

# Japan's Dolphin Drive Hunts from a Scientific and Animal Welfare Perspective

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**In this paper we argue that the Japanese drive hunt of dolphins and small cetaceans is an inhumane practice that violates all reasonable criteria for animal welfare. We make this argument on the basis of the scientific evidence that supports the conclusion that the drive hunts are inflicting pain and suffering on animals that are intelligent, sentient, and socially complex.**

## **History and Present Status of the Japanese Drive Hunts**

Since the 15th century Japanese fishermen have conducted drive hunts against dolphins and small whales. During these hunts dolphins and other small cetaceans are herded and driven, sometimes by the hundreds, into shallow coves and then brutally slaughtered with knives. Frequently, the fishermen use a technique called the Oikomi method, the banging of metal pipes in the water that creates an 'acoustic net' or barrier that herds the animals into the shallows.

Today, the hunts occur in Taiji, Japan in Wakayama Prefecture and Futo in Shizuoka Prefecture, where uncontrolled catch quotas for both prefectures reaches nearly 3,000 (2380 and 600) respectively based on 2004 records (report by Hemmi, 2005, based on Japan fisheries records.) The Taiji hunt runs from October 1 to April 30 and the Futo hunt from September 1 to March 31 of the following year. Small cetaceans of several species including bottlenose dolphins, striped dolphins, spotted dolphins, and short-finned pilot whales, are taken.

These hunts have come under increasing international scrutiny and have resulted in a growing concern from relevant management bodies, such as the International Whaling Commission (IWC), on both welfare and conservation grounds. Repeated recommendations from the IWC to end the hunt have been ignored. During the past two years other international organizations and scientists have voiced deep concern over the inherent inhumane practices of drive fisheries. This argument to end the dolphin fisheries drives is rooted in basic concerns for animal welfare and the fact that these animals are subjected to immeasurable pain and suffering.

Some dolphins from the hunt are killed as a means of 'pest control'. For many years the Japanese government has claimed that dolphins and other small whales are in competition with fisherman for fish and squid, therefore providing 'justification' for killing them in the drive hunts. No evidence for this claim exists. After being killed, the dolphins are used for fertilizer, pet food and human consumption. There is growing evidence that the majority of people in Japan nowadays don't want to eat dolphin but the government of Japan is strongly promoting its consumption.

Beyond the slaughter itself, there is also an increasing trend for 'fishing cooperatives' that conduct the dolphin drives, in the towns of Taiji and Futo Japan, to capture live dolphins in the drives to meet the growing demand for captive animals for Asian aquariums and swim-with-dolphin interactive programs. Currently, the number of Asian marine parks known to possess dolphins from the drive hunts include 15 in Japan, 5 in China, and at least one in Taiwan, Korea, and the Philippines.

The dolphin drive hunts are conducted with a complete and utter disregard for animal welfare and humanness. There are no restrictions on capture or killing methods, including time to death, in the drives. Video tapes documenting the deplorable treatment and killing methods employed confirm how dolphins are corralled into the shallows and then either suffer a slow, painful death by a knife-cut to the throat or the spinal cord or, if not killed, are hoisted by their tail flukes and dragged aboard trucks for further 'processing.' Many of these animals are left to writhe on the hard ground while awaiting slaughter. The dolphins are forced to swim in water red with their own blood and that of others in their social group. Beyond the annual number of animals killed, there is no effort to minimize the impact of physiological and mental stress on animals that escape back into their natural habitat or that have been procured for

Asian aquariums.

The World Association of Zoos and Aquariums (WAZA), the premier professional membership organizational that represents over 12,000 zoos and aquariums globally and the Association of Zoos and Aquariums (AZA) in the United States have strongly condemned the dolphin drive hunts as inhumane practices that must be terminated immediately. WAZA maintains a Code of Ethics that explicitly prohibits their member organizations from procuring animals from dolphin drive hunts and has even passed an additional Resolution in 2004 that specifically prohibits procuring cetaceans from dolphin drives. WAZA and the AZA are working with the marine mammal scientific community and other NGOs (non-government organizations) to bring an immediate end to this practice.

Despite this professional condemnation, there are signs that the hunts may be increasing in intensity and expanding particularly in the context of procurement for Japanese and Chinese aquaria. The Town Council of Taiji, in coordination with the Taiji Whale Museum, has reportedly made imminent plans to export seven female bottlenose dolphins taken from the drive hunts in Taiji to Dalian, China for dispersal to Asian aquaria and swim programs. Last year the Taiji Whale Museum exported eight other dolphins caught in the drive hunts to Dalian, China. This trade has been sanctioned under Japan's new local revitalization laws that encourage the development of economic initiatives in the form of community development plans. Therefore, although the Japanese drive hunts are no longer taking place in several Japanese Prefectures they continue in Taiji and Futo and there is evidence that these areas are increasing the intensity of these activities and that these incentives may provide an impetus for other towns and prefectures to re-establish the drive hunts.

Today, there is a marked evasiveness in the manner in which the Japanese drives are conducted. Once advertised as 'heroic events...' [the drives are] ... now hidden events' (Hemmi, 2005). This change in openness coincides with increased scrutiny from an international community including scientists, NGO's (including many Japanese NGO's) and increased international media coverage.

### **Impact of the Japanese Dolphin Drive Hunts on Animal Welfare**

We consider animal welfare a necessary and sufficient justification for ending the drives. Animal welfare is a distinctive but not entirely independent issue from population and conservation arguments against the drives. In this report we focus on the mental, emotional, and social characteristics of dolphins and other small cetaceans that make the Japanese dolphin drive hunts an astonishingly cruel violation of any reasonable animal welfare standards.

When we consider that the consistent converging evidence from the scientific literature on dolphins is that they are highly intelligent, sentient, self-aware and emotional animals with strong family ties and complex social lives we are compelled to conclude that the Japanese drive hunts are a stunning example of breathtaking cruelty. Here are the scientific facts:

#### **Dolphins are intelligent and sentient**

- Dolphins possess cognitive characteristics that are rare in the animal kingdom and found in our own species (Marino, 2002; Reiss et al. 1997).
- One of the rarest capacities in the animal kingdom is self-awareness or sentience, the ability to think about one's own thoughts and possess a self-identity. In 2001 Reiss and Marino published conclusive evidence that bottlenose dolphins are able to recognize themselves in mirrors, thus showing they possess an ability that is found only in self-aware animals (Reiss and Marino, 2001). Also, dolphins respond very similarly to humans when engaged in a task that requires them to think about how certain they are of information, that is, think about their own mental states (Smith et al., 1995), again showing that they are self-aware.
- Dolphins mentally represent and understand abstract concepts (Herman et al., 1994), and can comprehend a human-based communication system containing thousands of unique sentences composed of symbolic gestural and auditory 'words' (Herman, 2002).
- Dolphin memory for past events is similar to our own. (Thompson and Herman, 1977)
- The convergence of characteristics between dolphins, the great apes and ourselves has led to the idea that dolphins are our 'cognitive cousins' (Herman 1980). An abundant literature supports this view (Marino 2002).

#### **Dolphin brains are large, complex and more convoluted than our own**

- Dolphins and many other cetaceans possess brains larger and more convoluted (having more folds on the surface) than our own (Marino, 1998). Brain size and surface folding are correlated with complexity in cognitive abilities. Just as the large convoluted human brain is a hallmark of our intelligence, the large convoluted dolphin brain signifies the advanced intelligence of dolphins.

- When body size is taken into account the brains of many dolphin species (such as the bottlenose dolphin) are still significantly larger than all other living species (including chimpanzees) and are second in size only to our own species. (Marino, 1998).
- Dolphin brain size relative to body size is greater than that of our recent human ancestor *Homo habilis* and indistinguishable from that of our immediate human ancestor *Homo erectus*. (Marino, 1996).

#### **Dolphin health and welfare are severely compromised by stress**

- Extensive scientific literature shows that dolphin health and immune system function are severely compromised by stress during chase and capture (St. Aubin and Dierauf, 2001; St. Aubin and Geraci, 1989; Thomson and Geraci, 1986) and that stress has a negative impact on reproductive success (Curry, 1999). During the drive hunts dolphins exhibit signs of great distress during the prolonged process of capture, roundup and subsequent slaughter. This distress extends to those individuals that manage to escape the drives back into the free-ranging population, and, in all likelihood, based on other research on stress, there are negative impacts on the survivors that go unmeasured. However, the shock of psychological (fear) and physiological (overexertion and overheating) responses to the event can manifest in metabolic processes that cause lethal damage to the kidneys and heart and other biological systems. This process, referred to as exertional myopathy, results in immediate or delayed (up to months later) death (Curry, 1999; Turnbull and Cowan, 1998). The overall body of literature on stress in cetaceans is a striking example of how welfare issues overlap those of population sustainability and conservation.

#### **Dolphins have close social bonds**

- Dolphins maintain very close interdependent relationships with members of their social group and extremely strong family ties. There is abundant evidence that they show altruistic and empathic behaviors towards members of their group and other cetacean species (Connor and Norris, 1982). Dolphins and other cetaceans have been observed assisting pregnant females during delivery (Brown et al., 1966) as well as alloparenting, i.e., 'babysitting' and caring for each other's offspring (Wells, 1991; Whitehead, 1996).
- Like humans, dolphins have an extended period of juvenile dependency during which time youngsters are cared for by their parents while they learn how to become contributing members of their society (Connor et al., 2000). Dolphins learn much of their behavior and vocalizations through observation and imitation of others in their social group (Reiss et al., 1997, McCowan and Reiss, 1995.) During the drives many adult females are taken, leaving their separated calves to an emotionally and physically agonizing death.

#### **Dolphins and other cetaceans have cultural traditions**

Scientific evidence shows that dolphins and other cetaceans possess cultural traditions passed on from one generation to the next (Rendall and Whitehead, 2001). These traditions are based on learning and include vocal learning (McCowan and Reiss, 1995; Payne and Payne, 1985), cooperative feeding, and tool use (Kr'tzen et al., 2005). The drive fishery has the potential to disrupt these traditions and possibly result in the loss of important life-sustaining cultural components of dolphin social groups. Thus, there is the very real danger of negatively impacting the well-being of whole populations.

#### **Current Animal Welfare Standards**

From a scientific, humane and ethical perspective, the treatment of dolphins in the drives and the methods and social contexts in which the animals are killed sharply contradict current animal welfare standards employed in most modern and technologically advanced societies. There is abundant evidence for this assertion.

'Animal welfare or well-being is a term used to describe the biological, physical, and mental aspects of animals maintained for laboratory, zoological, or agricultural purposes' (Weed and Raber, 2005). The concern for animal welfare and improvement of the lives of animals in agricultural and laboratory management practices, in zoos and aquariums, and other animal care facilities has been reflected in changes in policy and legislation in many countries signaling a significant improvement in attitudes and behavior towards animals in modern technological societies in the last decade (Webster, 2005). The Japanese drive hunts run contrary to global trends in animal welfare and management and are inconsistent with the practices of a modern and ethically aware culture.

In efforts to improve the welfare of farm and laboratory animals a list of 'Five Freedoms or Provisions' was developed by the Farm Animal Welfare Council (FAWC) in the United Kingdom in 1993 to address the most basic of needs for animals. While not absolute standards, they were put forth as measures by which stress can be minimized and pain and suffering eliminated in the agricultural

management of animals. Since dolphins are harvested as food in the drives, the five freedoms are arguably relevant criteria by which the drive hunts should be measured. These freedoms include 1) freedom from thirst, hunger and malnutrition, 2) freedom from discomfort, 3) freedom from pain, injury, and disease, 4) freedom from fear and distress, and 5) freedom to express normal behavior. In the United States the Humane Slaughter Act (HSA) was created in 1958 with the intention of ensuring that every animal slaughtered for human consumption is killed in the most humane manner possible 'by stunning the animals so that they are insensitive to pain prior to being killed. The HSA has recently received extra resources from Congress in the form of increased funding and slaughterhouse inspectors who will act to ensure that animals are killed swiftly and painlessly. The Japanese drive hunts clearly do not even meet the minimal standards applied to agricultural animals in modern societies.

The American Veterinary Medical Association regulations state 'Euthanasia should be carried out in a manner that avoids animal distress. In some cases, vocalization and release of pheromones occur during induction of unconsciousness. For that reason, other animals should not be present when euthanasia is performed' (AVMA 1993). The federal regulations for humane euthanasia of laboratory animals, including mice and rats, prohibits the killing of an animal in the presence of other animals. Again, the Japanese drive hunts are clearly an appalling violation of these professional regulations.

### **The Tragic Irony**

The scientific evidence shows, without a doubt, that the Japanese dolphin drive hunts are being perpetrated on beings that are intelligent, aware, sentient, and emotional with closely bonded social lives and important intergenerational cultural traditions. Japanese scientists have been leaders in the field of primatology; great apes are revered in Japan. Given that science has now revealed so many parallels in the social complexity and cognitive abilities between the great apes and dolphins it is ironic, inexplicable, and tragic that this regard for great apes does not extend to dolphins 'their cognitive cousins. We ask why? The drive hunts would be a brutal violation of standard animal welfare practices regardless of the type of animal victimized. In the case of dolphins, who share many cognitive and emotional characteristics with our own species, it is an unconscionable act of violence that has no place in a civilized society.

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