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FISHERIES
SERVICE

"Frequently Asked Questions"

Bottlenose Dolphins – Increase in Depredatory (Taking Bait and Catch) Behavior and Deaths Associated with Recreational Fishing Gear

NOAA Fisheries Service, Southeast Regional Office
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BOTTLENOSE DOLPHIN DEATHS FROM RECREATIONAL GEAR

Why is there an increase in bottlenose dolphin deaths from recreational gear?

We are not exactly sure why there has been an increase in deaths from recreational fishing gear, but we believe an increase in dolphins depredating (taking) anglers' bait and catch may be a contributing factor. Dolphins are ingesting the hooks and line or getting entangled in the monofilament resulting in injuries and, in many recent cases, death.

Which areas around Florida have seen an increase in bottlenose dolphin injuries and deaths from recreational gear? Around the southeast region?

Within the last year, Indian River Lagoon and Southwest Florida (Sarasota Bay, Charlotte Harbor, and Tampa Bay) are currently the only areas that we are aware of in Florida with a measurable increase in strandings associated with recreational gear, and resulting deaths, of bottlenose dolphins. Florida has a very large number of recreational anglers year-round, who fish in coastal waters that are also inhabited by bottlenose dolphins.

We are currently not aware of a marked increase in deaths associated with recreational gear in other states of the southeast region.

How many dolphins stranded dead in Florida last year (2005) with recreational gear attached compared with 2006?

2005

Last year, four dolphins stranded dead with recreational fishing gear attached. Two ingested hooks and line; one was entangled; and one had a hook and line in the mouth.

2006

NOAA Fisheries Service received reports of 15 bottlenose dolphins stranded with recreational fishing gear attached. Nine ingested gear; three were entangled; and one had a hook and line in the mouth.

Mote Marine Laboratory (Mote) (www.mote.org) recovered 5 of the 15, and Hubbs-Sea World (HSWRI) (www.hswri.org) recovered 6. Mote scientists recovered all 5 in Sarasota Bay and surrounding waters to the south. Four died as a direct result of the fishing gear – three adults from ingestion of lures, hooks and line, and one calf from entanglement that nearly cut off its tail. The four adult dolphins were long-term residents of Sarasota Bay. In comparison, for all of 2005, Mote reported only one animal stranded in the Sarasota Bay area with recreational gear attached, and it was determined the gear did not contribute to the animal's death.

Of the six dolphins recovered dead by HSWRI from the Indian River Lagoon, four showed signs that the gear clearly contributed to the dolphins' mortalities. Last year, HSWRI recovered only two animals with recreational gear attached.





Three of the 15 dolphins stranded in the Tampa Bay/Clearwater area with recreational gear attached – the Florida Aquarium recovered one dolphin stranded in Tampa Bay; Clearwater Marine Aquarium recovered 2 dolphins stranded on Clearwater Beach. Although the cause of death is unknown for these 3 dolphins, all were found stranded with hooks and monofilament line in their throats or stomach.

The number of wild dolphins killed or injured as a result of entanglement or hooking with recreational fishing gear this year is already markedly greater in some areas than in years past. For example, thus far in 2006, approximately 25% of the stranded dolphins recovered in Sarasota Bay were determined to have died due to fishing gear, compared to an annual average of 2.9% for 2000-2005. Such losses are unprecedented in the 36-year history of dolphin research in Sarasota Bay.

What are the conservation implications of the significant increases in bottlenose dolphin deaths, especially in Sarasota Bay? Why are biologists concerned?

The dolphins inhabiting Sarasota Bay represent a long-term resident community of bottlenose dolphins spanning five generations that remain year-round within a discrete geographic area (Scott et al. 1990; Wells 1991; Wells 2003). Therefore, most of these animals typically do not move to other geographic locations and mix with other communities or population stocks of dolphins. When dolphin deaths from human activities in a small community like Sarasota Bay are added to the normal mortalities for this community, the rate of loss may not be sustainable. The potential impact of these mortalities causes more concern when considered with the possibility of an upward trend in mortalities from recreational gear, especially during the summer months when recreational boating and fishing activities are elevated.

Please see the section on “Bottlenose Dolphin Abundance and Conservation” for more information on stock structure and general conservation concerns.

Biologists are also concerned that activities, such as illegally feeding wild dolphins, will continue to promote behaviors, such as habituation to people and depredation from gear, and escalate the potential for interactions resulting in injuries or deaths. For more questions regarding depredation or feeding, please see the following sections: “Dolphins Depredating (Taking) Bait/Catch” and “Feeding Wild Dolphins.”

DOLPHINS DEPREDATING (STEALING) BAIT/CATCH

What is depredation?

Depredation is the removal of, or damage to, captured fish or bait (commercial or recreational), caused by predators. Dolphins are known to depredate, or steal, both the bait and catch of recreational anglers. In some cases, dolphins take the bait and catch directly off recreational gear, leaving the gear intact and escaping without being hooked or entangled in monofilament. In other cases, the fishing line snaps and the dolphin takes the catch or bait with the gear still attached. This increases the dolphin’s risk of injury or death from ingestion of hooks and lures and/or entanglement in monofilament line.

Why do dolphins steal bait/catch from recreational fishing gear?

Although it is unclear exactly what triggers this type of behavior, it may be the result of many factors, such as:

- Illegal feeding of wild dolphins (NMFS 1994; Hanan et al. 1989)
- Changes in fishing effort (Zollett and Read 2006; Donoghue et al. 2003)
- Natural, environmental factors, such as localized depleted fish stocks (Wells pers. comm.)

Despite the uncertainty in the exact cause of predatory behavior, illegally feeding wild dolphins contributes to this problem by negatively altering dolphins’ foraging strategy (NMFS 1994; Hanan et al. 1989). When humans feed wild dolphins, they associate people with free handouts and an easy meal, thus reinforcing stealing behavior. This makes dolphins less wary of humans, alters their natural behaviors, and increases their vulnerability to injury and death. Additionally, dolphins may come into close contact with anglers, which increases the risk of accidental entanglement in fishing gear. Cases have been reported where these unnatural behaviors are being passed on to calves and other dolphins, resulting in new generations of wild dolphins learning to beg for food and steal from anglers’ gear (NMFS 1994).



Do dolphins take all types of bait and catch?

Dolphins are known to take various types of bait, both dead and alive, as well as catch (e.g., grouper, sheepshead, and Spanish mackerel) from recreational fishing gear, including catch attached to artificial lures. Literature has also documented depredation in the Florida king mackerel troll fishery off Florida's east coast (Zollett and Read 2006).

Is the increase in depredation a result of dolphins not having enough to eat due to red tide?

The information is currently inconclusive. The Sarasota Dolphin Research Program, based at Mote Marine Laboratory, has documented that pinfish stocks in Sarasota Bay were significantly depleted after the severe 2005 red tide event, and pinfish are the top prey item of bottlenose dolphins in Sarasota Bay (as well as a favored bait). Recent health assessments of dolphins in Sarasota Bay showed many to be significantly below expected weights, probably as a result of depleted prey fish stocks from the red tide (Wells pers. comm.). It is interesting, however, that increasing depredation has also been observed in areas that were not hit by the 2005 red tide event, such as the Indian River Lagoon. It may be that more than one factor is contributing to causing this problem in different areas.

FEEDING WILD DOLPHINS

How does feeding wild dolphins contribute to their depredatory (taking bait and catch) behavior?

Feeding wild dolphins causes them to associate humans with food and become habituated to humans, which has been observed to result in dolphins "begging" for handouts. If fed repeatedly, dolphins learn where to go for free handouts. Bait and catch attached to a fishing line is a readily available food source for dolphins, especially for habituated dolphins. Additionally, tossing leftover bait or unwanted fish into the water when a dolphin is nearby may reinforce dolphins' associating humans with food, thereby encouraging depredation.

When did NOAA Fisheries Service become aware that feeding wild dolphins was a problem?

NOAA Fisheries Service initially identified wild dolphin feeding was a problem when "feed-the-dolphin" cruises emerged in early 1988. Feeding wild dolphins became prohibited under a 1991 regulation enacted under the Marine Mammal Protection Act (MMPA), which a federal appeals court upheld in 1993. For more information about the MMPA, visit www.nmfs.noaa.gov/pr/laws/mmpa.

CONSERVATION MEASURES

What is NOAA Fisheries Service doing to prevent harmful interactions and more bottlenose dolphin deaths from occurring?

We have complemented our national Protect Dolphins Campaign by developing a comprehensive outreach and education strategy specific to areas of the southeast region and localized concerns. The strategy highlights innovative methods for distributing important conservation messages to raise public awareness about responsible viewing of wild dolphins and why feeding wild dolphins is illegal. Ongoing and future education efforts that promote responsible viewing to help prevent dangerous interactions include: posting billboards; presenting at educational workshops; issuing press releases; producing and distributing fact sheets, brochures, and other outreach materials; airing public service announcements for radio and television broadcasts; providing information at conventions, shows, and festivals; posting signs, etc.

In addition to the above-mentioned outreach techniques, we recently identified "Best Fishing Practices for Avoiding Interactions with Dolphins" to further prevent these harmful interactions with recreational gear from occurring. We plan to promote these "Best Fishing Practices" and other conservation messages through various means, such as metal signs at fishing piers, marinas, and boat ramps; wallet/tackle box cards; radio announcements; etc. We are also continuing to work with our partners to better understand the complex nature of interactions between dolphins and recreational gear.

All outreach materials developed will also include the pertinent numbers to report a marine mammal injury or entanglement, or violations of the Marine Mammal Protection Act (MMPA).



For more information on our Southeast Region Marine Mammal and Sea Turtle Viewing Guidelines, please visit: www.nmfs.noaa.gov/pr/education/southeast/

For more information on the national Protect Dolphin's Campaign, please visit: www.nmfs.noaa.gov/pr/education/protectdolphins.htm

How do I report an injured or entangled marine mammal? How do I report a violation of the Marine Mammal Protection Act (MMPA)?

To report a marine mammal injury or entanglement, visit www.nmfs.noaa.gov/pr/health/networks.htm#southeast for the appropriate stranding hotline number in your area. To report violations of the MMPA, call NOAA's Office of Law Enforcement 24-hour hotline at (800) 853-1964.

We welcome any suggestions or feedback on safe ways to help prevent dolphin interactions with recreational gear. If you have helpful information, please call Stacey Carlson at (727) 824-5312.

Best Fishing Practices for Avoiding Interactions with Wild Dolphins

How were the best fishing practices developed?

The "Best Fishing Practices" were developed in cooperation with NMFS scientists and fishery managers, and other research groups, including Mote Marine Laboratory and Hubbs-Sea World Research Institute. They were developed by reviewing information gathered from research observations at fishing piers and elsewhere, interviewing recreational anglers, and reemphasizing current conservation efforts and existing regulations.

What are the best fishing practices?

Best Fishing Practices for Avoiding Interactions with Wild Dolphins:

- 1) *Never Feed Wild Dolphins – It's Harmful And Illegal*
 - Feeding is illegal under the federal Marine Mammal Protection Act.
 - Feeding teaches dolphins to beg for food and draws them dangerously close to fishing gear and boat propellers.
- 2) *Reuse Or Share Leftover Bait*
 - Freeze leftover bait for later or give it to your fishing neighbor.
 - Dumping leftover bait may attract dolphins to fishing areas to beg or steal bait and catch.
- 3) *Reel In Your Line If Dolphins Are Near*
 - Reel in and wait for dolphins to pass to avoid losing your bait or catch and prevent potential harm to dolphins.
 - Never cast towards dolphins.
- 4) *Change Locations If Dolphins Show Interest In Bait Or Catch*
 - Move away from dolphins to avoid unintentionally hooking one and prevent damage to gear or catch.
- 5) *Release Catch Quietly Away From Dolphins When And Where It Is Possible To Do So Without Violating Any State Or Federal Fishing Laws Or Regulations*
 - Feeding or attempting to feed a marine mammal in the wild is prohibited.
- 6) *Check Gear And Terminal Tackle*
 - Inspect your gear often to avoid unwanted line breaks – even small amounts of gear in the water can be harmful to wildlife if entangled or ingested.
- 7) *Use Circle And Corrodible Hooks*
 - Circle hooks may reduce injuries to fish, dolphins, and sea turtles.
 - Corrodible hooks (any hook other than stainless steel) eventually dissolve.
- 8) *Stay At Least 50 Yards Away*
 - Stay a safe distance from wild dolphins to avoid causing potential harm.
 - Maintaining a safe distance helps keep dolphins wild.
- 9) *Recycle Fishing Line*
 - Place all broken or used fishing line in a Monofilament Fishing Line Recycling Bin.



- If no recycling bins are available, place broken or used fishing line that has been cut into pieces in a lidded trash can.

10) *Stash Your Trash*

- Littering is illegal and can be harmful to wildlife.
- Collect any trash you've left behind and place it in a lidded trash can.

Are there approved or suggested devices to deter dolphins from depredated on recreational gear?

There are currently no approved or suggested avoidance devices to actively deter or prevent dolphins from depredated on recreational fishing gear. Research efforts are exploring the use of various techniques for effective and benign methods. In the meantime, we recommend following the “Best Fishing Practices for Avoiding Interactions with Dolphins” to prevent harmful interactions.

What if I am fishing and dolphins come over and do not leave the area where I am fishing?

If dolphins do not leave the area, we recommend trying another fishing location as far away from the dolphin(s) as possible. Some fishing guides and anglers have reported that fishing success may decline at a site where dolphins are actively feeding. If the dolphin does not leave, or if it follows your vessel, we recommend ceasing fishing activity for a short time to discourage the dolphin's behavior.

How long does it take for a corrodible hook to corrode?

It may take anywhere from a couple of days, to weeks, or more for a corrodible hook to dissolve. Hooks are made from different alloys, with different coatings, that all affect how long they last. Using corrodible hooks in combination with other preventative measures may help reduce the chance of these interactions, as well as the degree of serious injury caused to the dolphins.

REGULATIONS

What regulations exist under the Marine Mammal Protection Act for recreational fishermen regarding marine mammals?

All marine mammals are protected under the Marine Mammal Protection Act (MMPA) of 1972, regardless of whether they are endangered, threatened, or depleted. The MMPA prohibits the “take” of all marine mammal species in U.S. waters. Take is defined as “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.”

Pursuant to regulation, take is further defined to include “feeding or attempting to feed a marine mammal in the wild.” Feeding is defined by regulation as “offering, giving, or attempting to give food or non-food items to marine mammals in the wild. It includes operating a vessel or providing other platforms from which feeding is conducted or supported. It does not include the routine discard of bycatch during commercial fishing operations or the routine discharge of waste or fish byproducts from fish processing plants or other platforms if the discharge is otherwise legal and is incidental to operation of the activity.”

Harassment is also defined by regulation, and means “any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild” or “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 but which does not have the potential to injure a marine mammal or marine mammal stock in the wild.”

Therefore, feeding wild dolphins, as well as other activities that harass wild dolphins, are violations of the MMPA and regulations promulgated there under.

The Marine Mammal Protection Act and the regulations enacted under it apply to everyone. Under the Marine Mammal Protection Act, violations can result in civil or criminal penalties with criminal fines as great as \$20,000, imprisonment for not more than one year, or both.

For more information about the MMPA, visit: www.nmfs.noaa.gov/pr/laws/mmpa/.



Do federal regulations protecting wild dolphins apply in state waters?

Yes. Wild dolphins are protected species under the Marine Mammal Protection Act (MMPA). Federal regulations under the MMPA, including those that prohibit the feeding and other forms of taking of wild dolphins, apply in both state and federal waters.

For more information about the MMPA, visit: www.nmfs.noaa.gov/pr/laws/mmpa/.

STRANDINGS

Is it more common for dolphins to ingest recreational fishing gear or become entangled in it?

According to stranding data from 2001 – 2006 in Florida, it appears that there are more cases of dolphins ingesting gear than solely becoming entangled in gear. There are several cases where dolphins have ingested gear and been entangled at the same time.

What other factors cause dolphins to strand?

There are really more questions than answers about why marine mammals come ashore. Dolphins strand because they are sick, injured, or disoriented. If they strand dead, it may be a result of natural causes, illness, or injuries. Naturally occurring toxins, such as red tide, have also been implicated in dolphin strandings.

For more information about NOAA's Marine Mammal Health and Stranding Response Program, visit: www.nmfs.noaa.gov/pr/health/.

What should you do if you entangle or see an entangled/injured or stranded dolphin?

In the state of Florida, call 1-888-404-FWCC (3922). A volunteer network of authorized stranding response teams and dolphin hospitals will work to save the live animals and learn as much as possible from the dead animals.

For other states, please visit: www.nmfs.noaa.gov/pr/health/networks.htm#southeast for the appropriate stranding number to call in your area.

BOTTLENOSE DOLPHIN ABUNDANCE AND CONSERVATION

How many bottlenose dolphins are there in the Gulf of Mexico? In the Atlantic?

The Marine Mammal Protection Act requires NOAA Fisheries Service to focus on each population stock of marine mammals, not just the overall species. Therefore, we have population numbers for some stocks of bottlenose dolphins, but not the entire population. Please see the following FAQs for more discussions on stocks and abundance estimates for stocks in the Gulf of Mexico and Atlantic.

What is a "stock?"

A stock is defined as a group of marine mammals of the same species or smaller taxa in a common spatial arrangement that interbreed when mature. Stocks are determined using various data including genetics, movement and abundance patterns, and contaminant loads. When movement of dolphins between two geographic areas is low or non-existent, the animals in each area will likely be considered from two different stocks.

What stocks of bottlenose dolphins are in the Gulf of Mexico? In the Atlantic?

There are two distinct types of bottlenose dolphins in both the Gulf of Mexico and Atlantic Ocean: (1) a larger, more robust body form generally found in deeper water far from shore (the "offshore" type); and (2) a more slender body form generally found closer to shore and inside estuaries (the "coastal" type). These two types are genetically distinct, but they can overlap spatially.

Gulf of Mexico



In the Gulf of Mexico, there are several defined stocks of the coastal type of bottlenose dolphins with separate abundance estimates. In 1994, there were approximately 5,000 dolphins in bays, estuaries and sounds from Florida to Texas; and about 17,000 dolphins in coastal waters from shore out to 20 meters (65 feet) deep. Data is limited or outdated for these coastal stocks and not considered suitable for management purposes. For the offshore type, more recent data suggests that there are approximately 27,000 dolphins in waters deeper than 20 meters (65 feet). Little information is currently known about the spatial distribution of the offshore and coastal types in deep waters of the Gulf of Mexico.

Atlantic Coast

Along the Atlantic coast from New Jersey to Florida, the coastal type primarily occurs in waters shallower than 20 meters (65 feet) deep, with some movement between coastal and offshore animals over the continental shelf. The most recent estimate for the coastal type, based on data collected in 2002, is between 30,000 – 40,000 bottlenose dolphins. This estimate includes animals from multiple coastal stocks and some that migrate seasonally, but it does not include animals that reside inside estuaries. Research is currently ongoing to improve our understanding of bottlenose dolphin population structure, determine migratory movements, and improve estimates of abundance in both estuarine and coastal waters.

Please visit the NOAA Fisheries Service Stock Assessment Report Web site for more specific information about the management and conservation status of bottlenose dolphin stocks (<http://www.nmfs.noaa.gov/pr/sars/species.htm>).

Why should we be concerned if a dolphin gets caught in gear when their population numbers seem to be abundant?

While bottlenose dolphins are common along the coast, they tend to have relatively small home ranges, particularly those found in estuaries. Because of this, stocks or even smaller communities within stocks may not move as readily between geographic areas. Likewise, human and/or natural impacts are often localized in certain areas creating more potential impacts on the health of that particular stock or smaller community rather than on the larger population. Therefore, a handful of dolphin mortalities in a small geographic area causes conservation concern because it may lead to a depletion of the local population. The Marine Mammal Protection Act states that marine mammal 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.”

How long has NOAA Fisheries Service been monitoring/managing wild dolphins?

NOAA Fisheries Service has overseen the conservation and protection (monitoring/management) of wild bottlenose dolphins in U.S. waters since the enactment of the Marine Mammal Protection Act in 1972.

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