

The Global Trade in Live Cetaceans: Implications for Conservation

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Cetaceans—small whales, dolphins and porpoises—have long been popular performers in oceanaria. Captive cetaceans have also been used for research and employed in military operations. In some jurisdictions cetacean display facilities have been phased out or prohibited, and in the US and Hong Kong a high proportion of the whales and dolphins now in captivity have been captive-bred. A large, growing and increasingly opportunistic trade in dolphins and small toothed whales nevertheless exists, its centres of supply having shifted away from North America, Japan, and Iceland to the Russian Federation and developing nations in Latin America, the Caribbean, West Africa, and Southeast Asia. Demand for live captures is being driven by: a new wave of traditional-type oceanaria and dolphin display facilities, as well as travelling shows, in the Middle East, Asia, Latin America, and the Caribbean; increasingly popular programs that offer physical contact with cetaceans, including the opportunity to feed, pet, and swim with them; and the proliferation of facilities that offer ‘dolphin assisted therapy’ to treat human illness or disability. Rigorous assessment of source populations is often lacking, and in some instances live capture is adding to the pressure on stocks already at risk from hunting, fishery bycatch, habitat degradation, and other factors. All too often, entrepreneurs appear to be taking advantage of lax (or non-existent) regulations in small island states or less developed or politically unstable countries to supply the growing global demand for dolphins and small whales. The regulation of trade in live cetaceans under CITES is fraught with problems, not least the poor quality of reporting and the lack of a rigorous mechanism for preparation, review, and evaluation of non-detriment findings.

1. INTRODUCTION

Small cetaceans (i.e., small whales, dolphins, and porpoises) became popular attractions in the animal display industry with the rise of marine aquaria (oceanaria or dolphinarium) in the 1960s. Sentiment shaped in part by exposure to

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captive bottlenose dolphins (*Tursiops* spp.) and killer whales (*Orcinus orca*) eventually led to campaigns against the display industry, and by the 1990s many facilities had divested their cetacean holdings. Several political jurisdictions either severely tightened regulations on the industry or prohibited the live capture, importation, or display of cetaceans.³ This does not mean, however, that the industry has disappeared. In fact, although the geography and characteristics of the trade in live cetaceans have undergone major changes over the last few decades, the regulatory challenges facing the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and national conservation agencies are at least as diverse and formidable as they ever were.⁴

The controversies about keeping dolphins and whales in captivity generally play out in the shadows of the global whaling debate, which dominates public discourse largely because it has a dedicated political forum, the International Whaling Commission (IWC). Moreover, quite apart from whaling, acute concerns over incidental mortality in fishing gear, ship collisions, noise disturbance, and toxic contamination are high on the cetacean conservation agenda.⁵ Our intent here is not to detract from those other threat factors. Rather, we wish to call attention to trends in the live-capture industry that may be affecting, or may soon affect, certain small and otherwise threatened cetacean populations. Further, we wish to review the effectiveness of trade regulations in order to identify areas that need improvement. We hope to offer constructive advice so that the CITES Secretariat, national CITES authorities, and nongovernmental organizations can move towards the shared goals of transparency, compliance, and consistency with conservation principles.

In this article, we address three main issues, as follows:

1. A comparison of information obtained from the United Nations Environment Programme World Conservation Monitoring Centre (UNEP-WCMC) CITES database and informally from colleagues with published descriptions of past trade indicates that the scale and pattern of international trade in live cetaceans have changed in recent decades, both in terms of species traded and primary importing and exporting nations;
2. An evaluation of the WCMC CITES database for internal consistency and coherence against credible information from other sources

³ D.M. Lavigne, V.B. Scheffer, S.R. Kellert, *The Evolution of North American Attitudes Toward Marine Mammals*, in CONSERVATION & MANAGEMENT OF MARINE MAMMALS 10-47 (J.R. Twiss, Jr. & R.R. Reeves eds., 1999); R.R. Reeves & J.G. Mead, *Marine Mammals in Captivity*, *id.* at 412-436.

⁴ Convention on International Trade in Endangered Species of Wild Fauna and Flora, March 3, 1973, 27 U.S.T. 1087, T.I.A.S. No. 8249, 993 U.N.T.S. 243, ELR Stat. 40336.

⁵ See Randall Reeves et al., *Dolphins, Whales & Porpoises: 2002-2010 Conservation Action Plan for the World's Cetaceans* (2003).

indicates that the efficiency, and therefore adequacy, of trade reporting for cetaceans is poor; and

3. Improved procedures, including better implementation of CITES regulations, are needed to ensure that live-capture removals are non-detrimental to wild cetacean populations. Addressing this issue in a comprehensive manner is well beyond the scope of the present paper. However, we offer some case-study examples that may point the way to improvement.

Within the conservation community, opinions on cetaceans in captivity tend to be wide-ranging and strongly held. In this discussion, we do not address the ethical and moral arguments about bringing cetaceans into captivity and the uses to which they are put (e.g. awareness, education, entertainment, research, and therapy), but focus instead on the primary conservation implications of live-capture for captivity—the effects of removals on wild source populations. Additional conservation concerns, which we do not address in detail here, include survivorship of cetaceans during capture and transport and while in captivity (premature deaths create demand for replacement animals and thus more removals from the wild), and the risks to wild populations and ecosystems of accidentally introducing alien species and spreading epizootic diseases, especially when animals have been transported over long distances and are held in sea pens.

Three premises underlie the point of view expressed in this article. These are:

1. The welfare of individual captive cetaceans is relevant to conservation because keeping them healthy, reproductively active, and long-lived reduces the demand for replacements from the wild;
2. Good record keeping and public access to catch statistics are basic and essential to resource management, and therefore indispensable for the proper implementation of CITES; and
3. Trade in animals deliberately removed from a wild population, in the absence of a credible assessment demonstrating sustainability, is contrary to CITES provisions.

2. LEGAL STATUS UNDER CITES AND OTHER INSTRUMENTS

Cetaceans receive protection from capture and trade under a number of Multilateral Environmental Agreements. CITES, which regulates international trade, is the most important for the purposes of this article.

2.1 CITES

CITES regulates international trade in all species of cetaceans. Several freshwater and marine species that are or have been exhibited in dolphinariums are

listed on CITES Appendix I.⁶ Although importation of specimens for primarily commercial purposes is prohibited, individuals of these species may still be traded (provided the other permitting conditions in Article III are met) if the purpose of the import is, *inter alia*, scientific research, education, or captive breeding. For the captive-breeding exemption to apply, the *import* must be intended primarily for the long-term protection of the species although, as the Secretary General notes, the priority of the breeding facility itself “may very well be purely commercial.”⁷

CITES does not define “primarily commercial purposes” and it may be interpreted by the Parties in different ways. However, it is agreed as a general principle that “all uses whose non-commercial aspects do not predominate are considered to be primarily commercial in nature.” Resolution Conf. 5.11 acknowledges that, in this context, “Importation of specimens of Appendix-I species for captive-breeding purposes raises special problems.” To assist Parties in assessing the degree of commerciality in a particular transaction, the Resolution’s Annex gives several examples. Unfortunately, these do not provide clarity about the typical situation where the import is by a primarily profit-making public display facility with a breeding programme, and the imported animals participate in displays and programmes for which visitors are charged.

For example, Singapore imported six Indo-Pacific hump-backed dolphins from Thailand in 1999. They are held at Underwater World, a commercial oceanarium that has received more than 18 million visitors since 1991.⁸ Although the dolphins were claimed by the Management Authority (MA) to have been imported for ‘breeding purposes’,⁹ the facility’s website states that it does not “actively attempt to breed its dolphins.”¹⁰ Nevertheless, there have been three pregnancies and one female has produced a calf.¹¹ Five surviving animals plus the calf are on permanent display in a single ‘lagoon’ which is separated into sections.¹² Although the calf does not participate in the four-times daily performances, or the programme for which visitors pay to enter the water and pet, feed, and swim with dolphins, it is

⁶ The following small cetacean species are listed on CITES Appendix I: baiji (*Lipotes vexillifer*), Indus River dolphin (*Platanista minor*; now considered a subspecies *P. gangetica minor*), Ganges River dolphin (*Platanista gangetica*; now considered a subspecies *P. g. gangetica*), tucuxi (*Sotalia fluviatilis*), Indo-Pacific hump-backed dolphin (*Sousa chinensis*), Atlantic hump-backed dolphin (*Sousa teuszii*), finless porpoise (*Neophocaena phocaenoides*) and Irrawaddy dolphin (*Orcaella brevirostris*).

⁷ W.W. WUNSTEKERS, THE EVOLUTION OF CITES:2003 74 (2003).

⁸ <<http://www.underwaterworld.com.sg/conservation.html>>

⁹ The export permit stated ‘education’ and the import permit, ‘zoological.’ Meanwhile, the Singapore Management Authority claimed ‘breeding purposes.’

¹⁰ <<http://www.underwaterworld.com.sg/conservation/pinkdolphin/index.html>>

¹¹ Sentosa’s pink dolphins pregnant—a first for Singapore, at <<http://www.channelnewsasia.com>> (last visited on 8th September 2000).

¹² See Underwater World’s website at <<http://www.underwaterworld.com.sg/home.html>>

clearly a valuable visitor attraction and may join these programmes as it matures.

Resolution Conf. 5.10 states that importation of Appendix I specimens for captive-breeding purposes “must be aimed as a priority at the long term protection of the affected species” and “be part of general programmes aimed at the recovery of species and be undertaken with the help of the Parties in whose territory the species originate.” However, no further elaboration is provided. To the knowledge of the authors, no cetacean on either Appendix I or II traded internationally for the stated purpose of captive breeding has ever produced offspring that were released into the wild as part of a conservation programme—experimental or otherwise.

Appendix II includes all cetaceans not listed on Appendix I and permits exports of live specimens for commercial purposes, provided that the export permit issued by the MA is founded on the advice of the Scientific Authority (SA) that “such export will not be detrimental to the survival of the species” (the ‘non detriment finding’ or NDF).¹³ In addition, the MA must determine that the specimen “was not obtained in contravention of domestic laws for the protection of fauna and flora,”¹⁴ and will be “prepared and shipped so as to minimize the risk of injury, damage to health or cruel treatment.”¹⁵

2.2 The International Whaling Commission

The status of small cetaceans under the International Convention for the Regulation of Whaling (ICRW)¹⁶ is controversial,¹⁷ and the IWC does not regulate live-capture activities by member states. Importantly, however, the Sub-committee on Small Cetaceans of the IWC’s Scientific Committee routinely considers live-capture removals in the course of population assessments. In 1983 that committee conducted a review of populations involved in live-capture fisheries, and the conservation implications of live-capture were revisited in 1991 as part of a wide-ranging “review of significant directed and incidental catches” for the 1992 United Nations Conference on Environment and Development (see Table 1).¹⁸ No similar review has been attempted since then, nor is one planned in the immediate future.

¹³ CITES, *supra* note 4, at Article IV (2) a.

¹⁴ *Id.* at Article IV (2) b

¹⁵ *Id.* at Article IV (2) c.

¹⁶ International Convention for the Regulation of Whaling, Dec. 2, 1946, 62 Stat., 1716, T.I.A.S. No. 1849 (entered into force Nov. 10, 1948).

¹⁷ See William C. Burns, *The International Whaling Commission and the Regulation of the Consumptive and Non-Consumptive Uses of Small Cetaceans: The Critical Agenda for the 1990s*, 13 WIS. INT’L L.J. 105-143 (1994).

¹⁸ *Report of the Sub-committee on Small Cetaceans*, 42 REP. INT’L WHALING COMMISSION (1992), Annex G, 178-234; IWC, *Report of the Sub-committee on Small Cetaceans*, 34 REP. INT’L WHALING COMMISSION, Annex H, 144-160 (1984).

2.3 Convention on Migratory Species

The objective of the Convention on Migratory Species (CMS) is to conserve migratory species throughout their range on a global scale.¹⁹ Like CITES, CMS lists species on appendices according to their biological status and need for protection. For Appendix I species, CMS requires Parties that are range states to, *inter alia*, prohibit takes, although exceptions are permitted largely along the same lines as under CITES. Appendix II lists migratory species that require, or would benefit significantly from, cooperative international or regional Agreements.²⁰ Depending on the terms of any Agreement negotiated, Appendix II can afford protection as strong as Appendix I. Indeed, the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS)²¹ requires Parties not just to prohibit deliberate takes (including takes of live specimens) but to “take all necessary measures to eliminate, where this is not already done, any deliberate taking of cetaceans.”²²

2.4 National-level Protection

Several coastal states, in addition to or included within their general animal welfare or conservation laws, have strong provisions relating specifically to marine mammal protection. For example, New Zealand, Australia, and the US (all former commercial whaling nations) have adopted whale, or marine mammal, protection legislation that addresses welfare issues as well as conservation, and prohibits most forms of killing, harming, or harassing cetaceans.²³

TRANSPORT REGULATIONS

CITES addresses animal welfare only to a limited extent. For species on either Appendix I or II, the Parties must prepare and ship an animal so as to “minimize the risk of death, injury to health or cruel treatment.”²⁴ Additionally, in the case of Appendix I specimens, the importing SA must be satisfied that “the proposed recipient of a living specimen is suitably equipped to house and care for it.”²⁵

¹⁹ Convention on the Conservation of Migratory Species of Wild Animals, Bonn, 23 June 1979, printed in 19 ILM (1980), 15, 31.

²⁰ *Id.* at articles IV and V.

²¹ Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area, Monaco, 24 November 1996, printed in 36 I.L.M. 777 (1997).

²² *Id.* at article II (1)

²³ For example, New Zealand’s Marine Mammals Protection Act of 1978 prohibits any killing, harming, injuring, or harassing of cetaceans, Australia’s Environment Protection and Biodiversity Conservation Act of 1999 makes it an offence to recklessly kill, injure, or take a cetacean, and the USA’s Marine Mammal Protection Act of 1972 prohibits harassment.

²⁴ CITES, *supra* note 4, at Article IV.2 (c) and Article III.2(c)

²⁵ *Id.* at Article III.3 (b)

For air transport (the main method for international carriage of cetaceans) a shipment is deemed to comply with CITES if it meets the conditions in the Live Animal Regulations (Regulations) set by the International Air Transport Association (IATA).²⁶ Currently no such conditions exist for the transport of live animals by road, rail, or sea, which is a problem for animals in travelling exhibitions, some of which endure long overland journeys. In 2002, CITES directed its Animals Committee to develop recommendations for road, rail, and sea transport to supplement the Regulations where necessary.²⁷

The Regulations acknowledge that cetaceans “require special attention and must be accompanied by experienced handlers who understand the needs of these creatures.” Minimum standards are established, including an attendant-to-animal ratio of no less than one-to-four. Cetaceans must be carried in a watertight box that is empty of water, suspended in a stretcher (with slits for the flippers to protrude), and supported on a foam pad. No limit is placed on the duration of a journey. The Regulations recommend that heavily pregnant cetaceans not be carried except under exceptional circumstances.

Russian cetacean traders openly acknowledge that they do not use stretchers, but instead carry cetaceans on airplanes in containers of water, in a ‘swimming position’.²⁸ In one possibly extreme example, two dolphins, in 1999 including a pregnant female, died on flights during a 54 hour journey from Russia to Argentina. Argentina interpreted that the IATA regulations had been violated, confiscated the surviving animals, and suspended all imports of dolphins from the Russian Federation. The incident also led the carrier, Lufthansa, which had reportedly forbidden the handlers to accompany the animals, in the hold during take-off (when the deaths occurred), to ban carriage of wild animals for commercial purposes.

3. HISTORY AND DEVELOPMENT OF THE TRADE

The 1983 IWC review (mentioned earlier) provided a useful benchmark as it identified more than 30 species that had been subject to live capture, of which five were highlighted as deserving special attention: killer whale, short-finned pilot whale (*Globicephala macrorhynchus*), bottlenose dolphin (see below), tucuxi (*Sotalia fluviatilis*), and Commerson’s dolphin (*Cephalorhynchus commersonii*) (Table 1). In 1991 the IWC review focused on killer whales, bottlenose dolphins, and belugas or white whales (*Delphinapterus leucas*) (Table 1).

²⁶ CITES Resolution 10.21 on the Transport of Live Animals provides that a shipment must meet the CITES Guidelines for Transport and Preparation for Shipment of Live Wild Animals and Plants. For air transport a shipment is deemed to comply if it meets the IATA Live Animal Regulations. CITES Res. Conf. 10.21 available at <http://cites.org/eng/res/10/10_21.shtml>

²⁷ CITES Decision 12.85 available at <<http://cites.org/eng/dec/valid12/12-85n86.shtml>>

²⁸ E-mail from Michael Reshetnikov to Gabriela M. Bellazzi, 23 Feb. 2000.

TABLE 1. Data on live captures highlighted in reviews by the IWC Scientific Committee's Subcommittee on Small Cetaceans in 1983 and 1991.

Species	Capture Region(s)	Scale of Removals (Period)	Reference
1983 Review			
Killer whale	Washington/British Columbia; Japan; Iceland	58 (1964-76); 9 (1973-82); 39 (1976-82)	IWC (1984:148)
Bottlenose dolphin	Many areas (Mexico, New Zealand, Indonesia, Mediterranean and Black Seas, Philippines, Western Malaysia, South China Sea, Strait of Malacca, etc.); USA; Japan; Australia	?; 1,595-1,635 (1914-82); 580 (1974-82); 28+ (through 1982)	IWC (1984:149-50)
Short-finned pilot whale	Hawaii; California; Japan	20 (1963-72); 50-100 (1966-72); ? (1969-82)	IWC (1984:150)
Tucuxi	South America (mainly Colombia, also Brazil)	>50 (mid 1960s-1982)	IWC (1984:150)
Commerson's dolphin	Argentina	24 (1978-82)	IWC (1984:150)
1991 Review			
Killer whale	Washington/British Columbia; Iceland	68 (1962-77); 59 - 8 of which were released (1975-88)	IWC (1992:218-19)
Bottlenose dolphin	Florida and Gulf of Mexico, USA	527 (1973-89)	IWC (1992:219-20)
Beluga	Hudson Bay, Canada; Kara Sea; Sakhalinskiy Bay, Okhotsk Sea, Russia	73 (1967-88); 3+ (1980s?); 12 (1988-90)	IWC (1992:220-21)

At the time of those IWC reviews, most of the world's captive stock of killer whales had originated in the US, Canada, Iceland, or Japan. Over the past two decades live capture of killer whales has been prohibited in Argentina (1998) and the US (the Marine Mammal Protection Act (MMPA) prohibited takes from 1972 but National Marine Fisheries Service (NMFS) continued to issue capture permits under exemptions until 1976 when Washington State, the site of all captures, imposed its own ban). Canada has not officially banned captures, but it is unlikely that permits would be granted today. Iceland has also not officially ruled out captures but permit applications were refused in 1990, 1991, and 1994. Norway turned down an application from a Japanese oceanarium to capture six killer whales in 1999. Russia continues to permit the live capture of up to ten killer whales annually in eastern Kamchatka and the Okhotsk Sea, although only two have been taken in recent years, both in September 2003 when a juvenile died during the capture operation and a young female lived in captivity for only 23 days. Although five killer whales were caught in 1997 for domestic facilities in Japan, only two have been exported from Japan since 1980.

The killer whale continues to be regarded as the most valuable and prized holding of many display facilities throughout the world, but a large proportion of new acquisitions during the last ten years have been captive-born. Out of a total of 48 killer whales currently in captivity worldwide, 22 were wild-caught (out of a total of 135), 26 captive-born (out of 63 known pregnancies).

Few short-finned pilot whales remain in captivity outside Japan and they do not appear to be prominent in international trade (Table 2). Pilot whales, false killer whales (*Pseudorca crassidens*), and occasionally killer whales and various dolphins (in addition to relatively large numbers of bottlenose dolphins) continue to be taken in Japan's diverse drive hunts for small cetaceans and delivered either to domestic display facilities or exported.²⁹ Recent data are not readily available as Japan stopped reporting details of its small-cetacean captures and kills to the IWC in 2001.

The two South American species that were of concern in 1983 (tucuxi and Commerson's dolphin) are all but invisible in recent trade records (Table 2). Therefore, of the five species flagged for attention in 1983, only the bottlenose dolphin continues to be traded on a major scale.

CITES records, IWC reports, and other literature prior to the late 1990s/early 2000s generally referred to a single cosmopolitan species of bottlenose dolphin, *Tursiops truncatus*. More recently, a scientific consensus has emerged to recognize two partially sympatric species (species with overlapping distributions): the common bottlenose dolphin (*T. truncatus*) and the Indo-Pacific bottlenose dolphin (*T. aduncus*). Bottlenose dolphins have long been, by far,

²⁹ For example, see T. Kasuya, T. Tobayama, S. Matsui, *Review of the live-capture of small cetaceans in Japan*, 34 REP. INT'L WHALING COMMISSION 597-602 (1984).

the most common captive cetaceans globally. More than 1,500 were collected from the United States, Mexico, and the Bahamas prior to 1980³⁰ and in Japan more than 550 *T. truncatus* and nearly 60 *T. aduncus* were brought into captivity between 1963-82.³¹ By the late 1980s the United States, previously the principal source of wild bottlenose dolphins for the display industry in much of the world (excluding Japan), had essentially stopped collecting the species. Whereas in 1976 only six percent of those in North American facilities were captive-born, by 1996 this percentage had increased to 44 percent.³²

The trend towards a 'self-sustaining' captive population does not apply in the rest of the world. The demand for live-caught bottlenose dolphins has remained as strong as ever and has, in fact, increased. Mexico, which currently has 19 dolphinariums, took at least 213 individuals from its own waters between 1965 and 1983 and reported the import of 79 wild-caught animals from Cuba between 1994 and 2002 (Cuba has exported between 127 and 180 bottlenose dolphins captured in its waters since 1986).³³ The capture of at least 94 dolphins, apparently almost all of them *T. aduncus*, during a period of intense political upheaval and lawlessness in the Solomon Islands in 2003, and the export of 28 to Mexico provoked an international uproar. Opponents cited, among other things, the potential for unintentional release of exotic pathogens, as well as the danger of introducing an exotic dolphin species (*T. aduncus* do not occur in the North Atlantic Ocean) into the Caribbean Sea.³⁴ At least 40 dolphins were still reported to be held in sea pens in the Solomon Islands in October 2004.³⁵ In 2004, Guinea-Bissau declared its intention to capture and export bottlenose dolphins, although no capture is believed to have taken place. Guyana and Haiti both captured bottlenose dolphins in May 2004. The 10-14 animals from Guyana were exported to Venezuela, and seized by Venezuelan government officials. It is believed that most were subsequently released. Six survivors from the eight dolphins captured in Haiti were also released after approximately 20 days in sea pens.

In 2000 and again in 2002, CITES considered proposals to uplist Black Sea bottlenose dolphins, nominally considered an endemic subspecies (*T. truncatus ponticus*), to Appendix I. Although the uplisting, *per se*, was rejected by the Parties in 2002, they agreed to assign a zero annual export quota for live specimens taken from the wild in the Black Sea. Detailed data on removals

³⁰ S. Leatherwood, & R.R. Reeves, *Bottlenose dolphin Tursiops truncatus and other toothed cetaceans*, in WILD MAMMALS OF NORTH AMERICA: BIOLOGY, MANAGEMENT & ECONOMICS 369-414 (J.A. Chapman and G.A. Feldhamer eds., 1982).

³¹ Kasuya et al., *supra* note 29, at 598.

³² P. Corkeron, *Captivity*, in ENCYCLOPEDIA OF MARINE MAMMALS 192-97 (W.F. Perrin, B. Würsig and J.G.M. Thewissen eds, 2002).

³³ Cuba has reported the export of 127 bottlenose dolphins while importing states have reported a total of 172 imports from Cuba. Eight more were exported in 2004.

³⁴ G. Ross, et al., *Live-capture and trade of bottlenose dolphins, Solomon Islands*, 40 SPECIES 4-5 (2003).

³⁵ Press release, World Society for the Protection of Animals, 26 Oct. 2004.

from the Black Sea to stock regional and foreign facilities (for commercial, research, and military purposes) are unavailable, but numbers are certainly at least in the high hundreds since the 1960s.³⁶

Belugas have always been popular show animals. In the past most of those that were brought into captivity remained within their country of origin—the US (from Alaska), Canada, or the old Soviet Union. Today however, particularly since Canada's ban on captures for export in 1992, a brisk international trade is fuelled by the easy, relatively low-cost availability of belugas from eastern Russia. Seventy have been exported to 17 countries since 1993, with a peak of 26 in 1999, 12 of which went to Canada. Apparently, most have come from the Amur River delta although even the most basic information about the capture operations—such as how many animals are taken, how many accidentally die or get injured, and how many are finally exported each year—has proven difficult to obtain from Russian authorities. The IWC Scientific Committee, noting reports of live-capture quotas set by Russia for belugas and killer whales, has repeatedly emphasized the need for such information as well as assurance that the research necessary to assess potential impacts has been carried out.³⁷ In the case of belugas, the ongoing scale of removals by hunting in Canada, Greenland, and Alaska (>1,500 animals killed/year) makes the volume of live captures comparatively trivial.³⁸

4. REPORTING AND REGULATORY ISSUES

As with any international convention, CITES has experienced a variety of problems with implementation of its procedures for reporting and regulating trade.

4.1 Reporting Problems

Like evaluations of the impact of international trade conducted by CITES,³⁹ this article is informed by data from Annual Reports submitted by Parties and collated by WCMC. Such tabulations are vital for assessing the scale of trade in CITES-listed species and monitoring implementation of the Convention (see Res. Conf. 11.17). However, we were frustrated to find widespread discrepancies in the tables provided by WCMC. These illustrate a series of common departures from the Guidelines for Preparing and Submitting CITES Annual Reports (Guidelines) that WCMC recently highlighted in its *Guide*

³⁶ A.A. Birkun, Jr., *The current status of bottlenose dolphins (Tursiops truncatus) in the Black Sea*, Unpublished document submitted to IWC Scientific Committee, SC/55/For Information 16 (2003).

³⁷ See IWC, *Annex K. Report of the Sub-committee on Small Cetaceans*, 5 J. CETACEAN RES. & MGMT. (Supp.) 362-381 (2003).

³⁸ See IWC, *Annex I. Report of the Sub-committee on Small Cetaceans*, 2 J. CETACEAN RES. & MGMT. (Supp.) 235-263 (2000).

³⁹ For example, the Review of Significant Trade, a programme of the Animals and Plants Committees

*to Interpreting Outputs from the UNEP-WCMC CITES Trade Database.*⁴⁰ (Unless stated otherwise, we refer only to reported exports and do not consider re-exports of the same individuals.)

Most significantly, we found that reported exports rarely correspond with reported imports. Although we did not expect the data to match precisely in any given year, we did expect greater congruence between imports and exports over time. However, while 895 individual live cetaceans were reported exported between 1979 and 2002, only 637 (71 percent) were reported imported. For four species (common dolphin, Commerson's dolphin, Irrawaddy dolphin, and killer whale), more imports than exports were reported, while for four others (bottlenose dolphin, beluga, Pacific white-sided dolphin, and false killer whale), the opposite was true. Only trade reports for the Indo-Pacific hump-backed dolphin matched precisely, which is not surprising since only two transactions involving that species were recorded. For both the bottlenose dolphin and beluga approximately 1.5 times more exports than imports were reported. Tables 2 and 3 show reported exports and imports for each species.

WCMC suggests several reasons for discrepancies in comparative tables, including that some parties base their reports on the number of permits issued rather than the number of specimens actually traded, submit annual reports late, or use the wrong source code (see below). While such practices undoubtedly account for some of the discrepancies, another likely explanation is simply failure to report, either at all or with regard to specific transactions.⁴¹ For example, Russia reported exporting 27 belugas to seven CITES Parties between 1993 and 2002, but no imports were reported.

As WCMC notes, "information on the source of the material, e.g. wild-caught or bred in captivity, and the purpose of the trade, e.g. for commercial or non-commercial purposes, is sometimes lacking or used in a different way by trading partner countries." This is certainly true with live cetaceans: Out of 895 cetaceans exported between 1979 and 2002, source codes were reported for only 536 transactions (59.9 percent; Table 4). The majority (84 percent) of animals for which a source code was given were wild caught (W). It is reasonable to assume that a large proportion of the transactions for which no source code was reported also involved wild-caught dolphins.

Use of the wrong source code has particularly serious implications for Appendix I species, where the origin and purpose of the importation can define the legality of the trade. Both factors are illustrated by the importation to Singapore of six Indo-Pacific hump-backed dolphins from Thailand in 1999 (*see above*). The source code recorded on the permits indicated 'bred

⁴⁰ <<http://sea.unep-wcmc.org/citestrade/docs/guide.pdf>>.

⁴¹ The reporting of 14 Parties (representing just over 10 percent of the total) was at least three years in arrears at the time of the 50th Standing Committee.

TABLE 2. Exports of cetaceans by country (1979-2002). Corresponding imports reported by the declared importing countries are shown in brackets.

Exporter	Beluga	Common dolphins	Commerson's dolphin	Pacific white-sided dolphin	Irrawaddy dolphin	False killer whale	Killer whale	Indo-Pacific-humpbacked dolphin	Bottlenose dolphins	Total
Argentina			0 (5)						1 (2)	1 (7)
Australia									2 (0)	2 (0)
Bahrain									0 (3)	0 (3)
Bulgaria									9 (3)	9 (3)
Brazil									2 (2)	2 (2)
Canada	30 (23)			1 (0)			7 (3)		7 (0)	45 (26)
Chile			12 (18)							12 (18)
China		1 (0)							0 (2)	1 (2)
Cuba									127 (172)	127 (172)
El Salvador									4 (0)	4 (0)
France							1 (0)			1 (0)
Germany							0 (1)			0 (1)
Guatemala									20 (1)	20 (1)
Honduras									4 (4)	4 (4)
Hong Kong						0 (3)			0 (22)	0 (25)
Iceland							0 (8)			0 (8)
Indonesia									126 (80)	126 (80)
Jamaica		0 (2)								0 (2)
Japan				16 (13)		48 (43)			53 (47)	117 (103)
Malaysia									0 (2)	0 (2)
Mexico									28 (29)	28 (29)

TABLE 2. *Continued.*

Exporter	Beluga	Common dolphins	Commerson's dolphin	Pacific white-sided dolphin	Irrawaddy dolphin	False killer whale	Killer whale	Indo-Pacific-humpbacked dolphin	Bottlenose dolphins	Total
Monaco									0 (1)	0 (1)
Netherlands Antilles		1 (0)								1 (0)
Nicaragua									2 (0)	2 (0)
Peru									3 (3)	3 (3)
Philippines									8 (4)	8 (4)
Portugal									2 (0)	2 (0)
Russian Federation (including Soviet Union)	70 (42)								133 (15)	203 (57)
Saudi Arabia	1 (0)								2 (4)	3 (4)
Spain							0 (1)			
Switzerland									2 (0)	2 (0)
Thailand					3 (7)			6 (6)		9 (13)
"The sea"									0 (4)	0 (4)
Uruguay									2 (0)	2 (0)
USA			3 (0)				1 (0)		151 (56)	155 (56)
US Min. Out. Is.		0 (5)								0 (5)
Venezuela		2 (7)	15 (23)	17 (13)	3 (7)	48 (46)	9 (13)	6 (6)	6 (1)	6 (1)
Total	101 (65)	2 (7)	15 (23)	17 (13)	3 (7)	48 (46)	9 (13)	6 (6)	694 (457)	895 (637)

Source: UNEP-WCMC.

TABLE 3. Imports of cetaceans by country (1979-2002), as reported by exporter. Imports reported by importer shown in brackets.

	Beluga	Common dolphins	Commerson's dolphin	Pacific white-sided dolphin	Irrawaddy dolphin	False killer whale	Killer whale	Indo-Pacific humpbacked dolphin	Bottlenose dolphins*	Total
Anguilla									6 (0)	6 (0)
Argentina	4 (0)								21 (1)	25 (1)
Aruba									3 (0)	3 (0)
"Asia"									7 (0)	7 (0)
Austria									1 (0)	1 (0)
Bahamas									0 (6)	0 (6)
Bahrain	1 (0)								5 (0)	5 (0)
Belgium									5 (4)	6 (4)
Bermuda									7 (0)	7 (0)
Brazil									3 (0)	3 (0)
British Virgin Islands									4 (0)	4 (0)
Canada	14 (12)		3 (0)				1 (0)		53 (19)	71 (33)
Chile				0 (2)					12 (0)	12 (0)
China	4 (4)	0 (2)				3 (6)			60 (100)	67 (112)
Colombia									1 (5)	1 (5)
Costa Rica									4 (2)	4 (2)
Cyprus									4 (4)	4 (4)
Denmark									4 (4)	4 (4)
Dominican Republic									10 (12)	10 (12)
Ecuador									3 (4)	3 (4)
Egypt	6 (0)								19 (0)	25 (0)
El Salvador									2 (0)	2 (0)
France							0 (2)		3 (10)	3 (12)
Former Yugoslavia/ Montenegro									11 (0)	11 (0)

TABLE 3. *Continued.*

	<u>Beluga</u>	<u>Common dolphins</u>	<u>Commerson's dolphin</u>	<u>Pacific white-sided dolphin</u>	<u>Irrawaddy dolphin</u>	<u>False killer whale</u>	<u>Killer whale</u>	<u>Indo-Pacific humpbacked dolphin</u>	<u>Bottlenose dolphins*</u>	<u>Total</u>
French Polynesia									6 (0)	6 (0)
Germany			0 (6)						28 (17)	28 (23)
Greece									6 (0)	6 (0)
Guatemala									6 (4)	6 (4)
Honduras									12 (0)	12 (0)
Hong Kong						13 (19)			34 (22)	52 (52)
India				5 (11)					3 (3)	3 (3)
Indonesia									6 (12)	6 (12)
Israel									12 (0)	12 (0)
Italy									5 (11)	5 (11)
Jamaica									6 (8)	6 (8)
Japan	25 (12)		0 (17)		3 (3)		1 (3)		19 (2)	29 (35)
South Korea				3 (0)		4 (0)			5 (0)	26 (2)
Kuwait	1 (0)									6 (0)
Iran	3 (0)									3 (0)
Indonesia						0 (3)				0 (3)
Israel	2 (0)									2 (0)
Lithuania									10 (0)	10 (0)
Malaysia									2 (6)	2 (6)
Mexico	2 (2)						1 (0)		72 (79)	75 (81)
Monaco		1 (0)								1 (0)
Netherlands		1 (0)				3 (3)			8 (1)	12 (4)
Norway									4 (4)	4 (4)
Panama									2 (0)	2 (0)
P. N Guinea									2 (0)	2 (0)
Paraguay									2 (0)	2 (0)

TABLE 3. *Continued.*

	<u>Beluga</u>	<u>Common dolphins</u>	<u>Commerson's dolphin</u>	<u>Pacific white-sided dolphin</u>	<u>Irrawaddy dolphin</u>	<u>False killer whale</u>	<u>Killer whale</u>	<u>Indo-Pacific humpbacked dolphin</u>	<u>Bottlenose dolphins*</u>	<u>Total</u>
Peru									2 (0)	2 (0)
Philippines									14 (6)	14 (6)
Pitcairn									2 (0)	2 (0)
Portugal									14 (12)	14 (12)
Romania									3 (0)	3 (0)
Spain									45 (46)	45 (46)
Saudi Arabia	1 (0)								9 (6)	10 (6)
Singapore					0 (4)			6 (6)		6 (10)
Sweden									6 (0)	6 (0)
Switzerland							0 (1)		4 (15)	4 (16)
Syria									4 (0)	4 (0)
Thailand	0 (10)					2 (0)			28 (8)	30 (18)
Turkey									0 (8)	0 (8)
UAE	3 (0)								11 (3)	14 (3)
Ukraine	3 (0)								21 (0)	24 (0)
UK							0 (3)		4 (7)	4 (10)
USA	29 (22)	0 (5)	12 (0)	1 (0)		23 (15)	6 (4)		17 (4)	88 (50)
Venezuela									2 (2)	2 (2)
Vietnam	3 (0)								10 (0)	13 (0)
Yemen	0 (3)									0 (3)
Unknown				8 (0)						8 (0)
Total	101 (65)	2 (7)	15 (23)	17 (13)	3 (7)	48 (46)	9 (13)	6 (6)	694 (457)	895 (637)

*For the common dolphins and bottlenose dolphins, two species could be involved: *D. delphis* or *D. capensis*, and *T. truncatus* or *T. aduncus*, respectively. Source: UNEP-WCMC.

TABLE 4. Source codes of reported exports (1979-2002)

	Not reported	Wild	Bred in captivity in accordance with Res. Conf. 10.16 (rev)		Pre-convention	Bred in captivity but not in compliance with Res. Conf. 10.16 (rev)		Unknown	Total
Commerson's dolphin	12		3						15
Beluga	32	69							101
Common dolphin	2								2
Pacific white-sided dolphin	16	1							17
Irrawaddy dolphin		3							3
Killer whale	5	1	3						9
False killer whale	43	5							48
Indo-Pacific hump-backed dolphin		4					2		6
Bottlenose dolphins	249	367	50		2		8	18	694
Total	359	450	56		2		10	18	895

TABLE 5. Reported exports of live cetaceans by year (reported imports are in brackets)

	Beluga	Common dolphins	Commerson's dolphin	Pacific white-sided dolphin	Irrawaddy dolphin	False killer whale	Killer whale	Indo-Pacific humpbacked dolphin	Bottlenose dolphins	Total
1979									3 (0)	3 (0)
1980			0 (5)				0 (1)		13 (5)	13 (11)
1981							2 (3)		10 (10)	10 (13)
1982									8 (13)	8 (13)
1983			12 (0)	0 (4)		4 (12)			9 (1)	25 (17)
1984	8 (0)		0 (1)	8 (4)					15 (3)	31 (8)
1985	4 (4)			4 (0)					27 (9)	38 (16)
1986		1 (0)				2 (0)	1 (3)		16 (10)	25 (11)
1987	7 (7)		0 (17)	4 (3)		6 (0)	2 (1)		30 (31)	61 (82)
1988	5 (5)	0 (5)				20 (23)	0 (1)		10 (19)	17 (30)
1989	2 (2)					1 (1)			10 (6)	16 (12)
1990						4 (4)			25 (22)	27 (24)
1991	2 (0)					2 (0)	0 (2)		26 (4)	30 (4)
1992	4 (4)	1 (0)				2 (0)	1 (1)		16 (3)	24 (8)
1993	4 (0)					2 (0)	1 (0)		36 (9)	41 (9)
1994				1 (0)			0 (1)		41 (32)	42 (33)
1995		0 (2)			3 (3)				44 (25)	47 (30)
1996									44 (27)	44 (27)
1997	2 (1)		3 (0)			2 (0)			53 (38)	60 (39)
1998	12 (6)					3 (3)			63 (29)	78 (38)
1999	26 (16)				0 (4)	0 (3)		6 (6)	61 (39)	93 (68)
2000	13 (3)								61 (45)	74 (48)
2001	12 (4)			0 (2)			1 (0)		36 (29)	49 (35)
2002	0 (13)						1 (0)		33 (48)	34 (61)
Total by species	101 (65)	2 (7)	15 (23)	17 (13)	3 (7)	48 (46)	9 (13)	6 (6)	694 (457)	895 (637)

in captivity.’ In fact, only two of the six animals were born in captivity. The Singapore Management Authority, the Agri-food and Veterinary Authority (AVA), claimed that ‘the mistake’ had arisen because the importing facility, Underwater World (UWS), failed to fill in the source field on the permit application form.⁴² Elsewhere, the AVA stated that according to a letter from UWS, “a number of the dolphins it intended to acquire [had been] bred in captivity within Oasis Sea World,” and all of them had been held there for at least three years. “Based on this letter and the application form, the officer processing the permit made a clerical mistake by stating all six dolphins as captive-bred [sic].”⁴³

Singapore’s Minister of State and the AVA claimed that acquisition of the dolphins did not contravene CITES since they were “brought in for educational and breeding purposes, not trading.” In fact, neither import nor export permit defined the purpose as ‘captive breeding’: Thailand recorded ‘education,’ Singapore recorded ‘zoos.’

Another obstacle to obtaining full trade data about the cross-border movement of CITES specimens, albeit not one specifically raised by WCMC, is the exemption from permit requirements of captive-bred or pre-convention specimens in travelling exhibitions. Tracking these animals is made harder by the fact that each specimen’s certificate of captive-bred or pre-convention status must be kept with the animal as it travels and is not collected at each border. This means that importing states have no paperwork on which to base their annual reports and suggests that reported trade in animals travelling in circuses and other exhibitions is lower than the actual numbers involved.

We are also concerned that a significant number of animals in travelling shows are wild-caught, suggesting a lack of understanding of, or respect for, the regulations. Between 1979 and 2002, 12 countries reported the export of 117 wild-caught bottlenose dolphins for circuses or travelling shows. The Russian Federation appears to be the main source of animals for this trade in recent years. Since 1997, it has recorded the export of 66 bottlenose dolphins and 33 wild-caught belugas for travelling shows. It is noteworthy that these figures represent only original exports, not re-exports of animals in shows that return to their state of origin before travelling again.

If these examples involving cetaceans are at all indicative, one cannot escape the conclusion that non-compliance with CITES reporting rules is a widespread, serious problem.

⁴² AVA admits 4 Underwater World dolphins are wild, Yvonne Cheong, CHANNEL NEWSASIA, 5 February 2004.

⁴³ Statement of Ms. Lye Fong Keng, head of AVA’s Wildlife Regulatory Branch reported in “Watchdog says four of six sea mammals not captive-born,” Todayonline.com, 6 Feb. 2004 at <<http://www.todayonline.com/articles/13991.asp>>.

4.2 Non-detriment findings

In response to several recent headline-grabbing reports of large-scale live captures of dolphins for the international market, concern has focused on the scientific credibility of non-detriment findings (NDFs).⁴⁴ In most, if not all, of those instances where dolphins have been removed from poorly studied populations, no credible NDF could have been made and therefore it can be argued that the export permits were invalid and the trade was in violation of the convention. However, several points need clarification by the Parties before the failure to make a scientifically robust NDF can be investigated and addressed as an enforcement issue and not, as tends to be the case currently, attributed to a lack of scientific capacity and thus simply tolerated.

To begin with, the standard of evidence to which an exporting state should be held needs to be clarified. For example, does the state have an affirmative obligation to initiate collection of the necessary data, or can it rely on existing information, however meagre? Can importing states ‘look behind’ an export permit if they have reason to question its validity? (Two recent court cases have reached different conclusions.) Further, where the validity of a NDF is disputed, is the burden of proof on the exporting state to demonstrate compliance with Article IV, or the complainant to show non-compliance? Other outstanding questions concern the population unit against which detriment should be measured (e.g. the entire species or the geographical population involved) and whether an exporting state has a duty to assess only the impact of the *export* in question, or whether it should also consider the whole context of the *removal*.

Biodiversity embraces more than species and must be understood to include units below the species level, e.g. subspecies, regional variants, and disjunct populations living in different kinds of habitat or climatic conditions. Indeed, CITES (Article 1) defines ‘species’ as including subspecies and ‘geographically separate’ populations. In the case of widely distributed animals, even if the species is the lowest taxonomic unit listed in the Appendix, ‘detriment’ should be considered not only in relation to the global status of that species but rather also in relation to the local or regional populations that stand to be affected by removals for export. Moreover, live capture removals need to be considered in the wider context that includes other types of threats to species and populations. CITES Guidelines in fact uphold this principle explicitly, stating that the NDF “should never be taken out of context from other impacts and conservation benefits impinging on the species.”⁴⁵

⁴⁴ Ross et al., Report of a Fact-finding Visit to the Solomon Islands, 9-12 September 2003. IUCN/SSC Cetacean and Veterinary Specialist Groups. Available at <<http://www.iucn-vsg.org/Solomons%20Report%20VSG-CSG.pdf>>.

⁴⁵ CITES Information Document 11.3, CITES Scientific Authorities Checklist to Assist in Making Non-Detriment Findings For Appendix II Exports, Doc Inf. 11. 3 available at <<http://cites.org/eng/cop/11/info/03.pdf>>

By ‘other impacts,’ CITES surely must have had in mind the multiple, possibly synergistic threats faced by populations at local and regional levels. Coastal populations of dolphins and small whales in source areas such as Japan, Southeast Asia, West Africa, parts of the Caribbean, and Russia are threatened by, among other things, fishery bycatch, hunting, habitat loss and degradation, and chemical and noise pollution. However difficult it may be to measure and assess some of those factors, they cannot be ignored or dismissed out of hand. Nor can the fact that live-capture operations themselves may have complex effects on these social animals, ranging from hidden mortality (accidental drowning, orphaning of calves) to loss of ‘cultural capital’ (e.g. accumulated knowledge on how to find and catch prey in a particular environment).

5. CONSERVATION CONCERNS

Live-capture activity can be assessed in two ways—either by identifying regional ‘hotspots’ where trade originates or where the greatest demand for animals resides, or focusing on animal species and populations at greatest risk, whether because of *what is known* or *how little is known* about their status. We have organized this discussion around those two alternatives.

5.1 Regional Hotspots

Over the past few decades, the principal source regions for several species have shifted away from the southeastern United States/Taiwan (bottlenose dolphins), Washington/British Columbia/later Iceland (killer whales), and Alaska/Hudson Bay (belugas). In recent times, Cuba, Russia, and the Ukraine have been major suppliers of bottlenose dolphins, while Russia has become the main source of captive belugas. Japan continues to be largely self-reliant, supplying domestic facilities with animals taken from drive hunts, but also continuing to engage in trade (both incoming for belugas and Irrawaddy dolphins and outgoing for false killer whales and bottlenose dolphins). Similarly, Indonesia continues to supply its own three dolphinariums whilst exporting, at least occasionally, mostly bottlenose dolphins in recent years.⁴⁶ The demand for wild-caught live cetaceans appears to have declined substantially in western Europe, the United States, Canada, Australia, and New Zealand, whereas it has increased dramatically in many other parts of the world, notably Latin America (including Mexico and the West Indies), the Middle East, China, and Southeast Asia. Based on information assembled by Isabel Beasley, there were

⁴⁶ See W.F. Perrin et al., *Report of the Second Workshop on the Biology and Conservation of Small Cetaceans and Dugongs of South-east Asia*, Silliman University, Dumaguete, Philippines, 24-26 July 2002, Convention on Migratory Species Technical Series Publication 9 (2005).

more than 40 cetacean display facilities in Japan, close to 20 in China, four in Vietnam, and three each in Taiwan and Vietnam, with ‘many more’ under construction or in planning stages.⁴⁷ Russia and Ukraine have eight dolphins each, as well as various seasonal display and ‘swim-with’ operations.⁴⁸ The rising global demand is fuelled by a combination of new or expanded display facilities, the enormously popular ‘swim-with-the-dolphins’ offerings at holiday resort hotels, and various other interactive programs, some of which involve ‘dolphin-assisted therapy’.

Of special interest and concern is that there seems to be a close correlation between local economic desperation (often a result of civil strife, poorly managed resource exploitation, or geographic/climatic isolation) and the level of interest in selling wild cetaceans for profit. This pattern is not unfamiliar, of course. Pet shops, zoos, and private collections around the world are stocked with organisms caught by people in marginal circumstances who willingly obliged animal-trade entrepreneurs who took advantage of lax enforcement, or non-membership, of CITES. The incentives for dealing in cetaceans are obvious, given press reports that captive display facilities pay in the region of \$50,000 for an untrained bottlenose dolphin.⁴⁹

5.2 Vulnerable Species and Populations

The expansion of live-capture operations could be “contributing to the depletion of some local populations” in Southeast Asia, especially those in nearshore and riverine waters.⁵⁰ We are most concerned about Irrawaddy dolphins, Indo-Pacific hump-backed dolphins and Indo-Pacific bottlenose dolphins, all of which are popular display animals because of their appearance, behaviour, and relative hardiness.⁵¹ They all have disjunct populations, some of which are small, and these dolphins, like other small cetaceans, are vulnerable to entanglement in fishing gear.

In the case of Irrawaddy dolphins, five populations (Mahakam River, Ayeyarwady River, Songkhla Lake, Mekong River, and Malampaya Sound)

⁴⁷ I. Beasley, S. Chooruk, N. Piwpong, *The status of the Irrawaddy dolphin, Orcaella brevirostris, in Songkhla Lake, southern Thailand*, 10 RAFFLES BULL. ZOOLOGY, Supplement 75-83 (2002); R.R. Reeves, *Does the live-animal trade threaten cetacean populations in Southeast Asia?*, 39 SPECIES 4-5 (2003).

⁴⁸ Birkun, *supra* note 36.

⁴⁹ Sally Kestin, *Captive marine animals can net big profits for exhibitors*, FLA. SUN-SENTINEL, May 18, 2004, <<http://www.sun-sentinel.com/news/sfl-dolphins-moneydec31.story>>; U.S. investigates dolphin sales by Cuba, MIAMI HERALD, Feb. 17, 2002.

⁵⁰ Reeves, *supra* note 47.

⁵¹ For example see Tas'an & S. Leatherwood, *Cetaceans live-captured for Jaya Ancol Oceanarium, Djakarta, 1974-1982*, 34 REP. INT'L WHALING COMMISSION 485-89 (1984); R. Reeves et al., *Survivorship of odontocete cetaceans at Ocean Park, Hong Kong, 1974-1994*, 11 ASIAN MARINE BIO. 107-124 (1994).

have been listed by IUCN Red List as Critically Endangered. Live captures from the Mahakam population in Indonesia have occurred in the past and more capture attempts can be expected.⁵² Unknown numbers of both Irrawaddy dolphins and hump-backed dolphins have been taken in Thailand since the mid-1980s to supply domestic display and research facilities.⁵³ Eight Irrawaddy dolphins from Cambodia were exported to Thailand in 1994 and another eight (plus 12 hump-backed dolphins) were taken in Cambodia in 2002 to supply a casino resort on the Thailand/Cambodia border.⁵⁴ In addition, a Japanese ‘therapist’ announced plans to capture Mekong animals and develop a centre in Cambodia for treating mentally or emotionally handicapped children through ‘dolphin-assisted therapy.’⁵⁵

Less is known about the status of Indo-Pacific hump-backed dolphins, except in Hong Kong where a population of about 1,500 has been studied intensively.⁵⁶ Although some animals have been held in Thailand, Cambodia, Singapore, and Australia, these dolphins remain poorly known in most respects. During a review of the genus *Sousa* in 2002, the IWC Subcommittee on Small Cetaceans noted that at least 45 dolphins (*Sousa* and *Orcaella*, combined) had been live-captured in the Gulf of Thailand “for the oceanarium trade” and, somewhat mysteriously, “additional mortality post-capture is of concern.”⁵⁷

For each of these species, and for many local populations of more abundant ones, either estimates are available but indicate that numbers are too low to justify removals for international trade, or no population estimates exist. Even when an estimate is available, it needs to be regarded as only one necessary element in a proper assessment. As a general principle, animals should not be captured or removed unless their specific population has been assessed and it has been determined that proposed removals will not reduce the population’s long-term viability or compromise its role in the ecosystem. Importantly, such an assessment (which needs to include delineation of stock boundaries, abundance, reproductive potential, mortality, and trends) “cannot be achieved quickly or inexpensively, and the results should be reviewed by an independent group of scientists before any captures are made.”⁵⁸

⁵² B.D. Smith & T.A. Jefferson, *Status and conservation of facultative freshwater cetaceans in Asia*, 10 RAFFLES BULL. ZOOLOGY (Supp.) 173-87 (2002).

⁵³ A.M. Smith, *Prisoners in paradise*, 6 SONAR 14-15 (1991).

⁵⁴ Perrin et al., *supra* note 46 at 20.

⁵⁵ Isabel Beasley, personal communication, 7 Feb. 2004.

⁵⁶ T.A. Jefferson, *Population biology of the Indo-Pacific hump-backed dolphin in Hong Kong waters*, 64(4) WILDLIFE MONO. 1-65 (2000).

⁵⁷ See IWC, *Annex K. Report of the Sub-committee on Small Cetaceans*, 5 J. CETACEAN RES. & MGMT. (Supp.) 367 (2003).

⁵⁸ Reeves et al. *supra* note 5 at 17

6. RECOMMENDATIONS

6.1 Increased transparency and rigour in CITES non-detriment findings

The current practice of not requiring an exporting state to supply a copy of the NDF to the importing Party and relevant expert bodies effectively precludes independent evaluation, and at the same time places an extraordinary (and probably unrealistic) burden on the Secretariat. A more open process would facilitate expert input and increase the credibility of CITES as a conservation instrument. Therefore, CITES should direct Scientific Authorities to make copies of NDFs (including the completed Checklist and any other supporting information and documentation that led to the findings) routinely available to the importing state and to the Secretariat who would, in turn, provide them to other Parties and relevant expert bodies upon request. We also urge the Parties to

1. specify rigorous parameters for conducting and verifying NDFs;
2. adopt compliance measures; and
3. resolve that NDFs must be based on reliable, recent (and ideally peer-reviewed) survey data, and take into account biological factors, the life history stage, and reproductive potential of the specimens to be traded, the level of domestic use for subsistence and commercial purposes, the extent of illegal trade, and the effects of other known or likely threats.

Finally, we recommend that Parties be required to designate and properly train an individual in each Scientific Authority who is legally responsible for ensuring that NDFs are properly conducted and who will act as a contact point.

6.2 Improved reporting by both source and recipient countries

Trade reporting is a fundamental responsibility of countries that accede to CITES. Whatever the reason(s), reporting of cetacean trade has been far from complete and fraught with inconsistencies. As a result, Parties that strive to provide full and accurate statistics stand to be judged unfairly while those that fail to meet their reporting responsibilities are not held to account for their actions. Such a situation is unacceptable as it undermines the Convention's legitimacy and effectiveness. We support the compliance mechanism established by Decision 11.89 for the Standing Committee to address late or non-submission of annual reports. To complement this process, we recommend that the Parties also establish a process for dealing with the quality of data provided in annual reports, taking into account the issues recently raised by WCMC. We particularly urge CITES to consider how to ensure full

reporting of trade in animals accompanied by certificates, for which export permits are not granted.

6.3 Greater clarity about source codes

We recommend that WCMC issue guidelines to explain, with examples, the use of the various source codes and, in particular, the different source codes relating to captive-bred animals.

6.4 Genetic (or equally unequivocal) tagging of individual animals brought into captivity

Although it is often possible for oceanarium staff and observant repeat visitors to distinguish between individual dolphins or whales in a given facility, the morphological and behavioural differences are generally too subtle to be noticed by non-specialists. Therefore, people responsible for enforcement of trade measures, transport regulations, and facility management need a simple, reliable means of identifying and monitoring individual cetaceans. CITES recommends that Parties use implantable transponders bearing permanent, non-programmable, unalterable, and permanently unique codes for the identification of live animals.⁵⁹ Either this or some other marking method (e.g. genetic fingerprinting, photo-identification, tattooing, etc.) should be developed for standard application to cetaceans in captivity.

6.5 Complete protection (CITES Appendix I listing) for Endangered or Critically Endangered species and populations

CITES placed the Irrawaddy dolphin on Appendix I in 2004, primarily in response to concerns regarding the five Critically Endangered populations. Because dolphins belonging to different populations of the same species often look alike, the default approach should be to list species such as the Irrawaddy dolphin in Appendix I and then to consider downlisting proposals population-by-population as adequate data become available. Several additional species and populations of small cetaceans should be considered for Appendix I status. Of greatest concern are those affected by trade that

1. have limited distributions in rivers, estuaries or near-shore environments;
2. exist in low numbers; and
3. are already subject to hunting, bycatch in fisheries, habitat degradation, and other threats.

These might include some populations of bottlenose dolphins, killer whales, and belugas.

⁵⁹ CITES Resolution 8.13 (Rev) Use of coded-microchip implants for marking live animals in trade, CITES Res. Conf. 8.13 (rev) available at <<http://cites.org/eng/res/08/08-13.shtml>>