



**SUFFERING, NOT SMILING**  
The truth about captive dolphins

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# **SUFFERING, NOT SMILING**

The truth about captive dolphins

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by the  
**ANIMAL CONCERNS RESEARCH AND EDUCATION SOCIETY (ACRES)**

supported by  
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The Animal Concerns Research and Education Society (ACRES) is a non-profit society, founded in May 2001 by a group of Singaporeans. ACRES aims to:

- foster respect and compassion for all animals.
- improve the living conditions and welfare of animals in captivity.
- educate people on lifestyle choices which do not involve the abuse of animals and which are environment-friendly.

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## **GLOSSARY**

|                       |   |
|-----------------------|---|
| <b>ACRES</b>          | : Animal Concerns Research and Education Society  |
| <b>Dolphin Lagoon</b> | : An attraction at Underwater World Singapore, holding captive Indo-Pacific hump-backed dolphins at Sentosa, Singapore. |
| <b>Dolphinarium</b>   | : A facility open to the paying public, housing captive dolphins.   |
| <b>Estuaries</b>      | : Tidal mouth of river, where freshwater and seawater meet.   |
| <b>Pathogens</b>      | : Any disease carrying organism.  |
| <b>Rosturm</b>        | : Beak of the dolphin   |
| <b>WDCS</b>           | : Whale and Dolphin Conservation Society  |
| <b>WSPA</b>           | : World Society for the Protection of Animals   |



## EXECUTIVE SUMMARY

1. In 1999, the Underwater World Singapore (UWS) became one of the first marine parks in Asia to acquire the Indo-Pacific hump-backed dolphins (*Sousa chinensis*).
2. In September 2003, the Animal Concerns Research and Education Society (ACRES), launched the 'Suffering, not Smiling' campaign. The campaign aims to raise awareness of the plight of dolphins and this campaign report presents a compilation of current literature regarding captive dolphins and argues against keeping these animals in captivity. The report presents clear evidence that captivity is detrimental to the welfare of dolphins and shows that research, conservation and education in dolphinariums have minimal benefits to wild dolphins. ACRES holds the view that dolphins belong in the wild. ACRES is therefore campaigning for the rehabilitation and release of the dolphins at Dolphin Lagoon, back into the wild.
3. Four of the dolphins acquired by UWS were caught from the wild. They were obtained in Thailand where the World Conservation Union (IUCN) has stated that "hump-backed dolphins are taken in fishing gear in the upper Gulf of Thailand, and the demand for live specimens in Thai Oceanaria has recently lead to the development of a directed fisheries there." UWS's acquisition of these wild-caught dolphins, will clearly contribute to the extinction of this species.
4. Most experts believe it is not possible to adequately house and care for intelligent, social, wide-ranging ocean mammals in captivity. Boredom, frustration, restriction of normal activities and sensory deprivation are cited as some of the most serious concerns.
5. Recent studies in the United States suggest that an inordinate number of captive dolphins are succumbing to typical **stress-related illnesses** such as heart attacks and gastric ulcers. Natam, the female dolphin at Dolphin Lagoon, had similarly died of acute gastritis.
6. Scientific evidence indicates that cetaceans in captivity suffer extreme mental and physical stress, which is revealed through **aggression amongst themselves**. In April 2003, Jumbo, the male dolphin from Dolphin Lagoon had 11 teeth extracted. He had been fighting with another male dolphin through the bars separating their lagoons. This indicated extreme mental and physical stress in the dolphin.



7. The contact sessions with the dolphins are detrimental to the welfare of captive dolphins. The increased chances of disease transmission and the safety of visitors also clearly dictate that this practice should be abandoned.
8. The captive dolphins, must suffer the indignity of performing tricks to their trainer's whistle for a reward of dead fish. Forcing these notoriously shy species to perform unnatural acts is undoubtedly detrimental to their welfare. The training methods employed also raise serious concerns.
9. The evidence provided suggest that minimal education takes place at dolphinariums. In fact, dolphin shows featuring dolphins performing unnatural acts clearly distort the public's understanding of these species. These shows only serve to reinforce the idea that man is above nature and controls it, rather than being a part of it.
10. Research conducted on dolphins in captivity does not have the potential to improve the conservation of wild cetaceans as the lives of captive animals are artificial. The limited value of captive studies and the increasing ability to conduct research on wild dolphins all undermine the case for the continued research conducted on captive dolphins.
11. The purpose of captive breeding is to produce a genetically-viable, self-sustaining population of animals, whose progeny will eventually be released back into the wild. Producing this genetically-viable population is simply not possible at Dolphin Lagoon since they only have six dolphins. Continued breeding will only result in inbreeding.
12. Although there are still many unknowns, there have been a number of dolphin rehabilitations and releases that point to this as a viable option for many captive dolphins.
13. Knowledge about dolphins can be conveyed more accurately through nature documentaries and films that show dolphins in natural surroundings or by viewing dolphins in the wild. Both dolphins and observers benefit as this conveys a more realistic picture of dolphin life at no cost to their welfare.
14. Progressive countries around the world no longer keep dolphins in captivity, clearly recognizing that these animals belong in the vast open seas. There is also a growing movement within the marine park industry to discontinue keeping cetaceans in captivity.



## INTRODUCTION

**“Unfortunately, a dolphin's 'smile' is its downfall.  
Just because he looks happy, it doesn't mean that he is enjoying his  
work.**

**In fact, it couldn't be further from the truth.”  
~ WSPA <sup>1</sup>**

In 1999, the Underwater World Singapore (UWS) became one of the first marine parks in Asia to acquire the Indo-Pacific hump-backed dolphins (*Sousa chinensis*). As part of its plan to establish a Dolphin Lagoon (dolphinarium) in Sentosa (a resort island off mainland Singapore), six Indo-Pacific hump-backed dolphins were imported from Thailand.



**Figure 1. Entrance to Dolphin Lagoon, Singapore.**

Four of these dolphins were caught from the wild.<sup>2</sup> UWS claimed that they had saved these dolphins from Thailand where they were meant to be food.<sup>67</sup> However, UWS's acquisition of these wild-caught dolphins will clearly contribute to the extinction of this already highly endangered species. It should also be noted that the World Conservation Union (IUCN) had stated that: “A directed net fishery for Irrawaddy and Indo-Pacific hump-backed dolphins has developed in Thailand to supply live dolphins to marine parks, apparently evolved from the accidental capture of dolphins in fishing nets.”<sup>3</sup>

Very little literature has been produced on the Indo-Pacific hump-backed dolphins and UWS stated that they now look forward to studying their husbandry, growth rates and breeding behaviour.<sup>2</sup> In addition, UWS also planned to organise activities aimed at increasing public awareness and understanding of dolphins.<sup>2</sup> Research, conservation and education were thus the main components and objectives of the Dolphin Lagoon. In addition, UWS also stated that the dolphins would not be made to perform tricks “which are unnatural.”<sup>4</sup>



An inspection of the Dolphin Lagoon by the Animal Concerns Research and Education Society (ACRES) in March 2003 raised several concerns regarding the welfare of the dolphins and the apparent contradictions to the above stated objectives of the Dolphin Lagoon. Education was minimal and the recreation and entertainment aspect of the facility were clearly the main focus.

According to Aw (2001), “the Dolphin Lagoon runs up to four performances using the same three animals everyday, 365 days a year with no off days, no annual leaves, no bonuses.”<sup>5</sup> In addition, the animal shows featured dolphins displaying a wide range of unnatural behaviours, contradicting the earlier statements by UWS.

An inspection by ACRES in August 2003 revealed that the Dolphin Lagoon now runs three performances a day. Han and Euang, were the performers for all three show.

The Dolphin Lagoon has also established a petting session and a Swim-with-Dolphin program, which raises further concerns.

It was clear from the investigation and a review of literature regarding captive dolphins, that the Dolphin Lagoon does not have a beneficial aspect in terms of dolphin research, conservation and education.

In addition, it is clear that captivity is detrimental to the welfare of these dolphins. Recent studies in the United States suggest an inordinate number of captive dolphins are succumbing to stress-related illnesses such as heart attacks and gastric ulcers.<sup>6</sup> In 2001, Natam, the female dolphin at Underwater World Singapore, died of acute gastritis.<sup>7</sup>

This report presents a compilation of current literature regarding captive dolphins and argues against keeping these animals in captivity. The report presents clear evidence that captivity is detrimental to the welfare of dolphins and shows that research, conservation and education in dolphinariums, have minimal benefits to wild populations of dolphins.





# **“SUFFERING, NOT SMILING” CAMPAIGN OBJECTIVES**

## **With immediate effect:**

- End the use of dolphins in animal shows at Dolphin Lagoon.
- End the petting and Swim-with-Dolphin sessions at Dolphin Lagoon.
- Stop the further imports of dolphins to the Dolphin Lagoon.
- Begin research on the rehabilitation of the Indo-Pacific hump-backed dolphins and eventually release the Indo-Pacific hump-backed dolphins at the Dolphin Lagoon, back into the wild.
- Prevent the establishment of new dolphinariums in Singapore.





Suffering, not Smiling

# **DOLPHIN BIOLOGY AND CONSERVATION**

One of the most popular group of animals in the world that have earned a place in the hearts of millions of people, is undoubtedly the dolphins.

Dolphins range throughout the oceans of the world and most live in fluid social groupings called pods.<sup>8</sup> Each pod consists of a number of individuals of varying ages who play, feed and travel together.<sup>8</sup> At certain times, groups of pods come together to form herds of several hundred or sometimes even thousand individuals.<sup>8</sup>

Dolphin language is a series of clicks, squeals and whistles.<sup>9</sup> The language varies from place to place and group to group which means that it is learnt, not inborn.<sup>9</sup> Individuals have distinct signature whistles, just like human names, which others use to call them.<sup>9</sup>

Louis Herman, who has conducted communication experiments on dolphins for decades has said that dolphin intelligence is on par with chimpanzees, the closest living relative to man.<sup>10</sup> Examples of behaviour/emotions observed in cetaceans include: possessing culture, loyalty, compassion, co-operative hunting and problem solving, curiosity, creativity, joy, fear, loneliness, grieving, aggression.<sup>10</sup>

## **Indo-Pacific hump-backed dolphins (*sousa chinensis*)**

The Indo-Pacific hump-backed dolphin is one of the four species of dolphins found around Singapore waters. They are inhabitants of tropical to warm temperate coastal waters and they also enter rivers, estuaries, and mangroves.<sup>11</sup> These shoreline species<sup>12</sup> are found from northern Australia and southern China in the east, through Indonesia, and around the coastal rim of the Indian ocean to southern Africa.<sup>11</sup>

Groups of hump-backed dolphins tend to contain fewer than 10 individuals although some are up to 30.<sup>11</sup> These dolphins usually swim slowly and deliberately, surfacing briefly and at comparatively long intervals.<sup>13</sup> They are moderately acrobatic, but often do not bowride.<sup>11</sup>

They show a characteristic and widespread avoidance reaction to boats.<sup>13,14</sup> They rarely permit a close approach before diving, splitting up into small groups or single animals.<sup>13</sup> They usually change course underwater, reappearing unexpectedly some distance away.<sup>13</sup> Porter (2001) further states that they are notoriously shy and unwilling to learn the usual tricks



commonly taught in Asian aquariums.<sup>15</sup> The dolphins feeds upon a wide variety of fishes including mullet.<sup>12</sup>

## Threats in the wild<sup>9</sup>

### Hunting

Dolphins are hunted for meat, leather, oil, fertilizer and animal feed. About 10,000 dolphins are killed annually in Peru for human consumption. In Japan, their meat is a delicacy. For one species of small cetaceans alone, the *Dall's porpoises*, more than 10,000 are killed each year.

### Fisheries

One of the greatest threats to dolphins is being caught in fishing nets. Current estimates are that between one to three million dolphins are accidentally killed each year. Some fishermen also believe that cetaceans compete with humans for marine resources. From 1976 to 1982, 4,147 bottlenose dolphins, 466 Pacific white-sided dolphins, 953 false killer whales and 525 Risso's dolphins were killed for fishery protection at Iki Island, Japan. Scientists concluded that there was no evidence that the dolphins were responsible for the fishery's decline. Instead, overexploitation by larger fishing vessels combined with pollution and natural warm water current flows were the likely factors.

### Pollution

In many parts of the world, stranded dolphins are found to have swallowed plastic bags or have nylon straps wrapped around their tail flukes. Plastic bags and other rubbish when eaten can block the digestive tract and cause ulcers. Abandoned fishing lines and ropes entangle dolphins and trap them underwater where they drown. Effluents from factories, pesticides, herbicides and fungicides from farms and gardens get washed by rain into the rivers and drains into the ocean. This gets into the fish, squid, crabs, shrimps and other crustaceans, which is food for the dolphins.

### Habitat destruction

Mangroves and reefs play a crucial role in the ocean ecosystem and the food supply of the dolphins because they are the sheltered breeding ground of the dolphins' food. Some 58% of mangrove forest in Southeast Asia has been lost, much through conversion into saltwater ponds for farming prawns and fishes, and through cutting to provide woodchips and costal developments.

### Capture for marine parks and dolphinariums

See next section



## **DOLPHIN CAPTURE METHODS**

**“Marine parks may have their defenders  
but they have no reasonable defense.”  
~ WDCS<sup>10</sup>**

### **Contributing to the extinction of a species**

Currently many zoos and marine parks that feature dolphin exhibits or shows are capturing dolphins or buying captured dolphins.<sup>9</sup>

Four of the dolphins at the Dolphin Lagoon in Singapore were similarly caught from the wild.<sup>2</sup> They were obtained from Thailand where the World Conservation Union (IUCN) has stated that “Hump-backed dolphins are taken in fishing gear in the upper Gulf of Thailand, and the demand for live specimens in Thai Oceanaria has recently lead to the development of a directed fisheries there.”<sup>3</sup>

Indo-Pacific hump-backed dolphins are highly endangered and the acquisition of these wild caught dolphins by UWS will clearly contribute to the extinction of this species. Indeed, Indo-Pacific hump-backed dolphins are on longer found in large parts of their former range in inshore waters of Thailand.<sup>3</sup>

UWS however justified their acquisition claiming that these dolphins would have ended up as meat if UWS had not acquired them.<sup>67</sup> Aquariums commonly defend their practice by claiming to “rescue” animals which would have been marketed as meat; yet in reality, and according to local people, they are encouraging and subsidising drive hunts which might not otherwise have been conducted.<sup>10</sup>



## Cruel captures

The cruel capture methods employed also impose severe stress on the dolphins. To capture dolphins, dolphin pods are chased into shallow waters where they are netted and the best specimen(s) selected.<sup>9</sup> The rest are simply thrown back.<sup>9</sup>

In Japan, live dolphin captures occur alongside the killing of dolphins for meat in what are known as 'drive hunts'.<sup>16</sup> Dozens of dolphins may be rounded up out at sea and driven towards the shore, using boats and loud noises, where a bay may be netted off, trapping the animals inside.<sup>16</sup> Once trapped, the selection process begins, with some dolphins removed from the nets alive, for sale to marine parks and aquariums.<sup>16</sup> The rest are slaughtered for consumption.<sup>16</sup>

Between 1938 and 1980 the United States alone took over 1500 live dolphins from the sea, and between 1980 and 1990 Japan took 500 to be used in entertainment.<sup>17</sup>

Doug Cartlidge, former Curator of Sea World Australia in 1974 describes his harrowing experience during a dolphin catch for Sea World Australia off the Great Barrier Reef that eventually prompted Cartlidge to quit the business for good. "We caught three dolphins in our net and were bringing them in slowly," he recounts. "The first old one was too big for a show dolphin. The next one was scarred where sharks had had a go at it and was too big anyway, so they both went over the side. The next one was a beautiful six-footer and as clean as a whistle. 'We'll have this one', we decided, and we started to pack up.

Then I saw the two dolphins we had put over the net just sitting about 30ft away, looking at us. I don't know what it was but I just felt guilty. And then suddenly it hit me. I realised what we had was their two year old baby. All the way back to the main boat they followed us. I was near to tears. It was the way they were looking at me. They weren't sitting up in the water, they were just lying on their sides and watching with one eye out of the water."

More than any other single factor, says Cartlidge, it was this experience that caused him to turn against the industry, and take his case to the public. "It is no crusade," he insists. "I can only publicise what is wrong in the industry until the public sees it's wrong. When that happens, at least two childless dolphins out in the Pacific Ocean will finally have made their point."<sup>6</sup>



## CAPTIVITY - A LIFE OF SUFFERING

"One of the most typical - not to say reprehensible - examples of man's continued ignorance as regards the keeping of animals in captivity is the latest trend towards keeping cetacea in oceanaria or dolphinarium to train them, an activity which became fashionable in the 1940's. In essence this is no different from the old attempts to satisfy man's curiosity by means of performing animals in miserable traveling circuses or showmen with their pitiful dancing bear acts."

- Professor Giorgio Pilleri<sup>6</sup>

"Imagine you are a young dolphin. The ocean is your playground and you swim up to 40 miles a day, chasing fish and playing with your friends. Now imagine that you are ripped violently from your home and sold to a marine park where you have to jump through hoops and interact with paying customers to get fed. Between shows you are forced to wait in a pool of water that's barely big enough to contain you. Sadly, this is what life has to offer for the hundreds of dolphins kept in captivity throughout the world."<sup>18</sup>

Cetaceans have been held in captivity for over one hundred years, subjects of humankind's desire for animal entertainment, research, and, more recently for direct and personal interaction.<sup>16</sup> The dolphin's permanent smile often hides an inner suffering.<sup>16</sup>



Figure 2. Suffering, not smiling.



## Acclimatisation

According to dolphin captor Jay Sweeney, “Most aquatic mammals housed in captive enclosures have been acquired from free-living sources. Few, if any, have had exposure or contact with humans and they have not been enclosed within a restricted space until the sudden event of their capture. At this time it becomes necessary for them not only to cope with capture, but also immediately begin to consume dead fish. They must adjust to restrictions in their free-ranging mobility, being placed in land-based pools, which may be absent from the visual and auditory sensory stimuli of their natural habitat. They are required to acknowledge the presence of, and eventually accept, contact with humans.”<sup>19</sup> In other words, everything that follows capture is a forced association.<sup>10</sup>

Pryor, formerly associated with Sea Life Park Hawaii, described the dietary portion of the acclimatisation process:

“Eating dead fish instead of chasing down live ones is a tremendous change; dead fish are by no means recognisable as food at first. Force feeding through a stomach tube is sometimes necessary to keep an animal alive until it learns to accept an artificial diet.”<sup>20</sup>

## An unnatural life

Although subtle and less visible, the greatest abuse suffered by captive cetaceans lies in confinement itself.<sup>10</sup> The enormity and diversity of their natural habitat is in stark contrast to the alien, minuscule confines of captivity.<sup>10</sup>

“Managers of captive species should never fool themselves with the belief that they can replicate nature in a captive setting.

To expect this outcome would demonstrate an ignorance of the intricacies and complexities that characterize natural ecosystems.”<sup>21</sup>

Free-living cetaceans live in three-dimensional surroundings.<sup>10</sup> They are capable of deep diving, and many species spend less than 20 per cent of their time at the water's surface.<sup>10</sup> In their natural environment, they are almost always in motion, even while resting.<sup>10</sup>

Cetacean scientists studying wild populations point to the fact that dolphins and whales travel great distances during their normal lives.<sup>8</sup> These conditions cannot be duplicated in captivity, so many experts believe that the physical activity experienced by captive cetaceans falls far short of what is appropriate and necessary for adequate physical health.<sup>8</sup> Most believe it is not possible to adequately house and care for intelligent,





social, wide-ranging ocean mammals in captivity.<sup>8</sup> Boredom, frustration, restriction of normal activities and sensory deprivation are cited as some of the most serious concerns.<sup>8</sup>

Dolphins also maintain complex societies, form strong bonds, and are known to communicate with each other.<sup>10</sup> When dolphins are captured from the wild, they are removed from their natural social structures and forced into artificially controlled groupings.<sup>8</sup> The normal sex ratio, age make-up and number of animals per pod, is vastly different from what they would experience in the wild.<sup>8</sup> These dolphins are torn from their natural social environment, deprived of their need to associate with their own kind and sentenced to a lifetime of confinement.<sup>10</sup>

Indo-Pacific hump-backed dolphins have a home range of 30-400 square kilometers in the wild.<sup>22</sup>

The Dolphin Lagoon in Singapore measures one hectare. This represents only 0.0003 per cent of the dolphin's natural home range. Clearly, this is detrimental to the welfare of the animal.

Cetacean specialist Professor Giorgio Pilleri, who has studied dolphin intelligence and behaviour for 20 years, concluded: "Whatever efforts are deployed, the keeping of cetaceans in captivity will always pose problems because of the inherent contradiction on which it is based: the keeping in cramped conditions, of creatures which are accustomed to vast open spaces."<sup>6</sup>

## Effects of captivity

Scientific evidence indicates that cetaceans in captivity suffer extreme mental and physical stress, which is revealed in **aggression between themselves** and towards human, boredom, and a lower life expectancy and higher infant mortality than in the wild.<sup>16</sup>

### Aggression between themselves

In 2003, Jumbo, the male dolphin from the Dolphin Lagoon had 11 teeth extracted.<sup>23,24</sup> He had been fighting with another male dolphin through the bars separating their lagoons.<sup>23,24</sup> This indicated extreme mental and physical stress in the dolphin.

Professor Pilleri believes that captivity, coupled with the destruction of the dolphin's sophisticated social structure, causes "profound psychological disturbance, and neurotic behaviour almost identical to that of humans when held in solitary confinement."<sup>6</sup> These symptoms, he adds, "exacerbated by the utterly degrading tricks they are forced to perform in captivity," include loss of



communication, despair and suicidal behaviour, and an unnatural aggression probably induced by feelings of intense claustrophobia.<sup>6</sup>

### Stress-related illness

Natam, the female dolphin at Dolphin Lagoon had similarly died of a stress-related illness. She had succumbed to acute gastritis.<sup>7</sup>

Indeed, recent studies in the United States suggest that an inordinate number of captive dolphins are succumbing to typical **stress-related illnesses** such as heart attacks and gastric ulcers.<sup>6</sup> It can hardly be sheer coincidence that virtually identical disorders affect millions of human beings forced to endure tedious and repetitive menial work.<sup>6</sup> These stress-related illnesses are associated with animals that are presented with no options during stressful events.<sup>26</sup> Mediated by

the pituitary gland, this type of stress response is characterized by increased adenocortical activity and vagal tone, decreased hormonal activity, and chronic blood pressure elevation.<sup>26</sup> Clinical signs associated with this type of stress response include gastric ulcers and eventually death.<sup>26</sup>

## Conclusion

Captivity defies, depresses, and denies the instincts which define each animal.<sup>10</sup>

It is clear that it is impossible to accommodate the mental, physical and social needs of dolphins in captivity and that it is cruel to confine them.<sup>16</sup> One Japanese whaler has said, "Ethically, it is better to let an animal live a free and natural life and then kill it - even if painfully - than to imprison it for its whole life before killing it."<sup>25</sup>

The late ocean explorer Jacques Cousteau states that: "No aquarium, no tank in a marine land, however spacious it may be, can begin to duplicate the conditions of the sea. And no dolphin who inhabits one of those aquariums or one of those marine lands can be considered normal."<sup>8</sup>

Indeed, once captured and confined, most dolphins will never again escape their nightmare world of stress, insecurity and neurosis except through the merciful release of death.<sup>6</sup>



## CONTACT SESSIONS: THE TOUCH OF DEATH

“Every trainer and every dolphin owner is well aware that dolphins in captivity are highly prone to contagious diseases carried by humans. They also know very well that some of these fatal infections are passed on to the dolphin in such seemingly innocuous ways that no one would even think of objecting. And yet it will remain a never-ending mystery how many dolphins have died because they have contracted some childhood illness, or even 'flu or the common cold. Certainly, those at the receiving end of the 'educational' lesson won't be told. Nor will the shy yet delighted child who is encouraged to come down onto the stage, and whose loving kiss for the dolphin turns into a kiss of death.”

~ The Rose Tinted Menagerie<sup>6</sup>

By imposing human contact on captive dolphins, petting pools further exacerbate the stress already wrought by captivity.<sup>28</sup> For many years, the Whale and Dolphin Conservation Society (WDCS) and The Human Society of the United States (HSUS) have expressed concerns about the potential risks to both humans and dolphins associated with physical interaction programs.<sup>28</sup> In the report by WDCS and HSUS, *Biting the hand that feeds: The case against dolphin petting pools*, clear and compelling evidence provided, based on a five year study, justify the immediate closure of all petting pools (dolphin petting and feeding programs) on public safety and animal welfare grounds.<sup>28</sup>



Figure 3. A visitor getting a kiss from the dolphin at Dolphin Lagoon.



Figure 4. Sign at Dolphin Lagoon, advertising the contact sessions.



## Welfare of the dolphins

Research generally suggest that dolphins in the wild and captive situations do show signs of not being comfortable during ‘Swim-with-Dolphin’ sessions.<sup>27</sup> For example, wild dolphins in the Bays of Islands, New Zealand avoid swimmer interactions.<sup>29</sup> Similarly, dusky dolphin schools, become more compact during morning and early afternoon interactions with swimmers.<sup>30</sup> This type of behaviour is observed when dolphins are in situations of surprise, threat or danger and it may be a form of protection.<sup>31</sup>

Indo-Pacific hump-backed dolphins are notoriously shy animals and show a characteristic and widespread avoidance reaction to boats.<sup>13,14</sup> They rarely permit a close approach before diving, splitting up into small groups or single animals.<sup>13</sup> They usually change course underwater, reappearing unexpectedly some distance away.<sup>13</sup>

Dolphins have also been shown to surface more often during ‘Swim-with-Dolphin’ sessions.<sup>27</sup> This increased respiration rate of an animal is an indicator of stress.<sup>32,33</sup>

In the study by Kyngdon et al. (2003), there were also signals that the dolphins did not want swimmers in their pool.<sup>27</sup> The dolphins occasionally exhibited the body slaps, charges and abrupt behaviours that Frohoff (1993) ascribed to frustration.<sup>34</sup> Dolphin charges were also seen occasionally. This is when the dolphin swims quickly towards a swimmer with its rostrum open, and at about one metre away, it abruptly changes direction.<sup>27</sup>

Dolphin Lagoon also feature petting sessions with the dolphins. During these sessions, part of the dolphin’s body is out of the water, and the dolphin’s sensitive skin is continually exposed to the hot sun (fig. 5). In the wild, a dolphin protects its sensitive skin from the hot sun by diving to deeper waters.<sup>1</sup> In dolphinariums with no shade from the hot sun, some dolphins have developed serious sunburn and blisters on their skin.<sup>1</sup>



Figure 5. Dolphin petting session at Dolphin Lagoon.



## Effects on wild dolphins

WDCS and the HSUS are also concerned that, by promoting and reinforcing the acceptability of feeding and touching dolphins, captive feeding programs will encourage the public to repeat their experiences with wild cetaceans.<sup>28</sup> Not only is petting and feeding wild dolphins potentially dangerous, it also has a detrimental effect on wild cetaceans.<sup>28</sup>

In addition to the risk of poisoning or other food-related hazards, wild dolphins that approach, or rely upon humans for food are at risk of collision with boats and their propellers, entanglement in nets, or attack by sharks.<sup>28</sup> Furthermore, wild dolphins conditioned to seek food from humans can become less willing to hunt for themselves and may not teach their young vital hunting skills.<sup>28</sup> Wild feeding may also attract non-local dolphins to an area, placing stress on the ecosystem, which may not have the capacity to sustain the increased population.<sup>28</sup>

Indeed, according to WDCS, there is a growing problem of people attempting to feed wild dolphins. Some of this behaviour may come from the perception that it is 'acceptable' to do so. Petting Pools may have fostered this perception.



**Figure 6. Indo-Pacific hump-backed dolphins are shy animals but are forced to endure contact sessions with humans.**

## Disease transmission

The contact sessions with the dolphins also increases the chance of disease transmission between dolphins and humans (vice-versa).

The United States National Marine Fisheries Service (NMFS) has acknowledged that the potential exists for transmission of diseases between wild marine mammals and humans.<sup>28</sup>

Marine mammals are known to carry pathogens that can infect humans.<sup>28</sup> As NMFS has noted, not only do bites from marine mammals carry a danger of infection, but there are a number of disease agents that are common to both humans and marine mammals and can be transmitted between them.<sup>28</sup> For example, a variety of opportunistic bacteria found on the skin of dolphins may pose a threat to human health, and several fungal and viral agents which can affect marine mammals have been or can be transmitted to humans.<sup>28</sup>

Outbreaks of infectious disease reported in dolphins also include erysipelas, pasteurellosis, hepatitis, *Pseudomonas pseudomallei* infection, and systemic mycosis.<sup>10</sup>

Acute hepatitis has also occurred in several devastating outbreaks.<sup>10</sup> In 1986, more than 20 animal care workers were vaccinated as a precaution against hepatitis after two pseudorcas (false killer whales) died at Sea World from hepatitis-like symptoms.<sup>10</sup>

While there has been no recorded incidence of human-dolphin disease transmission at Dolphin Lagoon, it should be noted that the recent diseases (e.g. monkeypox) from animals also had no earlier recorded incidences. It is clear that we unnecessarily expose ourselves to possible diseases when we come into close contact with the dolphins.

It is clear that disease transmission can occur and the chances are greatly increased during the dolphin contact sessions. This wider contact between animals and humans has been attributed as one of the causes of the increasing spread of viruses from animals to human.



## Public safety

Media reports and historic government records reveal a range of serious injuries caused to visitors by captive dolphins in interactive programs, including cuts, bruises, broken bones, bites and rakes.<sup>28,36</sup> Since 1996, WDCCS has also recorded several incidents, including bites and head butts.<sup>28</sup>

This risk of injury is also recognized by a study in 1994 on Swim-with-the-dolphin programs, which details aggression and other high-risk behaviour by dolphins directed at the visitors in the water with them.<sup>35</sup>

This aggressive tendency has also been noted in the wild. At Monkey Mia, Western Australia there is an unofficial policy of not feeding or encouraging interaction with adult male dolphins. This is to reduce the risk of aggressive attacks.<sup>37</sup>

Santos (1995) also reported a case where a sociable male bottlenose dolphin named Tiao, deliberately attacked and killed a man and injured several swimmers after apparently being harassed by people who wished to interact with him.<sup>38</sup>

Contact sessions with dolphins are not an entirely safe activity and there are serious risks involved. The literature strongly suggests that in human-dolphin interaction situations, it is important to be aware of the potential for aggressive behaviour, which may endanger humans.<sup>37</sup>

This risk is seldom mentioned in tourist promotions or in popular literature, which perhaps understandably, emphasizes the positive aspects of interacting with dolphins.<sup>37</sup>



## Conclusion: an inherent contradiction to policies in the wild

While the petting and Swim-with-Dolphin programmes at the Dolphin Lagoon appear to be more carefully regulated than those in the United States, there is still undisputed concerns for the welfare of the dolphins and the safety of the human visitors. In addition, these contact sessions will clearly cause distress to this species since Indo-Pacific hump-backed dolphins are shy animals and rarely permit a close approach by humans in the wild.

The compelling evidence provided indicates that these contact sessions are detrimental to the welfare of captive dolphins. The increased chances of disease transmission and the safety of visitors also clearly dictate that this practice should be abandoned.

Progressive countries have already acknowledged these facts and have taken steps to address this occurrence in the wild.

- Petting and feeding wild dolphins constitutes the offense of harassment under the Marine Mammal Protection Act in the United States. The United States government has further launched a public campaign to deter feeding, touching and swimming with dolphins in the wild.<sup>28</sup>
- In Scotland, the code of conduct, developed under advice from the marine biologists at the University of Aberdeen, states that passengers or crew should not swim with, touch or feed dolphins or other marine mammals.<sup>17</sup>
- In Monkey Mia, Western Australia, people are no longer permitted to touch the dolphins.<sup>37</sup>
- The Hong Kong dolphin watching code of conduct similarly states that “For the safety of all concerned, do not attempt to touch, swim with or feed marine animals - swimming with and touching wild cetaceans may be dangerous and may transfer deadly infection.”<sup>39</sup>





## CRUELTY PARADING AS ENTERTAINMENT

“What makes the dolphin show a unique attraction is precisely the very thing that reduces the industry to the role of slave-trader, for behind the frozen clown-like smile, the optical illusion of flipping happiness, there is the grotesque tragedy of a highly-perceptive and intelligent being incarcerated to provide humans with entertainment and profit.”

~ The Rose-Tinted Menagerie<sup>6</sup>

All shows follow the same pattern. First, as the audience files through the turnstile and finds their seats, the rousing rock or pop music begins, with the dolphins becoming visibly nervous and excited, leaping out of the water and making fast underwater circuits around the pool.<sup>6</sup> But the music is not really for the benefit of the public at all, but used as a form of Pavlovian conditioning which the hungry dolphin associates with food-reward, alerting the animal that the show is about to begin.<sup>6</sup>

According to Aw (2001), “the Dolphin Lagoon runs up to four performances using the same three animals everyday, 365 days a year with no off days, no annual leave, no bonuses.”<sup>5</sup> An inspection by ACRES in August 2003, revealed similar results. Although there were only three shows a day, Han and Euang were the performers for all three shows.

Unlike certain species of dolphins, Indo-Pacific hump-backed dolphins are only moderately acrobatic.<sup>11</sup> Porter (2001) further states that they are notoriously shy and unwilling to learn the usual tricks commonly taught in Asian aquariums.<sup>15</sup>

The animal shows also featured dolphins displaying a wide range of unnatural behaviours, contradicting the earlier statements by UWS stating that the dolphins would not be made to perform tricks “which are unnatural”.<sup>4</sup>

These captive dolphins, must suffer the indignity of performing tricks to their trainer’s whistle for a reward of dead fish.<sup>16</sup> In the wild, dolphins use their natural instinct to hunt for food.<sup>1</sup> Their bodies are built for speed and catching fish is fun.<sup>1</sup> All they have to look forward to in captivity are some dead offerings after they have performed their tricks.<sup>1</sup>



## Unnatural behaviours in the dolphin show at Dolphin Lagoon



Figure 7. The dolphins, beaching themselves onto the stage.



Figure 8. The dolphins balancing balls on their rostrum.



Figure 9. Dolphin jumping through hoops.



Figure 10. Dolphins swinging hula-hoops on their rostrum.



Figure 11. Dolphins being used as water skis.



If they refuse to perform, then in many cases they'll just go hungry.<sup>6</sup> It is an essential part of the Pavlovian conditioning regime that the dolphin must be kept sufficiently hungry in order to perform tricks at the command of the trainer.<sup>6</sup> Indeed, the only reason they perform is because they are hungry.<sup>1</sup>

During show time, small morsels of food, judiciously controlled by the trainer, become the incentive and reinforcing stimulus for the animal to successfully accomplish each stunt.<sup>6</sup>

Deliberate punishment is also an integral part of the training regime, claims Doug Cartlidge, former whale and dolphin trainer and Curator of Sea World Australia: "The tricks are not performed because they enjoy doing them. First you find out how much they'll eat and still work. After that you condition the dolphin to associate certain hand signals with certain tricks that will result in the dolphin getting fish. You then find out if they are loners or prefer company because one of the punishments if they are not working properly is to lock them away on their own. You put them in a pen and ignore them. It's like psychological torture."<sup>6</sup>

The dolphins at the Dolphin Lagoon are also made to beach themselves on the stage (fig. 7). This is clearly an unnatural behaviour and against the instinct of the dolphins.

According to dolphin trainer Rocky Colombo at Italy's Ocean World Aquarium, one of the first priorities in taming the newly caught and delivered dolphin is to condition its attention away from the underwater environment to the 'open-air' environment of the stage, the trainer, the props and the audience.<sup>6</sup> To expedite this subtle form of brain-washing, the animal - much to its initial reluctance and instinctive fear - is actively encouraged to wriggle out of the water and onto the stage.<sup>6</sup> Hunger and the tempting reward of a fish dangling just out of reach helps the dolphin to weigh up the decision on whether to trust human orders or animal instinct.<sup>6</sup>



## Conclusion

Forcing these notoriously shy species to perform unnatural acts is undoubtedly detrimental to their welfare. The training methods employed raise serious concerns.

In the wild, the dolphin will play and jump with spontaneous exuberance and the sheer joy of being alive; in captivity that is replaced by dressage that is artificial and conditioned, part of an enforced clockwork routine.<sup>6</sup>



**Figure 12. The unnatural behaviours displayed by dolphins at the Dolphin Lagoon.**



## **EDUCATION: DISTORTING PUBLIC UNDERSTANDING**

**“To expect an industry with so much to hide to provide the kind of lucid, objective, and all-encompassing lessons which most parents expect from education, borders on criminal naivety.”**

**~ The Rose Tinted Menagerie<sup>6</sup>**

There are some who feel that seeing a live dolphin on display is an educational experience.<sup>9</sup> However, captive dolphins do not exhibit the same behaviour as their wild counterparts because of the totally different living conditions.<sup>9</sup> The complex nature of dolphins’ lives cannot possibly be demonstrated in captivity.<sup>16</sup>

It is thus questionable whether marine parks and dolphinariums are truly educational or as claimed by WDCS, “marine parks and dolphinariums significantly distort the public’s understanding of the marine environment.”<sup>16</sup>

### **Is this truly educational or even necessary?**

A 1989 study by Dr. Stephen Kellert of Yale University assessed public attitudes and knowledge gained in three zoos.

A quote from his report by William Donaldson, president of the Zoological Society in Philadelphia, states: “The surveys we have conducted...show that the overwhelming majority of our visitors leave us without increasing either their knowledge of the natural world or their empathy for it. There are even times when I wonder if we don't make things worse by reinforcing the idea that man is only an observer in nature and not a part of it.”<sup>40</sup>

Majority of the educational signs at the Dolphin Lagoon are placed in obscure locations. A study conducted by ACRES revealed that only 2 % (n = 483) of the visitors to the lagoon read these educational signs. It is thus clear that minimal education took place at the Dolphin Lagoon and the entertainment aspect of marine parks overwhelms that of education.

In his study, Dr Kellert's assessment of attitude changes in the public before and after a visit indicated that little change took place.<sup>40</sup> The study states that evidence of a more informed and appreciative public following the zoo visit is neither impressive nor reassuring. “We failed to observe any



appreciable increase in either factual or conceptual knowledge of animals,” and “the meager understanding of visitors following the visit was among the disappointing results of the study.”<sup>40</sup> Dr Kellert further stated that, “most visitors tend to regard these facilities as park-like settings for the experience of casual family entertainment largely distinct from the pursuit of increased knowledge of wildlife.”<sup>40</sup>

No hard evidence is also known to exist, supporting the statement that public display translates into public action to protect species and preserve the environment, as claimed by marine parks.<sup>10</sup> While some facilities create opportunities for visitors to participate in beach clean-ups and other positive efforts, few can demonstrate direct examples translating into public action.<sup>10</sup>

Another analogy that completely contradicts the appreciation myth (ie. that animals must be seen “up-close” in order to foster understanding of a species), is the increasing interest in dinosaurs.<sup>10</sup> Children and scientists alike have expressed enormous interest in, and fascination with these extinct species never seen by man.<sup>10</sup> Dinosaur parks and festivals, featuring realistic, moving life-size models, are breathing new life into the tourism industry.<sup>41</sup>

## **Distorting public understanding of the marine world**

As observed at Dolphin Lagoon, captive dolphins are often trained to perform tricks that cannot be observed among wild dolphins of that particular species. Not only may this cause stress to the dolphins, such performances run contrary to the conservation-oriented educational thrust of displaying captive dolphins as it emphasises spectacular entertainment over realistic education.<sup>9</sup>

Educational messages clearly take second place to the whale and dolphin performances, where jumping and splashing are the main features and any educational aspects are lost amidst the glamour and excitement of the show.<sup>10,16</sup> Visitors often remember the visual image more than the content of the commentary.<sup>42</sup>



## Conclusion

Are marine parks and dolphinariums educational? The evidence provided suggests that minimal education takes place at these facilities. In fact, dolphin shows featuring dolphins performing unnatural acts clearly distort the public's understanding of these species. These shows only serve to reinforce the idea that man is above nature and controls it, rather than being a part of it.

In addition, majority of the educational signs at the Lagoon are placed in obscure locations. A study conducted by ACRES revealed that only 2 % of the visitors to the lagoon read these educational signs. It is thus clear that there was minimal education taking place at the dolphin lagoon and clearly, the entertainment aspect of marine parks overwhelms that of education.





Suffering, not Smiling



## UNDER THE GUISE OF RESEARCH AND CONSERVATION

**“They were nothing more than an alibi for scientific research since keeping dolphins in artificial conditions can do little else than produce artificial scientific results.”  
~ Professor Giorgio Pilleri<sup>6</sup>**

Research is largely conducted at marine parks in order to improve animal husbandry and veterinary knowledge.<sup>10</sup> In the captive setting, research has undoubtedly yielded some important findings on marine mammal physiology, energetics, body growth, genetics and reproduction.<sup>10</sup> However, these research findings have been motivated more from necessity than science: the necessity of keeping captives alive.<sup>10</sup>

Similarly, Dr. Louis Herman (1994), who has studied dolphin cognition and communication at Hawaii's Kewalo Basin Marine Mammal Laboratory, has described his research from the perspective of trying to find out what dolphins can do under conditions that are completely alien to their natural lives, rather than studying dolphins in their natural environment.<sup>43</sup> Any conclusions drawn under these conditions would appear to be applicable only to his research subjects and similar captives, and therefore of limited value.<sup>43</sup>

### Captive versus natural environments

The physical nature of the captive environment will have a profound influence on the quality and relevance of insights, which the research can provide.<sup>44</sup>

Research, such as the study of natural behaviour - which includes social behaviour, hunting and feeding, foraging, and other aspects of a cetacean group's daily life - is difficult or impossible to pursue in marine parks.<sup>10</sup>

**“For - even when the purpose is scientific study - the animals are so physically and psychologically deformed in the process that any discoveries made are distorted and give a thoroughly inadequate picture of (their) true behaviour in the wild.”  
~Professor Giorgio Pilleri<sup>6</sup>**

Animals confined in pools, even big ones, obviously are not able to carry out all of their normal life patterns.<sup>10</sup> The outward face of dolphins, the



ways they deal with their larger world, necessarily exist only as a hint in captive animals.<sup>10</sup>

The environment in captivity is also very static.<sup>44</sup> The bland environment of the pool is very different from the complex environment of the oceans.<sup>44</sup> Even basic reproductive data on calving intervals and fecundity may not be relevant to wild populations because changing environmental conditions and food availability will affect the reproductive potential.<sup>44</sup>

The shortcomings of the captive environment, the unnatural nature of the captive population, the lack of a representative sample and our improving ability to study animals in their natural environment all undermine the case for research on captive dolphins being directly relevant to conservation of wild populations.<sup>44</sup>

Ironically it is only by conducting studies on wild animals and making comparative assessments that the value of captive studies be assessed.<sup>44</sup> Inevitably, this again raises the question of whether the studies could not be more appropriately carried out in the wild.<sup>44</sup>

## **The natural alternative: Field studies in the natural environment**

What is not known about other species' longevity and social dynamics is unlikely to be learned under the artificial conditions of confinement.<sup>10</sup> Long-term field studies based on observations and photo-identification techniques have revealed more about a species' natural history, social structure and longevity, than any research conducted on captives.<sup>10</sup>

Admittedly, field research and observational studies are painstakingly slow and expensive. Yet, few can dispute the value and results of these scientific findings.<sup>10</sup> Pioneering work on orca photo-identification by Michael Bigg, on chimpanzees by Jane Goodall, and on mountain gorillas by Dian Fossey, could never have been accomplished in captive settings.<sup>10</sup> Overall, far more data on natural history has been published from benign, observational studies of wild populations than from studies of captives.<sup>10</sup>

Our ability to conduct research on wild populations is also increasing rapidly.<sup>44</sup> Some of this is invasive in some respects, such as the use of satellite tagging and time depth recorders, but does not impose the same restrictions that captivity does.<sup>44</sup> Long-term behavioural studies of different populations of cetaceans are providing data which gives important insights into social organisation and activity.<sup>44</sup>



For example, Jefferson's (2000) three year study of wild Indo-Pacific hump-backed dolphins provided vital data on the distribution and abundance of the dolphins.<sup>22</sup> In addition, data on movement patterns, home ranges and social organisation, feeding habits, growth, reproduction, eco-toxicology and stock structure were also collected.<sup>22</sup> These data, which have been vital in developing conservation strategies for the protection of these dolphins, could never have been obtained in a captive environment.

Techniques for use in the wild have become increasingly sophisticated.<sup>44</sup> Visual sonar, radio and satellite tracking are becoming routine allowing much more information to be collected than was possible in the past.<sup>44</sup> Because of the complexities of the natural environment such research may prove more directly relevant to conservation of wild species.<sup>44</sup>

## **List of research conducted in captive environments and factors that influence it<sup>44</sup>**

### ***Blood chemistry***

Over the years the justification for the research has expanded from determining baseline levels from which to assess the health of animals in captivity to being able 'to diagnose disease problems in wild populations'.<sup>45</sup>

Normal ranges for haematology and blood biochemistry have been established for the majority of commonly held whales and dolphins. Whilst this data is useful for monitoring the health of captive animals, their relevance to free-living animals is limited because captivity leads to alterations in basic haematology and blood biochemistry.

The physical fact of confinement has profound effects on many aspects of cetacean physiology and ecology. Basic haematology and biochemistry parameters are altered for several reasons including the stress of captivity, routine medication such as de-worming and diet. Shallow pools and restricted areas for travel mean that adaptive changes associated with the physiological requirements of diving and foraging may be lost.

Wild bottlenose dolphins have significantly higher white blood cell (WBC) counts, a lower percentage of neutrophils and a higher percentage of eosinophils than captive dolphins.<sup>46</sup> Beluga whales showed a progressive decline in packed cell volume and haemoglobin during a 10 week period in captivity which was attributed to a reduced oxygen demand as a result of the imposed period of relative inactivity.<sup>47</sup> The whales also had a decrease then increase in WBC, associated initially with a fall in eosinophil and lymphocyte numbers, followed by an increase in neutrophils.



The artificial diets of captive animals also affect some aspects of their blood chemistry. Levels of blood urea nitrogen (BUN) are related to the protein content of the diet and cholesterol and triglyceride levels are affected by the fat content. BUN levels were lower in captive bottlenose dolphins than in wild dolphins and cholesterol and triglyceride levels higher.<sup>46</sup> The levels of triglyceride rose and cholesterol level fluctuated in beluga whales kept in captivity for 10 weeks and fed on oil-rich herring rather than their normal diet of decapod crustaceans.<sup>47</sup>

Another difference between wild and captive species has been detected in circulating levels of the thyroid hormones thyroxine (T3) and triiodothyronine (T4).

In free living belugas, there are seasonal variations in T3 and T4, with levels significantly higher in the summer than in the winter.<sup>48</sup> This seasonal variation is not seen in captive belugas, which is attributed to their relatively constant environment.

In addition, significant individual variation in haematology has been recorded in the beluga,<sup>45</sup> harbour porpoise<sup>49</sup> and orca<sup>50</sup> which has led Bossart and Dierauf (1990) to conclude that: "...individual baselines must be established for each animal in one's care before being confident that any particular value is abnormal."<sup>51</sup>

Therefore, there are limitations to any potential use of haematology data in investigating disease in wild animals because of the need to know what is normal for any one individual. Before firm conclusions can be drawn, there would need to be repeated sampling from an individual or, at least, extensive sampling from the population to gain some idea of the normal range. Neither approach would be practical in the field.

The relevance and application of haematology and blood chemistry data collected from captive animals to wild animals is clearly questionable.

### ***Breeding***

All the research on reproduction using captive animals is clearly relevant to the successful breeding of animals in captivity. It is important to understand growth rates and normal calf behaviour to monitor the health of newborns. Knowing the most fertile periods will help determine when to introduce males to females with the best chances of success.

Basic reproductive data on calving intervals and age at sexual maturity has been obtained for some species. Studies of the reproductive cycle have



been used to estimate age at sexual maturity and calving interval of orcas,<sup>53,54</sup> and bottlenose dolphins.<sup>55</sup>

However, the highly controlled environment of the aquarium is a long way from that of the ocean. Feeding has a marked effect on these parameters and the unnatural composition and idealised nature of zoo diets mean that animals may be growing more quickly and reproducing earlier and more frequently than in the natural environment.

Nutrition is likely to be linked to age at sexual maturity and calving interval as it is in many other species, which limits how these values could be used in a management or conservation context.

Three of the many factors likely to influence calving intervals are for example; food availability, whether a suitable mate is present at the correct time; and general health.

Values that are established in captivity would have to be very carefully verified in the wild if they were to be applied in management regimes. It would be dangerous to apply this information directly to the conservation and management of wild populations as it may overestimate their reproductive capacities.

### ***Disease***

Important differences exist which make captive animals a poor model for disease in free-ranging populations. For example, captive animals do not carry a parasite burden as they are routinely treated with anthelmintics. In contrast, parasitic disease is ubiquitous in wild cetaceans. In addition, knowledge from captive studies of disease has given little insight into the recent outbreaks of morbillivirus disease and large-scale mortality of some species of dolphins.

In addition, when outbreaks of disease have occurred in wild cetaceans, the literature on diseases in captive animals does not appear to have been very helpful in its investigation.

In particular, studies of diseases in captive animals have not helped in understanding some of the most visible marine mammal mortality events in recent years. Therefore, from a conservation perspective, there is little value gained from disease studies on captive animals.

### ***Physiology***

Exercise and respiratory physiology has been studied using animals trained to undertake tasks in a pool or to accompany boats to sea. Whilst these



have provided interesting knowledge about comparative physiology, they have been limited by the physical dimensions of pools (precluding studies on diving) together with the relatively sedentary life style and abnormal diet of captive animals. If such data were to be used uncritically in management programmes, it could be misleading.

Physiological studies can give interesting insights into the way in which cetaceans are adapted to their marine existence. This knowledge enriches our understanding of these animals and provides interesting comparative data.

However, it seems to have little obvious practical application in the conservation of animals in the wild. In particular, studies of nutrition and energetics are likely to be poor predictors of the performance of wild animals because of the sedentary life style of captive animals and their consequent lack of basic fitness and abnormal diet.

### ***Psychology***

Fascinating as the data from captive studies of cognition and consciousness may seem, it may be fulfilling humans' needs rather than those of the animals concerned. Whether this justifies the imposition of captivity and experimentation remains in question.

### ***Behaviour***

A great deal of behavioural work undertaken in dolphinariums has been concerned with how to train whales and dolphins to undertake certain tasks.<sup>52</sup> These have primarily been for display purposes but also for management such as blood and urine sampling.

Training techniques rely on operant conditioning where a reward is given for the correct behaviour and none given if the wrong behaviour is performed. This has no obvious relevance to the behaviour of cetaceans in their natural habitats.

Captivity, which imposes conditions, clearly has effects on social structure and general behaviour. Dominance hierarchies control the social organisation of animals in captivity. In contrast, the situation in natural environments is more dynamic and aggressive behaviours are much less a feature of the description of free-living cetaceans.

Confinement also results in stereotyped behaviours such as unidirectional circling of the pool. Size of pool is one of the most important factors influencing the expression of behaviour.



These constraints mean that the relevance of behavioural studies on captive animals to free-living animals always remains in doubt. In fact it is one area where studies of free-living animals are more useful to establishing basic requirements for captive animals than visa versa.

Studies of the behaviour of wild animals have been used to improve the conditions of animals kept in captivity by indicating appropriate group size and sex composition. However, studies of animal behaviour in captivity do not seem to have the potential to improve the conservation of wild cetaceans in the same way, as they are too artificial.

## **Conclusion**

Going by the above, research conducted on dolphins in captivity shows that it does not necessarily aid in the conservation of wild cetaceans as the lives of captive animals are artificial.<sup>16</sup> The extensive research list on captive cetaceans above provides evidence on the limited potential of these captive areas.

The limited value of captive studies and the increasing ability to conduct research on wild dolphins all undermine the case for the continued research conducted on captive dolphins. No genuine conservation organisation will deny the fact that conservation in the wild must take precedence over all other programmes.<sup>10</sup>





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## **CAPTIVE BREEDING**

**“Marine parks must be recognised for what they truly represent:  
aquatic amusement parks, circuses by another name,  
operated under the guise of education, conservation and research.”  
~ WDCS<sup>10</sup>**

Captive breeding is often cited as an important component of conservation in captive facilities. Maintaining self-perpetuating populations is becoming a justification in itself as a preservation strategy for populations as well as reducing the need to take animals from the wild.<sup>44</sup>

Broadly, captive breeding programmes are said to have three benefits:<sup>44</sup>

1. As captive populations increase they will become self-sustaining and remove the need to take more animals from the wild.
2. The information from cetaceans bred in captivity can be applied to help more endangered species.
3. Captive bred populations may be necessary to preserve endangered species.

### **Purpose of captive breeding in conservation terms**

The purpose of captive breeding is to produce a genetically-viable, self-sustaining population of animals, whose progeny will eventually be released back into the wild.<sup>8</sup>

According to the World Conservation Union (IUCN) Species Survival Commission, without a companion programme of reintroduction, such programmes have little value toward genuine conservation.<sup>10</sup>

In addition, under Article 9 of the 1993 Convention on Biological Diversity (*ex-situ* conservation for the purpose of *in-situ* conservation), the conservation value of captive breeding programmes can only be redeemed if a programme to rehabilitate captive dolphins back into the wild accompanies such programmes.<sup>56</sup>

### **Genetically viable?**

Producing a genetically-viable captive population of Indo-Pacific hump-backed dolphins at the Dolphin Lagoon is clearly impossible. The Dolphin Lagoon only has six dolphins and Oasis Seaworld in Thailand is the only



other park in the world to keep Indo-Pacific hump-backed dolphins.<sup>66</sup> There is thus only a small number of this species of dolphins currently kept in captivity.

The continued captive breeding with this extremely small population would result in inbreeding and a loss of genetic diversity.

Geneticist Roger Vrijenhoek cautioned that loss of diversity within populations can have immediate deleterious consequences. “Inbreeding is commonly manifested in zoo populations...not only is avoidance of inbreeding good for the group, it is also for the good of the individual. Inbred progeny typically suffer from slow growth, decreased fertility, poor survival and increased developmental problems.”<sup>57</sup>

One widely supported aim of captive breeding is also to ensure 90% of the genetic variation of the original wild population over a 200 year period.<sup>58</sup> Again, this is simply not possible if one only has six dolphins in captivity.

The intention of such a goal is to ensure sufficient variation remains in a population for it to be able to respond to gradually changing habitats.<sup>44</sup>

Genetic diversity (GD) is used as a measure of genetic variation and this will decline over time in a closed population if no new variation is introduced by mutation or new individuals.<sup>59</sup> The question then is how many dolphins would be required to ensure the 90% genetic diversity?

## The effective population size

$N_e$ , is the term used in designing captive breeding programmes.<sup>44</sup>  $N_e$  is the size of an idealised population which has the same intergenerational variance in GD as the wild population.<sup>44</sup> However, the number  $N_e$  does not equal the total number in a population, it is usually less than that number because in a real population, mating is not random or sex ratios equal.<sup>59</sup> Therefore the total population size will have to be larger than the calculated  $N_e$  to reach the goal of maintaining 90% of the original genetic variation over 200 years.<sup>44</sup>

Let us consider  $N_e$  to be 100 individuals for the Indo-Pacific hump-backed dolphins. Dolphin Lagoon would thus have to capture another 95 individuals from the wild to establish this captive population. In addition, this would cost almost S\$50 million since it had cost the Dolphin Lagoon S\$3 million to establish a captive population of 6 individuals. This cost does not even include the annual budget required to maintain these dolphins in captivity.



## Conclusion

Captive breeding at Dolphin Lagoon is not beneficial in terms of conservation. Based on the problem of inbreeding, the costs involved and the ethics of capturing more dolphins from the wild, the low success of captive breeding programs, clearly, practical conservation measures in the wild should be the recommended preservation strategy for this endangered species.





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## REHABILITATION AND RELEASE

**“Forcing whales and dolphins to spend a lifetime in captivity because we don’t have all the answers is much too convenient an excuse for doing nothing.”  
~ Rob Laidlaw<sup>8</sup>**

A growing number of experts throughout the world are advocating the rehabilitation and release of dolphins and whales now in captivity.<sup>8</sup> Similarly, the Animal Concerns Research and Education Society (ACRES) recommends that the dolphins at Dolphin Lagoon be rehabilitated and released back into the wild.

### Concerns opposing release

Concerns opposing release included, “the need for effective behavioural modification protocols, the risk of exceeding the carrying capacity of the environment, disruption of the host population's social structure and reproductive patterns, and inviting unwanted human intervention.”<sup>10</sup>

Significantly, each reason cited, presents a reasonable and effective argument against bringing cetaceans into captivity in the first place!<sup>10</sup> The same risks that were ignored during captures have suddenly become a foremost concern whenever releases are given serious consideration.

### Release is possible

Many believe that an animal housed for months or years in an aquarium, can be trained to survive in the wild and then released.<sup>8</sup>

Similarly, according to findings of the workshop on Rescue, Rehabilitation, and Release of Marine Mammals, “these data, and the few successful reintroductions of monk seals, harbor seals, bottlenose dolphins and manatees suggest that marine mammals may be easier (emphasis added) to reintroduce successfully to their habitat than other animals such as birds, terrestrial carnivores, and primates.”<sup>60</sup>

Marine parks also argue that dolphins in captivity have forgotten how to live in the wild. However, the fact is that dolphins have been successfully released into the wild. In addition, whales and dolphins are intelligent

Marine mammal veterinarian Dr. Lanny Cornell (1993) has also said, “There is no doubt that whales and dolphins can be successfully re-released to the wild.”<sup>63</sup>



creatures, if they can learn tricks that are not necessary for survival then they can learn how to be wild again.

The Underwater World Singapore (UWS) has also stated that “If breeding is successful, it will also consider releasing the dolphins back to the wild”.<sup>4</sup> UWS clearly acknowledged in their own statements that releasing dolphins back to the wild is possible.

## Examples of releases

Dolphins have been successfully released back to the wild. Below are examples of these releases:

- In 2001, WSPA released of Ariel and Turbo, part of a travelling marine mammal show in Brazil. Following their release, they were adopted by a pod of wild dolphins and are now enjoying a free and happy life.<sup>61</sup> In January 2003, Turbo was spotted again in Sarstun river, among a group of wild dolphins.<sup>68</sup>
- “Rocky”, a captive dolphin from Morecambe Marineland in UK was successfully rehabilitated and released back into the wild.<sup>17</sup>
- One example of adaptation and apparently instinctive skills was the discovery of a dolphin called Bahama Mama, in November 1992. She had escaped from the Treasure Island facility in the Bahamas the previous June, having spent 14 years in captivity. A team of Earthwatch researchers observed her freely associating with a group of seven dolphins, including a calf. She was positively identified by her former facility. This individual had obviously received no preparation for its release.<sup>62</sup>

## Conclusion

Although there are still many unknowns, there have been a number of dolphin rehabilitations and releases that point to this as a viable option for many captive dolphins.<sup>8</sup>

Dolphins suffer in captivity and rehabilitation and releasing them back into the wild is clearly the humane option.



## WATCH THEM IN THE WILD

“But it must certainly be an added bonus to the owners that the bottlenose has that distinctive upward-curving mouth, giving an often deceptive impression to the public that the animal is smiling.

The pain and misery, and the depressingly recurrent deaths of dolphins in captivity are systematically shielded from the public eye in order to preserve the vast profits spawned by that illusion.”

- Rose Tinted Menagerie<sup>6</sup>

Within the past 10 years in UK, there has been a change from a formal mass of tourist provision based on viewing captive dolphins performing tricks in dolphinariums, to a more alternative tourist provision based on viewing dolphins in the wild.<sup>17</sup> In fact, captive displays, training and performances of animals before a paying audience is deemed morally unacceptable.<sup>17</sup>

Knowledge about dolphins can be transmitted in a more accurate way through nature films that show dolphins in natural surroundings.<sup>9</sup>

For those who rather view a live animal rather than through film, an alternative for them would be to bring them out to sea, into the habitat of the dolphins where they can be observed at home.<sup>9</sup>

This is beneficial to both dolphins and observers as a more realistic picture of dolphin life is observed without sacrificing the welfare of dolphins.<sup>9</sup>

### Public Opinion

A public opinion survey carried out by WDCS in May 1996 indicated that most British people find it unacceptable for whales and dolphins to be kept in captivity (85% and 81% respectively). Reasons given for being against such confinement were chiefly intuitive or ethical. Indeed, most common is the broad idea ‘It’s not natural’ (given by 55% against keeping cetaceans in captivity). This result is particularly important because the U.K does not have dolphinariums yet awareness and desire for the protection of cetaceans appears to be as strong, or stronger than ever, therefore refuting the claim that dolphinariums are needed to encourage such values.<sup>10</sup>



Today's society is characterised by mobility, with increasingly affordable transportation and an enormous variety of recreational activities to choose from.<sup>10</sup> Like others who pursue aspects of natural history, those truly interested in nature and the environment will go to see animals in their natural environments, and will seek other means to learn more about their interests.<sup>10</sup>

## **Dolphin watching tours**

It is estimated that over 295 communities in over 65 countries now have commercial wild whale and dolphin based tourism operations.<sup>37</sup>

Within Australasia, dolphin-watching cruises operate at Kaikoura, Akaroa, Whakatane, Whangarei and the bay of islands in New Zealand and; in Pot Philip Bay (Victoria), Port Adelaide (South Australia), Jervis Bay, Nelson's Bay and Coff's Harbour (New South Wales) in Australia. A number of coastal locations such as Point Lookout, Queensland and Cape Bryon (New South Wales) are also promoted as dolphin watching locations.<sup>10</sup>

Singaporeans can also visit nearby Hong Kong to view Indo-Pacific hump-backed dolphins in the wild.

## **List of dolphin-friendly places and dolphin watching companies**

### **Hong Kong Dolphinwatch Ltd.**

In its first five years, Dolphinwatch has run over 570 trips, and taken approximately 20,000 people to see the dolphins in the wild. Each trip includes a talk on the environmental situation, and passengers are given handouts with information on how they can help the dolphins. The trip costs HK\$280 (S\$63) for adults, \$140 (S\$32) for children under 12 and free of charge for children under 5. Dolphinwatch has seen dolphins on more than 96% of their trips. If you don't see any on your trip, you can go again for free on any scheduled trip

Address: 1528A Star House, 3 Salisbury Rd,  
Tsimshatsui, Kowloon  
Hong Kong SAR, China PRC

Tel: +852 29841414

Fax: +852 29847799

Email: [dolphins@pacific.net.hk](mailto:dolphins@pacific.net.hk)

Website: <http://is7.pacific.net.hk/~dolphins/home.html>





### **Pamilacan Island Dolphin and Whale Watching Tours (Philippines)**

They provide dolphin and whale watching experience in Bohol, Philippines. The spotters and local guides are the former hunters of dolphins, Bryde's whales, whale sharks and manta rays of Pamilacan Island. They have abandoned the centuries-old hunting tradition and participate in the new alternative livelihood program. They now serve as stewards of the sea. Prices range from P750 - P5700 Philippines Pesos

Address: Public Market, Poblacion, Baclayon, Bohol, Philippines 6301

Tel: +63 38 5409279

Email: [jbaritua@hotmail.com](mailto:jbaritua@hotmail.com)

Website: <http://www.homestead.com/dolphinwhalewatch>

### **Earthwatch Institute**

Earthwatch gives you an opportunity to join scientific studies in Australia, New Zealand, South Africa, the Mediterranean, America and South America to assist in the study of dolphins in the wild.

Address: 3 Clock Tower Place,  
Suite 100, Box 75  
Maynard, MA 01754  
U.S.A.

Tel: +1 978 4610081

Fax: +1 978 4612332

Email: [info@earthwatch.org](mailto:info@earthwatch.org)

Website: <http://www.earthwatch.org/subject/oceans.html>

### **Whale and Dolphin Conservation Society (WDCS)**

WDCS promotes responsible, well-managed whale watching all over the world. Their aim is to produce the most comprehensive and easy to access whale-watch database of its kind. Here, you will find details of operators and tour companies offering boat, land and air-based whale-watch opportunities.

Email: [info@wdcs.org](mailto:info@wdcs.org)

Website: <http://www.wdcs.org/customers/wdcs2/ww.nsf/frontpage>





Suffering, not Smiling

## **JUMPING ON THE BANDWAGON: CAPTIVITY VERSUS TRENDS**

Progressive countries around the world no longer keep dolphins in captivity, clearly recognizing that these animals belong in the vast open seas.

There is also a growing movement within the marine park industry to discontinue keeping cetaceans in captivity. The Weymouth Sea Life Park and Marine Sanctuary in United Kingdom states that: “Sea Life is committed to only displaying creatures which can flourish in our environment. Sea Life believes that whales, dolphins... should not be kept in captivity.”<sup>64</sup>

In addition, since 1990, at least 20 North American marine and amusement parks have permanently closed or discontinued keeping cetaceans.<sup>10</sup> The most recent closures are: Ocean Reef Club, Florida (1994); Ocean World, Florida (1994); Steinhart Aquarium, California (1995); Worlds of Fun, Missouri (1997); and Marinelife Aquarium, South Dakota (1997).<sup>10</sup>

### **Progressive Countries with no dolphinariums**

- **1985:** The state of Victoria, Australia, banned the capture and display of cetaceans.<sup>10</sup>
- **1991:** The Canadian city of Victoria banned all animal acts, exhibitions and performances.<sup>10</sup>
- **1991:** Brazil enacted legislation making it illegal to keep marine mammals in captivity; (its last captive dolphin was released in March 1993).<sup>10</sup>
- **1992:** South Carolina became the first state in the nation to prohibit the capture and display of cetaceans.<sup>10</sup>
- **1993:** UK standards, (adopted in 1990), were attached to the existing 1981 Zoo Licensing Act. The new standards governed pool sizes and made strict provisions regarding husbandry. These standards, along with public outcry against marine parks with captive dolphins contributed to the closure of all UK dolphinariums by 1993.<sup>10</sup>
- **1994:** Israel banned the import of dolphins for international trade and circus purposes.<sup>10</sup>
- **1997:** WDCS successfully persuaded the European Union and the Georgian Government to stop funding the development of a dolphinarium in Georgia.<sup>65</sup>
- Dolphins have also been given full protection in Nicaraguan waters following the passing of legislation that prohibits their capture and display.<sup>68</sup>



- Norway, which has had a track record for its whaling and sealing practices, now has no dolphinariums.<sup>10</sup>
- WDCS has also helped to persuade the Chilean Government refuse an import of dolphins for a proposed captive facility in Santiago.<sup>65</sup> In addition, WDCS contributed to the closure of the Ayia Napa Marine Park and helped persuade the Cypriot Government to ban further imports of cetaceans into Cyprus.<sup>65</sup>



## CONCLUSION

The evidence provided in this report clearly shows that dolphins suffer in captivity. The keeping of animals accustomed to vast open spaces in cramped conditions, undoubtedly poses serious welfare problems.

Natam, the female dolphin at Dolphin Lagoon has already died of acute gastritis, a stress-related illness. Jumbo, the male dolphin at Dolphin Lagoon, had 11 teeth extracted. He had been fighting with another male dolphin through the bars separating their lagoons. This indicated extreme mental and physical stress in the dolphin.



**Figure 13. Jumbo, the male dolphin confined at Dolphin Lagoon, Singapore**

The contact session further stresses the dolphins. Indo-Pacific hump-backed dolphins are shy animals and difficult to approach in the wild. These contact sessions are not only detrimental to their welfare, but also pose a serious risk to public safety.

The report further refutes the justification of keeping these dolphins in captivity for education, conservation and research purposes.

Evidence provided clearly shows that dolphinariums distort the public understanding of the dolphins and their natural environment. Conservation and research activities in captivity also have limited potential in the conservation of wild cetaceans, as the lives of captive animals are artificial. The increasing ability to conduct conservation and research work in the wild provides a natural alternative.

In our pursuit for entertainment and pleasure, let it not be at the expense of other animals. People who have an interest in dolphins can view them in the wild or through nature films that show dolphins in natural surroundings. These are undoubtedly more educational experiences that aid in the understanding and respect for dolphins, we share this world with.



It is the view of the Animal Concerns Research and Education Society (ACRES), along with other concerned organisations that dolphins belong in the open seas. ACRES therefore calls for the rehabilitation and release of the dolphins at the Dolphin Lagoon back into the wild. This humane alternative will give back these dolphins their freedom and the lives they truly deserve.



## **TAKE ACTION! HELP THE DOLPHINS**

- **Do not visit and support the marine parks** that keep dolphins in captivity. Inform your friends and family on the impact of their captivity on their lives and welfare.
- **Write to Underwater World Singapore (UWS)** and express your concerns about them holding dolphins in captivity. Ask UWS to:

With immediate effect:

- End to the use of dolphins in animal shows at Dolphin Lagoon.
- End to petting and Swim-with-Dolphin sessions at Dolphin Lagoon.
- Stop the further imports of dolphins to the Dolphin Lagoon and prevent the establishment of a new dolphinarium in Singapore.
- Begin research on the rehabilitation of the Indo-Pacific hump-backed dolphins and eventually release the Indo-Pacific hump-backed dolphins at the Dolphin Lagoon, back into the wild.

### **Contact details**

Mr Wee Ee Lim  
President and Chief Executive Officer  
Haw Par Corporation Limited  
178 Clemenceau Avenue  
#08-00 Haw Par Glass Tower  
Singapore 239926

- **Join ACRES as a member.** Your support helps us in our mission to end the abuse of animals. Contact us at [info@acres.org.sg](mailto:info@acres.org.sg) for more information or download the membership application form at: <http://www.acres.org.sg/membership.htm>





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