

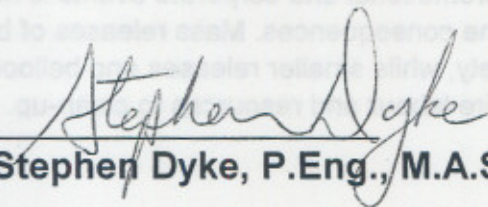


GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of Environment

Guidance Document

Title: Helium Balloon Release

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Helium Balloon Release

General

This guidance document outlines the Department of Environment's position on helium balloon release in the Province of Newfoundland and Labrador.

The impressive visual impact of thousands of balloons being released into the sky may last a few minutes, but the impact on wildlife and the marine environment may last many months with potentially harmful consequences. Once balloons are released, they can become a serious form of land and water pollution. A long list of marine creatures - dolphins, whales, turtles, fish, and many types of seabirds - have been reported with balloons in their stomachs. It is believed that they mistake balloons and other buoyant plastics for their natural prey e.g. jellyfish and squid, and eat them.

While most balloons used in large-scale releases are made of biodegradable latex, some are made of mylar foil which is persistent in the environment. Also, the strings and ribbons attached to balloons pose similar risk to aquatic and terrestrial wildlife. Domestic animals are also at risk.

Releasing balloons at large outdoor promotional and corporate events is not something that should be done without considering the consequences. Mass releases of balloons are symbols of our wasteful and 'throw away' society, while smaller releases and balloon races result in a high number of litter events that require labour and resources to clean-up.

Purpose

The purpose of these guidelines are to:

- discourage the small-scale and large-scale release of helium balloons to environment;
- educate the public as to the impacts of helium balloons on fish, birds, and mammals; and
- exempt balloon releases for atmospheric monitoring and research.

The attached Appendix contains background information.

Appendix - Background

Prohibition Trends in North America

The Canadian government no longer allows the release of tens of thousands of balloons in Ottawa to mark Canada Day. Many states in the US have banned balloon releases.

Magnitude of Balloon Releases

An estimated 90-95% of released balloons rise to an altitude of 7.5 km where the temperature and pressure is such that they burst into small fragments. The remaining 5-10% that do not reach a high enough altitude may remain inflated and can float many miles before descending back to the land or the sea semi-inflated.

The largest ever balloon release was 1.4 million balloons, and those that landed in the ocean may have been mistaken for prey and eaten by animals.

The problems caused by mass balloon releases were first highlighted at a conference in Canada in 1989 on plastic and other debris found at sea. Balloons had been found accumulating on islands off the east coast of Canada; some were still partially inflated and their country of origin was traced to the USA.

Small-scale releases and balloon races may have a disproportionate effect on the environment because:

- the balloons may not be adequately inflated;
- strings or ribbons are often attached which can lead to the entanglement of animals; and
- race tags intentionally weigh balloons down further increasing the potential for balloons to land in the countryside or at sea. (*Marine Conservation Society, www.mcsuk.org, Dec. 2000*)

Study on Turtles

One study involving turtles found:

- when offered a mix of pieces of clear plastic and brightly colored latex, the turtles showed a strong preference for the latex pieces over the plastic.

- in experiments with latex only, sea turtles demonstrated that if their appetite is sufficient, they will actively swim towards and ingest latex materials, that all colors are acceptable, and that the amount ingested will depend on their nutritional state.
- the length of time that the latex remained in the turtle's intestinal tract ranged from a few days to four months, with a peak time period of eight weeks. (Note: the normal gut passage time in sea turtles is approximately 10 days.)
- turtles passed multiple pieces bound together, although they had ingested the individual pieces at different times, showing the possible cumulative effect of ingestion of latex balloon pieces.
- ingestion could cause a reduction in absorption efficiency and also cause mechanical damage to the gut lining. Sublethal ingestion, where complete intestinal blockage does not occur, could adversely affect behavior, growth, reproduction, and general homeostatic physiological functioning and lead to other potentially lethal health conditions. (*Lutz, Proceedings of the Second International Conference on Marine Debris, 1990*)

All seven species of marine turtle are near extinction and many turtles of two species in particular, the loggerhead and leatherback turtle, have been found with balloons in their guts, probably having mistaken them for jellyfish, their preferred prey.

Impacts on Various Species

The following species, all of which occur in the North East Atlantic waters off the UK, have been reported with latex balloons in the digestive systems: common dolphins, Risso's dolphins, loggerhead turtles, leatherback turtles, blue shark, and northern fulmar, and whales.

It is very difficult to prove that ingestion of a balloon has been the direct cause of death of a beached animal. However, the fact that balloons have been identified in the stomachs of these animals indicates that the balloons are not rapidly broken down by an animal's digestive system and/or that death occurred shortly after ingestion of the balloon.

An infant sperm whale met its death in New Jersey in 1985 as a result of ingestion of an inflated mylar balloon which had lodged in its intestines. Consequently, the whale died of starvation.

Semi-inflated balloons can block the pyloric valve between the stomach and intestines so that food cannot pass through, causing slow, painful starvation.

Balloon Industry's Defense

A study on balloon persistence in the environment indicated that latex balloons degrade "faster than an oak leaf" and this is often used in defence of large-scale balloon releases. However, an oak leaf in a cold water environment may take six months to break down and during this time the balloons can be carried hundreds of miles by sea breezes and ingested by marine life.

This study has been used by organizers of balloon releases as proof that balloons have no detrimental effect on turtles, but no test was carried out to study the effect of ingesting whole balloons which are more likely to be mistaken for food and ingested. (*Marine Conversation Society, www.mcsuk.org, Dec. 2000*)

