



Lake George Association

People Protecting the Lake Since 1885

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LAKE GEORGE ASSOCIATION RELEASES RESULTS OF INITIAL STUDY INTO THE EFFECTS OF FIREWORKS ON LAKE GEORGE

Lake George, NY – It might be hard to remember those warm summer nights this time of year, but every summer Lake George is host to numerous fireworks displays. In addition to the well-known displays in Lake George Village, other town parks such as Bolton and private organizations and hotels also have fireworks displays. While private shows are typically smaller than the Village ones, we seem to be seeing more and more of them over the years. Exactly how many is hard to know, since there is no permit or registration needed.

Discussion about the effects of fireworks on Lake George is not new. It has come up at Village Planning Board and Lake George Park Commission Board meetings in years past. However, due to a number of shows right in a row in 2008, interest in the matter arose again, a bit louder this time. As a result, the LGA hosted a meeting last October to discuss the matter with a number of local officials. LGA staff then followed up with a meeting with Jeff Alonzo, owner of Alonzo Fireworks. “We discussed the idea of a registration system to keep track of the number of shows that go off over Lake George each summer,” said Emily DeBolt, the LGA’s Director of Education. “The idea is to keep it simple, but just to have a way of knowing how many shows there are, where they are, and what products are being used. Alonzo said they had no objections to such a system.”

However, we still didn’t know if there was really cause for concern or not. The few studies that are out there pretty much just say that more study is needed. In more recent years however, with increasing interest in new age contaminants, there have been a few studies on perchlorate, which is used as a propellant in fireworks. While most of it combusts, all of it does not, resulting in perchlorate falling down on the land and water. There are health and environmental concerns associated with perchlorate contamination, many of which are still not well understood. Perchlorate is absorbed by the thyroid gland in place of iodine, which can interfere with the production of thyroid hormone, which is essential to metabolism and mental development.

So the LGA decided that it made sense to try to gather some data of our own. We collected water samples from three sites in Lake George Village before and after five fireworks events this past summer. We had the samples analyzed for perchlorates, barium, and antimony –the later two are also contaminants associated with fireworks. We also collected sediment samples from Lake George Village and compared them to sediment from near Shelving Rock, an area with similar sediment type and water depth that from our best guess had not been host to any fireworks displays in the past. Our full report, including background information on the contaminants associated with fireworks and references for available scientific studies will be available by request and on our website. However, the long and short of it is that we didn't find much – which is a good thing!

There is no federal or NYS drinking water standard for perchlorate. In 2006 Massachusetts was the first to set such as standard, and set the drinking water standard for perchlorate at 0.002mg/L. Part of the problem is that there isn't really much agreement on what is or isn't a safe amount of perchlorate. But for the purposes of our study we used 0.002 mg/L as a reference point. Our results showed no change in perchlorate, with perchlorate levels less then 0.002 mg/L for all tests, before and after firework events. We also did not find a change in antimony levels, and while barium levels slightly fluctuated, the results were also not significant. We also found perchlorate levels of less than 0.002 mg/L in the sediment samples from both locations.

Perchlorate-free fireworks are available for use, however they are much more costly than traditional fireworks. Since perchlorate has implications for human and environmental health, a switch to perchlorate-free fireworks for fireworks used over Lake George might want to be considered. However, our initial findings did not find changes in perchlorate levels in the water attributable to fireworks, so they do not necessarily support the need of this additional expense at this time. We would still like to caution that this study was by no means comprehensive, so we can not know for certain if there is need for a concern over perchlorate or not. We can only weigh our options based on the knowledge we have available to us and do our best to protect Lake George and the economic viability of the region.

Other studies that did find changes in perchlorate levels measured at much smaller intervals. For instance, one study we reviewed had a method detection limit (MDL) of 0.003 ug/L, compared to the MDL of 1.2 ug/L that our lab was able to achieve. So we might not have been able to detect changes that were present. However, the question of what levels are relevant in terms of safety for human and environmental health is still unanswered. Do we need to be able to detect 0.003 ug/L of perchlorate in our drinking water? We don't have that answer right now.

What does at least seem to make sense at this time is to track the fireworks displays that occur over Lake George every year, so that we can have a better idea of the number and locations of these events. This is at least a starting point. And then in the mean time we can look for answers to some of the questions that are still out there.

The LGA is a not-for-profit membership organization of people interested in working together to protect, conserve, and improve the beauty and quality of the Lake George Basin. For more information, contact the LGA at (518) 668-3558 or check out LGA on the web at www.lakegeorgeassociation.org.