



OCEAN THEME PARKS: A Look Inside China's Growing Captive Cetacean Industry

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Cover: A beluga waits behind a gate whilst other belugas
perform in a show at Chengdu Haichang Polar Ocean World.

Back cover: A dolphin at Zhuhai Chimelong Ocean Kingdom.

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BY THE CHINA CETACEAN ALLIANCE



China Cetacean Alliance

We belong in the wild

The China Cetacean Alliance is a coalition of international animal protection and conservation organisations, comprising the Animal Welfare Institute, Endangered Species Fund, Environment & Animal Society Taiwan, Hong Kong Dolphin Conservation Society, Kuroshio Ocean Education Foundation, Marine Connection, Nature University and Whale and Dolphin Conservation.

The Alliance aims to raise awareness of the welfare issues associated with the capture of free-ranging whales, dolphins and porpoises (also known as cetaceans) and their subsequent holding in ocean theme parks in mainland China.

Following preliminary investigations, it is evident that the number of ocean theme parks in mainland China is developing rapidly, and the

number of wild-caught cetaceans held within these facilities continues to increase. Alliance members have documented the arrival of over 250 wild-caught cetaceans into Chinese ocean theme parks since 2010. Captive breeding of cetaceans in these ocean theme parks has been largely unsuccessful to date.

In 2014, the Alliance commissioned further investigation and research into the ocean theme park industry in mainland China. The results of this research and investigation are presented within this report.

Conclusions drawn from this report will be used for a public awareness campaign to inform the Chinese public about the conservation and welfare concerns associated with the capture of free-ranging cetaceans and their subsequent holding in captivity in China.



CHINA CETACEAN ALLIANCE MEMBERS

Animal Welfare Institute (AWI) has been dedicated since 1951 to reducing animal suffering caused by people. AWI seeks better treatment of animals everywhere—in the laboratory, on the farm, in commerce, at home, and in the wild.
www.awionline.org

Endangered Species Fund is dedicated to the protection of endangered species in China. Through public awareness raising activities, the Fund promotes biodiversity conservation and legislation for species conservation to realise the sustainable development of ecological civilization in China. The Endangered Species Fund was initiated by China Biodiversity Conservation & Green Development Foundation (CBCGDF).

Environment & Animal Society Taiwan (EAST) is a non-governmental organisation campaigning for improvements for animals, people and the environment in Taiwan, established in 1999. EAST believes that human welfare is closely linked with animal welfare and environmental protection, and aims to use these links to address the roots of problems. EAST researchers uncover cruelties and injustices of which society would otherwise not be aware. EAST also believes that effective change needs to happen at a legislative level, as well as through awareness-raising and institutional education. Besides advocating for better welfare for companion animals, farm animals, wildlife and experimental animals, EAST actively engages in many environmental issues. EAST promotes freedom of government information, and lobbies for the improvement of existing legislation, with better citizen participation in public policy-making in Taiwan.
www.east.org.tw

Hong Kong Dolphin Conservation Society (HKDCS) is a non-governmental organisation dedicated to the conservation of whales, dolphins and porpoises in Hong Kong. Founded in December 2003, its mission is to protect whales and dolphins through scientific research and public education.
www.hkdcs.org

Kuroshio Ocean Education Foundation (KOEf) was founded in 1998 to investigate and monitor cetaceans in Taiwan. Its mission is to gather ocean lovers in Taiwan to protect the oceanic environment and deliver conservation information to the public.
www.kuroshio.org.tw

Marine Connection works internationally to protect dolphins and whales in the wild and to end the keeping of them in captivity. Through effective campaigning and public awareness initiatives on issues such as the formation/expansion of new captive facilities, wild captures and other threats to cetaceans caused by human activity, Marine Connection is dedicated to ensuring their welfare and survival.
www.marineconnection.org

Nature University is an online learning platform for the public to learn about environmental topics and issues, established by Chinese NGOs. Its aim is to provide fieldtrip and investigation opportunities to the public and to help them learn about nature and to cherish it.
www.nu.eorg.cn

Whale and Dolphin Conservation (WDC) is the global voice for the protection of whales, dolphins and their environment. WDC aims to reduce and ultimately eliminate continuing threats to cetaceans and their habitats through campaigns, field projects, scientific research, educational outreach and legal advocacy. The charity was established in 1987 and has offices in the USA, UK, Australia, Germany, and Argentina.
www.whales.org



ABBREVIATIONS

CAFS: Chinese Academy of Fishery Sciences

CITES: Convention on International Trade in Endangered Species of Wild Fauna and Flora

IHBCAS: Institute of Hydrobiology, Chinese Academy of Sciences

IFOCAS: Institute of Oceanology, Chinese Academy of Sciences

IUCN: International Union for Conservation of Nature

NGO: Non-governmental organisation

YSFRI: Yellow Sea Fisheries Research Institute

GLOSSARY

Cetacean: a collective taxonomic name for whales, dolphins and porpoises.

CITES Appendices: Appendices I, II and III to the Convention are lists of species afforded different levels or types of protection from over-exploitation in international trade.

+ **Appendix I** lists species that are the most endangered among CITES-listed animals and plants. They are threatened with extinction and CITES prohibits international trade in specimens of these species except when the purpose of the import is not commercial; for example, when it is for scientific research. In these exceptional cases, trade may take place provided it is authorised by the granting of both an import permit and an export permit (or re-export certificate). Article VII of the Convention provides for a number of exemptions to this general prohibition.

+ **Appendix II** lists species that are not necessarily currently threatened with extinction but may become so unless trade is closely controlled. It also includes so-called 'look-alike species'; i.e., species whose specimens in trade look like those of species listed in Appendix I. International trade in specimens of Appendix II species may be authorised by the granting of an export permit or re-export certificate. No import permit is necessary for these species under CITES (although a permit is needed in some countries that have taken stricter measures than CITES requires). Permits or certificates should only be granted if the relevant authorities are satisfied that certain conditions are met, above all that trade will not be detrimental to the survival of the species in the wild.

+ **Appendix III** lists species that are included at the request of a Party that already regulates trade in the species and that needs the cooperation of other countries to prevent unsustainable or illegal exploitation. International trade in specimens of species listed in Appendix III is allowed only on presentation of the appropriate permits or certificates.

Dolphin Assisted Therapy (DAT): a form of interaction intended as therapy for psychologically or physically disabled people. Those who practice DAT maintain that structured interactions with captive dolphins are beneficial for patients with conditions such as autism, Down's syndrome, and other disabilities.

Free-ranging: non-captive, independent-living, ecologically functional wildlife in natural habitat.

In situ conservation: The process of protecting an endangered plant or animal species in its natural habitat.

Ocean theme park: commercial theme park or aquarium that holds marine mammals, especially cetaceans, in exhibits.

Threatened species: A species that is categorised by the IUCN Red List of Threatened Species as Vulnerable, Endangered or Critically Endangered.

Trainer for the day: A programme offered to paying members of the public in which they experience and participate in some level of marine mammal care and training carried out by trainers and other ocean theme park staff.



A young beluga whale at Harbin Polar Land.

REVIEW METHODOLOGY

A comprehensive review of the Chinese¹ ocean theme park industry was carried out to assess the industry's participation in the live capture and trade of free-ranging cetaceans, the keeping of cetaceans in captivity, and the industry's contribution to the conservation of free-ranging cetacean populations and research to aid both the welfare of captive cetaceans and the conservation of both species and habitats. The Alliance identified 39 currently operating ocean theme parks in China.

Capture, trade and keeping of cetaceans in captivity in China

Information on the capture, trade and keeping of cetaceans in captivity in China was obtained via:

1. CITES trade database records.
2. Information in the public domain.
3. Site visits to 14 facilities between November 2014 and May 2015.

Conservation and research activities

The contribution made to *in situ* conservation by Chinese ocean theme parks and their participation in research was determined by:

1. Searching websites of the 39 facilities for evidence of facilities providing funds for conservation projects, and/or the involvement of staff in conservation/research on free-ranging cetacean populations.
2. Direct contact, primarily through phone and email conversations, with each facility, between November 2014 and May 2015, to ascertain information of research being undertaken.
3. A review of public awareness materials at 14 facilities visited between November 2014 and May 2015, for references to research and/or conservation activities.
4. A search of online databases (Google Scholar, Baidu Xueshu, Wanfang Data, and CNKI) to locate research papers involving captive cetaceans and the facilities involved.

¹This report is relevant to ocean theme parks in mainland China only.

EXECUTIVE SUMMARY

The ocean theme park industry is expanding rapidly in China. There are 39 ocean theme parks in operation and a further 14 under construction,² demonstrating an increasing desire amongst the Chinese public to see captive cetaceans. This is in contrast to the situation in many other parts of the world where the popularity of keeping cetaceans in captivity is rapidly waning.

These parks house an estimated 491 cetaceans, representing 11 species.³ Bottlenose dolphins (*Tursiops* spp.) and beluga whales (*Delphinapterus leucas*) are the most commonly-held species.

Detailed information on the status of these captive animals is difficult to obtain, as there is no publicly available information source. Media reports suggest that many captive cetaceans in China have been captured from the wild. It is likely that many of these individual animals have undergone periods of severe stress as they are chased, captured, removed from their family groups and transported over long distances to be placed into restrictive environments.

Reliable sources have presented information to the Alliance demonstrating that seven killer whales (also known as orcas) are currently held at the Chimelong Ocean Kingdom in Zhuhai, owned by the Chimelong Group. Only two orcas have been recorded as imported into China in the official CITES trade database. This presents a potentially serious violation of CITES regulations.

With no publicly available database of cetaceans in captivity in China, it is not possible to know the exact number of individuals currently or ever held in the parks, the number that have been captured in the wild or the number that have died in Chinese facilities. Six of the 39 ocean theme parks claim to have bred cetaceans in captivity, but in at least two of these cases the calves are known to have died.

Thirty-six of the 39 ocean theme parks display cetaceans in shows and over half of them offer visitors close contact interaction opportunities. During these activities, visitors receive very little educational information, despite claims to the contrary made by the facilities.

Ocean theme parks claim they are an integral part of the conservation of free-ranging cetacean populations, yet only one of the 39 operational parks in China provides public information on its financial involvement with any *in situ* cetacean conservation programme.

The welfare of captive cetaceans in mainland China is of concern. National government regulations stipulate that facilities must provide conditions that accommodate some of the basic physiological needs of captive cetaceans, but make no mention of the complex behavioural needs of these species. The living conditions within the ocean theme parks are inadequate to meet the complex physical and behavioural needs of cetaceans. Due to these conditions, many animals are likely to be suffering to varying degrees.

Due to the lack of a legal definition of 'animal welfare' in Chinese laws and regulations, and the absence of specific animal welfare concepts within the laws and regulations relevant to the ocean theme park industry, cetaceans in captivity in China are without proper protection from conditions that can cause suffering.

China's participation in the live capture of free-ranging cetaceans from the waters of both Russia and Japan, and the subsequent import of these individuals, is having a negative impact on the conservation status of some targeted cetacean populations and on the international image of the country for its ability to protect wild animals. The continued import of wild-caught cetaceans risks damaging China's economic interactions. As international public awareness of these imports grows, so the call for Chinese airline carriers to end their involvement in this trade also grows. The subsequent damage to China's international image and the threat to trade caused by the ocean theme park industry are in violation of the regulations governing ocean theme parks in China.

² As of 29 October 2015.

³ Common bottlenose dolphin, Indo-Pacific bottlenose dolphin, beluga whale, false killer whale, killer whale, Indo-Pacific humpback dolphin, pan-tropical spotted dolphin, Pacific white-sided dolphin, Risso's dolphin, short-finned pilot whale, and narrow-ridged finless porpoise.

RECOMMENDATIONS

China Cetacean Alliance recommends the governing authorities responsible for the management of captive cetaceans in China adopt the following measures:

1. Conduct an investigation into the import of orcas into China to determine the cause of the discrepancy in trade figures.
2. Establish a nationwide inventory of captive cetaceans.⁴ Facilities holding cetaceans should be required to report all imports, pregnancies, births, deaths, causes of death and transfers within 30 days of such events occurring, and this information should be available to the public. This would enable full and independent data analysis, including for research purposes.
3. Establish an independent expert body to investigate and, where appropriate, take action to address complaints made in relation to facilities that breach the governing regulations.⁵
4. Amend the *Measures of the People's Republic of China for Special Licences for Exploitation of Aquatic Wild Animals* to include a ban on the import of cetaceans for commercial purposes, in response to concerns about the impact of captures and trade on cetacean conservation and welfare. China's participation in the import of wild-caught cetaceans listed on CITES Appendix I risks violation of CITES Article III⁶ 3b⁷ and 3c⁸ and on CITES Appendix II risks violation of Article IV 2a⁹ and 2c.¹⁰
5. Amend the *Requirements for aquatic mammal rearing facilities* to include standards that adopt animal welfare concepts, addressing the potential risks to health and welfare of cetaceans in captivity. Guidance can be found in the standards developed by the countries of Brazil,¹¹ Italy¹² and the United Kingdom.¹³
6. Prohibit interaction programmes that allow contact between cetaceans and members of the public, due to concerns for public safety and the health and welfare risks to both human and animal participants.
7. Establish a training programme for members of governing authorities involved in the issuing of permits and licences for the keeping of cetaceans in captivity. Such training workshops will help individuals to understand the conservation and welfare issues associated with the live capture of free-ranging cetaceans and their species-specific needs.
8. Amend the *Grade of aquatic mammal rearing techniques* in aquariums to ensure that:
 - a. Veterinarians working in ocean theme parks, or who provide veterinary support for ocean theme parks, are equipped with the relevant training and skills relating to the health and welfare of cetaceans in captivity.
 - b. Marine mammal trainers and accompanying staff with responsibilities for the management of cetaceans in captivity are provided with relevant training and skills in cetacean care and welfare.
9. Prepare plans to phase out the display of captive cetaceans at ocean theme parks by prohibiting captive breeding; prohibiting the import of further cetaceans; prohibiting the development of new ocean theme parks and prohibiting the expansion of existing ocean theme parks, except where this is required to drastically improve the health and welfare of existing cetacean residents. Where appropriate and available, work with existing ocean theme parks to transfer captive cetaceans to rehabilitation, retirement and/or release programmes that comply with IUCN release guidelines.¹⁴

⁴Similar to the United States Government's Marine Mammal Inventory Report; see Section 104(c) (10) in <http://www.nmfs.noaa.gov/pr/pdfs/laws/mmpa.pdf>

⁵Management regulation of aquatic wildlife licence, Requirements for aquatic mammal rearing facilities, Grade of aquatic mammal rearing techniques, and the Water quality for aquatic mammals in aquariums.

⁶<https://cites.org/sites/default/files/eng/disc/CITES-Convention-EN.pdf>

⁷A Scientific Authority of the State of import is satisfied that the proposed recipient of a living specimen is suitably equipped to house and care for it.

⁸A Management Authority of the State of import is satisfied that the specimen is not to be used for primarily commercial purposes.

⁹A Scientific Authority of the State of export has advised that the export will not be detrimental to the survival of the species involved.

¹⁰A Management Authority of the State of export is satisfied that any living specimen will be so handled as to minimize the risk of injury, damage to health or cruel treatment.

¹¹Ministry of the Environment; Brazilian Institute of Environment and Renewable Natural Resources—Regulation No3 of 8 February 2002.

¹²Italian Environment Ministry—Decree 469 of 6 December 2001.

¹³Supplement to the Secretary of State's Standards of Modern Zoo Practice; Additional standards for UK cetacean keeping.

¹⁴<https://portals.iucn.org/library/efiles/documents/2013-009.pdf>



INTRODUCTION TO CETACEANS

Cetaceans live in almost every part of the marine environment, including estuaries, coastal environments and deep-water habitats, from the tropics to the poles. Some are freshwater or facultative freshwater species. Many cetacean species exploit transient resources associated with particular water characteristics such as temperature, chemistry or clarity (e.g., Perrin *et al.*, 2009).

Some species are globally abundant, yet specific geographical populations may be threatened and unable to withstand any external pressures such as live capture for human consumption and display in captivity (Fisher and Reeves, 2005; Reeves *et al.*, 2003).

Cetaceans play a vital role in maintaining the structure and function of ecosystems (Bowen, 1997), often as top predators. Years of intense pressure from whaling and other hunting has led to significant declines in many populations and subsequent changes in the abundance of other marine species (e.g., Springer *et al.*, 2003).

Cetaceans often live in vast geographical areas. They swim, dive, hunt and even rest in motion, and even species with the smallest home range occupy hundreds of square kilometres of ocean. Some cetaceans exist within hundreds of thousands of square kilometres (e.g., Perrin *et al.*, 2009).

Dolphin brains are large, complex and capable of producing sophisticated behaviour, and have the same structures that are linked to human intelligence. Observations of dolphins have demonstrated culture (Krutzen *et al.*, 2005), tool-use (Patterson and Mann, 2011),

individuality (Caldwell *et al.*, 1973), and self-awareness (Reiss and Marino, 2001). The demonstration of distinct cultures (Whitehead *et al.*, 2004; Whitehead, 2011) may be one reason dolphin calves stay so long with their mothers (Rose *et al.*, 2009). Free-ranging orcas in Argentina teach their offspring how to catch seals by deliberately beaching themselves on the shore (Whitehead, 2011). Free-ranging bottlenose dolphins in Australia use sponges as a tool to protect their rostrums whilst feeding on the sea bed, a skill that has been passed down through generations (Krutzen *et al.*, 2005).

These findings could have profound implications for the ethics of human-dolphin interactions, and the keeping of cetaceans in captivity. Ironically it is this very intelligence that increases the desire to keep cetaceans for public entertainment.

Cetaceans in captivity

Cetaceans are kept in captivity in zoos, aquaria and dolphinarium/ocean theme parks in approximately 60 countries worldwide. The majority of captive cetaceans are held for public display and entertainment, whilst others are held for scientific research, military purposes and rehabilitation following stranding events (WDC, 2015).

There are 89 scientifically recognised cetacean species; individuals of 11 of these species are kept in captivity in China. These cetaceans are held for public display and entertainment, including shows and interaction programmes providing the public with close contact experiences.

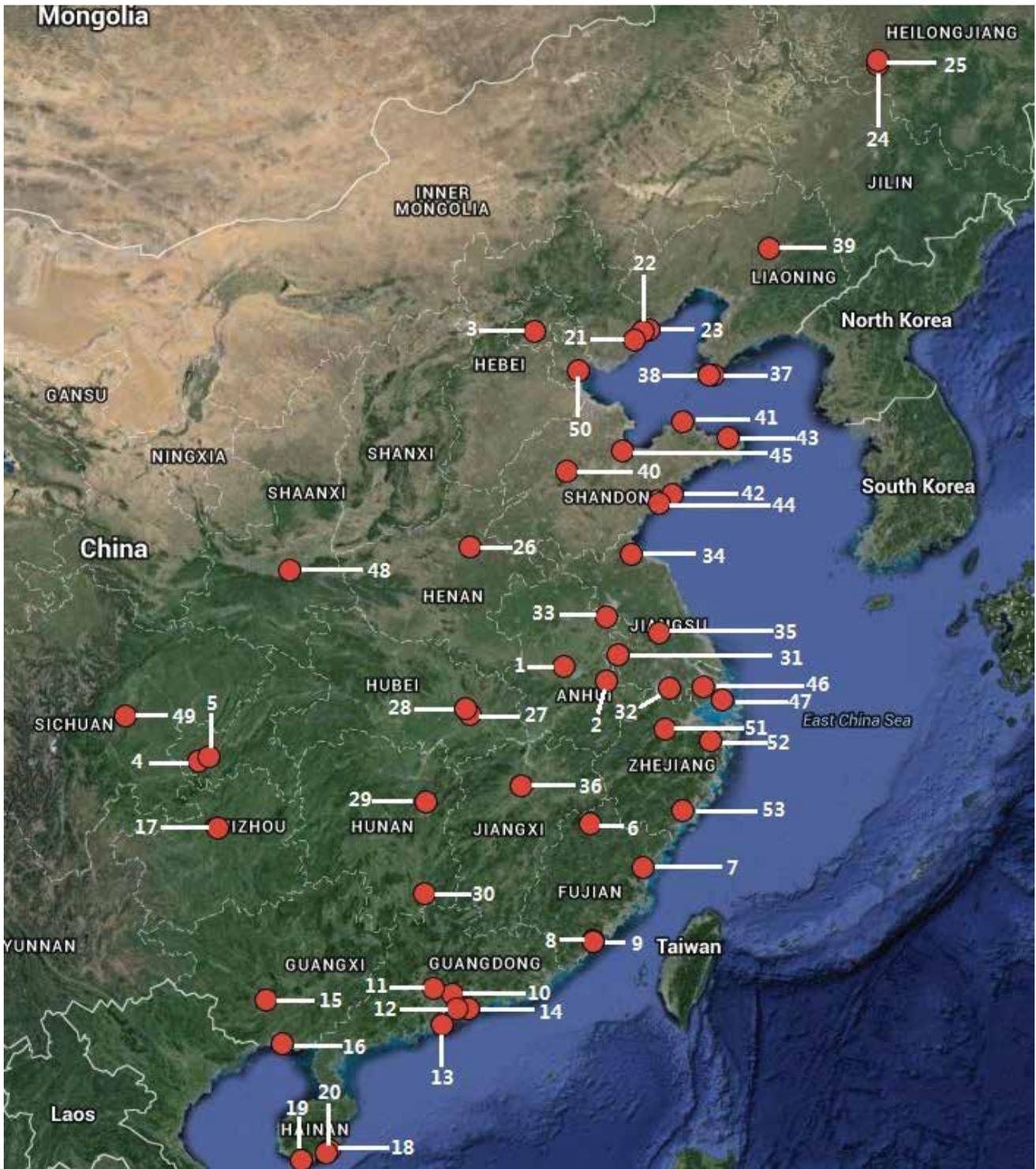


FIGURE 1. Location of ocean theme parks in China that house cetaceans in captivity (see *Appendix One*, page 33 for legend)¹⁷

OCEAN THEME PARKS IN CHINA

There are 39 ocean theme parks currently operating in China, and a further 14 under construction.¹⁵ The majority of ocean theme parks feature several performing theatres for different cetaceans (and other marine mammals), exhibitions of captive fish, invertebrates, amphibians, turtles and other marine animals, as well as non-animal related entertainment activities.

Some parks are part of real estate projects. For example, Qingdao Haichang Polar Ocean World anchors a supporting commercial real estate area of 16,735 sqm.¹⁶ A small number are stand-alone facilities within public zoos.

The majority of ocean theme parks are located in eastern China (see Figure 1).

Ocean theme parks are present in 17 Chinese provinces, and four municipalities;¹⁸ this will increase to 18 provinces following the planned opening of the Zunyi Ocean Park in Guizhou Province. Guangdong Province has the most parks (five). Shandong Province has two additional parks under construction and, once complete, Shandong will have six facilities in total (see Figure 2).

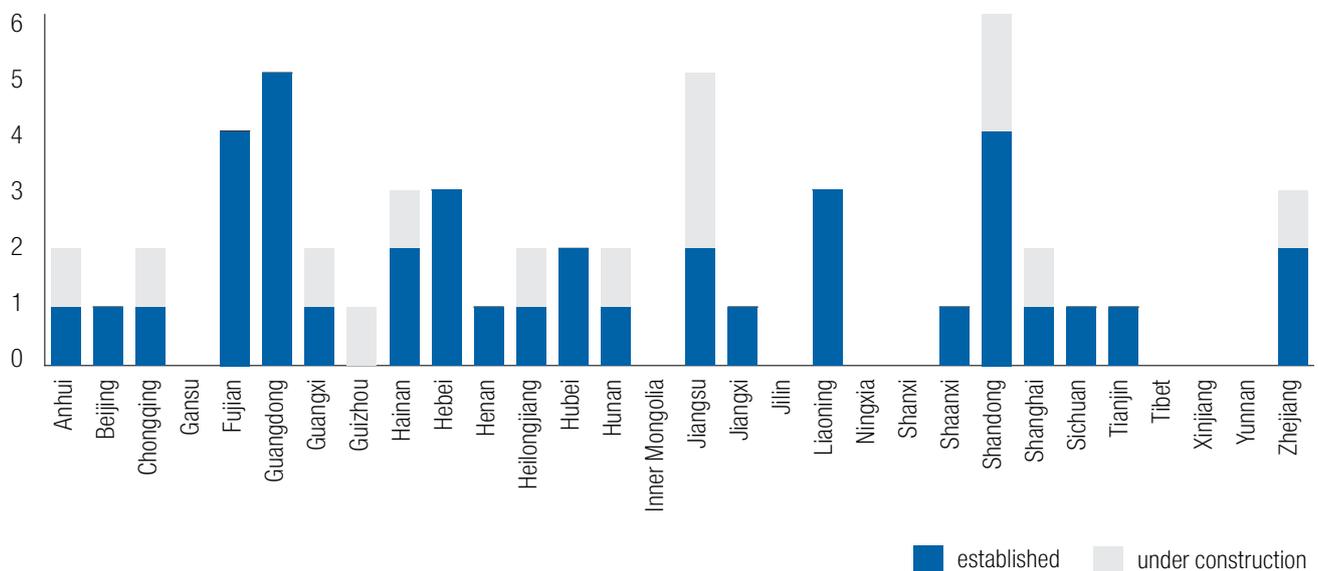
Rapidly developing industry

Thirty-nine facilities with captive cetaceans are already open to the public, and a further 14 are under construction, as previously noted.¹⁹ This demonstrates the continuing rapid expansion of this industry within China and an ever increasing demand for cetaceans and other animals to be on display within these new facilities.

One of the largest ocean theme parks under construction is the Shanghai Haichang Polar Ocean World. The park is being developed by Haichang Holdings Ltd and is due to open in 2017. Once operational, the park will reportedly offer a range of activities for the public to view and interact with marine mammals, including 12 exhibition halls and four animal interaction zones.²⁰ Initial plans released online include the development of a 'Killer Whale Arena'.²¹

Haichang Holdings currently operates five of the 39 ocean theme parks with captive cetaceans, located in Dalian, Qingdao, Tianjin, Wuhan and Chengdu. The construction of a sixth park with captive cetaceans by a single corporation demonstrates the rapid growth of this industry in China, and its popularity among the Chinese public. For the 12 months ending on 31 December 2014, Haichang Holdings

FIGURE 2. Number of ocean theme parks in mainland China by province/municipality



¹⁵ As of 29 October 2015.

¹⁶ <http://www.haichanggroup.cn/en/Real.htm>

¹⁷ https://www.google.com.hk/maps/@32.090643,115.3295695,5323896m/data=!3m1!1e3!4m2!6m1!1sz9Bf-NZooN_A.kj1wprWnVRVo

¹⁸ Beijing, Chongqing, Shanghai and Tianjin.

¹⁹ As of 29 October 2015.

²⁰ <http://en.yibada.com/articles/23192/20150330/shanghai-haichang-polar-ocean-world-polar-park-shanghai-park-pudong-tourism-arctic-wildlife-antarctic-wildlife.htm>

²¹ <https://www.facebook.com/cetabase/photos/a.797171073660273.1073741843.381051485272236/797175376993176/?type=3&theater>

reported that attendance at its theme parks increased by 10.6% from the 2013 figures, to approximately 11,494,200 visitors.²² In support of these large attendance figures, reports documenting the development of the Lianyungang Sea World Park in Lianyungang City, Jiangsu Province, suggest that this park is expecting to attract two million visitors annually.²³

In contrast to this trend, other parts of the world are demonstrating an increase in the public's understanding of the conservation and welfare concerns caused by the cetacean captivity industry, and subsequently the desire to see captive cetaceans is in decline.²⁴ Due to this increasing awareness and declining popularity, a number of countries have regulations that either ban or restrict the keeping of cetaceans in captivity. Croatia, Cyprus, Hungary, Slovenia and Switzerland have banned either the keeping of dolphins in captivity or imports of dolphins for that purpose.²⁵

Chile²⁶ and Costa Rica²⁷ have prohibited the keeping of cetaceans since 2005, and in 2013, India²⁸ passed legislation prohibiting the development of dolphinariums and acknowledging that dolphins may qualify as 'non-human persons'. Greece²⁹ banned animal performances in 2012, whilst the United Kingdom³⁰ has had no captive facilities since standards imposed in the early 1990s exceeded the capability of existing dolphinariums in the country to continue operating.

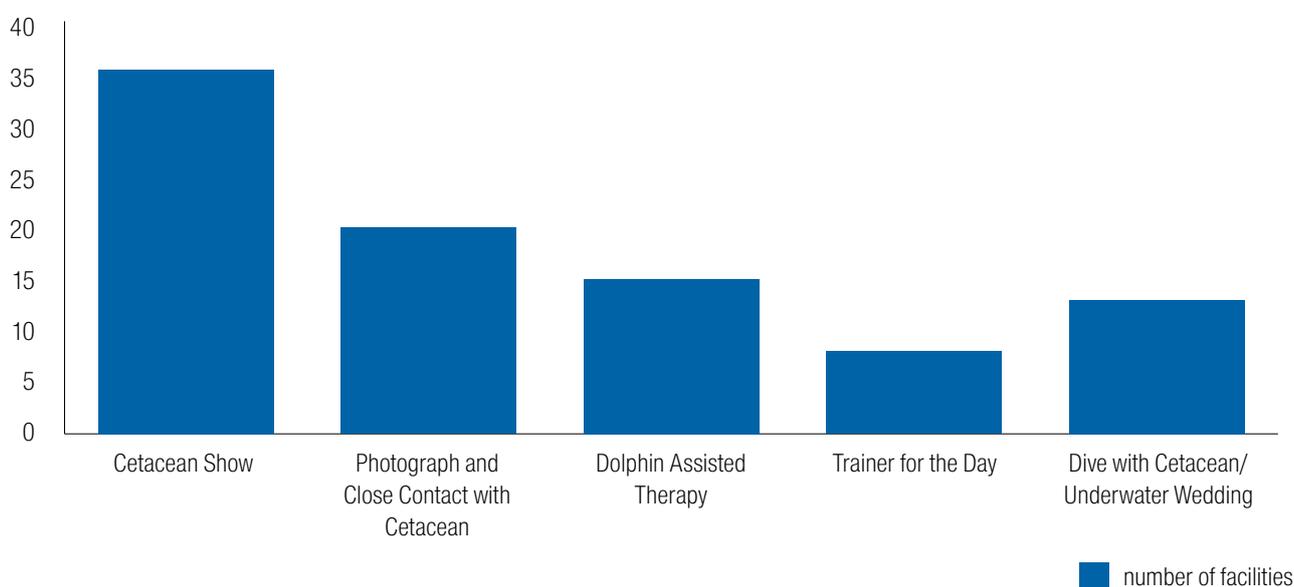
In October 2014, the San Francisco Board of Supervisors in the USA passed a non-binding resolution stating that whales and dolphins have the right to be free from life in captivity,³¹ and the city council of Malibu, California, issued a proclamation in February 2014 proclaiming that all whales and dolphins swimming offshore have the right to their own freedom and lives.³² The state of South Carolina has banned the public display of cetaceans since 1992³³ and Maui County in the state of Hawaii bans cetacean display as well.³⁴

Activities

Ocean theme parks in China offer a range of activities for the visiting public (see Figure 3).

- + 36 facilities have cetacean shows allowing audiences to watch cetaceans perform trained tricks and behaviours.
- + 20 facilities charge visitors an additional fee (RMB100-300) to have their photograph taken with cetaceans and have close contact interactions (e.g., touch, pat, hug and kiss).
- + 15 facilities periodically offer 'Dolphin Assisted Therapy' sessions.
- + Eight facilities offer visitors the chance to participate in 'trainer for the day' programmes.
- + 13 facilities routinely offer visitors the opportunity to dive with cetaceans and/or perform underwater wedding ceremonies, and additional facilities provide such opportunities on demand.

FIGURE 3. Activities available to visitors at ocean theme parks in China



²² <http://en.yibada.com/articles/23192/20150330/shanghai-haichang-polar-ocean-world-polar-park-shanghai-park-pudong-tourism-arctic-wildlife-antarctic-wildlife.htm>

²³ http://www.jfdaily.com/guonei/bwyc/201505/t20150506_1482809.html

²⁴ See, for example, <https://awionline.org/content/poll-shows-big-jump-percentage-americans-opposed-keeping-orcas-captive-public-display>.

²⁵ <http://www.bornfree.org.uk/campaigns/zoo-check/captive-whales-dolphins/global/>

²⁶ <http://uk.whales.org/news/2005/01/chile-dolphin-captivity-banned>

²⁷ <http://www.ecorazzi.com/2013/05/22/india-becomes-fourth-country-to-ban-captive-dolphin-shows/>

²⁸ <http://ens-newswire.com/2013/05/20/india-bans-captive-dolphin-shows-as-morally-unacceptable/>
²⁹ http://www.onekind.org/resources/blog_article/greek_law_on_animal_performances_stands_unchanged

³⁰ Supplement to the Secretary of State's Standards of Modern Zoo Practice; Additional standards for UK cetacean keeping.

³¹ <https://www.thedodo.com/san-francisco-cetacean-rights-777140486.html>

³² http://www.huffingtonpost.com/2015/01/12/activist-sees-public-shif_n_6454262.html

³³ <http://www.postandcourier.com/article/20131113/PC1610/131119736>

³⁴ http://www.hawaiimagazine.com/blogs/hawaii_today/2011/8/12/Hawaii_Maui_dolphin

CETACEANS IN CAPTIVITY IN CHINA

There are 11 species held in captivity and 10 currently exhibited to the public in Chinese ocean theme parks (see Figure 4).

FIGURE 4. Species of captive cetaceans in Chinese ocean theme parks, and the species' conservation status on the IUCN Red List and CITES Species Database

Species	IUCN conservation status	CITES Appendix listing ³⁵
beluga whale (<i>Delphinapterus leucas</i>)	Near Threatened	Appendix II
common bottlenose dolphin (<i>Tursiops truncatus</i>)	Least Concern	Appendix II
Indo-Pacific bottlenose dolphin (<i>Tursiops aduncus</i>)	Data Deficient	Appendix II
false killer whale (<i>Pseudorca crassidens</i>)	Data Deficient	Appendix II
narrow-ridged finless porpoise (<i>Neophocaena asiaeorientalis</i>)	Vulnerable	Appendix I
Indo-Pacific humpback dolphin (<i>Sousa chinensis</i>)	Near Threatened	Appendix I
Pacific white-sided dolphin (<i>Lagenorhynchus obliquidens</i>)	Least Concern	Appendix II
pan-tropical spotted dolphin (<i>Stenella attenuata</i>)	Least Concern	Appendix II
Risso's dolphin (<i>Grampus griseus</i>)	Least Concern	Appendix II
short-finned pilot whale (<i>Globicephala macrorhynchus</i>)	Data Deficient	Appendix II
orca (<i>Orcinus orca</i>)	Data Deficient	Appendix II

Among the cetacean species held in captivity in China, the narrow-ridged finless porpoise (*Neophocaena asiaeorientalis*) is the smallest, whilst the short-finned pilot whale (*Globicephala macrorhynchus*) is the largest publicly recorded to date. Reliable information received from within the industry and records in the CITES trade database suggest that orcas (*Orcinus orca*) have been imported into China, but none have gone on public display as of the publication date of this report.

Nine of the cetacean species kept in captivity in China are listed on CITES Appendix II. Two species, the narrow-ridged finless porpoise and the Indo-Pacific humpback dolphin, are listed on Appendix I.

In China, the Indo-Pacific humpback dolphin is listed as a First Class National Key Protected Species under the *Law of the People's Republic of China on the Protection of Wildlife*.³⁶ The hunting,

catching or killing of wildlife under first class protection can only be carried out with a hunting and catching licence granted by the Department of Wildlife Administration under the State Council.³⁷ All other cetacean species held in captivity in China are listed under the second class state protection.³⁸ The hunting, catching or killing of wildlife under second class protection can only be carried out with a hunting and catching licence granted by the Department of Wildlife Administration under the government of a province, an autonomous region or a municipality directly under the Central Government.

There are an estimated 491 cetaceans in the 39 ocean theme parks in China that are currently open to the public;³⁹ this includes:

- + 279 bottlenose dolphins (*Tursiops* spp.)
- + 114 beluga whales (*Delphinapterus leucas*)
- + 38 narrow-ridged finless porpoises (*Neophocaena*)

³⁵ <http://checklist.cites.org/#/en>

³⁶ <http://www.trafficchina.org/node/39>

³⁷ <http://www.china.org.cn/english/environment/34349.htm>

³⁸ <http://www.trafficchina.org/node/39>

³⁹ Including the seven orcas not currently on public display



TOP: At Chengdu Haichang Polar Ocean World, small holding pools flank the show pool. The animals are only allowed into the larger pool when performing.

MIDDLE: At Hangzhou Polar Ocean Park, two short-finned pilot whales 'log' (float motionless) in a holding pool. They have no access to natural light or air.

BOTTOM: Risso's dolphins are held near the surface in a net, suffering from an unidentified veterinary condition causing them to regurgitate fish at Hangzhou Polar Ocean Park.

asiaorientalis)

- + 17 Pacific white-sided dolphins (*Lagenorhynchus obliquidens*)
- + 16 pan-tropical spotted dolphins (*Stenella attenuata*)
- + 10 Risso's dolphins (*Grampus griseus*)
- + 7 false killer whales (*Pseudorca crassidens*)
- + 7 orcas (*Orcinus orca*)
- + 2 short-finned pilot whales (*Globicephala macrorhynchus*)
- + 1 Indo-Pacific humpback dolphin (aka Chinese white dolphin) (*Sousa chinensis*)

Appendix Two (page 34) provides species details per facility. These data were collected via online searches, media reports and visits to specific facilities. There is no known, publicly available species inventory for ocean theme parks in China; therefore, the life history and management data for Chinese captive cetaceans (i.e., pregnancies, births, deaths and transfers) are not readily available and the inventory in *Appendix Two* may have inaccuracies.

The most commonly-held species are the bottlenose dolphin and the beluga whale.

Hangzhou Ocean Park has the only reported short-finned pilot whales in captivity in China, two wild-caught individuals who arrived at Hangzhou from Japan in June 2014.⁴⁰ Hangzhou Ocean Park initially imported two pilot whales from Japan in 2008,⁴¹ but both have since died.⁴²

Nanning Zoo has the only reported Indo-Pacific humpback dolphin in captivity in China. It was reportedly rescued when found stranded on a beach in Beihai, Guangxi Province.⁴³

The CITES trade database lists the import of two wild-caught orcas from Russia to China;⁴⁴ this number may now be seven. Five of these are as yet unregistered with the CITES trade database. If orcas were imported without the required CITES documentation, this would demonstrate a serious breach of the CITES regulations. An immediate investigation should be conducted into the legality of these imports. Reliable sources suggest that these orcas are being held at a facility owned by the Chimelong Group, operators of the Chimelong Ocean Kingdom in Zhuhai. Further orca imports into China are expected in the coming years. Shanghai Haichang Polar Ocean World is currently under construction, and has included the construction of an orca arena in its environmental impact evaluation paper.⁴⁵

⁴⁰ http://hznews.hangzhou.com.cn/tupian/content/2014-06/07/content_5313039.htm

⁴¹ http://www.ceta-base.com/phinventory/phins_huangzhou.html

⁴² Personal communications with Hangzhou Ocean Park staff.

⁴³ <http://www.chasingmirages.com/?p=637>

⁴⁴ http://trade.cites.org/en/cites_trade

⁴⁵ <http://www.envir.gov.cn/docs/2015/20150401073.htm>



A calf and its mother in a holding pool at Zhuhai Chimelong Ocean Kingdom.

CAPTIVE BREEDING

There is no centralised, publicly available inventory of captive cetaceans in China, nor a public record of their survival and reproductive rates. Life history information such as pregnancies, stillbirths and calf mortality, and records of transport of individuals between facilities, are either absent or extremely difficult to obtain. The media provide the only currently publicly available information on captive breeding of cetaceans in China.

Nine records of captive breeding, associated with six ocean theme parks, have been identified in Chinese media:

1. Ocean Springs Polar World, Jinan: the birth of a bottlenose dolphin was announced to the media in August 2015.⁴⁶
2. Dalian Laohutan Ocean Park: the birth of two bottlenose dolphins was publicly announced in July 2015.⁴⁷
3. Chimelong Ocean Kingdom: the birth of a bottlenose dolphin occurred in July 2013.^{48,49} Two additional bottlenose dolphins

were born in October and December 2014⁵⁰ and put on public display in May 2015.⁵¹ Media reports suggest the calves were born to wild-caught parents.

4. Changsha Underwater World: the birth of a beluga whale occurred in October 2014. The calf died⁵² within one month, as confirmed by a visit to the facility in November 2014. Media reports suggest this was the first captive-born beluga whale in China.⁵³ Its death is believed to be the result of limited space in the tank, which reduced its chances of being successfully nursed by its mother.⁵⁴
5. Qingdao Haichang Polar Ocean World: the birth of a false killer whale occurred in July 2012.⁵⁵ Mother and calf are now both used in public performances.⁵⁶
6. Fushun Royal Ocean World: the birth of a 'wholphin'—a cross between a male whale and a female dolphin—was reported by the media in July 2011. The calf was in fact a cross between a bottlenose and a Risso's dolphin, but it did not survive.^{57,58}

⁴⁶ http://sd.ifeng.com/view/detail_2015_08/07/4204457_0.shtml

⁴⁷ http://dalian.runsky.com/2015-07/10/content_5308614.htm

⁴⁸ <http://www.xzfamily.com/portal.php?mod=view&aid=32896>

⁴⁹ <http://gzcrocpark.chimelong.com/group/news/news-detail.aspx?id=3641>

⁵⁰ <http://www.chinanews.com/df/2015/05-07/7260577.shtml>

⁵¹ <http://zh.chimelong.com/news/news-detail.aspx?id=284>

⁵² <http://www.dailymail.co.uk/news/article-2815079/Incredible-video-captures-moment-white-whale-Zhou-Ya-gives-birth-calf-Chinese-aquarium.html>

⁵³ <http://www.independent.co.uk/environment/nature/video-watch-the-amazing-moment-a-beluga-whale-gives-birth-in-chinese-aquarium-9829319.html>

⁵⁴ Personal communications with Ocean Park staff.

⁵⁵ http://www.qingdaonews.com/content/2012-07/04/content_9307158.htm and <http://news.cntv.cn/2015/06/21/VIDE1434833761921465.shtml>

⁵⁶ <http://qingdao.iqilu.com/yxqd/2014/0527/2004996.shtml#7>

⁵⁷ http://www.dailymotion.com/video/xjv0zj_baby-wholphin_news

⁵⁸ http://news.xinhuanet.com/society/2011-07/05/c_121624004.htm

CONSERVATION, EDUCATION AND RESEARCH

Facilities in China claim they play an important role in species conservation, and educate visitors on conservation matters through their *in situ* conservation projects, such as providing financial support for projects or staff participation in research in the wild.^{59 60 61 62}

In situ cetacean conservation and research

For the 39 facilities, no public information could be found concerning the parks' involvement with *in situ* cetacean conservation projects. For 38 of them, no information on research related to the conservation of free-ranging cetacean populations could be identified either. Only Chimelong Ocean Kingdom, Zhuhai provides information about funds it provides toward research on the Chinese white dolphin⁶³ (see Figure 5).

Of the 14 facilities visited, 13 provide visitors with information on cetacean show times, locations and park maps. None of these materials include any *in situ* conservation-related information. Nine of the 14 facilities had public information signs relevant to specific species, but no information was provided on *in situ* conservation.

Captive research

Only five of the 39 facilities stated any involvement in cetacean research projects. Research papers involving captive cetaceans were found in a number of databases (see Figure 6). The research subjects include physiology (Luo, 2007), cetacean acoustics, captive illnesses^{64 65} and captive breeding (Luo and Lin, 2005). These research papers are primarily relevant to the health and welfare of captive cetaceans and their husbandry, but have minimal relevance to *in situ* conservation.

Education

Thirteen of the 14 facilities visited had information leaflets available. None of the leaflets contained any species-specific information. The leaflets provide visitors with a map of the facility and details of the cetacean shows.

Nine of the 14 facilities provide species-specific information signs that offer the animals' species name, their place of origin, a description of their performance abilities, and their willingness to interact with the public at the cetacean exhibits. Four of the nine facilities provide signs

FIGURE 5. The number of ocean theme parks in China contributing to *in situ* cetacean conservation and research

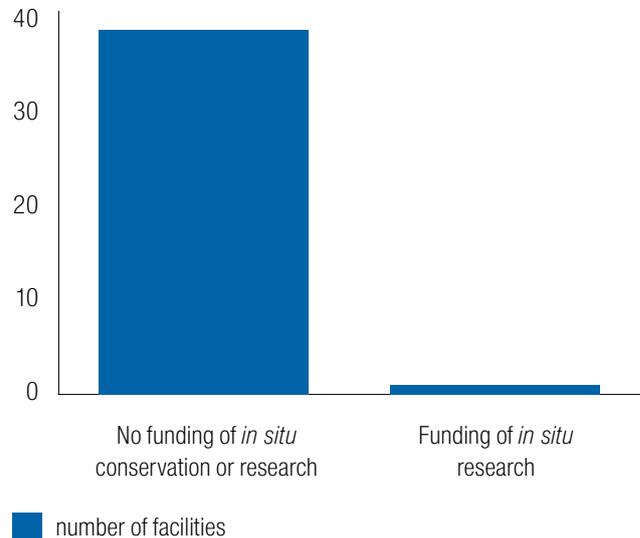
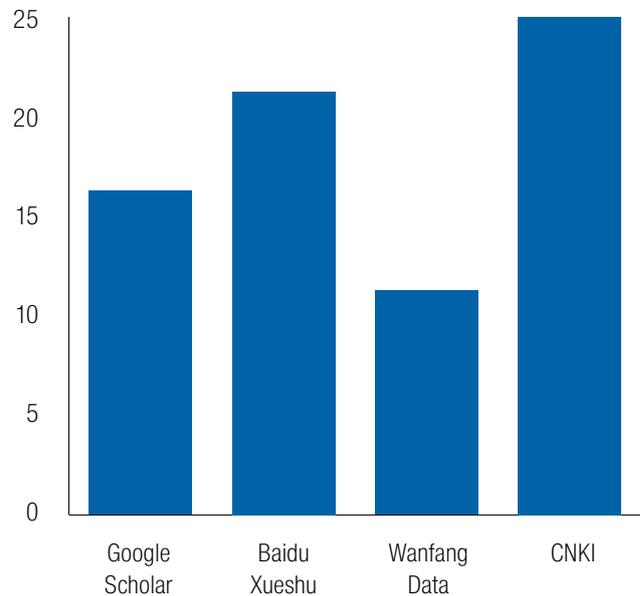


FIGURE 6. The number of research papers identified in various online databases involving captive cetaceans in China



⁵⁹ http://www.cafs.ac.cn/show.asp?ResName=newsab*order=7670

⁶⁰ http://www.dlxww.com/gb/daliandaily/2004-06/27/content_358416.htm

⁶¹ http://www.soa.gov.cn/xw/dldwdt/jrdw_157/201506/t20150601_38120.html

⁶² <http://www.pecsoa.gov.cn/docs/gzdt/2014-09-30/1412040044517.html>

⁶³ <http://www.huaxia.com/gdtb/gdyw/szyw/2014/03/3818166.html>

⁶⁴ <http://lib.cnki.net/cjfd/HLJX201110083.html>

⁶⁵ <http://www.cnki.com.cn/Article/CJFDTotal-HLJX201119048.htm>



TOP: A young girl covers her ears against the loud background music during the cetacean show at Guangzhou Ocean World.

BOTTOM: Signage at Dalian Laohutan Ocean Park has no conservation information; instead, it describes the performing ability of the belugas on display.

with specific habitat information, natural history and/or conservation information, such as the size of the remaining wild population and CITES status.

Whilst facilities claim they are playing an important role in species conservation and public education, this does not appear to be the case when an analysis of the research activities and publicly available information is undertaken. With their many millions of visitors, such facilities are ideally placed to raise awareness of the conservation concerns faced by cetacean populations. They have the potential to educate the Chinese public on threats facing free-ranging cetacean populations and actions they can take to help conserve cetaceans in the wild. This opportunity is not being realised within the Chinese ocean theme park industry.



TOP: Changsha Underwater World's 'public education corner', with a few information posters. People pay to wear the costumes and have their photographs taken with the stuffed tigers.

BOTTOM: At Guangzhou Ocean World, a dolphin beached on a 'slideout' waits for visitors to participate in an interaction session. The staff are calling out to people to participate whilst the dolphin maintains this uncomfortable position.

USE OF CETACEANS FOR PUBLIC ENTERTAINMENT



A beluga whale at Dalian Laohutan Ocean Park, spitting water on command at the audience.

The ocean theme parks in China are centres of entertainment, with activities on offer for the public including cetacean shows and cetacean interaction opportunities, where visitors have the opportunity to have close contact with the individuals on display.

Cetacean shows

Thirty-six of the 39 facilities have cetacean shows. The 14 facilities visited have cetacean performances, whilst three of the 14 do not have cetaceans on display outside of the shows. All of the shows are set to loud music.

Bottlenose dolphins and beluga whales are the main performing animals. False killer whales and Pacific white-sided dolphins are also used in performances at the parks visited.

The cetacean shows introduce the individual animals to the public and demonstrate the tricks and behaviours they have been taught. During the show, a host provides commentary and invites members of the audience to interact with the animals. Four of the 14 facilities display background slides documenting the evolution of cetaceans and provide imaginary cetacean-human stories. For example, during the cetacean show at Dalian Sun Asia Ocean World, the beluga whales are described as the mounts of a human prince; and the dolphins are described as assistants of the prince to fight against an evil spirit to win a mermaid. There is little factual information in the narration for the show.

Video footage was taken at all 14 facilities visited and analysed alongside the commentary and background slides for content relevant

to cetacean conservation and education (see Figure 7). The average length of a cetacean show was 20 minutes, and the average amount of time spent on education and conservation content was three minutes, 13 seconds (16%).

Among all the shows attended, none mentioned the social nature of cetaceans, their natural diets, habitats, behaviours or their geographical distributions in the wild. No show commentaries mentioned the degradation of the ocean environment or other threats facing free-ranging cetaceans, or provided details of measures the public can take to help protect free-ranging cetaceans and their habitats.

- + Eleven of the 14 facilities provided information on the country from which the individual animals were imported.
- + Three facilities provided information about cetacean body parts.
- + Four facilities informed the public that cetaceans are under the second class protection of the *Law of the People's Republic of China on the Protection of Wildlife*. However, they did not provide information to explain what such protection provides.
- + Seven facilities provided the species names of the individuals displayed.

Many of the commentaries and slides used during the shows provided misleading information. For example, commentaries claimed that:

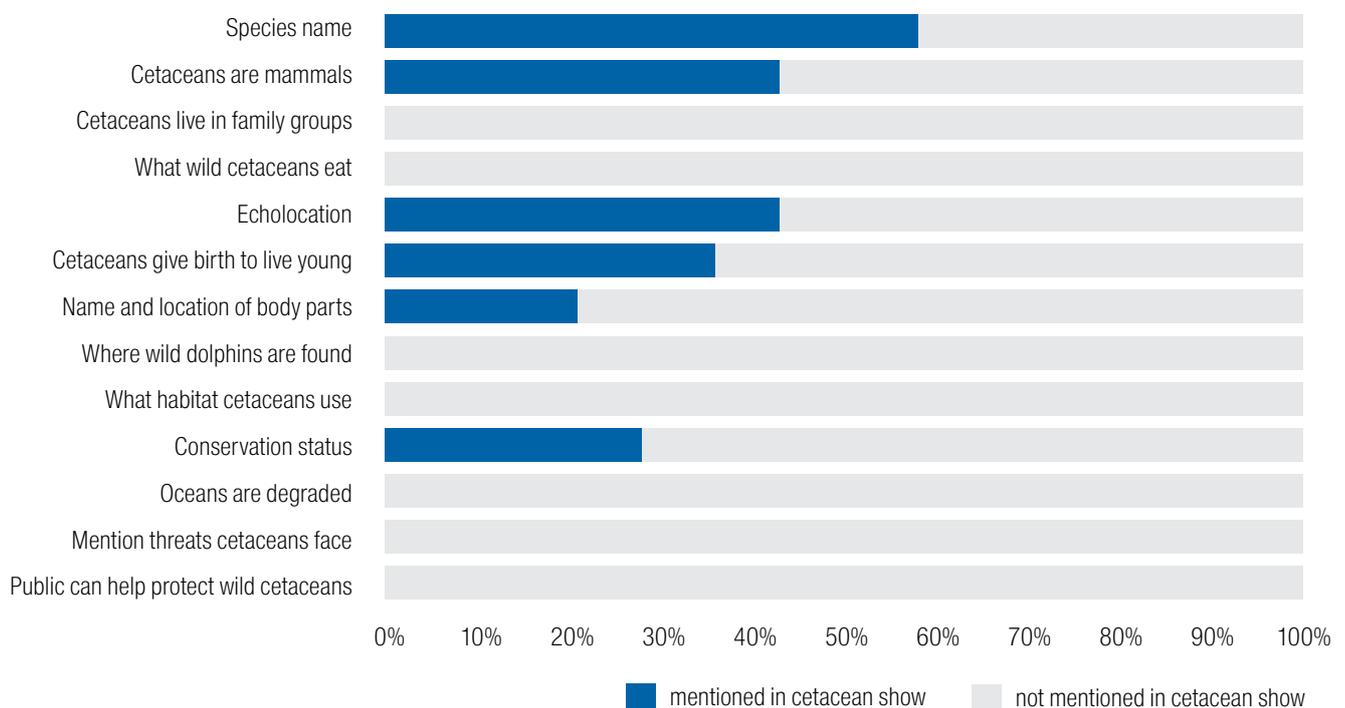
- + Dolphins 'love to perform to entertain the audiences' and 'love to meet people'.
- + Beluga whales swimming in circles is their natural behaviour.
- + The performing animals are glad to move to their new home in captivity.
- + The captive cetaceans living in their facilities all treat the trainers as their family members and vice versa.

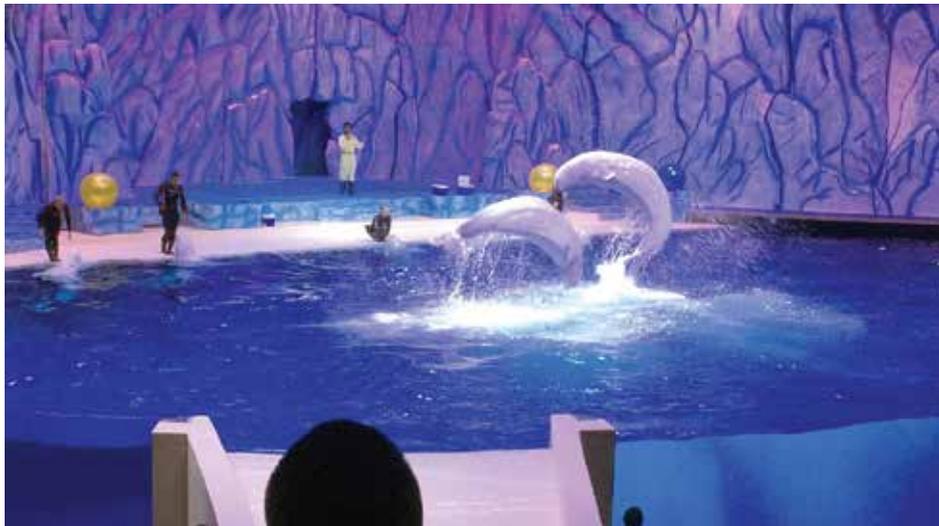
Common introduction stories included the 'princess or prince falling in love with someone who turned out to be a dolphin', 'beluga prince/princess rescuing a human lover' and 'fishermen are rescued by cetaceans, which have magical powers'.

Captive cetaceans performed a variety of tricks and behaviours during the shows. Routines included:

- + dolphins towing children in inflatable boats around the display tank
- + dolphins spinning hoops on their rostrums
- + dolphins jumping through hoops

FIGURE 7. Analysis of subject content in commentary given during 24 dolphin shows at 14 ocean theme parks in China





- + dolphins jumping across a piece of string stretched across the tank and raised above the water
- + dolphins asked to solve mathematical equations by pushing a paddle with their rostrum to indicate a certain number
- + dolphins swimming backwards with their bodies staying vertical (tail-walking)
- + dolphins and beluga whales swimming toward the audiences and waving their tail flukes to 'greet' the audience
- + dolphins and beluga whales pushing trainers through the water and into the air
- + dolphins and beluga whales vocalising in air under the trainers' instructions
- + dolphins and beluga whales beaching themselves onto the stage
- + dolphins and beluga whales hitting balls with their tail flukes, toward the audience
- + dolphins and beluga whales being ridden by the trainers and pushing the trainers out of the water onto the stage
- + dolphins and beluga whales swinging and nodding their heads with the background music
- + dolphins and beluga whales hitting plastic balls with their rostrums
- + beluga whales breaching out of the water
- + beluga whales spraying water toward the audience

The majority of these behaviours are unnatural actions, taught in the captive environment, which provide no specific benefit for the survival of the individual animals in the wild. Although free-ranging cetaceans do breach out of the water and from time to time some individuals may naturally beach themselves, these types of behaviour in the wild have specific ecological functions. The mythical stories offered are without conservation benefit. They are an attempt to connect people with cetaceans but are misleading.

Swimming with dolphins

Thirteen facilities in China offer 'swim with dolphin' experiences for visitors. These are closed sessions allowing visitors to enter the water with dolphins under the guidance of a trainer. In some cases the ocean theme parks promote this activity as one that connects and bonds humans with cetaceans, and many target this activity toward children, claiming that, for example, children with autism can benefit from such activity.

No swim-with sessions were directly observed within the Chinese ocean theme parks visited, but this practice may lead to serious welfare and health impacts. Observations of swim-with facilities globally demonstrate that dolphins often prefer not to interact with swimmers but are rarely provided with a refuge area and therefore cannot escape from human swimmers with whom they do not want to interact (see, e.g., Kyngdon *et al.*, 2003). Dolphins are wild and unpredictable animals, even when well-trained. People have been injured, sometimes seriously, swimming with dolphins (Frohoff, 1993). In 2004, a man taking part in such an experience was admitted to hospital after sustaining injuries from a captive dolphin at the Miami Seaquarium in the USA. In 2008 a dolphin at the Dolphin Academy Curacao in the Caribbean breached and landed on top of three swimmers. One person was hospitalised with symptoms of paralysis (Rose *et al.*, 2009)

The public may also be at risk of transmitting diseases to and contracting diseases from dolphins. A survey of people who regularly came into contact with marine mammals resulted in 23% of respondents reporting the development of skin rashes or similar ailments (Hunt *et al.*, 2008).



PAGE 19, TOP: A school group attending a cetacean show at Chengdu Haichang Polar Ocean World.

MIDDLE: Beluga whales performing at Zhuhai Chimelong Ocean Kingdom. Belugas in the wild rarely leap out of the water in this way.

BOTTOM: Posters at Fushun Royal Ocean Park in the cetacean theater advertising photo opportunities, with prices.

PAGE 20, ABOVE: A child is towed in an inflatable dinghy by a dolphin during a performance at Chengdu Haichang Polar Ocean World.

ANIMAL MANAGEMENT AND ITS CONTRIBUTION TO WELFARE

An animal's 'welfare' refers to the feelings and sensations the animal experiences within itself. These 'feelings and sensations' are known as affective states (see *Appendix Three*, page 37) (Mellor and Reid, 1994).

- + An animal can be said to be experiencing 'negative' welfare when it is experiencing negative affective states, e.g., fear, hunger, pain. These are states that the animal is motivated to minimise.
- + An animal can be said to be experiencing 'positive' welfare when it is experiencing positive affective states, e.g., confidence, comfort, reward. These are states the animal is motivated to experience.

In captivity, good welfare practice can be regarded as minimising negative states whilst promoting positive states. An animal's welfare state varies along a spectrum from poor welfare to good welfare depending upon whether or not the management conditions satisfy an individual animal's needs. The way in which an animal in captivity is managed will have a direct impact upon that individual animal's welfare. Changes in an animal's physical and behavioural circumstances can either directly improve or directly decrease its welfare state.

Based on on-site visits, the Alliance has a number of serious concerns about the management of cetaceans in captivity in China, which may present an important risk to the animals' health and welfare.

The display tanks are, on average, approximately 6m deep, 15m wide and 20m in length. Such facilities cannot meet the complex behavioural needs of the species they exhibit. In the wild, the species commonly held in captivity travel between 40 and 150 kilometres per day, swim at speeds between five and 50 kilometres per hour, and routinely dive between 10 and 300 metres deep (Perrin *et al.*, 2009). These types of behaviours are severely inhibited for the individuals in Chinese ocean theme parks.

Animals are rarely exhibited in natural family groupings. An analysis of the capture reports (*Appendix Four*, page 38) shows that many facilities have been importing animals for a number of years and

therefore the individual animals that are exhibited together are unlikely to have come from the same family groups. Many cetaceans form complex societies based on kinship and certain species are known to retain family bonds for life (Perrin *et al.*, 2009). Forcing non-related animals together may lead to the development of negative social interactions between individuals.

The cetacean tanks on public view at the 14 facilities investigated provide no shelter for individuals to escape from other individuals within their tank or from public view. Individual animals at Jinan Polar Springs Ocean World and Xian Quijiang Polar Ocean World were observed expressing aggressive behaviours, including raking and bumping into one another and opening mouths toward each other, and toward visitors who stood close to the tanks or tapped on the acrylic walls.⁶⁶

The display tanks lack structural complexity, with little or no topographical features, thus leaving them bare and largely featureless. Only four of the 14 parks investigated were observed providing any form of enrichment for the cetaceans in the public display tanks, including foam surroundings and floats with which individuals could interact. Such conditions are likely to cause animals to become bored. Under-stimulated and bored animals are more likely to 'chew' metal bars and 'mouth' concrete tank walls, putting them at risk of damaging their teeth. Tooth breakage can leave the pulp of some teeth exposed and food can become impacted in any cavities that form. If left alone, the decaying pulp can become a serious health concern. The reaction of the cetacean's immune system to teeth damaged in this way is to create inflammation and eventually a focus for systemic infection.⁶⁷

Visitor numbers at Chinese ocean theme parks are high. For example, Chimelong Ocean Kingdom recorded 80,000 visitors on February 22, 2015,⁶⁸ with numbers peaking on weekends and holidays. High visitor numbers generate a high degree of noise around cetacean exhibits. This noise is particularly problematic for cetaceans, as they are highly dependent on their sense of hearing (Couquiaux, 2005). The music accompanying the performances was recorded at levels reaching 110 dB. This level is equal to noise levels recorded during the use of a

⁶⁶ <http://v.qq.com/page/u/p/x/u0160bw9kpx.html>

⁶⁷ <http://theorcaproject.files.wordpress.com/2011/01/keto-tiilikum-express-stress-of-orca-captivity.pdf>

⁶⁸ <http://www.hengqin.gov.cn/hengqin/hqbb/201502/943e4da5cebb45a2aed8b5016b00832b.shtml>



Dolphins stationed at the gate of their small holding pool during the performance at Chengdu Haichang Polar Ocean World.

chainsaw.⁶⁹ High noise levels are likely to cause animals a significant degree of stress (Couquiaud, 2005), whether above the water's surface or underwater. We were unable to measure noise levels underwater, but pumps and other machinery can be very noisy below the surface (Couquiaud, 2005).

Staff in some facilities were observed acting in ways that may directly cause the animals stress and discomfort. Trainers at Penglai Ocean World were seen knocking on the glass and shouting to attract the attention of the animals.⁷⁰ A trainer at Chengdu Haichang Polar Ocean World was seen poking a beluga whale with a stick for refusing to perform an expected behaviour.^{71 72}

Many cetaceans are housed in tanks that are in need of some maintenance. Ten facilities⁷³ had paint peeling off the walls and rusted gates and poles, and some had particulates, faeces and other foreign objects floating in the water column.



A dolphin training session at Chengdu Haichang Polar Ocean World.

⁶⁹ <http://www.gsecg.com/typical-and-recommended-residential-noise-levels-residential-secondary-glazing>

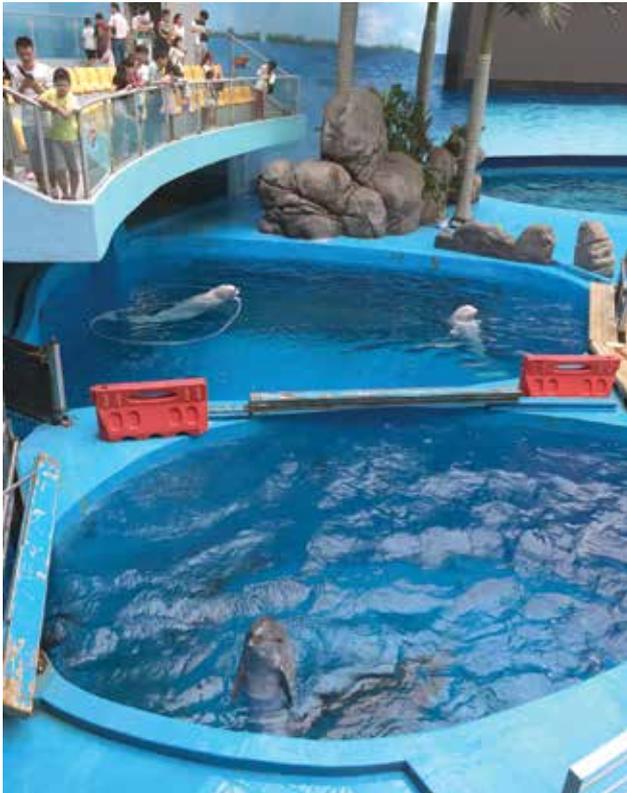
⁷⁰ http://v.youku.com/v_show/id_XOTA2MzUxNDE2.html

⁷¹ http://v.youku.com/v_show/id_XOTA2MzU0ODc2.html

⁷² <http://ww3.sinimg.cn/bmiddle/e7c7ecaa1w1epax3md4gj20hs2nvwm.jpg>

⁷³ Dalian Laohutan Ocean Park, Dalian Sun Asia Ocean World, Changsha Under Water World, Wuhan Haichang Polar Ocean World, Hangzhou Polar Ocean World, Shanghai Changfeng Ocean World, Penglai Ocean World, Jinan Ocean Spring Polar World, Guangzhou Ocean World, and Harbin Polar World.

ACCIDENTS AND ILLNESSES



Beluga whales and bottlenose dolphins in the same enclosure complex at Chengdu Haichang Polar World. These two species inhabit very different habitats (one polar, one tropical to temperate) in the wild.

Information on accidents and illnesses sustained by captive cetaceans in Chinese ocean theme parks has been obtained via the media. Articles have reported accidents to captive cetaceans due to injuries sustained in training sessions, the ingestion of inappropriate items, and fights between individual animals. These incidents are likely to provide only a snapshot of the types and number of accidents and illnesses experienced by captive cetaceans in Chinese ocean theme parks.

- + In February 2015, a dolphin at Dalian Laohutan Ocean Park was reportedly injured during a training session, whilst performing a trained behaviour.⁷⁴ Media reports suggested the dolphin seriously injured its jaw when it hit a handrail when (according to the staff at the facility) “the dolphin misunderstood a signal from the trainer”.^{75 76}

- + In February 2015, a dolphin at Nanchang Zoo was reported to have swallowed a steel cleaning ball during a training session, and the report claimed that the dolphin ‘stole’ it. The surgery the next day reportedly took 40 minutes to remove it.⁷⁷
- + In February 2015, a beluga whale at Harbin Polar World was reported to have swallowed a plastic ball. In April 2015, staff made an attempt to remove the ball using a suction tube, but after some seven hours of trying the attempt failed.⁷⁸
- + In December 2014, four Risso’s dolphins at Hangzhou Ocean Park were being held in a net during the investigative visit. Staff at the facility confirmed this was due to an illness.⁷⁹
- + In July 2014, a recently imported beluga whale at Harbin Polar World had to be force-fed to encourage it to eat. Reports suggest it had stopped eating after arrival at the park.⁸⁰ A Russian veterinarian was brought to the park to carry out the force feeding. The whale is reportedly still alive.⁸¹
- + In November 2013, a dolphin at Nanchang Zoo reportedly swallowed a large ball. Reports suggest the veterinarians took some 17 hours to remove the foreign object.⁸²
- + In March 2012, media reports documented an injury to a bottlenose dolphin at Dalian Laohutan Ocean Park, which was reportedly caused through fighting with another dolphin.⁸³ Reports suggested the eight-year-old female suffered a torn dorsal fin. The wound reportedly became infected, prompting the park to bring in a Japanese expert to perform a dorsal fin amputation.⁸⁴
- + In March 2012, a dolphin reportedly swallowed a ball at Nanjing Underwater World. Reports suggested the dolphin was forced to “endure multiple attempts to remove the ball from his stomach”. The staff reportedly managed to burn a small hole into the ball so it could be retrieved by a hook, a rope was tied to it, but it subsequently broke. Finally, with the aid of medical steel wire, the foreign object was removed in a three-hour-long operation.⁸⁵
- + In January 2012, a dolphin at Nanjing Underwater World reportedly swallowed a volleyball, which was removed after two hours of physical intervention by the staff at the park.⁸⁶

⁷⁴ http://health.gmw.cn/newspaper/2015/02/09/content_104429196.htm?utm_source=bshare&utm_campaign=bshare&utm_medium=sinaminiblog&bsh_bid=574692338

⁷⁵ http://health.gmw.cn/newspaper/2015/02/09/content_104429196.htm?utm_source=bshare&utm_campaign=bshare&utm_medium=sinaminiblog&bsh_bid=574692338

⁷⁶ http://www.hilizi.com/html/2015/focus_top_0208/53675.html

⁷⁷ <http://jiangxi.jnews.com.cn/system/2015/02/13/013626249.shtml>

⁷⁸ http://hij.ifeng.com/world/detail_2015_04/26/3829092_

⁷⁹ During a second visit in September 2015, one of the four net-held Risso’s dolphins had disappeared, and staff did not reply if it was dead or transferred to another institution.

⁸⁰ <http://shanghaiist.com/2014/07/25/force-feeding-saves-beluga-whale-harbin.php>

⁸¹ Personal communication with Harbin Polar World staff in July 2015.

⁸² <http://www.jnews.com.cn/xrb/system/2013/11/30/012824839.shtml>

⁸³ <http://digitaljournal.com/article/321391#ixzz2ZCoEyMVC>

⁸⁴ http://news.lnd.com.cn/html/2012-03/17/content_2213340.htm

⁸⁵ <http://digitaljournal.com/article/321391#ixzz2ZCoEyMVC>

⁸⁶ <http://v.ifeng.com/news/society/201201/dc1f2777-8dc9-4622-8ec1-2261ccca61d1.shtml>

DEATHS

Little information is publicly available on the deaths of cetaceans in Chinese ocean theme parks. Two pilot whales were reported to have died after 2008. They were estimated to be approximately three years old when they were imported into Hangzhou Ocean Park in September 2008.⁸⁷ In September 2010, Chengdu Haichang Polar Ocean World had two wild-caught false killer whales, both used in the public performance. Both have since reportedly died.⁸⁸

Globally, capture, transport and confinement have considerable impact on cetacean mortality. Research demonstrates that mortality rates for bottlenose dolphins increase six-fold during and immediately after capture (Small and DeMaster, 1995). A similar mortality spike is seen after every transport between facilities (Small and DeMaster, 1995). The median survival estimate for captive orcas is just 6.1 years, meaning that 50% of captive orcas die after spending this amount of time in captivity (Jett and Ventre, 2015). The median survival rate for captive-born orcas (14.1 years) is significantly higher than for wild-captured orcas (5.5 years) (Jett and Ventre, 2015). Survival of captive

orcas has generally improved over time, although survival to age milestones (sexual maturity and menopause) is poor when compared to free-ranging orcas (Jett and Ventre, 2015). Free-ranging beluga whales may live for 60 years or so (Stewart *et al.*, 2006), but captive beluga whales routinely die before the age of 30. Likewise, mortality rates for captive beluga whales are higher than in the wild (Small and DeMaster, 1995; Woodley *et al.*, 1997).

An analysis of the CITES trade database shows that the number of bottlenose and Risso's dolphins currently held captive within China is much lower than the number imported. CITES figures (see *Appendix Five*, page 40) show the import of 300 bottlenose dolphins between 1997 and 2013, and 33 Risso's dolphins between 2004 and 2013. Yet investigations document only 279 bottlenose dolphins and 10 Risso's dolphins held in Chinese ocean theme parks. If we assume a 20-year lifespan (at the lower end of longevity estimates) for both species, these figures demonstrate that a large number of individuals have apparently died relatively young.



At Penglai Polar Ocean World, the sign on the acrylic wall of this tank (holding a finless porpoise) reads 'rescued.' Apparently no attempt was made to rehabilitate and return this animal to the wild.

⁸⁷ <http://www.xsnet.cn/news/yc/2008/10/19/763042.shtml>

⁸⁸ Personal communication with Chengdu Haicang Ocean Park Staff.

LIVE CAPTURE

Media articles, investigations and direct correspondence with ocean theme parks documented the presence of 491 captive cetaceans in China.

The majority of these individuals were reportedly captured in the wild and their arrival into China documented within the media (*Appendix Four*). These media reports suggest that cetaceans for Chinese ocean theme parks have been sourced from waters off the coasts of Russia, Japan, and Solomon Islands.

The conservation status of most of these targeted cetacean populations is unknown, but in the case of the beluga whale population in Russia, where virtually all of the beluga whales found in Chinese ocean theme parks originate, the population trend is downward.⁸⁹ The Chinese ocean theme park industry is therefore directly contributing to the decline of some free-ranging cetacean populations.

Capturing free-ranging cetaceans for the Chinese ocean theme park industry employs methods that are invasive, stressful and potentially lethal. Family and group members are separated from each other and studies are rarely conducted to ascertain what happens to those animals left behind (Reeves *et al.*, 2003). Research on bottlenose dolphins and modelling of orca societies show that certain individuals play a crucial role in holding communities together. If these individuals are removed, the group may lose cohesion and disperse (Lusseau and Newman, 2004; Williams and Lusseau, 2006). Further details of the capture methods are provided in *Appendix Six* (page 41).

Free-ranging cetaceans captured for the ocean theme park industry in China are likely to undergo at least two periods of transportation before reaching their final destination, including shipment from their wild habitat to a holding/training facility, followed by a second, more extensive transportation period that will include transport by both air and road from their country of origin to their Chinese destination.

Media reports documenting these transports show animals in slings surrounded by large numbers of facility staff and press photographers, conditions that are likely to cause a significant amount of stress for an individual animal unaccustomed to such

situations. Reports document journey times of over 40 hours⁹⁰ for some individual animals.

Costs

Ocean theme parks in China purchase their cetaceans from companies that specialise in the capture and, in some cases, subsequent training of newly-captured cetaceans. The costs associated with their purchase are typically high. Examples documented within the Chinese media include:

- + In June 2015, Wuyi Mountain Tianhong Polar Ocean Park reportedly paid US\$520,000 (RMB3.2 million) for eight bottlenose dolphins from Japan.⁹¹
- + In September 2014, Kaifeng Ocean Park reportedly paid US\$250,000 (RMB1.6 million) for two beluga whales from Russia.⁹²
- + In July 2011, Hefei Ocean World reportedly paid US\$725,000 (RMB4.5 million) for three wild-caught bottlenose dolphins from Japan.⁹³
- + In July 2010, Royal Ocean World Marine Park in Fushun City reportedly paid US\$738,000 (RMB4.5 million) for four dolphins to be used in an interaction programme.⁹⁴
- + In July 2007, Guangzhou Ocean World reportedly paid US\$645,000 (RMB4 million) for four dolphins imported from Japan.⁹⁵
- + In November 2005, Guangzhou Ocean World reportedly paid US\$480,000 (RMB3 million) for two beluga whales imported from Russia.⁹⁶

These animals are being imported by established import/export companies. For example, the import of eight wild-caught dolphins to the Wuyi Tianhong Ocean Park in June 2015 was carried out by Dalian Long Rui Import & Export Co. Ltd., using China Postal Airlines as a carrier.⁹⁷

⁸⁹ http://www.nmfs.noaa.gov/pr/permits/georgia_aquarium_belugas.htm

⁹⁰ <http://travel.sina.com.cn/china/2014-10-30/0910282785.shtml>

⁹¹ http://hznews.hangzhou.com.cn/jingji/content/2015-06/24/content_5819680_2.htm

⁹² <http://www.kfjijd.com/news/hyg/22.html>

⁹³ <http://news.hf365.com/system/2011/07/30/011039807.shtml>

⁹⁴ http://www.huffingtonpost.com/2010/07/09/dolphins-help-treat-autis_n_640963.html

⁹⁵ http://www.lifeofguangzhou.com/node_10/node_37/node_85/2007/07/22/118506808823884.shtml

⁹⁶ <http://www.newsgd.com/citiesandtowns/guangzhou/news/200511140064.htm>

⁹⁷ http://hznews.hangzhou.com.cn/jingji/content/2015-06/24/content_5819680_2.htm

CHINESE NATIONAL GOVERNMENT REGULATIONS

There are two national laws that apply to the keeping of cetaceans in captivity. *The Law of the People's Republic of China on the Protection of Wildlife*⁹⁸ and the *Regulations of the People's Republic of China for the Implementation of Wild Aquatic Animal Protection of Wildlife*⁹⁹ set out the principles for the protection of free-ranging wildlife, and wildlife held captive in Chinese ocean theme parks.

Whilst these laws and regulations provide animals with a degree of protection, articles within these laws and regulations allow for protected animals to be captured from the wild for the captive display industry in accordance with the *Law of the People's Republic of China on the Protection of Wildlife*, Chapter III Article 16. All protected species may be traded for captivity in accordance with the *Law of the People's Republic of China on the Protection of Wildlife*, Chapter III Articles 22, 24 and 36, and the *Regulations of the People's Republic of China for the Implementation of Wild Aquatic Animal Protection of Wildlife*, Chapter III Article 18.

All species can be 'tamed'¹⁰⁰ and bred in accordance with the *Regulations of the People's Republic of China for the Implementation of Wild Aquatic Animal Protection of Wildlife*, Chapter III Article 17.

All species can be imported and exported in accordance with the *Regulations of the People's Republic of China for the Implementation of Wild Aquatic Animal Protection of Wildlife*, Chapter III Article's 22 and 23.

The *Regulations of the People's Republic of China for the Implementation of Wild Aquatic Animal Protection of Wildlife*, Chapter III Article 24, state that the economic benefits derived from the exhibition of wild aquatic animals or the products thereof and from other activities shall be mainly used for the purpose of wild aquatic animal protection.

(See *Appendix Seven*, page 42 for details.)

Analysis of laws

The laws allow for the utilisation of wildlife such as cetaceans. It is possible under the articles of these laws to catch, and trade in, all species regardless of their conservation status. In some cases, such utilisation is likely to have a negative impact on both individual animals and populations and therefore such use will be in contradiction to the purpose of the law.

The law also states that the economic benefits generated from this industry should be used for wild aquatic animal protection, yet research suggests that only one facility currently provides financial support toward the protection of free-ranging cetacean populations.

Neither laws contain content relevant to the application of animal welfare concepts. Both laws maintain a positive attitude toward 'domesticating' and breeding wildlife and the development and utilisation of wildlife resources. To ensure that individual animals are protected, such laws must incorporate animal welfare concepts, and so instruct facilities to adopt management practices that meet the individual physical and behavioural needs of the animals for which they are responsible. There is no legal definition of 'animal welfare' within these laws or their regulations. This leaves cetaceans in captivity with only vague protection under these laws.



Harbin Polar Land features an underwater beluga show.

⁹⁸ <http://www.china.org.cn/english/environment/34349.htm>

⁹⁹ http://big5.gov.cn/gate/big5/www.gov.cn/gongbao/content/2011/content_1860774.htm

¹⁰⁰ The use of the word 'domesticated' is a direct translation of the Chinese language used within the regulations. In practice a term such as 'tamed' would be more appropriate. Domestication is a process that takes place over several generations of breeding, during which the species is changed, to emphasize traits that the breeder wants, e.g., smaller or larger size, more docile temperament, longer or shorter ears, tails, legs, shorter gestation period, or shorter maturation period. No marine mammal has been domesticated, even after many years of captive breeding.

National standards for the keeping of aquatic animals

The Ministry of Agriculture is responsible for aquatic wildlife in captivity in China.¹⁰¹ Five national standards were issued by the Ministry in March 2013. These were developed by the National Aquatic Wildlife Conservation Association (*Appendix Eight*, page 43).

1. Measures of the People's Republic of China for Special Licences for Exploitation of Aquatic Wild Animals

(see *Appendix Nine*, page 44)

- + This regulation designates the Science Committee of National Endangered Aquatic Wildlife Species as the body that approves the capture, exploitation, 'domestication' and breeding, as well as the import and export, of aquatic wildlife (Chapter I, Articles 2, 4 and 6).
- + Capture is allowed under licence for scientific research, teaching, 'domesticating' and breeding, display and donating¹⁰² (Chapter II, Article 8).
- + An import licence or an operation and exploitation licence can be issued if the committee is satisfied that in doing so, it will not bring any damage to any aquatic wildlife and it will not harm the country's image in protecting wild animals and affect international economic interactions (Chapter IV, Article 25, Chapter VI, Article 42).
- + 'Domesticating' and breeding and the operation and exploitation licences are to be checked annually and are valid for up to five years (Chapter VII, Article 46).



In Chengdu Haichang Polar Ocean World, a beluga whale bangs its head on a gate.

¹⁰¹ http://www.moa.gov.cn/zwl/m/zcfg/nybgz/201401/t20140113_3737659.htm

¹⁰² The use of the term 'donating' is a direct translation of the Chinese phrase used within the regulation. It is believed to refer to the international exchange of animals with other countries.

2. Recording requirements for studbook keeping of captive aquatic mammals (see *Appendix Ten*, page 45)

This provides details of the records that facilities must keep on the life histories of each individual within their care. It requires the completion of a form upon the death of an individual for the following possible reasons:

- + During transportation
- + Abnormal environment or behaviour
- + Disease
- + Injury due to performance
- + Premature delivery
- + Dead at birth

3. Requirements for aquatic mammal rearing facility (see *Appendix Eleven*, page 46)

This standard applies to the housing of cetaceans in ocean theme parks or other related facilities, and sets out details that include:

- + minimum housing pool and show pool sizes (4.3.2 and 4.3.5)
- + Ventilation and lighting (4.6.1.2)
- + Barriers (4.6.4)

4. Grade of aquatic mammal rearing techniques in aquariums (see *Appendix Twelve*, page 47)

This provides a grade (1st, 2nd or 3rd) for each facility and the conditions that facilities must meet to be classified within each grade. It stipulates the skills and knowledge that each trainer must possess and covers basic animal husbandry, feeding and training for shows.

5. Water quality for aquatic mammals in aquariums (see *Appendix Thirteen*, page 55)

This sets out the specific water quality and species-specific temperature details to which each facility must adhere.

Analysis of management regulations

Ocean theme parks in China are not meeting the conditions set out within the management regulation of aquatic wildlife licence. This regulation provides clear guidance that no harm must come to animals during the capture, import and use of cetaceans, yet animals are harmed physically and psychologically during the transportation process as they arrive into China, and it is not possible for ocean theme parks to meet all of the physical and behavioural needs of cetaceans, causing them to suffer to varying degrees, in direct violation of this regulation.



Four bottlenose and two Risso's dolphins on a 'slideout' during a performance at Hangzhou Polar Ocean Park.

Public opposition, both within China and internationally, to the keeping of cetaceans in captivity based on the welfare implications of capture and subsequent holding are already having a negative impact on China's image. This is set to increase as the public becomes further aware of the welfare issues associated with this industry, and therefore ocean theme parks will find it increasingly difficult to ensure that their actions will not harm the country's image, as stipulated within the regulations.

A recent and ongoing example is the international condemnation that has already been focused on Chimelong Ocean Kingdom due to its imports of a large number of wild-caught cetaceans. If the Ministry were to enforce its regulations, Chimelong Ocean Kingdom would not be granted an operating licence based on the failure to meet this condition.

The *requirements for aquatic mammal rearing facilities* instruct facilities to provide a minimum horizontal dimension in their tanks to meet the need for aquatic mammals to turn around. This should not be less than four times the average length of adults of particular species. The depth of the tank should not be less than 1.5 times the average body length of adults. It is not possible to meet the behavioural needs of cetaceans when held in such limited space. Some species are known to travel as many as 150 kilometres in a day and to dive several

hundred metres deep in the wild (Perrin *et al.*, 2009). These types of behaviours are severely restricted by captive conditions in Chinese ocean theme parks, even when they meet legal requirements.

Even if the basic condition to allow an individual cetacean to turn around is met within the space provided, the facility could house this individual within such limited space for its entire life. This raises a very important ethical, as well as welfare, point as to whether society has the right to restrict wide-ranging, social predators to conditions that are highly likely to cause them a significant degree of suffering.

In a number of cases the Chinese regulations are of a lower standard than those imposed within countries such as Brazil and the United Kingdom.

The Brazilian regulations¹⁰³ stipulate that facilities must:

- + install a veterinary outpatient department and develop a program of veterinary care for the prevention and control of illnesses.
- + develop educational programmes based on the biology, ecology, and conservation of aquatic mammals in the wild.
- + establish research programmes incorporating behaviour, social relationships, reproduction, feeding, changes to how the water is treated and health.

¹⁰³ Ministry of the Environment; Brazilian Institute of Environment and Renewable Natural Resources – Regulation No3 of 8 February 2002.

- + install a respite area that provides a retreat for the animals in the enclosure.
- + provide a maternity area for females and their new-born calves and/or those that are pregnant.
- + house animals in conditions that satisfy their biological needs, providing the species with enrichment of their enclosures and maintaining a level of excellence in animal handling through established programmes of preventative medicine, veterinary care and nutrition.
- + ensure the structure and location of the enclosures minimise the effects on the animals of excessive noise and any other causes of stress.
- + ensure the enclosures illuminate with natural light and contain both shady and exposed areas, depending on the species.

The United Kingdom regulations¹⁰⁴ stipulate that facilities must:

- + hold species in social groups typical of that species.
- + not hold any single specimens.

These essential conditions are not required within the Chinese regulations.

The general size requirements of the enclosures also differ. The minimum water volume required for the common bottlenose dolphin in Brazil is 1600m³, compared with just 509m³ in China, and the minimum water depth required for the common bottlenose dolphin in Brazil is 6m, compared with 4.5m in China. The minimum water volume required for the orca in the UK is 12000m³, compared with just 7393m³ in China (see Figure 8).

FIGURE 8. Comparison of Brazilian, UK and Chinese standards for the keeping of cetaceans in captivity

Species	Country	Minimum Horizontal Dimension (m)	Minimum Depth (m)	Minimum Volume (m ³)
<i>Tursiops truncatus</i>	Brazil	14	6	1600
	UK	7	5.6	1200
	China	12	4.5	509
<i>Orcinus orca</i>	UK	15	12	12000
	China	29.28	10.98	7393
<i>Delphinapterus leucas</i>	Brazil	14	7	1600
	China	16	6	1200

Within the Chinese regulations, there is no mention of the social nature of many cetacean species and therefore cetaceans, some species of which are known to form complex societies based on kinship and to retain family bonds for life, can be held alone and or in incompatible groups. Both conditions are likely to cause stress for individual animals.

The Chinese regulations also provide no stipulations with regard to the veterinary regimes necessary to ensure the health of the animals is maintained. Both the Brazilian and the UK regulations stipulate such conditions.

The *requirements for aquatic mammal rearing facilities* instruct facilities to use barriers to ensure a safe distance between animals and the audience. Yet this requirement is frequently ignored as members of the audience are encouraged to physically interact with the cetaceans in the shows, and a number of facilities offer 'swim with dolphin/dolphin assisted therapy' sessions, which are based on physical contact between visitors and dolphins.

The nature of the deaths listed within the recording requirements for studbook keeping provide us with an insight into some of the

¹⁰⁴ Supplement to the Secretary of State's Standards of Modern Zoo Practice; Additional standards for UK cetacean keeping.

challenges that ocean theme parks face in keeping their animals healthy and alive. These challenges are faced by ocean theme parks/dolphinaria globally. The list of possible causes of death includes many that are major threats during the capture and subsequent captivity of cetaceans. Individuals may die during transportation, suffer from abnormal behaviour, and die as a result of disease brought on due to stress (Rose *et al.*, 2009). The cetacean display industry in China appears to be struggling to breed animals in captivity, and therefore it is likely that facilities are experiencing premature deliveries and stillbirths, per the details on the required forms.

The recording requirements also list 'injury due to performance' as a cause of death; this is of further concern. The Alliance identified one report¹⁰⁵ of an animal being injured during a training session but no

reports documenting any such deaths. If deaths are occurring due to performances, then this once again demonstrates that cetaceans should no longer be held captive and forced into performing potentially dangerous tricks for entertainment.

The regulations relevant to animal trainers are extensive. A wide knowledge base is necessary for individuals to become 'advanced trainers' and 'technicians'. Knowledge of animal diets, animal behaviour and health care are all part of the assessment criteria. Yet the dominant expertise these regulations require is the ability of trainers and technicians to carry out training and performances (*Appendix Eleven*). The training and performance elements for trainers and technicians account for the largest proportion of all examination marks, ranging from 30-55%.



Visitors pay to have their photographs taken with dolphins at Hangzhou Polar Ocean Park. The dolphins often must hold this pose for many minutes during these sessions.

¹⁰⁵ http://health.gmw.cn/newspaper/2015-02/09/content_104429196.htm?utm_source=bshare&utm_campaign=bshare&utm_medium=sinaminiblog&bsh_bid=574692338

CONCLUSION

The Chinese ocean theme park industry is contributing to conservation and welfare problems associated with the display of captive cetaceans, is doing little to educate the public on issues of species and/or habitat conservation and has the potential to damage the international reputation of China.

Chinese ocean theme parks are ideally placed to raise awareness of the threats facing free-ranging cetaceans in their natural habitats and to generate empathy to encourage individuals to take action to help protect free-ranging cetacean populations. Yet the parks choose to depict captive cetaceans as entertainers, training them to perform unnatural behaviours and encouraging close-contact photo opportunities and other interactions. Visitors to such parks are unlikely to leave with knowledge of species attributes, natural behaviour and the threats that individual species face in the wild, and are therefore unlikely to take action in support of cetacean conservation following such a visit.

The industry itself is actively acquiring live animals from the wild and in doing so is causing animals to suffer by using capture methods that are known to cause stress and fear in free-ranging individuals. Such captures also disrupt natural social groups, and have a negative impact on the social structure of the individuals left behind. The sustainability of these captures is also in question and in some cases is definitely contributing to population decline.

The national regulations that govern the industry support such captures by providing conditions that allow for the issuing of permits for the capture of all species regardless of their conservation status. This is contrary to the principles of CITES, which prohibits commercial trade in endangered, Appendix I species.

A serious violation of CITES may have occurred with the import of seven orcas into China, only two of which have been recorded within the CITES trade database. This must be investigated.

Once in captivity, the facilities have the potential to cause an animal further suffering. National regulations do not address the complex physiological and behavioural needs of cetacean species and

therefore facilities are not required to provide conditions that meet these complex needs.

The training requirements for Chinese ocean theme park personnel are also insufficient to guarantee the welfare of captive cetaceans. Training and performance elements account for the majority of examination marks, emphasising the importance of these elements over animal husbandry and care skills. This is in line with the industry's desire to entertain rather than educate the general public.

The industry also appears to have struggled to develop adequate veterinary skills to meet the health and welfare needs of captive cetaceans. Media reports document the need for Chinese ocean theme parks to bring in foreign veterinarians to treat animals that have become ill, demonstrating a lack of expertise within China and presenting a serious management and welfare problem for the industry.

The above factors are likely to have a negative impact on the welfare of captive cetaceans in China, as they will lead many to experience negative affective states.

These conditions also have a negative impact on the image of China internationally. The cetacean captures in Japan and Russia have received a significant amount of negative publicity for the suffering they cause free-ranging cetaceans and the potentially negative impact on their conservation status. Media reports documenting the import of live animals demonstrate China's involvement in these captures. The contribution of the individual facilities toward this negative public image contravenes the national regulations governing the industry.

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APPENDIX ONE

Legend for Figure 1

Anhui

1. Hefei Aquarium/ Hefei SeaWorld
2. Wuhu Ocean Park (*under construction*)

Beijing

3. Beijing Aquarium

Chongqing

4. Lehe Ledu Theme Park
5. Hanhai Polar Ocean Park (*under construction*)

Fujian

6. Wuyi Mountain Tianhong Polar Ocean Park
7. Fuzhou Luoyuanwan Ocean World
8. Xiamen White Dolphin Breeding & Rescue Centre
9. Xiamen UnderWater World

Guangdong

10. Dongguan Xiangshi Zoo
11. Guangzhou Ocean World
12. Guangdong Shenzhen Safari Park
13. Guangdong Zhuhai Chimelong Ocean Kingdom
14. Guangdong Shenzhen Xiaomeisha SeaWorld

Guangxi

15. Nanning Zoo
16. Sanniang Bay Dolphin Stadium (*under construction*)

Guizhou

17. Zunyi Aquarium (*under construction*)

Hainan

18. Fenjiezhou Island Marine Cultural Park
19. Sanya Tropical Ocean Park
20. Hainan Ocean Paradise (*under construction*)

Hebei

21. Qinhuangdao Royal Blue Ocean Park
22. Qinhuangdao Xin'ao UnderWater World
23. Shanhaiguan Letao/Happy Ocean World

Heilongjiang

24. Harbin Polarland
25. Harbin Poseidon Marine Kingdom (*under construction*)

Henan

26. Kaifeng Aquarium

Hubei

27. Wuhan Baiji Aquarium
28. Wuhan Haichang Polar Ocean World

Hunan

29. Changsha UnderWater World
30. Chenzhou Huatai Ocean City (*under construction*)

Jiangsu

31. Nanjing UnderWater World
32. Suzhou Aquarium
33. Huanan Journey to the West Theme Park (*under construction*)
34. Lianyungang Seaquarium (*under construction*)
35. Taizhou Qinhu Lake Ocean World (*under construction*)

Jiangxi

36. Nanchang Zoo

Liaoning

37. Dalian Laohutan Ocean Park
38. Dalian Sun Asia Ocean World
39. Fushun Royal Ocean World

Shandong

40. Shandong Ocean Spring Polar Ocean World
41. Penglai Polar Ocean World
42. Qingdao Haichang Polar Ocean World
43. Weihai Shenyong Ocean World
44. Qingdao Lingshanwan Ocean Park (*under construction*)
45. Weifang Ocean World (*under construction*)

Shanghai

46. Shanghai Changfeng Ocean World
47. Shanghai Haichang Polar Ocean World (*under construction*)

Shanxi

48. Xi'an Qujiang Ocean World

Sichuan

49. Chengdu Haichang Polar Ocean World

Tianjin

50. Tianjin Haichang Polar Ocean World

Zhejiang

51. Hangzhou Polar Ocean Park
52. Ningbo Ocean World
53. Qidu Island Ocean Park (*under construction*)

APPENDIX TWO

Number of Each Species Held in 39 Ocean Theme Parks in China

	beluga whale (<i>Delphinapterus leucas</i>)	hotteuse dolphin (<i>Tursiops</i> spp.)	false killer whale (<i>Pseudorca crassidens</i>)	narrow-ridged finless porpoise (<i>Neophocaena asiaticorientalis</i>)	Indo-Pacific humpback dolphin (<i>Sousa chinensis</i>)	orca (<i>Orcinus orca</i>)	Pacific white-sided dolphin (<i>Lagenorhynchus obliquidens</i>)	pan-tropical spotted dolphin (<i>Stenella attenuata</i>)	Risso's dolphin (<i>Grampus griseus</i>)	short-finned pilot whale (<i>Globicephala macrorhynchus</i>)
ANHUI										
Hefei Aquarium/Hefei Seaworld		5							1	
Wuhu Ocean Park (under construction)										
BEIJING										
Beijing Aquarium	2	10					2	2		
CHONGQING										
Chongqing Lehe Ledu Theme Park		4								
Chongqing Hanhai Polar Ocean Park (under construction)										
FUJIAN										
Wuyi Mountain Tianhong Polar Ocean Park		8								
Fuzhou Luoyuanwan Ocean World		4								
Xiamen White Dolphin Breeding & Recue Centre		2								
Xiamen UnderWater World		1								
GUANGDONG										
Dongguan Xiangshi Zoo		2								
Guangzhou Ocean World	2	8		1						
Shenzhen Safari Park		6								
Shenzhen Xiaomeisha SeaWorld	3	5								
Chimelong Ocean Kingdom	18	41				7	7	7		
GUANGXI										
Nanning Zoo		2			1		1			
Sanniang Bay Dolphin Stadium (under construction)										

	beluga whale (<i>Delphinapterus leucas</i>)	bottlenose dolphin (<i>Tursiops spp.</i>)	false killer whale (<i>Pseudorca crassidens</i>)	narrow-ridged finless porpoise (<i>Neophocaena asiaticorientalis</i>)	Indo-Pacific humpback dolphin (<i>Sousa chinensis</i>)	orca (<i>Orcinus orca</i>)	Pacific white-sided dolphin (<i>Lagenorhynchus obliquidens</i>)	pan-tropical spotted dolphin (<i>Stenella attenuata</i>)	Risso's dolphin (<i>Grampus griseus</i>)	short-finned pilot whale (<i>Globicephala macrorhynchus</i>)
GUIZHOU										
Zunyi Aquarium (under construction)										
HAINAN										
Fenjiezhou Island Marine Cultural Park		3								
Sanya Tropical Ocean Park		4								
Hainan Ocean Paradise (under construction)										
HEBEI										
Qinhuangdao Royal Blue Ocean Park		12		2						
Qinhuangdao Xin'ao UnderWater World	3	5								
Shanhaiguan Letao/Happy Ocean World	1			6						
HEILONGJIANG										
Harbin Polarland	5									
Harbin Poseidon Marine Kingdom (under construction)										
HENAN										
Kaifeng Aquarium	2	4								
HUBEI										
Wuhan Baiji Aquarium				5						
Wuhan Haichang Polar Ocean World Wuhan	3	7		3						
HUNAN										
Changsha UnderWater World	2	6								
Chezhou Huatai Ocean City (under construction)										
JIANGSU										
Nanjing UnderWater World		4								
Suzhou Aquarium		4								
Huanan Journey to the West Theme Park (under construction)										
Lianyungang Seaquarium (under construction)										
Taizhou Qinhu Lake Ocean World (under construction)										

	beluga whale (<i>Delphinapterus leucas</i>)	Indonesian dolphin (<i>Tursiops</i> spp.)	false killer whale (<i>Pseudorca crassidens</i>)	narrow-ridged finless porpoise (<i>Neophocaena asiakorinensis</i>)	Indo-Pacific humpback dolphin (<i>Sousa chinensis</i>)	orca (<i>Orcinus orca</i>)	Pacific white-sided dolphin (<i>Lagenorhynchus obliquidens</i>)	pan-tropical spotted dolphin (<i>Stenella attenuata</i>)	Risso's dolphin (<i>Grampus griseus</i>)	short-finned pilot whale (<i>Globicephala macrorhynchus</i>)
JIANGXI										
Nanchang Zoo		2								
LIAONING										
Dalian Laohutan Ocean Park	8	37					3	3		
Dalian SunAsia Ocean World	7	9								
Funshun Royal Ocean World	5	12							1	
SHANDONG										
Ocean Spring Polar Ocean World	6	6		10					2	
Penglai Polar Ocean World	8	9		8						
Qingdao Haichang Polar Ocean World	6	10	5				4			
Weihai Shenyou Ocean World	2	4								
Qingdao Lingshanwan Ocean Park (under construction)										
Weifang Ocean World (under construction)										
SHANGHAI										
Shanghai Changfeng Ocean World	3									
Shanghai Haichang Polar Ocean World (under construction)										
SHANXI										
Xi'an Qujiang Ocean World	5	4								
SICHUAN										
Chengdu Haichang Polar Ocean World	5	8						4		
TIANJIN										
Tianjin Haichang Polar Ocean World	8	13	2	1						
ZHEJIANG										
Hangzhou Polar Ocean Park	8	11							6	2
Ningbo Ocean World	2	7		2						
Qidu Island Ocean Park (under construction)										
TOTAL	114	279	7	38	1	7	17	16	10	2

APPENDIX THREE

Animal Welfare – Five Welfare Domains Model

To ensure that the physical, psychological and behavioural needs of captive wild animals are being met, captive facilities must adopt the principles of the *Five Welfare Domains* (Mellor and Reid, 1994).

The *five welfare domains* advocate for management practices that allow animals to experience 'positive affective states'.

Five Welfare Domains Model

Physical Domains

- 1. Nutrition: appropriate consumption of nutritious foods is a pleasurable experience**
 - + Negative influences: deprivation of food and/or water, poor quality food/water
 - + Leading to negative states: hunger, thirst, nausea, weakness, dizziness
 - + Positive influences: appropriate nutrition, readily available food
 - + Leading to positive states: satiety, consummatory satisfaction, reward
- 2. Environmental: benign conditions offering adaptive choices and variety**
 - + Negative influences: environmental challenge (e.g., animals in restricted environments)
 - + Leading to negative states: isolation, fear, boredom, frustration
 - + Positive influences: environmental choice (e.g., animals in enriched, naturalistic environments)
 - + Leading to positive states: contentment, affectionate companionability, security, goal-directed engagement, curiosity



A dolphin performing at Xi'an Quijiang Polar Ocean World.

- 3. Health: physically sound animals enjoy good health**
 - + Negative influences: disease, injuries
 - + Leading to negative states: pain, distress, discomfort, debility
 - + Positive influences: fitness
 - + Leading to positive states: vitality
- 4. Behaviour: environment-focused and inter-animal activities are satisfying and engaging**
 - + Negative influences: behavioural frustration (e.g., social animal held in isolation)
 - + Leading to negative states: boredom, frustration, anger
 - + Positive influences: behavioural expression (e.g., social animal in a secure social group)
 - + Leading to positive states: reward, playfulness, calmness

The negative and positive influences within these four domains lead to the fifth domain, i.e., what the animal actually experiences due to these influences.

Mental Domain

- 5. Mental or Affective State: e.g., animals experience comfort, pleasure, interest and confidence**

Incorporation of the five welfare domains within a captive setting would ensure animals are managed in ways that reduce the negative states and promote the positive states.



Dolphins performing at Xi'an Quijiang Polar Ocean World. 'Tail-walking' is not a natural behaviour.

APPENDIX FOUR

Wild-Caught Cetaceans in Chinese Ocean Theme Parks

Baiji Aquarium, Wuhan

- + 1 finless porpoise¹ (2010)
- + 2 finless porpoise² (2009)
- + 1 finless porpoise³ (2003)
- + 2 finless porpoise⁴ (1996)

Beijing Aquarium

- + 2 pan-tropical spotted dolphins⁵ (Mar 2011)
- + 2 Pacific white-sided dolphins and 4 bottlenose dolphins⁶ (Sept 2010)
- + 2 beluga whales⁷ (Apr 2010)
- + 6 bottlenose dolphins⁸ (2002)

Changsha Underwater World

- + 4 dolphins from Taiji, Japan⁹ (Mar 2011)
- + 2 beluga whales¹⁰ (Dec 2010)
- + 2 bottlenose dolphins¹¹ (2008)

Chimelong Ocean Kingdom, Zhuhai

- + 3 beluga whales¹² (Apr 2015)
- + 7 killer whales (2014) – *unconfirmed although information is from reliable sources within the industry*
- + 8 beluga whales¹³ (Jul 2013)
- + 16 dolphins from Japan¹⁴ (Jul 2013)
- + 7 Pacific white-sided dolphins from Japan¹⁵ (Jan 2013)
- + 25 bottlenose dolphins from Solomon Islands¹⁶ (Dec 2011)
- + 8 beluga whales¹⁷ (Aug 2010)

Dalian Laohutan Ocean Park

- + 8 bottlenose dolphins from Taiji¹⁸ (Dec 2010)
- + 4 bottlenose dolphins from Taiji¹⁹ (Nov 2010)
- + 7 bottlenose dolphins from Taiji²⁰ (Oct 2010)
- + 1 Pacific white-sided dolphin²¹ (Jun 2009)
- + 3 pan-tropical spotted dolphins²² (2009)
- + 4 bottlenose dolphins and 2 Pacific white-sided dolphins from Taiji²³ (Nov 2008)

- + 14 bottlenose dolphins²⁴ (2008)
- + 4 beluga whales²⁵ (Oct 2006)
- + 1 beluga whale²⁶ (Nov 2001)
- + 3 beluga whales²⁷ (Mar 2001)

Dalian Sun Asia Ocean World (Shengya Sea World)

- + 2 beluga whales²⁸ (Sept 2011)
- + 5 beluga whales²⁹ (Nov 2003)

Fushun Royal Ocean World

- + 3 beluga whales³⁰ (Aug 2013)
- + 3 bottlenose dolphins³¹ (Aug 2011)
- + 5 bottlenose dolphins³² (2009)
- + 1 beluga whale³³ (Jan 2007)
- + 4 bottlenose dolphins³⁴ (2005)
- + 1 Risso's dolphin³⁵ (Date unknown)

Guangzhou Ocean World

- + 4 bottlenose dolphins³⁶ (Jun 2015)
- + 4 bottlenose dolphins³⁷ (Jul 2007)
- + 2 beluga whales³⁸ (Nov 2005)
- + 3 bottlenose dolphins³⁹ (2002)
- + 1 pan-tropical spotted dolphin, 1 bottlenose dolphin, and 2 Risso's dolphins⁴⁰ (Date unknown)

Haichang Polar Ocean World Chengdu

- + 2 beluga whales⁴¹ (Nov 2011)
- + 1 beluga whale⁴² (Jul 2010)
- + 5 bottlenose dolphins⁴³ (2009)
- + 1 false killer whale⁴⁴ (2006)

Haichang Polar Ocean World Qingdao

- + 4 Pacific white-sided dolphins⁴⁵ (May 2011)
- + 2 false killer whales⁴⁶ (2009)
- + 4 beluga whales⁴⁷ (Oct 2008)

¹ http://www.ceta-base.com/phinventory/phins_baijiagua.html

² http://english.ihb.cas.cn/ns/es/200908/t20090826_34185.html

³ http://www.ceta-base.com/phinventory/phins_baijiagua.html

⁴ http://www.ceta-base.com/phinventory/phins_baijiagua.html

⁵ http://www.ceta-base.com/phinventory/phins_beijing.html

⁶ <http://search.japantimes.co.jp/cgi-bin/n20100921b3.html>

⁷ http://www.ceta-base.com/lugalogue/lugas_beijing.html

⁸ http://www.ceta-base.com/phinventory/phins_beijing.html

⁹ <http://english.peopledaily.com.cn/90001/90776/90882/7336091.html>

¹⁰ http://www.ceta-base.com/lugalogue/lugas_changshauww.html

¹¹ http://www.ceta-base.com/phinventory/phins_changshauww.html

¹² <http://roll.sohu.com/20150422/n411721977.shtml>

¹³ <http://www.zhciq.gov.cn/showInfo.do?infold=27370>

¹⁴ <http://www.zhciq.gov.cn/showInfo.do?infold=27370>

¹⁵ <http://www.ceta-base.com/drivefisheries.html#20122013notes>

¹⁶ <http://www.rnzi.com/pages/news.php?op=read&id=64873> Solomons and <http://www.solomontimes.com/news/animal-welfare-group-warns-against-dolphin-export/6434>

¹⁷ http://www.ceta-base.com/lugalogue/lugas_zhuhauiow.html

¹⁸ http://travel.runsky.com/2010-12/28/content_3784655.htm

¹⁹ <http://laohutan.0411hd.com/news/4023.html>

²⁰ <http://digitaljournal.com/article/321391>

²¹ http://www.ceta-base.com/phinventory/phins_laohutan.html

²² http://www.ceta-base.com/phinventory/phins_laohutan.html

²³ <http://digitaljournal.com/article/321391> and http://english.runsky.com/2008-11/28/content_2756139_2.htm

²⁴ http://www.ceta-base.com/phinventory/phins_laohutan.html

²⁵ http://www.ceta-base.com/lugalogue/lugas_dalianlht.html

²⁶ http://www.ceta-base.com/lugalogue/lugas_dalianlht.html

²⁷ http://www.ceta-base.com/lugalogue/lugas_dalianlht.html

²⁸ <http://www.whatsondalian.com/health284.html>

²⁹ http://www.ceta-base.com/lugalogue/lugas_daliainsa.html

³⁰ <http://www.cetacousin.bplaced.net/captive/park/fushun/fushun.html>

³¹ <http://www.cetacousin.bplaced.net/captive/park/fushun/fushun.html>

³² <http://www.cetacousin.bplaced.net/captive/park/fushun/fushun.html>

³³ <http://www.cetacousin.bplaced.net/captive/park/fushun/fushun.html>

³⁴ <http://www.cetacousin.bplaced.net/captive/park/fushun/fushun.html>

³⁵ http://www.ceta-base.com/phinventory/phins_fushunow.html

³⁶ <http://roll.sohu.com/20150615/n415034692.shtml>

³⁷ http://www.lifeofguangzhou.com/node_10/node_37/node_85/2007/07/22/118506808823884.shtml

³⁸ <http://www.newsgd.com/citiesandtowns/guangzhou/news/200511140064.htm>

³⁹ http://www.ceta-base.com/phinventory/phins_guangzhou.html

⁴⁰ http://www.ceta-base.com/phinventory/phins_guangzhou.html

⁴¹ http://www.ceta-base.com/lugalogue/lugas_powchengdu.html

⁴² http://www.ceta-base.com/lugalogue/lugas_powchengdu.html

⁴³ http://www.ceta-base.com/phinventory/phins_chengduow.html

⁴⁴ http://www.ceta-base.com/phinventory/phins_chengduow.html

⁴⁵ http://www.ceta-base.com/phinventory/phins_qingdaopolar.html

⁴⁶ http://www.ceta-base.com/phinventory/phins_qingdaopolar.html

⁴⁷ http://www.ceta-base.com/lugalogue/lugas_powqingdao.html

- + 3 false killer whales and 8 bottlenose dolphins⁴⁸ (2006)
- + 1 bottlenose dolphin⁴⁹ (1996)
- + 1 bottlenose dolphin⁵⁰ (1994)
- + 2 beluga whales⁵¹ (Date unknown)

Haichang Polar Ocean World Tianjin

- + 8 bottlenose dolphins⁵² (Mar 2011)
- + 5 bottlenose dolphins⁵³ (Sept 2010)
- + 2 false killer whales⁵⁴ (Sept 2010)
- + 4 beluga whales⁵⁵ (Date unknown)

Haichang Polar Ocean World Wuhan

- + 6 beluga whales⁵⁶ (Sept 2011)

Hangzhou Ocean World

- + 2 short-finned pilot whales from Japan⁵⁷ (Jun 2014)
- + 4 beluga whales from Russia⁵⁸ (May 2012)
- + 6 bottlenose dolphins⁵⁹ (May 2011)
- + 2 beluga whales⁶⁰ (Aug 2010)
- + 3 beluga whales from Russia⁶¹ (May 2010)
- + 2 Risso's dolphins, 5 bottlenose dolphins and 2 short-finned pilot whales⁶² (2008)

Harbin Polar World

- + 3 beluga whales⁶³ (2014)
- + 2 beluga whales⁶⁴ (2005)

Hefei Sea World

- + 3 bottlenose dolphins from Taiji⁶⁵ (Jul 2011)
- + 2 bottlenose dolphins⁶⁶ (Mar 2009)
- + 1 Risso's dolphin⁶⁷ (2008)

Kaifeng Ocean Park

- + 4 bottlenose dolphins from Japan⁶⁸ (Sept 2014)
- + 2 beluga whales⁶⁹ (Sept 2014)

Luoyuan Ocean World, Fuzhou

- + 4 bottlenose dolphins from Japan⁷⁰ (May 2014)

Nanning Zoo

- + 2 bottlenose dolphins, 1 Indo-Pacific humpback dolphin, and 1 spotted dolphin⁷¹ (Date unknown)

Ningbo Ocean World

- + 2 Risso's dolphins⁷² (Feb 2013)
- + 3 bottlenose dolphins⁷³ (Jan 2011)
- + 2 beluga whales⁷⁴ (Apr 2010)
- + 4 bottlenose dolphins⁷⁵ (Nov 2008)

Ocean Springs Polar World, Jinan

- + 2 beluga whales⁷⁶ (Jul 2011)

Penglai Polar Ocean World

- + 10 beluga whales⁷⁷ (Oct 2014)
- + 10 dolphins, species unknown⁷⁸ (May 2013)

Shanhaiguan Happy Ocean World

- + 1 bottlenose dolphin⁷⁹ (2009)
- + 6 finless porpoise⁸⁰ (2009)
- + 1 bottlenose dolphin⁸¹ (2007)

Shanghai Changfeng Ocean World

- + 1 beluga whale⁸² (2003)
- + 2 beluga whales⁸² (2011)

Shenzhen Safari Park

- + 3 bottlenose dolphins⁸³ (Apr 2009)
- + 3 bottlenose dolphins⁸⁴ (Jan 2009)

Shenzen Xiaomeisha Seaworld

- + 3 beluga whales⁸⁵ (Jan 2008)
- + 5 bottlenose dolphins⁸⁶ (Date unknown)

Suzhou Aquarium

- + 4 bottlenose dolphins⁸⁷ (Nov 2009)

White Dolphin Breeding & Rescue Centre

- + 2 bottlenose dolphins⁸⁸ (Mar 2008)

Wuyi Mountain Tianhong Polar Ocean Park

- + 8 bottlenose dolphins⁸⁹ (Jun 2015)

Xian Quijiang Ocean World

- + 4 bottlenose dolphins⁹⁰ (May 2010)
- + 5 beluga whales⁹¹ (Date unknown)

⁴⁸ http://www.ceta-base.com/phinventory/phins_qingdaopolar.html

⁴⁹ http://www.ceta-base.com/phinventory/phins_qingdaopolar.html

⁵⁰ http://www.ceta-base.com/phinventory/phins_qingdaopolar.html

⁵¹ http://www.ceta-base.com/lugalogue/lugas_powqingdao.html

⁵² http://www.ceta-base.com/phinventory/phins_tainjinpow.html

⁵³ http://www.ceta-base.com/phinventory/phins_tainjinpow.html

⁵⁴ http://www.ceta-base.com/phinventory/phins_tainjinpow.html

⁵⁵ http://www.ceta-base.com/lugalogue/lugas_powwuhan.html

⁵⁶ http://www.chinadaily.com.cn/china/2014-06/09/content_17573457.htm

⁵⁷ <http://xiaoshantour.com/cn/junketing/48/2143.html>

⁵⁸ http://www.ceta-base.com/phinventory/phins_huangzhou.html

⁵⁹ http://www.ceta-base.com/lugalogue/lugas_hangzhou.html

⁶⁰ http://news.xinhuanet.com/english/2010/05/25/c_13313191_5.htm

⁶¹ http://www.ceta-base.com/phinventory/phins_huangzhou.html

⁶² <http://news.hexun.com/2014-06-11/165598322.html>

⁶³ http://www.ceta-base.com/lugalogue/lugas_hbpolarland.html

⁶⁴ <http://ah.anhuinews.com/system/2011/07/29/004289527.shtml>

⁶⁵ http://www.ceta-base.com/phinventory/phins_hefeisw.html

⁶⁶ http://www.ceta-base.com/phinventory/phins_hefeisw.html

⁶⁷ http://www.ceta-base.com/phinventory/phins_hefeisw.html

⁶⁸ <http://www.kfdjtd.com/news/hyg/22.html>

⁶⁹ <http://www.kfdjtd.com/news/hyg/22.html>

⁷⁰ <http://www.fta.gov.cn/news/xydt/201405/20140529366375.shtml>

⁷¹ http://www.ceta-base.com/phinventory/phins_nanningzoo.html

⁷² <http://www.whatsonningbo.com/health1785.html>

⁷³ http://www.ceta-base.com/phinventory/phins_ningbo.html

⁷⁴ http://www.ceta-base.com/lugalogue/lugas_ningbo.html

⁷⁵ http://www.ceta-base.com/phinventory/phins_ningbo.html

⁷⁶ http://www.ceta-base.com/lugalogue/lugas_oceanspringspw.html

⁷⁷ https://www.rebelmouse.com/MaralKalinian/10-whales-shipped-in-filthy-cr-790248954.html?xrs=RebelMouse_fb#

⁷⁸ http://www.chinadailyasia.com/photo/2013-05/16/content_15074351.html

⁷⁹ http://www.ceta-base.com/phinventory/phins_shanhaiguan.htm

⁸⁰ http://www.ceta-base.com/phinventory/phins_shanhaiguan.html

⁸¹ http://www.ceta-base.com/phinventory/phins_shanhaiguan.html

⁸² http://baike.baidu.com/link?url=8jte6FWWuQ8yDTRZaJ22N_tdv9BDL-HFAI9SitiRZsyZgAIIgk8RR2YOnYiQJnLM5DgFJTIIHirRFPzdrQGT6K

⁸³ http://www.ceta-base.com/phinventory/phins_shenzhenow.html

⁸⁴ http://www.ceta-base.com/phinventory/phins_shenzhenow.html

⁸⁵ <http://cetabase.blogspot.co.uk/2009/11/beluga-dies-at-shenzhen-sea-world.html>

⁸⁶ http://www.ceta-base.com/phinventory/phins_shenzhenxiaomeisha.html

⁸⁷ http://www.ceta-base.com/phinventory/phins_suzhouaq.html

⁸⁸ http://www.ceta-base.com/phinventory/phins_wdrescue.html

⁸⁹ http://hznews.hangzhou.com.cn/jingji/content/2015-06/24/content_5819680_2.htm

⁹⁰ http://www.ceta-base.com/phinventory/phins_qujiangow.html

⁹¹ http://www.ceta-base.com/lugalogue/lugas_qujiangop.html

APPENDIX FIVE

The number of individual animals imported into China documented via CCA investigations, media articles and the CITES trade database.⁹²

Species	CCA Investigation Records	Media Articles	CITES importer reported data	CITES exporter reported data
bottlenose dolphin (<i>Tursiops</i> spp.)	279	209	300	292
beluga whale (<i>Delphinapterus leucas</i>)	114	95	98	93
Risso's dolphin (<i>Grampus griseus</i>)	10	8	33	29
Pacific white-sided dolphin (<i>Lagenorhynchus obliquidens</i>)	17	16	24	26
pan-tropical spotted dolphin (<i>Stenella attenuata</i>)	16	7	7	11
false killer whale (<i>Pseudorca crassidens</i>)	7	9	5	10
short-finned pilot whale (<i>Globicephala macrorhynchus</i>)	2	5	2	6
orca (<i>Orcinus orca</i>)	7	0	2	0
narrow-ridged finless porpoise (<i>Neophocaena asiaeorientalis</i>)	38	14	NA	NA
Indo-Pacific humpback dolphin (<i>Sousa chinensis</i>)	1	1	NA	NA

⁹² <http://trade.cites.org/>

APPENDIX SIX

Live Cetacean Capture Methods

There are several different techniques for capturing cetaceans, depending on the species and the depth of the water. The most popular capture method is by seine net—a large fish net that is positioned vertically in the water column with weights at the bottom and floats at the top. The seine is used in conjunction with a high speed boat or boats to chase a pod of animals into shallow waters and encircle them with the net. The net is then closed around the animals and pulled very tightly at the bottom, trapping the animals in a ‘purse’. The animals thrash around and may become entangled or drown. They are then manhandled into slings and hauled on board a capture vessel or herded into shallow sea pens.

Hoop nets are also used to capture dolphins who bow-ride or swim close to boats. A hand-held hoop attached to a breakaway net is lowered over the head and entangles the animal when he or she moves away. The dolphin is then hoisted into the boat.

Probably the most brutal capture method is the drive hunt, whereby pods of animals, once spotted, are chased and driven toward shore using boats and noise. Bays with narrow necks are typically chosen so that once close to shore, a net can be extended across the mouth, cutting off escape. Once confined, the exhausted animals are scrutinised for suitability for captivity, whilst the rest are either butchered for meat and other products, or occasionally freed to an unknown fate.

Holding and Transport

Once captured, animals are held until they can be transported to a final destination. Holding conditions can be very crude and may consist of only a wet sling in a boat, or a small sea pen or makeshift tank lined with plastic and lacking a proper filtration system.

Small motor boats are usually used to move animals from the ocean to the shore. For short distances, animals are transported by trucks in wet slings. For longer distances, animals are kept in slings and crated and moved by air. The physiological effects of confining and moving ocean-dwelling animals great distances via ground transport or pressurised airplanes are largely unknown, but the stressful impacts are being documented by a growing number of studies.⁹³

⁹³ <https://awionline.org/content/capture-marine-life>

APPENDIX SEVEN

Law of the People’s Republic of China on the Protection of Wildlife

Chapter III Article 16 “Where the catching or fishing for wildlife under first class state protection is necessary for scientific research, domestication and breeding, exhibition or other special purposes, the unit concerned must apply to the department of wildlife administration under the State Council for a special hunting and catching licence; where the catching or hunting of wildlife under second class state protection is intended, the unit concerned must apply to the relevant department of wildlife administration under the government of a province, an autonomous region or a municipality directly under the Central Government for a special hunting and catching licence.”⁹⁴

Chapter III Article 22 “The sale and purchase of wildlife under special state protection or the products thereof shall be prohibited. Where the sale, purchase or utilisation of wildlife under first class state protection or the products thereof is necessary for scientific research, domestication and breeding, exhibition or other special purposes, the unit concerned must apply for approval by the department of wildlife administration under the State Council or by a unit authorised by the same department. Where the sale, purchase or utilisation of wildlife under second class state protection or the products thereof is necessary, the unit concerned must apply for approval by the department of wildlife administration under the government of the relevant province, autonomous region or municipality directly under the Central Government or by a unit authorised by the same department. Units and individuals that domesticate and breed wildlife under special state protection may, by presenting their domestication and breeding licences, sell wildlife under special state protection or the products thereof, in accordance with the relevant regulations, to purchasing units designated by the government. The administrative authority for industry and commerce shall exercise supervision and control over wildlife or the products thereof that are placed on the market.”⁹⁵

Chapter III Article 24 “The export of wildlife under special state protection or the products thereof, and the import or export of wildlife or the products thereof, whose import or export is restricted by international conventions to which China is a party, must be approved by the department of wildlife administration under the State Council or by the State Council, and an import or export permit must be obtained from the state administrative organ in charge of the import and export of the species which are near extinction. The Customs shall clear the imports or exports after examining the import or export permit. The export of the species of wildlife involving scientific and technological secrets shall be dealt with in accordance with relevant provisions of the State Council.”

Chapter IV Article 36 “If anyone illegally imports or exports wildlife or the products thereof, he shall be punished by the Customs according to the Customs Law; if the circumstances are serious enough to constitute a crime, he shall be prosecuted for criminal responsibility in accordance with the provisions of the Criminal Law on the crimes of smuggling.”

⁹⁴ <http://www.china.org.cn/english/environment/34349.htm>

⁹⁵ <http://www.china.org.cn/english/environment/34349.htm>

Regulations of the People’s Republic of China for the Implementation of Wild Aquatic Animal Protection of Wildlife

Chapter III Article 17 “A domestication and breeding licence is required for the domestication and breeding of wild aquatic animal under class I special protection by the State, to be issued by the competent department of the fishery administration under the State Council. A domestication and breeding licence is required for the domestication and breeding of wild aquatic animal under class II special protection by the State, to be issued by the competent department of fishery administration under the people’s governments of the relevant provinces, autonomous regions or municipalities directly under the Central Government. The competent department of fishery administration may entrust the competent department of construction administration at the same level to issue domestication and breeding licences if any zoo intends to domesticate and breed wild aquatic animal under special protection by the State.”

Chapter III Article 18 “The sale and purchase of wild aquatic animal under special State protection or the products thereof shall be prohibited. Where the sale, purchase or utilisation of wild aquatic animal under class I State protection or the products thereof is necessary for scientific research, domestication and breeding, exhibition or other special purposes, the unit concerned must put forward the application to the competent department of fishery administration under the people’s government of the relevant provinces, autonomous regions and municipalities directly under the Central Government, which shall, together with its remarks, submit the application to the competent department of fishery administration under the State Council for approval. Where the sale, purchase or utilisation of wild aquatic animal under class II State protection or the products thereof is necessary, the unit concerned must submit the application to the competent department of fishery administration under the people’s government of the relevant province, autonomous region or municipality directly under the Central Government for approval.”

Chapter III Article 22 “With respect of the species of wild aquatic animal to be imported or introduced from abroad, the unit concerned shall apply to the competent department of fishery administration under the people’s government of the relevant province, autonomous region or municipality directly under the Central Government, and such application shall be submitted to and approved by the competent department of fishery administration under the State Council, after going through scientific authentication by the science research institution designated by the competent department of fishery administration under the people’s government at or above the provincial level.”

Chapter III Article 23 “With respect to the export of wild aquatic animal under special protection by the State or the products thereof, and the import or export of wild aquatic animal or products thereof which are restricted by international conventions to which China is a party, an application shall be filed to the competent department of fishery administration under the people’s government of the relevant province, autonomous region or municipality directly under the Central Government where the unit or individual concerned is located for scrutiny. Such application shall then be submitted to and approved by the competent department of fishery administration under the State Council. Where the import or export is made

for trade purposes, the same must be undertaken by the unit which has the right to be engaged in import and export trade in the relevant commodities. Where any zoo intends to import or export wild aquatic animal described in the preceding paragraph for the purpose of mutual exchanges, the same shall be scrutinised and agreed to by the competent department of construction administration under the State Council, pending submission to the competent department of fishery administration under the state Council for approval.”

Chapter III Article 24 “The economic benefits derived from the exhibition of wild aquatic animal or the products thereof and from other activities shall be mainly used for the purpose of wild aquatic animal protection.”



TOP: The sign on the beluga whale tank at Penglai Polar Ocean World describes bottlenose dolphins.

BOTTOM: A young beluga whale at Penglai Polar Ocean World.

APPENDIX EIGHT

National Aquatic Wildlife Conservation Association

Members:

- + Beijing Aquarium (<http://www.bj-sea.com/>)
- + Qingdao Haichang Polar Ocean World (<http://www.qdpolar.com/>)
- + Shanghai Changfeng Ocean World (<http://www.oceanworld.com.cn/>)
- + General (International) Oceanic Environmental Engineering Consultants Co., Ltd (<http://www.goe.com.cn/>)
- + Blue Zoo Beijing (<http://www.bluezoo.com.cn/>)
- + Institute of Hydrobiology, Chinese Academy of Sciences (<http://www.ihb.ac.cn/>)
- + Ocean Park Hong Kong (<http://www.oceanpark.com.hk/>)
- + Guangxi Nanning Underwater World
- + Xi'an Qujiang Cultural Tourism Co., Ltd (<http://www.qjtourism.com/n/>)
- + Donghu Sea World (<http://www.whhysj.cn/>)
- + Shenzhen Xiaomeisha Sea World (<http://www.szxms.com.cn/>)
- + Luoyang Longmen Ocean Aquarium
- + Dalian Laohutan Ocean Park (<http://www.laohutan.com.cn/>)

Science Committee of National Endangered Aquatic Wildlife Species

The *Management regulation of aquatic wildlife licence* stipulates this committee must approve the imports and provide the capture licence (alongside the provincial fishery administrative authority).

Director: Cao Wenxuan, IHBCAS

Deputy Director: Tang Qisheng, YSFRI

Zhang Fusui, academician, IFOCAS

Li Jieren, researcher, CAFS



This behaviour (open mouth) is actually a threat, directed at the people on the other side of the glass at Xi'an Qujiang Polar Ocean World.

APPENDIX NINE

Measures of the People's Republic of China for Special Licences for Exploitation of Aquatic Wild Animals

Chapter I, Article 4; The Ministry of Agriculture organises the *Science Committee of National Endangered Aquatic Wildlife Species* (shortened form is "the Committee" and this will be used in the following articles), in consulting and evaluating aquatic wildlife in aquatic wildlife conservation and management.

Before the approval authority grants permission for domesticating and breeding, operating and exploiting, as well as importing and exporting important aquatic wildlife and its products, the evaluation from the *Committee* is essential. If the evaluation does not result in the Committee's approval, the approval authority shall not grant permission to requests.

Chapter I, Article 6; whilst approval is being sought from the approval authority, the Aquatic Wildlife Exploitation and Franchised Certificate shall be obtained.

The Aquatic Wildlife Exploitation and *Franchised Certificates* shall include *Franchised Capture Certificate of Aquatic Wildlife* (Hereinafter referred to as the *Capture Licence*), *Domestication and Breeding Permission Licence of Aquatic Wildlife* (Hereinafter referred as the *Domestication and Breeding Licence*), *Permitted Transportation Licence of Aquatic Wildlife* (Hereinafter referred to as the *Transportation Licence*) and the *Operating and Exploitation Permission Licence of Aquatic Wildlife* (Hereinafter referred to as the *Operating and Exploitation Licence*).

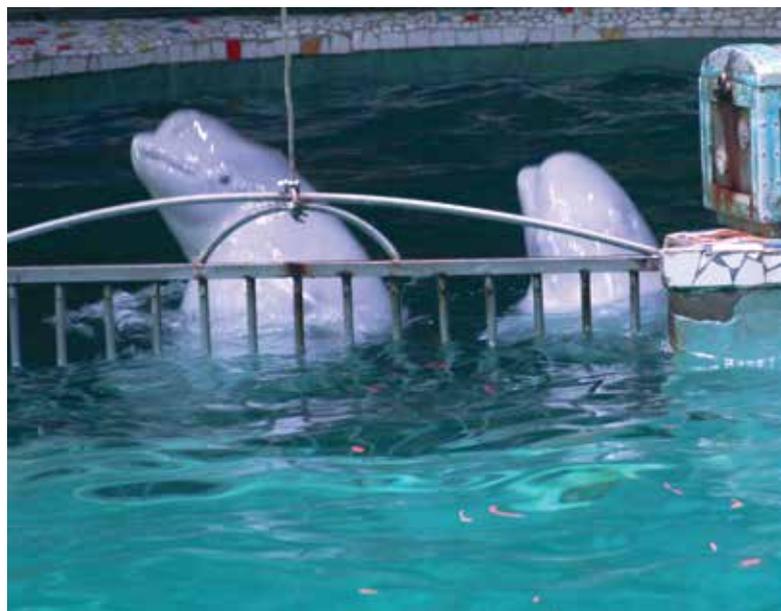
Chapter II, Article 8; the capture and killing of aquatic wildlife are not permitted. The following exemptions are provided for the capture of aquatic wildlife and require a *Capture Licence*. The reasons are scientific research, teaching, domesticating and breeding, display and donating.

Chapter IV, Article 25; any application for the *Operating and Exploitation Licence* shall be required to include the following:

- + The species resource is either from clear source or stable population if sales, purchase and utilisation happens.
- + It will not result in damage to aquatic wildlife species;
- + No harm to the country's image in protecting wild animals and affecting international economic interactions.

Chapter VI, Article 42; any application for the *Importing and Exporting Licence* shall be required to include the following:

- + The purpose of import shall conform to national laws, regulations and policies;
- + The survivorship of live aquatic wildlife is guaranteed by necessary facilities and proper technology;
- + The imported live aquatic wild animals shall not bring harm to our ecological balance;
- + No harm to country's image in protecting wild animals and affect international economic interactions.



Beluga whales at Dalian Sun Asia Ocean World are kept in a small pool, with rusty poles and broken ceramic tiles.

Chapter VII, Article 46; *The Application Form and the Operating and Exploitation Permission Licence* shall be formulated by the fishery bureau of PRC. For those licences are already released and in use shall be exchanged by issuing authority.

Except the *Capture Licence* and the *Transportation Licence* are valid for one time, other licences shall be checked and tested annually. The longest validity period shall be no more than five years. After expiration date, a new round of application procedures shall be undergone.

All the provinces, autonomous regions, municipalised cities shall work out special approving licences management system, build up archives and strict management is a must.

APPENDIX TEN

Recording Requirements for Studbook Keeping of Captive Aquatic Mammals

A.6 animal death processing record

Autopsy by:

Recorded by and date of recording:

Animal ID					
Time of death		Estimation of death time			
Time of autopsy		Estimation of death time after autopsy			
Place of death		Place of autopsy			
Interval between death and the discovery of body					
<u>Cause of death</u>	<u>Cadaver handling</u>	<u>Receiving organisation</u>	<u>Autopsy</u>	<u>Cause of disease</u>	
Anaesthesia or drug inhibition	Bury		Cardiovascular disease	Bacterial infection	
During transportation	Discard		Digestive disease	Fungal infection	
Abnormal environment or behaviour	Make specimen		Endocrine disease	Virus infection	
Euthanasia	Burn		Blood or lymphatic disease	Rickettsia	
Disease	Contribute to research institution		Skin organ disease	Prototheca	
Injury from performance	Other		Musculoskeletal disorders	Mycoplasma	
Intentional injury			Neuro disease	Protozoa	
Aging			Genital disease	Metazoa	
Premature delivery			Respiratory system disease	Poisoning	
Stillbirth			Urinary system disease	Metabolic disorder	
Stranded			Sensory organ diseases	Mechanical injury	
Other			Other		
Brief summary of cause of death based on autopsy result					

APPENDIX ELEVEN

Requirements for Aquatic Mammal Rearing Facility

4.3.2 Housing pool

Minimum Horizontal Distance (MHD) should not be less than four times the average length of adults (the horizontal distance from the end of rostrum to the central point between the tips of two tail fins). MHD should be 10m, when the cetacean's body length is less than 2.3m.

The depth of pools should not be less than 1.5 times the average body length of adults of this species. When a cetacean's body length is less than 2m, the depth of housing pools should be more than 3m and the water volume should be no less than 236m³. If the water depth has not reached the minimum water depth, it should not be counted toward minimum volume.

4.3.5 Show pool

The show pool should be larger than the housing pool. The horizontal distance should be no less than 20m and the depth should be no less than 6m, which could be increased according to the body size, number of animals and the needs of the show. The show pool can also be used as a housing pool.

4.6.1.2 Lighting

Using adequate natural or artificial lighting to meet the living and management needs, and avoid the use of strong spotlights.

4.6.4 The requirements for barriers

Using barriers to ensure the safe distance between animals and audience, and to prevent animal escape.

TABLE: The smallest housing space for certain cetaceans.

Latin names	Average adult body length (m)	MHD (m)	Water depth (m)	Volume (m ³)
<i>Neophocaena phocaenoides asiaorientalis</i>	1.70	10.00	3.00	236
<i>Stenella attenuata</i>	1.95	10.00	3.00	236
<i>Neophocaena phocaenoides sunameri</i>	2.00	10.00	3.00	236
<i>Neophocaena phocaenoides</i>	2.00	10.00	3.00	236
<i>Lagenorhynchus obliquidens</i>	2.30	10.00	3.45	271
<i>Sousa chinensis</i>	2.50	10.00	3.75	295
<i>Lipotes vexillifer</i>	2.50	10.00	3.75	295
<i>Tursiops truncatus</i>	3.00	12.00	4.50	509
<i>Tursiops aduncus</i>	2.50	10.00	3.75	295
<i>Grampus griseus</i>	4.00	16.00	6.00	1206
<i>Delphinapterus leucas</i>	4.00	16.00	6.00	1206
<i>Pseudorca crassidens</i>	4.00	16.00	6.00	1206
<i>Globicephala macrorhynchus</i>	5.50	22.00	8.25	3136
<i>Orcinus orca</i>	7.32	29.28	10.98	3136

APPENDIX TWELVE

Grade of Aquatic Mammal Rearing Techniques in Aquariums



At Chengdu Haichang Polar Ocean World, during a performance, with trainers' attention directed elsewhere, a beluga whale reaches for objects lying on the pool deck.

Facilities with cetacean 'show pools' are classified as Grade 3. Grade 3 facilities must be:

- + Staffed with aquatic mammal training and caregiving personnel, including training technician
- + Staffed with at least two full-time veterinarians, one of whom should have a minimum of five years or longer clinical experience with aquatic mammals
- + Staffed with professional personnel to perform research, with papers being published in mainstream domestic magazines, international professional journals or presented at international conferences
- + Able to professionally collaborate with international institutions

Aquatic Mammal Trainer

1. General Job description

1.1 Name – Aquatic Mammal Trainer

1.2 Definition – The personnel who takes care of, trains, performs with and manages aquatic mammals

1.3 Grades – There are five grades: primary, medium, advanced, technician, advanced technician

1.4 Working environment – Indoors and waterwork

1.5 Vocational requirements – have good senses of vision, smell and hearing; have flexible body, have good communication skill

1.6 Education level – Senior Middle School (or similar level)

1.7 Training requirements

1.7.1 Training session – Full time vocational school education being decided by the training goals and teaching plan. The upgrade training session for primary grade should not be less than 180 hrs; for medium grade not less than 135 hrs; for advanced grade not less than 120 hrs; for technician grade not less than 90 hrs, and for advanced technician grade not less than 67.5 hrs.

1.7.2 Lecturers – Only higher grade trainers can train lower grade trainers

1.7.3 Training facility and devices – The theoretical training place should be a standard classroom with multiple media devices; the hands-on training should take place where the needs for training aquatic mammals can be met, with necessary training tools.

1.8 Appraisal requirement

1.8.1 Application – The persons who are doing or planning to do in this field

1.8.2 Application conditions

+ Primary (meet one of them)

- i. Continuously work as an aquatic mammal trainer for at least one year and get certificate on completion of the whole class hours.
- ii. Continuously work as an aquatic mammal trainer for two years.

+ Medium (need to meet one of the following)

- i. Continuously work as aquatic mammal trainer for two more years following achievement of primary certificate, complete the standard class hours for medium grade and achieve medium grade certificate.
- ii. Continuously work as aquatic mammal trainer for four years following achievement of primary grade certificate
- iii. Continuously work as aquatic mammal trainer for six years.

iv. Receive college degree in biology, medicine etc., or above, and continuously work as aquatic mammal trainer for one year at least

+ Advanced

i. Continuously work as aquatic mammal trainer for three years or more, finish the standard class hours for advanced certificate and achieve advanced degree certificate

ii. Continuously work as aquatic mammal trainer after achieving medium grade certificate

iii. Continuously work as an aquatic mammal trainer with college degree in biology, medicine etc.

+ Technician

i. Continuously work as aquatic mammal trainer for 4 years after advanced grade and finish the whole standard class hours and get technician certificate

ii. Continuously work as aquatic mammal trainer for 7 years or more after achieving advanced grade certificate

+ Advanced technician

i. Continuously work as aquatic mammal trainer for 3 years or more and finish the whole standard class hours and get certificate

ii. Continuously work as aquatic mammal trainers for 5 years after achieving technician certificate

1.8.3 Appraisal methods – There will be both a theoretical test and hands-on practical test. The theoretical test is a closed book test. The hands-on practical test is to do actual training practice. The full score of the theoretical test and hands-on practice is both 100. Anyone who gets 60 or more in both tests will pass the tests. Besides them, the technician and advanced technician grade certificates require a comprehensive review

1.8.4 The ratio for tester and testee – In the theoretical test, the ratio for testers and testees is 1:15, and there should be no fewer than 2 testers; in the hands-on test, the ratio for testers and testees is 1:5, and there should be no fewer than 3 testers; In comprehensive review, there should be no fewer than 5 persons in the panel

1.8.5 Appraisal period – The theoretical test lasts for 90 minutes; the hands-on test period should be no fewer than 30 minutes; the comprehensive review period should be no fewer than 30 minutes

1.8.6 Appraisal facility and device – The theoretical test is carried out in a standard classroom; the hands-on test is held in the facility that has more than two species of aquatic mammals of a certain quantity

2. Basic requirement

2.1 Professional ethics

2.1.1 Basic knowledge about professional ethics

2.1.2 Code of ethics

+ Love animals

+ Faithful to the job

+ Improve professional skill

+ Team spirit

2.2 Basic knowledge

2.2.1 A theoretical knowledge of aquatic mammals

+ Basic zoology knowledge

+ Basic animal biology knowledge

+ Basic animal nutrition knowledge

+ Basic animal aquaculture chemical knowledge

2.2.2 Aquatic mammal husbandry management

+ Basic nutrition management knowledge

+ Basic animal health care knowledge

2.2.3 Basic aquatic mammal training knowledge

+ Basic animal psychology knowledge

+ Basic animal behaviour knowledge

2.2.4 Safety

+ Basic knowledge of diving

+ Common sense of first aid

+ Common sense of self-protection

2.2.5 Relevant laws and regulations

+ Wildlife Protection Laws of PRC

+ Animal Epidemic Prevention Law of PRC

+ Environment Protection Law of PRC

+ Labour Law of PRC

+ Production Safety Law of PRC

+ Zoo Animal Husbandry Management Technology Protocol of PRC

3. Job description – This standard gives progressive requirement of technology for primary, medium, advanced, technician and advanced technician. The higher grade contains the requirement of lower grade. The requirements for primary, medium, advanced, technician and advanced technician are increased in sequence.

3.1 Primary

Occupation function	Job Description	Necessary skills	Relevant knowledge
Housing	Feeding	<ol style="list-style-type: none"> 1. Be able to choose, pre-process, distribute and maintain animal feed 2. Be able to feed animals according to specific formulas 3. Be able to process feed waste under certain requirements 	<ol style="list-style-type: none"> 1. Animal feeding habit 2. Be familiar with common feed types, their shapes and quality demands 3. The methods needed to thaw and preserve aquatic products 4. Feeding methods
	Observation	<ol style="list-style-type: none"> 1. Be able to patrol and take care of animals 2. Be able to identify animal individuals 	<ol style="list-style-type: none"> 1. Animal's normal behaviour and activity patterns 2. Features of animal appearance
	Health care	<ol style="list-style-type: none"> 1. Be able to assist with animal restraint during body check and other medical procedures 2. Be able to assist the vets to treat animal injury 3. Be able to do disinfection as prescribed (<i>ability to follow the advice of the vet</i>)⁹⁶ 	Any matters to be attended to during the capture and restraint
	Records	Be able to fill various animal behaviour records	Behaviour record methods
Cleaning and maintenance	Cleaning	<ol style="list-style-type: none"> 1. Be able to clean housing area, feed-making device and various kits 2. Be able to do cleaning work underwater 	<ol style="list-style-type: none"> 1. Common sense of cleanliness 2. Common disinfection method
	Device operation and maintenance	<ol style="list-style-type: none"> 1. Be able to use diving device to dive and work 2. Be able to maintain the cleaning device 	<ol style="list-style-type: none"> 1. Know how to operate the diving device 2. Common sense of operating and giving maintenance for cleaning device
Training and performance	Animal training	<ol style="list-style-type: none"> 1. Be able to finish the preparation for training 2. Be able to order animals to repeat basic behaviours 3. Be able to prevent animal attack during contact 	<ol style="list-style-type: none"> 1. The main content of training preparation 2. The requirement of basic training 3. Knowledge for preventing animal attack
	Organise animal performance	Be able to finish the preparation and mopping up after performance, and be able to prepare and return the props and restore the arena	Basic knowledge of the performing arena and props
Capture and transport	Capture	<ol style="list-style-type: none"> 1. Be able to prepare the tools for capturing 2. Be able to disinfect transfer tools as required 3. Be able to accomplish the assistant work for capturing animals in housing area as required 	<ol style="list-style-type: none"> 1. How to use capture tools and the capture methods 2. The disinfection methods for transferring devices
	Transport	Be able to finish the assistant work for animal transport and transferring	The common sense for animal transport and transferring

⁹⁶ Note included by the report's author

3.2 Medium

Occupation function	Job Description	Necessary skills	Relevant knowledge
Housing	Feeding	<ol style="list-style-type: none"> 1. Be able to add medicine into feed and mark accordingly to the prescription 2. Be able to feed nutrition supplement and medicine feed 3. Be able to give advice according to animal ingestion situation on modifying the feed 	<ol style="list-style-type: none"> 1. The common medicine inserting and marking method 2. Animal natural history 3. The relationship between animal appetite and health
	Observation	Be able to observe normal and abnormal behaviours during different physiological periods, sickness, quarantine, and vaccine periods	<ol style="list-style-type: none"> 1. The relationship between animal behaviour and health 2. Animal respiration 3. Different demands of different animals on water condition
	Health care	<ol style="list-style-type: none"> 1. Be able to give health care when animal is in oestrus, mating and pregnant 2. Be able to separate animals and give health care as prescribed 3. Be able to assist the vets to finish health check and take sample 	<ol style="list-style-type: none"> 1. Health care common sense for animals which are in oestrus ,mating and pregnant 2. Health care common sense for sick animals 3. Common sense for animal rescue
	Records	Be able to keep animal behaviour management relevant record	Common sense for animal behaviour records management
Cleaning and maintenance	Cleaning	Be able to organise and carry out cleaning work	Demands with regards to cleaning work
	Device operation and maintenance	Be able to do regular maintenance for diving device	Common sense of operation and giving maintenance for diving devices
Training and performance	Animal training	<ol style="list-style-type: none"> 1. Be able to carry out basic animal behaviour and standard behaviour training 2. Be able to build trust to newly acquired animals 3. Be able to give demonstrations to primary trainers 	<ol style="list-style-type: none"> 1. Common sense of animals' wild habitat 2. Understand conditioned reflex principle and operate accordingly 3. Be able to communicate with animals 4. Training methods
	Organise animal performance	Be able to finish appointed role play performance	<ol style="list-style-type: none"> 1. Common sense for performance 2. Demands for swimming stroke
Capture and transport	Capture	<ol style="list-style-type: none"> 1. Be able to carry out animal capture 2. Be able to do restraint and health care after capture 	Animal restraint
	Transport	Be able to monitor the animals and give necessary care during the transport	Record keeping during the transferring and transport

3.3 Advanced

Occupation function	Job Description	Necessary skills	Relevant knowledge
Housing	Feeding	<ol style="list-style-type: none"> 1. Be able to adjust feed types, quantity and feeding time, make feed formula according to animals' health, training and performance demands 2. Be able to give advice on water condition adjustment according to animals' different demands in different seasons 3. Be able to reflect on animal husbandry 	<ol style="list-style-type: none"> 1. Be familiar with principles of formulating feed 2. Be familiar with common animal medicine types
	Observation	Be able to analyse, identify animal behaviour and give suggestion to deal with abnormal behaviours	Principles of animal behaviour
	Health care	<ol style="list-style-type: none"> 1. Be able to give health care as instructed by a veterinarian during animal labour and nursery 2. Be able to give postoperative and post-partum health care as instructed by a veterinarian 3. Be able to give vaccination and health care for animals in quarantine 4. Be able to undertake weighing, body length measuring and body temperature measuring 	<ol style="list-style-type: none"> 1. Common sense for caring for animals in labour, nursery and quarantine 2. Internationally approved aquatic mammal measuring methods 3. The methods for taking blood, urine, faeces, respiration and digestive juice samples
	Records	<ol style="list-style-type: none"> 1. Be able to complete animal capture, transport record 2. Be able to build animal behaviour management records 3. Be able to design various record types 	<ol style="list-style-type: none"> 1. Be familiar with animal capture, transport record 2. Be familiar with animal behaviour record
Cleaning and maintenance	Cleaning	Be able to set up cleaning plan	Be familiar with how to make cleaning plan
	Device operation and maintenance	<ol style="list-style-type: none"> 1. Be able to manage the operation and maintenance for the devices and facilities 2. Be able to choose proper diving device 	Be familiar with device management common sense
Training and performance	Animal training	<ol style="list-style-type: none"> 1. Be able to train the newly acquired animals and train the animals to do highly difficult and novel behaviours 2. Be able to guarantee individual animal and animal group performance, and fulfil the training, for a show 3. Be able to adjust and control animal social relationship 4. Be able to analyse the performance training 5. Be able to make training plan and write relevant report 6. Be able to do hands-on demonstration to primary and medium grade trainers 	<ol style="list-style-type: none"> 1. Principles of animal training 2. How to guarantee the quality of animal performance
	Organise animal performance	<ol style="list-style-type: none"> 1. Be able to organise animal performance 2. Be able to work with other trainers and quickly respond to unexpected situations 3. Be able to analyse the effect of performance 	Performance effect analysis common sense
Capture and transport	Capture	<ol style="list-style-type: none"> 1. Be able to give suggestions for making specific tool to use in capture and transport 2. Be able to organise animal loading and control work 	<ol style="list-style-type: none"> 1. Be able to capture and transport animals 2. Be able to load animals 3. Response to common problems during capture
	Transport	Be able to organise and coordinate transport and transporting work	Know how to transport animals in a standard way, and how to prevent dangers within the work

3.4 Technician

Occupation function	Job Description	Necessary skills	Relevant knowledge
Housing	Feeding	<ol style="list-style-type: none"> 1. Be able to make annual feed consumption plan 2. Be able to make animal husbandry plan 3. Be able to deal with problems occurring in housing 	<ol style="list-style-type: none"> 1. Animal nutrition 2. Quality standard and nutrition of common feed 3. Function and effect of common animal medicine and nutrition supplement
	Health care	<ol style="list-style-type: none"> 1. Be able to set animal health care standard 2. Be able to rescue wild animal 	<ol style="list-style-type: none"> 1. Animal health care 2. Animal rescue
Training and performance	Animal training	<ol style="list-style-type: none"> 1. Be able to design individual animal and group show 2. Be able to plan adjustment of animals due to their social relationship 3. Be able to make training plan of both newly acquired and long-term animals 	<ol style="list-style-type: none"> 1. Animal social behaviour 2. Animal neurophysiology
	Organise animal performance	Be able to choreograph animal performance	Common sense for choreography
Capture and transport	Capture	Be able to make animal capture plan	Know how to plan a capture
	Transport	<ol style="list-style-type: none"> 1. Be able to organise animal transport 2. Be able to deal with the technical problems occurring in transport 	Principles of dealing with unexpected situations occurring in the transporting
Training guidance and management	Hands-on guidance	Be able to guide the primary, medium and advanced grade trainers in training , housing and performance	Principles of training and husbandry
	Theoretical workshop	<ol style="list-style-type: none"> 1. Be able to make workshop plan 2. Be able to give lecture to lower grade trainers in hands-on practice and theoretical knowledge 	Teaching methods
	Management	<ol style="list-style-type: none"> 1. Be able to build animal husbandry team 2. Be able to make safety protocol in daily operation 	Management of trainers' technicalities

3.5 Advanced Technician

Occupation function	Job Description	Necessary skills	Relevant knowledge
Housing	Feeding	<ol style="list-style-type: none"> 1. Be able to evaluate housing condition and housing plan 2. Be able to summarise animal husbandry experience in systematic way 3. Be able to do relevant scientific research 	<ol style="list-style-type: none"> 1. Evaluation methods 2. Research design and fund application
	Health care	Be able to summarise animal health care experience	Animal anatomy
Training and performance	Animal training	<ol style="list-style-type: none"> 1. Be able to theoretically summarise the experience in animal training and management 2. Be able to evaluate animal training and management effect 3. Be able to decide the necessary facilities and equipment on animal housing and training facilities and devices 	<ol style="list-style-type: none"> 1. Animal social group management and the relationship evaluation 2. Animal training and animal management evaluation 3. Novel ideas in performing choreography
	Organise animal performance	Be able to evaluate animal performance plan and the outcome	Stage performance knowledge
Capture and transport	Capture	Be able to evaluate the capture plan	Be able to design the capture plan
	Transport	Be able to evaluate animal transport plan	Be able to design animal transport plan
Training guidance and management	Hands-on guidance	Be able to guide trainers in animal housing and performance	Teaching methods on training and husbandry
	Theoretical workshop	<ol style="list-style-type: none"> 1. Be able to teach hands-on practice , theoretical knowledge and work protocol 2. Be able to write workshop text book 3. Be able to write animal conservation education text book 	Textbook editing knowledge
	Management	<ol style="list-style-type: none"> 1. Be able to give solution to highly difficult technological or operational problems and organise technological innovation activities 2. Be able to publish professional paper in national magazine 3. Be able to evaluate animal housing , training, performance , and animal import and export work 4. Be able to communicate professionally in foreign language 	<ol style="list-style-type: none"> 1. Professional management knowledge on animal training 2. Animal housing , training and performance evaluation 3. Foreign language knowledge in professional field

4. Proportion table

4.1 Theoretical knowledge

Items		Primary (%)	Medium (%)	Advanced (%)	Technician (%)	Advanced Technician (%)
Basic requirement	Work ethic and rules	5	5	5	5	5
	Basic Knowledge	20	20	15	10	10
Relevant knowledge	Feeding	25	20	25	30	30
	Cleaning and maintenance	15	15	10	–	–
	Training and performance	30	35	40	35	30
	Capture and transport	5	5	5	10	5
	Training guidance and management	–	–	–	10	20
Total		100	100	100	100	100

4.2 Hands-on practice

Items		Primary (%)	Medium (%)	Advanced (%)	Technician (%)	Advanced Technician (%)
Necessary Skills	Housing	30	25	20	15	10
	Cleaning and maintenance	10	10	10	–	–
	Training and performance	55	55	50	30	30
	Capture and transport	5	10	20	20	25
	Training guidance and management	–	–	–	25	25
Total		100	100	100	100	100

APPENDIX THIRTEEN

Water Quality for Aquatic Mammals in Aquariums

1. Range

This item standardises the water quality for raising aquatic mammals in aquariums

This standard is for raising both aquatic mammals and other aquatic animals

2. Reference

- + GB-3097-1997 Seawater quality standards
- + GB 3838 Surface water environment standards
- + GB/T 5750.6-2006 Drinking water test standards Chapter 6 sensory properties and physical index
- + GB/T 5750.11-2006 Drinking water test standards Chapter 11 disinfection solution index
- + GB/T 5750.12-2006 Drinking water test standards Chapter 12 microbe index
- + GB/T 12763.4-2007 Ocean investigation regulation Chapter 4 Chemical elements investigation for seawater
- + GB 17378.4-2007 Ocean monitoring regulation Chapter 4 Seawater analyse
- + SC/T 6074 Terminology of aquarium

+ SL 94 Potentiometry

+ SN/T 1933.1 Examine methods for enterococcus in food and water Chapter 1 Plate count method and most probable number method

+ SN/T 1933.2 Examine methods for enterococcus in food and water Chapter 2 Film filtering

3. Definition and terms

The terms in SC/T 6074 apply in this regulation too

4. Water quality requirement

4.1 Raw water

4.1.1 Using natural seawater as housing water, the quality of seawater should be equal to or better than the demands in the Class II of GB 3097-1997

4.1.2 Using fresh water as housing water, the quality of fresh water should be equal to or better than the demands in Class III GB 3838

4.2 The routine inspection items and threshold

The routine inspection and threshold for housing aquatic mammals in aquariums should meet the requirement in Table 1

Table 1. The routine inspection items and threshold

Elements	Requirement
Floating material	No oil, foam and other floating materials on water surface
Colour, foul taste	No strange colour or foul taste
Visible items	None
NTU	< 0.25
Salinity (except fresh water)	15-36
pH	7.2-8.5
NH ₃ /NH ₄ ⁺ mg/L	< 1.2
Total coliforms, MPN/100mL or CFU/100mL	< 1000
Escherichia coli, MPN/100mL or CFU/100mL	< 100
Total chlorine mg/L	0.3-1.0
Free chlorine mg/L	0.1-0.4
O ₃ mg/L	< 0.01
ClO ₂ mg/L	0.02-0.1
The sum of bacterium could be the average sum of two measurements in 48 hours. Choose index according to the type of the disinfection solution.	

4.3 Non-routine inspection items and threshold

Items	Threshold
Total sum of bacteria, CFU/mL	≤100
Enterococcus faeculis CFU/100mL	≤100
NO ₂ mg/L	≤1.2
Cadmium mg/L	According to table 1 GB3097-1997 Class II
Lead mg/L	According to table 1 GB3097-1997 Class II
Hydrargyrum mg/L	According to table 1 GB3097-1997 Class II
Hydrargyrum mg/L	≤0.2
Ferrum mg/L	≤0.5
Manganese mg/L	≤0.3
Copper mg/L	According to table 1 GB3097-1997 Class II
Zinc mg/L	According to table 1 GB3097-1997 Class II
ORP, mV	≤750 (using natural seawater) ≤550 (using artificial salty water)
Volatile phenols mg/L	≤0.005

4.4 Water temperature See Table 2

Table 2. The requirements on water temperature for aquatic mammals in aquariums

Housing species		Housing water temperature, °C
Cetaceans	Beluga whales, killer whales	0-18
	Other cetaceans	18-25
Pinnipeds		0-24
Sirenians		20-32
Polar bear		0-18

5. Inspection methods

See Table 3

Table 3. Water quality analysis methods

No.	Items	Analysis methods	thresholds µg/L	Reference
1	Floating material	Visual observation	-	
2	Colour, smell, taste	A. Colorimetry B. Organoleptic methods	-	GB 17378.4-2007 GB 17378.4-2007
3	Total sum of bacteria	A. Plate count method B. Fluorescence microscope direct counting method		GB 17378.4-2007 GB 17378.4-2007
4	Total sum of coliform	A. Multiple tube fermentation method B. Film filtering method C. Enzyme substrate method		GB/T 5750.12-2006 GB/T 5750.12-2006 GB/T 5750.12-2006
5	<i>E.coli</i>	A. Multiple tube fermentation method B. Film filtering method C. Enzyme substrate method		GB/T 5750.12-2006 GB/T 5750.12-2006 GB/T 5750.12-2006
6	<i>Enterococcus faecalis</i>	A. Plate count method B. MPN C. Film filtering method		SN/T 1933.1 SN/T 1933.1 SN/T 1933.2
7	Turbidity	A. Turbidity count method B. Visible observation C. Spectrophotography		GB 17378.4-2007 GB 17378.4-2007 GB 17378.4-2007
8	pH	A. pH count method B. pH colorimetry		GB 17378.4-2007 GB 17378.4-2007
9	Salinity	Salinity count method		GB 17378.4-2007
10	Water temperature	A. Surface water temperature B. Reversing thermometer		GB 17378.4-2007 GB 17378.4-2007
11	Oxidation-reduction potential	Potential determination		SL.94
12	COC	Alkaline Potassium Permanganate		GB 17378.4-2007
13	Volatile phenols	methythionine chloride spectrophotography	1.1	GB 17378.4-2007
14	ClO ₂	A. DPD Ferrous ammonium sulphate titration B. Iodimetry C. Cresol red spectrophotography D. Filed testing method	25 0.01 20 10	GB/T 5750.11-2006 GB/T 5750.11-2006 GB/T 5750.11-2006 GB/T 5750.11-2006
15	Total chlorine	DPD spectrophotography TMB colorimetry	10 5	GB/T 5750.11-2006 GB/T 5750.11-2006

No.	Items	Analysis methods	thresholds µg/L	Reference
16	Free chlorine	A. DPD spectrophotography B. TMB colorimetry	0.1 5	GB/T 5750.11-2006 GB/T 5750.11-2006
17	O ³	A. Iodimetry B. Indigo blue spectrophotography C. Indigo blue filed testing	0.01 10	GB/T 5750.11-2006 GB/T 5750.11-2006 GB/T 5750.11-2006
18	Ammonia nitrogen	A. Indophenol blue spectrophotogray B. Sodium hypobromite hydrocarbonylation		GB 17378.4-2007 GB 17378.4-2007
19	Nitrite	A. NAA two amine B. Heavy nitrogen azo		GB 17378.4-2007 GB/T 12763.4-2007
20	Cadmium	A. Nonflame atomic absorption spectrophotography B. ASV C. Flame atomic absorption spectrophotography	0.01 0.09 0.3	GB 17378.4-2007 GB 17378.4-2007 GB 17378.4-2007
21	Lead	A. Nonflame atomic absorption spectrophotography B. ASV C. Flame atomic absorption spectrophotography	0.03 0.3 1.8	GB 17378.4-2007 GB 17378.4-2007 GB 17378.4-2007
22	Mercury	A. HPLC-AFS B. Cold atomic absorption spectrophotography	7.0*10 ⁻³ 1.0*10 ⁻³ 2.7*10 ⁻³	GB 17378.4-2007 GB 17378.4-2007 GB 17378.4-2007
23	Aluminium	A. Chromazurine S spectrophotography B. SAF-Chloro sixteen alkyl pyridine spectrophotography C. Nonflame atomic absorption spectrophotography D. ICP-AES E. ICP-MS	8 20 10 40 0.6	GB/T 5750.6-2006 GB/T 5750.6-2006 GB/T 5750.6-2006 GB/T 5750.6-2006 GB/T 5750.6-2006
24	Ferro	A. Atomic absorption spectrophotography B. Naphthisodiazine spectrophotography C. ICP-AES D. ICP-MS	300 50 4.5 0.9	GB/T 5750.6-2006 GB/T 5750.6-2006 GB/T 5750.6-2006 GB/T 5750.6-2006
25	Mn	A. Atomic absorption spectrophotography B. APS spectrophotography C. formaldehyde oxime spectrophotography D. potassium periodate spectrophotography E. ICP-AES F. ICP-MS	100 50 20 50 0.5 0.06	GB/T 5750.6-2006 GB/T 5750.6-2006 GB/T 5750.6-2006 GB/T 5750.6-2006 GB/T 5750.6-2006 GB/T 5750.6-2006
26	Cu	A. Nonflame atomic absorption spectrophotography B. ASV C. flame atomic absorption spectrophotography	0.2 06 1.1	GB 17378.4-2007 GB 17378.4-2007 GB 17378.4-2007
27	Zn	A. flame atomic absorption spectrophotography B. ASV	3.1 1.2	GB 17378.4-2007 GB 17378.4-2007



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