Driven By Demand

Dolphin drive hunts in Japan and the involvement of the aquarium industry

WDCS
Whale and Dolphin Conservation Society

WDCS, the Whale and Dolphin Conservation Society
April 2006

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Readers may find some of the images in this report disturbing.

Front cover and page three photo: Sakae Hemmi. Copyright: Elsa Nature Conservancy 2006. A false killer whale being selected by aquarium representatives at a drive hunt in Futo. Back page photo: Ingrid N Visser: bottlenose dolphin.

WDCS, the Whale and Dolphin Conservation Society, is an international charity dedicated to the conservation and welfare of whales, dolphins and porpoises worldwide. Established in 1987, and with offices in the UK, USA, Australia, Germany and Argentina, WDCS works to reduce and ultimately eliminate the continuing threats to cetaceans and their habitats, whilst striving to raise awareness of these remarkable animals and the need to protect them in their natural environment. We achieve these objectives through a mix of campaigning, conservation, research, education and awareness raising initiatives.

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Sakae Hemmi, writer, has published 18 books, three of which achieved special recommendation for school children from the Japan Library Association. She has served as a volunteer for the Elsa Nature Conservancy since 1976 and has worked to create awareness for animal conservation in Japan, including that of whales and dolphins.

»If dolphins could speak human languages, and one of them kept in an aquarium was interviewed, she might say, "*My family lived in the ocean, freely swimming around. One day, all of a sudden, we were chased by fishing boats, threatened by noises from the banging of metal pipes, driven to a shallow inlet and confined there. My father died from suffocation after becoming entangled in fishing nets. My mother was slaughtered with a knife for human consumption. My sister died of shock when she was lifted out of the water and my brother drowned during the capture procedure. Both of them were processed for meat and eaten by humans and their pets. I myself survived, was brought into this aquarium, taught tricks, and am working to entertain you.*"

You may think this story is imaginary, but it is not. It is a true story - a reality of the drive fishery industry in Japan. All readers of this report are sure to find it distressing.

Nowadays, voices of worldwide criticism are increasingly raised against Japan's dolphin drive hunts. This issue has already become an important political issue to which more and more international nature, environmental and animal protection organizations are strongly opposed.

In these circumstances it is extremely important, valuable and timely that WDCS has completed and published a detailed report on Japan's dolphin drive fishery industry. What is needed most now is to clarify what the drive fishery industry really is and accurately convey it to people as widely as possible. I am most delighted with this publication as one of the people who has long worked on the issue to abolish these cruel drive hunts. I believe that human wisdom, sensitivity and warm-heartedness will never allow the cruelty of the drive hunts described in this report to continue.

This report discusses important facts concerning dolphin drive hunts in detail, including their brief history. Readers will be able to understand the reality of the hunts, as well as their historical progress and changes, and come to understand the present situation of the drive fishery industry in Japan.

Indicating the actual number of traded dolphins, the authors of this report prove that dolphins caught in drive hunts have been sold to aquaria both at home and abroad, and conclude that an increasing number of aquaria have a close relationship with the drive fishery industry. I believe this will be well understood by the readers. Readers will be shocked to learn that a growing number of aquaria, which have been considered to be educational facilities to protect dolphins, obtain dolphins from drive hunts, which, whether directly or indirectly has the effect of sustaining them and allowing unspeakable suffering to be inflicted on individual animals. Furthermore, readers will be astonished to find that the demand for live dolphins from a growing number of aquaria threatens the survival of wild dolphins.

Dolphins are one of the most beloved and popular animals in the world. Many people who are suffering from daily stress seek healing through dolphins in aquaria and special dolphin facilities. However, this report makes it clear that those who need to be healed most are not humans, but dolphins themselves. After reading this report, readers may be less inclined to visit dolphin shows. Once the public witnesses the origin of these animals, they will no longer want to swim with dolphins in these facilities, nor see dolphins swim around and around in a small tank.

I recommend this excellent report to all people who are interested in dolphins, who love aquaria, who work in the aquarium industry, and all dolphin researchers. I hope that all who read this report will be encouraged to think about the issue of Japan's dolphin drive hunts. I would like to appeal, along with the authors of this report, that it is you, the readers of this report, who hold the key to the future life of dolphins in Japanese waters.«

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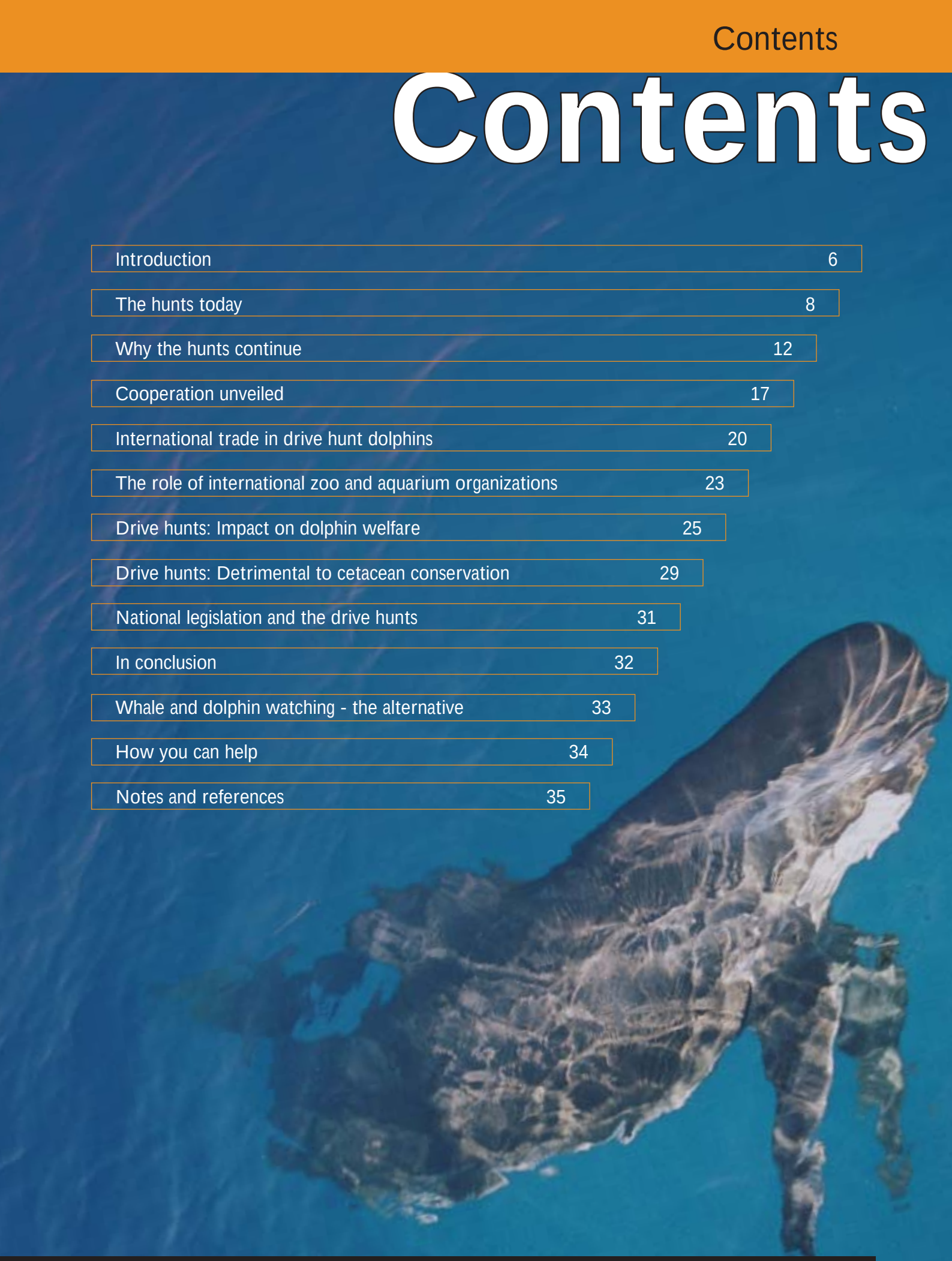

Photo: WDCS. Pilot whale.

Introduction

Photo: WDCS. Pilot whale.

Fishermen have killed small cetaceans (dolphins, porpoises and small whales) around the coastlines of Japan for centuries. Currently, over 20,000 of these animals are killed every year in “drive hunts”, hand-held harpoon[1] and cross-bow hunts, and in so-called “small type coastal whaling” where harpoons are fired from a boat's bow.[2] The species targeted by these hunts include Dall's porpoises, Risso's dolphins, bottlenose dolphins, short-finned pilot whales, striped dolphins, spotted dolphins, false killer whales and Baird's beaked whales. Increasingly, these hunts have come under international scrutiny, prompting concern from bodies such as the International Whaling Commission (IWC), on both welfare and conservation grounds. In the last 20 years, over 400,000 small cetaceans have been killed in Japanese waters.[3]

One particularly controversial form of these hunts, and the focus of this report, is the “drive hunt” (sometimes called the “drive fishery” or “oikomiryou” in Japanese), in which dolphins and small whales are corralled by boats and driven, sometimes by their hundreds, into shallow water where they are killed for their meat and blubber. Not all the dolphins are killed, however. A growing and disturbing trend has surfaced that links the thriving aquarium ('captivity') industry to this archaic practice. Instead of driving dolphins to their death for human consumption and fertilizer, or as a means of what might be described as “pest control”, resulting from claims that dolphins significantly compete for fish with fisherman, fishing cooperatives are collaborating with national and international aquaria and marine amusement parks to select dolphins from these hunts for public display and human-dolphin interaction programmes.

These hunts present a significant threat to both the welfare and conservation of the cetacean populations they target. They continue contrary to the repeated recommendations of the IWC and its Scientific Committee and the Government of Japan's claims that it pursues a policy of sustainable utilization of marine resources.[4] Furthermore, the edible products of the dolphins taken in these hunts are often highly polluted with contaminants including mercury and organic compounds such as PCBs, and can pose a risk to human consumers.[5]

Despite intense international criticism of the inhumane methods of slaughter employed, and as Japanese prefectures appeared to be on the verge of abandoning the hunts, the demand for live animals to supply a growing number of marine parks and aquaria is emerging as a primary motivating factor for the drive hunts to continue in Japan. This report explores the nature of this demand and the role of the aquarium industry that purchases live animals from these hunts. This cooperation between the aquarium industry and the drive hunts is a devastating development for Japan's dolphins.

Photo: Bottlenose dolphins being driven into a corner during a drive hunt in Futo.

The hunts today

Photo: Boats surround dolphins during a drive hunt in Futo.

Photo: Sakae Hemmi. © Elsa Nature Conservancy 2006. Dolphins are surrounded during the round-up process in Futo harbour.

"Drive hunts are conducted by a number of high speed boats that spot a school of dolphins or small whales at sea. The boats form a semi-circle and herd the animals to a harbor or port. Once in the port, the dolphins are surrounded by nets, which are gradually pulled tighter, trapping the animals into an increasingly confined space. The dolphins are then caught with a hook, have a rope tied around their flukes and are then lifted by a winch onto the quay or onto a truck. They are then driven to a nearby warehouse to be slaughtered."[6]

This description of a typical drive hunt does not convey the trauma experienced by the dolphins caught in these round-ups. After being driven into shallow coves, the fishermen kill the dolphins with crude methods, cutting their throats or stabbing them with spears. Unconsciousness and death are not always immediate, and some dolphins take many minutes to die, thrashing about violently as blood pours from their wounds. Some of the dolphins suffocate during the round-up and slaughter, getting caught in the nets, weakened and unable to swim from the shock and stress of capture.[7] Many dolphins panic and crash into nets, boats, pier walls and each other. As a result of this struggle, the water turns red with the blood of the dying dolphins. Sometimes the whole drive hunt process can take days, with the animals trapped and frightened, their fate unknown to them.

Because of growing international scrutiny, and the presence of observers from animal welfare and conservation groups documenting the hunts for broadcast, the dolphins are increasingly killed under the cover of tarpaulins or out of view in other coastal areas.[8] Access to the areas where the dolphins are slaughtered is obstructed. In Taiji, signs prohibiting photography and access to coastal routes that were once public park areas have been erected by the fishing cooperative, warning of falling rocks and other pretences to prevent the public from viewing the killing of dolphins. At Futo in 2004, fishermen, local police and Fisheries Agency officials tried to prevent the taking of video and photographs and a tent was pitched to conceal the killing. Roads to the harbour where the dolphins were being held during the hunt were also blocked with "no admittance" signs.[9] These tents, or tarpaulins, are now used as a standard part of the hunt to conceal the selection and slaughter process.

Photos: Michelle Grady/WDCS. There are signs at many vantage points along the coast at Taiji, blocking public pathways to the bay where the dolphins are herded and held for slaughter and by the slaughter shed.

Japanese fishermen have conducted drive hunts since the 15th Century. Reductions in dolphin abundance, the introduction of quotas and wider political and economic factors have all influenced the hunts, which initially operated over a wide geographic range and involved a large number of hunting teams.[10] By the mid-1900s, there were fewer fishing cooperatives still hunting dolphins but these surviving hunts expanded during World War II and the post-war period, likely as a result of fishing operations moving closer to shore during wartime and post-war food shortages. This expansion was, however, followed by a decline in the number of drive hunt teams and a change in the species targeted.[11]

Photo: Michelle Grady/WDCS. Taiji harbour and the buildings used for slaughter.

In recent years, the use of radios, mobile phones and faster boats has enabled the surviving hunting teams to become even more efficient in their hunting efforts. This has resulted in an over-exploitation of the populations targeted and, ultimately, a decline in annual catches. In 1982, the IWC expressed severe concerns about the overexploitation of the Japanese coastal population of striped dolphins, the main species targeted.[12] Later, in 1992, the IWC's Scientific Committee "*strongly advised*" that the Government of Japan implement an "*interim halt in all direct catches of striped dolphins.*"[13] As populations have declined and striped dolphin catches plummeted, the hunters have successfully expanded their hunts to include other species, including bottlenose dolphins, spotted dolphins, Risso's dolphins and false killer whales.[14]

Currently, drive hunts are conducted at Futo, in Shizuoka Prefecture and Taiji, in Wakayama Prefecture, (see map). The hunting season in Futo runs from September 1 to March 31 of the following year. The hunt in Taiji runs from October 1 to April 30 of the following year, although only pilot whales are targeted after February.[15] It should be noted that although species-specific catch quotas are issued for these hunts, there was little monitoring or enforcement of these quotas by the national Fisheries Agency which sets the quotas or the regional prefectures that permit the hunts to be carried out, until protests by non-governmental environmental organizations against the hunts.[16] In 2002, a monitoring and penalty system was officially introduced to drive fishermen in Futo but it does not involve independent observers.[17]

Furthermore, there are no restrictions on the killing methods that are used in these hunts.[18] Japan's Fisheries Agency only advises fishermen to reduce the time to death of the animals by cutting the spinal cord instead of the throat.[19]

Map: Futo and Taiji are the only Japanese towns currently hunting dolphins using drive hunts. Until relatively recently, Katsumoto also carried out drive hunts for dolphins.

Shizuoka Prefecture

Drive hunts began in Shizuoka Prefecture in the 17th Century, mainly off the coast of the Izu Peninsula.[20] After World War II, five towns in this Prefecture still conducted drive hunts, almost exclusively for striped dolphins. In the 1950s, declines in striped dolphins were first witnessed and, as a result, a licensing system was implemented that restricted the number of hunting teams and limited the hunting season to September to March.[21] By the late 1960s, only two locations in Shizuoka Prefecture (Kawana and Futo) were permitted to drive and land dolphins. Kawana conducted its final drive in 1983, leaving Futo as the only town in the Prefecture conducting drive hunts in its coastal waters.[22] In spite of increased regulation of the drive hunts, it was not until 1993 that the first catch limits were imposed.[23]

Shizuoka Prefecture operates under a quota of 600 dolphins a year, consisting of 455 spotted dolphins, 75 bottlenose dolphins and 70 striped dolphins.[24] In spite of this, Futo suspended drive hunting after 1999, perhaps as a result of the decline of the industry. However, evidently in response to persistent demands from the aquarium industry[25], Futo conducted its first drive hunt in five years on November 11, 2004, driving over 100 bottlenose dolphins into Futo harbour.[26] Fourteen dolphins were selected by six different aquaria and five were slaughtered and used for "research" purposes and human consumption. At least four other dolphins died of suffocation or shock, and the surviving dolphins were reportedly released, one having been fitted with a radio transmitter.[27] As many of these dolphins were released with serious injuries, their continued survival was severely compromised and reports suggest that bodies were recovered from the harbour during the night of the release.[28] It is anticipated that future hunts will occur in Futo with the aim of supplying dolphins for the aquarium industry. A November 2004 article in the Izu Shimbun newspaper quoted the manager of the Futo Branch of the Ito City Fishing Cooperative as saying: "*I'm glad we were able to have the hunt. I think it was a good experience for the fishermen… This year isn't the end, so I'd like to think about the future.*"[29] The revitalization of the Futo hunt to meet the demands of the aquarium industry is an unfortunate turnaround for a town that was becoming better known for its dolphin watching opportunities than its hunting.

Wakayama Prefecture

Drive hunts in Wakayama Prefecture did not fully begin until 1969, with the driving of short-finned pilot whales at Taiji. The hunt expanded in 1973 to include striped dolphins. Following declines in striped dolphins in the 1980s, Taiji fishermen turned their attention to other species such as bottlenose, spotted and Risso´s dolphins.[30] In 1993, a limited season (October to April) was imposed on Taiji's drive hunts, with an annual catch quota of 2,380 animals. This includes 450 striped dolphins, 890 bottlenose dolphins, 400 spotted dolphins, 300 Risso's dolphins, 300 short-finned pilot whales and 40 false killer whales.[31] In Taiji's 2003-2004 drive hunt season, 1,165 dolphins were killed and 78 captured alive for the aquarium trade.[32] In 2000, 2,009 dolphins were killed and 68 were captured alive; in 2001, 1,191 dolphins were killed and 28 were captured alive; and, in 2002, 1,935 dolphins were killed and 73 were captured alive.[33] In spite of concerns raised about the possible impact on the populations targeted[34], the overall numbers taken remain high, with increasing numbers of animals taken alive.

Nagasaki Prefecture

Until relatively recently, drive hunts were also carried out in the village of Katsumoto, Iki Island, Nagasaki Prefecture, starting in 1910. Between 1976 and 1982, 4,141 bottlenose dolphins, 466 Pacific white-sided dolphins, 953 false killer whales and 525 Risso's dolphins were killed.[35] The release of video footage of the Iki Island hunts in the 1980s resulted in an international outcry over the killings. Whether this had an impact on bringing about an end to the hunts is difficult to assess, although environmentalist and broadcaster Hardy Jones, who has been documenting the hunts for several decades, believes public broadcast of them brought about an end to the Iki Island hunts.[36] Katsumoto residents report a change in attitude away from the dolphins as pests as the primary factor in ending the hunts.[37] Large catches at Katsumoto ceased around 1986, although the town maintained an annual quota of 50 until 1995[38] and investigations by a Japanese non-governmental organization, the Elsa Nature Conservancy, revealed that 20 dolphins were captured alive in 1996.[39] No drive has been recorded or reported since then. However, recent interviews with fisheries cooperative officials in Katsumoto indicate interest in resuming the drive hunts in order to capture live dolphins for the aquarium industry.[40]

Why the hunts continue

Photo: Sakae Hemmi. © Elsa Nature Conservancy 2006. These false killer whales and bottlenose dolphin are transported alive to the nearby slaughterhouse.

Demand for dolphin meat

Following the establishment of a global moratorium on commercial whaling in 1986, prices for dolphin meat increased in Japan,[41] suggesting a rising demand as the availability of meat from large whales declined. Although Japan resumed whaling in 1987 in defiance of the moratorium and kills up to 1,000 minke whales each year under its so-called "scientific whaling" programme (along with well over 100 other whales, including Bryde's, sei and sperm whales)[42], there is evidence that lower price dolphin meat still replaces or supplements the meat from these larger whales in the marketplace.[43]

Evidence suggests that consumer demand for cetacean products in Japan is decreasing[44], even as larger numbers of whales are hunted annually. While the local consumption of dolphin meat continues, mainly in fishing communities, reports suggest that cetacean meat is not essential to "culinary culture" as the Japanese government claims.[45] Reports suggest that young people rarely eat dolphin meat, and even some Futo fishermen comment that it is no longer necessary.[46] However, in an attempt to stimulate demand for thousands of tonnes of whale products from its scientific whaling programmes, the government has recently started to promote and subsidize the sale of whale meat to schools and hospitals.[47]

Photos: Top: Dolphin entrails and other parts serve as vivid evidence of a recent hunt. Bottom: A victim of the hunt.

Mislabelled and contaminated meat

In 1999, two independent Japanese toxicologists[48], working with American geneticists, tested samples of raw, cooked and canned cetacean meat, blubber and organs on sale across Japan, to determine what contaminants they contained and what species they came from. They found that more than one quarter of the samples identified using DNA techniques were mislabelled - i.e. they contained the DNA of species other than, or in addition to, the one advertised. 75% of these mis-advertised products contained at least one pollutant type at a level above regulatory limits set for human food by national and international authorities. Nearly all the mislabelled samples contained tissues from dolphins, which are typically amongst the most highly contaminated of all marine species, living at the top of the food chain and therefore accumulating the highest level of contaminants in their tissues.[49]

Japan's Ministry of Health, Labour and Welfare conducted its own tests of five cetacean species and, as expected, the results published in 2002 identified similar levels of contamination to those found in 1999 and subsequently.[50] In a separate study, the government also identified a problem with the mislabelling of whale meat.[51] Despite this, the government has actually increased the amount of whale meat entering the market place since 2000[52], promoted its consumption[53], and even subsidized its sale to school lunch programmes.[54]

Recent market analyses continue to find exceedingly high levels of mercury in whale and dolphin meat for sale in supermarket chains throughout Japan.[55] Studies published in 2005 that tested samples of products from 10 species of small cetacean intended for human consumption revealed the mercury concentrations again exceeded the government permitted level. The highest concentration of methyl mercury was found in a striped dolphin and was found to be 87 times higher than the permitted level.[56] While the Japanese government has issued specific advice to pregnant women about limited consumption of small cetacean meat, the toxicologists recommended the advice be urgently revised.[57]

Competition with fishermen

The Japanese Government claims that dolphins and other cetaceans compete with fishermen for marine resources such as fish and squid and must be “culled” to preserve human livelihoods and food security.[58] The Nagasaki Prefecture instigated government-issued 'bounties' for culling dolphins in the 1970s and 1980s. According to the Katsumoto Fishing Cooperative in Katsumoto, Nagasaki, they did not kill dolphins for human consumption, but to get rid of nuisance animals.[59] Taiji fishermen are also reported to have claimed the drive hunts to be a form of “pest control”.[60]

The Government of Japan also uses “predator control” as a justification for its two “scientific whaling” programmes; examining the stomach contents of hundreds of whales to determine their impact on fish resources. Despite the compelling simplicity of the argument that culling large predators will save their smaller prey, fisheries experts find no evidence that marine mammals are to blame for the crisis the world's fisheries are facing today, or that the long history of mismanagement of fisheries could be solved by reducing marine mammal populations.[61]

Additionally, it is possible to determine diet from non-lethal research techniques, such as faecal analysis, by which scientists can determine through genetic testing what prey the whales have eaten and even what intestinal parasites they carry.[62]

Photo: Michelle Grady/WDCS. Taiji Whale Museum. Whale meat is sold at the shop here, along with toys and stationery depicting cute whale and dolphin imagery. This illustrates the inconsistencies in Taiji between whale and dolphin appreciation and slaughter.

Photo: Michelle Grady/WDCS. A bottlenose dolphin taken in one of Taiji's drive hunts leaps in a pen at Dolphin Base.

The captivity connection

WDCS believes that neither the demand for dolphin meat nor "pest control" can explain the persistence of drive hunts in Japan today. In fact, evidence suggests that it is the demand for live dolphins from a growing number of marine parks and aquaria that is now underpinning the continued slaughter of dolphins in Japan's drive hunts.

There are currently more than 40 commercial aquaria in Japan displaying captive cetaceans.[63] Over the years, authors have pointed out that many of the cetaceans in Japan's oceanariums had been taken from drive hunts.[64] Six aquaria obtained dolphins from the November 2004 drive hunt in Futo[65] and representatives of animal protection group, One Voice, witnessed what appeared to be trainers from Dolphin Base, the Taiji Whale Museum and other aquaria selecting dolphins from a 2004 Taiji drive hunt.[66]

Bottlenose dolphins are the most popular species for display in captivity and the numbers of live individuals of this species captured in the drive hunts over the years has increased greatly. Historically, between 1968 and 1972, Japanese aquaria purchased 77 live-caught bottlenose dolphins from the drive hunts. This increased to a total of 181 dolphins between 1973 and 1976, and 264 individuals between 1977 and 1980.[67] Between 1973 and 1982, Japanese aquaria obtained as many as 532 bottlenose dolphins, 103 Pacific white-sided dolphins, 74 short-finned pilot whales, 35 Risso's dolphins, nine orcas and three false killer whales from drive hunts.[68] Live-capture data were not reported to the International Whaling Commission (IWC) until 1986. Between 1986 and 1999, 834 small cetaceans were captured alive in Japanese waters, including eight finless porpoises, 569 bottlenose dolphins, six pilot whales, 116 false killer whales, one common or 'harbour' porpoise, 40 Risso's dolphins, six spotted dolphins, two Dall's porpoises, 17 striped dolphins, 50 Pacific white-sided dolphins, 17 unspecified *Delphinidae* and two unspecified *Kogia*.[69] Data from 1999 onwards are not readily available since Japan stopped reporting details of live captures to the IWC in 2001.[70]

In 1996, a dead dolphin could be sold for around US $300 each while live bottlenose dolphins fetched about US $3,000 and false killer whales between US $5,000 and $6,000.[71] Prices rose sharply in the late 1990s and by 1999 Japanese aquaria were paying as much as US $30,000 for a single bottlenose dolphin, once trained,[72] while dead dolphins were selling for only around US $400.[73] Reports suggest the dolphins captured in the 2004 Futo hunt were purchased by aquaria for between US $3,300 and US $3,500 each.[74] These figures are said to be much lower than those at Taiji where the Fishing Cooperative has reportedly sold dolphins to aquaria for around US $6,200.[75] Prices paid for dolphins by the aquarium industry in other parts of the world are much higher, with figures of over US $100,000 commonly quoted.[76] Nevertheless, considering the high prices to be gained for the supply of live animals to the captivity industry compared with the value of dolphin meat, it is reasonable to conclude that payments by the aquarium industry for live animals provide a strong financial incentive to continue the hunts. Furthermore, as the prices paid for dolphins in other parts of the world continue to increase, Japan's drive hunts provide a relatively cheap source of animals for display.

Drive hunts: A dying practice?

There are indications that the drive hunts were becoming a dying practice before the lucrative trade in live animals really took hold. Of the Japanese towns maintaining the practice, only Taiji has continued aggressively with the hunt in recent years. Katsumoto, on Iki Island, essentially abandoned the hunts in the late 1980s, but has recently indicated it might reopen them in order to capture live dolphins.[77] In Futo, between 1999 and 2004, no hunts took place. In 2001, the Ito City Fishing Cooperative's Futo Branch had 500 members but only about 15 had experience of using their boats to drive dolphins in a hunt. These fishermen were fast reaching retirement age and finding it very difficult to find younger fishermen to carry on the practice.[78]

Prior to the hunts being abandoned, reports suggest the work of these fishermen was proving increasingly difficult. To deflect attention away from the drive hunts, Japan's Fisheries Agency directed the Futo fishermen to conceal the 'unsavoury' aspects of the hunts from public view, requiring them to screen off Futo's harbour where the dolphins were being killed or to kill the dolphins offshore.[79] Reports suggest both requirements would have made the hunts unprofitable and in the latter case would have endangered the fishermen's lives.[80]

Furthermore, after 1999, it was considered too expensive to send out 'spotter' boats to look for dolphins so the hunts could only be conducted opportunistically when dolphins were seen from a fishing boat already out at sea, or if they passed within sight of shore. Before the revival of the hunts in 2004, fuelled by the demand for live captures, all these factors resulted in a reduction in hunting to the point of abandonment.[81] In Taiji, the trend is similar. Of the 550 members of the Taiji Fishing Cooperative, only 26 maintain the right to hunt dolphins, and only 13 boats have a license to conduct the hunts.[82] In addition, the price of dolphin meat has also significantly dropped in recent years, possibly due to an increase in large whale meat from the expanded scientific whaling programme,[83] but also perhaps due to fears over adverse human health effects.

There is more evidence that demonstrates the increased focus of the drive hunts on obtaining live animals for display by the aquarium industry.

A memo circulated by Japan's Cetacean Conference on Zoological Gardens and Aquariums in August 2005 and written by the conference's Executive Secretary asked aquarium directors to complete a questionnaire to determine the extent to which aquaria want to display Pacific white-sided dolphins, a species not currently targeted by drive hunts, so the results could be used to justify a permit application for their capture at Taiji.[84] The memo also referred to the need for discussion between fishermen and aquaria to only capture dolphins wanted for captivity. Taiji's plans to expand its use of small cetaceans, a five-year "*Community Development Plan by Whale People using Whales*", has been approved by the Japanese Government under Japan's Local Revitalisation Law, which entered into force in April 2005.[85]

Photo courtesy of Elsa Nature Conservancy. A dolphin leaps in a holding pen in Taiji.

Photo: Michelle Grady/WDCS. At Iruka (dolphin) Park, a facility run by the Katsumoto Fishing Cooperative, a trainer commands a dolphin acquired through the drive hunts.

Cooperation unveiled

Photo: Michelle Grady/WDCS. This orca, acquired in a drive hunt, performs three times a day at the Taiji Whale Museum.

The following case studies illustrate how aquarium industry demands provide an important incentive for the continuation of Japan's drive hunts.

Futo, 1996

In October 1996, over 200 bottlenose dolphins and approximately 50 false killer whales were driven into Futo's harbour. Ten Japanese aquaria from Shizuoka and other nearby prefectures were reported to be involved in the capture, although only six selected dolphins for display at their premises. Twenty-six bottlenose dolphins and six false killer whales were taken into captivity and, following selection, 69 bottlenose dolphins and five false killer whales were reported killed, although the actual mortality rate is likely to be much higher as a result of stress and injury to the animals.[86] These removals violated the official quota of 75 bottlenose dolphins and zero false killer whales for that drive hunt season. The hunt prompted protests at the removals by Japanese citizen groups and individuals and international animal protection organizations.[87] Using video footage provided by Japanese group Iruka and Kujira (Dolphin and Whale) Action Network (IKAN), the illegality of the hunt was revealed and the national Fisheries Agency ordered the local fishing cooperative to release the remaining dolphins and false killer whales held in the harbour.[88] Ten days after the hunt, the six false killer whales that had been taken into captivity were also released.[89] The survival rate of the released whales is unknown, following the stressful hunt, round-up, selection and confinement process. Furthermore, two months after this hunt, further quota violations were reported, including information that 22 false killer whales had been caught and sold for 6.6 million yen (almost US $60,000).[90] Reports suggest this figure also includes several other false killer whales killed and sold for meat.[91]

Taiji, 1997

In 1991, Japan's Fisheries Agency issued a notification to prohibit orca (killer whale) captures in Japanese coastal waters, with an exemption for scientific research. In 1992, a permit to capture up to five orcas was given for this purpose. In February 1997, there were reports that ten orcas were driven into Hatajiri Bay, Taiji. Five were sold to three Japanese aquaria, including the Taiji Whale Museum and Izu Mito Sea Paradise. Five were released, their survival status unknown.[92] Twenty Japanese organizations objected to the orca capture in addition to over 100 international environmental and animal protection organizations.[93] By June 1997, two of the orcas taken into captivity had already died. Only two are alive today. It was only after the drive hunt had taken place in 1997 that the Fisheries Agency confirmed that the 1992 quota was still current, although no review of the five-year-old permit or its potential impact on the population targeted had been conducted.[94] The public outcry surrounding the capture was followed by an announcement by the Fisheries Agency and the Japanese Association of Zoos and Aquariums that captures would only be made for "*academic purposes*" and not for "*entertainment shows*".[95] The annual quota (five orcas for scientific research) was also reviewed and a decision made to ban future orca captures unless further permit requests were made.[96]

Futo, 1999

In October 1999, nearly 100 bottlenose dolphins were driven into Futo Harbour.[97] Reports allege that representatives from two Japanese aquaria (Aburatsubo Marine Park and Izu Mito Sea Paradise) selected six dolphins for their facilities.[98] Following selection by the aquaria, fishermen slaughtered 69 other dolphins, processing their meat at a nearby slaughterhouse. During this process, the dolphins were pulled by hooks, lassoed by their flukes with ropes, hauled from the water while they were, in most cases, still alive and transported to the processing stations.[99] The remaining dolphins were seriously harmed as they were violently forced outside the nets.[100] Footage of this hunt was shown on CNN news in the USA and was later described in a UK government report to the International Whaling Commission. Following international dissemination of the hunt footage, drive hunt fishing cooperatives were directed to alter their killing methods[101] and conceal their hunts.[102]

Photo: Michelle Grady/WDCS. Amphitheatre and concrete pools, Taiji Whale Museum.

Taiji, 2004

In January 2004, it was reported that over 100 bottlenose dolphins were driven into shore in Taiji. According to official records, 23 dolphins were sold alive, four were killed, and 70 were released.[104] The hunt appears to have taken place primarily to provide dolphins for display in captivity. Japanese aquaria reportedly involved in the hunt included the Taiji Whale Museum and Dolphin Base.[105] In what appeared to be total disregard for the welfare of the dolphins held for several days, trainers and other aquaria representatives were seen wading into the churning waters where dolphins struggled to free themselves. Several dolphins became entangled and subsequently suffocated in the nets alongside trainers who did not intervene to assist them.[106]

Photo: Michelle Grady/ WDCS. The ageing dolphin pools at the Taiji Whale Museum.

Photo: Michelle Grady/WDCS: World Dolphin Resort, Taiji. This basic facility contains two large concrete tanks with glass sides, for the public to watch the dolphins swimming.

International trade

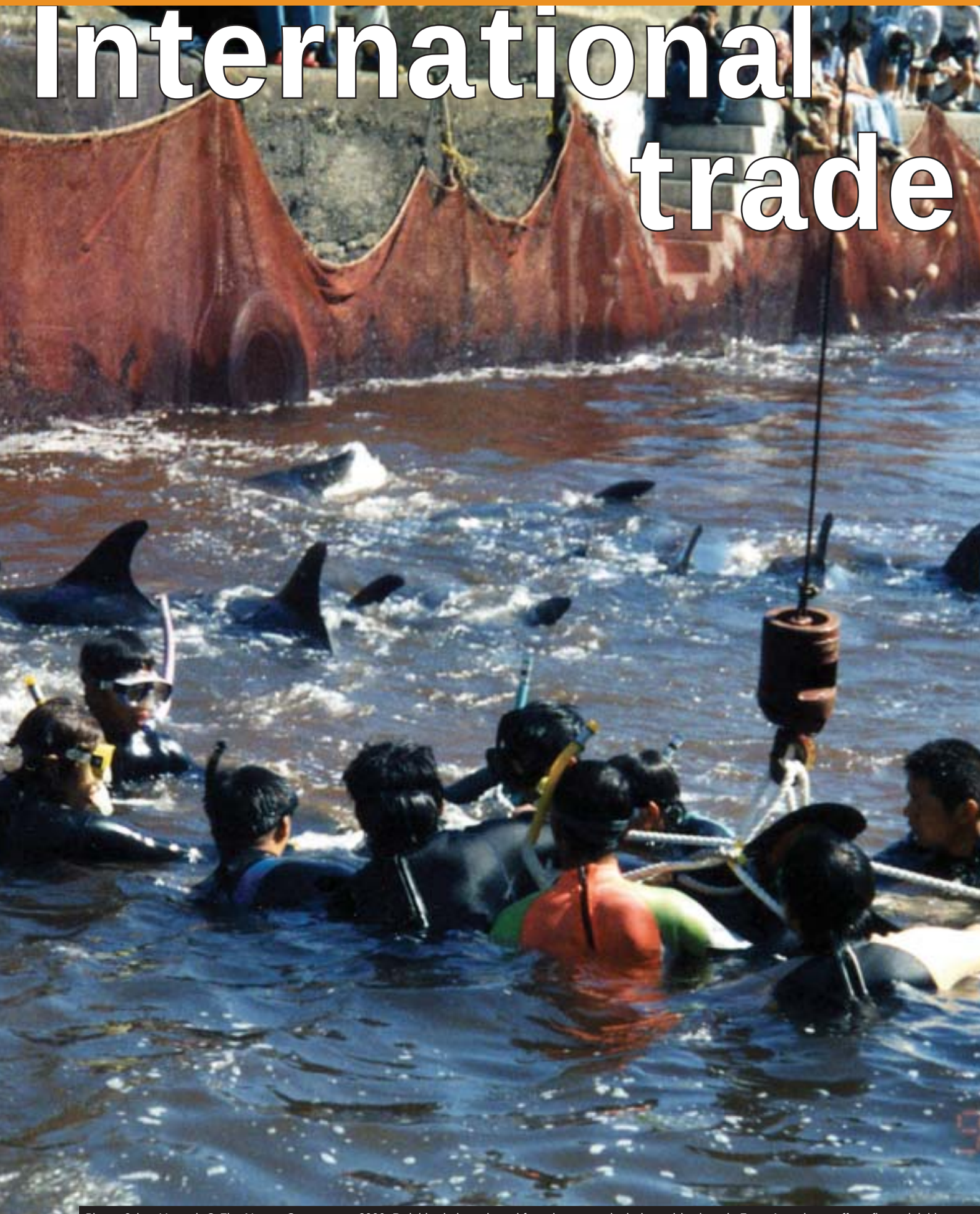

Photo: Sakae Hemmi. © Elsa Nature Conservancy 2006. Dolphins being selected for sale to aquaria during a drive hunt in Futo. Aquarium staff confine a dolphin in a sling to raise it onto a truck by crane.

There is no recognized inventory of information documenting the source of dolphins displayed in aquaria around the world. This makes it difficult to track the destination of dolphins captured alive in drive hunts. The following information is compiled from newspaper reports, the United States Marine Mammal Inventory Report, World Conservation Monitoring Centre trade data and anecdotal reports.

United States

Following the making of the American movie "*Flipper*" in the early 1960s, and the very successful television series that followed, demand for captive cetaceans increased dramatically. By the 1970s, the United States had become the most significant source of live cetaceans for the international aquarium industry. More than 500 bottlenose dolphins were captured alive in the south-eastern United States alone between 1973 and 1988.[107]

In 1972, partly in response to concerns about the sustainability of these removals, the US government adopted the Marine Mammal Protection Act (MMPA), which prohibits, except by a special permit, the taking of any marine mammal in US waters. The introduction of this regulation made it increasingly difficult for US aquaria to obtain wild-caught animals for public display from US waters. There is evidence to suggest that some turned to Japan and the ready supply of small whales and dolphins from its drive hunts.

The US Marine Mammal Inventory Report (MMIR) records the Miami Seaquarium, Sea Life Park in Hawaii, the Indianapolis Zoo, Sea World Inc and the US Navy as having imported live cetaceans from Japan.[108] No cetaceans captured in Japan are known to have been imported into the US since 1993 when the US National Marine Fisheries Service denied Marine World Africa USA a permit to import four false killer whales from Japan, expressing "*serious concerns whether the collection/take of animals through a drive fishery operation is [was] humane*".[109]

It is difficult to obtain details of all the cetaceans captured in drive hunts that have been exported from Japan to overseas aquarium facilities. Japan reported the export of 117 live cetaceans (including 16 Pacific white-sided dolphins, 48 false killer whales and 53 bottlenose dolphins) to the World Conservation Monitoring Centre (WCMC) between 1972 and 2002 to Hong Kong, Republic of Korea, the United States, Israel, Thailand, China and Mexico. These figures may well be underestimates. For example, China reported the import of 26 bottlenose dolphins from Japan between 1998 and 2002, whereas Japan reports the export of only nine bottlenose dolphins to China in this same period.[110]

China

China reported imports from Japan of two common dolphins in 1995, six false killer whales between 1998 and 1999 and 46 bottlenose dolphins between 1995 and 2003. Japan reported only a fraction of this trade to China: six false killer whales between 1998 and 1999 and 26 bottlenose dolphins between 1995 and 2003[111], demonstrating inconsistencies in the reporting of data by the two countries. According to data compiled at the request of a July 2002 workshop in the Philippines sponsored by the Convention on Migratory Species, there are at least 20 aquaria displaying captive cetaceans in China, with at least seven displaying animals imported from Japan, reportedly captured in drive hunts.[112]

Beijing Aquarium. The Beijing aquarium opened in March 1999 with three false killer whales, seven bottlenose dolphins and eight sea lions. Within a month, however, five more false killer whales and five bottlenose dolphins were imported for display. All 20 cetaceans reportedly came from the drive hunt in Taiji.[113] In 2001, five of the false killer whales were re-exported to Subic Bay, Philippines for display at the Ocean Adventures marine park.[114]

Sunasia Ocean World, Dalien. The Taiji Whale Museum exported eight bottlenose dolphins thought to have been originally captured in drive hunts to this facility in China in June 2005. This export was part of a new scheme initiated by the town of Taiji to sell dolphins abroad to "*promote international, academic and scientific exchange*."[115]

Ocean Park, Hong Kong. A 1994 scientific study on the survivorship of cetaceans at Ocean Park between 1974 and 1994 reported that it acquired at least five short-finned pilot whales, 19 false killer whales, 15 Pacific white-sided dolphins and up to 50 bottlenose dolphins from Iki Island or Taiji, Japan.[116] Eleven false killer whales were imported by Ocean Park in 1987 alone[117], the last of these animals dying in 1999.[118]

Photo: Michelle Grady/WDCS. In the bay at Taiji are training pens belonging to Dolphin Base. Dolphin Base has an active training programme and reports suggest it provides dolphins and training resources to aquaria throughout Japan and overseas. [103]

Taiwan

Hualien Ocean World. Hualien Ocean World, which opened in October 2002 with 11 bottlenose dolphins that were captured at Taiji,[119] imported a total of 17 dolphins from Japan between 2002 and 2005.[120]

Republic of Korea (South Korea)

According to WCMC data, the Republic of Korea imported four false killer whales from Japan in 1983 and three Pacific white-sided dolphins in 1985. WCMC data also records the export of 17 bottlenose dolphins to the Republic of Korea between 1983 and 1991 and a further two traded from Japan to Korea between 1997 and 1998.[121]

Philippines

In January 2001, the Subic Bay Marine Exploratorium opened in the Philippines with five false killer whales transferred from the Beijing Aquarium in China.[122] The facility offers visitors the opportunity to swim with these animals, which were thought to have been originally captured in Japanese drive hunts.[123] The marine park, run by Ocean Adventures, remained open despite a cease-and-desist order from the Department of the Environment and Natural Resources in March 2001, prohibiting continued activity at the marine park due to it having not obtained an environmental compliance certificate to operate.[124] Four bottlenose dolphins were reportedly exported by Japan to this facility from the January 2004 drive hunt in Taiji.[125] Since 2001, three false killer whales have died at the Exploratorium.[126] In August 2005, the Philippines Department of Environment and Natural Resources closed the Exploratorium indefinitely to review "*allegations that the park violated laws against maltreatment and abuse of whales*."[127]

Palau

The tiny island of Palau is situated in the Pacific Ocean to the north of Indonesia. In January 2002, Dolphin Bay, owned by Dolphins Pacific, opened in Palau. The facility, displaying 11 dolphins, offers interaction programmes such as swimming with dolphins and dolphin-assisted therapy.[128] Reports suggest the animals were exported from Japan and were captured in drive hunts.[129]

Photo: A dolphin lies in the shallows awaiting its fate .

Zoo and aquarium organizations

Photo: These bottlenose dolphins struggle as they are trapped by boats during a round-up in Futo.

Some aquaria that have featured performing whales and dolphins imported from Japan are also members of professional international zoological associations. The American Zoo and Aquarium Association (AZA) lists among its members all US Sea World Parks and Ocean Park Hong Kong, the latter also being part of the South East Asia Zoo and Aquarium Association (SEAZA).[130] The AZA, SEAZA and the Japanese Association of Zoos and Aquariums (JAZA) are in turn members to the World Association of Zoos and Aquariums (WAZA), an umbrella organization whose mission is: "*to guide, encourage and support the zoos, aquariums, and like-minded organisations of the world in animal care and welfare, environmental education and global conservation*."[131]

WDCS believes that the sourcing of dolphins from drive hunts is a violation of the WAZA "*Code of Ethics*" that recognizes respect for the animals in its care, opposes "*cruel and non-selective methods of taking animals from the wild*" and states that "*Members must be confident that such acquisitions will not have a deleterious effect upon the wild population*."[132] In October 2005, seemingly in response to increasing pressure from environmental organizations and concerned scientists, the WAZA issued a statement to its members, reminding them to "*ensure that they do not accept animals obtained by the use of methods which are inherently cruel*", and noting that: "*the catching of dolphins by the use of a method known as '*drive fishing*' is considered an example of such a non acceptable capture method*."[133] It is hoped that this statement will be used to impose sanctions against any WAZA members that knowingly procure dolphins from the drive hunts.

The 'rescue' rationale

In 1993, Marine World Africa USA described its decision to capture four false killer whales from a drive hunt on Iki Island as a "*humane act that saved four animals from certain death*."[134] More recently, in a BBC film documenting the drive hunts, Tim Desmond of Ocean Adventures, Philippines, a facility displaying cetaceans captured in drive hunts stated: "*every animal we have here had a life expectancy of one day…these animals were either going to be taken alive or die*."[135] Desmond's position is reiterated in his letter to the Subic Bay Management Authority in December 2000, in which he states: "*We went to Japan precisely because these were doomed animals…collection of our animals was a side-product. This was and is the lowest impact way to collect wild animals for public display. These are animals that have already been captured and who are literally minutes from death*."[136] It is WDCS's opinion that this 'rescue' rationale to purchase cetaceans captured in drive hunts is misguided and belies the large sums of money paid by aquaria for individual whales and dolphins captured alive in the hunts.

Photo: This dolphin is sedated after being hauled from a drive hunt on a truck for transport to an aquarium.

Drive hunts: Welfare

Photo: Divers surround a dolphin in the water.

It is a common expectation in modern society that animals that are slaughtered for food should not be subjected to unnecessary suffering.[137] The guiding principle for the humane slaughter of livestock is the achievement of immediate unconsciousness, usually through stunning, followed by a rapid progression to death.[138] As a result, many countries have legislation requiring mammals to be stunned before slaughter in order to prevent unnecessary pain and suffering during the slaughter process. Dolphins, like cows and pigs, are mammals. However, the methods used to chase, capture and kill cetaceans do not and cannot guarantee instantaneous insensibility followed rapidly by death.[139] As a result, many thousands of dolphins killed each year may suffer extreme pain and suffering during slaughter over a prolonged period of time.

Chase and round-up

Stress suffered during capture and the selection process is likely to compromise the survival of any dolphins released from the hunt.[140] Studies have shown that the capture of wild cetaceans, regardless of methodology, is liable to induce extreme levels of stress.[141] Chase and pursuit may result in stress-related mortality in cetaceans, since over-exertion may lead to muscular and cardiac tissue damage and possibly lead to shock, paralysis and death, or longer term morbidity.[142] However, no assessment has been made of the effects of the drive hunt on dolphins, including the long-term physiological effects on any survivors. Beyond this harmful individual impact, the disruption or damage to a captured animal's social group caused by its removal, while largely unknown and not well studied, may be substantial.[143]

Photo: Sakae Hemmi. © Elsa Nature Conservancy 2006. Dolphins struggle and exhibit signs of distress as they are selected by aquarium representatives in Futo.

Capture and slaughter

In other cetacean drive hunts, such as those in the Faroe Islands, a knife is used to cut through the skin, blubber and flesh to sever the spinal column and the blood supply to the brain in order to induce loss of sensibility and death as a result of blood loss.[144] In contrast, as recorded in a paper describing a video recording of Futo's October 1999 drive hunt and presented by the UK government to the Whale Killing Methods and Associated Welfare Issues Working Group at the 2000 International Whaling Commission meeting, in Japan it is more common that the dolphins are cut in the 'throat' region, leaving the so-called "*spinal rete arteries, which lie in the spinal column and supply blood to the brain... intact, so the dolphins remain conscious for an unknown length of time*."[145] The paper goes on to state that: "*The slaughtermen seemed wary and unfamiliar with the slaughter process as in 3 filmed incidents they stopped cutting when the animals reacted violently to the severing of a major blood vessel… There is no evidence of any attempt to induce rapid loss of consciousness and death…Overall the film shows an apparent lack of regulation, training in appropriate methods and techniques and care or consideration for the welfare of these animals. It is clear that the dolphins suffered extreme distress and pain and this cannot be considered to be acceptable or humane by any accepted international or national standards*."[146]

In August of 2002, it was reported that Futo dolphin hunters would use a new, fast-killing method to sever the spinal cord just behind the blowhole. This was predicted to kill the animal within 30 seconds, down from the current estimate of 10 minutes. This 'fast-kill' method is reported to have been adopted by Taiji fishermen as well.[147] However, this method has not been documented by any national or international observers[148] and one former dolphin hunter has claimed that the method of cutting the spinal cord would be nearly impossible to employ because it is "*extremely difficult and dangerous to fishermen*."[149]

Psychological suffering

Small cetaceans often live in close, strongly-bonded family groups. During the killing and selection of dolphins in the drive hunts, individual animals may be swimming in the blood of other dolphins in their family group, hearing and seeing their distress as they are killed. Scientific research reveals that dolphins are self-aware and cognitive

beings. Bottlenose dolphins have exhibited mirror self-recognition, an ability shared only by great apes and humans.[150] WDCS believes that the dolphins targeted by these hunts may be aware of what is happening to them and other dolphins during the process and suffer extreme fear and distress as a result.

Live capture, transport and captivity

In 1996, Japanese researcher Sakae Hemmi recorded details of the selection of animals by the aquarium industry during a drive hunt in Futo:

"*To begin with, two fishing boats confused the dolphins with sounds, then rounded up the dolphins, which were scattered throughout the port. These two vessels had metal bars protruded from their hulls into the water, and fishermen banged on them constantly with hammers as other fishermen beat on the sides of their vessels with wooden mallets, and still others slapped the water over and over with long poles, thereby terrorizing the dolphins and chasing them around. Then, just as when landing dolphins for slaughter, three fishing boats spread fishing nets from one vessel to the next to cut off the dolphins' escape route and inexorably herd them towards the wall at pierside.*

The 30-odd dolphins separated out in this manner are then sorted according to what the aquariums want. A person from an aquarium, who appears to be a leader, stands at the top of the wall pointing at dolphins saying, 'This one,' and 'That one,' as about 10 aquarium divers subdue the indicated dolphins and measure their length with a long bar. It appears they are after animals about 150-200 cm long, and do not want any over 250 cm. One or two of the divers restraining the dolphin then dive under the animal and inspect the underbelly slit to see if it is male or female. Almost all aquariums prefer females, and, as far as records indicate, only one male has ever been taken to an aquarium. Even if all other requirements were fulfilled, no dolphins with injuries were chosen. In addition to being panicked by the loud noises and chased by divers, the dolphins get caught in nets, run into the wall and collide violently with other dolphins, so many of them have injuries. For this reason it took considerable time to select dolphins that satisfied the aquariums.

Divers hold the chosen dolphins at their sides and lift them onto a special dolphin stretcher, which has holes for dolphins' pectoral fins, that is lowered into the water level by a crane. Once a dolphin is properly ensconced, the crane lifts it onto a truck that the aquariums have waiting on the pier. Aquarium personnel immediately remove the stretcher, and move on to the next operation. When dolphins are taken to nearby aquariums, their transport involves placing them on wet mattresses, covering the upper parts of their bodies with cloth, and occasionally wetting them, but when destinations are far, dolphins are put in long tanks to keep their bodies immersed. In all cases sedatives are administered to keep the dolphins from struggling. On this occasion the sedative caused the shock death of one female; her belly was subsequently cut open, and the meat extracted and processed."[151]

Photo: These bottlenose dolphins captured during a drive hunt are crudely transported by flatbed truck to awaiting facilities.

The live capture and transport of these animals is an extremely stressful process that may result in the deaths of the dolphins before they arrive at the aquarium facility they are chosen for. A study of bottlenose dolphins captured from the wild indicates a six-fold increase in mortality in their first five days of confinement.[152] In the drive hunts, even dolphins released from the selection process may experience significant mortality. Furthermore, the small cetaceans typically held in captivity, such as bottlenose dolphins and orcas, are wholly aquatic, far-ranging, fast-moving, deep-diving predators. In the wild they may travel up to 150 kilometres a day, reach speeds of up to fifty kilometres an hour, and dive several hundred metres. Small cetaceans are highly intelligent, extraordinarily social, and behaviourally complex.[153] WDCS believes that it is impossible to accommodate their mental, physical and social needs in captivity and that it is cruel to confine them. Scientific evidence indicates that cetaceans in captivity suffer extreme mental and physical stress,[154] which is revealed in aggression between themselves and towards humans, a lower survival rate and higher infant mortality than in the wild.[155] In addition, many cetaceans are held in appallingly inadequate conditions that have a direct negative impact on their health and wellbeing.

Conditions and standards of care in Japanese aquaria

In October 2005, Hardy Jones of Bluevoice.org travelled to Japan to investigate the aquaria that had acquired bottlenose dolphins captured in the 2004 Futo drive hunt. Two of them were found at Dolphin Fantasy, Ito City, where they are held with Ami-Chan[156], a bottlenose dolphin originally captured at Taiji and held at Dolphin Fantasy since 1999. The sea pen in which they are held is small and sits in the polluted harbour water. Ami-Chan is reported to have survived five other dolphins at Dolphin Fantasy.

Another dolphin from the Futo 2004 hunt was found in a sea pen at Awashima Marine Park. He had also been held at Dolphin Fantasy in Ito before his transfer to Awashima.[157]

A female transferred from Futo in January 2005 was traced to Shinagawa Aquarium in Tokyo, in a tiny pool under a highway overpass, performing tricks for visitors. [158]

Photo: Dead and dying dolphins by the quayside in Futo

Drive hunts: Conservation

Photo: William Rossiter. Spotted dolphins.

The overall impact of Japan's drive hunts on the species and populations of cetaceans they target is difficult to determine, due to the lack of biological data available for most species.[159] The striped dolphin has been the most heavily exploited species. The IWC has documented a serious decline in coastal populations of striped dolphins and recent declines in catches of short-finned pilot whales and spotted dolphins.[160] In 1992, it expressed its: "*…great concern about the status of the striped dolphin stock exploited by the drive fishery. It was noted that the catch has declined to 1/10 of the level in the early 1960s and fishermen have started exploiting other species in recent years. The number of vessels operating this fishery has increased during the period…and in recent years most schools seen are harvested. This indicates decline in availability of striped dolphins to the fishery due to the depletion of the exploited stock*."[161] Japanese scientists have expressed similar concerns, stating, in 1993: "*We conclude that the availability of striped dolphins to the drive fisheries on the Pacific coast has declined over the past 30 years and the fishery has been forced to switch to other delphinids. The status of other dolphin stocks is unknown due to uncertainties in stock identity and the catch trend*."[162] Many of the populations targeted by drive hunts are also subject to removals in Japan's other small cetacean hunts.[163]

The demand for captive dolphins does far more than harm the individual captured - it can threaten dolphin populations and the marine ecosystem. The capture of even a few animals can result in the death or injury of many more dolphins, since the capture activities involve intensive harassment of a group or groups. In addition, it negatively impacts on already depleted dolphin populations by removing breeding (or otherwise important) members from the group. The capture and removal of dolphins for interactive programmes is especially problematic in this regard because female dolphins are preferred for these programmes (females are typically regarded as less aggressive towards humans than male dolphins). Many studies of wildlife populations have demonstrated that the removal of females can result in seriously harmful consequences to animal populations over the long term.[164]

The IUCN Cetacean Specialist Group has noted, in its Conservation Action Plan for 2002 to 2010: "*Removal of live cetaceans from the wild, for captive display and/or research, is equivalent to incidental or deliberate killing, as the animals brought into captivity (or killed during capture operations) are no longer available to help maintain their populations. When unmanaged and undertaken without a rigorous program of research and monitoring, live-capture can become a serious threat to local cetacean populations… As a general principle, dolphins should not be captured or removed from a wild population unless that specific population has been assessed and it has been determined that a certain amount of culling can be allowed without reducing the population's long-term viability or compromising its role in the ecosystem. Such an assessment, including delineation of stock boundaries, abundance, reproductive potential, mortality, and status (trend) cannot be achieved quickly or inexpensively, and the results should be reviewed by an independent group of scientists before any captures are made. Responsible operators (at both the capturing end and the receiving end) must show a willingness to invest substantial resources in assuring that proposed removals are ecologically sustainable*."[165] The continued removal of animals in the drive hunts, a growing number for the aquarium industry, in the face of evidence demonstrating their detrimental impact, shows a complete lack of precaution by those involved and may be severely damaging the sustainability of the populations targeted.

Status of species targeted by the drive hunts

From the IUCN Red List[166]

Striped dolphin: "*Catches of striped dolphins in Japan have declined dramatically since the 1950s, and there is clear evidence that this decline is the result of stock depletion by over-hunting. Striped dolphins have been completely or nearly eliminated from some areas of past occurrence*."

Pantropical spotted dolphin: "*Pantropical spotted dolphins are subject to high mortality in Japan, where they are killed by harpooning and driving. Catches in Japan have been in the thousands in some years, although they have totaled less than 500 per year over the past decade*."

Bottlenose dolphin: "*Large numbers have been taken in Japan in the drive and harpoon fisheries, including 4,000 at Iki Island from 1977 to 1982. Takes in drive and hand-harpoon fisheries along the Pacific coast have increased since the early 1980s*."

Risso's dolphin: "*Regularly hunted in Japan in catches ranging from about 250-500*."

Short-finned pilot whale: "*Stocks are ill-defined except off Japan, where two distinct forms have been identified... at least one of the two forms hunted off Japan is depleted. The northern form, whose population is estimated at only 4000-5000, is subject to small-type whaling with an annual national quota of 50. The southern form, with an estimated population of about 14,000 in coastal waters, is subject to small-type whaling, hand-harpoon whaling, and drive whaling, and there is an annual national quota of 450*."

National legislation

In Japan, all cetaceans are treated and regulated as a fisheries resource, under the control of the Fisheries Agency. This is in spite of the establishment of the Environment Agency in 1971, which gained control of other wildlife issues in Japan. Japan's Law for the Conservation of Endangered Species of Wild Fauna and Flora (Species Preservation Law), enacted in 1993, also excludes marine mammals, following a memorandum of understanding between the Fisheries and Environment Agencies.[167]

In 1993, the Fisheries Agency established quotas for eight species of small cetacean in each prefecture involved in hunting them. Although these quotas were reportedly based on science, they appeared heavily influenced by political factors, with emphasis on past yields.[168] Japanese government research on small cetaceans in coastal waters remains data deficient.[169] Urgently-needed catch quota reviews for most of the dolphin species targeted by the drive hunts have been postponed by the Fisheries Agency, at least partly due to the lack of information about the status of the animals targeted by them.[170]

In 2002, the National Biodiversity Strategy was revised and a new paragraph, entitled "*The Protection and Management of Marine Animals*", added, at the request of non-governmental conservation and welfare organizations. In spite of this apparent achievement, however, the text currently contains no reference to the importance of the protection and management of cetaceans for coastal biodiversity.[171] Also in 2002, the Law for the Protection of Wild Birds and Mammals and Appropriation of Hunting was revised. Marine mammals were again excluded from the law.[172]

The 1973 Law concerning the Protection and Management of Animals was revised in 2005 to tighten the regulations on businesses handling animals, through the introduction of a registration or licensing system.[173] As a result of pressure from conservation organizations through the Animal Protection Committee to have businesses trading and capturing dolphins included, all businesses trading in wild animals are subject to the law.[174] The impact of this has yet to be realized.

Photo: Michelle Grady/WDCS: False killer whale at Iruka Park in Katsumoto.

In conclusion

The government of Japan allows thousands of small cetaceans to be killed each year in hunts around the coast of Japan. Dolphins, porpoises and small whales have inadequate legal protection under Japanese law to prevent them from being killed in the most indiscriminate and brutal manner. The drive hunts represent just one form of these annual hunts.

Now, as the demand for live cetaceans has increased over the last two decades, a growing number of aquaria from Japan and several other countries have sourced live dolphins from Japan's drive hunts. The large sums of money paid for these animals represent an important financial incentive to continue an industry that might otherwise be in decline. WDCS believes that these hunts may not survive without the purchase of live cetaceans by an increasing number of aquaria. As a result, the purchase of live cetaceans by aquaria threatens the survival of discrete populations of small cetaceans and, at the same time, allows unspeakable suffering to be inflicted on individual animals. With more cetacean meat being made available by Japan's expanding whaling activities and the controversy surrounding the high level of contaminants in small cetacean meat, as reported by Japanese consumer safety organizations such as Safety First[175] and the Consumers' Union of Japan[176], the focus of the hunts today appears to be increasingly on obtaining live animals for display in aquaria. This is not surprising given the high value of the live animals.

Many aquaria, amusement parks and zoos displaying cetaceans claim to play an important role in education and conservation. For example, the Alliance of Marine Mammal Parks and Aquariums (AMMPA) states that its international member facilities are "*dedicated to the highest standards of care for marine mammals and to their conservation in the wild*".[177] However, a growing number of aquaria purchase live cetaceans which have been sourced from the drive hunts in Japan. These hunts threaten the survival of the populations targeted and inflict extreme pain and suffering on individual animals as they are killed or captured alive for aquaria.

It is time for Japan's drive hunts to end. WDCS calls upon the international zoo and aquarium associations to prohibit any members or member institutions from sourcing live dolphins from these hunts and to sanction any that do.

Photo: Michelle Grady/WDCS: A false killer whale and a bottlenose dolphin at Iruka Park in Katsumoto.

The alternative

The tide can change, and is changing, within Japan. A growing grassroots movement for the protection of whales and dolphins has revealed itself on numerous occasions where groups of surfers, divers and even town officials have rallied to push live stranded whales back out to sea.[178] Former hunters are also embracing alternatives. Mr. Izumi Ishii from Futo who hunted dolphins for over 27 years successfully converted his boat into a whale and dolphin watching vessel in 2002 and takes locals and tourists on wildlife viewing trips.[179]

Responsible whale and dolphin watching is a humane, sustainable and educational alternative to the hunting and live capture of cetaceans in drive hunts, providing inspiring opportunities to see these wonderful animals in their natural environment. Whale watching as a commercial endeavour - with important educational, environmental, scientific and other socioeconomic benefits - is now at least a one billion dollar industry attracting more than nine million participants a year in at least 87 countries and territories.[180]

Of the 39 species of porpoise, dolphin and whale that live in or visit the waters of Japan, about 20 can be regularly seen from more than a dozen whale watching ports around Japan's coast.[181] Since 1988, when whale watching began in Japan, more than 1.5 million Japanese people have watched whales, dolphins and porpoises in the wild, in Japanese waters. While 90 percent of the whale watchers in Japan are Japanese, the industry is also seeing a growing number of visitors from other countries.[182] Expanding around this industry is the development of what might be called a new 'culture', with Japanese whale watch clubs and associations, T-shirts and other souvenirs, Japanese books and magazines devoted to whale watching and the growth in the number of young Japanese naturalist guides.[183]

The success of a viable alternative to the slaughter and sale of dolphins and other small cetaceans in Japanese coastal communities is proof that people can enjoy living cetaceans and make a living out of showing them to other people. While this alternative has yet to be fully realized in the towns conducting drive hunts, it is emerging in Futo, and elsewhere in Japan, and it is our hope that whale and dolphin watching will transform Japan's cetacean-killing communities into high-quality whale-watching destinations.

Photo: Hal Sato: Whale-watchers in Japan enjoy a trip to see cetaceans in their natural environment.

How you can help

Write to the following zoo associations to politely express your opposition to procuring live whales and dolphins from drive hunts:

World Association of Zoos and Aquariums (WAZA)
Peter Dollinger,
WAZA Executive Office,
P O Box 23,
CH-3097 Liebefeld-Bern
Switzerland.
Email: secretariat@waza.org

American Zoo and Aquarium Association (AZA)
Kristin Vehrs, Interim Executive Director
8403 Colesville Rd, Suite 710
Silver Spring, MD 20910-3314
USA

International Marine Animal Trainers Association (IMATA)
Rhona St.Claire-Moore, President
1200 S. Lake Shore Drive
Chicago, IL 60605
USA
Email: info@imata.org

Alliance of Marine Mammal Parks and Aquariums (AMMPA)
Marilee Menard
103 Queen Street
Alexandria, VA 22314
USA
Email: ammpa@aol.com

Write to the following Japanese officials to politely state your opposition to the drive hunts and the capture and sale of live whales and dolphins for the aquarium trade:

Prime Minister of Japan
Mr. Junichiro Koizumi
Fax: +81-3-3581-3883
Email: Kanteihp-info@cas.go.jp

Japan Fisheries Agency
Fax: +81-3-3502-0794
E-mail: whaling-section@nm.maff.go.jp

Governor of Shizuoka Prefecture (Futo)
Mr. Yoshinobu Ishikawa
Fax: +81-54-221-2164
Email: governor@pref.shizuoka.jp

Mayor of Ito City
Mr. Hiromi Tsukuda
Fax: +81-557-36-1104
Email: hisyo@city.ito.shizuoka.jp

Governor of Wakayama Prefecture (Taiji)
Mr. Yoshiki Kimura
Fax: +81-73-423-9500
Email: e0001003@pref.wakayama.lg.jp

Town Mayor of Taiji
Mr. Kazutaka Sangen
Fax: +81-735-59-2801

Photo: Michelle Grady/WDCS: Bottlenose dolphin at Iruka Park in Katsumoto.

[1] Catcher boats, often working in small groups, search out dolphins, porpoises or small whales at sea and chase them down as in a conventional large whale hunt. As the animals become exhausted by the chase, the harpooner spears them with a long hand-held harpoon, thrown from a bow of the vessel.
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