

# Scientific Facts about Captive Cetaceans

有关圈养鲸豚的科学事实

## *Scientific evidence as to why whales, dolphins and porpoises cannot thrive in captivity*

鲸、海豚和鼠海豚为什么在圈养下无法良好存活

### WELFARE CONCERNS

动物福利问题

- **Restrictive space:** The largest captive facilities are just a fraction of the size of the natural home ranges of cetaceans (1). Orcas, for example, may travel as far as 200 kilometers in a day (2). When denied adequate space, large, wide-ranging carnivores such as cetaceans commonly develop problems such as abnormal repetitive behavior (termed stereotypies) and aggression (3).
- **生活空间有限:** 即便是最大的圈养场馆，其空间也不及鲸豚自然栖息地的毫厘（1）。比如虎鲸，每天最多可游历 200 千米（2）。当所处的空间无法满足那些体型庞大、活动空间广泛的鲸豚的需求时，会导致鲸豚出现异常的重复性行为（即刻板行为）和攻击性行为（3）。
- **Limited social environment:** Captive cetaceans are given no choice when sharing a tank with often unrelated individuals. Cetaceans held together are often from different geographic regions or are even different species, which can result in changes to natural group dynamics leading to dominance-related aggression, injuries, illness and even death (4). In the wild, the majority of cetacean species live in complex societies, often based on kinship. These highly intelligent, social species can be found in aggregations of hundreds and even thousands of animals.
- **社交环境受限:** 毫无亲缘关系的鲸豚，通常被人为圈养在一起。来自不同地理区域甚至不同物种的鲸豚也常常被圈养在一起，这会改变自然群体的关系，导致动物间因争夺统领权而产生敌意和攻击、导致受伤、疾病甚至死亡（4）。在野外，大部分的鲸豚种群都生活在以亲缘关系为主的复杂的社群中。这些心智高度发达、社交活动丰富的物种能成百甚至上千头地聚集在一起。
- **Environmental quality and complexity:** Captive facilities cannot provide an environment that simulates the complex natural marine environment. Most pools are smooth-sided, small and virtually empty of stimuli (5).
- **环境质量和丰富度:** 圈养场馆无法提供类似自然海洋一样充满不同刺激的环境。绝大多数圈养池都四壁光滑、狭小且毫无刺激（5）。
- **Noise:** The regular, repetitive noise of pumps and filters may cause significant stress to captive cetaceans, who are highly dependent on their sense of hearing (5). Captive dolphins spend much of the time with their heads at the water's surface or out of the water; therefore, they are exposed to many loud sounds in-air, such as high-volume music, audience reactions, and fireworks, which may be stressful, leading to physiological impacts (6).
- **噪音:** 水泵和过滤系统发出的周期性、重复的噪音会给圈养鲸豚这种高度依赖听力的动物造成巨大的压力（5）。圈养海豚有大量的时间都把头部浮在水面或露出水面，这样他们会直接接触很多空气中的噪音，比如高分贝的音乐声、观众的喧闹声以及烟火表演的声音，这些都会给圈养鲸豚造成巨大压力，带来生理上的伤害（6）。
- **Behavioral restrictions:** Training and performance in shows may provide some stimulation for captive cetaceans, but these behaviors are conditioned and are usually exaggerated or altered versions of natural behavior (7). Conditioned behaviors observed in captivity include "tail-walking", the balancing of balls, spinning of hoops, trainers being pushed and pulled through the water and trainers riding on the backs of dolphins; none of these are natural behaviors. Most notably, all cetaceans are predators

and the fundamental natural behavior of hunting is denied them in captivity. Given their intelligence, this deprivation may lead to boredom and depression.

- **行为受限:** 训练和表演可能给圈养鲸豚带来一些刺激，但是那些（训练和表演）行为是人类专门要求的，通常是夸大和扭曲的自然行为（7）。我们观察到，鲸豚被训练做出“用尾鳍直立行走”、用吻部平衡球、用吻部转动呼啦圈、推举驯养员出水后驯养员踩在海豚背上表演等，这些动作都不是海豚的自然行为。最值得注意的是，所有的鲸豚都是猎食者，他们最基本的自然行为——捕猎，在圈养环境里完全无法施展。鉴于他们心智如此发达，这种行为被剥夺会使他们极度无聊和压抑。
- **Use of tranquilizers:** Diazepam is sometimes used by the captive dolphin industry to control anxiety, a mental state that can lead to stereotypies (8). It is also used to encourage feeding (9). Unlike most mammals, whales and dolphins are “voluntary breathers” – they must be conscious and awake to some degree to breathe (10). Because diazepam can decrease the responsiveness of the respiratory system in animals, this side effect is of particular concern in cetaceans.
- **镇静剂的使用:** 圈养产业有时会使用安定来控制焦虑的鲸豚，焦虑会引发各种刻板行为（8）。圈养场馆为了增加鲸豚的食欲，也会使用安定（9）。与很多哺乳动物不同的是，鲸豚是“主动呼吸者”——他们需要保持一定程度的意识和清醒来自主呼吸（10）。由于安定会减弱动物呼吸系统的反应，所以这个药物的副作用对于鲸豚是尤其突出的。

In addition, research has demonstrated that diazepam induces sleep in dolphins by reducing blood flow to the brain and by inhibiting the ability of the brain to process nourishment (11). In essence, a dolphin taking diazepam can be functionally asleep, as well as have his or her normal sleep patterns disrupted.

此外，有研究显示，安定会减少海豚大脑的供血量和抑制大脑对营养物质的处理能力，从而使海豚入睡（11）。从根本上讲，服用或注射过安定的海豚会功能性地入睡，但动物本身正常的睡眠模式是被扰乱了的。

Diazepam’s use for stimulating appetite is questionable in cetaceans, because in some animals (most notably cats) it appears to act by enhancing the taste and flavor of food, not by stimulating natural hunger mechanisms (9). While dolphins have taste buds on their tongues, recent research has demonstrated that they are unable to taste anything other than salt (12); therefore, diazepam would likely have a negligible effect on their appetite.

安定还被用于激发鲸豚的食欲，这也同样是有问题的。因为对很多动物（特别是猫）来说，安定只是增加了食物的味道和香味而已，并非真正刺激了自然饥饿机制（9）。即便海豚舌头上有一些味蕾，近期的研究已经表明，海豚除了咸味以外，根本尝不到其他味道（12）；所以安定对鲸豚的食欲几乎是没有什么促进作用的。

- **Early mortality:** Captive bottlenose dolphins may live as long as wild dolphins in the best facilities globally, but their annual mortality rates are still slightly higher and in many facilities around the world (including in China, based on the high volume of the live trade) considerably higher, as poor quality housing and care contribute to ill health (13, 14). Survivorship in captive orcas in the best facilities has increased over time, but still only matches the survivorship of orca populations in the wild that are endangered or threatened (15), and survival to sexual maturity and menopause is poor in captivity compared to in the wild (16). Beluga whales appear to live about half as long in captivity as they do in the wild (17).
- **过早死亡:** 在世界上条件最好的圈养场馆中，瓶鼻海豚也许可以和野外海豚活得一样久，但他们每年的死亡率依然比野外个体稍高；而在世界其他地方（包括中国大陆，鉴于大陆的鲸豚活体贸易规模巨大）的圈养场馆，圈养鲸豚的年死亡率则远远高于野外，因为圈养设施和圈养方式不当导致鲸豚疾病多发（13，14）。尽管在条件最好的圈养场馆，圈养虎鲸的存活率这些年有所提高，但也只能和野外濒危或受威胁的虎鲸种群的存活率持平（15），而圈养条件下存活到性成熟和绝经的虎鲸则远远少于野外（16）。白鲸在圈养环境下则只能活到野外白鲸一半的

年龄（17）。

## CONSERVATION CONCERNS

### 保育上的担忧

- **Threats to wild populations:** Wild capture of cetaceans for the captive industry continues to be a threat to small, local populations (18, 19). Most of the cetaceans held in ocean theme parks in China were captured from the wild, primarily from Japan and Russia, where science confirming the sustainability of the removals is lacking. The capture operations in Russia for orcas and belugas are almost certainly unsustainable (20, 21).
- **威胁野外种群:** 为满足圈养产业的需求而对野外鲸豚进行野捕一直威胁着当地的小种群（18, 19）。中国大陆海洋（主题）公园中圈养的绝大部分鲸豚都是从野外捕获的，主要来自日本和俄罗斯海域，而这些地区的野捕活动的可持续性缺乏科学研究支撑的。至于在俄罗斯海域野捕虎鲸和白鲸几乎可以肯定是完全不可持续的（20, 21）。

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