

BALLOON RELEASING IN BIRMINGHAM

● Introduction

There are two different forms of balloons used in balloon releasing. The first is 'foil' or 'Mylar' balloons, which are not biodegradable and are rarely used. The second type is a helium filled latex balloon which is made from natural products that will eventually decompose. Millions of helium filled latex balloons are released into the atmosphere each year. Whilst balloon releases pay a very important role in businesses and promotional events, the environmental impacts of balloon releases need to be considered further.

Once a balloon has been released it rises to a height of 5 miles where the pressure and the temperature cause the balloon to undergo brittle fracture. This means the rubber shatters along the grain boundaries of the crystallised segments to give smaller fragments roughly the size of a coin. The small pieces then float back down to earth where they are scattered over the land and sea. It is estimated that there is one piece every 5 square miles. It is thought that these pieces will have very little effect on wildlife. However around 5% of the balloons released will be flawed or develop leaks and will not reach an altitude high enough to burst. Thus they then return to the earth intact in an intact state and can have a detrimental effect on the environment.

This report aims to look at both the positive and negative impacts of balloon release and suggest environmentally friendly alternatives.

● Positive aspects of balloon release

As mentioned previously, it is estimated that the density of intact balloon fall is around one balloon per 15 square miles. This is an extremely low density and is unlikely to have a measurable impact on wildlife (Buchette, 1989). Research has shown that balloons are able to decompose within 6 weeks. This is a similar time to that taken by an oak tree leaf.

Balloon releasing plays a very important role in prompting and raising funds for charities and other non profit organisations through highly visual advertising and social events. In addition, many people rely on balloon releases and other associated activities for their income. For example balloon manufacturers, helium suppliers, balloon wholesalers and retailers and their employers. Often family run businesses are involved in balloon deliveries and decorating.

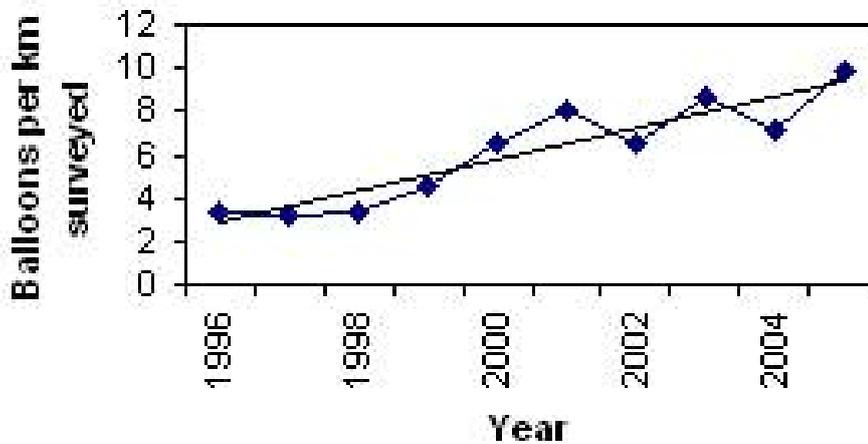
Helium filled latex balloons are essentially a completely natural product. The balloons are made from the *Hevea brasiliensis* tree and thus decompose in the same natural manner as the Hevea tree (Burchette, 1990)

A report by Lutz (1990) looked at the effects of latex on sea turtles by feeding them undecomposed latex strips. It was concluded that the latex did not cause them any harm. In addition it is unlikely that a sea turtle will be able to forage a large enough area to find the one balloon in 15 square miles.

● Negative aspects of balloon releases

A report by Beachwatch in 2003 has estimated that there are around 8.7 balloons per square km of beach in Britain. However this figure may be higher in extreme cases, for example 63 balloons were found in a one mile stretch of beach in Balmedie near Aberdeen. In addition research has shown that the number of balloons and balloon pieces on Britain's beaches has almost tripled in the last 10 years (see fig. 1.). This suggests that if balloon release is continued unregulated the negative environmental impact will escalate.

Figure 1. Balloons recorded per km surveyed during MCS Beachwatch 1996 - 2005



The 5% of balloons that do not burst in the atmosphere are able to travel at least 75 miles. This means that balloons released in Birmingham are able to reach the sea, where they are able to cause more damage as they have a slower decomposition rate of over one year (Andrady A.L 2000).

Often the attached strings and ribbons take longer to decompose than the balloons and can entangle animals and cause internal problems if swallowed. Species found to have ingested balloons include the Common Dolphin, Risso's Dolphin, Loggerhead Turtle, Leatherback Turtle, Sea Turtle, Blue shark, Northern Fulmar and Sperm Whale. In total more than 265 species of birds, fishes, mammals and marine turtles, including endangered and threatened species, are at risk of ingesting marine debris (Coe & Rodgers, 1997). Often animals such as sea turtles will mistake balloons floating in the water for prey, such as jelly fish. Most leatherback turtles washed up on UK shores have digested litter in their gut (Shaver & Plotkin, 1998). In 2001 a green turtle washed up on shore had its stomach blocked by plastic litter and a balloon (Penrose, 2002). Swallowed balloons may cause choking and can block digestive and respiratory systems. Digested food can then not pass through the system and there will be a toxic build up in the animal. Additional nourishment will not be taken in and the animal will slowly starve. This has been proved in marine animals however less research has been done on the impact of the balloon ingestion on land mammals, but a risk to livestock and other creatures of inadvertently consuming latex balloons still exists. Although most the balloons shatter, the small pieces could still be misinterpreted as food by many of the smaller mammals, causing as much of a problem as the whole balloons do to larger animals. In 1985, an infant sperm whale was found dead of starvation as a result of ingestion of an inflated Mylar balloon which had been lodged in its intestines. A study by Lutz (1990) showed that turtles passed multiple pieces of balloon bound together, although they had ingested the individual pieces at different times. This shows the possible cumulative effect of ingestion of latex balloon pieces. The study also concluded that sea turtles have a feeding preference to brightly coloured balloons over other items such as clear plastic. In addition other research has shown that they do not pass through the digestive tract of a turtle in the normal time, but have been proven to accumulate and may take up to 4 months to pass through (Caribbean Conservation Corporation (CCC) and Sea Turtle Survival League).

There is also of whether balloon release is legal, as fallen balloons will become litter which is against the Environmental Act of 1990.

Balloons are also able to enter marine systems, for example boats and jet skis, and pose a threat to human safety.

Whilst balloons are able to decompose as fast as oak leaves, often oak leaves can take up to 4 years to completely decompose under natural conditions. Hence balloons can also take up to 4 years to fully degrade, in which time balloons pose a more significant threat to animals than oak leaves. And it is also known that the latex balloons take even longer to degrade when at sea.

The Marine Conservation Society, the RSPCA, the Tidy Britain group and the National Farmers Union, share the view that balloon releases should not occur in the UK given the evidence for the harm that they cause to wildlife and the aesthetic damage to the environment. The Civil Aviation Authority also needs to be informed if a balloon release is planned as it can cause problems to air traffic.

● Alternatives

Whilst there are many positive socio-economic aspects to balloon releasing, there are also many grave, often fatal, impacts on the environment. It is therefore important to look at environmentally friendly alternatives whilst still providing the economic and social benefits of a balloon release. Many local authorities have taken the step of banning balloon releases from the area. These include Oxfordshire County Council, Shetland Islands Council and South Hams District Council.

The RSPCA suggest that balloon releases should be avoided but if they do take place all used balloons should be cut up.

If balloon release does take place, there are many measures that can be taken to reduce the environmental impact. These are listed below:

- Use balloons made of natural rubber latex rather than mylar balloons.
- Always hand tie balloons rather than using plastic valves.
- Use string and labels which degrade at least as fast as the balloons.
- Clear balloons degrade fastest (Burchette 1989) and are less tempting to animals.
- Only release individual balloons rather than clusters.

There are also more environmentally friendly events that can be held that still involve using balloons and the associated business. When balloons are used indoors, all the pieces can be collected and safely disposed of. Some of these are mentioned below:

- Prize balloon popping. – Air fill balloons, and hide prize tickets inside. Release the balloons indoors and have everyone pop then to find the prizes.
- Guess the number of balloons. – Run a competition before the balloon popping, the closest guess wins.
- Balloon Art. – Hire a balloon artist, or for the big, bold statement try a giant air filled balloon sculpture, or balloon statues.
- Balloon relay. Each member of a team has to run a short distance and sit on a balloon to pop it before running back to tag the next member of the team. The first team to pop all the balloons wins. Alternatively have lines of people pass a balloon to each other by their knees, the first team to get successfully to the end wins.
- Plant a tree. - Often balloon releases are used for commemorative occasions. Instead plant a tree, shrub or flower garden in memory of loved ones. This will not only leave a lasting memory but provide a haven for wildlife.

- Balloon lottery. – Number the balloons and sell the numbers like a lottery draw. You can then get a representative of the charity, celebrity supporter, or lucky member of the public to burst a balloon at random, and so pick the winning number for the draw.
- Paper Balloons. – In Burma, paper balloons are launched to commemorate Buddha. This is a very safe way of retaining the 'release' idea, but without the dangers to the environment. Websites are available that explain how to make your own paper balloons (e.g. www.explorium.org/tissue_balloons.htm). Or paper balloons can be purchased in different shapes already with biodegradable message tags and string attached from companies such as Tsumura and Associates Ltd (<http://www.tsumura.co.uk/SHOWcorporation/html/eco.htm>)

● References

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● Useful Contacts

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This document is currently awaiting City Council approval for policy.