

Submission on the Fireworks By-law Review – August 2nd, 2023

Prepared by the Environmental Stewardship and Action Community Advisory Committee (ESACAC)

The Environmental Stewardship and Action Community Advisory Committee recommends that the City of London adopts Option B as outlined in the staff report presented to the Strategic Priority and Policy Committee. Option B would allow for permitted display fireworks only to be discharged (which has traditionally included Canada Day, Victoria Day, Diwali, and New Years Eve) in London. This option would restrict use of all consumer (backyard) fireworks, restrict the sale of consumer fireworks in London, and propose an increase to current fines.

Additionally, ESACAC recommends that 1) the City considers the locations of permitted display fireworks to account for nearby environmental disturbance and to limit pollution from entering sensitive features such as the Thames River, and 2) the City aims to promote lower-impact alternatives to fireworks for at least some subsidised public events, such as outdoor concerts and light shows using drones.

The mandate for ESACAC includes remedial planning toward the clean-up of contaminated areas, waste reduction, and the development and monitoring of London's Urban Forest Strategy and Climate Emergency Action Plan. Therefore, our feedback mostly focuses on these themes. This report includes three sections. The first provides background information to support Council reviewing the Fireworks By-law through a climate emergency lens. The second provides linkages between the By-law and relevant City of London policies and strategies. The third addresses potential concerns and frames the proposed Option B for the By-law within broader objectives.

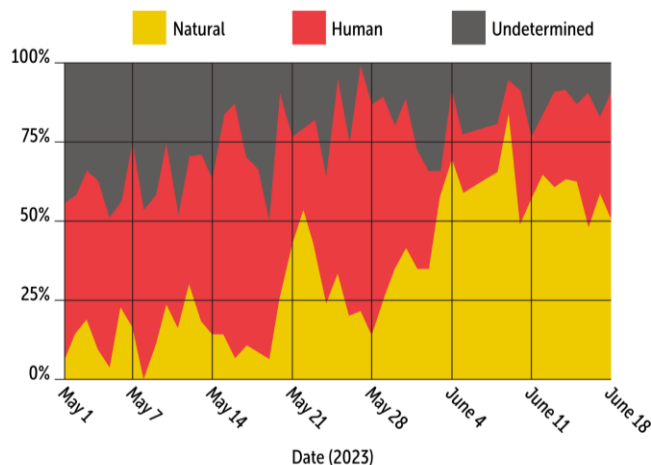
1. Background information: fireworks, climate change and the environment

Climate change is elevating the risk of wildfires. Now and in the future, fireworks may be more likely to cause wildfires that harm people, property and the urban canopy in London Section 1 of the Climate Emergency Action Plan¹ says: “*London has luckily remained relatively unscathed from the severe physical impacts of climate change such as forest fires, major floods and intense heat waves that have struck other parts of the world. As time progresses however, London will very likely experience more severe effects.*”

For example, in June 2023, an unusually long period without rainfall led to some of the worst wildfires and smoke Canada has ever seen², creating significant health and safety concerns for Londoners³, and resulting in the London Fire Department enacting a temporary ban on open burns⁴. Humans cause more than half of all wildland fires in Canada, typically in populated forest and grassland areas⁵. In Ontario, human causes of fires may include fireworks, campfires, off-road vehicles, ammunition, industrial activity, agriculture, power lines and arson.

Cause of 2023 wildfires in Canada (% of total)

Source: Canadian Interagency Forest Fire Centre Inc.



Source: The Narwhal (2023)⁶

According to the Canadian Forest Service (2005) the overall number of fires occurring in Ontario's fire management area is expected to increase 15% by 2040 and 50% by the end of the century⁷. A recent scientific study predicts eastern Canada will see a dramatic 200% to 300% increase in "fire spread days" including dry conditions, smoke and poor air quality⁸. Natural Resources Canada estimates that fire protection costs could double in Canada by 2040 as we attempt to keep up with worsening risk.⁹

Responding to community-wide fires in interior British Columbia and Fort McMurray, in 2021 the Canadian federal government issued high-level, nation-wide guide¹⁰ that contains thresholds to inform when and how to prepare at the local and city-wide levels for fires. Section 4.2.2.1 Regulatory Considerations begins with the following:

"Ideally, all land uses should be evaluated to determine whether they are in a wildfire hazard area and, if so, the appropriate type and level of mitigation. However, local municipalities and any other Authorities Having Jurisdiction must also consider their capacity to administer and enforce regulations, which may vary considerably across provinces and territories. The following guidance can support local governments in the development and adoption of land use planning requirements that address the wildfire hazard in the Wildland Urban Interface.

- *Incorporate the goal of minimising the wildfire hazard to people, property, and infrastructure at all stages of the land use planning process. This often begins with plans containing high-level goals and objectives. Although plans may not be legally binding, this policy direction creates a foundation for future implementation through by-laws and other regulatory instruments.*

The Provincial Policy Statement 2014 and London Plan 2016 require that planners must take into consideration the risk of wildland fires. This is based on Provincial mapping of urban forest areas at risk of wildland fire (2017 mapping available on Ontario GeoHub¹¹) The Ontario provincial threat assessment has historically focussed on resource protection, particularly on the boreal forest, but under climate change conditions that attitude no longer prevails. While London is not a hotspot for industrial-scale forestry, it is a major transport hub and densely populated area. Wildland fires, which can include grassland fires, will likely become more frequent and/or more extensive here.

Under the current Fireworks By-law, consumer fireworks are being detonated throughout the city, including in vegetated and densely populated areas. While there is abundant anecdotal evidence to suggest fireworks are being used in ways outside of what is permitted under the By-law, applicable restrictions are challenging to enforce, and there are limited data on enforcement cases to estimate the risk of starting fires. However, the lack of data should not inhibit the City from taking actions to limit known and plausible harms and risks. Under the Canadian Environmental Protection Act (1999) the Canadian federal government's actions to protect the environment and health are guided by the precautionary principle, which states that "*where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.*"¹²

The City's Urban Forest Strategy was completed in 2016 to effectively care for existing tree cover, plan for continued health and improve tree cover for the future. A Tree Planting Strategy update is underway which will also include an update to the Wildland Fire Risk rating (identified as 'low to moderate' for London in 2017 by Provincial Ministries). Council may wish to consult with staff about the forthcoming updated Wildfire Fire Risk rating to support decisions on fireworks.

The Canadian Association of Fireworks Chiefs espouses a complete ban on the sale and use of consumer fireworks in Canada, in favour of the professional fireworks industry¹³.

Existing uses of consumer fireworks are creating pollution that extends into the Natural Heritage System and the Thames River. However, there are presently no data on the extent of pollution associated with fireworks in London specifically. Fireworks generate multiple forms of pollution, including:

- A. **Single-use plastics** which should be sent to landfill, but often end up as litter at sites where detonations occur. Fireworks detonated near waterways may send plastic downriver. Plastics used in fireworks casing and packaging can take decades to centuries to break down. Plastic fragments may be ingested by wildlife such as fish, turtles and birds. Litter in natural areas associated with fireworks is observed frequently during the warmer months, especially following recent celebrations (Antler River Rally, personal communication).
- B. **Airborne pollutants** such as ozone¹⁴ and fine particulate matter which are released upon detonation fireworks. Fine particulate pollutants may include perchlorates, nitric oxide and sulphur dioxide (primary contributors to acid rain)¹⁵ and heavy metals such as lead, copper, barium, strontium, potassium and magnesium¹⁶ that linger in the air and contribute to reduced air quality. For instance, one study found concentration of particulate matter in the air is about 42% greater during fireworks shows¹⁷; another study found that within 1 hour of fireworks displays, strontium levels in the air increased 120 times, magnesium 22 times, barium 12 times, potassium 11 times, and copper 6 times more than the amount already present in the air before the event¹⁸. Fine particulate pollutants are small enough to enter human lungs and cause health issues¹⁹. Pollutants dissipate slowly; in many areas, air quality may not return to normal until the following day as particles are captured in rainfall, or settle in soils and bodies of water. Pollution from fireworks may compound in the environment over time²⁰, some with toxic effects at even low doses²¹. Airborne pollutants released by fireworks travel far from their origin. For example, studies that tagged heavy metals used in pyrotechnics found the metals travelled 100 km (62 miles) downwind over a two-day period of mild weather^{22, 23}. Concerns about air quality impacts²⁴ have led to government interventions on firework displays during celebrations such as Diwali in New Delhi, India²⁵.

2. Linkages to City of London policies and strategies

The City of London 2023-2027 Strategic Plan outlines several Strategic Areas of Focus and their Outcomes that are relevant to reviewing the Fireworks By-law.

- A. **Strategic Area of Focus:** Reconciliation, Equity, Accessibility, and Inclusion

Excerpts from Plan:

- *“The City of London is a leader in becoming an equitable and inclusive community.”*
- *“Working collaboratively, intentionally, and integrating these values across all our work, we will help make London a community that is equitable, inclusive, and accessible for everyone.”*

Linkages: Detonations of consumer fireworks have immediate negative consequences for community members throughout the City, such as people with disabilities such as autism²⁶, people with respiratory ailments (such as asthma) and people with PTSD and trauma²⁷, in ways that are inescapable from their own homes.

- B. **Strategic Area of Focus:** Wellbeing and Safety

Excerpt from Plan:

- *“Prioritising safety and quality of life for all Londoners, we will make London a community where everyone feels safe, welcome, and supported.”*

- Outcome 1.1 “*Londoners feel safe across the city, in the core, and in their neighbourhoods and communities.*” e) “*Modify municipal compliance protocol to proactively address emerging issues, including the health and homelessness crisis, using a balanced compassionate approach.*”
- Outcome 1.2: “*Londoners have a strong sense of belonging and sense of place.*” b) “*Create cultural opportunities that reflect the arts, heritage, and diversity of the community.*”

Linkages: Vulnerable Londoners report not feeling safe or supported when fireworks are creating oppressive, unpredictable noise that they cannot escape in places where they live. The detonation of consumer fireworks in neighbourhoods is subject to zero oversight and poses safety risks to people and property. Under Option B, the City can create cultural opportunities reflecting the diversity of the community by facilitating cultural events, including some fireworks displays and alternatives, in controlled, communal settings.

C. **Strategic Area of Focus:** Climate Action and Sustainable Growth

Excerpt from Plan:

- Outcome 1.2 “*Waterways, wetlands, watersheds, and natural areas are protected and enhanced.*” c) “*Protect and enhance the health of City’s watersheds through the implementation of the Shared Waters Approach, the Thames Valley Corridor Plan, and the Watershed Resource Management Strategies.*”
- Outcome 2.2: “*London is more resilient and better prepared for the impacts of a changing Climate.*” b) “*Support community preparedness for the impacts of climate change and extreme weather.*” c) “*Implement the Climate Lens Framework across the City of London and its agencies, boards, and commissions and report on the results.*”

Linkages: The Shared Waters Approach²⁷, Goal 3: Improve Water Quality To Support Stream Health, Including Aquatic Life (page 61), includes the following recommendation: “*Continue to support regulations and encourage compliance for activities that manage waste or minimise, prevent or mitigate the release of emissions or contaminants to the environment.*” As outlined above, limiting detonations of consumer fireworks will play an important role in mitigating elevated risk of wildfires under climate change.

3. **Concerns and responses**

The Fireworks By-law debate has been ongoing in the City of London for several years. Across numerous discussions, some narratives have been shared that do not reflect aspects of this decision that we feel could be important. Below we provide responses to three principal concerns that have been identified.

Concern: “*If consumer fireworks are restricted, the City will lack sufficient capacity to enforce the By-law.*”

Response: Many of London’s by-laws are only enforced to a limited extent, depending on complaints and/or available resources such as compliance staff. In some cases, by-laws can be challenging to enforce because of intrinsic difficulties with obtaining necessary documentation that a violation has occurred. For example, the Tree Protection By-law lays out prohibitions on injuring or removing mature trees, yet in practice compliance staff cannot possibly prevent or react to all cases of illegal activities involving trees. Similarly, the Animal Control By-law outlines prohibitions on allowing pets to run at large, yet the City does not issue fines in the vast majority of cases where dogs and cats are allowed to run. Nonetheless, the Tree Protection By-law and Animal Control By-law are both recognized as important for environmental protection because they outline prohibitions in the first place. They set legal standards for the public to

follow, they act as deterrents against harmful activities, and they support residents in situations where standards have not been followed and documentation is obtained. Under Option B, people who detonate consumer fireworks in London despite the by-law would be knowingly engaging in legally prohibited activities. Whether or not the by-law is enforced in each case does not change this fact.

Concern: *“If people cannot purchase consumer fireworks in London, then they will instead purchase them online or visit another municipality, and the restrictions are pointless.”*

Response: Under Option B, if selling consumer fireworks in London were restricted, it would indeed still be possible for Londoners to acquire fireworks through other means. However, there would be additional barriers to purchasing fireworks (e.g., cost and delays associated with shipping, travel) that will help to reduce overall consumption of fireworks. Furthermore, restricting selling and advertising of fireworks in London would help to limit impulse purchases by people who otherwise would not think of it or take the initiative. Selling of fireworks in parking lots and along roadsides, as is currently practised, plants the idea of fireworks in the minds of passersby. Government-imposed restrictions on point-of-sale marketing of harmful substances, such as restrictions on cigarettes under the Tobacco and Vaping Products Act (1997)²⁸ have helped to shift patterns in consumer behaviour over time. Lastly, other municipalities surrounding London such as the City of Woodstock²⁹ are increasingly looking to regulate sales of consumer fireworks. If there is concern about surrounding municipalities continuing to sell fireworks, and that limiting the efficacy of restrictions in London, then perhaps Council could correspond with other municipalities to inform them of its decision about the Fireworks By-law and emphasise the desire for a united regional approach.

Concern: *“Attending fireworks displays is culturally important to Londoners. We should not deprive families or specific cultural groups of opportunities to host traditional celebrations.”*

Response: Fireworks are not being subjected to an outright “ban” as some have suggested. Under Option B, Londoners would still have numerous opportunities each year to attend fireworks displays at events sanctioned by the City, in alignment with recommendations of the Canadian Association of Fire Chiefs to leave fireworks up to professionals. This is more aptly described as “phasing out” specific types of fireworks in a way that balances the desire for traditions to continue with public safety and limiting harms to the environment. The City can also continue to support families and cultural celebrations by promoting comparable alternatives to fireworks, such as light shows and outdoor concerts, that more closely align with its objectives while respecting the environment and people who live in neighbourhoods surrounding events.