

**How has the population of Chinese white dolphins decreased over the years in Hong  
Kong?**

Ella Grace Cherrington

Hong Kong Academy

PP: Personal Project

December 6th, 2021

## **How has the population of Chinese white dolphins decreased over the years in Hong Kong?**

The Indo-Pacific humpback dolphin (*Sousa Chinensis*) is a species of Humpback dolphin inhabiting the coastal waters of Eastern India and Western Pacific Oceans. In Mainland China, Macao, Hong Kong, Taiwan and Singapore, this species is often referred to, by its common name, the Chinese White Dolphin. This species was first recorded in Hong Kong in the early 1600s (*Karczmarski, 2016*). These dolphins are found in rivers and oceans. Around China and Hong Kong, a population is located west of the Pearl River Estuary and Hong Kong.

It is the population of the Chinese White Dolphin located in the west of the Pearl River Estuary and Hong Kong that is the subject of this paper. This species can also be found in North Lantau waters near Castle Peak, Lung Kwu Chau, Sha Chau Marine Park, Chek Lap Kok and Tai O, waters south of Lantau, including Fan Lau and the Soko Islands. The population of the Pearl River Estuary and Hong Kong dolphins are facing serve threats from habitat loss (from coastal developments), water pollution, underwater noise pollution, marine traffic increasing the likelihood of a vessel collision and overfishing.

The population of Chinese White Dolphins in the Pearl River Estuary and Hong Kong is believed to be around 2,000. However, in recent years the population of young dolphins appears to be in decline. The Chinese White Dolphins the subject of this paper particularly unique as they inhabit one of the world's most congested areas of marine traffic and resulting in severe water pollution. These factors are placing an enormous amount of pressure on this population of dolphins.

### ***Coastal Development***

The Chinese White Dolphins feed in shallow waters, rarely exceeding depths of 10 meters. For example, the Hong Kong International Airport has reduced the dolphin's critical habitat through its extensive reclaimed land. The loss of this habitat adds stress on survival, forcing the species to relocate to potentially less suitable habitats. Further, coastal development directly results in the loss of breeding, nursery and foraging grounds which also has a further negative impact on the dolphin's survival. Coastal development can also have an indirect negative impact on dolphins as it can block or adversely impact movement between essential habitats.

Sha Chau and Lung Kwu Chau Marine Park were designated in 1996, aiming to protect one of the most important habitats of Chinese white dolphins in Hong Kong. However, a number of their habitats recognised as important in Hong Kong are not legally protected (*www*, n.d).

### ***Water Pollution***

Water pollution is and poses a significant threat to many marine animals, and it follows that it is also adversely impacting the dolphins. One of these threats is suspended soil. Suspended soil refers to small solid particles which remain in suspension in water as a colloid or due to the motion of water. Increased suspended solids raise the risk of clogging fishes gills and preventing the egg and larval development. Fish and some species of crustaceans are the primary food source for dolphins. Increased sediment will lower the food production, and affect the food chain, possibly causing it to collapse.

In addition, dumping works and contaminated mud pits (East Sha Chu Facility) pose adverse impacts to habitats. Pollutants such as organochlorines and heavy metals will dissolve into the water column and accumulate in the dolphin's bodies, which is considered a potential health threat for the Chinese white dolphins.

### ***Underwater Noise Pollution***

Dolphins use and rely on echolocation for hunting, communication and navigation. They listen to the reflected sounds they produce and use this to locate their peers, prey and other objects. Underwater noise pollution, can affect and disorientate the dolphins echolocation.

An example of underwater noise water pollution is underwater construction works as these works sometimes involve techniques such as percussive piling (which was used for the foundation of wind turbines in south Lamma), which could interfere with the dolphins' echolocation capability (www, n.d). In extreme cases, underwater noise pollution can affect the dolphins so much that it results in death.

Increasing marine traffic also poses threats of obscuring sounds and acoustic communication, also interfering with echolocation. High levels of boat noise can lead to injuries or disturbance, as manifested by changes in behaviour and the use of acoustic signalling.

### ***Vehicle Collision & Overfishing***

Vehicle collisions and overfishing pose a major threat for the Chinese White Dolphins.

Marine traffic has increased over the years, doubling from 1999-2009. High-speed ferry routes transverse the prime dolphin's habitats around Lantau, this increases the risk of the dolphins being hit or injured. There have been numerous photos taken of scars of the dolphins from propellers lacerations.

Overfishing is a major threat to many marine life species. Hong Kong and China do not have regulations in place to control fishing effects or available catch. Also, certain fishing practices (like bottom trawling and bycatch) that are not sustainable result in a permanent adverse impact on the food supply.

### ***Sightings***

The Chinese River Dolphins are recorded annually, the annual dolphin monitoring report published by the Agriculture, Fisheries and Conservation Department. The report for the period between April 2016 and March 2017, provides that 47 dolphins remain in Lantau water. This is a drop of 27 per cent as 2016's report data reported 65 dolphins.

### ***Conclusion***

Samantha Lee, WWF - Hong Kong's Conservation Manager for Oceans said, "Reclamation destroys dolphin foraging habitat and marine traffic increases the collision risk. Also, the underwater noise generated inhibits their echolocation capability. These disturbances threaten the survival of the remaining dolphins in Hong Kong waters. A comprehensive survey in the Pearl River Estuary is urgently needed to get a better understanding of how the entire dolphin population is doing. We hope that more resources can be given to AFCD on future CWD conservation work (*Chinese White Dolphin*, 2017)." The sightings of calves have also decreased immensely.

The population of Chinese white dolphins the subject of this paper has decreased over the years through the numerous threats. Notably, each of the threats has come from one source, humans! Through the loss of habitat from coastal developments, water pollution, underwater noise pollution, vessel collision to overfishing. It can't be said enough these threats have resulted in fewer sightings of both adults and calves over the years.

### **References**

*Chinese white dolphin numbers hit record low.* (2017, June). WWF.

<https://www.wwf.org.hk/en/?18940/Press-Release-Chinese-White-Dolphin-Numbers->

Hit-Record-Low---Busy-marine-traffic-poses-additional-threats-as-calf-numbers-also-plunge

*Chinese white dolphin - protection status.* (n.d.). WWF.

<https://www.wwf.org.hk/en/reslib/species/chiwhitedolphin/status/>

*Chinese white dolphin - threats.* (n.d.). WWF.

<https://www.wwf.org.hk/en/reslib/species/chiwhitedolphin/threats/>

*Give dolphins a breath.* (n.d.). WWF.

<https://www.wwf.org.hk/en/reslib/species/chiwhitedolphin/>

Karczmarski, Leszek & Huang, Shiang-Lin & Or, Carmen & Gui, Duan & Chan, Stephen C.Y. & Lin, Wenzhi & Porter, Lindsay & Wong, Wai-Ho & Zheng, Ruiqiang & Ho, Yuen-Wa & Chui, Scott Y.s & Tionson, Angelico Jose & Mo, Yaqian & Chang, Wei-Lun & Kwok, John & Tang, Ricky & Lee, Andy & Yiu, Sze-Wing & Keith, Mark & Wu, Yuping. (2016). Humpback Dolphins in Hong Kong and the Pearl River Delta: Status, Threats and Conservation Challenges. *Advances in Marine Biology*. 73. 27-64. 10.1016/bs.amb.2015.09.003.