

Animals and Society Institute



Dolphin-Human Interaction Programs: Policies, Problems And Alternatives

POLICY PAPER

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1. Executive Summary

For ages, people have welcomed dolphins into their lives and culture. To the Minoans, as far back as 2000 B.C., dolphins were symbols of joy and music. Centuries later the ancient Greeks and Romans included dolphins prominently in their mythology, art, and literature. Once deified by ancient cultures, dolphins remain among the most celebrated animals in popular culture today.

The legacy of human fascination with dolphins and the wide public support for the protection of marine mammals factored largely in the creation of the Marine Mammal Protection Act of 1972 (MMPA). The MMPA is the primary legal vehicle for regulating human activities that may have an impact on marine mammals, including dolphins and their habitats in the United States. Its aim is not just to conserve dolphin species, but to protect populations as well, and even to guard individual dolphins from human *takings* in the wild. Although significant exceptions apply, *taking* means generally “to harass, hunt, capture, or kill” any marine mammal. While hunt, capture and kill are fairly straightforward terms, a good deal of controversy surrounds the definition of *harassment* under the MMPA. The conflict over just what constitutes harassment has resulted in a continuing battle over policy changes related to dolphin protection in the wild, particularly when it comes to human interaction with dolphins.

Although dolphins in the wild are protected by the MMPA, activities pertaining to those in captivity are regulated by the Animal Welfare Act (AWA) and, as such, subject to different standards. It is a bold regulatory line of demarcation that divides dolphins living in their natural habitat from captive dolphins; generally, the concept of harassment does not extend to dolphins in captivity. However, in this paper we explore the question of harassment in terms of both free-ranging dolphins and those in captivity, particularly in terms of the captive display industry’s patent exemption from provisions of the MMPA.

We examine dolphin protection policy, particularly the question of harassment, as it pertains to recreational human-dolphin interactions both in the wild and in captivity. To understand such interactions and their implications, current scientific understanding of dolphin physiology, psychology and sociology is considered, as well as current and historical aspects of law, policy and practice. Several questions are addressed here: Why have existing (and proposed) regulations

regarding dolphin harassment come under attack in recent years? What does the best available evidence tell us about dolphins, and how might that inform the term *harassment* under the MMPA? And finally, how ought U.S. law and policy direct the management of commercial dolphin-human interactions? We conclude that current policy measures are inconsistent and deficient, and we offer alternative practices and policies to better advance the future well-being of both humans and dolphins.

2. Scope of Interaction Policy, Assumptions, and Terminology

Human interactions with dolphins range from the positive, such as small-scale cooperative fishing endeavors, to the adverse (tuna fishing-related dolphin deaths in the eastern tropical Pacific Ocean, for example). There are many other examples of direct dolphin-human interactions today, many of which are controversial. These include interactions with lone sociable dolphins; military use of dolphins; scientific research using dolphins; dolphin watching and feeding ventures; fishers who compete with dolphins for resources; rescue, rehabilitation, and (sometimes) release of stranded dolphins; public display of dolphins; dolphin-assisted therapy; and swim-with-dolphins programs. For purposes of the current discussion, we limit our focus to recreational dolphin-human interaction programs and the law, policy and politics that relate to such programs, particularly the idea of dolphin *harassment*. These interactions include the experience of simply viewing dolphins at marine theme parks or public display settings to the more active swim-with-dolphin programs both in captivity and with free-ranging dolphins in the open sea, as well as participation in dolphin-assisted therapy.

We consider all dolphins to be wild animals whether they are confined to captivity or living in the open seas. Nonetheless, in this text, the term “wild” is sometimes used to refer to free-ranging dolphins or a natural, open-ocean environment (versus a human-controlled environment).

Additionally, the terms “captivity,” “dolphinsarium,” “aquarium,” “marine park,” and “captive display facility” are used interchangeably to denote human-controlled environments—including pools or natural sea pens—where dolphins are kept for display purposes.

Dolphins are members of the order Cetacea, those marine mammals comprising dolphins, porpoises, and whales. Because we consider the level of analysis here to be equally applicable to all dolphin species, the term “dolphin” refers to all types of dolphins. As the species most often found in captivity, this discussion primarily involves bottlenose dolphins (*Tursiops truncatus*), although other species are also found in captivity, including the largest of the dolphins, orcas—also known as killer whales (*Orcinus orca*). Our analysis also touches upon free-ranging dolphins of

various species, including bottlenose dolphins, spinner dolphins (*Stenella longirostris*), when discussing regulatory proposals relating to dolphin-human interactions in Hawaii, and those wild orcas targeted by regulatory proposals involving the waters around the Pacific Northwest.

3. Contemporary Dolphin-Human Interactions

3.1 Dolphins on Display

In today's world, the easiest way for most people to view and sometimes interact with dolphins is to visit an aquarium that displays dolphins to paying visitors. Although largely taken for granted, given the ubiquity of marine parks like SeaWorld, the human practice of keeping dolphins in a captive environment is a recent phenomenon. Popular "dolphin shows," now routine displays of dolphins jumping and flipping at a human trainer's command, only first emerged during the mid-twentieth century. It was not until 1938, with the opening of Marine Studios (later renamed Marineland of Florida), that the public display industry as we know it today emerged in St. Augustine, Florida. As of 2000, there were an estimated 60 facilities in 17 countries holding around 650 dolphins in captivity (Reynolds et al., 2000). We believe that is a very conservative estimate and the actual number of dolphins in captivity around the world currently is considerably higher than that. There are dozens of facilities with multiple dolphins in other countries (e.g., Japan, Mexico, regions in the Caribbean, China) and little is known about the number of dolphins held in these places.

The ever-increasing popularity of dolphin aquariums, or dolphinariums, signals the continued widespread fascination with dolphins today. These days, more people visit aquariums every year than they do zoos,ⁱ despite the average admission fee at aquariums being more than twice that of the average zoo (2003 *Cultural Attraction Attendance Report*). The success of dolphinariums is astounding: in the United States alone, more than 50 million people are estimated to have visited captive dolphin facilities in 2003, where they spent more than \$1 billion (Kestin, 2004a).ⁱⁱ And few animals, wild or domestic, have the money-earning draw of cetaceans; a single captive dolphin can generate revenues of \$1 million per year (Kestin, 2004b).

These days, dolphinariums promote far more than the typical show of dolphin acrobatics. Dolphin facilities seem to have hit on a profitable new formula offering *interaction* between the customer and the dolphin. No longer satisfied with a passive experience where they only watch dolphin performances at marine parks, many people are seeking more active encounters that allow them to move from the role of observer to that of participant. Admission can cost more than \$100 per person, not

counting heavily sought-after extras; for example, feed a dolphin for several dollars per fish; hold a T-shirt and let a dolphin paint it for upwards of \$50; be a dolphin trainer for a day for \$500 plus; or send a disabled loved one to dolphin-assisted therapy swim sessions for upwards of \$2,000 a week (e.g., Discovery Cove, 2005; Dolphin Research Center, 2005; Kestin, 2004a). The closer the encounter, the higher the ticket price, and many people are eager to pay for the chance to get up close and personal with a dolphin.

3.2 Swimming with Dolphins in Captivity

Swim-with-dolphins programs in captivity, where paying customers enter dolphinarium waters to interact and swim with dolphins inside their enclosures, emerged in the 1980s. The National Marine Fisheries Service (NMFS) first authorized captive dolphins to be used in a swim-with program in 1985, and soon after authorized swim-with programs in three additional facilities in 1987–1988. NMFS lost its role as a regulatory authority over all captive marine mammals in 1994. Since then, captive swim-with programs have grown in number around the U.S. and abroad. The Animal and Plant Health Inspection Service (APHIS) has sole jurisdiction over such programs as the agency that administers and enforces the Animal Welfare Act (which sets the standards for the requirements of captive marine mammals). In 1990, when only those original four facilities offered in-water dolphin encounters in the United States, over 40,000 people participated in such programs. Today, the United States has as many as 18 facilities offering dolphin encounter programs, and the number of swim-with-dolphins programs is increasing worldwide, particularly in the Caribbean and the South Pacific (Humane Society of the United States, 2005).

One particular way dolphin swim programs are manifested is in the form of dolphin-assisted therapy (DAT). DAT, usually offered with dolphins in captivity, is a practice typically involving disabled patients who swim and interact with dolphins as a form of therapy. DAT formally began in the 1970s (preceding general swim programs) and over the years has grown into a popular and lucrative business. Facilities that offer DAT now exist all over the world, including the U.S., Europe, Mexico, Israel, Russia, Japan, China, Dubai, and the Bahamas. DAT practitioners claim that this practice can be useful as treatment for various conditions ranging from autism and other developmental disorders to anxiety,

depression, epilepsy, Down syndrome, cerebral palsy, multiple sclerosis, and even AIDS and cancer (Marino, 2007). Purported benefits range from enhanced well-being and increased attentiveness to improved memory and motor skills to accelerated healing of disease. DAT is typically more expensive than general swim-with programs in captivity, and can cost several thousand dollars for 1-2 week sessions consisting of several half-hour to one-hour sessions (Marino, 2007).

3.3 Swimming with Dolphins in the Wild

Cetacean-related activities in the wild have increased dramatically over the past few decades, having become a billion-dollar industry with more than nine million people participating in whale-watching trips and dolphin cruises internationally each year (Hoyt, 2001, 2003).ⁱⁱ And just as people are participating in much more active encounters with dolphins in captivity, there is an unmistakable trend of people seeking close encounters with free-ranging dolphins in the wild. Thus, as they do in captivity, in-water encounters with free-ranging dolphins occur today around the world (Samuels, Bejder, & Heinrich, 2000).

In some cases, the dolphins targeted for these wild swim-with encounter programs have a history of having been fed by humans, especially in the southeast United States and the Gulf Coast regions of Florida (Bryant, 1994; Colburn, 1999; Flanagan, 1996; Ford, 1997; Samuels & Bejder, 1998; Spradlin et al., 1999). Feeding dolphins in the wild became a controversial issue in the United States when commercial feed-the-dolphins cruises emerged as an offshoot of dolphin-watching cruises in the 1980s. This more interactive form of tourism became fashionable after dolphin-watching cruise operators began providing enthusiastic patrons with fish to give to the dolphins; feeding encouraged the dolphins to remain near the boat for longer periods of time thereby affording a better look at them (Bryant, 1994; Colburn, 1999). As a result, many of those dolphins became habituated to being fed by people on boats, and some of these “conditioned” dolphins continue to approach passenger boats, making them readily accessible for swim-with-wild-dolphin activities. In 1991, the definition of the term take under the MMPA was amended to explicitly include feeding or attempting to feed^{iv} marine mammals in the wild (Bryant, 1994).

In other cases of human–dolphin encounters in the wild, dolphins interact with humans in their home waters without having been conditioned to expect food from humans.^v In fact, dolphins are sometimes the initiators of human–dolphin encounters. For example, in the Bahamas, curious dolphins were known to have sought out interaction with people working on wreck salvage operations in the 1970s. These particular dolphins also have been subjects of underwater behavioral research since 1985. In that case, the dolphins made first contact with human swimmers and frequently interacted with divers, researchers, filmmakers, and ecotourists in the water (Herzing and White, 1999).

3.4 Interactions in Captivity vs. the Wild

Research comparing captive and free-ranging dolphin behavior during encounter programs suggests that free-ranging dolphins often initiate and terminate their interactions with human swimmers in the open sea. In captivity, however, all swim-with interactions are controlled by human trainers (Frohoff, 1999; Frohoff & Packard, 1995). This may be one difference between dolphin–human encounter programs in the wild versus in captivity: Dolphins in the open ocean may choose whether, how and when to interact with human swimmers, but captive dolphins’ choices are far more limited. Still, even in the wild, idyllic scenarios of mutually enriching swim-with experiences are spoiled when dolphins are overcrowded or otherwise disturbed by the presence of too many people or the use of motorized vehicles. This is doubly true if human activity impinges upon dolphins’ freedom of movement, if their natural behavior is disrupted, or if they are not in control of the interaction for any reason. This is the concern in Hawaii, where people may be crowding and disturbing resident spinner dolphins by targeting specific shallow water locations that the dolphins use for resting and safety (e.g., 70 FR 73426).

Another distinction between free-ranging and captive swim-with programs is reflected in the number and extent of injuries to human swimmers during such interactions. Aggressive behavior by free-ranging dolphins is very unusual, and nearly always the result of human antagonism (W. Doak, personal communication, February 22, 2005; Frohoff, 1999; Frohoff & Packard, 1995; Santos, 1997). The same is not true in the case of captive encounters. There are numerous

documented incidents of aggressive behaviors (threats, biting, and ramming) toward human swimmers by captive dolphins (e.g., Spradlin et al., 1999). It is not uncommon for humans to suffer broken bones, severe bruises, and fractured ribs requiring hospitalization during captive swim-with activities (e.g., Spradlin et al., 1999).

4. About Dolphins

Decades of scientific research show that dolphins are highly intelligent, self-aware, emotionally complex animals with strong, intricate social relationships (Marino et al., 2007). Findings on cetacean brain size are consistent with this abundant evidence. Dolphins and many other cetaceans possess brains larger and more convoluted than that of the human (Marino, 1998). Moreover, when body size is taken into account the brains of many dolphin species (such as the bottlenose dolphin) are significantly larger than all other living species' (including chimpanzees) and second in size only to our own. (Marino, 1998). Recent evidence shows that cetacean neocortex (the part of the brain involved in high-level abstract thinking) is complex and highly developed (Hof, Chavis, & Marino, 2005).

The flexible and diverse learning abilities of dolphins are well known. Dolphins have been found to understand not only the semantic features (e.g., word meaning) of artificial gestural and acoustic languages, but also the syntactic features (e.g., word order) (Herman, Kuczaj II, & Holder, 1993). These abilities clearly are extensions of complex learning abilities used in their natural habitat.

Bottlenose dolphins are one of the few species in the animal kingdom to demonstrate capacities based on self-awareness and introspection. Bottlenose dolphins possess the rare ability to recognize themselves in mirrors (Reiss and Marino, 2001) and think about their own mental states (Smith et al., 1995), two vitally important criteria for self-awareness. Dolphins are the only mammal, other than humans, capable of complex spontaneous mimicry of behaviors (Herman, 2002), yet another capacity dependent upon a sense of self and the ability to compare oneself to others. Bottlenose dolphins mentally represent and understand abstract concepts (Herman et al., 1994) and possess memory functions for past events that are very similar to our own (Thompson and Herman, 1977).

Like all cetaceans, dolphins generally have an extended period of juvenile dependency of several years in which learning and socializing take place in preparation for adulthood. Dolphins maintain very close interdependent relationships with members of their social group and develop extremely strong family ties. In addition, there is abundant

evidence that dolphins show altruistic and empathic behaviors toward members of their group and other cetacean species (Connor and Norris, 1982). Long-term field research has shown that many cetaceans live in large complex groups with highly differentiated relationships that include long-term bonds, higher-order alliances and cooperative networks (Baird, 2000, Connor et al., 2000). Not surprisingly, their natural communication systems (although still little understood) comprise a range of complex combinations of sounds (high frequency echolocation, whistles, pulses, and others) and behaviors (body postures, touches) (Herman, 1986) that apparently underpin the level of social complexity they exhibit. Moreover, field studies have uncovered cultural traditions in many cetacean populations and species. These behavioral and acoustic traditions, underwritten by advanced social learning abilities, are passed on from one generation to the next (Rendell and Whitehead, 2001).

5. Dolphins and the Marine Mammal Protection Act of 1972

The Marine Mammal Protection Act of 1972 (MMPA) is the primary legal vehicle for regulating human activities that may affect marine mammals and their habitats in the United States (13 USC 1361 et seq.). In creating the MMPA, the U.S. Congress recognized the growing scientific interest in the intelligence of whales and dolphins, as well as the “wide support for ... protection for marine mammals [as] expressed by representatives of conservation and environmental organizations, humane groups, independent scientists [and others]” (H. R. Rep. No. 92–707, 1972, p. 4145). In part, it was also the legacy of human interaction with dolphins that prompted the legislation protecting them and other marine mammals,^{vi} evidenced by congressional comments recognizing that humans have “been involved with mammals of the sea since at least the beginning of recorded history ... [and that] the dolphin was highly regarded in ancient Rome” (H. R. Rep. No. 92–707, p. 4147).

The MMPA goes beyond concern with conserving endangered species by aiming to protect *population stocks*, meaning that different groups of dolphins may be distinguished as needing greater protection than others, even if they belong to the same species.^{vii} This was a new concept in 1972 (H. R. Rep. No. 92-707, 1972) and was not a part of any U.S. environmental law before the MMPA was enacted. More than that, the Act’s protection extends in effect to every individual dolphin; the Act prohibits anyone from harming a dolphin in the wild.^{viii}

To achieve the goals of the MMPA, Congress established a moratorium on the *taking* and importation of dolphins and other marine mammals (86 Stat. at 1029). Exceptions to the moratorium were created through the allowance of permits that could be granted for scientific research purposes, or for public display.^{ix} Other exemptions include certain fisheries, incidental *takings*, and those that occur for the recovery or enhancement of a species. To act under one of the Act’s exemptions with regard to dolphin *takings*, a permit may be issued through the National Oceanic and Atmospheric Administration (NOAA), which is responsible for the management and protection of whales, dolphins and other marine mammals under the MMPA.^x

Under NOAA, the National Marine Fisheries Service (NMFS) is one of the agencies responsible for implementation of the MMPA. Before the 1994 amendments to the MMPA, NMFS was responsible for specifying permit conditions for public display, which may have included some requirements for the care of captive dolphins (66 F. R. 35209). NMFS no longer has permitting control over any care standards for dolphins in captivity, but still controls the issuance of public display permits—based solely on whether a facility is open to the public, offers a program for education or conservation purposes, and holds a license under the Animal Welfare Act (AWA). Once dolphins are in captivity, the Department of Agriculture, through the Animal and Plant Health Inspection Service (APHIS), is responsible for enforcing care and maintenance standards under the AWA.

NMFS retains control over the capture and transport of marine mammals to the U.S., and the standards under which dolphins may be released from captivity.

5.1 Key Terms Defined

Section 1372 (a)(1) of the MMPA declares that it is unlawful “for any person subject to the jurisdiction of the United States ... to take any marine mammal on the high seas.” *Taking* under the MMPA is defined as meaning “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture or kill any marine mammal” (16 U.S.C. §1362(11)(A)). The term may seem straightforward, but a good deal of controversy has been caused by what, exactly, constitutes a *taking* in light of the MMPA and related agency regulations.

In the 1990s, the Ninth Circuit Court of Appeals provided an analysis of the term *taking* in *United States v. Hayashi*, 22 F.3d 859 (9th Cir. 1994). Defendants – fishermen who tried to scare porpoises away from eating tuna off their fishing lines by firing a couple of rifle shots into the water – were charged with a *taking* under the MMPA. The court found that to *harass* was the only action that could apply to the case, but at the time of the occurrence the term *harass* was not defined in the MMPA or any related regulation. Thus the court interpreted *harassment* under the MMPA to involve “a direct and significant intrusion” on normal marine mammal behavior.

In 1991, NMFS promulgated regulations relating to the *taking* definition

under the MMPA to include specific examples of harassment (50 CRF 216.3; 56 F.R. 11693). The 1991 definition of a taking therefore included “the negligent or intentional operation of an aircraft or vessel, or the doing of any other negligent act which results in disturbing or molesting a marine mammal; and feeding or attempting to feed a marine mammal in the wild” (50 CRF 216.3).

In 1994, the definition of the term harassment was further clarified in the amendments to the MMPA. As it currently stands, the definition is separated into two levels. Level A harassment is defined as “any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild.” Level B harassment is defined as

any act of pursuit, torment, or annoyance which has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering. (16 U.S.C. §1362 18(A))

The current two-tiered definition of harassment is problematic. NMFS has faced many difficulties in implementing and interpreting the amended definition. According to the testimony by a NMFS representative given to the U.S. Senate on Reauthorization of the MMPA:

NOAA has experienced difficulties with interpretation, implementation, and enforcement of the current MMPA harassment definition. First, the definition is limited to acts involving “pursuit, torment, or annoyance.” Second, the definition is overly broad and does not provide a clear enough threshold for what activities do or do not constitute harassment. Third, the definition does not provide an adequate mechanism to address activities intentionally directed at individual or groups of marine mammals that disturb the animals. (*Testimony of Dr. Rebecca Lent, Deputy Assistant Administrator for Fisheries, 2003*)

The question of harassment has been particularly difficult as it applies to the increasing number of wild swim-with-dolphins operations (see Spradlin, et al., 1999). Most wild swim-with-dolphins operators contend

that they are not harassing the dolphins with whom their customers interact. But NMFS is concerned that such activities in the wild risk causing harassment to the dolphins since they pursue interactions that, they suggest, can disrupt the animals' natural behavior (Spradlin et al., 1999).

6. Dolphin-Human Interaction Policy Dispute

6.1 Proposed Regulatory Changes Concerning Dolphin Harassment

In order to discourage in-water human-dolphin encounters, NMFS worked with the National Watchable Wildlife Program to create guidelines for dolphin interactions. These guidelines include the following:

- (a) view wild animals from an appropriate distance (for dolphins, a distance of 50 yards is deemed appropriate);
- (b) stay clear of areas used for resting or sheltering;
- (c) avoid surprising wildlife; and
- (d) never feed wild animals. (Spradlin et al., 1999)

All five NMFS regions also developed similar viewing guidelines to inform the public how to properly interact with dolphins (NMFS Regional Wildlife Viewing Guidelines for Marine Mammals are available online at <http://www.nmfs.noaa.gov/pr/education/viewing.htm> and <http://www.nmfs.noaa.gov/pr/education/hawaii/>).

To support the guidelines, NMFS initiated a nationwide education and outreach program, including the *Protect Dolphins* campaign, to address continued concerns about feeding and harassment activities with wild dolphins, particularly in the southeast United States (67 F.R. 4379). In addition, NMFS' stated policy with regard to close human-dolphin interaction is plain:

Interacting with wild marine mammals should not be attempted and viewing marine mammals must be conducted in a manner that does not harass the animals. NOAA Fisheries does not support, condone, approve, or authorize activities that involve closely approaching, interacting, or attempting to interact with whales, dolphins, porpoises, seals, or sea lions in the wild. This includes attempting to swim with, pet, touch, or elicit a reaction from the animals. (Office of Protected Resources, 2005)

Nevertheless, wild swim-with-dolphins operations have continued to increase in some parts of the country. And although the *taking* of marine mammals is subject to prosecution under the MMPA, NMFS' policy

statement and the viewing guidelines are merely recommendations and therefore not legally enforceable. Thus, in 2002 NMFS published an Advance Notice of Proposed Rulemaking (ANPR) in the *Federal Register* stating that it was considering the development of additional regulations that would in effect codify the viewing guidelines and essentially define wild swim-with activities as harassment under the MMPA (67 FR 4379). The ANPR was national in scope and included all species of marine mammals under NMFS' jurisdiction.

NMFS received more than 500 letters officially commenting on the ANPR from various people affected by the potential regulations, including experts in the marine mammal community, commercial wild swim-with tour operators, the captive dolphin display and interaction industry, animal advocates, citizens who wished to continue swimming with dolphins in the wild, and others. Various viewpoints were expressed through the comments—from stern opposition to any additional regulations to pleas for even stricter regulations—highlighting the controversial nature of the ANPR (Lewandowski, 2005; Spradlin, personal communication, August 9, 2004). In January 2007, the ANPR was withdrawn. However, similar regulatory efforts aimed at specific geographic locations and/or marine mammals were initiated (70 FR 73426; 72 FR 13464).

Of those opposed to the 2002 proposed regulatory action, many were swim-with-wild-dolphins promoters from the Hawaiian Islands, where people seek in-water interactions with spinner dolphins. In response to particular concerns about potential harassment of spinner dolphins in Hawaii, NMFS published another ANPR in December 2005 (70 FR 73426). The 2005 ANPR received 191 comments, raising concerns and recommendations similar to those regarding the 2002 ANPR and again demonstrating the controversy of regulations strictly prohibiting close, in-water interactions between dolphins and humans. In response, NMFS announced its intent to prepare an environmental impact statement (EIS), and public hearings continue on the divisive proposed regulations.

In addition, in March 2007 NMFS initiated another ANPR concerning orcas in the Pacific Northwest (72 FR 13464), suggesting that certain whale-watching activities in that region also amount to harassment under the MMPA. Paralleling the *Protect Dolphins* campaign of the southeastern U.S., NMFS' Northwest region has implemented the *Be Whale Wise*

guidelines, which recommend that boaters and kayakers remain at least 100 yards away from any orca when situated to the side of (or parallel with) the animal, or at least 400 yards from the front or rear of an orca. Among other things, current proposed regulations concerning orcas in the Northwest would codify the *Be Whale Wise* marine mammal viewing guidelines, making them requirements rather than recommendations and providing for violation penalties. Given the similarity of issues, we expect that these proposed regulatory actions will meet with similar resistance from those who promote close interaction with orcas, resulting in policy disputes that mirror those concerning swim-with-wild-dolphin programs. However, in 2005 NMFS declared the Southern Resident orca population endangered under the Endangered Species Act (7 U.S.C. §136, 16 U.S.C. §1531 et seq.); as such, changing orca guidelines into regulations may meet with less resistance than those aimed at spinner dolphin populations in Hawaii.

6.2 Swim-with-Dolphin Programs in the Wild: Support and Resistance

The tensions between proponents of swim-with dolphin activities in the wild and those who oppose them involve many stakeholders. These include commercial wild swim-with-dolphins operations, the captive dolphin display and interaction industry, animal advocates, local commerce interests, the dolphins themselves, and governmental dolphin protection policy-makers.

Captive dolphin display operators and many animal advocates join NMFS in their resistance to swim-with programs in the wild (Stewart, 2006). In addition to the suggestion that dolphins are unpredictable and potentially dangerous, opponents of encounter programs contend that increased boat traffic and other anthropogenic effects can wreak havoc on dolphins and their habitats. This is especially true for dolphins who become habituated to humans, spending more and more time at the surface interacting with them and therefore becoming more vulnerable to boat-related injuries or inappropriate human advances (Stewart, 2006).

Those who support dolphin encounter programs in the wild include swim-with-wild dolphins tour operators, local commerce interests, and individuals who want to continue swimming with dolphins as they please (Stewart, 2006). Many proponents suggest that dolphins are unfairly caricatured as dangerous or unpredictable by the NMFS campaign; instead, they contend that dolphins are just as friendly as they are popularly imagined, and perhaps much more. Furthermore, proponents of wild swim-with activities

suggest that close human-dolphin interactions may create positive changes in attitudes toward marine mammals and their environment, and therefore ultimately promote conservation (Duffus & Dearden, 1990).

6.3 Swim-with-Dolphin Programs in Captivity: Support and Resistance

The policy dispute over swim-with-dolphin programs in the wild is nested within a larger contested space where human-dolphin encounters with *captive* dolphins are also simultaneously encouraged and resisted. For instance, while opposing wild swim-with-dolphins activities, the captive display industry (not unexpectedly) encourages dolphin-human encounters in captivity. APHIS, the federal agency in charge of care standards for captive dolphins, provides some rules for facilities that offer swim-with programs, but they are far from prohibitive; rules focus on space requirements (e.g., the average depth of enclosures must be at least nine feet), record-keeping and reporting requirements, water clarity, and the like.^{xi} The success of the billion-dollar marine park industry, along with its promotion and accessibility, serves to maintain and legitimize the practice of viewing and interacting with dolphins in captivity. But animal advocates, who stand with the captive display industry in opposing swim-with-dolphins operations in the wild, also oppose swim-with-dolphins programs in captivity, arguing that captivity itself is patently harmful to dolphins.

Surprisingly, as active as NMFS is in opposing swim-with programs in the wild, it does not align with the animal advocates' position regarding captivity. On the contrary, NMFS seems to condone interacting with dolphins in captivity. On the one hand, NMFS actively opposes close in-water interaction between humans and dolphins, contending that such behavior is *harassment* under the MMPA. NMFS' nationwide Protect Dolphins education and outreach campaign features the phrase "Let the Wild Ones Stay Wild" (NMFS, 1997; see Figure 1), and recommends that people stay at least 50 yards away from dolphins, reiterating that they are "really wild animals who should be treated with...respect" (NMFS, 1997). However, NMFS does not oppose the practice of keeping dolphins in captivity. Instead, NMFS officials work together with the captive display industry to inform marine park and interaction facility visitors about NMFS policies (Stewart, 2006). Moreover, on the backside of the *Protect Dolphins* brochure, NMFS directs citizens who wish to interact with dolphins to patronize captive dolphin facilities. The

brochure reads: "If you would like to get up close and personal with dolphins, the MMPA provides for the public display of marine mammals in zoos and aquariums. Contact the Office of Protected Resources for a list of facilities that hold dolphins" (NMFS, 1997; see Figure 1).

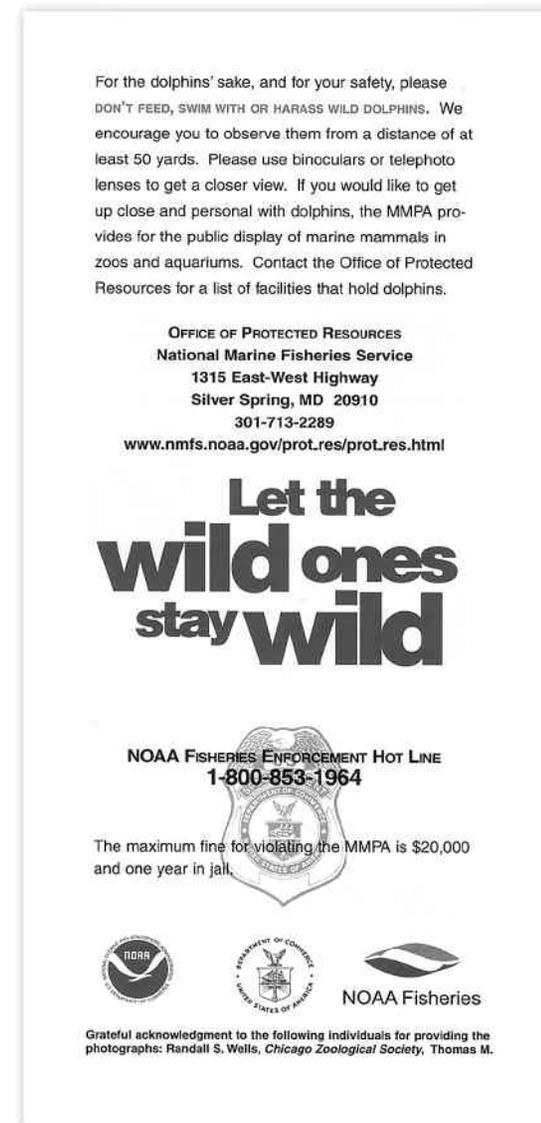


Figure 1. NMFS Brochure

7. Evaluating Dolphin-Human Interaction Policy

Essentially, the federal government’s position regarding human-dolphin interactions is this: Humans ought to avoid swimming with free-ranging dolphins, but are welcomed to interact with dolphins in captivity. If the policy goal is to protect dolphins and to prevent dolphin harassment, it seems a basic contradiction.

The ontological approach to *harrassment* has positioned the concept squarely within the wild dolphin conversation. After all, NMFS no longer has much authority over the rules and regulations involving captive dolphins, and the question of harassment is associated with the Marine Mammal Protection Act. Captive dolphins and dolphin display facilities fall under a different set of rules that are overseen by a different agency; as such, conversations about captive dolphins typically involve concerns about *welfare* instead. Although it simplifies things to categorize thinking in such ways, it is not necessarily helpful or appropriate to abandon the discussion of harassment when considering captive dolphins.

We suggest that a better understanding of dolphin-human interaction policy calls for a more nuanced approach that recognizes the complexities and crossovers of the federal laws and regulations intended to protect dolphins. In terms of dolphin-human interaction policy and practice, interrogating both wild and captive swim-with activities can help us to decipher better alternatives. More importantly, all wild dolphins, whether captive or free-ranging, are profoundly affected by the MMPA—an Act that, for example, prohibits dolphin *takings* (harassment) in the wild, but through some exemptions still allows dolphins to be taken from the wild and held in captivity for display purposes.

7.1 The Best Evidence and the Question of *Harassment*

Scientific findings and scholarly research provide insight into the question of dolphin-human interaction and the meaning of *harassment*—even the somewhat loose definition of harassment contained in the 1994 amendments to the MMPA, which include acts that “pursue, torment, or annoy” dolphins (16 U.S.C. §1362 18(A)). Current scientific understanding about dolphin psychology, biology and sociality reveals them to be sentient, emotional, intelligent, communicative, self-aware individuals who

depend highly upon one another through intense social bonds. Unencumbered, dolphins live within complex social and familial structures; swim far and deep with home ranges of several tens or hundreds of square miles; feed on a wide variety of fishes; and spend most of their day foraging, as well as playing and socializing with other dolphins (Herzing & White, 1999; Pryor & Norris, 1991; Reynolds et al., 2000). In many ways, dolphins are like humans; as such, to the extent that we can empathize with other humans — understand another’s fear, frustrations, or joy, for example — we can relate to dolphins.

In terms of free-ranging dolphins, when dolphins control the pace and extent of the encounter, swim-with experiences in the wild may be a benign, even enjoyable interaction for both human and dolphin. However, wild swim-with interactions have the potential to disturb or annoy, and thus to *harass*, when people pursue or otherwise disrupt dolphins who do not wish to interact with them. Of particular concern is the risk of harassment to spinner dolphins in Hawaii, where investigators have seen tourists pursuing interactions with spinner dolphins in the areas where they typically rest (Würsig, 1996). The dolphins’ choices to stay in safe, shallow resting places may be compromised as increasing numbers of people seek out their company.

For dolphins who take part in swim-with programs in captivity, however, the question of choice is moot and the presence of harassment is obvious. During captive swim-with programs, dolphins are constantly directed how and when to interact with human customers by their human trainers. In every case of captive dolphin interactions, the dolphins are required to live in an enclosed environment the smallest fraction of their natural home ranges. They are cut off from their larger family and social groups, limited to eating when and what is provided to them by human caregivers, and are generally restricted to an impoverished life as a dolphin. Evidence of harassment under these circumstances abounds: Many captive dolphins display physiological and behavioral indicators of stress, such as elevated adrenocortical hormones, stereotypies, self-destruction, self-mutilation, and excessive aggressiveness toward humans and other dolphins (Carter, 1982; Defran & Pryor, 1980; Pilleri, 1983). To be sure, captive dolphin facilities fall at different points along a continuum; some provide more enriching daily experiences for dolphin residents than others. In every case, however, the decision to keep

healthy dolphins in captivity challenges the most basic needs and desires of dolphins.^{xii} Captivity denies dolphins their psychological, physical, and social integrity, inflicts untold kinds and amounts of stress, and drastically alters the fundamental life experience of *being dolphin*.

In addition to the harm caused to dolphins who live in pools or enclosed lagoons, captive encounter programs can be dangerous for humans who take part in such activities. Although aggressive behavior by free-ranging dolphins toward humans is rare, it is not unusual among captive dolphins (Defran & Pryor, 1980; Frohoff & Packard, 1995). Aggressive or sexual behavior (including biting, ramming and fluke-slapping) toward human participants has resulted in serious injuries during interaction programs in captivity (NMFS, 1990). Thus, both dolphins and humans have been found to be at risk during captive encounter programs.

Dolphin-assisted therapy (DAT) is an area of special concern as well. To promote legitimacy of their particular kind of swim-with-dolphins programs, DAT proponents sometimes use terms that sound technical or scientific, such as “bio-physical healing,” or “hemispheric synchronization.” Such terms in this context lack meaning, however (Marino, 2007). Many people may find DAT satisfying or fulfilling for any number of reasons (disabled children often find it enjoyable or motivating to interact with dolphins, for example) (DeMares, 2000). However, there is no scientific evidence that DAT is therapeutically effective for the disorders that many proponents claim to be able to treat (Humphries, 2003; Marino & Lilienfeld, 1998, 2007). In addition, there are no regulations for captive interaction programs. No agency requires specific safety regulations be applied to DAT programs, nor have any professional accreditation criteria for these particular therapy programs been established.

In addition, DAT and other swim-with-dolphin programs in captivity affect more than the individual dolphins and humans involved. As the demand for such programs increases around the world, so does the rate of hunting and capture of more wild dolphins, inflicting untold amounts of stress and harm to the dolphins captured, as well as incalculable harm to the populations from which the dolphins are taken (e.g., Stewart, 2006). In this way, captive encounter programs also risk harming dolphin populations in the wild, and are therefore a conservation concern as well.

7.2 The “Educational Value” of Dolphins in Captivity

If marine mammal protection law and policy is aimed at protecting dolphins by preventing *harassment*, the evidence overwhelmingly indicts those who make captive dolphin-human interaction programs possible—the dolphin display industry, and those who support it. However, the MMPA explicitly provides for dolphin captivity, naming dolphin display as one of the exceptions to the prohibition of harassment because of the presumed “educational value” of such practices (16 U.S.C. 1374 §104(c)(2)(A)(i)). However, there are significant failings with the assumption that dolphin displays in captivity have any educational efficacy or positive benefits for dolphins or people. We contend that the MMPA ought to be amended to eliminate education as a valid exemption for dolphin harassment under the Act. Current evidence does not support the presumption that dolphin display facilities are educational or beneficial for anyone other than the captive display industry itself.

The Alliance of Marine Mammal Parks and Aquariums (AMMPA), an organization that represents marine parks, aquariums, zoos, and other captive dolphin facilities, has alleged that such facilities offer customers great educational benefit (M. Maynard, Alliance of Marine Mammal Parks and Aquariums [AMMPA], personal communication, August 16, 2004). The Association of Zoos & Aquariums (AZA) agrees with the AMMPA that zoos and aquariums have a positive impact on visitors, citing a three-year study commissioned by the AZA in support (Falk et al., 2007). While there are issues with regard to the design of the study and problems with many of the AZA’s findings, what is most important for present purposes is that the study failed to assess whether knowledge, attitudes, or behaviors of zoo and aquarium visitors differed from those who *do not* visit zoos and aquariums. What is more, the study failed to address how keeping live animals on display (versus, say, a museum or virtual zoo environment) had an impact on zoo visitor knowledge, attitudes, or behavior. In any case, the AZA research did not support a finding that zoos and aquariums are educational; in fact, the study found that zoo and aquarium visitors showed no significant changes in overall conservation knowledge (or other specific knowledge) (Falk et al., 2007). Furthermore, the study confirmed that, for most people, going to the zoo merely reinforced the values and attitudes they came with (Falk et al., 2007).

Other attempts to bolster credibility with research findings are similarly deficient. According to AMMPA, a “Roper poll shows that Alliance member marine life parks, aquariums, and zoos successfully teach visitors about marine mammals and, additionally, serve to inform visitors about environmental issues that may have an impact on the animals.” They also surmise that “[r]esults of the Harris Interactive® and Roper polls indicate that visitors are coming away from their marine mammal experiences with a heightened overall environmental concern and additional interest in taking environmental action.” These conclusions are based on data posted to the AMMPA website, such as: “ninety-four percent (94%) of the park visitors interviewed for [a] poll agreed with the statement: ‘I learned a great deal about marine mammals today.’” They also suggest that “seeing living marine mammals enhances the educational experience for the visitors to these zoological parks and aquariums” because

[a]most everyone (97%) interviewed said their experience with living marine mammals had an impact on their appreciation and knowledge of the animals. The impact was greater for those visiting facilities where they actually had an opportunity to interact with marine mammals. (AMMPA, 2004)

Nonetheless, the two AMMPA sponsored surveys do not support their conclusions that marine parks “successfully teach visitors”—these surveys only assessed whether visitors *thought their visit was educational*. Sociologist Susan Davis conducted research at SeaWorld theme parks, examining the role of commercial entertainment in shaping public understandings of nature and the environment, and found that marine parks like SeaWorld tout their educational value (Davis, 1997; WGBH, 1997). However, in her experience,

you can get about the same level of education from a reasonably good library book aimed at a third grader at your public library.... I think the kinds of [and] amount of information and the sophistication of the information maybe even is not as good as that third grade level library book. (WGBH, 1997)

As for the impact captive encounter programs have on customers’ behavior, dolphin researcher Frohoff (2003, p. 67) remarked, “I doubt

that most people will be any more inspired to work for marine animal protection after participating in [interaction] programs than people will become vegetarians after visiting a petting zoo.”

In fact, there has been no study to date that has demonstrated that visitors to marine parks learn as a result of their visitation, or what information is retained that helps animals in the future. Nor is there any evidence that marine park visitors gain more accurate or in-depth knowledge about marine mammals than those who do not attend marine parks. Furthermore, when it comes to attitudes about animal welfare, conservation, and the environment, there is no empirical evidence to support whether marine park visitors are more (or, indeed, /less) environmentally sensitive or knowledgeable about marine mammals and/or their environment. Moreover, there is a dearth of information related to the question of how marine parks influence perceptions and opinions about the ethics of captivity and how humans ought to interact with marine mammals, in captivity or in the wild. In short, there is no evidence to support the idea that marine park displays and interaction programs are any more educationally valuable than other, less invasive (for the animals) educational alternatives.

8. Recommendations

We recommend that U.S. policymakers acknowledge the apparent inconsistencies in a dolphin protection law and policy that claims to value the freedom, safety, and wildness of individual dolphins while, at the same time, provides for dolphin captivity. Regardless of whether NMFS now has authority over captive display facilities, its actions on behalf of free-ranging dolphins in the wild have considerable impact on all dolphins. Efforts designed to keep people away from dolphins, because they are wild and deserve respect, are at odds with an invitation to visit dolphins at a marine park. Such actions send mixed messages and are ultimately detrimental for dolphins. Thus, NMFS should refrain from associating with or suggesting that people patronize captive display facilities for any reason.

Recognizing the complexities and crossovers of the federal laws and regulations intended to protect dolphins, we contend that the MMPA concept of *harassment* is relevant and important to include in the conversation concerning dolphin captivity. The best evidence today suggests that dolphins are very much like humans in terms of their cognitive abilities, self-awareness, social structures, and the ability to feel pain and emotions such as loneliness, boredom, or terror. From this perspective, understanding what amounts to dolphin *harassment* is relatively straightforward: any situation that causes physical or emotional stress by curtailing one’s freedom or interfering with personal relationships would likely meet that definition. In captivity, dolphins are deprived of psychological, physical, and social freedoms in ways and with results that surely amount to extreme harassment, even in the best of captive circumstances.

However, the MMPA provides for captive display facilities because of their presumed educational value. There are alternative, effective means of educating people about dolphins that do not involve the harm that inevitably accompanies captivity. Furthermore, there is no evidence to support the idea that dolphinariums are educational. On the contrary, the opposite may well be true. Thus, our second recommendation is that rigorous, independent research be undertaken to determine how captive dolphin displays affect visitor knowledge, perceptions, and behaviors

related to dolphins and their habitats. There is no need to wait for such findings, however. Because there is no current evidence to support the assumption that dolphinariums are more educational than other, less invasive activities, the MMPA ought to be amended to eliminate education as a valid reason for exempting dolphin display facilities from the MMPA's prohibition against dolphin harassment.

To conclude, we contend that dolphin respect and freedom ought to be protected by the MMPA and related policies, and we recommend:

- NMFS refrain from further associating with or suggesting that people patronize captive display facilities;
- Rigorous, independent research that investigates captive dolphin displays and their impact on human understanding, opinions and behavior;
- Evidence-based revisions to current law and policy that are consistent with respect for and protection of dolphins, including the elimination of “education” as a valid exemption under the MMPA.

We believe that such efforts, along with careful consideration of contemporary dolphin-human interactions and a practical approach to the question of dolphin harassment, will ultimately lead to the conclusion that dolphin display facilities, captive interaction programs, and potentially harmful wild swim programs are no longer acceptable and ought to be proscribed by the MMPA. Our hope is that this information will better equip regulators, legislators, researchers, and advocates to advance the shared goal of furthering the well-being of both humans and dolphins.

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10. Endnotes

- ⁱ According to Morey & Associates Cultural Attraction Attendance Reports, in 2002 the average annual attendance at aquariums was 815,399 while estimated average attendance at zoos was only 594,664 (Morey & Associates, 2003).
- ⁱⁱ This is based on one estimate reported in a newspaper article series called “Marine Attractions: Below the Surface,” which aimed to investigate and report on the captive dolphin industry, particularly in Florida. According to the reporter, “Just how big the industry has become is impossible to say because most marine attractions don’t release attendance or revenue figures” (Kestin, 2004b).
- ⁱⁱⁱ In Florida alone, more than 100 dolphin-watching companies operated in 1999–2000 (this is an increase from only four dolphin-watching cruises in 1983 and 25 companies operating in 1993) (Herrington & Forsy, 2002).
- ^{iv} Even after feeding was defined as harassment, the feeding of dolphins in the wild continued (and still continues) in some parts of the country.
- ^v In a report to the Marine Mammal Commission about swimming with wild cetaceans, dolphins and whales that interact with humans were organized around four categories that are generally recognized in the scientific literature: (a) dolphins that are typically solitary and seek human company were termed “lone, sociable;” (b) dolphins with a history of having been fed by humans were labeled “food provisioned;” (c) dolphins and whales that allowed or sought out human swimmers for sustained interactions on a regular basis were defined as “habituated;” and (d) cetaceans that did fit any of these categories were called “not habituated” (Samuels et al., 2000). This is not to say the dolphins “not habituated” to humans do not interact with them; actually, in the foregoing report, the authors discuss “several locations worldwide where tour operators provide opportunities for swimmers to interact with unhabituated dolphins and whales ...[and in some cases] cetaceans remain unhabituated despite regular and long-term exposure to human activity” (Samuels et al., 2000). The distinction between “habituated” and “not habituated” is therefore ineffectual for the present purposes.

- ^{vi} Additionally, the MMPA was created to address habitat degradation, declining numbers of whales due to whaling, and growing numbers of dolphin deaths in the ETP tuna fishery (Buck, 1997; H. R. Rep. No. 92-707).
- ^{vii} Policy statements and goals declared in the MMPA include:
- a. Certain species and population stocks of marine mammals are, or may be, in danger of extinction or depletion as a result of man's activities;
 - b. such species and population stocks should not be permitted to diminish beyond the point at which they cease to be a significant functioning element in the ecosystem of which they are a part, and, consistent with this major objective, they should not be permitted to diminish below their optimum sustainable population. Further measures should be immediately taken to replenish any species or population stock that has already diminished below that population; and
 - c. marine mammals have proven themselves to be resources of great international significance, esthetic and recreational as well as economic, and it is the sense of the Congress that they should be protected and encouraged to develop to the greatest extent feasible commensurate with sound policies of resource management and that the primary objective of their management should be to maintain the health and stability of the marine ecosystem (Marine Mammal Protection Act of 1972).
- ^{viii} To simplify, we sometimes limit the conversation to dolphins, although the MMPA and many of the provisions we discuss apply to dolphins as well as other marine mammals.
- ^{ix} Other exemptions to the moratorium on *taking* marine mammals include commercial fishing operations and *takings* by Alaskan natives (86 Stat. at 1031).
- ^x The U.S. Fish and Wildlife Service is responsible for managing other marine mammals under the MMPA such as walruses, polar bears, sea otters, manatees, and others.

- ^{xi} In April 1999, a set of APHIS rules relating to swim-with-dolphin programs in captivity went into effect, including requirements for reporting injuries and limiting the length of time per day dolphins could work. The agency suspended enforcement of all regulations, however, after businesses complained that the rules were “unrealistic and unwieldy” (64 FR 15920; Stewart, 2006).
- ^{xii} Well-intentioned people often suggest that captive dolphins can live higher quality lives than they otherwise would in the wild. In human care, they argue, the dolphins are free from the stress of predation, disease, ever-increasing pollution, and other hazards of unpredictable life in the wild. This argument resonates with the sentiment expressed by James Boswell (1740–1795) about the human slave trade less than 250 years ago: “[Abolishing the slave trade] would be extreme cruelty to the African savages, a portion of whom it saves from massacre, or intolerable bondage in their own country, and introduces into a much happier state of life” (cited in Spiegel, 1996, p. 73). Today, most people would find such thinking repugnant.

Notes:

