

## Balloons and the Marine Environment



1. Explain why balloons are mistaken for food by marine animals. Describe what might happen after a balloon is ingested by a marine animal.
2. How many balloons were collected during the 1995 coastal cleanup?
3. Describe what happens to a helium balloon after it is released.
4. In your opinion, are balloon releases innocent fun? Or just another form of litter? Justify your opinion.
5. The article talks about a dead leatherback, hawksbill, and sperm whale. Identify and summarize the cause of death for each of each animal.
6. Describe at least three ways that organizations are rethinking the way they celebrate.
7. Can a balloon released in Colorado find its way to the ocean? Why or why not? Should Colorado have laws governing balloon releases? Justify your opinion.
8. Describe at least two legislative actions government officials are taking concerning balloon releases.
9. Write your own question using the word "Explain." Give it to another person and have them answer your question.
10. Write your own question using the word "Describe." Give it to another person and have them answer your question.

## Balloons and the Marine Environment

1. Explain why balloons are mistaken for food by marine animals. Describe what might happen after a balloon is ingested by a marine animal.

Balloons are mistaken for food by marine animals because \_\_\_\_\_. After a balloon is ingested an animal may \_\_\_\_\_.

2. How many balloons were collected during the 1995 coastal cleanup?

During the 1995 Coastal Cleanup, there were \_\_\_\_\_ balloons collected.

3. Describe what happens to a helium balloon after it is released.

After a helium balloon is released it will \_\_\_\_\_.

4. In your opinion, are balloon releases innocent fun? Or just another form of litter? Justify your opinion.

In my opinion, balloon releases are \_\_\_\_\_ because \_\_\_\_\_.

5. The article talks about a dead leatherback, hawksbill, and sperm whale. Identify and summarize the cause of death for each of each animal.

The cause of death of the leatherback was \_\_\_\_\_. The cause of death of the hawksbill was \_\_\_\_\_. The cause of death of the sperm whale was \_\_\_\_\_.

6. Describe at least three ways that organizations are rethinking the way they celebrate.

Three ways that organizations are rethinking the way they celebrate are \_\_\_\_\_.

7. Can a balloon released in Colorado find its way to the ocean? Why or why not? Should Colorado have laws governing balloon releases? Justify your opinion.

A balloon released in Colorado can/cannot find its way to the ocean because \_\_\_\_\_.

8. Describe at least two legislative actions government officials are taking concerning balloon releases.

Two legislative actions government officials are taking concerning balloon releases are \_\_\_\_\_ and \_\_\_\_\_.

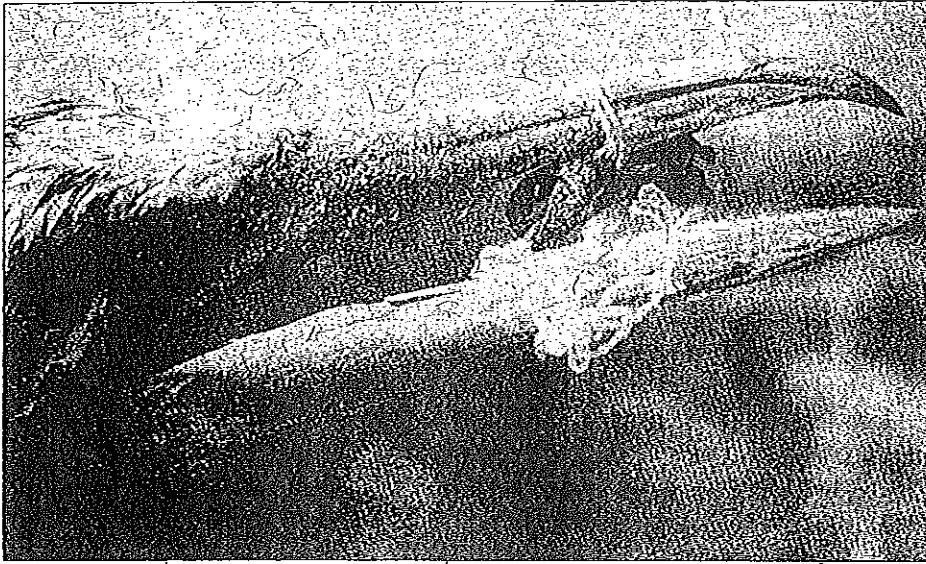
9. Write your own question using the word "Explain." Give it to another person and have them answer your question.

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## FACT SHEET

# Balloons and the Marine Environment



*This gannet was found in the Outerbanks of N. Carolina. There is a balloon and string tangled in and around its beak.*

*Photo by J. Tyler Campbell*

## WHAT GOES UP, WILL COME DOWN!

For years, people have celebrated festive occasions such as weddings, football games, birthdays, and grand openings with spectacular balloon launches, sometimes releasing hundreds, even thousands of balloons into the sky. One university released 25,000 balloons to celebrate a football game.

Unfortunately, the ramifications of a balloon launch may last longer than the few minutes of pleasure it provides. Although the floating balloons look like they are disappearing, they ultimately lose their helium and fall back to earth. When a balloon returns to earth, it has lost most of its original color and has usually exploded. Some of these balloons may fall into the ocean, where they may become a harmful form of marine debris.

Marine animals often mistake balloons for food. In water, the shredded ends sway in the currents and can look similar to tentacles of jellyfish or squid and can be accidentally ingested by sea turtles and other marine life. Once ingested, the balloon can become lodged in the digestive tract, possibly causing starvation or even death. The 1995 Marine Mammal

Commission's Annual Report states "...The principal cause of ingestion-related deaths is blockage of digestive tracts by plastic sheeting, plastic bags, or balloons."

Balloons were the 27th most common item reported by volunteers of the 1994 National Beach Cleanup. The states with the highest percentages of balloon debris are California, New York, Michigan, Florida, and Hawaii, respectively. The number of balloons found during beach cleanups has increased significantly. For example, the number of balloons found in New York increased from 449 in 1989 to 5,418 in 1994.

According to balloon professionals, 222,220 twelve-inch balloons equal one ton of latex. Balloons stay aloft for 8-15 hours, depending on the quality of the latex. Manufacturers claim that balloons climb an average of five miles then burst into tiny bits and fall harmlessly to the earth. There is evidence that this claim may be untrue as balloons are found intact along beaches everywhere.

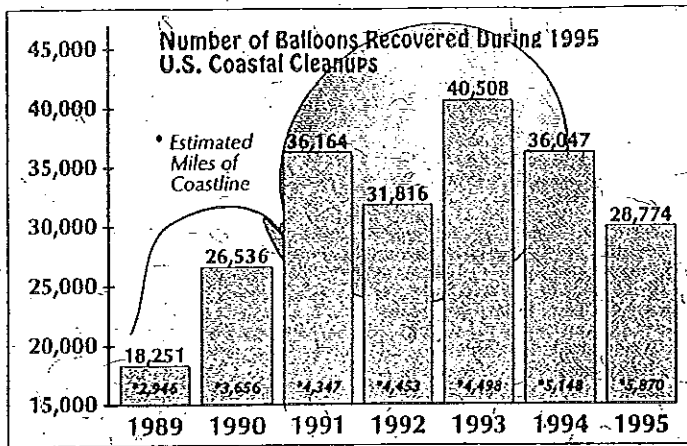
Just because a balloon is found on Long Island in New York, one cannot assume that it was released into the atmosphere from the same location.

## Number of Balloons found during the 1995 Coastal Cleanup

Alabama.....	315
Alaska.....	5
Arkansas.....	2
California.....	5,094
Connecticut.....	479
Delaware.....	885
District of Columbia.....	30
Florida.....	2,762
Georgia.....	110
Guam.....	33
Hawaii.....	1,376
Idaho.....	0
Illinois.....	501
Indiana.....	336
Louisiana.....	282
Maine.....	307
Maryland.....	588
Massachusetts.....	1,361
Michigan.....	1,364
Minnesota.....	14
Mississippi.....	313
Missouri.....	2
Nevada.....	0
New Hampshire.....	168
New Jersey.....	2,276
New Mexico.....	4
New York.....	3,060
North Carolina.....	1,922
Ohio.....	40
Oregon.....	676
Pennsylvania.....	86
Puerto Rico.....	9
Rhode Island.....	626
South Carolina.....	775
South Dakota.....	0
Tennessee.....	1
Texas.....	1,908
Virginia.....	944
Washington.....	73
West Virginia.....	1
Wisconsin.....	42

The total number of balloons found during the 1995 Coastal Cleanup was 28,774, compared to 36,047 found during the 1994 Coastal Cleanup.

Some balloons that are released into the atmosphere end up in the ocean and consequently on our beaches. Volunteers who participate in organized beach cleanups record the types and amounts of trash they collect on data cards developed by the Center for Marine Conservation.



Released balloons are carried by winds and currents. Due to changes in temperature, exposure to sunlight, and other environmental conditions, the balloons eventually lose their buoyancy and fall back to Earth, sometimes hundreds of miles from the release site.

found in Virginia only 26 hours later. In another incident, a balloon accidentally released by a realtor in Fairfax, Virginia was found on a New Jersey shore 150 miles away, three hours later. When a Virginia school released 500 balloons only one was returned—from Scotland.

## BALLOONS AND WILDLIFE

Many animals become sick and die from eating different types of debris. Sea turtles and whales have been found to ingest balloons because they are mistaken for food. Dr. Peter Lutz from the University of Miami conducted a study with sea turtles and small pieces of latex and plastic sheeting. Lutz's experiment involved mixing one-centimeter pieces of balloon with normal food. His findings conclude the ingestion of floating bits of balloon latex is not accidental, but is quite deliberate and that the latex is retained inside the turtle for months. According to Lutz, normal food is digested and excreted by turtles in about a week. But the balloons can be retained by turtles for up to three months. According to one National Oceanic and Atmospheric Administration report from 1994, of 197 necropsied turtles, 103 had ingested plastic or balloons.

Countless incidents of ingestion of balloons by wildlife have been documented throughout the world. Many animals mistake the deflated balloons for food and subsequently ingest something that has absolutely no nutritional value and can lead to strangulation or digestive disorders. Two such cases

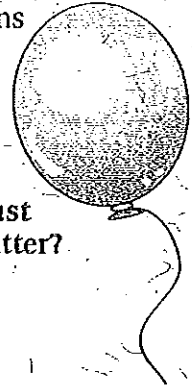
were actually discovered during the 1994 beach cleanup. In New York a seagull was found entangled in ribbons attached to balloons, and in Georgia a loon was also found entangled in balloons (1994 U.S. National Coastal Cleanup Results).

Peter C. Hibbard, from the Balloon Alert Project in New Jersey, necropsied a dead leatherback sea turtle for cause of death in September 1987. He found a single latex balloon blocking the region where the stomach and intestines meet. Three feet of blue ribbon extended into the intestines. There was no other debris in the stomach and there was no food in the intestines.

George Balazs, a sea turtle biologist with the National Marine Fisheries Service, reported that an eleven-pound hawksbill sea turtle died with more than 2,400 pieces of plastic in its digestive system. One of these pieces was the neck of a balloon with the string still attached. It was found in the turtle's esophagus. Another young green sea turtle found dead by Balazs in November 1989 had particles of plastic

Only five percent of the 225,000 balloons (a little over one ton of latex) released in 1987 during the National Science and Technology Week launch were recovered. The remaining ninety-five percent, or 213,750 balloons, were lost, possibly injuring wildlife and ultimately contaminating the environment.

Today, many states are fighting costly litter problems and encouraging citizens to help keep their states beautiful. This leads many people to ask: Are balloon releases innocent fun or just another form of litter?



bags, fishing line, and a pink latex balloon in its stomach.

Robert Schoelkopf, Director of the Marine Mammal Stranding Center in New Jersey, tried to rehabilitate four loggerhead sea turtles in January 1988 that were near death. After seven weeks in captivity, Schoelkopf noticed that at least one of the turtles had passed two blue and orange latex balloons through its intestinal tract.



Loon on Blackbeard Island, 1993. Photo by Larry Sheffield

The Marine Mammal Stranding Center also studied a dead one-year-old sperm whale in July 1985. A heart-shaped mylar balloon with a three-foot purple ribbon was found blocking its pyloric sphincter, which connects the stomach with the intestinal tract. This whale died from starvation.

There has been controversy over whether the ingestion of balloons can be determined as the exclusive cause of an animal's death. Yet, as one government scientist stated, "The evidence is clear that the ingestion of balloons kills at least a few endangered sea turtles. I believe many other scientists would agree. Without question, eating

them can do nothing but harm to the animal."

The Center for Marine Conservation also considers balloons to be potentially deadly debris.

*There is virtually no difference, the Center points out, between releasing 250,000 balloons and dropping 250,000 plastic bags over the side of a ship.*

## CITIZEN ACTION

With evidence that balloon releases cause litter and that balloons are ingested by wildlife, people are rethinking the way they celebrate...

Six Flags Great Adventure in New Jersey prohibits balloon launches.

Philadelphia schools have instituted a "no balloon release" policy.

The President of Penn State University has prohibited balloon releases on campus.

Officials at the University of Alabama and University of Tennessee athletic departments stopped the release of helium balloons at football games.

The White House and the U.S. Navy has voluntarily suspended mass balloon launch activities.

Walt Disney World has discontinued mass balloon launches.

San Francisco Park and Recreation Department has stopped all mass balloon releases associated with their parks and recreation facilities.

The National Park Service has called for a national ban on the releasing of balloons within designated National Parks.

The National Education Association has formally adopted a policy against the release of balloons, reversing an earlier policy of sponsoring releases as part of Science and Technology week.

### Kids Speak Out for the Environment!

In most instances, it's the students who have convinced state legislatures and private organizations to stop launching massive balloon releases. Kids, for whom the releases are generally planned, can make a powerful environmental statement to their parents and their community by speaking up about balloon launches.

### Become Part of the Solution to Ocean Pollution...

In the face of overwhelming environmental problems, such as global warming or catastrophic oil spills, it is not uncommon to feel powerless to help. Citizen beach cleanups demonstrate that we are not powerless in the fight to stop marine debris. Marine debris is caused by people and can be solved

by people. A beach lined with volunteers armed with trash bags and eager to clean is a positive, hope-filled sight. To find out how to participate, call the Center for Marine Conservation at 1-800-CMC BEACH or contact us by e-mail:

cleanup@hampton.cmc.mhs.com  
compuserve.com

## ALTERNATIVES

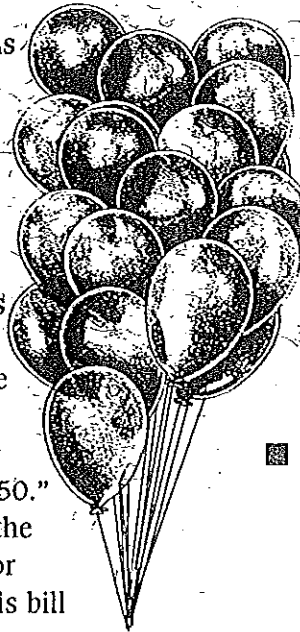
- Release balloons indoors. For school programs, write the students' names on tags attached to balloons. Award a prize to the student whose balloons stay up the longest. Students can enjoy the balloons for days instead of minutes.
- Build a colorful balloon arch with balloons filled with oxygen instead of helium. Keep the balloons from falling off with wire and string.
- Have a balloon sculpture contest where people can use their imagination to shape animals, etc.
- Celebrate with a "kite day." Students and adults can make their own kites. Teachers can use the event to demonstrate important engineering and flight principles.
- Hold a water-balloon contest and clean up the broken balloon pieces afterwards.
- Stage a balloon drop in which hundreds or even thousands of balloons, suspended near the ceiling, are released en masse over the heads of partygoers.



## GOVERNMENT ACTION

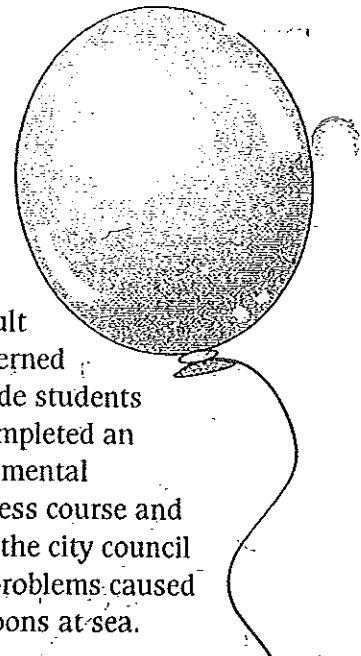
The problems associated with balloon releases have prompted legislators and officials at all levels of government to limit their occurrences. For example:

- The states of California, Connecticut, Florida, New York, Tennessee, Texas, and Virginia have enacted legislation prohibiting or restricting the release of helium-filled, latex and/or mylar balloons into the atmosphere for environmental or public safety reasons.
- Baltimore has enforced a moratorium on helium releases since April 26, 1989.
- Louisville, KY passed an ordinance stating that "no person shall intentionally cause rubber and/or plastic mylar balloons to be released into the atmosphere. Any person found guilty of violating the provisions of this ordinance shall be fined not less than \$50 nor more than \$250." According to the office of Mayor Abramson, this bill



was the result of concerned 4th grade students who completed an environmental awareness course and alerted the city council to the problems caused by balloons at sea.

- The city of Huntsville, AL passed an ordinance stating that "it is unlawful for any person, firm or corporation to intentionally release or cause to be released within a 24-hour period ten (10) or more balloons made of a non-biodegradable material, or a biodegradable material that requires more than several minutes of contact with a gas that is lighter-than-air, except for balloons released pursuant to a governmental contract for scientific or meteorological purposes or hot air balloons that are recovered after launching.
- Legislation to prohibit mass helium balloon releases has been introduced in the states of New Jersey and Delaware.



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