



Summary of Cases in 2016

Background

Pursuant to a letter of arrangement dated May 4, 2011 and September 16, 2015 respectively, Ocean Park Conservation Foundation, Hong Kong (OPCFHK) and the Agriculture, Fisheries and Conservation Department (AFCD) collaborate to respond and investigate marine mammal strandings in Hong Kong waters. This arrangement aims to enhance the existing cooperation for stranding investigations that has existed since May 2006.

The objectives of the arrangement include formation of a response team to respond and study stranded marine mammals found in Hong Kong. Whilst the AFCD holds the ultimate responsibility for handling any marine mammal stranding in Hong Kong waters, OPCFHK assists AFCD with the provision of volunteers and professional responders, veterinary care, animal transportation, animal husbandry and necropsy. Staff and resources of OPCFHK and Ocean Park Corporation (OPC) are engaged under this collaboration to fulfil the objectives of the arrangement.

As of April 1, 2014, collaboration between OPCFHK and The Hong Kong Polytechnic University (HKPU) was also established to facilitate Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) scanning of selected dolphin and porpoise carcasses prior to necropsy, when feasible. This collaboration acts as a supplement to the pathological investigation and is intended to give investigators initial or additional information to help understand the causes of death for those cetaceans.

Findings

In 2016, a total of 27 stranding reports were received by OPCFHK stranding team. 25 stranding cases were confirmed and attended by Ocean Park Conservation Foundation Hong Kong (OPCFHK) stranding team and carcasses of another 2 stranding cases were unrecovered after search. From the 25 carcasses recovered, 5 were Indo-Pacific humpback dolphins, or Chinese white dolphins (*Sousa chinensis*), 17 were Indo-Pacific finless porpoises (*Neophocaena phocaenoides*), two **pantropical spotted dolphin** (*Stenella attenuata*) and one **Dwarf Sperm Whale** (*Kogia sima*). A total of 1 Indo-Pacific humpback dolphin, 3 Indo-Pacific finless porpoise and 1 (*Stenella attenuata*) calves were found.

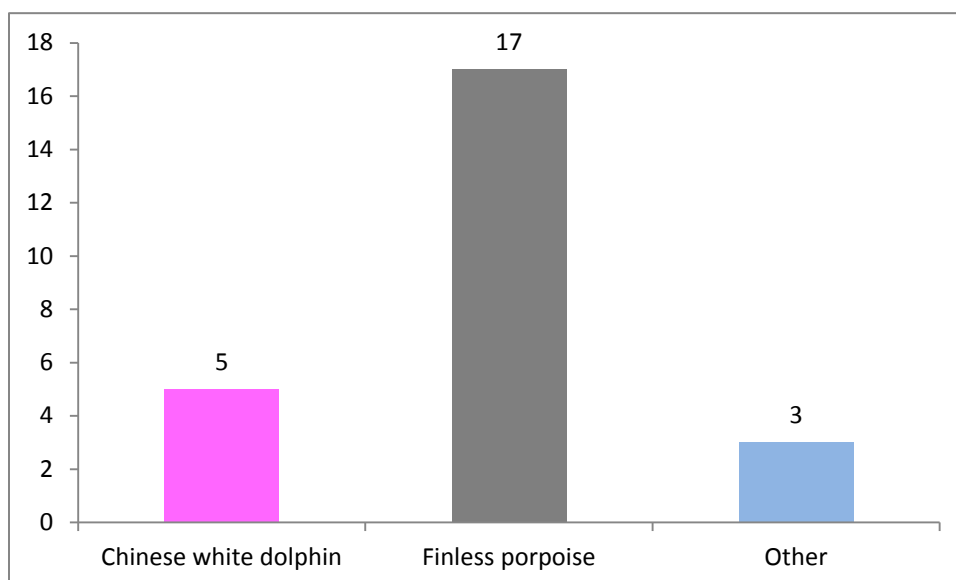


Fig. 1 Total number of different species of confirmed stranding cases in 2016

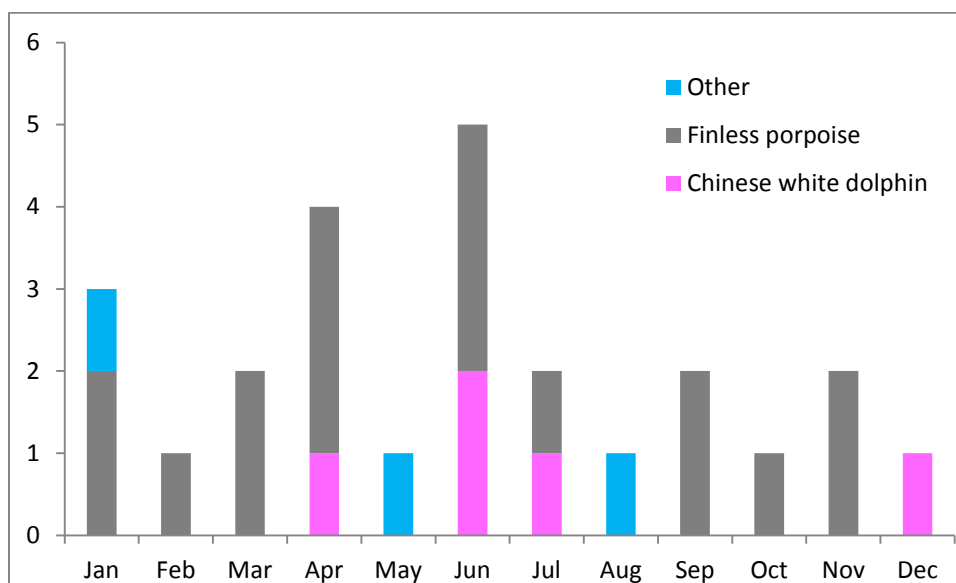


Fig. 2 Total number of confirmed stranding cases in 2016 in different months

Gender

Species	Female	Male	Undetermined	Total
Finless porpoise	9	6	2	17
Chinese white dolphin	0	2	3	5
Pantropical spotted dolphin	0	1	1	2
Dwarf sperm whale	0	1	0	1
Total	9	10	6	25

Table 1 Genders of different species of cetacean stranded in 2016

In order to understand their population structure, reproduction ability and possible gender-specific disease, it is important to know the gender of stranded cetacean. Amongst the recovered Chinese white dolphin, two were male and three were too decomposed to determine their gender. For finless porpoise, nine were female, six were male and two were too decomposed to determine. Two *Stenella attenuate* were found, one was male and one was too decomposed to determine. The *Kogia sima* was male.

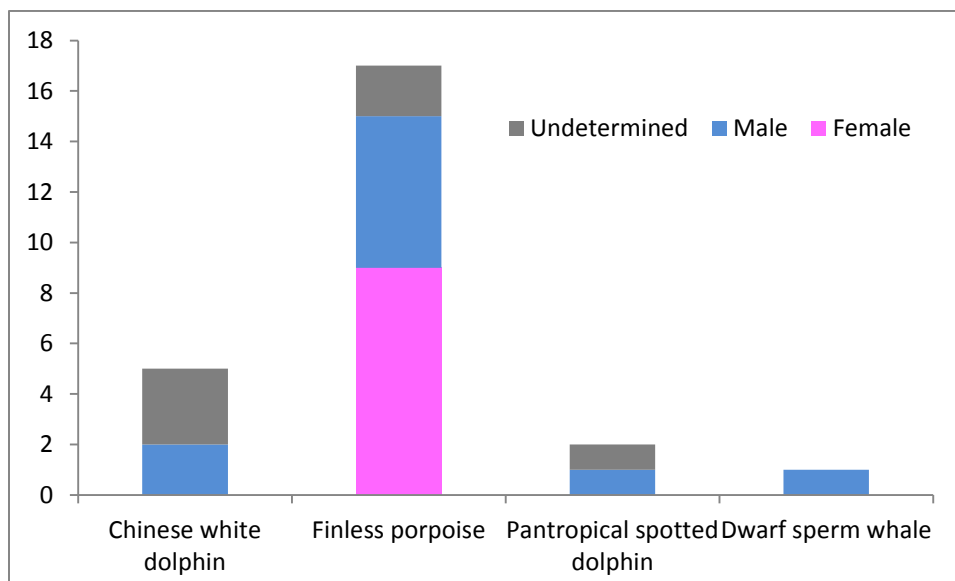


Fig. 3 Graph showing the genders of different species of cetacean stranded in 2016



Size/ age class

All cetaceans below one year old are classified as calf. According Jefferson et al (2002), finless porpoise can reach up to **112 cm in their first year**, therefore any finless porpoise below 112cm length is regarded as calf. Jefferson et al (2011) stated Chinese white dolphin can reach up to **137cm** in their first year, therefore any Chinese white dolphin below 137 cm in length is regarded as calf.

There were 1 calf and 4 adult Chinese white dolphins. The largest Chinese white dolphin stranded this year was male with 272.5cm in length .

The **dwarf sperm whale** was an adult, and the pantropical spotted dolphins were calf and sub-adult.

Carcass condition

The condition code for describing stranded cetaceans is based upon International standard (Geraci and Lounsbury, 2005).

Code 1 Live - includes all cetaceans alive at the time of discovery, including those that may be moribund.

Code 2 Fresh – includes all cetaceans that are dead at the time of discovery; body intact, near natural skin coloration, no obvious bloating or decomposition, and includes foetuses that do not show signs of decomposition even though the mother may be regarded as decomposed.

Code 3 Moderately decomposed – includes carcasses that are still intact, displaying little or no bloating, may appear thin or emaciated without decomposition, skin may be peeling off while the blubber and body remain intact.

Code 4 Badly decomposed – includes obvious signs of bloating, decomposition, skin and blubber peeling off, holes in carcass, internal organs ruptured or protruding from orifices or holes caused by decomposition or other animals feeding on the carcass.

Code 5 Mummified – includes carcasses discovered with blubber and flesh dried up or completely missing, skeleton largely exposed, and some bones possibly missing.

One out of habitat Pantropical spotted dolphin (code one) was found in Goldcoast Marina but believed to have swam away. One finless porpoises was in code 2. Three finless porpoises were in code 3. Most cetacean carcasses found were in code 4, including 13 finless porpoises, 4 Chinese white dolphins, 1 dwarf sperm whale and 1 pantropical spotted dolphin

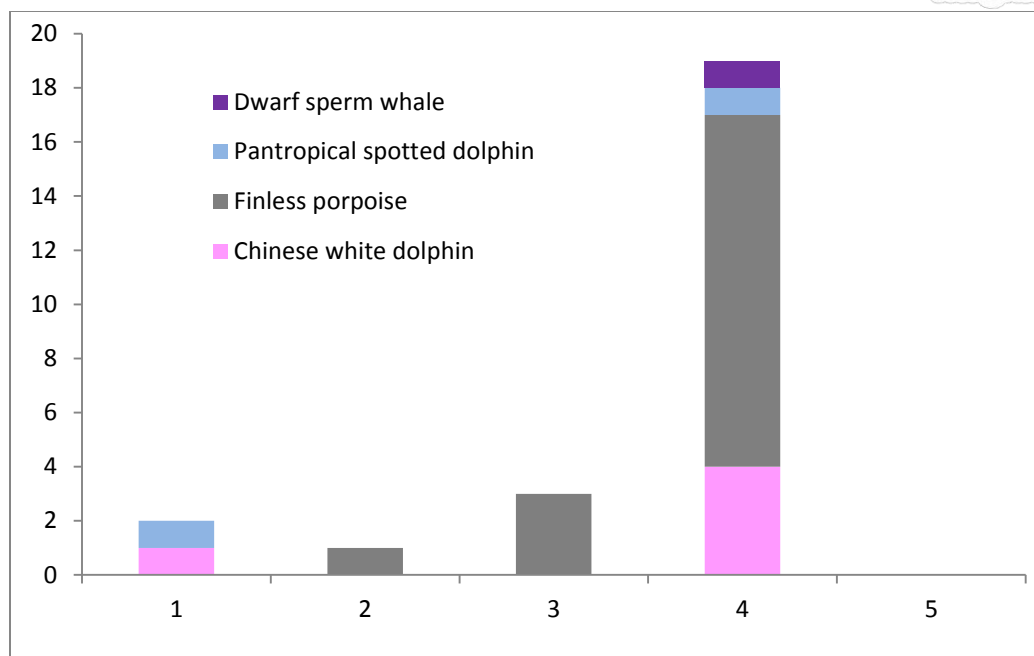


Fig. 6 Stranding cases of different species in different body condition

Cause of death


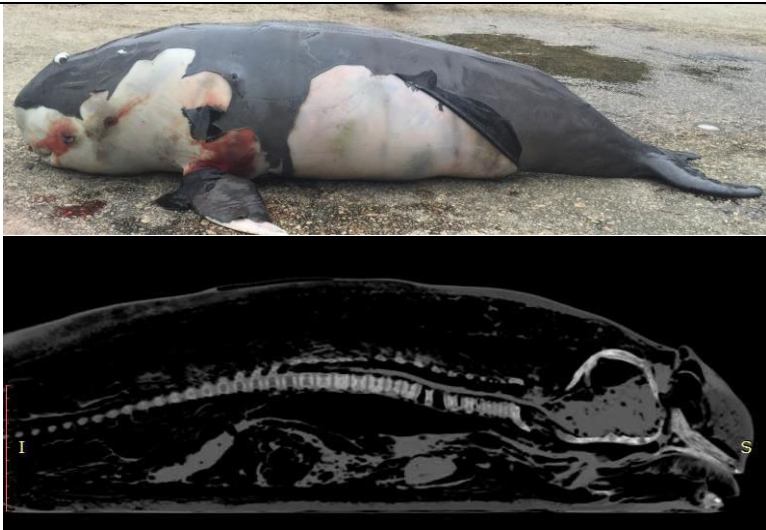
Since most of the carcass conditions were code 4, it is impossible to determine the cause of death. Of the stranding cases in 2016, 19 stranding cases cannot be determined, three cases were determined with cause of death, two cases were live stranding:




- one finless porpoise's cause of death was acute death, trauma followed by drowning presumptive;
- one finless porpoise's cause of death was starvation;
- one Chinese white dolphin's cause of death was asphyxiation.

Evidence of human activity on stranded cetaceans

7 of 25 stranding cases showed evidence(s) of human activities including presence of trauma, entanglement and lesion scars. 5 finless porpoises and 25 Chinese white dolphins were found to have evidence of blunt force trauma and entanglement.



Table 2: Evidence of human activity on stranded cetaceans



Species	Date	Length (cm)	Location	Type of human interaction	Details	Photos
Finless porpoise	03/01/2016	122	Lo Kei Wan Campsite, Lantau	Trauma	Carcass was cut into half, lung sank Acute death, trauma followed by drowning presumptive	
Finless porpoise	05/04/2016	85	Trio Island, Sai Kung	Trauma	Blunt force trauma to thorax/cranial Clearly palpable fracture mid thoracic spine. Dislocation of atlanto-occipital joint with joint capsule possibly ruptured ventrally. Reconstructed sagittal and 3D volume rendering CT image shows atlanto-occipital dislocation, with multiple thoracic vertebra (3rd-5th) fractures	

Finless porpoise	13/06/2016	135	Tai Kwan Wan Beach, Cheung Chau	Trauma	Left fluke was missing	
Finless porpoise	22/09/2016	150	Pak Lap Wan Beach, Sai Kung	Trauma	Suspicious cut behind the skull	
Finless porpoise	20/10/2016	135	Shek O Main Beach	Trauma	Blunt force trauma in the middle	

Chinese white dolphin	06/04/2016	272.5	Lido Garden, Sham Tseng	Fishnet entanglement	Entangle attached to its fluke



Chinese white dolphin	23/06/2016	79.5	Tai Wan, Po Toi Island	Fishnet entanglement	Entangle attached to its fluke and right flipper.	
Species	Date	Length (cm)	Location	Findings	Details	Photos
Finless porpoise	20/03/2016	165	Silvermine Bay, Lantau Island	Calcified capsulated parasite	A series of mass capsule found near lower abdomen muscles, suspected to be calcified capsulated parasites, possibly mammary gland infection; samples kept for future investigation	

						
Finless porpoise	03/04/2016			Calcified capsulated parasite	Suspicious calcified capsulated parasite found in muscle near left mammary gland	

Finless porpoise	15/04/2016			Calcified capsulated parasite	Calcified abscess found near mammary gland



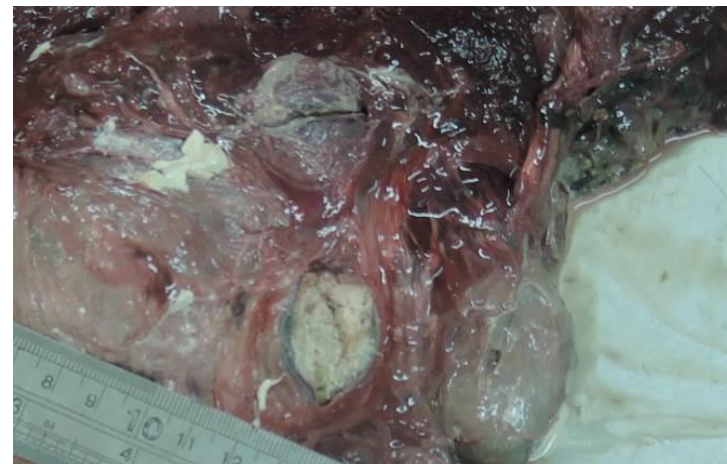




						
--	--	--	--	--	--	---

Table 3: Calf mortality

Species	Date	Length (cm)	Location	COD	Details	Photos
Finless porpoise	04/01/2016	74	Tung Wan	Starvation	GIT completely empty; emaciated. Scars found on skull	

Finless porpoise	08/03/2016	91.5	Kwo Chau Islands	Drowning	Both lungs completely collapsed and consolidated	
Chinese white dolphin	23/06/2016	115	Between Hei Ling Chau, Cheung Chau and Lamma Island	Undetermined		
Finless porpoise	22/07/2016	79.5	Near Tai Wan, Po Toi Island	Undetermined	One day old	


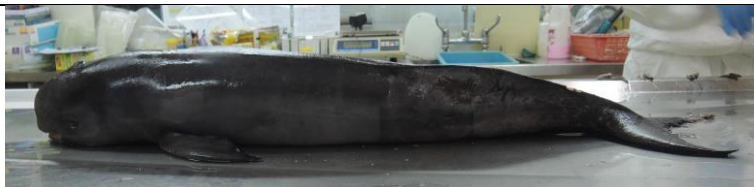

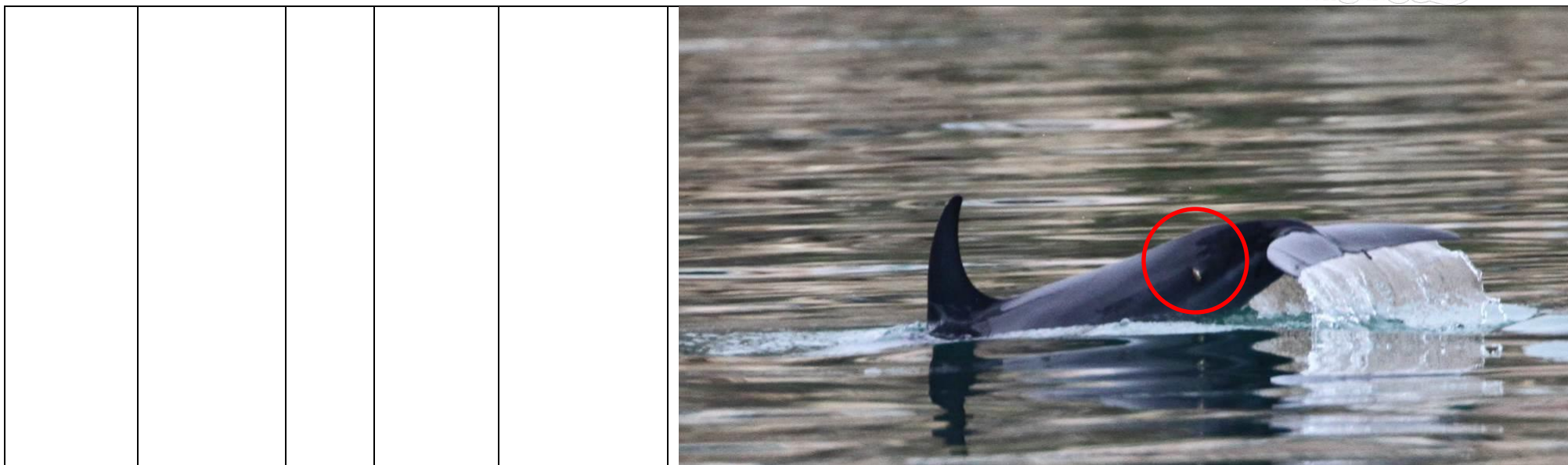


						
Finless porpoise	24/11/2016	80	Starfish Bay, Ma On Shan	Undetermined	Shark bite found on the end of flukes (no signs of healing, post-mortem possibly). Umbilical open and track between umbilical cord and liver still attached.	

Table 4: Other species

Species	Date	Length (cm)	Location	Details	Photos
Pantropical spotted dolphin	26/01/2016		Goldcoast Marina	Wounds were seen on the dorsal side and left caudal area	



Dwarf sperm whale	10/05/2016	209	Sai Wan Ho		
Pantropical spotted dolphin	24/08/2016	191	Tai Long Sai Wan, Sai Kung		

Unconfirmed events

In addition to the above events, there were two unconfirmed stranding reports all involving sightings of carcasses floating in sea. Both of these unconfirmed events involved an adult and a calf Indo-Pacific humpback dolphin. These reported carcasses could not be recovered despite on-site searches by OPCFHK and AFCD personnel.

2016 stranding list

Table 6: Confirmed cetacean stranding cases in Hong Kong in 2016.

No.	Date	Species	Gender	Length (cm)	Area	Status	Code
1	3/1/16	<i>Neophocaena phocaenoides</i>	F	122	Lo Kei Wan, Lantau	Juvenile	4
2	4/1/16	<i>Neophocaena phocaenoides</i>	F	74	Tung Wan, Cheung Chau	Calf	2
3	8/2/16	<i>Neophocaena phocaenoides</i>	M	150	Sai Wan Ho	Adult	4
4	26/1/16	<i>Stenella attenuata</i>	N/A	N/A	Gold coast yacht club marine	Calf	1
5	8/3/16	<i>Neophocaena phocaenoides</i>	F	91.5	Kwo Chau Islands	Calf	3
6	20/3/16	<i>Sousa chinensis</i>	F	165	Silvermine Bay, Lantau	Adult	4
7	3/4/16	<i>Neophocaena phocaenoides</i>	F	165	Tai Long Wan Beach, Lantau	Adult	4
8	5/4/16	<i>Neophocaena phocaenoides</i>	M	85	Trio Island, Sai Kung	Calf	4
9	6/4/16	<i>Sousa chinensis</i>	N/A	N/A	Fan Lau, Lantau	Adult	1
10	15/4/16	<i>Neophocaena phocaenoides</i>	F	176	Port Shelter, Sai Kung	Adult	4
11	10/5/16	<i>Kogia sima</i>	M	209	Sai Wan Ho	Adult	4
12	13/6/16	<i>Neophocaena phocaenoides</i>	N/A	135	Tai Kwan Wan, Cheung Chau	Adult	4
13	15/6/16	<i>Neophocaena phocaenoides</i>	M	128	Turtle Cove Beach	Adult	4
14	23/6/16	<i>Sousa chinensis</i>	M	115	Floating between Hei Ling Chau, Cheung Chau and Lamma Island	Calf	4
15	23/6/16	<i>Sousa chinensis</i>	M	272.5	Floating on sea at Lido Garden, Sham Tseng	Adult	4
16	26/6/16	<i>Neophocaena phocaenoides</i>	F	155	Floating in Sam Pak Wan, Discovery Bay	Adult	4
17	8/7/16	<i>Sousa chinensis</i>	N/A	241	Buried in sand in Tai Long Wan Campsite, Lantau	Adult	4
18	22/7/16	<i>Neophocaena phocaenoides</i>	F	79.5	Floating near Tai Wan, Po Toi Island	Neonate	3
19	24/8/16	<i>Stenella attenuata</i>	M	191	Buried in sand in Tai Long Wan, Sai	Sub-adult	4

					Kung		
20	22/9/16	<i>Neophocaena phocaenoides</i>	M	150	Pak Lap Wan Beach, Sai Kung	Sub-adult	4
21	27/9/16	<i>Neophocaena phocaenoides</i>	M	152	Mo Tat Wan, Lamma Island	Sub-adult	4
22	20/10/16	<i>Neophocaena phocaenoides</i>	TBC	135	Shek O main beach	Sub-adult	4
23	18/11/16	<i>Neophocaena phocaenoides</i>	M	145	Tai Long (Sai Wan) Campsite, Sai Kung	Sub-adult	4
24	24/11/16	<i>Neophocaena phocaenoides</i>	F	80	Starfish Bay, Ma On Shan	Neonate	3
25	4/12/16	<i>Sousa chinensis</i>	TBC	248	Fan Lau Tung Wan, Lantau	Calf	4

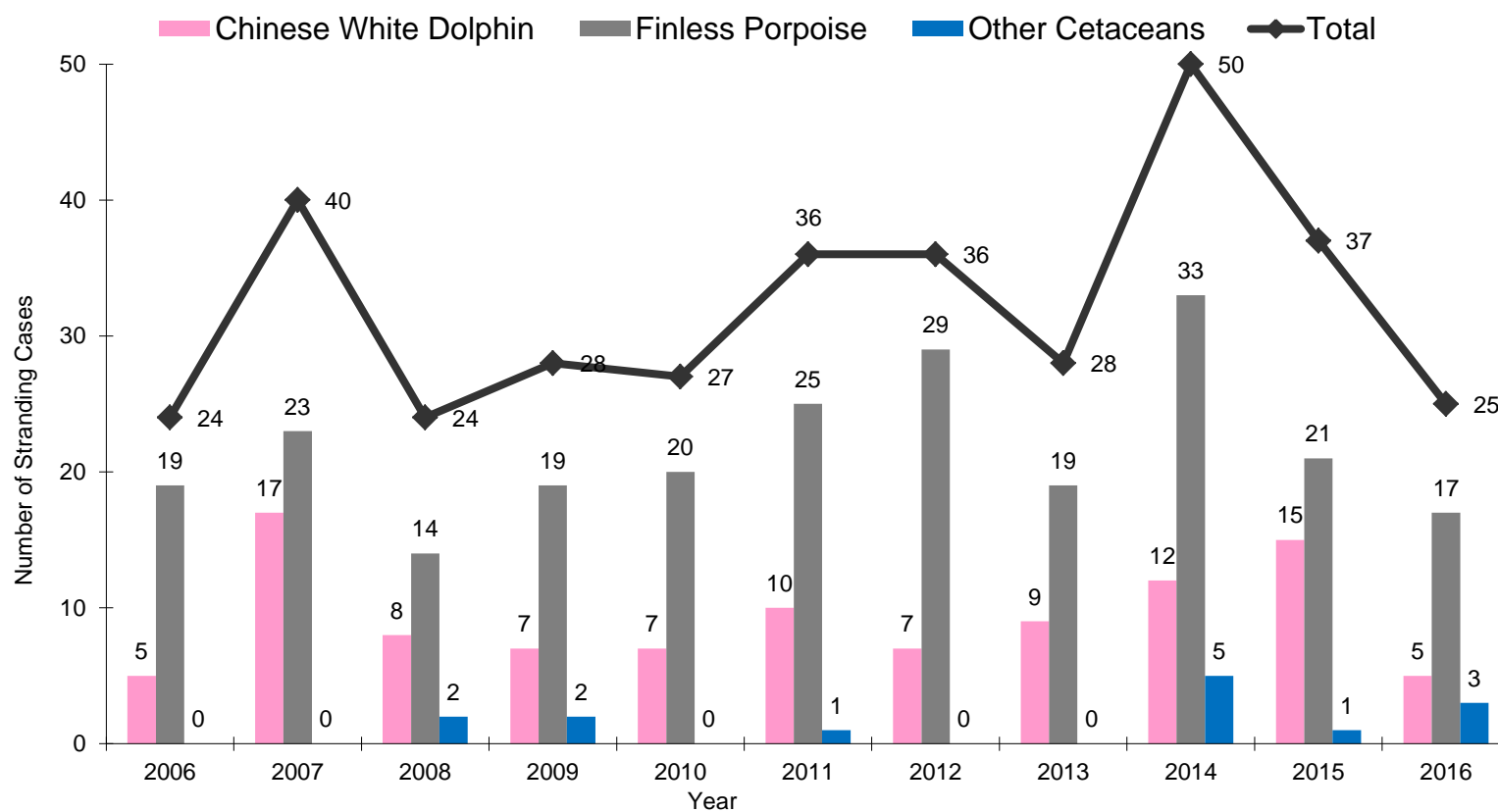
Necropsy done by Ocean Park veterinary team or OPCFHK veterinary consultant and volunteer

* Comments received from Ocean Park veterinary team or OPCFHK veterinary consultant and volunteer

Table 6: Unrecovered cetacean stranding cases in Hong Kong in 2016

No.	Date	Species	Location	Details
1	23/06/16	<i>Sousa chinensis</i>	Fan Kwai Tong, Lantau	Chinese white dolphin carcass was seen floating in waters by Fan Kwai Tong, Lantau. AFCD and OPCFHK stranding team searched for carcass, carcass was not recovered.
2	07/11/16	<i>Sousa chinensis</i>	Tai O, Lantau	A field work was conducted by Marine Park on 8/11/16, but the carcass could not be recovered

Previous stranding figures





References

Jefferson TA, Robertson KM, Wang JY 2002 Growth and reproduction of the finless porpoise in southern China, The raffles bulletin of zoology No.10:105-113

Jefferson, Thomas A.; Hung, Samuel K.; Robertson, Kelly M.; and Archer, Frederick I. 2011 Life history of the Indo-Pacific humpback dolphin in the Pearl River Estuary, southern China, Publications, Agencies and Staff of the U.S. Department of Commerce. Paper 283

Geraci, J.R. and Lounsbury, V. 2005 Marine Mammals Ashore - A Field Guide for Strandings. (2nd Edition) Texas A and M University Sea Grants College Programme, Galveston