidentified rorqual". Due to their similarity in appearance and size, many of the above records may be misidentifications of Bryde's whales which are commonly seen year-round throughout tropical and warm temperate waters (Kato, 2002).

Fin whale, Balaenoptera physalus

The range of the fin whale in the eastern North Atlantic extends from the Arctic ice edge to the Caribbean Sea and Gulf of Mexico (Gambell, 1985; Jefferson and Schiro, 1997). The fin whale may occur in coastal and oceanic waters near Cuba based on this species' known associations with continental shelf, slope, and oceanic waters throughout its range (*e.g.* Hain *et al.*, 1992; Weir *et al.*, 2001; Panigada *et al.*, 2005). Alayo (1958) mentioned that this species had been reported from Júcaro off the southern coast of Cuba; however, the only confirmed record of this species is a stranding of an individual near Boca de Galafre, Pinar del Rio in July 1989

(Blanco, 2008; Lima, 1989) (Figure 2). A few false records of fin whales in Cuba have been recorded in the literature. As mentioned previously, a whale was captured near the Golfo de Ana María in 1922 (Scaramuzza, 1943). Scaramuzza (1943) referred to this animal as a 'finback'; however, the footnote in the article stated that this animal was probably a humpback whale. As previously noted, a juvenile fin whale was documented in Ensenada de Mora on the southeastern coast of Cuba in January 1963 (Varona, 1965). However, Mead (1977) later determined that this specimen was actually a Bryde's whale based on descriptions of the rostrum and close examination of the baleen. According to Varona (1965), the skull was taken to the Instituto de Biología.

Blue whale, Balaenoptera musculus

Blue whales in the North Atlantic range from the subtropics to Baffin Bay and the Greenland Sea (Yochem and Leatherwood, 1985). Stranding and sighting data suggest that the blue whale's original range in the Atlantic extended south to Florida, the Gulf of Mexico, the Cape Verde Islands, and the Caribbean Sea; however, the southern limit of this species' current range is unknown (Yochem and Leatherwood, 1985; Reeves *et al.*, 2004). Researchers using the U.S. Navy's Integrated Undersea Surveillance System (IUSS) resources have been able to detect blue whales throughout the open Atlantic south to at least the same latitude as the Bahamas although several hundred kilometers to the east (Clark, 1995).

There are only two reliable records (both strandings) for blue whales in the Gulf of Mexico (Jefferson and Schiro, 1997). There are two unconfirmed reports of this species in the Gulf of Mexico, and it is possible that unidentified baleen whales from this region could be blue whales (Jefferson and Schiro, 1997). The only Caribbean record for this species is from near the Panama Canal in January 1922 (Harmer, 1923). No records of blue whales are confirmed for Cuban waters. However, based on the records from the Gulf of Mexico and this species' known range, extralimital sightings of blue whales in Cuban waters are considered possible. The species is most likely to be found in the Study Area during the winter months.

Common minke whale, Balaenoptera acutorostrata

Common minke whales (hereafter referred to as minke whales) are distributed throughout the tropics and subtropics and to the ice edges in both hemispheres (Jefferson *et al.*, 2008). This species is known to occur in the Caribbean during the winter months, particularly between January and February (Winn and Perkins, 1976; Mitchell, 1991). However, minke whales have been reported in the Caribbean as late as May (Mignucci-Giannoni, 1998). Based on detections from U.S. Navy Sound Surveillance System (SOSUS) acoustic arrays, Clark and Gagnon (2004) suggested that minke whales move clockwise through the Caribbean during the winter. No minke whale records have been documented for Cuba;

however, one probable sighting of three adults and a calf was recorded just north of Cuba in the Old Bahama Channel region in March 1974 (Winn and Perkins, 1976).

Bryde's whale, *Balaenoptera edeni/brydei*

Bryde's whales are seen year-round throughout tropical and warm temperate waters (Kato, 2002) and may be resident in the Caribbean (Mead, 1977). There is one record of a Bryde's whale captured near Ensenada de Mora along the southeast coast of Cuba in January 1963 (Varona, 1965; Mead, 1977) (Figure 2). This record was initially reported to be a juvenile sei whale (Varona, 1965) but was corrected later and determined to be a juvenile Bryde's whale based on descriptions of the rostrum and close examination of the baleen (Mead, 1977). Difficulties in distinguishing sei whales from Bryde's whales at sea may result in frequent misidentifications between these two species (Mead, 1977).

Sperm whale, *Physeter macrocephalus*

Sperm whales are found in polar to tropical waters in all oceans, from approximately 70°N to 70°S (Rice, 1998). They are widely distributed in the Caribbean Sea where they are commonly found near the shelf break, along the continental slope, and in passages between islands (Aguayo, 1954; Taruski and Winn, 1976; Roden and Mullin, 2000). Besides the eastern Caribbean, where extensive research has been conducted (e.g. Moore *et al.*, 1993; Watkins *et al.*, 1993; Gordon *et al.*, 1998), not much is known about sperm whales in the rest of the Caribbean. Based on information from whaling logbooks from 1761 through 1920, Townsend (1935) identified the Gulf of Mexico as a main sperm whaling ground. Hunting sperm whales took place in the Gulf of Mexico and West Indies region from February to May. Based on logbook records, the distribution of sperm whales in this region appeared to be concentrated off the northern coast of Cuba, the Straits of Florida, and the southeastern Gulf of Mexico (Townsend, 1935). Townsend mapped the locations of whale ships on the days that whales were taken but did not provide coordinates or additional information for the sperm whale captures. Schmidly (1981) later estimated coordinates from the Townsend charts. No additional information, such as number of whales taken or the exact dates of the takes, were provided in Schmidly (1981) or Townsend (1935). Figure 2 only includes the whaling records of sperm whales that were captured within the Cuban EEZ. A few of Townsend's whaling records are located just outside the EEZ in the Straits of Florida.

Published records in Cuban waters date back to January 1830 when a probable sperm whale was sighted four miles offshore of the northern coast of Cuba between Matanzas and Habana (Cuní, 1918) (Figure 2). Several animals were also sighted with this individual; however, they were of varying, smaller sizes and were not confirmed to be sperm whales (Cuní, 1918). Other sperm whale sightings recorded off the northern coast of Cuba include sightings near Cayo Romano

in June 1991 (Jefferson and Lynn, 1994) and off Punta de Maya, Matanzas in March 2008 (Blanco *in press*)¹⁵. Sperm whales were detected visually and acoustically in the Straits of Florida and just off the northwestern coast of Cuba in June 1992 (Hal Whitehead unpub. data) (Figure 2). They have been sighted in the Straits of Florida just north of the Cuban EEZ boundary and off the northeast coast according to the bridge log observations from NMFS research vessels; however, these sightings cannot be confirmed and may have been from inexperienced observers (Schmidly, 1981). One sperm whale was detected in the Cuban EEZ off the northwest coast of Cuba in 2003. This male (11m in length) was satellite tagged on 1 July 2002 off the Mississippi River Delta in the Gulf of Mexico and tracked for 607 days (Jochens *et al.*, 2008). He moved through the Straits of Florida into the North Atlantic Ocean for around two months and spent the winter and spring in the Bay of Campeche, Mexico. On return to the Gulf of Mexico, the whale spent at least several days off the northwest coast of Cuba in November and December 2003 (Figure 2) and was detected in waters of depths ranging from 50 to 2,300m (Jochens *et al.*, 2008; Bruce Mate unpub. data).

Sightings of sperm whales off the southern coast of Cuba have been recorded off the southwestern coast in November 1995 (Blanco *in press*)¹⁶; off Trinidad, Sancti Spiritus in March 2002 (Blanco *in press*)¹⁶; near the mouth of Guantánamo Bay in 1999 (GTMO, unpub. data); and offshore of Guantánamo Bay in September 2005 (GTMO, unpub. data) (Figure 2). In February 1943, a sperm whale sighted near Cayo Obispo on the southern coast of Cuba was harpooned and brought to the harbor in Puerto de Júcaro (Scaramuzza, 1943) (Figure 2). Other captures have also been documented in Cuban waters but without exact locations (Cuní, 1918).

Strandings have been recorded along the northern coast of Cuba; specific locations include Bahía de Matanzas in 1897, between Cayo Confites and Cayo Romano in the narrowest part of the Old Bahama Channel in May 1906, and Bahía de Gibara, Holguín in 1940 (de la Torre, 1907; Cuní, 1918; Blanco Domínguez, 2011) (Figure 2). More recent strandings have been recorded near Holguín in March 1986 (Blanco *in press*)¹⁴; Cárdenas, Matanzas in 1996 (Blanco *in press*)¹⁴; Cayo Francés, Villa Clara in October 2000 (Blanco *in press*)¹⁷; and Cayo Coco, Ciego de Ávila in March 2006 (Blanco *in press*)¹⁸. Note that this last record is incorrectly listed as December 2006 in Blanco Domínguez (2011). A skeleton of a probable sperm whale was reported between Cayo Confites and Cayo Romano in 1907 and at an unknown location in Cuba in 1909 (Cuní, 1918) (Figure 2). This 1909 record is listed as being from Bahía de Cárdenas, Matanzas in Blanco Domínguez (2011), but we could not confirm this location based on the

¹⁵ Blanco, M., López, N., and López, R. pers. obs., 2008.

¹⁶ Cárdenas, J., Patrón del Velero Ying Yang de Puerto Sol, pers. comm., April 2002.

¹⁷ Blanco, M., pers. obs., October 2000.

¹⁸ Blanco, M., Pina, F., and Moré, D. pers. obs., March 2006.

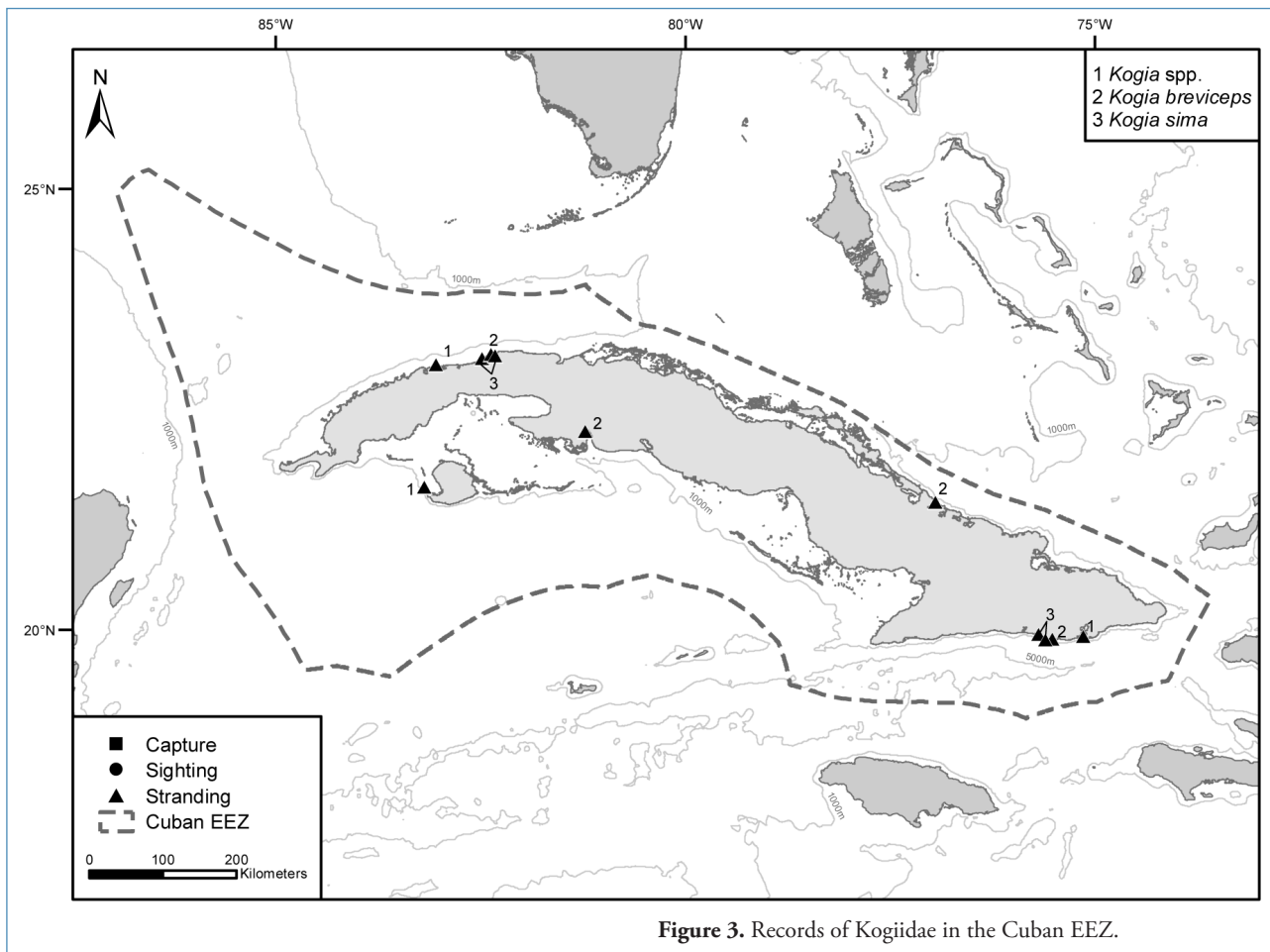


Figure 3. Records of Kogiidae in the Cuban EEZ.

information provided in Cuní (1918). Aguayo (1954) and Varona (1973) included the above-mentioned locations as well as Cayo Cupey, Matanzas in their summaries of sperm whale records in Cuba but did not give specific information on any of the records. A capture of a supposed sperm whale was anonymously reported off the coast of Matanzas in 1898 (Anonymous, 1898); however, we rejected the identification of this specimen due to the lack of information on how it was identified and any supporting documentation.

Stranding records for the southern coast of Cuba include a March 1978 stranding in Guantánamo Bay (incorrectly listed as May in Blanco Domínguez (2011)), a May 2006 stranding near Guamá (Santiago de Cuba), and a February 2008 stranding of a juvenile near Punta Tabacal (Chivirico, Santiago de Cuba) (Blanco in press)^{18,20} (Figure 2). All three of these skeletons are currently on display at the Museo de Historia Natural de Santiago de Cuba (Tomás Romay Museum). Additional strandings along the southern coast have been recorded near El Cuero, Santiago de Cuba in May 1989 and February 2006 (Blanco in press)^{19,21}; Cabo Cruz,

Granma in November 1989 (Blanco in press)²⁰; and Cienaga/ Peninsula de Zapata, Matanzas in February 1996 (Blanco in press)¹⁷.

KOGIIDAE

Pygmy sperm whale, Kogia breviceps, and dwarf sperm whale, Kogia sima

Kogia spp. have a worldwide distribution in deep tropical and temperate waters (Jefferson *et al.*, 2008). Both species have been reported in the Caribbean throughout the year (Cardona-Maldonado and Mignucci-Giannoni, 1999). Dwarf and pygmy sperm whales are difficult for the inexperienced observer to distinguish from one another at sea, and sightings of either species are often categorized as *Kogia* spp. The difficulty in identifying pygmy and dwarf sperm whales is exacerbated by their avoidance reaction towards ships and change in behavior towards approaching survey aircraft (*e.g.* Würsig *et al.*, 1998). Based on the cryptic behavior of these species and their small group sizes (much like that of beaked whales), as well as similarity in appearance, it is difficult to accurately distinguish between these species in sightings at sea. Historical records of *Kogia* spp. in Cuba include a skeleton reported near Ensenada de la Herradura, which is near Bahía de Manatí on Cuba's northwest coast (León and Aguayo, 1945) (Figure 3). A *Kogia* spp. stranding

¹⁹ Lauranzon Meléndez, B., Museo de Historia Natural de Santiago de Cuba, pers. comm., 29 April 2009.

²⁰ Soberat, A., Acuario de Baconao, Santiago de Cuba, pers. comm., 1997.

²¹ Viña, N. and Tamayo, J.A., Centro Oriental de Ecosistemas y Biodiversidad (BIOECO), pers. comm., February 2006.

was recorded along the windward side of Guantánamo Bay in December 1999 (GTMO, unpub. data) (Figure 3). This stranding was originally recorded as a dwarf sperm whale; however, identification could not be confirmed to species based on the photographs of the stranded specimen. Therefore, this record was designated as a confirmed *Kogia* spp. stranding. Another *Kogia* spp. stranding was recorded near Punta Francés, Isla de la Juventud in December 2006²².

Both *Kogia* species have been confirmed in Cuba. Older records of the pygmy sperm whale include a skull found near Bahía de Nuevas Grandes on the northeast coast of Cuba in 1937 (Aguayo, 1954; Varona, 1980). Another record in this same area is listed as occurring in March 1954 in Blanco Domínguez (2011); however, this record is actually the same as the previous one. A stranding was also recorded near Manatí, Matanzas in June 1954 (Blanco Domínguez, 2011) (Figure 3). More recent strandings have been recorded near Playa Larga, Santiago de Cuba in 2002 and near Bahía de La Habana in May 2005 (Figure 3)^{19,23}. The 2002 specimen is currently on display at the Tomás Romay Museum¹⁹.

A dwarf sperm whale recently stranded near the Círculo Social Obrero Los Marinos in Jaimanitas (western Habana) in August 2008 (Montolio Fernández, 2008) (Figure 3). Another dwarf sperm whale stranded near Bahía de La Habana in 1977 (Varona, 1980). Strandings of this species have also been recorded near Santiago de Cuba on the southeast coast of Cuba; one individual was found on Playa Baconao in February 2004 while the other individual was found on Playa Larga in September 2007 (Figure 3)^{24,25}.

ZIPHIIDAE

Beaked whales, Family Ziphiidae

There have been several records of unidentified beaked whales in the Windward Passage east of Cuba, in the Straits of Florida offshore of Habana (just outside the EEZ), and near Caibarién on the northern coast of Cuba (Aguayo, 1954; Jefferson and Lynn, 1994; Garrison and Richards, 2004)²⁶ (Figure 4). Unidentified beaked whales have also been recorded along the northwest coast of nearby Jamaica (Rosario-Delestre *et al.*, 1999).²⁷

In the western North Atlantic, confirmed strandings of True's beaked whales (*Mesoplodon mirus*) have been recorded from Nova Scotia to Florida and also in Bermuda (MacLeod

et al., 2006). A possible True's beaked whale stranded on the Gulf coast of Florida; however, this species is not yet confirmed for the Gulf of Mexico (Jefferson and Schiro, 1997). Balcomb (1981) and Mead (1989) reported a stranding record for True's beaked whale from the Bahamas. This record is well south of any other record of True's beaked whale and is not verified²⁸. Therefore, available information suggests that the True's beaked whale is not likely to occur in Cuban waters.

Cuvier's beaked whales (*Ziphius cavirostris*) occupy almost all temperate, subtropical, and tropical waters, as well as subpolar and even polar waters in some areas (MacLeod *et al.*, 2006). They are documented throughout the Caribbean (*e.g.* Caldwell and Caldwell, 1971a; Caldwell *et al.*, 1971b; van Bree *et al.*, 1973; Mignucci-Giannoni, 1989; MacLeod *et al.*, 2006; Rinaldi *et al.*, 2006). This species was historically captured on occasion by fishermen in Cuba; Cuvier's beaked whales were often found near Caibarién, Bahía de Matanzas, Bahía de Santiago de Cuba, Carapachibey, Habana, and Boca Ciego (Varona, 1964, 1973). Aguayo (1954) reported two specimens from near Caibarién and Bahía de Matanzas on the northern coast of Cuba (Figure 4). The Bahía de Matanzas skeleton was originally housed in the Colegio de Belén in Habana but was later moved to the Museo Nacional de Historia Natural. The skull found near Caibarién was kept in the Museo Nacional de Historia Natural (Aguayo, 1954). In the 1960s, a skull without mandibles was retrieved by fishermen off the southern coast of Isla de Pinos (renamed Isla de la Juventud in 1978) (Varona, 1964). These skulls and the skeleton are the same records listed with the date February 1963 in Blanco Domínguez (2011); however, the primary sources of these records do not include specific dates (see appendix). Strandings have been recorded along the northern coast of Cuba near Habana in October 1971, November 1991, and March 2003 (Varona 1980) (Figure 4)^{29,30}. A mass stranding of 14 individuals was recorded near Bahía de Nipe, Holguín in March 1986 (Figure 4)¹⁴. Strandings along the southern coast of Cuba are mostly centered around Santiago de Cuba and were recorded in August 1974, June 1979, October 1988, August 2006, and May 2007 (Blanco Domínguez, 2011)^{20,31} (Figure 4). A stranding was also recorded near Bahía de Cochinos in July 1970 (Figure 4)¹⁴. A Cuvier's beaked whale skull was found on the southern coast of the Isla de Pinos near Carapachibey (Varona, 1964) (Figure 4). The only known sighting of this species in the Cuban EEZ is a confirmed sighting of four Cuvier's beaked whales recorded offshore of Habana in the Straits of Florida during an opportunistic marine mammal shipboard survey conducted by Texas A&M University during the summer of 1991 (Jefferson and Lynn, 1994) (Figure 4).

²² Anido, T., Academia de Ciencias Tecnología y Medio Ambiente de la Isla de la Juventud, pers. comm., December 2006.

²³ Guitart, D., Academia de Ciencias Tecnología y Medio Ambiente de Cuba, pers. comm., May 2005.

²⁴ Tamaño, J.A., Centro de Biodiversidad de Ecosistemas Costeros de la zona Oriental de Cuba, pers. comm., February 2004.

²⁵ Romero, S., Acuario de Baconao, Santiago de Cuba, pers. comm., September 2007.

²⁶ NMFS-SEFSC (National Marine Fisheries Service-Southeast Fisheries Science Center). 2004. Pelagic Observer Program data: 2000-2004. Accessed 1 December 2008. <http://www.sefsc.noaa.gov/observerdata.jsp>.

²⁷ Goreau, T.J., Global Coral Reef Alliance, pers. comm., 27 September 2007.

²⁸ MacLeod, C., Beaked Whale Research Project, pers. comm., 11 March 2006.

²⁹ Blanco, M., pers. obs., November 1991.

³⁰ López, N. and Blanco, M., pers. obs. March 2003.

³¹ Romero, Z., Acuario de Baconao, Santiago de Cuba, pers. comm., 2006 and 2007.

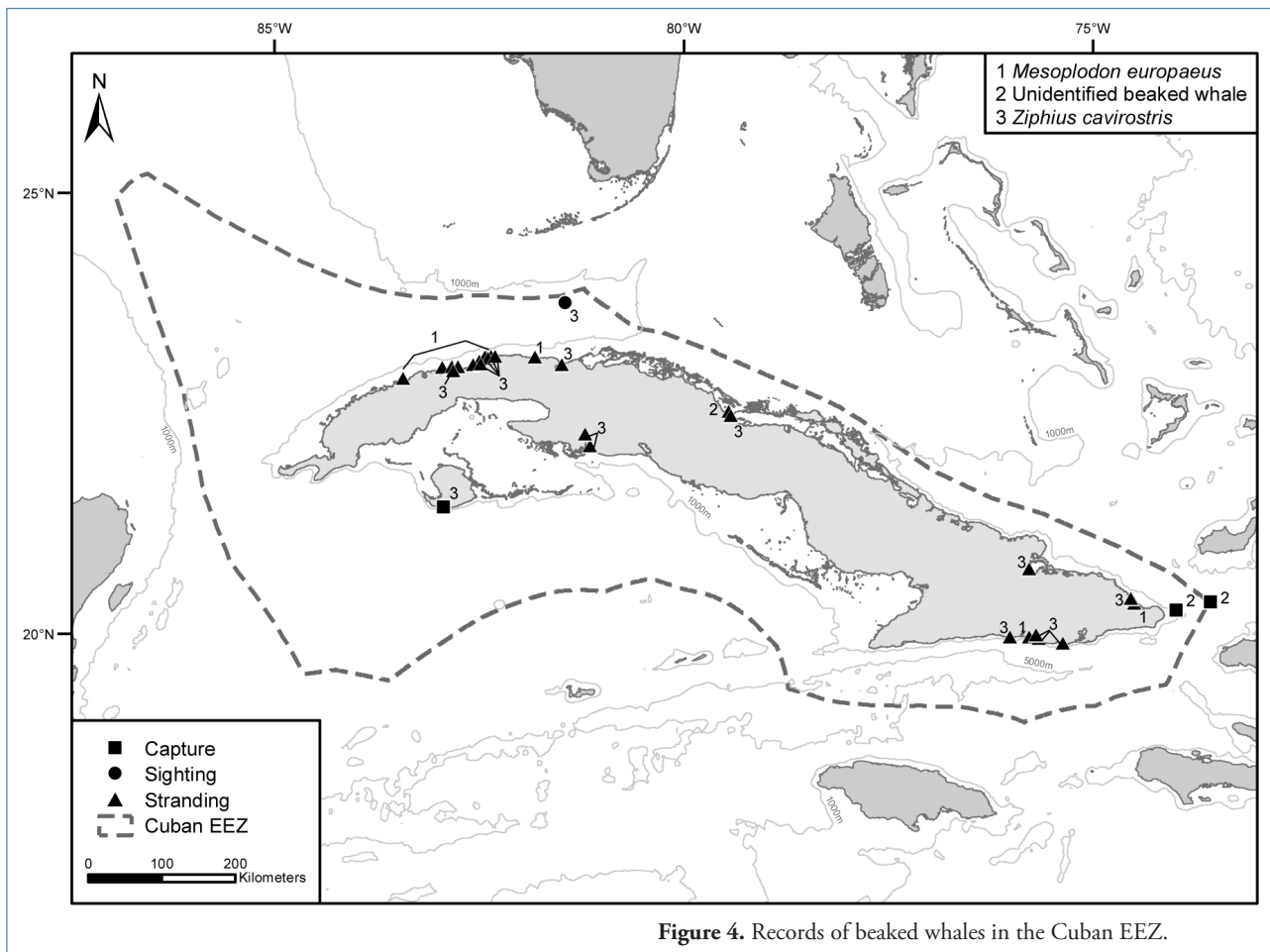


Figure 4. Records of beaked whales in the Cuban EEZ.

The Blainville's beaked whale (*Mesoplodon densirostris*) is thought to have a continuous distribution throughout the tropical, subtropical, and warm-temperate waters of the world's oceans, with occasional occurrences in cold-temperate areas (MacLeod *et al.*, 2006). There are no documented records of the Blainville's beaked whale in Cuban EEZ waters; however, a stranding of a 640cm male was recorded nearby in Gun Bay, Grand Cayman Island (Mead, 1989; Rosario-Delestre *et al.*, 1999). The species is regularly sighted in the Bahamas (MacLeod *et al.*, 2004) and has been reported off Puerto Rico (Rosario-Delestre *et al.*, 1999) and Guadeloupe (Rinaldi *et al.*, 2006).

The Gervais' beaked whale (*Mesoplodon europaeus*) is endemic to the warm-temperate to tropical Atlantic (MacLeod *et al.*, 2006) and may not be as rare in the Caribbean Sea as previously thought (Debrot, 1998). Alayo (1958) described this species as an occasional visitor to Cuba, and Varona (1973) reported that Gervais' beaked whales were often found off Cuba near Cayo Alacranes, Arroyo Bermejo, Cabañas, and Bahía Dominica. Although no sightings of this species have been documented in Cuban EEZ waters, several strandings have been recorded during November through April (Varona, 1985). Strandings have been documented in Arroyo Bermejo (east of Habana) in March 1965; Bahía Dominica

in November 1971; La Puntilla in November 1982; and Barlovento, Playita de 16, and Bahía del Mariel near Habana in April 1984 (Varona, 1970, 1985; Jefferson and Schiro, 1997) (Figure 4). The oldest Cuban record of this species is a skull found in Cayo Alacranes in western Cuba (north of the Province of Pinar del Río) in November 1946 (Aguayo, 1954; Varona, 1970) (Figure 4). Rankin (1956) compared this skull to other Gervais' skulls from the Caribbean and North Atlantic and determined that it may be of an adult female. An unconfirmed stranding of this species was recorded in Pinar del Río in July 1954 (Blanco Domínguez, 2011). A complete skeleton of a female Gervais' beaked whale was found in November 1969 near Bahía de Cabañas on the northeast coast of Cuba (Varona, 1985) (Figure 4). Additional strandings have been recorded near Playa Baracoa, Guantánamo in June 1979, Playa Baracoa, Habana in August 1988, and Playa Siboney, Santiago de Cuba in October 1988 (Figure 4)^{20,32}. Records from nearby islands include strandings documented in Montego and Bull Bays in Jamaica and on Little Cayman in the Cayman Islands (Rankin, 1953; Caldwell, 1964; Rosario-Delestre *et al.*, 1999).

³² Guitart, D. and Blanco, M., pers. obs.

The Sowerby's beaked whale (*Mesoplodon bidens*) is endemic to the North Atlantic, and most records are from northern Europe (MacLeod *et al.*, 2006). This is considered to be more of a temperate water species. A Sowerby's beaked whale stranding on the Gulf Coast of Florida has been reported but is considered to be an extralimital record (Jefferson and Schiro, 1997; MacLeod *et al.*, 2006). Several areas of the Caribbean have been identified as key areas for beaked whales. In particular, the northern Gulf of Mexico continental shelf margins is one of these key areas and includes the Gulf of Mexico (north of the U.S./Mexico border) and extends south along the west coast of Florida to the northwest coast of Cuba (MacLeod and Mitchell, 2006). Based on the known range of this species and the record from the Gulf of Mexico, extralimital occurrences of Sowerby's beaked whales in Cuban waters are possible.

DELPHINIDAE

Rough-toothed dolphin, Steno bredanensis

Rough-toothed dolphins are found in tropical to warm-temperate waters worldwide and rarely range north of 40°N or south of 35°S (Miyazaki and Perrin, 1994). Records from the western North Atlantic are from Virginia to Florida, the Gulf of Mexico, the West Indies, and the northeastern coast of South America (Würsig *et al.*, 2000). It is possible that the low number of Cuban records may be a reflection of the difficulty of distinguishing the rough-toothed dolphin from

other somewhat similar species such as the common bottlenose dolphin (Jefferson *et al.*, 2008). A historical capture of a rough-toothed dolphin was documented near Habana although the date is unknown (Aguayo, 1954; Alayo, 1958) (Figure 5). Varona (1973) also mentioned the presence of rough-toothed dolphins off Habana. Strandings were recorded on Playa Chivirico, Santiago de Cuba in November 2001²⁰ and near Santa Cruz del Norte, Habana in May 2004³³.

During September 2005, two rough-toothed dolphins rehabilitated by the Marine Mammal Conservancy following a mass stranding in March 2005 were tagged with satellite-linked transmitters and released (Wells *et al.*, 2008). The tracking data demonstrated that these individuals moved south from the Florida Keys through the Santaren Channel and Old Bahama Channel to the coastal waters off Cayo Coco and Cayo Frago on the northern coast of Cuba (Wells *et al.*, 2008) (Figure 5). The rough-toothed dolphins were detected in both very shallow, nearshore waters and deep waters of the nearby submarine trench (Wells *et al.*, 2008). Because these dolphins had stranded, had been rehabilitated over six months, and were released separate from the rest of their schoolmates, movement patterns from tracking data may not be representative of typical movement patterns of this species in this area.

³³ Guevara, C. and Blanco, M., pers. obs.

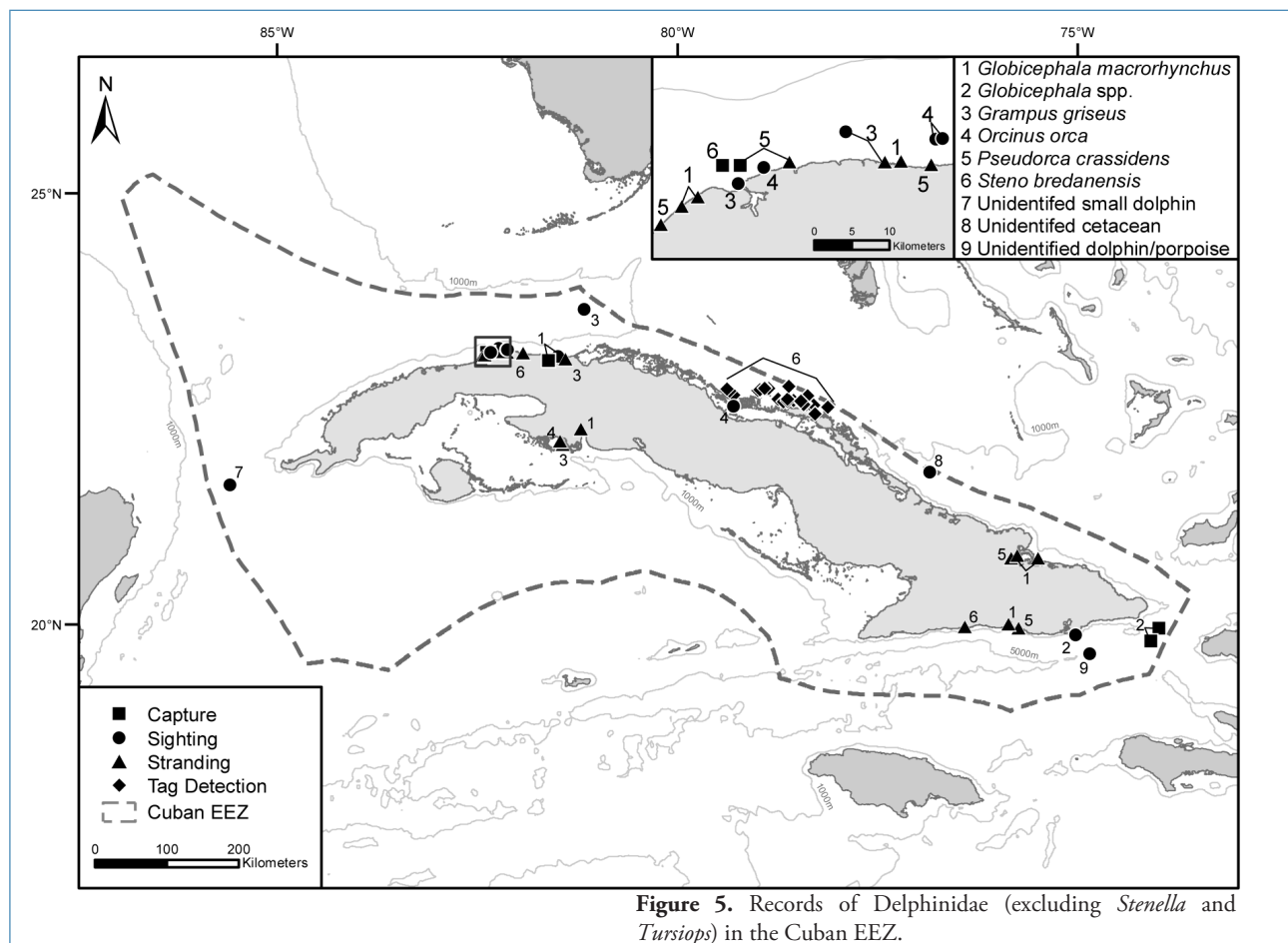


Figure 5. Records of Delphinidae (excluding *Stenella* and *Tursiops*) in the Cuban EEZ.

Common bottlenose dolphin, *Tursiops truncatus*

In the western North Atlantic, common bottlenose dolphins (hereafter referred to as bottlenose dolphins) occur as far north as Nova Scotia and are most common in coastal waters from New England to Florida, the Gulf of Mexico, the Caribbean, and southward to Venezuela and Brazil (Würsig *et al.*, 2000). Bottlenose dolphins have been reported in all regions of the Wider Caribbean Region (Ward *et al.*, 2001). The bottlenose dolphin is seen throughout the year in the Caribbean, primarily in waters over the shelf, and occasionally near the shelf break and farther offshore (Mignucci-Giannoni, 1989).

Bottlenose dolphins are common on the insular platform and coastal zones of Cuba year-round (López *et al.*, 2010), and sightings have also been recorded from nearby Jamaica (*e.g.* Fairbairn and Haynes, 1982; Roden and Mullin, 2000). However, despite the known regular occurrence of this species around Cuba, very few studies have been conducted and few documents on the distribution of bottlenose dolphins in this region exist. Historical accounts from Aguayo (1954) and Varona (1973) claimed that bottlenose dolphins were common in Cuban waters but did not provide any specific records of occurrence. According to Pérez-Cao *et al.* (2009), Silva (1977) was the first publication that focused specifically on bottlenose dolphins in Cuba. This article notes the observations of the nourishing conduct of an individual in

the Archipiélago de Los Canarreos in southeast Cuba. Other southeast records include a sighting of over five bottlenose dolphins off Caracoles Point in Guantánamo Bay in September 1999 (GTMO, unpub. data) (Figure 6).

Records of bottlenose dolphins off the northern coast of Cuba are better documented, particularly in the region where dolphin captures are known to occur. The Acuario Nacional de Cuba, with contributions from other Cuban institutions, has conducted numerous studies on the abundance, distribution, social structure, habitat use, genetics, and health of bottlenose dolphins in the Cuban insular platform. Researchers from the Acuario Nacional have conducted dedicated research studies on bottlenose dolphins in the Archipiélago de Sabana-Camagüey region to better understand the populations from which dolphins are captured for live display. Their research in this region has focused on morphometric studies and health assessments (Blanco and Olachea, 1996, 2000)³⁴. Acuario Nacional researchers have captured, measured, and released bottlenose dolphins off Varadero, Isabela de Sagua, and Caibarién (Blanco and Olachea, 1996, 2000). The captures and measurements in the Varadero region to the northeast of the Península de Hicacos were conducted between 1983

³⁴ Pérez-Cao, H. (2004) Population studies on bottlenose dolphins *Tursiops truncatus*, in the archipelago Sabana-Camagüey, Cuba. Abstracts, Thirty-second Annual Symposium of the European Association for Aquatic Mammals. 5-8 March 2004. Valencia, Spain.

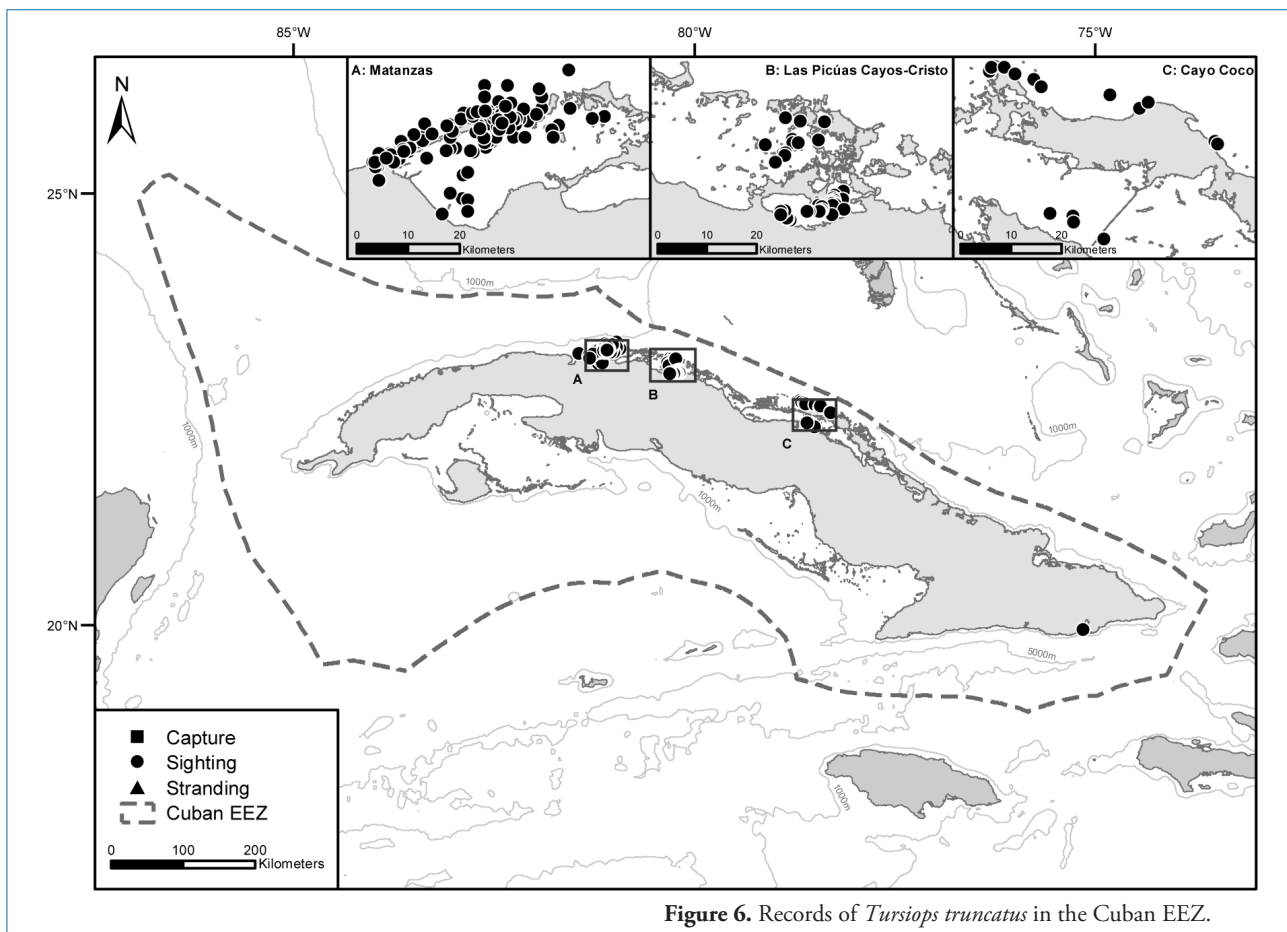


Figure 6. Records of *Tursiops truncatus* in the Cuban EEZ.

and 1995 (Blanco and Olachea, 1996). During this study period, 30 sightings of a total of 100 bottlenose dolphins were recorded (Figure 6).

Acuario Nacional researchers have also used distance sampling, mark-recapture, and photo-identification techniques to obtain information on the relative abundance, distribution, and degree of residence of bottlenose dolphins in the Archipiélago de Sabana-Camagüey region. Surveys conducted in 2000 were focused near Cayo Coco in the provinces of Ciego de Ávila and Camagüey off the Archipiélago de Camagüey (Pérez-Cao, 2004) (Figure 6). A total of 27 sightings were recorded, and 109 bottlenose dolphins were observed during these sightings. No specific geographical coordinates, dates, or group sizes were available for these 27 sightings. The sightings for these surveys included in Figure 6 were geo-referenced from the maps provided in Pérez-Cao (2004). Thirty-two of the dolphins sighted were individually identified through photo-identification; none of these was resighted during the study. The relative density of bottlenose dolphins near Cayo Coco was estimated to be 0.14 dolphins/km² (Pérez-Cao, 2004). The relative abundance of bottlenose dolphins was found to be higher in the Las Picúas Cayos-Cristo Marine Protected Area which is part of the Archipiélago de Sabana-Camagüey based on surveys conducted between 2005 and 2006 (Alvarez Alemán *et al.*, 2009). A total of 42 groups of dolphins was recorded; relative abundance was 2.7 dolphins per 10NM. Sightings from these surveys were geo-referenced from figures provided by A. Alvarez Alemán (Figure 6). More detailed information on these sightings was not available.

Survey efforts between 2002 and 2009 were concentrated along the northern coast of the Matanzas Province in the Archipiélago de Sabana. Results from these surveys are discussed in Pérez-Cao (2004), Pérez-Cao *et al.* (2009), and López *et al.* (in press). Six surveys were conducted between June 2002 and August 2003 in waters off the northern coast of Matanzas in three areas: Costa Norte, Bahía de Cárdenas, and Cinco Leguas. These surveys resulted in 34 sightings of a total of 253 bottlenose dolphins; 60 individuals were photo-identified (Figure 6). Density of bottlenose dolphins in these three areas was estimated to be 1.28 dolphins/km² (Pérez-Cao *et al.*, 2009). Additional surveys from 2004 through 2009 concentrated in Costa Norte and Bahía de Cárdenas and resulted in 117 sightings (López *et al.*, in press) (Figure 6). Relative abundance estimated from mark-recapture data was between approximately 100 and 150 dolphins for this region. Researchers identified 128 dolphins; 71 of these were observed more than once. Results from these studies support the hypothesis of a resident core population of bottlenose dolphins in this region. However, it is also possible that several wide-ranging semi-resident populations exist in this region and have an aggregate abundance of several hundreds of bottlenose dolphins (Van Waerebeek *et al.*, 2006). To date, there are no absolute abundance estimates for bottlenose

dolphin populations in Cuba. Long-term photo-identification and genetic studies are needed to determine population structure and abundance of bottlenose dolphins in Cuban waters, particularly in the Sabana-Camagüey Archipelago due to the ongoing live captures in this region.

Pantropical spotted dolphin, Stenella attenuata

The pantropical spotted dolphin is distributed in tropical and subtropical waters worldwide (Perrin and Hohn, 1994). This species has been reported throughout the Caribbean (e.g. Caldwell *et al.*, 1971a; Taruski and Winn, 1976; Roden and Mullin, 2000; Mignucci-Giannoni *et al.*, 2003; Boisseau *et al.*, 2006; Gero and Whitehead, 2006; Jérémie *et al.*, 2006). Sightings of pantropical spotted dolphins were recorded off the southwestern coast of Cuba in September 1985 and off northwestern Cuba in October 1984 (Perrin *et al.*, 1987; Mignucci-Giannoni *et al.*, 2003) (Figure 7). These records are displayed in the distribution map for this species in Perrin and Hohn (1994). The coordinates for these sightings are included in Perrin *et al.* (1987), and supplemental information is included in Mignucci-Giannoni *et al.* (2003). Sightings were recorded in March 1995 off southern Cuba (just outside the EEZ) during the *Oregon II* survey (NMFS-SEFSC 1995) and in April in the Yucatán Channel off western Cuba during surveys conducted in the late 1990s (Ortega-Ortiz, 2002) (Figure 7). Records of this species along the northern coast of Cuba include an unconfirmed stranding near Habana in July 1954 (Blanco Domínguez, 2011) and an unconfirmed sighting of 50 individuals off Cayo Francés, Villa Clara in June 2006³⁵. Spotted dolphins, which could not be identified to species, were sighted off the western and northern coasts of Cuba between 1987 and 1992 (Whitehead unpub. data), while a *Stenella* spp. sighting was recorded off the western coast in 1998 (Ortega-Ortiz, 2002) (Figure 7). Sightings of pantropical spotted dolphins have also been recorded off nearby Haiti (Perrin *et al.*, 1987; Roden and Mullin, 2000).

Atlantic spotted dolphin, Stenella frontalis

The Atlantic spotted dolphin ranges from New England to southern Brazil in the western North Atlantic (Jefferson *et al.*, 2008). As noted by Perrin *et al.* (1987), the distribution of the Atlantic spotted dolphin in the Caribbean is poorly known. Sightings of this species have been recorded from Puerto Rico, the Virgin Islands, Columbia, Dominican Republic, St. Vincent, Martinique, Dominica, Guadeloupe, Venezuela, and Panama (Mignucci-Giannoni, 1989, 1998; Gero and Whitehead, 2006; Jérémie *et al.*, 2006; Rinaldi *et al.*, 2006). There are several records of this species in the Cuban EEZ. Varona (1980) includes strandings of Atlantic spotted dolphins in Habana in 1911 and 1967 (Figure 7). Most sightings of this species are documented along the

³⁵ Echemendía J., La Cooperativa de Pesca Caibarien Villa Clara, pers. comm., 2006.

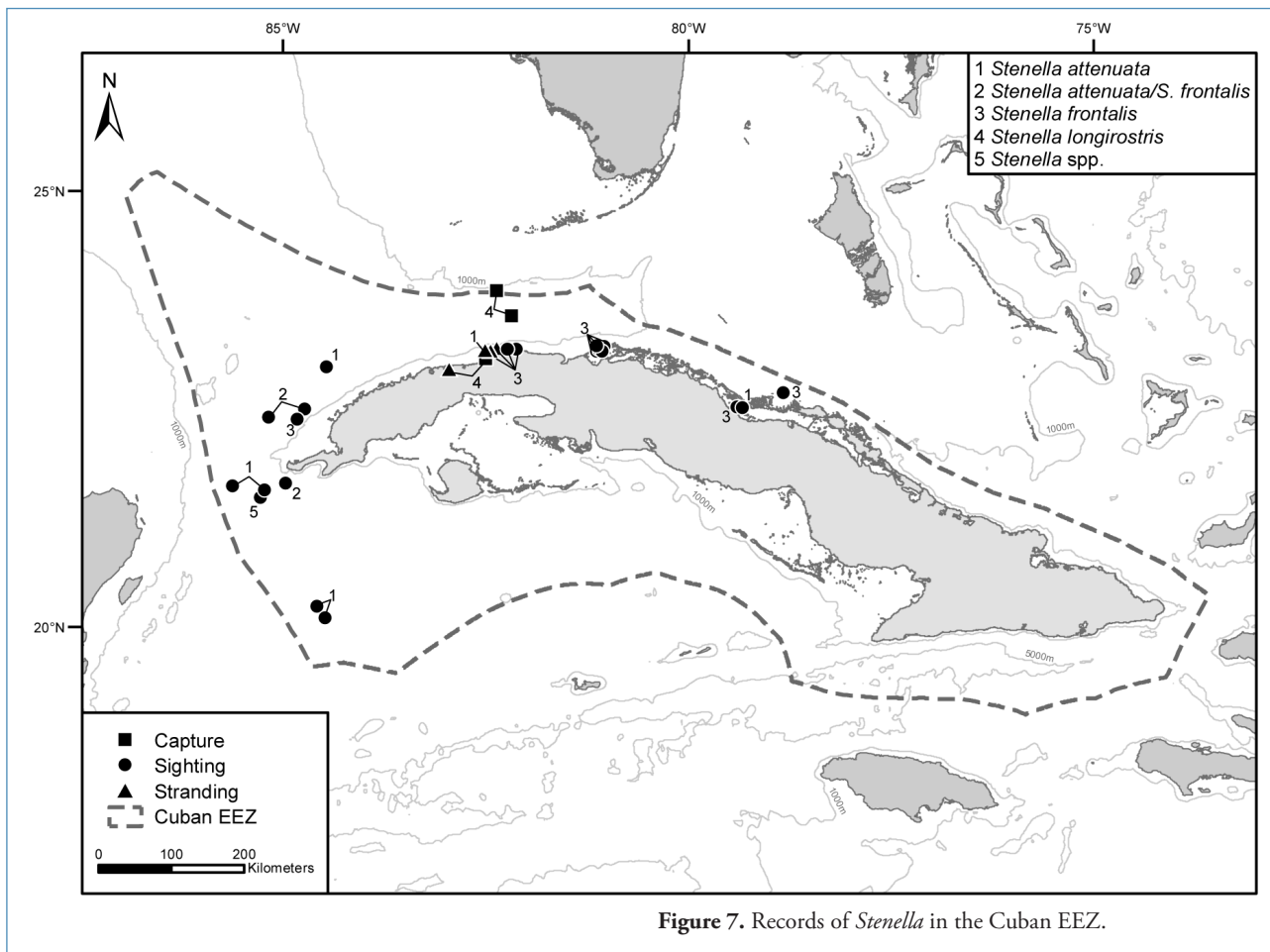


Figure 7. Records of *Stenella* in the Cuban EEZ.

northern coast of Cuba. Sightings of a few individuals have been recorded off Canal Varadero, Matanzas in 1991 and October 2004 (Figure 7)³⁶. Additional sightings in Matanzas were recorded off Varadero in February, March, and August of 2008 (Figure 7)^{15,37}. Sightings of around 100 Atlantic spotted dolphins were recorded near Habana in November 2004 and September 2005 (Figure 7)³⁸. Several Atlantic spotted dolphins were also sighted off Caibarién, Villa Clara in April 2006 and January 2008 (Figure 7)³⁹. The only known record of this species along southern Cuba is a sighting of two individuals off Pinar del Río in 1994 (Figure 7)³³. There is also one record of this species off the southwestern coast of nearby Haiti (NMFS-SEFSC 1995; Roden and Mullin, 2000). As previously mentioned, spotted dolphins not identified to species have been recorded off the western and northern coasts of Cuba (Whitehead, unpub. data), and a *Stenella* spp. sighting was recorded off the western coast (Ortega-Ortiz, 2002) (Figure 7).

Striped dolphin, *Stenella coeruleoalba*

Striped dolphins are distributed throughout the temperate, subtropical, and tropical waters of the western North Atlantic (Leatherwood *et al.*, 1976). Striped dolphins are not common in most truly tropical areas and are only occasionally reported in the Caribbean. There have been a few sighting and stranding records of this species in the Caribbean (van Bree, 1975; Jefferson and Lynn, 1994; Mignucci-Giannoni, 1996; Debrot *et al.*, 1998; Roden and Mullin, 2000; Gero and Whitehead, 2006; Rinaldi *et al.*, 2006). There are currently no records of this species in Cuban waters. However, this species has been documented from nearby Jamaica. For instance, True (1889) referred to a striped dolphin skull from Jamaica that is preserved in the Royal Victoria Hospital, Netley (museum specimen number RVH179). Wilson *et al.* (1987) cited this record but wrongly credited Perrin *et al.* (1981) as the source. Van Bree (1975) stated that a striped dolphin was caught near or stranded on Jamaica and cited True (1889) for this information.

³⁶ Guevara, C. and Blanco, M., pers. obs.

³⁷ Rivera, J., Mundo Latino, Habana, pers. comm., 2008.

³⁸ Martínez, E., Patrón de la embarcación Veneciana II de la Marina de Tarara, Habana, pers. comm., 2005.

³⁹ Isla, V., Acuario Nacional de Cuba, pers. comm., 2008.

Spinner dolphin, Stenella longirostris

The spinner dolphin is found in tropical and subtropical waters worldwide with range limits near 40°N and 40°S (Jefferson *et al.*, 2008). Spinner dolphins have been reported for various locations in the Caribbean, such as Bequia, the Grenadines, Tobago, St. Vincent, Puerto Rico, the Virgin Islands, Guadeloupe, Dominica, Curacao, and Martinique (Caldwell *et al.*, 1971a; Mignucci-Giannoni, 1989; Jefferson and Lynn, 1994; Mignucci-Giannoni, 1998; Jérémie, 2005; Rinaldi *et al.*, 2006). Only three records have been confirmed for Cuba. Perrin *et al.* (1981) reported one spinner dolphin captured off Jaimanitas Beach west of Habana in November 1960 (Figure 7). In addition, two bycatch records were documented in the Straits of Florida offshore of Habana in June 2003 (Figure 7)²⁶. One unconfirmed spinner dolphin stranded near Bahía Cabaña in the southeastern region of Cuba in March 1989²⁰.

Clymene dolphin, Stenella clymene

Clymene dolphins are distributed in tropical and subtropical waters of the Atlantic Ocean, including the Gulf of Mexico and Caribbean Sea (Jefferson *et al.*, 2008). There are currently no known records of this species in Cuban waters. Jefferson *et al.* (1995) noted that the absence of records for the Clymene dolphin in Cuban waters was probably due to the lack of systematic surveys. Caldwell (1961) reported a *Stenella* spp. sighting off the southern coast of nearby Jamaica; this record was probably a Clymene dolphin (Jefferson and Curry, 2003). Another *Stenella* spp. sighting was recorded off the western coast of Cuba (Ortega-Ortiz, 2002) (Figure 7).

Fraser's dolphin, Lagenodelphis hosei

The Fraser's dolphin is a pantropical species found primarily between 30°N and 30°S (Jefferson *et al.*, 2008). There are few records from the Atlantic Ocean, in particular, the Caribbean (Leatherwood *et al.*, 1993; Watkins *et al.*, 1994). Published records include a few catches off the Lesser Antillean island of St. Vincent, two strandings on Puerto Rico, sightings off Dominica, a mass stranding in the Florida Keys, sightings off Martinique, and sightings off Guadeloupe (Caldwell *et al.*, 1976; Hersh and Odell, 1986; Watkins *et al.*, 1994; Mignucci-Giannoni *et al.*, 1999a; Gero and Whitehead, 2006; Jérémie *et al.*, 2006; Rinaldi *et al.*, 2006). There are also records of this species from Venezuela (Bolaños and Villarreal-Marín, 2003). There are no records of this species in Cuban EEZ waters.

Common (short-beaked) dolphin, Delphinus delphis, and long-beaked common dolphin, Delphinus capensis

Records of *Delphinus* spp. have been reported throughout the Caribbean (Roden and Mullin, 2000; Jefferson *et al.*, 2009). According to Cuní (1918), common dolphins were often caught by fishermen in Cuban waters. Both Cuní (1918) and Aguayo (1954) mentioned common dolphins

in their general reviews of marine mammals of Cuba but did not provide any specific records or documentation corroborating the presence of *Delphinus* in this region. Jefferson *et al.* (2009) rejected these records as *Delphinus* because of a lack of supporting details; we follow that assessment for this paper.

A recent review of the occurrence of common dolphins and long-beaked common dolphins in the entire western Atlantic Ocean revealed that many reports of these dolphins in the literature are either erroneous or not verifiable (Jefferson *et al.*, 2009). When only the confirmed records were plotted, common dolphin records were absent throughout the Gulf of Mexico, Caribbean Sea, and most of the tropical Atlantic Ocean. The only exception for the Caribbean appears to be a population of long-beaked common dolphins over the continental shelf off Venezuela. These species are most often confused with Clymene and spinner dolphins, and such confusion appears to have resulted in erroneous assumptions about their range in the Atlantic Ocean. Therefore, common dolphins are not expected to occur in Cuban waters.

Risso's dolphin, Grampus griseus

The Risso's dolphin is distributed worldwide in tropical to warm-temperate waters, roughly between 60°N and 60°S, where surface water temperature is greater than 10°C (Kruse *et al.*, 1999). In the western North Atlantic, this species is found from Newfoundland to the Gulf of Mexico and throughout the Caribbean (Jefferson, 2008). There are a few records of this species in Cuban waters, one of which contains conflicting information regarding species identification. In 1971, Risso's dolphins were sighted off the coast of Habana and near the mouth of the Almendares River; some of these individuals were captured by fishermen (de la Osa and Guma, 1971) (Figure 5). The de la Osa and Guma (1971) article title incorrectly refers to pilot whales, while the body of the article discusses '*Grampus griseus*'. The reported animal lengths (6-7m) and weights (5,000lbs) are too large for *Grampus griseus*, and the physical description, which included gray coloration and white spots scattered over the body, is not sufficient to confirm these sightings as *Grampus griseus*. De la Osa and Guma (1971) stated that 'other cetacea' were sighted off the Santa María del Mar Beach east of Habana on this same day but did not specify the species. However, the article alluded to the fact that these animals were the same species as those sighted near Maceo Park and the mouth of the Almendares River (Figure 5). More than one of the animals sighted around this time was captured. One was supposed to be subjected to the process of taxidermy at the Institute of Oceanography and later exhibited at the Museo Nacional de Historia Natural.

Risso's dolphins were historically reported near Bahía de Matanzas in a general review by Varona (1973). Strandings have been recorded near Bahía de Matanzas in August 1972,

on Playa Santa María del Mar (Habana) in October 1981, and on Cayo Cobo, Caibarién (Villa Clara) in September 1997 (Varona 1980)⁴⁰ (Figure 5). This 1997 stranding involved four individual Risso's dolphins. This species has also been reported offshore of Cuba in the Straits of Florida (off Cay Sal Bank) (Caldwell and Caldwell, 1977; Fritts *et al.*, 1983; Jefferson and Lynn, 1994) (Figure 5). An adult male Risso's dolphin was tracked (via a satellite-linked Splash time-depth recording tag) just off the northern coast of Cuba (north of the EEZ) after being released offshore of Sarasota, Florida in February 2006, following rehabilitation associated with a mass stranding (Wells *et al.*, 2009). The sighting off Cay Sal Bank in the Straits of Florida is the only confirmed sighting of this species in the Cuban EEZ; however, sightings in deep waters off Cuba are possible year-round.

Melon-headed whale, *Peponocephala electra*

Melon-headed whales occur in deep tropical and subtropical waters worldwide (Perryman *et al.*, 1994). Records of this species have been documented in the Gulf of Mexico since 1990 (Barron and Jefferson, 1993; Mullin *et al.*, 1994). Several records have been documented for the Caribbean including captures near St. Vincent, Lesser Antilles (Caldwell *et al.*, 1976; Mead *et al.*, 1986); a stranding in northeast Puerto Rico (Mignucci-Giannoni *et al.*, 1998); sightings near Dominica (Watkins *et al.*, 1997; Gero and Whitehead, 2006); a stranding in Venezuela (Bolaños and Villarroel-Marin, 2003); and strandings and sightings off the Leeward Dutch Antilles (Debrot *et al.*, 1998). There are no confirmed records of melon-headed whales in Cuban waters; however, based on the known range of this species and the above-mentioned records in the Caribbean, melon-headed whales may occur in deep waters off Cuba.

Pygmy killer whale, *Feresa attenuata*

Pygmy killer whales have a worldwide distribution in tropical and subtropical waters, generally not ranging north of 40°N or south of 35°S (Jefferson, 2008). Several strandings of this species have been documented in the Gulf of Mexico (Jefferson and Schiro, 1997). Pygmy killer whales are thought to occur year-round in the Gulf of Mexico in small numbers (Würsig *et al.*, 2000). Only a few records are confirmed for this species in the Caribbean: a skull collected from captures in St. Vincent (Caldwell and Caldwell, 1971b), a mass stranding in the British Virgin Islands (Mignucci-Giannoni *et al.*, 1999b), a stranding on northwest Puerto Rico (Rodríguez-López and Mignucci-Giannoni, 1999), strandings off Venezuela (Bolaños and Villarroel-Marin, 2003), a sighting off Dominica (Gero and Whitehead, 2006), and sightings off Guadeloupe (Rinaldi *et al.*, 2006). There are no records of this species in Cuban waters; however, pygmy killer whales may occur in deep waters off the coast of Cuba.

False killer whale, *Pseudorca crassidens*

False killer whales are found in tropical and temperate waters, generally between 50°S and 50°N with a few records north of 50°N in the Pacific and the Atlantic (Baird *et al.*, 1989; Odell and McClune, 1999). They are widely distributed in the Caribbean (Odell and McClune, 1999) and have specifically been reported off St. Vincent and the Grenadines (Caldwell *et al.*, 1971a; Caldwell and Caldwell, 1975), Tobago (Mörzer Bruyns, 1969), St. John (Mignucci-Giannoni, 1989), St. Lucia (Ward *et al.*, 2001), Dominica (Hoyt, 1999), Guadeloupe (Rinaldi *et al.*, 2006), Grenada (Boisseau *et al.*, 2006), and Venezuela (Romero *et al.*, 2001). There are few published records of this species in Cuban waters. One unconfirmed individual was captured by fishermen near Habana in 1858 (Cuní, 1918) (Figure 5). De la Torre (1887; 1907) reported a possible killer whale skeleton found in Cojímar on the northeastern coast (Figure 5). According to Cuní (1918), de la Torre later identified this skeleton as a false killer whale (Aguayo, 1954; Varona, 1973; O'Sullivan and Mullin, 1997). This specimen was supposedly preserved at the Academia de Ciencias Médicas, Físicas y Naturales in Habana (Cuní, 1918). Varona (1973) attempted to confirm the identity of this specimen but could not locate it in the Academia. The only confirmed records of this species are strandings in Guanabo, Habana in July 1972; Holguín in 1973; Playa Justicé (Santiago de Cuba) in March 1973; and Playa Marianao, Habana in December 1981 (Varona, 1980; 2002)²⁰. Historically, false killer whales were known to occur near Cojímar, Playa Baracoa, and Guanabo (Varona, 1973). A sighting of five individuals was recorded outside the EEZ off Cayo Romano in 1966 (Mörzer Bruyns, 1969). Schmidly (1981) plotted this record but listed incorrect coordinates. A group of 15 false killer whales was sighted in the Straits of Florida in March 2001 but were outside of the Cuban EEZ (Mullin *et al.*, 2001).

Killer whale, *Orcinus orca*

Killer whales are found throughout all oceans and contiguous seas. In the western North Atlantic, killer whales are known from the polar pack ice southward to Florida, the Lesser Antilles, and the Gulf of Mexico where they have been sighted year-round (Leatherwood *et al.*, 1976; Jefferson and Schiro, 1997). In the Caribbean, killer whales have been recorded off Puerto Rico and the Virgin Islands, St. Vincent, Cayman Islands, Dominican Republic, Guadeloupe, Grenada, Trinidad and Tobago, St. Lucia, and Venezuela (Erdman, 1970; Caldwell *et al.*, 1971a; Mignucci-Giannoni, 1989; 1998; Boisseau *et al.*, 2006; Rinaldi *et al.*, 2006; Bolaños-Jiménez *et al.*, 2008). Sightings of this species in the Caribbean have been documented over the continental shelf and farther offshore (*e.g.* Mignucci-Giannoni, 1989; Bolaños-Jiménez *et al.*, 2008)⁴¹.

⁴⁰ Sánchez, L., Acuario Nacional de Cuba, pers. comm., 1997.

⁴¹ Dunn, C.A., D.E. Claridge, and T.L. Pusser (2007) Killer whale (*Orcinus orca*) occurrence and predation in the Bahamas. Abstracts, 17th Biennial Conference on the Biology of Marine Mammals. 29 November - 3 December 2007. Cape Town, South Africa.

Few records of killer whales have been documented in the Cuban EEZ. Three sightings of this species are documented off La Habana: three individuals were sighted off Baracoa in 1983 while the other two sightings were both off Guanabo (one individual in August 1984 and four individuals in August 1994) (Figure 5)^{32,36}. The other known records of this species are off Caibarién in Villa Clara (Figure 5). Four killer whales were sighted in this region in 2005³⁵ while a stranded individual was found on Cayo Cobo in April 2004⁴². The following historical records are documented just north of the Cuban EEZ boundary: a March 1948 stranding on Summerland Key (Moore, 1953) and a 1921 capture off the Florida Keys (Katona *et al.*, 1988). Killer whales have also been recorded nearby off the Cayman Islands and Haiti. Katona *et al.* (1988) reported a sighting of eight or nine killer whales off Grand Cayman Island in October 1986. A sighting of 10 individuals was recorded seven miles off East End, Grand Cayman Island in July 2008 (Cayman Islands Department of Environment unpub. data). Reeves and Mitchell (1988) documented killer whales off the coast of Haiti based on historical whaling records. They also provided coordinates of a killer whale sighting on 29 July 1872 that corresponds to a location about 42km inland of Cuba; this sighting is based on the whaling logbook of the schooner *Cohannet* between 1872 and 1873 (Reeves and Mitchell, 1988). We were unable to locate the *Cohannet* logbook to find the correct coordinates of this record. Therefore, this record could not be confirmed and is not included in this summary of killer whale records for Cuba⁴³.

There are some erroneous records of killer whales in Cuba. As mentioned previously, the possible killer whale skeleton found in Cojímar in 1886 was actually a false killer whale (de la Torre, 1887; Cuní, 1918). Katona *et al.* (1988) reported a killer whale sighting off the southern coast of Cuba east of Isla de la Juventud. The coordinates for this sighting correspond to this region of Cuba; however, the location described in the paper is Vero Beach, Florida. Since the coordinates for the location of this sighting were likely mistaken in the Katona paper, this record is not considered to be from Cuban waters in this assessment.

Short-finned pilot whale, *Globicephala macrorhynchus*

Short-finned pilot whales are found worldwide in warm-temperate and tropical waters, generally not north of 50°N or south of 40°S (Jefferson *et al.*, 2008). This species has a wide distribution in the Caribbean and is commonly sighted (e.g. Caldwell and Erdman, 1963; Watkins and Moore, 1982; Mattila and Clapham, 1989; Boisseau *et al.*, 2006; Jérémie *et al.*, 2006). The first known account of pilot whales in Cuban EEZ waters was a sighting of three individuals near Bahía de Matanzas in September 1908 (Cuní, 1918) (Figure 5). One of

these animals was later captured in the Yumurí River (Figure 5) and identified as a long-finned pilot whale (*G. melas*) according to Cuní (1918). However, Cuba is well south of the known range of long-finned pilot whales (Jefferson *et al.*, 2008). The photos of the specimen included in Cuní (1918) were of a short-finned pilot whale; therefore, we confirmed these records for this species. Aguayo (1954) verified the identification of this specimen as a short-finned pilot whale and stated that the skeleton of this specimen was preserved at the Institute of Matanzas which does not exist today. Cuní (1918) mentioned short-finned pilot whales in his review of marine mammals of Cuba but did not refer to any specific records of this species. No other sightings or captures of this species are documented in Cuban waters. However, sightings of short-finned pilot whales have been documented in the Straits of Florida (Jefferson and Schiro, 1997). De la Osa and Guma (1971) discussed a record of pilot whales off the coast of Cuba; however, these were actually Risso's dolphins. This paper was cited incorrectly in Mitchell (1975), which refers to the capture record as being of a short-finned pilot whale. Two bycatch records were reported for pilot whales off the eastern edge of Cuba in February 2004 (NMFS-SEFSC 2004) (Figure 5). A probable sighting of pilot whales was recorded about 15km south of the mouth of Guantánamo Bay in September 2005 (GTMO, unpub. data) (Figure 5). This sighting and the previous bycatch records could not be confirmed to species; therefore, they are denoted as *Globicephala* spp. in this assessment. Based on the species' known ranges, these records are most likely of short-finned pilot whales.

Several strandings of short-finned pilot whales have been documented throughout Cuba. Three of the confirmed strandings (all of single whales) were recorded near Habana in 1964, November 1971, and October 1981 (Varona, 1980)²³. An unconfirmed stranding near Bahía de Matanzas was identified as *G. macrorhynchus* by G. Aguayo in July 1954 (Blanco Domínguez, 2011). In February/March 1986, a group of 14 short-finned pilot whales stranded near Cayo Saetia, Holguín while another group of two whales stranded near this same region²³. In 1988, one whale stranded near Bahía Santiago de Cuba in September²⁰, and two whales stranded near Playa Larga, Matanzas in November³².

TRICHECHIDAE

West Indian manatee, *Trichechus manatus*

The West Indian manatee occurs along coastal areas throughout the Gulf of Mexico and Caribbean Sea, the southeastern U.S., and from the northern and eastern waters of South America to northeastern Brazil (Lefebvre *et al.*, 2001; Parente *et al.*, 2004; Fertl *et al.*, 2005)⁴⁴.

⁴² Blanco, M., pers. obs., April 2004.

⁴³ Reeves, R., Okapi Wildlife Associates, pers. comm., 25 October 2007.

⁴⁴ Mignucci-Giannoni, A.A. and Self-Sullivan, C. (2005) Conservation status of the Antillean manatee (*Trichechus manatus manatus*) in the wider Caribbean. Sirenian International Symposium: Exploring sirenian related issues. A workshop held in conjunction with the Sixteenth Biennial Conference on the Biology of Marine Mammals. 11 December 2005. San Diego, California, USA.

Manatee occurrence in Cuban waters was noted as early as 1494 when Columbus witnessed large groups of manatees associated with the subterranean freshwater springs that flow into the Bahía de Cochinos (Morison, 1942). In his 1535 book, *Historia General y Natural de las Indias: Part I*, Gonzalo Fernández de Oviedo described the hunting of manatees off the coast of Cuba (summarized in Cuní 1918). Cuní (1918) also reported that manatees were historically abundant in Cuba, especially in estuaries, freshwater springs, and river mouths. Particularly important rivers included the Hatiguanico River near Bahía de Cochinos and the Gonzalo, Agabama, and Manatí Rivers of south-central Cuba. The Máximo (in northeastern Cuba) and Guantánamo Rivers are also known primary river habitats for manatees in Cuba (Roca and Sedaghatkish, 1998; Self-Sullivan and Mignucci-Giannoni, 2005).

The Cuban population of manatees decreased dramatically in the late 1800s due to the local manatee fishery. In 1901, manatee catches were prohibited in Cuba to allow for recovery of the population (Cuní, 1918). Manatees have been legally protected in Cuba since 1936 (Decree 707, Article 39), and the Ministry of Fisheries permanently prohibited the capture of manatees in Cuban territorial waters in 1982 (Lefebvre *et al.*, 2001). However, the Cuban manatee population is thought to be declining (Self-Sullivan and Mignucci-Giannoni, 2005). Hunting, modification of habitat, drowning and entanglement in fishing nets, and underwater explosions related to petroleum extraction are current known causes of mortality for manatees in Cuba (UNEP, 1995; Lefebvre *et al.*, 2001)⁴⁵. Efforts are underway to increase awareness of manatee conservation and to identify causes of mortality in Cuba. Cuban agencies, such as the Empresa Nacional para la Protección de la Flora y la Fauna of the Ministry of Agriculture, have worked to develop manatee conservation actions which include a country-wide manatee conservation plan and an interagency manatee conservation team⁴⁵. This agency is also working to change fishing practices; establish coastal biological stations; train biologists in manatee research; and establish sanctuaries, a manatee sighting and stranding network, and environmental education and outreach opportunities⁴⁵.

Sightings and strandings have been recorded throughout Cuban coastal waters, particularly on the western coast near Arroyos de Mantua and Puerto Esperanza (León and Aquayo, 1945; Estrada and Ferrer, 1987). Based on a survey of fisherman in 1984 and 1985 in western Cuba, occurrences were documented in three main regions: Bahía de Cortés (between La Coloma and Cortés), Bahía de la Broa (near Batabanó), and Bahía de Guanacabibes (Estrada and Ferrer, 1987). The locations of these sightings are estimated in Figure 8. During

the late 1980s, another survey of fishermen was conducted throughout most of Cuba (Lefebvre *et al.*, 2001). Based on these interviews, manatees were thought to occur along both the northern and southern coasts, and the following areas were identified as having the greatest abundances of manatees: Ensenada de Guadiana-Puerto Esperanza, Bahía de Cárdenas, Carahatas-Caibarién, Turiguanó, Nuevitas-Puerto Padre, and Gibara-Cayo Saetía on the northern coast and Sigüanea and Punta del Este (Isla de la Juventud), Ensenada de la Broa, Casilda-Tunas de Zaza, Golfo de Ana María, Golfo de Guacanayabo-Ensenada de Mora, and Baitiquirí on the southern coast (Lefebvre *et al.*, 2001).

In addition to the fishermen surveys, aerial surveys conducted along much of the Cuban coastline have provided important information on the distribution of manatees in Cuba. Between 1985 and 1987, Carlos Wotzkow flew surveys over two regions along the southern coast of Cuba (Ensenada de la Broa and the south coast of Sancti Spíritus Province). During these surveys, 59 and 39 manatee sightings were recorded, respectively (Domning, 1990). Between 1986 and 1992, additional surveys were flown over Ensenada de la Broa, the Hatiguanico River, and the Zapata Peninsula. These surveys resulted in 25 sightings in November 1986, 39 sightings in July 1987, and 20 sightings in July 1992 (Lefebvre *et al.*, 2001). A total of 44 sightings were recorded during surveys flown between the mouths of the rivers Jatibonico del Sur and Agabama-Manatí (south of Sancti Spíritus Province) in October 1985 and January 1986 (Lefebvre *et al.*, 2001). Data from these aerial surveys were not available for inclusion in this paper.

In eastern Cuba, manatee records have been documented throughout the Guantánamo Bay region year-round. In July 1996, boat-based, shore-based, and aerial surveys were conducted to assess the abundance of manatees in Guantánamo Bay and to develop a program to monitor the manatee population at GTMO (Roca and Sedaghatkish, 1998). The surveys recorded manatees in several areas of Guantánamo Bay, particularly in the western portion and near Guantánamo River (Roca and Sedaghatkish, 1998) (Figure 8). Specific sighting locations from these surveys included Hospital Cay, near the Casa del Mar barge, and Deer Point (Roca and Sedaghatkish, 1998) (Figure 8). Based on interviews of Guantánamo residents and other anecdotal information, manatees have been sighted in central Guantánamo Bay and near Phillip's Pier and Radio Point (Roca and Sedaghatkish, 1998) (Figure 8). Sightings have also been reported in Guantánamo River and along the coast near Hidden Beach and Cuzco Beach (Howe, 1999) (Figure 8). Manatees likely utilize freshwater sources in the Guantánamo Bay region, such as local marinas (*i.e.* from freshwater hoses), flow from the Guantánamo River, and the effluent from the main waste water treatment facility on Lizard Island. Manatees in other locales are known to utilize similar freshwater sources for drinking (Lefebvre *et al.*, 2001). For example, manatee

⁴⁵ Powell, J.A., A. Alvarez Alemán, and N. Auil. (2009) Manatee research and conservation in Cuba. Proceedings of the 2009 International Sirenian Conference. 23-24 March. Atlanta, Georgia.

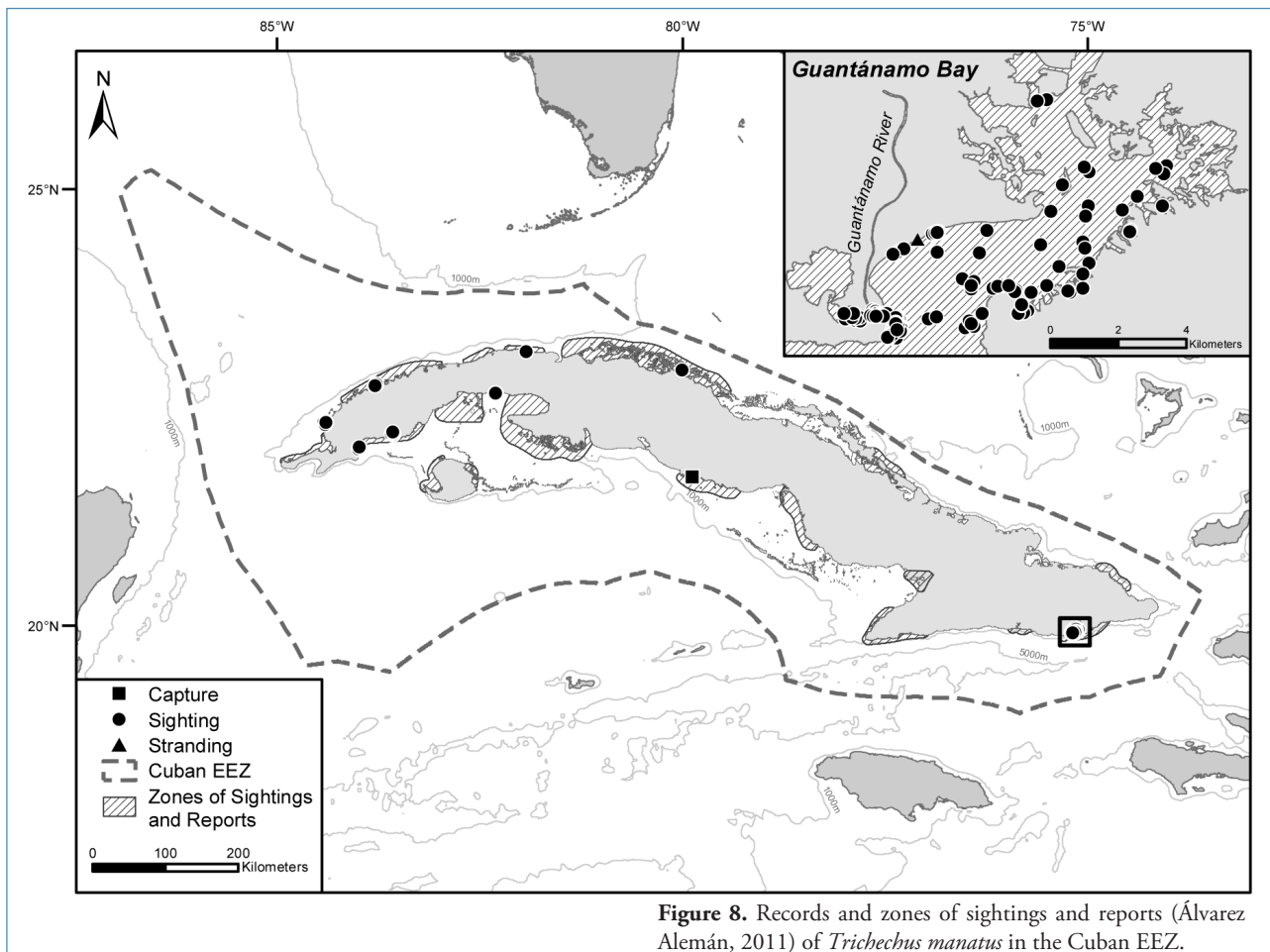


Figure 8. Records and zones of sightings and reports (Álvarez Alemán, 2011) of *Trichechus manatus* in the Cuban EEZ.

concentration around waste water outfalls has been noted near the Roosevelt Roads Naval Station, Puerto Rico (Powell *et al.*, 1981). Smaller waste water outfalls in Guantánamo Bay are located near Granadillo, Bargo, Radio, Caravella, and Paola Points; Admin Hill; Corinaso Cove; and the area just northeast of Villamar. Manatees may concentrate around any of these areas and have been sighted at Fisherman's Point near the warm water effluent of the desalinization plant (Roca and Sedaghatkish, 1998). Noted areas of high habitat use in the Guantánamo Bay region include the windward channels off the main bay, the designated Manatee Conservation Zone which includes the leeward shoreline out to 137m (150yd) offshore, the St. Nicholas Channel, Mahomilla Bay, and the Guantánamo River (Schoenfeld, 2005). There are No Wake Zones designated throughout these high-use areas (Schoenfeld, 2005).

In 2002, the Empresa Nacional para la Protección de la Flora y la Fauna of the Ministry of Agriculture and the Centro de Investigaciones Marinas (CIM) of the Universidad de La Habana developed a research program to determine the status and distribution of manatees in Cuba (Santos Mariño, 2007). Based on interviews with fishermen, habitat studies, and coastal site analyses, manatees are thought to occur along practically the entire coast of Cuba (Santos Mariño, 2007). General zones of sightings and reports are documented in

coastal areas throughout the country (Álvarez Alemán, 2011) (Figure 8). With assistance from the Wildlife Trust, the CIM has conducted aerial surveys and radio-tagging studies of manatees in Cuban waters; however, none of these data have been published or were available for inclusion in this assessment⁴⁶. Adequate data do not exist for reliable estimates of the current population of manatees in Cuban waters⁴⁷, although it has been speculated to be less than 100 individuals (Self-Sullivan and Mignucci-Giannoni, 2005).

Manatee distribution in Cuba is likely influenced by the availability of freshwater and seagrass habitat (Estrada and Ferrer, 1987). Both the northern and southern coasts of Cuba contain extensive coastal manatee habitat⁴⁵. Expansive riverine and estuarine areas along the southern coast (*e.g.* Zapata Peninsula and Golfo de Guacanayabo) provide additional habitat for this species. Manatees are most likely to occur in shallow waters around Cuba since they are associated with freshwater areas and sheltered lagoons dominated by seagrasses⁴⁵. Seagrasses such as *Thalassia testudinum*, *Halodule wrightii*, and *Syringodium filiform* are abundant in Cuba and constitute the main food source of manatees in this region

⁴⁶ Álvarez Alemán, A., Centro de Investigaciones Marinas, pers. comm., 25 April 2008.

⁴⁷ Powell, J.A., Sea to Shore Alliance, pers. comm., 30 January 2010.

(Álvarez Alemán, 2011). Individuals may occasionally be sighted farther offshore based on this species' ability to move over long distances and deep waters (Self-Sullivan and Mignucci-Giannoni, 2005). For instance, a Florida manatee was photo-documented off the northern coast of Cuba near the Camilo Cienfuegos power plant in Santa Cruz del Norte in January, February, and April 2007 (Figure 8) (Álvarez-Alemán *et al.*, 2010). The cow, which was accompanied by her calf, was photographed and matched [using the Manatee Individual Photo-identification System (MIPS)] to a known Florida manatee (CR131) that was first photographed in Crystal River, Florida in December 1979 (Álvarez-Alemán *et al.*, 2010). This manatee was previously documented in Florida in the Crystal River in January 2005 and with a calf in the Wakulla River in July 2006. This is assumed to be the same calf that was sighted with CR131 in Cuba (Álvarez-Alemán *et al.*, 2010).

PINNIPEDIA

The only extant pinniped species that could potentially occur in Cuba is the hooded seal (*Cystophora cristata*) which occasionally wanders into the Caribbean (Mignucci-Giannoni and Odell, 2001; Mignucci-Giannoni and Haddow, 2002). California sea lions (*Zalophus californianus*) are occasionally sighted in the Caribbean; however, these individuals are feral escapees from zoos and aquaria (Mignucci-Giannoni and Odell, 2001). For example, a male California sea lion escaped

from the Acuario Nacional in Habana, Cuba in March 1993 and was later recovered (Mignucci-Giannoni and Odell, 2001). The Caribbean monk seal (*Monachus tropicalis*) is now considered extinct. The hooded seal and historical records of the Caribbean monk seal are discussed below.

Caribbean monk seal, Monachus tropicalis

The Caribbean monk seal was present in the Caribbean until the 1950s (Kenyon, 1977). The historical range of this species likely extended from the islands west and north of Yucatán to Jamaica and included the Bay of Honduras, Cuba, the Florida Keys, and the Bahamas (Allen, 1887). The range may have also extended to the Lesser Antilles based on the historical sightings and archeological and paleontological records summarized in Timm *et al.* (1997).

Several historical records of this species have been documented in Cuba and just to the north near Cay Sal Bank, Bahamas (Allen, 1880; Elliott, 1884; Allen, 1887; Díaz Del Castillo, 1912; Campbell, 1978). A capture of a Caribbean monk seal was recorded near Cay Sal Bank sometime between 1868 and 1869 (Allen, 1880). In the past, it is possible that large numbers of Caribbean monk seals were distributed on some islands between Isla de Pinos, Cuba and Yucatán (Allen, 1887). Captures were recorded on Isla de Pinos during the winter between 1877 and 1878 (Allen, 1880) and near Habana in 1883 (Elliott, 1884; Allen, 1887) (Figure 9). According to Allen (1887), the seal was captured on the

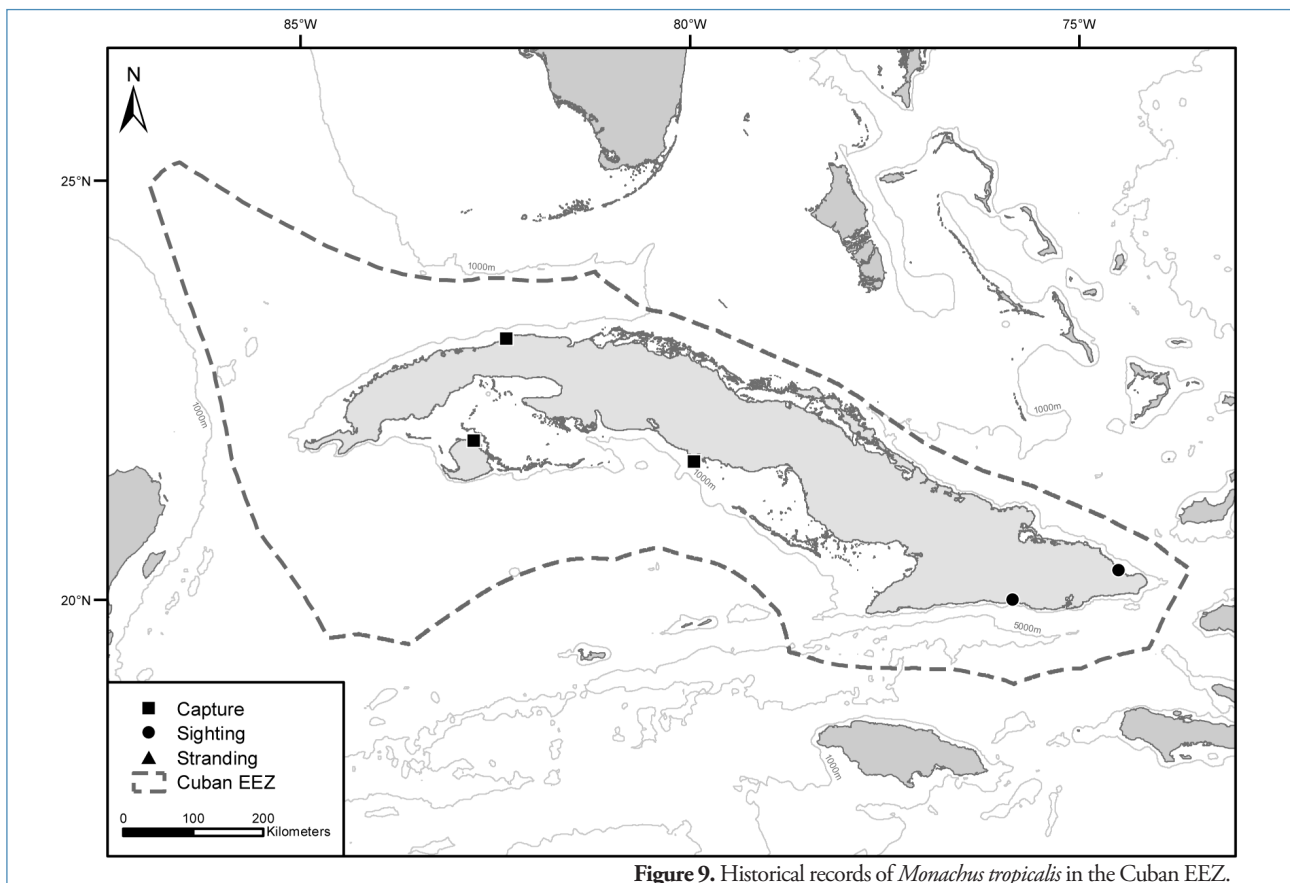


Figure 9. Historical records of *Monachus tropicalis* in the Cuban EEZ.

coast of Cuba, and Professor Felipe Poey had it mounted and presented it to the U.S. National Museum in October 1883. This record was mentioned in Cuní (1918) as the first specimen that was suitable for studies. Another capture off northern Cuba was mentioned in Moore (1953) and plotted in Schmidly (1981). This seal was captured by fishermen about five miles off Key West, Florida in February 1906 (Townsend, 1906). Moore (1953) included coordinates (latitude 23°33' and longitude 81°48') in the description of this capture, and Schmidly (1981) used these coordinates to plot the capture. However, these coordinates do not correspond to the location description given in Townsend (1906), the original source. Therefore, this record is not considered to be from Cuban waters. Other historical records of this species in Cuba include a capture near Arrecifés Viboras on the southern coast (ca. 1520) (Díaz Del Castillo, 1912) and sightings near Baracoa on the northeastern coast and Santiago on the southeastern coast in the 1930s (Campbell, 1978) (Figure 9). Lobos Cay, Great Bahama Bank off northern Cuba is one of the islets in the Caribbean with a name suggestive of seal occurrence (Timm *et al.*, 1997). The Caribbean monk seal was officially designated as extinct on the IUCN Red List in 1996⁴⁸ and was delisted under the ESA in 2008 (NMFS 2008). Therefore, future sightings of pinnipeds in Cuba are not likely to be Caribbean monk seals.

Hooded seal, *Cystophora cristata*

Hooded seals are found in the Atlantic region of the Arctic Ocean and in high latitudes of the North Atlantic. Hooded seals, particularly young individuals, are known to wander to locations far from their normal breeding and foraging ranges (*e.g.* Mignucci-Giannoni and Odell, 2001; Mignucci-Giannoni and Haddow, 2002). Strandings in Jamaica and the U.S. Virgin Islands represent the southernmost records for this species in the North Atlantic (Mignucci-Giannoni and Odell, 2001). No records of hooded seals have been confirmed for Cuba although Mignucci-Giannoni and Odell (2001) mentioned a sighting of an unidentified pinniped off the southern coast of Cuba in 1987.

Discussion

Seventeen cetacean species (three baleen whales and 14 toothed whales), one sirenian species, four cetacean genera (*Balaenoptera* spp., *Kogia* spp., *Globicephala* spp., and *Stenella* spp.), and one extinct pinniped species have a confirmed occurrence for Cuban EEZ waters. The bottlenose dolphin and West Indian manatee are most the common species with a total of 185 and 261 records, respectively. An additional 11 species of cetaceans and one extant pinniped species (hooded seal) have not been confirmed in Cuban waters but could potentially occur in the Study Area based on known

distributions in the Caribbean Sea. Of these, the Blainville's beaked whale has not been documented in the Study Area, but records of this species are confirmed in the nearby Cayman Islands. In addition, the minke whale is only documented near Cuba in the Old Bahama Channel just north of the EEZ boundary. The common dolphin and True's beaked whale are not documented in the Study Area and are not expected to occur in this region.

Stranding data were considered carefully when determining the distribution of marine mammals in Cuban waters. Strandings are not necessarily indicative of actual distributions since they often involve sick or injured animals which possibly move beyond their normal range. The fin whale, Gervais' beaked whale, pygmy sperm whale, and dwarf sperm whale are confirmed for the Study Area only from strandings. Therefore, it cannot be assumed that these species naturally occur in the Study Area although such occurrences would not be unexpected.

Confirmed marine mammal sightings appear to be concentrated in nearshore waters of Cuba (Figures 2 through 9). These nearshore sightings are dominated by the bottlenose dolphin and West Indian manatee which are the only marine mammal species sighted regularly and considered common, and possibly resident, in Cuban waters. However, the reported distribution of these species may be more likely a function of effort than of actual concentrations, particularly in the GTMO region where U.S. Navy personnel document marine mammal sightings on a regular basis. Bottlenose dolphin sightings are relatively well-documented on the northern coast of Cuba due to the live-capture fishery and the research efforts of the Acuario Nacional researchers in this region (Pérez-Cao, 2004; Perez-Cao *et al.*, 2009; López *et al.*, in press). However, bottlenose dolphin and manatee occurrences in most other areas in the Cuban EEZ are not well-documented and/or data from systematic or opportunistic surveys are not available. For example, manatee surveys and tagging studies have been conducted along the northern coast, but the resulting data were not available for inclusion in this assessment.

Beyond year-round occurrences of bottlenose dolphins and manatees in some locations, little is known about the seasonality of marine mammals in Cuban waters. Most species could occur in the Study Area during any time of the year. However, most baleen whales, such as the humpback whale, migrate between summer feeding grounds in higher latitudes and winter breeding grounds in the Caribbean (Mattila *et al.*, 1989) so they are not as likely to occur in the Study Area during the summer months. Other marine mammals, such as the hooded seal, only occasionally travel into the Caribbean which is far beyond their normal distributional range.

To better understand the occurrence of marine mammals in Cuban waters, systematic aerial and shipboard/boat marine mammal surveys and passive acoustic monitoring are needed throughout the Cuban EEZ. Long-term photo-identification studies would be beneficial for assessing the status, abundance,

⁴⁸ Seal Specialist Group. (1996) *Monachus tropicalis*. In: IUCN 2007. 2007 IUCN Red List of Threatened Species. <www.iucnredlist.org>. Downloaded on 19 October 2007.

and distribution of two common species, the West Indian manatee and bottlenose dolphin, particularly in the Sabana-Camagüey Archipelago where bottlenose dolphins are captured for captive display. Photo-identification studies could help identify movement patterns of marine mammal species throughout Cuban waters and between Cuba and nearby islands of the Caribbean Sea. Genetic sampling and tagging studies are recommended for assessing movement patterns and identifying subpopulations.

Stronger collaboration among international colleagues is also a critical need, particularly for encouraging scientists to publish new findings and participate in scientific symposia and workshops. Also, a centralized database for Cuban marine mammals and support for stranding networks would be beneficial. A better understanding of marine mammal occurrence in Cuban waters is needed to support conservation and management efforts, particularly since individuals cross international boundaries and are subjected to differing levels of legislative protection.

Acknowledgements

We would like to thank the following people for their help in obtaining literature and/or collecting and verifying records: A. Álvarez Alemán, N. López, R. López, K. Van Waerebeek, R.R. Reeves, J. Mead, B. Mate, W.F. Perrin, C. MacLeod, H. Whitehead, J. Lund, J.A. Powell, T. Pitchford, K. Mullin, C. Beck, C. Taylor, A. Mignucci-Giannoni, T.J. Goreau, B. Howe, J. Wiley, S. Kromann, S. van der Woude, J. Blumenthal, M. Byrne, J. Montalvo, P. Schoenfeld, A. Yáñez, F. Moreno, A. Carvajal, E. Carrillo, J. Echemendía, O. González, D. Guitart, J. Cárdenas, F. Pina, D. Moré, A. Soberat, N. Viña, J.A. Tamayo, T. Anido, S. Romero, Z. Romero, C. Guevara, J. Rivera, E. Martínez, V. Isla, L. Sánchez, R. Díaz Fernández, and B. Lauranzon Meléndez. Thanks to K. Deslarzes, J. Bolaños-Jimenez, D. Edwards, D. Antochiw Alonzo, and D. Palacios for help with literature translations, to A. Shapiro and K. Ripley for translating the draft abstract from English to Spanish, and to K. Knight for providing GIS support. A special thanks to following people for providing permission for use of their data: B. Mate (sperm whale tagging data); H. Whitehead (cetacean sighting data); P. Schoenfeld, J. Montalvo, M. Byrne, B. Howe (GTMO data); B. Lauranzon Meléndez (Tomás Romay Museum data); N. López (Acuario Nacional de Cuba bottlenose dolphin data); R. Kenney (CETAP data); J. Mead (USNM data); L. Beerkircher (NMFS-SEFSC POP data); and R. Wells (rough-toothed dolphin tagging data). Thanks to S. Rider, J.A. Powell, and two anonymous reviewers for providing comments on the draft manuscript and to J. Laliberté for reviewing the figures.

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Appendix

Historical and recent records of marine mammals in Cuban EEZ waters through December 2008. Parentheses indicate approximate coordinates when precise ones are not known. Records are listed in order from oldest to most recent and in taxonomic order.

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
LARGE WHALES							
<i>Megaptera novaeangliae</i>							
1839	Punta de Maya, near entrance to Bahía de Mantanzas	(23°4.91'N, 81°31.60'W)	P	Str	1	Cuní (1918)	Skeleton found
1922	Near Camagüey Province, Gulf of Ana María, close to Cayo Obispo, to the south of Júcaro	(21°27.51'N, 78°52.15'W)	P	Cap	1	Scaramuzza (1943)	Author refers to this animal as a "Finback", but the footnote in the article states that this animal was probably a humpback whale
Dec 1932	20 miles off Habana	(23°10'N, 83°05'W)	P	Sig	1	Aguayo (1954)	
1986	Jibara, Holguín	(21°06.58'N, 76°07.09'W)	C	Str	1	Guitart ^d	
June 1997	Bahía de Cádiz, (3 miles from Faro) Villa Clara	(23°12'N, 80°29'W)	P	Sig	1	Blanco (2008) ^e	
13 Jan 1999	Near Boca de Jaruco, east of Habana	(23°11.30'N, 82°1.28'W)	C	Sig	1	Radio Havana Cuba ^{fg} ; Blanco, M., pers. obs.	Whale was ca. 9m and 19tons and was sighted for six days before it stranded; photograph taken
15 Feb 2000	Cayo Coco	(22°31.55'N, 78°31.30'W)	P	Str	1	González <i>et al.</i> (2001)	Whale may have been harpooned offshore before stranding
Jun 2000	One mile away from the Guajímico tourist villa (between Cienfuegos and Trinidad)	(21°54.38'N, 80°19.07'W)	P	Sig	12	Radio Havana Cuba ^h	
Jul 2002	Punta Tiburón, Cayo Coco, Ciego de Ávila Province	(22°33'N, 78°27'W)	C	Str	1	Blanco (2008) ⁱ	
7 Jul 2002	Cayo Coco, Ciego de Ávila Province	22°33'N, 78°27'W	C	Sig	2	Blanco (2008) ⁱ	
30 Dec 2004	Along the shoreline of Habana	23°13.96'N, 82°26.40'W	P	Sig	1	Blanco (2008) ^j	
1 Jan 2005	Punta Seboruco, Matanzas	(23°13.09'N, 81°34.65'W)	P	Sig	1	Blanco (2008) ^j	
17 Apr 2006	3 miles from Playa Salado, La Habana	(23°04'N, 82°40'W)	P	Sig	2	Blanco (2008) ^k	
Mar 2008	Baracoa	(20°30'N, 74°38'W)	C	Sig	2	Soler Costafreda ^l	
<i>Balaenoptera edeni/brydei</i>							
3 Jan 1963	Ensenada de Mora, east of Cabo Cruz, Oriente Province	(19°52.51'N, 77°19'W)	C	Cap	1	Varona (1965); Mead (1977)	10.28m juvenile ^m
<i>Balaenoptera physalus</i>							
Jul 1989	Boca de Galafre, Pinar del Rio	(22°12'N, 83°59'W)	C	Str	1	Lima (1989); Blanco (2008)	19.80m; photographs taken
<i>Balaenoptera</i> spp.							
Dec 1970	Cayo Punta Mujeres, Villa Clara	(23°06'N, 80°27'W)	C	Cap	1	Cubillas (1970)	15m; photographs taken
Unidentified rorqual							
Feb 1975	Playa Mar Verde, Santiago de Cuba	(19°59'N, 75°49'W)	C	Str	1	Blanco (2008) ⁿ	10.27m
18 Apr 1989	90 km south of Key West, Florida	23°45'N, 81°54'W	C	N/A	1	USNM	
<i>Physeter macrocephalus</i>							
N/A	Off northeast coast of Cuba	21°40'N, 76°28'W	P	Sig	N/A	Schmidly (1981)	
Between 1752 and 1902	Straits of Florida	(25°30'N, 86°26'W)	P	Cap	N/A	Townsend (1935); Schmidly (1981)	
Between 1752 and 1902	Straits of Florida	(24°48'N, 86°38'W)	P	Cap	N/A	Townsend (1935); Schmidly (1981)	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
Between 1752 and 1902	Straits of Florida	(23°44'N, 86°50'W)	P	Cap	N/A	Townsend (1935); Schmidly (1981)	
Between 1752 and 1902	Straits of Florida	(23°34'N, 86°00'W)	P	Cap	N/A	Townsend (1935); Schmidly (1981)	
Between 1752 and 1902	Straits of Florida	(23°50'N, 81°47'W)	P	Cap	N/A	Townsend (1935); Schmidly (1981)	
Between 1752 and 1902	Straits of Florida	(23°49'N, 81°10'W)	P	Cap	N/A	Townsend (1935); Schmidly (1981)	
Between 1752 and 1902	Straits of Florida	(23°70'N, 81°25'W)	P	Cap	N/A	Townsend (1935); Schmidly (1981)	
Between 1752 and 1902	Straits of Florida	(21°41'N, 76°28'W)	P	Cap	N/A	Townsend (1935); Schmidly (1981)	
3 Jan 1830	4 miles offshore of El Fraile (Playa El Fraile)	(23°09'N, 81°52'W)	P	Sig	1	Cuní (1918)	
1897	Bahía de Matanzas	(23°40'N, 81°30'W)	P	Str	1	de la Torre (1907)	Small whale—ca. 15m
May 1906	Between Cayo Confites and Cayo Romano in the narrowest part of Canal del Viejo de Bahamas (Old Bahama Channel)	(22°01'N, 77°39'W)	P	Str	1	de la Torre (1907)	25m; complete skeleton taken to Habana
1907	Between Cayo Confites and Cayo Romano	(22°01'N, 77°39'W)	P	Str	1	Cuní (1918)	Skeleton found on 1 May 1907
ca. 1909	Cuba	N/A	P	Str	1	Cuní (1918)	Skeleton found in Jun 1909
1940	Bahía de Gibara, Holguín	(21°05.29'N, 76°07.12'W)	P	Str	1	Blanco Domínguez (2011) (identification by A. Lemus Nicollau)	13m long
19 Feb 1943	Near Camagüey Province, Gulf of Ana María, close to Cayo Obispo, to the south of Júcaro	(21°30.62'N, 78°53.13'W)	P	Sig	1	Scaramuzza (1943)	Whale was later captured and brought to the harbor in Puerto de Júcaro
Mar 1978	Guantánamo Bay	(19°54'N, 75°90'W)	C	Str	1	Blanco (in press) ^{o,n}	15m male; skeleton currently on display at the Museo de Historia Natural de Santiago de Cuba (Tomás Romay Museum)
Mar 1986	Holguín	(21°12'N, 75°42'W)	C	Str	1	Blanco (in press) ^d	
May 1989	El Cuero, Santiago de Cuba	(20°01'N, 75°49'W)	C	Str	1	Blanco (in press) ^a	3.10m juvenile female
Nov 1989	Cabo Cruz, Granma	(19°55'N, 77°13'W)	C	Str	1	Blanco (in press) ^a	
8 Jun 1991	Off northern coast of Cuba	22°06'N, 77°25'W	P	Sig	4	Jefferson and Lynn (1994)	
8 Jun 1992	Off northwestern coast of Cuba	22°34.40'N, 84°38.10'W	C	Sig	>1	Hal Whitehead unpub. data	Whales also detected acoustically
15 Nov 1995	Off southern coast of Cuba	(21°26.15'N, 81°38.10'W)	P	Sig	5	Blanco (in press) ^p	
1996	Cárdenas, Matanzas	(23°06'N, 81°06'W)	C	Str	1	Blanco (in press) ^d	
Feb 1996	Cienaga/Peninsula de Zapata, Matanzas	(22°16.35'N, 81°12.55'W)	C	Str	1	Blanco, M., pers. obs.; Blanco (in press)	
1999	Near mouth of Guantánamo Bay	(19°53.85'N, 75°10.96'W)	P	Sig	>1	GTMO unpub. data	
Oct 2000	Cayo Francés, Villa Clara	(22°32'N, 79°20'W)	C	Str	1	Blanco, M., pers. obs.; Blanco (in press)	3.5m juvenile female
22 Mar 2002	Off Trinidad, Sancti Spiritus	(21°29.08'N, 79°27.10'W)	P	Sig	1	Blanco (in press) ^p	
21 Nov 2003	Off northwestern coast of Cuba	23°4.26'N, 83°9.66'W	C	Det	1	Bruce Mate unpub. data	Tagged individual #2505725

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
22 Nov 2003	Off northwestern coast of Cuba	23°0.24'N, 83°13.98'W	C	Det	1	Bruce Mate unpub. data	Tagged individual #2505725
25 Nov 2003	Off northwestern coast of Cuba	23°2.94'N, 83°56.64'W	C	Det	1	Bruce Mate unpub. data	Tagged individual #2505725
25 Nov 2003	Off northwestern coast of Cuba	22°58.14'N, 83°45.96'W	C	Det	1	Bruce Mate unpub. data	Tagged individual #2505725
29 Nov 2003	Off northwestern coast of Cuba	22°49.44'N, 84°13.44'W	C	Det	1	Bruce Mate unpub. data	Tagged individual #2505725
29 Nov 2003	Off northwestern coast of Cuba	22°30.66'N, 84°33.84'W	C	Det	1	Bruce Mate unpub. data	Tagged individual #2505725
7 Dec 2003	Off northwestern coast of Cuba	23°3.42'N, 83°16.98'W	C	Det	1	Bruce Mate unpub. data	Tagged individual #2505725
10 Dec 2003	Off northwestern coast of Cuba	23°3.84'N, 83°59.52'W	C	Det	1	Bruce Mate unpub. data	Tagged individual #2505725
11 Dec 2003	Off northwestern coast of Cuba	23°0'N, 83°39.78'W	C	Det	1	Bruce Mate unpub. data	Tagged individual #2505725
18 Sept 2005	ca. 1 mile offshore of GTMO (windward side)	(19°52.60'N, 75°8.36'W)	C	Sig	>1	GTMO unpub. data	
Feb 2006	El Cuero, Santiago de Cuba	(20°01'N, 75°49'W)	C	Str	1	Blanco (in press) ^g	15m female
Mar 2006	Cayo Coco, Ciego de Ávila	(22°33'N, 78°27'W)	C	Str	1	Blanco, M., Pina, F., and Moré, D. pers. obs.; Blanco (in press)	14.6m; photographs taken
May 2006	Playa el Cuero, Guamá, Santiago de Cuba	(19°56'N, 76°48'W)	C	Str	1	Lauranzon Meléndez ^o	Skeleton currently on display at the Museo de Historia Natural de Santiago de Cuba (Tomás Romay Museum)
Feb 2008	Punta Tabacal, Chivirico, Santiago de Cuba	(19°57.60'N, 76°21.24'W)	C	Str	1	Lauranzon Meléndez ^o	Skeleton of this juvenile currently on display at the Museo de Historia Natural de Santiago de Cuba (Tomás Romay Museum)
29 Mar 2008	Punta de Maya, Matanzas	(23°11.08'N, 81°27.11'W)	C	Sig	1	Blanco, M., López, N., and López, R. pers. obs.; Blanco (in press)	Photographs taken
Unidentified large whale							
6 May 1970	Offshore of Guantánamo Bay	19°50'N, 75°10'W	C	Sig	2	CETAP (1982) ^r	
Unidentified whale							
1970	La Panchita Beach, northern coast of the Villa Clara Province	(22°56.99'N, 80°24.92'W)	C	Str	1	Ortiz (1984)	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
KOGIIDAE							
<i>Kogia breviceps</i>							
1937	Bahía de Nuevas Grandes	(21°27.36'N, 76°56.96'W)	C	Str	1	Aguayo (1954); Varona (1980)	Skull said to be kept at the museum at the Colegio de la Salle
Jun 1954	Manatí, Matanzas	(22°16'N, 81°13'W)	C	Str	1	Blanco Domínguez (2011)	
2002	Playa Larga, Santiago de Cuba	(19°53.39'N, 75°33.35'W)	C	Str	1	Lauranzon Meléndez ^o	Skeleton currently on display at the Museo de Historia Natural de Santiago de Cuba (Tomás Romay Museum)
May 2005	Bahía de La Habana	(23°08.53'N, 82°22.30'W)	C	Str	1	Guitart ^d	
<i>Kogia sima</i>							
1977	Regla, Bahía de La Habana, Habana	(23°07.90'N, 82°20.20'W)	C	Str	1	Varona (1980)	2.5m long
Feb 2004	Playa Baconao, Santiago de Cuba	(19°56.44'N, 75°41.62'W)	C	Str	1	Tamaño ^s	2.5m long
Sept 2007	Playa Larga, Santiago de Cuba	(19°53.47'N, 75°34.14'W)	C	Str	1	Romero ^r	
25 Aug 2008	Near the Círculo Social Obrero Los Marinos en Jaimanitas, western Habana	(23°05.51'N, 82°28.66'W)	C	Str	1	Montolio Fernández (2008)	1.95m long
<i>Kogia spp.</i>							
N/A	Ensenada de la Herradura	(23°1.29'N, 83°2.63'W)	C	Str	1	León and Aguayo (1945)	Skeleton recorded
10 Dec 1999	Between Piers Alpha, Cima and Buckley Landing, GTMO	(19°55.06'N, 75°8.83'W)	C	Str	1	GTMO unpub. data	
Dec 2006	Punta Francés, Isla de la Juventud	(21°37.85'N, 83°11.41'W)	C	Str	1	Anido ^a	1.38m long

ZIPHIIDAE							
Unidentified beaked whale							
Before 1955	Caibarién	(22°32.20'N, 79°26.96'W)	C	Str	1	Aguayo (1954)	Skull is said to be in the Felipe Poey Natural History Museum
28 Nov 1998	Off eastern coast of Cuba	20°22'N, 73°34'W	C	Cap	1	NMFS-SEFSC (2004)	
12 Feb 2003	Off eastern coast of Cuba	20°16'N, 73°59'W	C	Cap	1	Garrison and Richards (2004); NMFS-SEFSC (2004)	
<i>Ziphius cavirostris</i>							
Before 1955	Bahía de Matanzas	(23°4.29'N, 81°29.45'W)	P	Str	1	Aguayo (1954)	Skeleton said to be in the Museum of Belén School
Before 1955	Caibarién	(22°31'N, 79°26.96'W)	P	Str	1	Aguayo (1954)	Skull said to be in the Felipe Poey Natural History Museum
196-	Off southern coast of Isla de Pinos (now Isla de la Juventud)	(21°27'N, 82°56'W)	C	Cap	1	Varona (1964); USNM	Skull without mandibles received from fisherman
Jul 1970	Bahía de Cochinos, Matanzas	(22°09.02'N, 81°09.22'W)	C	Str	1	Guitart ^d	
Oct 1971	Río Almendares, Habana	(23°9.07'N, 82°21.61'W)	C	Str	1	Varona (1980)	5.5m long
Oct 1971	Malecón, Habana	(23°08.81'N, 82°23.27'W)	C	Str	1	Varona (1980)	5m long
Oct 1971	Playa Boca Ciega, Habana	(23°01.33'N, 82°49.02'W)	C	Str	3	Varona (1980)	5m long
Aug 1974	Playa Borracho, Santiago de Cuba	(19°53.10'N, 75°22.42'W)	C	Str	1	Soberat ⁿ	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
Jun 1979	Playa Siboney, Santiago de Cuba	(19°57.49'N, 75°42.71'W)	C	Str	1	Soberat ⁿ	5.15m long
Jun 1979	Playa Baracoa, Guantánamo	(20°21.04'N, 74°29.75'W)	C	Str	1	Soberat ⁿ	3.79m long
Mar 1986	Bahía de Nipe, Holguín	(20°44.78'N, 75°46.88'W)	C	Str	14	Guitart ^d	3.5-6m long
Oct 1988	Playa Siboney, Santiago de Cuba	(19°57.05'N, 75°42.74'W)	C	Str	1	Blanco Domínguez (2011)	3.79m long
7 Jun 1991	Straits of Florida, offshore of Habana	23°46'N, 81°27'W	C	Sig	4	Jefferson and Lynn (1994)	
Nov 1991	Playa Ira. and 186, Habana	(23°05.53'N, 82°28.86'W)	C	Str	1	Blanco, M., pers. obs.	5m long
Mar 2003	Playa Cojímar, Habana	(23°10.24'N, 82°18.13'W)	C	Str	1	López, N. and Blanco, M., pers. obs.	4.45m long
Aug 2006	Playa El Cuero, Santiago de Cuba	(19°57.05'N, 76°00.99'W)	C	Str	1	Romero ^r	
May 2007	Playa Larga, Santiago de Cuba	(22°16.85'N, 81°12.37'W)	C	Str	1	Romero ^r	
<i>Mesoplodon europaeus</i>							
Nov 1946	Cayo Alacranes, Pinar del Río	22°55'N, 83°26'W	C	Str	1	Aguayo (1954); Varona (1985)	Cranium said to be in the Felipe Poey Natural History Museum; ca. 425cm adult; Rankin (1956) determined the specimen to be an adult female
Jul 1954	Pinar del Río	N/A	D	Str	1	Blanco Domínguez (2011)	
6 Mar 1965	Arroyo Bermejo, east of Habana	23°9.22'N, 81°49.25'W	C	Str	1	Varona (1970, 1985)	ca. 415cm adult male
9 Nov 1969	Bahía de Cabañas	23°01'N, 82°57'W	C	Str	1	Varona (1985)	454cm female
23 Nov 1971	Bahía Dominica	23°01'N, 82°50'W	C	Str	2	Varona (1985)	One adult female (460cm) and one immature male (252cm)
Jun 1979	Playa Baracoa, Guantánamo	(20°20.86'N, 74°29.64'W)	C	Str	1	Soberat ⁿ	5.15m long
4 Nov 1982	La Puntilla, near Río Almendares	23°08'N, 82°25'W	C	Str	1	Varona (1985)	440cm adult male
Apr 1984	Bahía del Mariel, Habana	(23°01.46'N, 82°45.31'W)	C	Str	1	Guitart, D. and Blanco, M., pers. obs.	4.45m long
5 Apr 1984	Santa Fe, Barlovento, Habana	23°06'N, 82°30'W	C	Str	1	Varona (1985)	485cm adult female
5 Apr 1984	Playita de 16, Miramar, Habana	23°08'N, 82°25'W	C	Str	1	Varona (1985)	250cm immature male
Aug 1988	Playa Baracoa, Habana	(23°03.03'N, 82°34.65'W)	C	Str	1	Guitart, D. and Blanco, M., pers. obs.	5m long
Oct 1988	Playa Siboney, Santiago de Cuba	(19°57.55'N, 75°42.15'W)	C	Str	1	Soberat ⁿ	3.79m long

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
DELPHINIDAE							
Steno bredanensis							
N/A	Near Habana	(23°10.34'N, 82°22.73'W)	P	Cap	1	Aguayo (1954)	Skull is said to be in the Poey Museum
Nov 2001	Playa Chivirico, Santiago de Cuba	(19°58.18'N, 76°24.55'W)	C	Str	1	Soberat ⁿ	2.21m long
May 2004	Santa Cruz del Norte, Habana	(23°09.52'N, 81°55.05'W)	C	Str	1	Guevara, C. and Blanco, M., pers. obs.	1.63m long
17 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°37.08'N, 78°42.54'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
17 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°38.28'N, 78°45.36'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
17 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°38.04'N, 78°44.70'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
17 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°36.24'N, 78°40.68'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
17 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°40.86'N, 79°18.00'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
18 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°45.30'N, 78°51.78'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
18 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°36.90'N, 78°33.24'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
18 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°36.12'N, 78°38.10'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
18 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°36.54'N, 78°37.44'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
18 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°37.86'N, 78°37.44'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
19 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°34.32'N, 78°23.34'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
19 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°33.78'N, 78°19.92'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
19 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°34.02'N, 78°18.24'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
19 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°27.48'N, 78°16.80'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
19 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°32.28'N, 78°7.32'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
21 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°46.86'N, 78°36.66'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
22 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°34.98'N, 78°26.64'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
22 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°34.98'N, 78°25.56'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
22 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°34.74'N, 78°24.36'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
22 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°35.88'N, 78°27.84'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
22 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°35.10'N, 78°26.46'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
22 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°40.38'N, 78°22.68'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
22 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°34.38'N, 78°25.68'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
22 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°36.48'N, 78°27.78'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
23 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°46.02'N, 78°58.92'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
23 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°44.70'N, 78°58.62'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
23 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°43.56'N, 78°58.32'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42480
23 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°45.24'N, 78°59.16'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
23 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°45.30'N, 78°58.08'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
23 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°43.86'N, 78°59.88'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
23 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°46.20'N, 78°55.20'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
24 Sept 2005	Off Cayo Coco and Cayo Fragoso, northern coast of Cuba	22°44.64'N, 78°57.96'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
24 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°44.76'N, 78°58.56'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
24 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°45.60'N, 78°54.78'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
24 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°43.80'N, 79°21.00'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
25 Sept 2005	Off Cayo Coco and Cayo Frago, northern coast of Cuba	22°45.06'N, 79°23.04'W	C	Det	1	Wells <i>et al.</i> (2008)	Tagged individual #42481
<i>Tursiops truncatus</i>							
10 Dec 1983	Off Varadero	23°04'N, 81°09'W	C	Sig	2	Blanco and Olachea (1996)	Individuals were captured, measured, and released
11 Dec 1983	Off Varadero	23°11'N, 81°04'W	C	Sig	2	Blanco and Olachea (1996)	Individuals were captured, measured, and released
12 Dec 1983	Off Varadero	23°10'N, 81°07'W	C	Sig	4	Blanco and Olachea (1996)	Individuals were captured, measured, and released
13 Dec 1983	Off Varadero	23°11'N, 81°03'W	C	Sig	1	Blanco and Olachea (1996)	Individuals were captured, measured, and released
15 Dec 1983	Off Varadero	23°03'N, 81°09'W	C	Sig	3	Blanco and Olachea (1996)	Individuals were captured, measured, and released
20 Dec 1983	Off Varadero	23°11'N, 81°06'W	C	Sig	2	Blanco and Olachea (1996)	Individuals were captured, measured, and released
22 Dec 1983	Off Varadero	23°11'N, 81°06'W	C	Sig	5	Blanco and Olachea (1996)	Individuals were captured, measured, and released
8 Mar 1984	Off Varadero	23°11'N, 81°04'W	C	Sig	4	Blanco and Olachea (1996)	Individuals were captured, measured, and released
12 Jun 1984	Off Varadero	23°11'N, 81°06'W	C	Sig	1	Blanco and Olachea (1996)	Individuals were captured, measured, and released
5 Mar 1985	Off Varadero	23°11'N, 81°07'W	C	Sig	5	Blanco and Olachea (1996)	Individuals were captured, measured, and released
25 Apr 1985	Off Varadero	23°11'N, 81°06'W	C	Sig	4	Blanco and Olachea (1996)	Individuals were captured, measured, and released
11 Jul 1985	Off Varadero	23°12'N, 81°07'W	C	Sig	1	Blanco and Olachea (1996)	Individuals were captured, measured, and released
11 Jul 1985	Off Varadero	23°13'N, 81°02'W	C	Sig	3	Blanco and Olachea (1996)	Individuals were captured, measured, and released
14 Jul 1985	Off Varadero	23°11'N, 81°07'W	C	Sig	2	Blanco and Olachea (1996)	Individuals were captured, measured, and released
16 Jul 1985	Off Varadero	23°14'N, 81°01'W	C	Sig	6	Blanco and Olachea (1996)	Individuals were captured, measured, and released
26 Mar 1986	Off Varadero	23°12'N, 81°07'W	C	Sig	3	Blanco and Olachea (1996)	Individuals were captured, measured, and released
8 Apr 1986	Off Varadero	23°11'N, 81°11'W	C	Sig	3	Blanco and Olachea (1996)	Individuals were captured, measured, and released
22 Apr 1986	Off Varadero	23°15'N, 81°01'W	C	Sig	6	Blanco and Olachea (1996)	Individuals were captured, measured, and released
2 May 1986	Off Varadero	23°13'N, 81°02'W	C	Sig	5	Blanco and Olachea (1996)	Individuals were captured, measured, and released
14 Dec 1994	Off Varadero	23°16'N, 81°05'W	C	Sig	5	Blanco and Olachea (1996)	Individuals were captured, measured, and released
18 Dec 1994	Off Varadero	23°16'N, 81°07'W	C	Sig	5	Blanco and Olachea (1996)	Individuals were captured, measured, and released
1 Mar 1995	Off Varadero	23°11'N, 81°04'W	C	Sig	2	Blanco and Olachea (1996)	Individuals were captured, measured, and released
24 Mar 1995	Off Varadero	23°14'N, 80°58'W	C	Sig	5	Blanco and Olachea (1996)	Individuals were captured, measured, and released
24 Mar 1995	Off Varadero	23°11'N, 81°07'W	C	Sig	2	Blanco and Olachea (1996)	Individuals were captured, measured, and released
27 Mar 1995	Off Varadero	23°11'N, 81°00'W	C	Sig	3	Blanco and Olachea (1996)	Individuals were captured, measured, and released

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
20 Apr 1995	Off Varadero	23°12'N, 81°08'W	C	Sig	4	Blanco and Olachea (1996)	Individuals were captured, measured, and released
20 Apr 1995	Off Varadero	23°13'N, 81°02'W	C	Sig	3	Blanco and Olachea (1996)	Individuals were captured, measured, and released
24 May 1995	Off Varadero	23°11'N, 81°03'W	C	Sig	2	Blanco and Olachea (1996)	Individuals were captured, measured, and released
6 Sept 1995	Off Varadero	23°15'N, 81°07'W	C	Sig	3	Blanco and Olachea (1996)	Individuals were captured, measured, and released
18 Dec 1995	Off Varadero	23°11'N, 81°07'W	C	Sig	4	Blanco and Olachea (1996)	Individuals were captured, measured, and released
29 Sept 1999	Off Caracoles Point, GTMO	(19°54'N, 75°12'W)	C	Sig	>5	GTMO unpub. data	
Feb-Dec 2000	Costa Norte, Cayo Coco	(22°36.56'N, 78°42.29'W)	C	Sig	N/A	Pérez-Cao (2004) ^w	
Feb-Dec 2000	Costa Norte, Cayo Coco	(22°36.97'N, 78°42.12'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Costa Norte, Cayo Coco	(22°36.97'N, 78°40.70'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Costa Norte, Cayo Coco	(22°36.27'N, 78°39.60'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Costa Norte, Cayo Coco	(22°35.72'N, 78°37.57'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Costa Norte, Cayo Coco	(22°35.72'N, 78°36.77'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Costa Norte, Cayo Coco	(22°34.04'N, 78°29.49'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Costa Norte, Cayo Coco	(22°32.61'N, 78°26.29'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Costa Norte, Cayo Coco	(22°33.29'N, 78°25.37'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Costa Norte, Cayo Coco	(22°29.13'N, 78°18.27'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Costa Norte, Cayo Coco	(22°28.83'N, 78°17.99'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Bahía de Perros, south of Cayo Coco	(22°21.12'N, 78°33.40'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Bahía de Perros, south of Cayo Coco	(22°20.47'N, 78°33.32'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Bahía de Perros, south of Cayo Coco	(22°18.70'N, 78°30.07'W)	C	Sig	N/A	Pérez-Cao (2004)	
Feb-Dec 2000	Bahía de Perros, south of Cayo Coco	(22°21.38'N, 78°35.87'W)	C	Sig	N/A	Pérez-Cao (2004)	
11 Jun 2002	Costa Norte, Matanzas	23°11.68'N, 81°07.73'W	C	Sig	25	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
11 Jun 2002	Costa Norte, Matanzas	23°11.65'N, 81°05.68'W	C	Sig	7	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
14 Jun 2002	Costa Norte, Matanzas	23°06.27'N, 81°18.32'W	C	Sig	3	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
25 Aug 2002	Costa Norte, Matanzas	23°12.63'N, 81°05.49'W	C	Sig	30	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
26 Aug 2002	Costa Norte, Matanzas	23°12.27'N, 81°05.37'W	C	Sig	30	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
27 Aug 2002	Bahía de Cárdenas, Matanzas	23°12.50'N, 81°02.70'W	C	Sig	10	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
27 Aug 2002	Costa Norte, Matanzas	23°11.88'N, 81°05.05'W	C	Sig	6	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
27 Aug 2002	Costa Norte, Matanzas	23°11.53'N, 81°6.32'W	C	Sig	3	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
28 Aug 2002	Cinco Leguas, Matanzas	23°12.98'N, 80°54.62'W	C	Sig	1	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
3 Dec 2002	Cinco Leguas, Matanzas	23°12.77'N, 80°55.92'W	C	Sig	3	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
5 Dec 2002	Cinco Leguas, Matanzas	23°12.07'N, 80°59.40'W	C	Sig	3	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
5 Dec 2002	Costa Norte, Matanzas	23°12.05'N, 81°60.33'W	C	Sig	30	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
6 Dec 2002	Costa Norte, Matanzas	23°09.40'N, 81°15.58'W	C	Sig	1	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
9 Mar 2003	Costa Norte, Matanzas	23°11.33'N, 81°13.62'W	C	Sig	8	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
9 Mar 2003	Costa Norte, Matanzas	23°10.25'N, 81°13.98'W	C	Sig	7	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
10 Mar 2003	Costa Norte, Matanzas	23°17.82'N, 80°58.37'W	C	Sig	1	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
11 Mar 2003	Costa Norte, Matanzas	23°12.72'N, 81°30.52'W	C	Sig	8	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
13 Mar 2003	Bahía de Cárdenas, Matanzas	23°11.43'N, 81°70.88'W	C	Sig	6	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
13 Mar 2003	Bahía de Cárdenas, Matanzas	23°02.75'N, 81°11.67'W	C	Sig	1	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
13 May 2003	Costa Norte, Matanzas	23°11.95'N, 81°40.95'W	C	Sig	6	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
14 May 2003	Costa Norte, Matanzas	23°13.57'N, 81°60.13'W	C	Sig	3	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
31 Jul 2003	Bahía de Cárdenas, Matanzas	23°04.33'N, 81°90.52'W	C	Sig	6	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
1 Aug 2003	Costa Norte, Matanzas	23°12.90'N, 81°50.45'W	C	Sig	1	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
1 Aug 2003	Costa Norte, Matanzas	23°12.48'N, 81°60.95'W	C	Sig	12	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
1 Aug 2003	Costa Norte, Matanzas	23°12.15'N, 81°10.93'W	C	Sig	5	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
1 Aug 2003	Costa Norte, Matanzas	23°12.10'N, 81°30.95'W	C	Sig	15	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
2 Aug 2003	Costa Norte, Matanzas	23°11.77'N, 81°60.45'W	C	Sig	8	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
3 Aug 2003	Cinco Leguas, Matanzas	23°11.57'N, 81°00.15'W	C	Sig	3	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
3 Aug 2003	Costa Norte, Matanzas	23°12.55'N, 81°40.38'W	C	Sig	2	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
3 Aug 2003	Costa Norte, Matanzas	23°12.78'N, 81°40.52'W	C	Sig	3	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
3 Aug 2003	Costa Norte, Matanzas	23°13.72'N, 81°30.13'W	C	Sig	1	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
3 Aug 2003	Costa Norte, Matanzas	23°14.37'N, 81°40.47'W	C	Sig	3	Pérez-Cao (2004; 2009); López <i>et al.</i> (in press)	
22 Feb 2004	Bahía de Cárdenas, Matanzas	23°06.78'N, 81°90.47'W	C	Sig	3	Pérez-Cao (2004); López <i>et al.</i> (in press)	
7 Jul 2004	Costa Norte, Matanzas	23°12.78'N, 81°30.88'W	C	Sig	7	Pérez-Cao (2004); López <i>et al.</i> (in press)	
9 Jul 2004	Costa Norte, Matanzas	23°12.78'N, 81°40.38'W	C	Sig	15	Pérez-Cao (2004); López <i>et al.</i> (in press)	
23 Sept 2004	Costa Norte, Matanzas	23°10.43'N, 81°13.73'W	C	Sig	2	López <i>et al.</i> (in press)	
23 Sept 2004	Costa Norte, Matanzas	23°08.48'N, 81°16.17'W	C	Sig	25	López <i>et al.</i> (in press)	
25 Sept 2004	Costa Norte, Matanzas	23°08.33'N, 81°18.17'W	C	Sig	2	López <i>et al.</i> (in press)	
26 Aug 2005	Bahía de Cárdenas, Matanzas	23°11.35'N, 81°80.10'W	C	Sig	15	López <i>et al.</i> (in press)	
26 Aug 2005	Costa Norte, Matanzas	23°14.53'N, 81°50.70'W	C	Sig	2	López <i>et al.</i> (in press)	
28 Aug 2005	Costa Norte, Matanzas	23°09.52'N, 81°26.58'W	C	Sig	7	López <i>et al.</i> (in press)	
28 Aug 2005	Costa Norte, Matanzas	23°11.07'N, 81°14.60'W	C	Sig	5	López <i>et al.</i> (in press)	
28 Aug 2005	Costa Norte, Matanzas	23°10.27'N, 81°15.85'W	C	Sig	1	López <i>et al.</i> (in press)	
29 Aug 2005	Costa Norte, Matanzas	23°08.83'N, 81°17.68'W	C	Sig	12	López <i>et al.</i> (in press)	
29 Aug 2005	Bahía de Cárdenas, Matanzas	23°09.63'N, 81°10.27'W	C	Sig	1	López <i>et al.</i> (in press)	
10 Nov 2005	Costa Norte, Matanzas	23°08.18'N, 81°18.93'W	C	Sig	1	López <i>et al.</i> (in press)	
10 Nov 2005	Costa Norte, Matanzas	23°08.58'N, 81°17.77'W	C	Sig	4	López <i>et al.</i> (in press)	
10 Nov 2005	Costa Norte, Matanzas	23°09.10'N, 81°17.18'W	C	Sig	1	López <i>et al.</i> (in press)	
10 Nov 2005	Costa Norte, Matanzas	23°15.87'N, 81°10.50'W	C	Sig	12	López <i>et al.</i> (in press)	
12 Nov 2005	Costa Norte, Matanzas	23°10.38'N, 81°15.95'W	C	Sig	15	López <i>et al.</i> (in press)	
13 Nov 2005	Costa Norte, Matanzas	23°13.35'N, 81°90.40'W	C	Sig	4	López <i>et al.</i> (in press)	
13 Nov 2005	Costa Norte, Matanzas	23°09.05'N, 81°18.32'W	C	Sig	2	López <i>et al.</i> (in press)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(23°06.30'N, 80°17.95'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009) ^w	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(23°05.88'N, 80°16.36'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(23°03.93'N, 80°17.19'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(23°03.53'N, 80°17.15'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(23°03.53'N, 80°16.53'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(23°03.84'N, 80°14.36'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(23°03.33'N, 80°20.19'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(23°02.41'N, 80°18.18'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(23°02.43'N, 80°17.95'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(23°02.14'N, 80°18.02'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(23°01.40'N, 80°19.05'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(23°05.86'N, 80°13.69'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°58.19'N, 80°11.61'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°57.73'N, 80°12.54'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°57.30'N, 80°11.64'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°57.43'N, 80°12.72'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°57.24'N, 80°12.67'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°57.08'N, 80°12.84'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°57.05'N, 80°12.74'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°56.89'N, 80°12.75'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°56.76'N, 80°12.48'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°56.67'N, 80°12.80'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°56.62'N, 80°14.37'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°56.51'N, 80°13.96'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°56.23'N, 80°11.51'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°55.62'N, 80°12.82'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°56.13'N, 80°13.97'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°56.00'N, 80°14.13'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°56.00'N, 80°14.28'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°56.01'N, 80°15.37'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°55.97'N, 80°15.58'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°55.02'N, 80°17.48'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°55.17'N, 80°17.77'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°55.27'N, 80°17.82'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°55.98'N, 80°18.13'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°56.04'N, 80°18.04'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°55.97'N, 80°18.46'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
2005-2006	Las Picúas Cayos-Cristo Marine Protected Area	(22°55.61'N, 80°18.51'W)	C	Sig	N/A	Alvarez Alemán <i>et al.</i> (2009)	
12 Jul 2006	Costa Norte, Matanzas	23°12.22'N, 81°13.47'W	C	Sig	13	López <i>et al.</i> (in press)	
12 Jul 2006	Costa Norte, Matanzas	23°12.62'N, 81°40.18'W	C	Sig	5	López <i>et al.</i> (in press)	
12 Jul 2006	Costa Norte, Matanzas	23°12.85'N, 81°40.73'W	C	Sig	4	López <i>et al.</i> (in press)	
13 Jul 2006	Bahía de Cárdenas, Matanzas	23°09.68'N, 81°70.07'W	C	Sig	4	López <i>et al.</i> (in press)	
14 Jul 2006	Costa Norte, Matanzas	23°07.65'N, 81°18.63'W	C	Sig	3	López <i>et al.</i> (in press)	
16 Jul 2006	Costa Norte, Matanzas	23°07.63'N, 81°18.43'W	C	Sig	12	López <i>et al.</i> (in press)	
16 Jul 2006	Costa Norte, Matanzas	23°09.30'N, 81°15.20'W	C	Sig	6	López <i>et al.</i> (in press)	
17 Jul 2006	Costa Norte, Matanzas	23°07.63'N, 81°18.67'W	C	Sig	12	López <i>et al.</i> (in press)	
25 Feb 2007	Costa Norte, Matanzas	23°10.68'N, 81°70.27'W	C	Sig	1	López <i>et al.</i> (in press)	
25 Feb 2007	Costa Norte, Matanzas	23°11.40'N, 81°10.60'W	C	Sig	4	López <i>et al.</i> (in press)	
1 Mar 2007	Costa Norte, Matanzas	23°11.78'N, 81°40.63'W	C	Sig	3	López <i>et al.</i> (in press)	
3 Feb 2008	Costa Norte, Matanzas	23°09.63'N, 81°15.03'W	C	Sig	15	López <i>et al.</i> (in press)	
3 Feb 2008	Costa Norte, Matanzas	23°12.43'N, 81°50.60'W	C	Sig	6	López <i>et al.</i> (in press)	
6 Feb 2008	Costa Norte, Matanzas	23°12.72'N, 81°90.70'W	C	Sig	20	López <i>et al.</i> (in press)	
30 Mar 2008	Costa Norte, Matanzas	23°09.23'N, 81°16.17'W	C	Sig	4	López <i>et al.</i> (in press)	
2 Apr 2008	Costa Norte, Matanzas	23°09.28'N, 81°15.87'W	C	Sig	7	López <i>et al.</i> (in press)	
2 Apr 2008	Costa Norte, Matanzas	23°08.23'N, 81°18.45'W	C	Sig	2	López <i>et al.</i> (in press)	
29 Jun 2008	Bahía de Cárdenas, Matanzas	23°09.20'N, 81°80.38'W	C	Sig	4	López <i>et al.</i> (in press)	
29 Jun 2008	Bahía de Cárdenas, Matanzas	23°09.35'N, 81°80.72'W	C	Sig	15	López <i>et al.</i> (in press)	
30 Jun 2008	Costa Norte, Matanzas	23°12.65'N, 81°60.20'W	C	Sig	6	López <i>et al.</i> (in press)	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
30 Jun 2008	Costa Norte, Matanzas	23°13.42'N, 81°50.65'W	C	Sig	17	López <i>et al.</i> (in press)	
30 Jun 2008	Costa Norte, Matanzas	23°12.98'N, 81°80.43'W	C	Sig	1	López <i>et al.</i> (in press)	
1 Jul 2008	Costa Norte, Matanzas	23°08.60'N, 81°17.15'W	C	Sig	5	López <i>et al.</i> (in press)	
1 Jul 2008	Costa Norte, Matanzas	23°13.10'N, 81°60.17'W	C	Sig	1	López <i>et al.</i> (in press)	
1 Jul 2008	Bahía de Cárdenas, Matanzas	23°07.13'N, 81°80.95'W	C	Sig	6	López <i>et al.</i> (in press)	
1 Jul 2008	Costa Norte, Matanzas	23°11.65'N, 81°50.82'W	C	Sig	1	López <i>et al.</i> (in press)	
1 Jul 2008	Costa Norte, Matanzas	23°11.83'N, 81°50.85'W	C	Sig	5	López <i>et al.</i> (in press)	
2 Jul 2008	Bahía de Cárdenas, Matanzas	23°04.90'N, 81°10.83'W	C	Sig	7	López <i>et al.</i> (in press)	
2 Jul 2008	Bahía de Cárdenas, Matanzas	23°08.57'N, 81°13.32'W	C	Sig	8	López <i>et al.</i> (in press)	
2 Jul 2008	Bahía de Cárdenas, Matanzas	23°09.55'N, 81°10.83'W	C	Sig	5	López <i>et al.</i> (in press)	
3 Jul 2008	Bahía de Cárdenas, Matanzas	23°10.35'N, 81°60.75'W	C	Sig	10	López <i>et al.</i> (in press)	
3 Jul 2008	Costa Norte, Matanzas	23°09.52'N, 81°15.78'W	C	Sig	2	López <i>et al.</i> (in press)	
3 Jul 2008	Costa Norte, Matanzas	23°08.13'N, 81°18.70'W	C	Sig	1	López <i>et al.</i> (in press)	
26 Aug 2008	Costa Norte, Matanzas	23°08.75'N, 81°16.73'W	C	Sig	2	López <i>et al.</i> (in press)	
26 Aug 2008	Costa Norte, Matanzas	23°11.10'N, 81°12.75'W	C	Sig	2	López <i>et al.</i> (in press)	
26 Aug 2008	Costa Norte, Matanzas	23°12.00'N, 81°11.18'W	C	Sig	2	López <i>et al.</i> (in press)	
26 Aug 2008	Costa Norte, Matanzas	23°13.35'N, 81°80.52'W	C	Sig	1	López <i>et al.</i> (in press)	
26 Aug 2008	Costa Norte, Matanzas	23°13.48'N, 81°80.00'W	C	Sig	18	López <i>et al.</i> (in press)	
26 Aug 2008	Costa Norte, Matanzas	23°13.52'N, 81°70.13'W	C	Sig	9	López <i>et al.</i> (in press)	
26 Aug 2008	Costa Norte, Matanzas	23°13.07'N, 81°50.72'W	C	Sig	13	López <i>et al.</i> (in press)	
26 Aug 2008	Costa Norte, Matanzas	23°13.17'N, 81°50.42'W	C	Sig	8	López <i>et al.</i> (in press)	
26 Aug 2008	Costa Norte, Matanzas	23°12.97'N, 81°50.13'W	C	Sig	3	López <i>et al.</i> (in press)	
27 Aug 2008	Costa Norte, Matanzas	23°08.93'N, 81°17.00'W	C	Sig	5	López <i>et al.</i> (in press)	
27 Aug 2008	Costa Norte, Matanzas	23°08.15'N, 81°16.77'W	C	Sig	3	López <i>et al.</i> (in press)	
28 Aug 2008	Costa Norte, Matanzas	23°08.55'N, 81°17.55'W	C	Sig	4	López <i>et al.</i> (in press)	
29 Aug 2008	Costa Norte, Matanzas	23°09.32'N, 81°15.72'W	C	Sig	2	López <i>et al.</i> (in press)	
12 Oct 2008	Costa Norte, Matanzas	23°12.92'N, 81°40.52'W	C	Sig	18	López <i>et al.</i> (in press)	
13 Oct 2008	Bahía de Cárdenas, Matanzas	23°09.35'N, 81°11.25'W	C	Sig	7	López <i>et al.</i> (in press)	
14 Oct 2008	Costa Norte, Matanzas	23°14.03'N, 81°50.03'W	C	Sig	3	López <i>et al.</i> (in press)	
<i>Stenella attenuata</i>							
Jul 1954	Habana	(23°11'N, 82°24'W)	D	Str	1	Blanco Domínguez (2011)	
18 Sept 1985	168km south of Cabo Corrientes	20°14'N, 84°35'W	C	Sig	5	Perrin <i>et al.</i> (1987); Mignucci-Giannoni <i>et al.</i> (2003)	
18 Sept 1985	183km south of Cabo Corrientes	20°06'N, 84°29'W	C	Sig	25	Perrin <i>et al.</i> (1987); Mignucci-Giannoni <i>et al.</i> (2003)	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
3 Oct 1984	52km northwest of Cayo Jutías	23°00'N, 84°28'W	C	Sig	12-25	Perrin <i>et al.</i> (1987); Mignucci-Giannoni <i>et al.</i> (2003)	
3 Apr 1998	Off western Cuba	21°32.22'N, 85°14.93'W	C	Sig	26	Ortega-Ortiz (2002)	
4 Apr 1998	Off western Cuba	21°37.78'N, 85°37.43'W	C	Sig	34	Ortega-Ortiz (2002)	
Jun 2006	Off Cayo Francés, Villa Clara	22°32'N, 79°20'W	D	Sig	50	Echemendía ^x	
<i>Stenella frontalis</i>							
1911	Habana	(23°11'N, 82°24'W)	D	Str	1	Varona (1980)	
1967	Habana	(23°11'N, 82°24'W)	C	Str	1	Varona (1980)	
1991	Canal Varadero, Matanzas	23°12.00'N, 81°6.34'W	C	Sig	2	Guevara, C. and Blanco, M., pers. obs.	
1994	Off Pinar del Río	(22°24'N, 84°49'W)	C	Sig	2	Guevara ^y	
Oct 2004	Canal Varadero, Matanzas	23°12.05'N, 81°06.34'W	C	Sig	2	Guevara, C. and Blanco, M., pers. obs.	
Nov 2004	Off Guanabo, Habana	23°12'N, 82°07'W	P	Sig	100	Martínez ^z	
Sept 2005	Off Tarará, Habana	23°12'N, 82°14'W	P	Sig	100	Martínez ^z	
Apr 2006	Off Cayo Santa María, Caibarién, Villa Clara	22°42'N, 78°50'W	C	Sig	100	Isla ^{a1}	
Jan 2008	Off Cayo Francés, Caibarién, Villa Clara	22°31'N, 79°22'W	C	Sig	2	Isla ^{a1}	
Feb 2008	Off Varadero, Matanzas	23°12.71'N, 81°03.52'W	C	Sig	2	Rivera ^{b1}	
Mar 2008	Off Varadero, Matanzas	23°11.33'N, 81°03.52'W	C	Sig	8	López, R., López, N., and Blanco, M., pers. obs.	
Aug 2008	Off Varadero, Matanzas	23°13.57'N, 81°06.13'W	C	Sig	4	López, R., López, N., and Blanco, M., pers. obs.	
<i>S. attenuata/S. frontalis</i>							
24 Jul 1987	Off western Cuba	22°25'N, 85°11'W	C	Sig	15	Hal Whitehead unpub. data	
8 Jun 1992	Off western Cuba	22°31'N, 84°44'W	C	Sig	20	Hal Whitehead unpub. data	
9 Jun 1992	Off western Cuba	21°40'N, 84°58'W	C	Sig	10	Hal Whitehead unpub. data	
<i>Stenella longirostris</i>							
16 Nov 1960	Jaimanitas Beach (west of Habana)	22°48'N, 83°30'W	C	Cap	1	Perrin <i>et al.</i> (1981)	
Mar 1989	Bahía Cabaña, Santiago de Cuba	(22°58.87'N, 82°57.25'W)	D	Str	1	Soberat ⁿ	1.81m long
8 Jun 2003	Straits of Florida; offshore of Habana	23°52'N, 82°22'W	C	Cap	1	NMFS-SEFSC (2004)	
9 Jun 2003	Straits of Florida; offshore of Habana	23°35'N, 82°11'W	C	Cap	1	NMFS-SEFSC (2004)	
<i>Stenella spp.</i>							
3 Apr 1998	Off western Cuba	21°30.11'N, 85°16.61'W	C	Sig	4	Ortega-Ortiz (2002)	
<i>Grampus griseus</i>							
ca. 12 Dec 1967	Straits of Florida (50 miles west of Cay Sal Bank)	23°40'N, 81°10'W	C	Sig	ca. 20	Caldwell and Caldwell (1977)	
31 Oct 1971	Near Maceo Park	N/A	D	Sig	1	de la Osa and Guma (1971) ^{c1}	
31 Oct 1971	Mouth of Almendares River	(23°9.07'N, 82°21.61'W)	D	Sig	1	de la Osa and Guma (1971) ^{c1}	
31 Oct 1971	Off Santa María del Mar Beach, Habana	(23°12.76'N, 82°13.98'W)	D	Sig	>1	de la Osa and Guma (1971) ^{c1}	
Aug 1972	Bahía de Matanzas	(23°04.33'N, 81°29.03'W)	C	Str	1	Varona (1980)	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
Oct 1981	Playa Santa María del Mar, Habana	(23°10.59'N, 82°11.02'W)	C	Str	1	Varona (1980)	
Sept 1997	Cayo Cobo, Caibarién, Villa Clara	(22°08.89'N, 81°27.91'W)	C	Str	4	Sánchez ^{d1}	2.85, 2.7, 2.65, and 2.68m long
<i>Pseudorca crassidens</i>							
3 Jul 1858	Near Habana	(23°10.34'N, 82°21.50'W)	D	Cap	1	Cuní (1918)	3m long; said to be kept at the Academia de Ciencias Médicas, Físicas y Naturales, Habana
1886	Cojímar, Habana	(23°10'N, 82°18'W)	D	Str	1	de la Torre (1887); Cuní (1918)	Skeleton said to be in the Academia de Ciencias
Jul 1972	Guanabo, Habana	(23°10.38'N, 82°07.09'W)	C	Str	1	Varona (1980)	3.6m long
1973	Holguín	(20°46.79'N, 75°46.33'W)	C	Str	1	Varona (1980)	4.1m long
Mar 1973	Playa Justicí, Santiago de Cuba	(19°57.02'N, 75°44.28'W)	C	Str	1	Soberat ⁿ	1.03m long
Dec 1981	Playa Marianao, Habana	(23°06.12'N, 82°27.14'W)	C	Str	1	Varona (2002)	2.7m long
<i>Orcinus orca</i>							
1983	Mariel - Baracoa, Habana	23°10'N, 82°20'W	C	Sig	3	Guitart, D. and Blanco, M., pers. obs.	
Aug 1984	Guanabo, Habana	23°12'N, 82°07'W	C	Sig	1	Guitart, D. and Blanco, M., pers. obs.	
Aug 1994	Guanabo, Habana	23°12'N, 82°07'W	C	Sig	4	Guevara, C. and Blanco, M., pers. obs.	
Apr 2004	Cayo Cobo, Caibarién, Villa Clara	(22°08.62'N, 81°28.08'W)	C	Str	1	Blanco, M., pers. obs.	4.65m long
2005	Cayo Francés, Caibarién, Villa Clara	22°33'N, 79°18'W	C	Sig	4	Echemendía ^r	
<i>Globicephala macrorhynchus</i>							
11 Sept 1908	Bahía de Matanzas	(23°04'N, 81°30'W)	C	Sig	3	Cuní (1918); Aguayo (1954)	
11 Sept 1908	Río Yumurí--near Bahía de Matanzas	(23°3.15'N, 81°32.55'W)	C	Cap	1	Cuní (1918); Aguayo (1954)	
Jul 1954	Bahía de Matanzas	N/A	D	Str	1	Blanco Domínguez (2011) (identification by G. Aguayo)	
1964	Playa Salado, Habana	(23°07.23'N, 82°25.93'W)	C	Str	1	Varona (1980)	
Nov 1971	Río Almendares, Habana	(23°08.12'N, 82°24.51'W)	C	Str	1	Guitart ^d	
Oct 1981	Playa Santa María del Mar, Habana	(23°10.58'N, 82°11.22'W)	C	Str	1	Guitart ^d	
Feb 1986	Cayo Saetía, Holguín	(20°46.27'N, 75°29.78'W)	C	Str	14	Guitart ^d	
Mar 1986	Holguín	(20°47.16'N, 75°46.53'W)	C	Str	2	Guitart ^d	
Sept 1988	Bahía Santiago de Cuba	(19°59.67'N, 75°51.77'W)	C	Str	1	Soberat ⁿ	4.13m long
Nov 1988	Playa Larga, Matanzas	(22°16.08'N, 81°12.34'W)	C	Str	2	Guitart, D. and Blanco, M., pers. obs.	4.46 and 4.31m long
<i>Globicephala</i> spp.							
21 Feb 2004	Off eastern coast of Cuba	19°57'N, 73°59'W	C	Cap	1	NMFS-SEFSC (2004)	
27 Feb 2004	Off eastern coast of Cuba	19°48'N, 74°05'W	C	Cap	1	NMFS-SEFSC (2004)	
18 Sept 2005	ca. 8 miles south of Guantánamo Bay	(19°52.34'N, 75°1.72'W)	P	Sig	>1	GTMO unpub. data	
Unidentified cetacean							
9 Jan 1983	Off Nuevitas	21°47'N, 76°51'W	C	Sig	1	USNM	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
Unidentified dolphin/porpoise							
14 Oct 1975	Off southeastern coast of Cuba	19°39'N, 74°51'W	C	Sig	8	CETAP (1982) ^r	
Unidentified small dolphin							
4 Apr 1998	Off western coast of Cuba	21°38.15'N, 85°35.33'W	C	Sig	6	Ortega-Ortiz (2002)	

TRICHECHIDAE							
<i>Trichechus manatus</i>							
Before 1980	Puerto Esperanza	(22°46.06'N, 83°47.45'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
Before 1980	Puerto Esperanza	(22°46.06'N, 83°47.91'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
Before 1980	Puerto Esperanza	(22°46.86'N, 83°46.71'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
Before 1980	Arroyos de Mantua	(22°21.24'N, 84°23.92'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1981	Cortés	(22°3.51'N, 83°59.53'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1981	Cortés	(22°2.56'N, 83°59.15'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1982	Arroyos de Mantua	(22°20.75'N, 84°25.08'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1982	Cortés	(22°3.49'N, 83°59.05'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1982	Puerto Esperanza	(22°46.15'N, 83°47.34'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1983	Arroyos de Mantua	(22°19.93'N, 84°24.34'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1983	Arroyos de Mantua	(22°20.68'N, 84°23.96'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1983	Cortés	(22°1.88'N, 83°58.85'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1983	Cortés	(22°2.71'N, 83°58.86'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1983	Cortés	(22°3.01'N, 83°59.72'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1983	Surgidero de Batabanó	(22°40.69'N, 82°18.31'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1983	Surgidero de Batabanó	(22°40.80'N, 82°18.41'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1983	Surgidero de Batabanó	(22°40.83'N, 82°17.94'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1983	Surgidero de Batabanó	(22°40.86'N, 82°18.80'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Arroyos de Mantua	(22°19.49'N, 84°24.40'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Cortés	(22°2.08'N, 83°58.38'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Cortés	(22°2.43'N, 83°59.48'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Cortés	(22°3.41'N, 83°58.32'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Cortés	(22°3.91'N, 83°59.17'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	La Coloma	(22°13.28'N, 83°33.93'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	La Coloma	(22°12.27'N, 83°33.69'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	La Coloma	(22°12.64'N, 83°34.88'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	La Coloma	(22°13.18'N, 83°35.08'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	La Coloma	(22°13.72'N, 83°35.04'W)	C	Sig	N/A	Estrada and Ferrer (1987)	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
1984	La Coloma	(22°12.47'N, 83°34.20'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	La Coloma	(22°13.21'N, 83°34.64'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	La Coloma	(22°12.94'N, 83°35.38'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	La Coloma	(22°12.81'N, 83°33.96'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	La Coloma	(22°13.75'N, 83°34.47'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	La Coloma	(22°14.12'N, 83°34.57'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Puerto Esperanza	(22°46.05'N, 83°47.32'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Puerto Esperanza	(22°46.09'N, 83°47.53'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Surgidero de Batabanó	(22°40.86'N, 82°18.91'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Surgidero de Batabanó	(22°40.80'N, 82°18.13'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Surgidero de Batabanó	(22°40.62'N, 82°18.29'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Surgidero de Batabanó	(22°40.69'N, 82°18.10'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Surgidero de Batabanó	(22°40.83'N, 82°18.12'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Surgidero de Batabanó	(22°40.67'N, 82°18.41'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Surgidero de Batabanó	(22°40.80'N, 82°18.26'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Surgidero de Batabanó	(22°40.81'N, 82°18.15'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Surgidero de Batabanó	(22°40.73'N, 82°18.00'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Surgidero de Batabanó	(22°40.66'N, 82°18.20'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1984	Surgidero de Batabanó	(22°40.74'N, 82°18.12'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1985	Arroyos de Mantua	(22°20.75'N, 84°23.91'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1985	Arroyos de Mantua	(22°20.78'N, 84°23.68'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1985	Arroyos de Mantua	(22°20.73'N, 84°23.77'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1985	Arroyos de Mantua	(22°20.96'N, 84°23.70'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
1985	Arroyos de Mantua	(22°20.68'N, 84°23.89'W)	C	Sig	N/A	Estrada and Ferrer (1987)	
Jun 1986	Mouth of Sagua La Chica River, Villa Clara Province	(22°56.74'N, 80°0.23'W)	C	Sig	1	Ortiz <i>et al.</i> (1992)	Manatee was briefly captured so researchers could collect a copepod off its skin
Before 1988	Ensenada de Caballones, Sancti Spíritus	(21°43.32'N, 79°52.83'W)	C	Cap	1	Domning (1987)	Reported by L.T. Ferrer; male; 310cm long
Between 18 and 28 Jul 1996	Casa del Mar Barge, GTMO	(19°54.90'N, 75°9.42'W)	C	Sig	1	Roca and Sedaghatkish (1998)	
Between 18 and 28 Jul 1996	Casa del Mar Barge, GTMO	(19°54.90'N, 75°9.42'W)	C	Sig	1	Roca and Sedaghatkish (1998)	
Between 18 and 28 Jul 1996	Casa del Mar Barge, GTMO	(19°54.90'N, 75°9.42'W)	C	Sig	1	Roca and Sedaghatkish (1998)	
Between 18 and 28 Jul 1996	Leeward Pier, GTMO	(19°54.65'N, 75°12.03'W)	C	Sig	1	Roca and Sedaghatkish (1998)	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
23 Jul 1996	Deer Point, GTMO	(19°55.42'N, 75°8.70'W)	C	Sig	4	Roca and Sedaghatkish (1998)	
24 Jul 1996	Guantánamo River, GTMO	(19°54.75'N, 75°11.72'W)	C	Sig	1	Roca and Sedaghatkish (1998)	
24 Jul 1996	Off Hospital Cay, GTMO	(19°56.77'N, 75°8.67'W)	C	Sig	2	Roca and Sedaghatkish (1998)	
25 Jul 1996	Casa del Mar barge, GTMO	(19°54.90'N, 75°9.42'W)	C	Sig	1	Roca and Sedaghatkish (1998)	
26 Jul 1996	Between Leeward Channel and Hicacal Beach, GTMO	(19°56.08'N, 75°9.95'W)	C	Sig	5	Roca and Sedaghatkish (1998)	Cow-calf pair
29 Jul 1996	Guantánamo River, GTMO	(19°54.76'N, 75°11.71'W)	C	Sig	1	Roca and Sedaghatkish (1998)	
17 Jun 1999	Caravella Point, GTMO	(19°56.19'N, 75°7.74'W)	C	Sig	1	GTMO unpub. data	
17 Jun 1999	Entrance Channel at Dock of the Bay, GTMO	(19°56.08'N, 75°7.68'W)	C	Sig	1	GTMO unpub. data	
17 Jun 1999	Granadillo Bay, GTMO	(19°57.22'N, 75°7.01'W)	C	Sig	1	GTMO unpub. data	
17 Jun 1999	Leeward Point, GTMO	(19°54.70'N, 75°11.36'W)	C	Sig	2	GTMO unpub. data	One calf
17 Jun 1999	Salinas Point, GTMO	(19°58.15'N, 75°9.00'W)	C	Sig	1	GTMO unpub. data	
28 Sept 1999	Near Security Boat Lock, GTMO	(19°55.11'N, 75°8.60'W)	C	Sig	2	GTMO unpub. data	
18 Nov 1999	North of Leeward Point, GTMO	(19°12'N, 75°12'W)	C	Str	1	GTMO unpub. data	
30 Mar 2001	Glass Beach, GTMO	(19°54.76'N, 75°10.02'W)	C	Sig	1	GTMO unpub. data	
26 Apr 2001	Hicacal Beach, GTMO	(19°56.02'N, 75°10.76'W)	C	Sig	1	GTMO unpub. data	
26 Apr 2001	Guantánamo River, GTMO	(19°54.78'N, 75°11.73'W)	C	Sig	1	GTMO unpub. data	
29 Apr 2001	Fisherman's Point, GTMO	(19°55.20'N, 75°9.70'W)	C	Sig	1	GTMO unpub. data	
29 Apr 2001	Guantánamo River, GTMO	(19°54.80'N, 75°11.75'W)	C	Sig	1	GTMO unpub. data	
29 Apr 2001	Salinas Point, GTMO	(19°58.15'N, 75°9.12'W)	C	Sig	2	GTMO unpub. data	One calf
18 Jun 2001	Hicacal Beach, GTMO	(19°56.00'N, 75°10.80'W)	C	Sig	5	GTMO unpub. data	Two calves
20 Jul 2001	Caracoles Point, GTMO	(19°56.43'N, 75°9.02'W)	C	Sig	2	GTMO unpub. data	
25 Jul 2001	Hicacal Beach, GTMO	(19°56.05'N, 75°10.75'W)	C	Sig	3	GTMO unpub. data	
20 Oct 2001	Conde Beach, GTMO	(19°55.10'N, 75°8.63'W)	C	Sig	1	GTMO unpub. data	
20 Oct 2001	Security Boat Shed, GTMO	(19°55.11'N, 75°8.60'W)	C	Sig	1	GTMO unpub. data	
26 Oct 2001	Guantánamo River, GTMO	(19°54.78'N, 75°11.74'W)	C	Sig	1	GTMO unpub. data	
22 Apr 2002	Hicacal Beach, GTMO	(19°56.05'N, 75°10.71'W)	C	Sig	1	GTMO unpub. data	
22 Apr 2002	Hicacal Beach, GTMO	(19°56.02'N, 75°10.81'W)	C	Sig	4	GTMO unpub. data	One calf
23 May 2002	Guantánamo River, GTMO	(19°54.79'N, 75°11.73'W)	C	Sig	1	GTMO unpub. data	
23 May 2002	Corinaso Cove, GTMO	(19°54.80'N, 75°9.31'W)	C	Sig	1	GTMO unpub. data	
19 Jul 2002	Corinaso Cove, GTMO	(19°54.77'N, 75°9.37'W)	C	Sig	4	GTMO unpub. data	Two calves
28 Jul 2002	MWR Marina Ramp, GTMO	(19°55.56'N, 75°8.33'W)	C	Sig	3	GTMO unpub. data	One calf
1 Aug 2002	Corinaso Cove, GTMO	(19°54.78'N, 75°9.37'W)	C	Sig	2	GTMO unpub. data	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
17 Aug 2002	Hicacal Beach, GTMO	(19°56.03'N, 75°10.77'W)	C	Sig	1	GTMO unpub. data	
25 Aug 2002	Guantánamo River, GTMO	(19°54.78'N, 75°11.72'W)	C	Sig	3	GTMO unpub. data	One calf
2003	Caravella Point, GTMO	(19°56.19'N, 75°7.74'W)	C	Sig	1	GTMO unpub. data	
2003	Conde Beach, GTMO	(19°55.71'N, 75°11.40'W)	C	Sig	6	GTMO unpub. data	Two calves
2003	Conde Beach, GTMO	(19°55.79'N, 75°11.26'W)	C	Sig	1	GTMO unpub. data	
2003	Desal Plant, GTMO	(19°55.13'N, 75°9.49'W)	C	Sig	2	GTMO unpub. data	One calf
2003	Desal Plant, GTMO	(19°55.11'N, 75°9.50'W)	C	Sig	2	GTMO unpub. data	One calf
2003	Fisherman's Point, GTMO	(19°55.16'N, 75°9.85'W)	C	Sig	1	GTMO unpub. data	
2003	Fisherman's Point, GTMO	(19°55.19'N, 75°9.78'W)	C	Sig	2	GTMO unpub. data	One calf
2003	Guantánamo River, GTMO	(19°54.80'N, 75°11.74'W)	C	Sig	1	GTMO unpub. data	
2003	Hicacal Beach, GTMO	(19°56.04'N, 75°10.73'W)	C	Sig	7	GTMO unpub. data	Three calves
2003	St. Nicholas Channel, GTMO	(19°54.74'N, 75°11.56'W)	C	Sig	1	GTMO unpub. data	
2003	St. Nicholas Channel, GTMO	(19°54.78'N, 75°11.54'W)	C	Sig	1	GTMO unpub. data	
2003	St. Nicholas Channel, GTMO	(19°54.73'N, 75°11.58'W)	C	Sig	2	GTMO unpub. data	One calf
19 Feb 2003	St. Nicholas Channel, GTMO	(19°54.75'N, 75°11.53'W)	C	Sig	3	GTMO unpub. data	
23 Mar 2003	Conde Beach, GTMO	(19°55.70'N, 75°11.44'W)	C	Sig	4	GTMO unpub. data	One calf
31 Mar 2003	Granadillo Bay, GTMO	(19°57.22'N, 75°7.01'W)	C	Sig	1	GTMO unpub. data	
9 Apr 2003	Guantánamo River, GTMO	(19°54.79'N, 75°11.75'W)	C	Sig	1	GTMO unpub. data	
21 Apr 2003	Conde Beach, GTMO	(19°55.74'N, 75°11.35'W)	C	Sig	4	GTMO unpub. data	
22 Apr 2003	Conde Beach, GTMO	(19°55.76'N, 75°11.28'W)	C	Sig	2	GTMO unpub. data	
22 Apr 2003	Guantánamo River, GTMO	(19°54.81'N, 75°11.76'W)	C	Sig	2	GTMO unpub. data	
25 Apr 2003	St. Nicholas Channel, GTMO	(19°54.73'N, 75°11.53'W)	C	Sig	2	GTMO unpub. data	
4 May 2003	Fisherman's Point, GTMO	(19°55.21'N, 75°9.63'W)	C	Sig	1	GTMO unpub. data	
4 May 2003	St. Nicholas Channel, GTMO	(19°54.76'N, 75°11.57'W)	C	Sig	2	GTMO unpub. data	
14 Nov 2004	Entrance Channel at Dock of the Bay, GTMO	(19°56.06'N, 75°7.68'W)	C	Sig	1	GTMO unpub. data	
25 Sept 2005	Guantánamo River, GTMO	(19°54.79'N, 75°11.72'W)	C	Sig	1	GTMO unpub. data	
25 Sept 2005	St. Nicholas Channel, GTMO	(19°54.76'N, 75°11.54'W)	C	Sig	1	GTMO unpub. data	
2 March 2006	Near Hospital Cove, GTMO	(19°56.46'N, 75°7.16'W)	C	Sig	1	GTMO unpub. data	
11 March 2006	Near St. Nicholas Channel, GTMO	(19°54.59'N, 75°11.34'W)	C	Sig	1	GTMO unpub. data	
12 March 2006	Near Officer Landing, GTMO	(19°55.39'N, 75°8.43'W)	C	Sig	1	GTMO unpub. data	
12 March 2006	Near Pier 33, GTMO	N/A	C	Sig	1	GTMO unpub. data	
14 March 2006	Near Marker 8, GTMO	(19°56.07'N, 75°8.90'W)	C	Sig	1	GTMO unpub. data	
29 March 2006	Near Officer Landing, GTMO	(19°55.39'N, 75°8.43'W)	C	Sig	1	GTMO unpub. data	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
31 March 2006	Near Officer Landing, GTMO	(19°55.39'N, 75°8.43'W)	C	Sig	1	GTMO unpub. data	
4 April 2006	Near St. Nicholas Channel, GTMO	(19°54.56'N, 75°11.39'W)	C	Sig	1	GTMO unpub. data	
13 April 2006	Near Small Craft Channel, GTMO	(19°55.17'N, 75°8.71'W)	C	Sig	1	GTMO unpub. data	
13 April 2006	Near Boat Shed, GTMO	(19°56.11'N, 75°8.61'W)	C	Sig	1	GTMO unpub. data	
16 April 2006	Near Buoy 3, GTMO	(19°55.49'N, 75°10.30'W)	C	Sig	1	GTMO unpub. data	
18 April 2006	Near St. Nicholas Channel, GTMO	(19°54.63'N, 75°11.38'W)	C	Sig	1	GTMO unpub. data	
21 April 2006	Near Buoy 5, GTMO	(19°55.85'N, 75°10.14'W)	C	Sig	1	GTMO unpub. data	
2 May 2006	Near St. Nicholas Channel, GTMO	(19°54.59'N, 75°11.37'W)	C	Sig	3	GTMO unpub. data	
7 May 2006	Near St. Nicholas Channel, GTMO	(19°54.58'N, 75°11.42'W)	C	Sig	2	GTMO unpub. data	
10 May 2006	St. Nicholas Channel, GTMO	(19°54.61'N, 75°11.39'W)	C	Sig	1	GTMO unpub. data	
11 May 2006	St. Nicholas Channel, GTMO	(19°54.58'N, 75°11.39'W)	C	Sig	2	GTMO unpub. data	
18 May 2006	Mouth of St. Nicholas Channel, GTMO	(19°54.57'N, 75°11.41'W)	C	Sig	2	GTMO unpub. data	
18 May 2006	Water Gate near Hospital Cove, GTMO	N/A	C	Sig	2	GTMO unpub. data	
18 May 2006	Mouth of St. Nicholas Channel, GTMO	(19°54.55'N, 75°11.41'W)	C	Sig	4	GTMO unpub. data	
20 May 2006	St. Nicholas Channel, GTMO	(19°54.67'N, 75°11.39'W)	C	Sig	1	GTMO unpub. data	
24 May 2006	Near St. Nicholas Channel, GTMO	(19°54.66'N, 75°11.41'W)	C	Sig	1	GTMO unpub. data	
26 May 2006	St. Nicholas Channel, GTMO	(19°54.59'N, 75°11.38'W)	C	Sig	1	GTMO unpub. data	
27 May 2006	St. Nicholas Channel, GTMO	(19°54.59'N, 75°11.43'W)	C	Sig	1	GTMO unpub. data	
30 May 2006	St. Nicholas Channel, GTMO	(19°54.56'N, 75°11.43'W)	C	Sig	1	GTMO unpub. data	
4 June 2006	Near Buoy 1, GTMO	(19°54.76'N, 75°10.35'W)	C	Sig	1	GTMO unpub. data	
8 June 2006	Near St. Nicholas Channel, GTMO	(19°54.56'N, 75°11.35'W)	C	Sig	1	GTMO unpub. data	
11 June 2006	Near Corinaso Point/Cove, GTMO	(19°55.09'N, 75°9.25'W)	C	Sig	2	GTMO unpub. data	
11 June 2006	Near St. Nicholas Channel, GTMO	(19°54.52'N, 75°11.42'W)	C	Sig	1	GTMO unpub. data	
15 June 2006	Near Hicacle Beach, GTMO	(19°56.07'N, 75°10.70'W)	C	Sig	1	GTMO unpub. data	
17 June 2006	St. Nicholas Channel, GTMO	(19°54.52'N, 75°11.38'W)	C	Sig	1	GTMO unpub. data	
20 June 2006	Near Buoy 2, GTMO	(19°54.61'N, 75°11.38'W)	C	Sig	1	GTMO unpub. data	
22 June 2006	Near St. Nicholas Channel, GTMO	(19°54.61'N, 75°11.37'W)	C	Sig	1	GTMO unpub. data	
22 June 2006	Near St. Nicholas Channel, GTMO	(19°54.68'N, 75°11.41'W)	C	Sig	1	GTMO unpub. data	
24 June 2006	St. Nicholas Channel, GTMO	(19°54.60'N, 75°11.32'W)	C	Sig	1	GTMO unpub. data	
24 June 2006	St. Nicholas Channel, GTMO	(19°54.64'N, 75°11.34'W)	C	Sig	1	GTMO unpub. data	
26 June 2006	St. Nicholas Channel, GTMO	(19°54.58'N, 75°11.34'W)	C	Sig	1	GTMO unpub. data	
26 June 2006	Leeward Ferry Landing, GTMO	(19°54.60'N, 75°11.41'W)	C	Sig	1	GTMO unpub. data	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
29 June 2006	St. Nicholas Channel, GTMO	(19°54.61'N, 75°11.35'W)	C	Sig	1	GTMO unpub. data	
2 July 2006	Cable Crossing, GTMO	(19°54.46'N, 75°10.09'W)	C	Sig	1	GTMO unpub. data	
3 July 2006	MWR Marina, GTMO	(19°55.56'N, 75°8.34'W)	C	Sig	1	GTMO unpub. data	
4 July 2006	Near Hospital Cay, GTMO	(19°56.77'N, 75°8.67'W)	C	Sig	1	GTMO unpub. data	
4 July 2006	Near St. Nicholas Channel, GTMO	(19°54.52'N, 75°11.44'W)	C	Sig	1	GTMO unpub. data	
5 July 2006	St. Nicholas Channel, GTMO	(19°54.53'N, 75°11.35'W)	C	Sig	1	GTMO unpub. data	
6 July 2006	St. Nicholas Channel, GTMO	(19°54.53'N, 75°11.39'W)	C	Sig	1	GTMO unpub. data	
9 July 2006	Pier 33, GTMO	N/A	C	Sig	1	GTMO unpub. data	
9 July 2006	Industrial Area, GTMO	(19°55.23'N, 75°9.02'W)	C	Sig	1	GTMO unpub. data	
11 July 2006	Near St. Nicholas Channel, GTMO	(19°54.64'N, 75°11.38'W)	C	Sig	1	GTMO unpub. data	
22 July 2006	St. Nicholas Channel, GTMO	(19°54.65'N, 75°11.36'W)	C	Sig	1	GTMO unpub. data	
23 July 2006	Mouth of Guantánamo River, GTMO	(19°54.74'N, 75°11.65'W)	C	Sig	1	GTMO unpub. data	
23 July 2006	Romance Cove, GTMO	(19°54.41'N, 75°10.04'W)	C	Sig	1	GTMO unpub. data	
23 July 2006	Mouth of Guantánamo River, GTMO	(19°54.72'N, 75°11.65'W)	C	Sig	1	GTMO unpub. data	
27 July 2006	Officer Landing, GTMO	(19°55.39'N, 75°8.43'W)	C	Sig	1	GTMO unpub. data	
28 July 2006	Near Boat Shed, GTMO	(19°56.11'N, 75°8.61'W)	C	Sig	1	GTMO unpub. data	
30 July 2006	St. Nicholas Channel, GTMO	(19°54.58'N, 75°11.41'W)	C	Sig	1	GTMO unpub. data	
31 July 2006	Near Deer Point, GTMO	(19°55.16'N, 75°8.42'W)	C	Sig	1	GTMO unpub. data	
5 Aug 2006	Near CG Boathouse, GTMO	N/A	C	Sig	1	GTMO unpub. data	
5 Aug 2006	Mouth of Guantánamo River, GTMO	(19°54.73'N, 75°11.61'W)	C	Sig	1	GTMO unpub. data	
11 Aug 2006	Mouth of St. Nicholas Channel, GTMO	(19°54.67'N, 75°11.35'W)	C	Sig	1	GTMO unpub. data	
11 Aug 2006	Mouth of St. Nicholas Channel, GTMO	(19°54.68'N, 75°11.38'W)	C	Sig	1	GTMO unpub. data	
14 Aug 2006	St. Nicholas Channel, GTMO	(19°54.56'N, 75°11.38'W)	C	Sig	1	GTMO unpub. data	
15 Aug 2006	Near St. Nicholas Channel, GTMO	(19°54.56'N, 75°11.32'W)	C	Sig	1	GTMO unpub. data	
15 Aug 2006	Near Guantánamo River, GTMO	(19°54.64'N, 75°11.95'W)	C	Sig	1	GTMO unpub. data	
5 Aug 2006	Near Small Craft Channel, GTMO	(19°55.17'N, 75°8.71'W)	C	Sig	1	GTMO unpub. data	
20 Aug 2006	Near Buoy 4, GTMO	(19°55.13'N, 75°10.14'W)	C	Sig	1	GTMO unpub. data	
20 Aug 2006	Near Romance Cove, GTMO	(19°54.41'N, 75°10.04'W)	C	Sig	1	GTMO unpub. data	
23 Aug 2006	Guantánamo River, GTMO	(19°54.70'N, 75°12.01'W)	C	Sig	1	GTMO unpub. data	
26 Aug 2006	Near Glass Beach, GTMO	(19°54.53'N, 75°10.01'W)	C	Sig	1	GTMO unpub. data	
31 Aug 2006	Near St. Nicholas Channel, GTMO	(19°54.62'N, 75°11.36'W)	C	Sig	1	GTMO unpub. data	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
4 Sept 2006	Guantánamo River, GTMO	(19°54.69'N, 75°11.96'W)	C	Sig	1	GTMO unpub. data	
5 Sept 2006	Mouth of Guantánamo River, GTMO	(19°54.73'N, 75°11.68'W)	C	Sig	1	GTMO unpub. data	
7 Sept 2006	St. Nicholas Channel, GTMO	(19°54.47'N, 75°11.44'W)	C	Sig	1	GTMO unpub. data	
9 Sept 2006	Near Glass Beach, GTMO	(19°54.53'N, 75°10.01'W)	C	Sig	1	GTMO unpub. data	
9 Sept 2006	Philips Dive Park, GTMO	(19°53.90'N, 75°9.97'W)	C	Sig	1	GTMO unpub. data	
10 Sept 2006	St. Nicholas Channel, GTMO	(19°54.47'N, 75°11.41'W)	C	Sig	1	GTMO unpub. data	
13 Sept 2006	Guantánamo River, GTMO	(19°54.67'N, 75°12.20'W)	C	Sig	1	GTMO unpub. data	
14 Sept 2006	Near Granadillo Point, GTMO	(19°57.08'N, 75°7.08'W)	C	Sig	1	GTMO unpub. data	
15 Sept 2006	St. Nicholas Channel, GTMO	(19°54.49'N, 75°11.39'W)	C	Sig	1	GTMO unpub. data	
16 Sept 2006	St. Nicholas Channel, GTMO	(19°54.46'N, 75°11.38'W)	C	Sig	1	GTMO unpub. data	
21 Sept 2006	St. Nicholas Channel, GTMO	(19°54.48'N, 75°11.36'W)	C	Sig	1	GTMO unpub. data	
21 Sept 2006	Fisherman's Point, GTMO	(19°55.11'N, 75°9.51'W)	C	Sig	1	GTMO unpub. data	
26 Sept 2006	MWR Marina, GTMO	(19°55.56'N, 75°8.34'W)	C	Sig	1	GTMO unpub. data	
28 Sept 2006	Near Buoy 3, GTMO	(19°55.49'N, 75°10.30'W)	C	Sig	1	GTMO unpub. data	
28 Sept 2006	Near Pier 33, GTMO	N/A	C	Sig	1	GTMO unpub. data	
30 Sept 2006	MWR Marina, GTMO	(19°55.56'N, 75°8.34'W)	C	Sig	1	GTMO unpub. data	
1 Oct 2006	Near Guantánamo River, GTMO	(19°54.68'N, 75°12.04'W)	C	Sig	1	GTMO unpub. data	
4 Oct 2006	Guantánamo River, GTMO	(19°54.69'N, 75°12.08'W)	C	Sig	1	GTMO unpub. data	
6 Oct 2006	St. Nicholas Channel, GTMO	(19°54.44'N, 75°11.43'W)	C	Sig	1	GTMO unpub. data	
6 Oct 2006	Leeward Landing, GTMO	(19°54.59'N, 75°11.42'W)	C	Sig	1	GTMO unpub. data	
8 Oct 2006	Near Buoy 1, GTMO	(19°54.76'N, 75°10.35'W)	C	Sig	1	GTMO unpub. data	
9 Oct 2006	Near Ferry Landing, GTMO	(19°55.16'N, 75°8.42'W)	C	Sig	1	GTMO unpub. data	
12 Oct 2006	Near St. Nicholas Channel, GTMO	(19°54.40'N, 75°11.47'W)	C	Sig	1	GTMO unpub. data	
14 Oct 2006	Between Buoy 1 and 2, GTMO	(19°54.57'N, 75°10.75'W)	C	Sig	1	GTMO unpub. data	
16 Oct 2006	St. Nicholas Channel, GTMO	(19°54.42'N, 75°11.40'W)	C	Sig	1	GTMO unpub. data	
17 Oct 2006	Guantánamo River, GTMO	(19°54.76'N, 75°12.06'W)	C	Sig	1	GTMO unpub. data	
20 Oct 2006	St. Nicholas Channel, GTMO	(19°54.43'N, 75°11.37'W)	C	Sig	1	GTMO unpub. data	
23 Oct 2006	St. Nicholas Channel, GTMO	(19°54.39'N, 75°11.43'W)	C	Sig	1	GTMO unpub. data	
26 Oct 2006	St. Nicholas Channel, GTMO	(19°54.40'N, 75°11.39'W)	C	Sig	1	GTMO unpub. data	
28 Oct 2006	St. Nicholas Channel, GTMO	(19°54.45'N, 75°11.35'W)	C	Sig	1	GTMO unpub. data	
29 Oct 2006	Guantánamo River, GTMO	(19°54.76'N, 75°12.21'W)	C	Sig	1	GTMO unpub. data	
30 Oct 2006	Near Mouth of Evans Point Channel, GTMO	(19°55.16'N, 75°8.42'W)	C	Sig	1	GTMO unpub. data	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
31 Oct 2006	St. Nicholas Channel, GTMO	(19°54.41'N, 75°11.43'W)	C	Sig	1	GTMO unpub. data	
5 Nov 2006	Near Buoy 4, GTMO	(19°55.13'N, 75°10.14'W)	C	Sig	1	GTMO unpub. data	
5 Nov 2006	St. Nicholas Channel, GTMO	(19°54.40'N, 75°11.38'W)	C	Sig	1	GTMO unpub. data	
9 Nov 2006	St. Nicholas Channel, GTMO	(19°54.38'N, 75°11.41'W)	C	Sig	1	GTMO unpub. data	
15 Nov 2006	Near Day Marker 5, GTMO	N/A	C	Sig	1	GTMO unpub. data	
19 Nov 2006	Near Romance Cove, GTMO	(19°54.41'N, 75°10.04'W)	C	Sig	1	GTMO unpub. data	
13 Jan 2007	St. Nicholas Channel, GTMO	(19°54.39'N, 75°11.48'W)	C	Sig	1	GTMO unpub. data	
18 Jan 2007	Camilo Cienfuegos Power Plant, Santa Cruz del Norte	(22°13.80'N, 81°55.83'W)	C	Sig	2	Alvarez-Alemán <i>et al.</i> (2010)	Cow-calf pair; photographs taken; cow identified as CR131
27 Jan 2007	Near Industrial Area, GTMO	(19°55.23'N, 75°9.02'W)	C	Sig	2	GTMO unpub. data	
3 Feb 2007	Camilo Cienfuegos Power Plant, Santa Cruz del Norte	(22°13.80'N, 81°55.83'W)	C	Sig	2	Alvarez-Alemán <i>et al.</i> (2010)	Photo-ID matched to cow-calf pair from previous Camilo Cienfuegos record
11 Feb 2007	Mouth of St. Nicholas Channel, GTMO	(19°54.37'N, 75°11.44'W)	C	Sig	1	GTMO unpub. data	
15 Feb 2007	Near Hospital Landing, GTMO	N/A	C	Sig	1	GTMO unpub. data	
25 Mar 2007	Mouth of Guantánamo River, GTMO	(19°54.73'N, 75°11.79'W)	C	Sig	1	GTMO unpub. data	
5 Apr 2007	Camilo Cienfuegos Power Plant, Santa Cruz del Norte	(22°13.80'N, 81°55.83'W)	C	Sig	2	Alvarez-Alemán <i>et al.</i> (2010)	Photo-ID matched to cow-calf pair from previous Camilo Cienfuegos record
11 Apr 2007	St. Nicholas Channel, GTMO	(19°54.37'N, 75°11.38'W)	C	Sig	1	GTMO unpub. data	
4 May 2007	Near Buoy 4, GTMO	(19°55.13'N, 75°10.14'W)	C	Sig	1	GTMO unpub. data	
27 May 2007	Near Buoy 1, GTMO	(19°54.76'N, 75°10.35'W)	C	Sig	1	GTMO unpub. data	
5 Jun 2007	St. Nicholas Channel, GTMO	(19°54.50'N, 75°11.34'W)	C	Sig	1	GTMO unpub. data	
12 Jun 2007	Guantánamo River, GTMO	(19°54.72'N, 75°11.75'W)	C	Sig	1	GTMO unpub. data	
28 Jun 2007	MWR Marina, GTMO	(19°55.56'N, 75°8.34'W)	C	Sig	2	GTMO unpub. data	
1 Jul 2007	South of Buoy 6, GTMO	(19°55.29'N, 75°9.65'W)	C	Sig	1	GTMO unpub. data	
6 Jul 2007	Near St. Nicholas Point, GTMO	N/A	C	Sig	1	GTMO unpub. data	
14 Jul 2007	Near Hospital Cay, GTMO	(19°56.77'N, 75°8.67'W)	C	Sig	2	GTMO unpub. data	
17 Jul 2007	Outside St. Nicholas Channel, GTMO	N/A	C	Sig	1	GTMO unpub. data	
12 Aug 2007	St. Nicholas Channel, GTMO	(19°54.38'N, 75°11.50'W)	C	Sig	1	GTMO unpub. data	
5 Sept 2007	Between Buoy 3 and 4, GTMO	(19°54.89'N, 75°10.75'W)	C	Sig	1	GTMO unpub. data	
11 Sept 2007	St. Nicholas Channel, GTMO	(19°54.52'N, 75°11.30'W)	C	Sig	1	GTMO unpub. data	
8 Oct 2007	St. Nicholas Channel, GTMO	(19°54.70'N, 75°11.39'W)	C	Sig	1	GTMO unpub. data	
18 Oct 2007	Near St. Nicholas Point, GTMO	N/A	C	Sig	1	GTMO unpub. data	
21 Oct 2007	St. Nicholas Channel, GTMO	(19°54.47'N, 75°11.32'W)	C	Sig	1	GTMO unpub. data	
27 Oct 2007	Near Leeward Ferry Landing, GTMO	(19°54.62'N, 75°11.39'W)	C	Sig	1	GTMO unpub. data	

Species/Date	Location	Position	Status ^a	Type ^b	Group Size	Source ^c	Comments
27 Oct 2007	St. Nicholas Channel, GTMO	(19°54.58'N, 75°11.36'W)	C	Sig	1	GTMO unpub. data	
28 Oct 2007	Mouth of Guantánamo River, GTMO	(19°54.58'N, 75°11.36'W)	C	Sig	1	GTMO unpub. data	
7 Nov 2007	Near Buoy 3, St. Nicholas Channel, GTMO	(19°54.60'N, 75°11.40'W)	C	Sig	1	GTMO unpub. data	
24 Nov 2007	Santa Bargo, GTMO	N/A	C	Sig	1	GTMO unpub. data	
3 Dec 2007	St. Nicholas Channel, GTMO	(19°54.41'N, 75°11.50'W)	C	Sig	1	GTMO unpub. data	
6 Dec 2007	St. Nicholas Channel, GTMO	(19°54.43'N, 75°11.45'W)	C	Sig	1	GTMO unpub. data	
10 Dec 2007	St. Nicholas Channel, GTMO	(19°54.38'N, 75°11.53'W)	C	Sig	1	GTMO unpub. data	
31 Dec 2007	MWR Marina, GTMO	(19°55.56'N, 75°8.34'W)	C	Sig	1	GTMO unpub. data	
6 Jan 2008	HD9, GTMO	N/A	C	Sig	1	GTMO unpub. data	
9 Jan 2008	Fisherman's Point, GTMO	(19°55.10'N, 75°9.44'W)	C	Sig	1	GTMO unpub. data	
9 Jan 2008	Mouth of Guantánamo River, GTMO	(19°54.71'N, 75°11.71'W)	C	Sig	1	GTMO unpub. data	
13 Jan 2008	St. Nicholas Channel, GTMO	(19°54.50'N, 75°11.37'W)	C	Sig	1	GTMO unpub. data	

PINNIPEDIA							
<i>Monachus tropicalis</i>							
ca. 1520	Arrecifés Viboras	(21°40'N, 79°57'W)	P	Cap	N/A	Díaz Del Castillo (1912)	
1877 – 1878 (winter)	Isla de Juventud	(22°08'N, 82°29'W)	C	Cap	N/A	Allen (1880)	
1883	Habana	(23°08'N, 82°22'W)	C	Cap	1	Allen (1887); Elliott (1884)	
1930s	Baracoa	(20°21'N, 74°30'W)	C	Sig	N/A	Campbell (1978)	
1930s	Santiago	(20°00'N, 75°51'W)	C	Sig	N/A	Campbell (1978)	
Unidentified pinniped							
1987	Off southern coast of Cuba	N/A	C	Sig	1	Mignucci-Giannoni and Odell (2001)	Possible hooded seal

Units are abbreviated:

meter (m), centimeter (cm), circa (ca.)

Other abbreviations:

N/A – information not available;

POP – Pelagic Observer Program;

GTMO – U.S. Naval Station Guantánamo Bay;

USNM – Smithsonian Institution National Museum of Natural History (United States National Museum), Washington, D.C.

^aStatus/verification of record: C=Confirmed; P=Possible; D=Doubtful

^bType of record: Sig=Sighting; Str=Stranding; Cap=Capture; Det=Tagging Detection. Note that all osteological records are listed as strandings, and captures include bycatch and whaling records.

^cOnly primary sources are listed for each record. Secondary sources are also included if they contain specific information that was not included in the primary source or if the primary source could not be found.

^dGuitart, D., Academia de Ciencias Tecnología y Medio Ambiente de Cuba, pers. comm., 1998 and May 2005.

^eCarrillo, E. and Echemendía J., La Cooperativa de Pesca Caibarien Villa Clara, pers. comm., July 1997.

^fCuba news from Radio Havana Cuba. Humpback whale dies off Cuban coast. Accessed 26 April 2008. http://www.radiohc.org/Distributions/Radio_Havana_English/.1999/99_jan/rhc-eng-01.20.99.

^gDíaz Fernández, R., Centro de Investigaciones Marinas, Universidad de la Habana, pers. comm., 7 August 2006.

^hCuba news from Radio Havana Cuba. Whales spotted on Cuba's southern coast. Accessed 8 November 2008. http://www.radiohc.org/Distributions/Radio_Havana_English/.2000/2000_jun/Radio_Havana_Cuba-19_June_2000_22:00.

ⁱGonzález, O., Ministerio de Ciencia Tecnología y Medio Ambiente (CITMA) de Cayo Coco, pers. comm., August 2002.

^jYáñez, A., Patrón del Catamarán de Turismo DODY, pers. comm., February 2005.

^kMoreno, F. and Carvajal, A., Patrón y Maquinista del Yate de Turismo Marlin, pers. comm., April 2006.

^lBallenas frente a las costas de Baracoa. 201 Lecturas by Soler Costafreda, A. Accessed 13 March 2008. www.portal.jovenclub.cu.

^mVarona (1965) initially reported this specimen as a sei whale; Mead (1977) later determined it to be a Bryde's whale based on descriptions of the rostrum and close examination of the baleen.

ⁿSoberat, A., Acuario de Baconao, Santiago de Cuba, pers. comm., 1997.

^oLauranzon Meléndez, B., Museo de Historia Natural de Santiago de Cuba, pers. comm., 29 April 2009.

^pCárdenas, J., Patrón del Velero Ying Yang de Puerto Sol, pers. comm., April 2002.

^qViña, N. and Tamayo, J.A., Centro Oriental de Ecosistemas y Biodiversidad (BIOECO), pers. comm., February 2006.

^rKenney, R., University of Rhode Island, pers. comm., 22 July 2009.

^sTamaño, J.A., Centro de Biodiversidad de Ecosistemas Costeros de la zona Oriental de Cuba, pers. comm., February 2004.

[†]Romero, S., Acuario de Baconao, Santiago de Cuba, pers. comm., September 2007.

[‡]Anido, T., Academia de Ciencias Tecnología y Medio Ambiente de la Isla de la Juventud, pers. comm., December 2006.

[†]Romero, Z., Acuario de Baconao, Santiago de Cuba, pers. comm., 2006 and 2007.

[‡]Data were geo-referenced from the discernible sightings in the figures included in Pérez-Cao (2004) and Álvarez Alemán *et al.* (2009) since exact coordinates of these records were not available. No exact dates or group sizes could be matched to these records.

[‡]Echemendía J., La Cooperativa de Pesca Caibarien Villa Clara, pers. comm., 2006.

[†]Guevara, C., Acuario Nacional de Cuba, pers. comm., 2004.

[†]Martínez, E., Patrón de la embarcación Veneciana II de la Marina de Tarara, Habana, pers. comm., 2005.

[†]Isla, V., Acuario Nacional de Cuba, pers. comm., 2008.

[†]Rivera, J., Mundo Latino, Habana, pers. comm., 2008.

[†]Title of article incorrectly refers to pilot whales but the body of the article discusses "*Grampus griseus*". This record is discussed further in the text.

[†]Sánchez, L., Acuario Nacional de Cuba, pers. comm., 1997.