

From: Dona Zamir <M.F.I.P.P.A. Sec 14(1)>
Sent: Thursday, November 30, 2023 9:48 AM
To: clerks <clerks@oshawa.ca>
Subject: Fireworks bylaws

I would like to encourage Oshawa city council to work with the existing bylaw to find a suitable amendment but I strongly oppose the idea of banning fireworks outright

From: Gerry Heaton <M.F.I.P.P.A. Sec 14(1)>
Sent: Thursday, November 30, 2023 12:58 PM
To: clerks <clerks@oshawa.ca>
Subject: Option A

I believe Option C would get considerable backlash. People resist traditions being forgotten. I think many people would still want to have a private family fireworks event.
Gerry Heaton <M.F.I.P.P.A. Sec 14(1)>

From: Deepak Chhabra <M.F.I.P.P.A. Sec 14(1)>

Sent: Thursday, November 30, 2023 1:45 PM

To: clerks <clerks@oshawa.ca>

Subject: Request to Permit Fireworks for Various Festivals in the City of Oshawa

hi there,

I hope this letter finds you in good health and high spirits. I am writing to express my strong support for allowing the use of fireworks not only during Diwali but also for other festivals celebrated in the city of Oshawa. As a resident and an advocate for cultural diversity, I firmly believe that fireworks are an integral part of these festivities and play a significant role in fostering community spirit and preserving cultural traditions. I kindly request you to reconsider the current limitations and permit the use of fireworks during various festivals celebrated in our vibrant city.

1. **Cultural Celebrations:** Oshawa is a multicultural city that celebrates a wide range of festivals throughout the year, including Diwali, Canada Day, New Year's Eve, and other cultural and religious events. Fireworks have been traditionally associated with these celebrations, adding joy, excitement, and a sense of spectacle to the festivities. By permitting fireworks for these occasions, we can embrace the diversity of our community, strengthen intercultural connections, and promote inclusivity.
2. **Economic Boost:** Allowing fireworks during festivals can have a positive impact on the local economy. Fireworks displays attract visitors from both within and outside the city, boosting tourism, increasing foot traffic for local businesses, and generating revenue for vendors and retailers. Festivals with fireworks become major attractions, drawing crowds that contribute to the economic growth and prosperity of our city.
3. **Safety and Regulation:** While safety concerns surrounding fireworks are valid, it is essential to emphasize responsible usage and enforce appropriate safety regulations. By working closely with local authorities, fire departments, and event organizers, we can establish strict guidelines for fireworks displays, designated areas for their use, and trained personnel to ensure the safety of participants and spectators. These measures can effectively mitigate potential risks while allowing the community to enjoy the festivities responsibly.
4. **Community Engagement:** Fireworks create a sense of unity and excitement within the community. They serve as a gathering point for residents, encouraging them to come together, celebrate, and share memorable experiences. The visual splendor and the awe-inspiring displays of fireworks leave a lasting impression on individuals of all ages, fostering a sense of pride and belonging in our city.
5. **Environmental Considerations:** It is important to address environmental concerns associated with fireworks. By promoting the use of eco-friendly fireworks that produce less smoke and noise, we can minimize their impact on air quality and wildlife. Additionally, implementing clean-up initiatives and raising awareness about responsible waste disposal after fireworks displays can contribute to maintaining the environmental integrity of our city.

In conclusion, I urge you to reconsider the limitations on fireworks and extend the permission for their use during various festivals celebrated in the city of Oshawa. By

doing so, we can embrace our diverse cultural heritage, boost the local economy, ensure safety through proper regulations, and strengthen the sense of community among residents. I am confident that by working together, we can find a suitable balance that allows for the enjoyment of fireworks while addressing concerns related to safety and the environment.

Thank you for your attention to this matter. I would be grateful for the opportunity to discuss this further and contribute to the development of guidelines and regulations that accommodate the needs of our vibrant community. I look forward to your positive response.

Best,

Deepak

<M.F.I.P.P.A. Sec 14(1)>, Oshawa

From: Aleem Kanji <M.F.I.P.P.A. Sec 14(1)>

Sent: Thursday, November 30, 2023 11:28 PM

To: Mayor@Oshawa.ca; Brian Nicholson <BNicholson@oshawa.ca>; Rick Kerr <RKerr@oshawa.ca>; Jim Lee (Councillor) <JALee@oshawa.ca>; Bradley Marks <BMarks@oshawa.ca>; Rosemary McConkey <RMcConkey@oshawa.ca>; John Neal <JNeal@oshawa.ca>; Tito-Dante Marimpietri <TDMarimpietri@Oshawa.ca>; Bob Chapman <BChapman@oshawa.ca>; Derek Giberson <DGiberson@oshawa.ca>; John Gray <JGray@oshawa.ca>; Phil Lyon <PLyon@oshawa.ca>; Derrick Clark <DClark@oshawa.ca>

Cc: Tracy Adams <TAdams@oshawa.ca>; clerks <clerks@oshawa.ca>; Laura Davis <LDavis@oshawa.ca>; mlels_policy@oshawa.ca; Kenneth Man <KMan@oshawa.ca>

Subject: Oshawa Fireworks - SF-23-38

Good evening,

I wanted to follow up on this, given the item is coming forward this Monday December 4 to Committee and further to my correspondence earlier this year, I wish to reiterate that **Option A - Enhanced Enforcement should be the selected option by the City of Oshawa.** This option represents the most reasonable solution and it is also one in which Oshawa can partner with industry through the Canadian National Fireworks Association to ensure strong and robust education as a principal form of enforcement. The CNFA would also be pleased to work with Oshawa staff to embed our consumer facing Vendor Certification and Employee Training By-Law into your by-law alongside our Be a Good Neighbour Program that would complement this option naturally and at zero cost to your municipality. Our Be a Good Neighbour Program reminds people of the essential fireworks safety rules under the key banners and is born out of Federal regulations: Prepare ahead of time, Inform your neighbours, Respect those around you, Be Safe, Celebrate responsibly and Clean up. It is a guide that is required to be included with every sale of consumer fireworks and the content can be modified to any community.

As it relates to Option B - Restrict fireworks to identified city parks, this would represent a bizarre choice for your residents and would open the door to greater issues - from residents walking their door, to children playing soccer, to bird watchers and the list goes on. Moreover, using fireworks in parks is against Federal Regulations on fireworks. There are no municipalities in this country that allow for fireworks solely in parks and would put community safety at significant risk. We maintain that using fireworks in designated parks and not others will pit neighbours and your community against each other and will create an enforcement nightmare for your by-law enforcement officers. Ward Councillors will not be in favour of this questioning why some parks have been included, while others excluded - as will your residents and community.

A city wide prohibition as outlined in Option C on fireworks as we have seen in cities such as Brampton will be impossible to enforce. Oshawa is not an island, people will buy from neighbouring cities or stay in their homes and buy fireworks online. You will

not be able to enforce your ban based on this premise alone. By supporting a ban, as elected and public officials you are willingly creating an unsafe environment by allowing an underground marketplace to flourish, from a very legal and highly regulated market. Oshawa residents will continue to seek out fireworks in other cities, first nation communities or online delivered right to their door to celebrate their special events or other religious and cultural celebrations.

I encourage you to view the following links below and would be pleased to speak with you at your convenience, in advance of the Monday committee meeting:

Fireworks prohibition and bans:

<https://www.nationalfireworks.ca/wp-content/uploads/2023/03/CNFA-Position-Paper-on-the-Banning-of-Fireworks.pdf>

Fireworks debate with a Brampton Councillor on TVO regarding Firework bans and why they don't work:

<https://www.youtube.com/watch?v=bcwFotS1Uhs&t=21s>

Best Regards,

.....

Aleem Kanji, BES, MAES, Ec.D.
Chief Advocacy Officer
Canadian National Fireworks Association
NationalFireworks.ca

From: Cynthia Burtney <M.F.I.P.P.A. Sec 14(1)>
Sent: Thursday, November 30, 2023 8:07 PM
To: clerks <clerks@oshawa.ca>
Subject: Fire Works

Option C please.

From: Sean Procunier <M.F.I.P.P.A. Sec 14(1)>
Sent: Thursday, November 30, 2023 7:24 PM
To: clerks <clerks@oshawa.ca>
Subject: Don't ban the Sale and Use of Fireworks in Oshawa

To whom it may concern,

As resident of Oshawa and an avid Firework's enthusiast, it's been a long standing tradition for hundreds of years as a Canadian to celebrate many long weekends and religious events with fireworks.

Watching the look on my children's faces as sky lights up with the beautiful starbursts and sounds brings lots of joy and family traditions of gathering with friends for many an event is something we look forward to regularly.

By the threat of banning the sale and use of fireworks in the City of Oshawa you are taking away my rights and choice as a citizen of Canada and resident of Oshawa to celebrate this way and attacking religious freedom.

You will therefore force people to go purchase fireworks outside of Oshawa and they will still continue to use them, as the city doesn't have the manpower to fully enforce such a ban or use. So they will never ever, fully go away.

While I sympathize with the people that want to ban this time honored tradition and attack religious freedom, they have a choice to not celebrate or participate.

Please make a wise choice in this decision, as the few that are for a ban, don't speak for the many silent and not so silent that aren't.

Thanks in advance,

Sean Procunier
<M.F.I.P.P.A. Sec 14(1)>
Oshawa, ON
<M.F.I.P.P.A. Sec 14(1)>

From: Matt Lenix <M.F.I.P.P.A. Sec 14(1)>

Sent: Friday, December 1, 2023 12:12 PM

To: clerks <clerks@oshawa.ca>

Subject: December 4 Report - Consultation Results on the Proposed Policy Options to Amend Fireworks By-law 59-2014

Dear Oshawa Council,

My name is Matthew Lenix and I am a resident of Oshawa (<M.F.I.P.P.A. Sec 14(1)>) and a retailer of fireworks from a temporary sales unit (555 Simcoe Street South) (the unit referenced has applied for and been granted temporary sales permits in the past and been inspected by Oshawa Fire Services many times, as recently as November 2023 for Diwali Day sales).

As a resident (and dog owner (many dogs over the course of my lifetime – like the original complainant Mr. Anthony Shanderuk) I understand the feeling of nuisance that consumer fireworks can pose, especially when they are discharged outside of “allowed” days and when the current bylaws are not enforced accurately or in a timely fashion. By banning the sale and use of consumer fireworks in the City of Oshawa I feel that the city would be taking much joy from my children (and family) as they look forward to the holidays (Victoria Day, Canada Day and Diwali) when they are able to see vibrant colours and fun night skies through the use of fireworks. In addition if there is not enforcement of the Ban (increased enforcement of current bylaws would accomplish a similar result) there would not be anything gained positively as consumer fireworks would be available for purchase in other communities (neighbouring communities – Whitby and Clarington) and brought into Oshawa for discharge and/or the sounds that are produced by consumer fireworks (which are federally regulated) would still travel across city limits through the air resulting in the nuisance being uncontrollable by the City of Oshawa as the origination of the fireworks are outside the city of Oshawa.

As a retailer of fireworks (from a temporary sales unit) this (a Ban on Sale) would prevent the sales and regulation of our location, while Brick and Motor locations (who are currently not inspected by Fire Services for sale of fireworks) could continue to sell if they choose too (as they currently do). As a retailer I am constantly asked about purchasing or obtaining fireworks in prohibited times (for me as it is a temporary unit) and advise clients that there are other locations where they may be able to find fireworks within the city of Oshawa despite the prohibition on sales).

In summary (as both a resident and a retailer) I feel that increased bylaw (current) enforcement would be the better direction to choose rather than a ban on consumer fireworks. If a ban were to occur in Oshawa a resident of Oshawa could easily travel to a neighbouring community (i.e. Courtice or Whitby where there was not a ban on the sale) purchase (legally) and discharge the fireworks in Oshawa, and discharge them in Oshawa (despite being a Ban on the discharge within the city, and resulting in someone having to investigate anyway) (There is a temporary sales trailer located on Highway 2 less than 5 minutes from the Oshawa border – Townline and Highway 2). Additionally if a resident was inclined they could easily travel to Markham, Toronto, Trenton, or many other locations to purchase fireworks (at any time from an alternative source)

(personally I can think of at least 4 locations that sell fireworks only) and discharge the fireworks at anytime in the Oshawa area.

Thank you for your time,

Matthew Lenix

<M.F.I.P.P.A. Sec 14(1)>, Oshawa, Ontario

From: Martin Field <M.F.I.P.P.A. Sec 14(1)>
Sent: Friday, December 1, 2023 1:32 PM
To: clerks <clerks@oshawa.ca>
Subject: Fireworks_Consumer.OshawaB-LReview.docx

October 27th, 2023

**Report regarding the City of Oshawa Fireworks By-law review of Type F1
consumer grade fireworks to the Safety and Facilities Committee**

Table of Contents

| Subject | Page |
|--|-------|
| Table of Contents | 1 |
| Recommendation | 2 |
| People, Animals, the Environment and Fireworks | 2-3 |
| Municipal Public Surveys, Staff Reports, Meeting Minutes & Public Notices. | 4-7 |
| Research, Governmental and Agency reports and Statements | 8-11 |
| Media Press & Published Articles | 12-13 |
| Canadian Association of Fire Chiefs (CAFC) Resolutions | 14 |
| Wildlife Rehabilitator Statements | 15-21 |
| U.S Department of Labor: Bureau of International Labor Affairs: List of Goods Produced by Child Labor or Forced Labor | 22 |
| Government of Canada: 360410 - Fireworks - Canadian Importers Database (CID) | 23 |
| Diwali Day Celebrations | 24-26 |
| Industry Monetization | 27 |
| City of Oshawa Strategic Plan 2020 – 2023 | 28 |
| Forbes – Birds Flee En masse From Fireworks | 29-35 |
| Mental Health and Fireworks | 36-42 |

Report by Martin Field

<M.F.I.P.P.A. Sec 14(1)>, Oshawa

Recommendation

Responding to the City of Oshawa Fireworks By-law review, specifically that of Type F1 consumer grade fireworks, it is the recommendation of this report to the Safety and Facilities Committee to further regulate these fireworks. That the City of Oshawa ban the use of Class [F1] consumer fireworks within the city.

To prohibit the Sale, Offer, Use, Display, Purchase, Distribution, Possession and Discharge of personal consumer type (F1) fireworks.

City of Oshawa (Fireworks By-law)

As amended by By-law 96-2019; By-law 36-201; By-law 59-2014; By-law 49-2021

https://www.oshawa.ca/en/Document-Feeds/General-By-Laws/Fireworks_By-law_59-2014.pdf

People, Animals, the Environment and Fireworks....

Much to their credit and vision, the Town of Caledon and the City of Brampton banned the sale, purchase, possession, and discharge of fireworks last year (2022). As with the recent recommendation contained in the Town of Whitby staff report (FES 04-23), the recommended exception is a professionally organized event where the hosts will continue to apply for a license to host such an event.

The City of Brampton further designates specific locations where such professionally hosted events may be shown.

However, the City of Brampton discovered a flaw in their recent personal firework regulation provisions. As such it was discovered that an attending by-law officer could ticket (fine) an individual for possession of fireworks or discharge of, however, that same individual could then discharge to remaining fireworks in his/her possession.

Two factors that were identified:

- a) The by-law officer could not issue a second ticket (fine) within the same twenty-four-hour period.
- b) The lack of a provision that authorized the by-law officer to confiscate the personal fireworks.

Subsequently, an amendment was added to permit the confiscation of personal fireworks. As such, this amendment now denies the individual from subsequently discharging personal consumer fireworks.

Public surveys conducted for both the Town of Caledon and City of Brampton revealed a considerable concern for animal wellness and the negative effects that fireworks cause for them and their owners.

1. Fireworks greatly disrupt the social fabric by interfering with the right of a property owner or tenant to enjoy his or her property without interference. Disruption of quiet enjoyment may constitute a legal nuisance.

2. The discharge of fireworks is documented to negatively effect autistic children and adults and those experiencing PTS. They can also negatively affect and scare domestic animals, livestock, and wildlife, notably birds during nesting season, where terrified birds can abandon their nests.

3. There is also the toxic heavy metal chemical traces left by spent fireworks where they lay polluting our ground surfaces and waterways and that can be consumed by both wildlife and domestic animals before being detected (if located) and removed. Chemical components in any variation and amount are as follows, aluminum, barium, copper, strontium, antimony, lead, magnesium, and potassium. SO₂, nitrogen dioxide (NO₂), nitric oxide, PM₁₀, total suspended particulate (TSP) matter, PM₁, PM₂, PM_{2.5}, benzene, toluene, ethylbenzene, and xylene-volatile aromatic compounds (BTEX), perchlorate, and chloride. As children regularly attend firework shows it must be noted that they are particularly susceptible due to a higher respiratory rate and correspondingly are likely to inhale greater quantities of these toxic pollutants. While we have always been accustomed to the use of fireworks as a celebratory medium, we have nonetheless experienced great strides in the science and resulting understanding of our environment that have enabled changing attitudes for the better and the enactment of progressive regulatory provisions.

4. Pose a significant fire hazard to land and buildings that can pose a corresponding risk to both humans and animals especially during periods of heat and dry weather that add to municipal emergency services callouts and associated costs.

5. As noted in the Town of Whitby report, effective enforcement invariably poses a significant challenge for any municipality whereas by the time By-law officers respond to a complaint the discharge of fireworks is over. The City of Toronto has also recognized effective enforcement as a perennial problem.

6 Past commentary from a few stakeholders has defended the current status quo by supporting the merchants need to 'make a little money' or the need for 'families to have a little fun' by setting off fireworks from their respective backyards. However, when the full consequences of such activities to humans and animals alike are examined more closely it becomes clear that there are broad social concerns relating to health and well-being to permit the continuance of using personal fireworks or any grade of fireworks whatsoever, anywhere.

7. On a positive note, there are alternatives to such harm and disruption such as public light and laser shows, and multi-synchronized illuminated drone shows at approved locations that can be as visually entertaining. Event organizers, including municipalities, would be in good stead to investigate such alternatives.

Listing of Municipal Public Surveys, Staff Reports, Meeting Minutes & Public Notices

CITY OF BRAMPTON

Fireworks By-law 243-2022

<https://www.brampton.ca/en/City-Hall/Bylaws/All%20Bylaws/Fireworks.PDF>

City Council – Special Meeting –Minutes November 28, 2022

Pages 40-41

<https://www.brampton.ca/EN/City-Hall/meetings-agendas/Documents/2022-2026%20Term%20of%20Council%20Minutes.pdf>

Committee of Council – Minutes Wednesday, November 23, 2022

<https://www.brampton.ca/EN/City-Hall/meetings-agendas/Documents/2022-2026%20Committee%20of%20Council%20Minutes.pdf>

Public Notice: Enforcement and By-law Services – Fireworks

<https://www.brampton.ca/EN/residents/By-Law-Enforcement/Pages/Fireworks.aspx>

The regulation and prohibition of fireworks exists to promote the safety of all City of Brampton residents and visitors, as well as to uphold community standards.

Prohibited Fireworks

All fireworks are prohibited in Brampton. The ban includes the use, sale, offer, display, purchase, distribution, possession and discharge of any fireworks or explosives within the city.

Fireworks include but are not limited to consumer fireworks (such as sparklers, roman candles, fountains, ground spinners, burning schoolhouses), display fireworks (such as rockets, bombshells, maroons), and prohibited fireworks (such as flying lanterns, cherry bombs, M-80s, flash bombs).

Purpose of the Fireworks Ban

Safety is the top priority for the City of Brampton. A ban on fireworks:

mitigates the risk of fires, injury and property damage.

Reduces air pollution and debris. Reduces excessive noise. Protects animal habitats.

Penalties

The fines for failing to comply are as follows:

Discharge or in possession of fireworks without permit: \$500.00

Sell, distribute, display or offer for sale fireworks: \$1,000.00.

Permit, allow or cause to be set off fireworks on private property without permit: \$500.00.

Fail to comply with an order: \$1,000.00.

The City may also, at its discretion, issue a summons requiring an individual to attend court, where fines could range from a minimum of \$500.00 to a maximum of \$100,000.00.

*When fireworks are discharged from a private property, the property owner is deemed to have permitted, allowed or caused their use, and may face charges associated with the offence.

City of Brampton FOIA Response

Covering the years 2020 to August 2023 Fireworks Related Public Complaints, Penalty Notices Issued for Fireworks violations, Written Warnings Issued for Fireworks violations for Victoria Day, Canada Day and Diwali Day also spanning the week prior and week after these three days.

| Victoria Day | Total 18-May-20 | Total 24-May-21 | Total 23-May-22 | Total 22-May-23 |
|--|--------------------|--------------------|--------------------|--------------------|
| Fireworks Related Public Complaints | 9 | 11 | 23 | 83 |
| Penalty Notices Issued for Fireworks Violations | - | 1 | - | 3 |
| Written Warnings Issued for Fireworks Violations | - | - | - | 2 |

| Canada Day | Total 01-Jul-20 | Total 01-Jul-21 | Total 01-Jul-22 | Total 01-Jul-23 |
|--|--------------------|--------------------|--------------------|--------------------|
| Fireworks Related Public Complaints | 32 | 37 | 59 | 71 |
| Penalty Notices Issued for Fireworks Violations | - | 8 | 7 | 1 |
| Written Warnings Issued for Fireworks Violations | - | - | 2 | 1 |

| Victoria Day | Total 14-Nov-20 | Total 14-Nov-21 | Total 24-Oct-22 | Total 12-Nov-23 |
|--|--------------------|--------------------|--------------------|--------------------|
| Fireworks Related Public Complaints | 128 | 239 | 294 | n/a |
| Penalty Notices Issued for Fireworks Violations | 60 | 64 | 104 | |
| Written Warnings Issued for Fireworks Violations | 30 | 32 | 24 | |

TOWN OF CALEDON BY-LAW NO. 2022-022

A by-law to regulate and prohibit the sale and discharge of fireworks, to provide for the issuance of permits for the sale and discharge of fireworks and to repeal By-law 2009-097

https://www.caledon.ca/uploads/14/Doc_634952249309064446.pdf

Town Council Meeting Minutes

Tuesday, April 26, 2022. 6:00 p.m.

Pages 2-5

<https://pub-caledon.escribemeetings.com/FileStream.ashx?DocumentId=23317>

Staff Report 2022-0182

Meeting Date: April 19, 2022

Subject: Fireworks By-law Update and Proposed Fee for Consumer Fireworks Display for Community Events.

Submitted By: Dave Pelayo, Deputy Fire Chief, Fire Prevention, Training and Environmental Monitoring, Fire and Emergency Services

<https://pub-caledon.escribemeetings.com/filestream.ashx?DocumentId=21139>

News

<https://www.caledon.ca/en/news/fireworks-bylaw-helps-ease-complaints.aspx>

Town of Caledon FOIA Request; Response

The number of firework-related warnings and tickets (fines) served between 01-01-2001 & present. *Please note the Town of Caledon did not have a fireworks by-law prior to 2009 (by-law 2009-097) which was repealed and replaced with by-law 2022-022. Also, records are kept for seven years. The data below is from January 1, 2016, to today (August 25, 2023).*

| Year | Complaints Received | Tickets issued |
|-------------|---------------------|----------------|
| 2016 | 0 | 0 |
| 2017 | 0 | 0 |
| 2018 | 0 | 0 |
| 2019 | 0 | 0 |
| 2020 | 0 | 0 |
| 2021 | 0 | 0 |
| 2022 | 67 | 13 |
| 2023 | 8 | 1 |

2. Any general comments relating to the success of implementing the amended firework by-law that was passed by council last year, 2022.

Since the fireworks by-law was replead and replaced in April 2022 with the current by-law (2022-022) the Town of Caledon municipal law enforcement department has received 75 complaints which resulted with fourteen tickets issued. Furthermore, since this was a new by-law, we felt it prudent to use the first two "Fireworks" events of Victoria Day 2022 and Canada Day 2022 to educate constituents of the new by-law. No tickets were issued during this grace period.

Analyst, Municipal Law Enforcement
Building and Municipal Law Enforcement Services

TOWN OF WHITBY

Town of Whitby Firework By-law Review and Staff Recommendations

Report FES 04-23 recommends Council rescind By-law #6339-10 and prohibit the possession, sale and/or discharge of all consumer fireworks in the Town of Whitby.
<https://pub-whitby.escribemeetings.com/filestream.ashx?DocumentId=15576>

Public Survey Results

<https://pub-whitby.escribemeetings.com/filestream.ashx?DocumentId=15577>

CITY OF TORONTO

Public Notice, Extract

IMPACTS OF FIREWORKS ON BIRDS

Victoria Day and Canada Day both fall during nesting season. Fireworks can have negative consequences for Toronto's birds and their babies. Fireworks can:

- Drown out a bird's ability to communicate and cause birds to abandon nests and fledglings for their own perceived safety
- Start fires, especially in meadow habitats, which can destroy ground bird nests and deplete food sources.
- Contain toxic heavy metals that mix with water and create hazardous drinking water for birds.

<https://www.toronto.ca/city-government/public-notices-bylaws/bylaw-enforcement/fireworks/use-disposal-of-fireworks/>

Academic Studies, Research & other Materials

The press release below precedes the following study under the title, Toxicity of particles emitted by fireworks.

NYU Langone Health RESEARCH, PRESS RELEASES | JULY 2, 2020

Common Fireworks Release Lead, Copper & Other Toxic Metals into the Air

Metals Used to Give Fireworks Color Damage Human Cells & Animal Lungs

<https://nyulangone.org/news/common-fireworks-release-lead-copper-other-toxic-metals-air#:~:text=Along%20with%20lead%2C%20titanium%2C%20strontium,Gordon.>

Toxicity of particles emitted by fireworks

Christina Hickey, Christopher Gordon, Karen Galdanes, Martin Blaustein, Lori Horton, Steven Chillrud, James Ross, Lital Yinon, Lung Chi Chen & Terry Gordon

Terry Gordon, PhD, a professor in the Department of Medicine and a member of the Division of Environmental Medicine and his team also analyzed 14 years' worth of air quality samples taken at dozens of sites across the United States by the Environmental Protection Agency (EPA) throughout each year. They found that levels of toxic metals were higher in samples taken near Independence Day and New Year's Eve celebrations than at any other time of the year. Along with lead, titanium, strontium, and copper are commonly found in fireworks.

"Although people are only exposed to these substances for a short time each year, they are much more toxic than the pollutants we breathe every day," added Dr. Gordon.

Research: Open Access Published: 02 July 2020

Toxicity of Particles Emitted by Fireworks.

Christina Hickey, Christopher Gordon, Karen Galdanes, Martin Blaustein, Lori Horton, Steven Chillrud, James Ross, Lital Yinon, Lung Chi Chen & Terry Gordon

Extracts -

Background

Throughout the year, numerous types of celebratory fireworks or pyrotechnic displays are set off across the world. Often, the only limit on the size and number of the displays is cost. In the past, while U.S. pyrotechnics traditionally were reserved for special occasions such as July 4th and Chinese New Year, pyrotechnic displays are now prevalent at rock concerts, opening ceremonies of the Olympics, amusement parks, and sports venues. Amusement parks are the largest consumers of fireworks in the U.S., whereas the single largest fireworks show is the July 4th display sponsored by Macy's [1]. In addition to these large public fireworks displays, small, and often illegal, fireworks are often ignited locally within residential neighborhoods. According to the American Pyrotechnics Association, the amount of consumer fireworks (258.4 million pounds)

intended for use by the general public (i.e., 1.4G explosives) and purchased in the U.S. is more than 10-fold greater than that used for large celebratory fireworks (19.1 million pounds) displayed by pyrotechnic professionals (i.e., 1.3G explosives) [2] and, thus, are a significant concern for adverse health effects.

To date, the greatest health concern regarding fireworks has been the potential for injury to life and limb due to the explosive force of fireworks. Each year, approximately 10,000 to 25,000 people (predominantly male teenagers) in the U.S. suffer physical and burn injuries, due to fireworks, which include the loss of fingers, limbs, eyesight, and sometimes, life [3,4,5]. The environmental effects are also a concern as evidenced by numerous publications that describe the release and contamination of air and waterways with perchlorates and other toxicants [6, 7].

Discussion

Because the 10 fireworks chosen for this study were all pyrotechnic displays that can be purchased by individuals and used at home, the potential for exposure of children to significant amounts of Pb and other toxic metals from such products is unwarranted yet preventable.

The results of this study suggest that in addition to organic pollutants [6], significant amounts of toxic metals are released into the ambient environment from both home pyrotechnic displays and larger commercial fireworks. These releases, as demonstrated by exposure assessment air pollution studies [16, 25], are episodic in nature but can potentially be significant emission sources of metals. We have confirmed this time-dependent increase in airborne metal concentrations throughout the U.S. by using a 10-year period of data from EPA's speciation network [27].

In addition, although primarily for reasons of cost, some fireworks exhibitions have been replaced by light shows that encompass laser and LED displays accompanied by music and explosive sounds.

Conclusions

Our research has demonstrated that fireworks particulate emissions are more toxic in vitro than typical urban particulate matter. This in vitro toxicity was dependent on the composition of the particulate emissions as shown by the large range in toxicity among the fireworks types examined in this study. The in vivo studies in mice validated the in vitro findings for a subset of particles and suggest that the in vitro results are translatable to the mammalian lung. Surprisingly, highly toxic metals, such as Pb, were present at exceedingly high levels in the emissions of some of the tested fireworks. Our temporal survey of the metals present in the air across the U.S. demonstrated that the metals associated with increased toxicity in our ground-based pyrotechnic displays are elevated in samples taken around the holiday celebrations of July 4 and New Years. These findings bring up the obvious question of whether adverse cardiopulmonary effects are associated with exposure to fireworks-linked metals during these holiday periods. Responsible manufacturing can have a major impact on reducing toxic metals

in both commercial and residential pyrotechnics displays and their potential for producing adverse health effects.
<https://particleandfibretotoxicology.biomedcentral.com/articles/10.1186/s12989-020-00360-4>

The Hidden Harms Of Fireworks On Wildlife And People

<https://raog.ca/the-harmful-effects-of-fireworks/>

World Animal Protection

Fireworks: A Distressful Celebration

<https://www.worldanimalprotection.org.in/blogs/fireworks-distressful-celebration>

Marion County Wellfield Education Corporation

Groundwater and Drinking Water Protection for Indianapolis and Marion County Indiana How Fireworks Pollute Our Drinking Water

<https://mcwec.org/2022/06/how-fireworks-pollute-our-drinking-water/>

Government of Canada

Fireworks-related injuries Published:(2019-06-27)

The Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) is an injury and poisoning sentinel surveillance system currently operating in the emergency departments of 11 paediatric and 8 general hospitals across Canada. Since its inception in 1990, this database has collected over 3.2 million records, making it an important resource for information on injuries and moving forward programs and policies that aim at reducing and preventing injuries among Canadians.

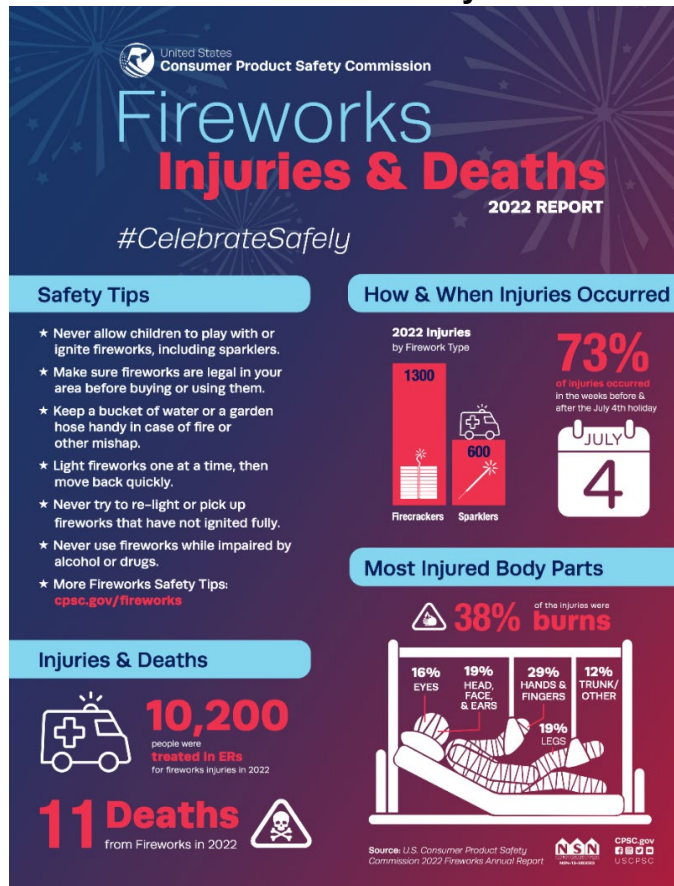
<https://health-infobase.canada.ca/datalab/firework-blog.html>

Unfortunately, not a lot of information exists for Canada therefore U.S information is included whereby it may be possible, in certain circumstances, to extrapolate the information and apply this to Canada.

U.S. Consumer Product Safety Commission: 2019 Fireworks Annual Report June 2020 Fireworks-Related Deaths, Emergency Department-Treated Injuries, and Enforcement Activities During 2019

<https://www.cpsc.gov/s3fs-public/2019-Fireworks-Annual-Report.pdf>

U.S. Consumer Product Safety Commission



National Fire Protection Association (USA)

Fireworks Fires and Injuries

Report: NFPA's "Fireworks Fires and Injuries" Author: Marty Ahrens. Issued: June 2020

<https://www.nfpa.org/News-and-Research/Data-research-and-tools/US-Fire-Problem/Fireworks-fires-and-injuries>

Public Notices

24/7 ANIMAL POISON CONTROL CENTER: Household Items – Fireworks

Toxicity to pets

<https://www.petpoisonhelpline.com/poison/fireworks/>

Media Press & Published Articles

Audubon: Illegal Fireworks Likely Cause of Massive Arkansas Blackbird Deaths. January 04, 2011

<https://www.audubon.org/news/illegal-fireworks-likely-cause-massive-arkansas-blackbird-deaths#:~:text=Professional%2Dgrade%20fireworks%20probably%20caused,to%20crash%20to%20their%20deaths.>

Forbes: How do Fireworks Harm Wild Birds. Dec 30, 2017

<https://www.forbes.com/sites/grrlscientist/2017/12/30/how-do-fireworks-harm-wild-birds/?sh=56263a8118cc>

Forbes: Birds Flee En Masse From Fireworks.

GrrlScientist. Senior Contributor.

Evolutionary & behavioural ecologist, ornithologist & science writer

Source: Judy Shamoun-Baranes, Adriaan M. Dokter, Hans van Gasteren, E. Emiel van Loon, Hidde Leijnse, and Willem Bouten (2011). Birds flee en masse from New Year's Eve fireworks, Behavioral Ecology, 22:1173–1177 |

doi:10.1093/beheco/arr102 <https://www.forbes.com/sites/grrlscientist/2015/12/31/birds-flee-en-mass-from-new-years-eve-fireworks/?sh=563d88027850>

Bird Guides, First for Bird News. 09/01/2021

New Year's Eve fireworks 'scared birds to death'

<https://www.birdguides.com/news/new-years-eve-fireworks-scared-birds-to-death/>

DurhamRegion.com Pickering News Advertiser. Wednesday, June 28, 2023.

'Go with the pros': Durham municipalities urge residents to not set off fireworks.

https://www.durhamregion.com/news/go-with-the-pros-durham-municipalities-urge-residents-to-not-set-off-fireworks/article_7fe9caf6-8c3e-5da5-bf3f-9a96272adb7a.html

DurhamRegion.com Ajax News Advertiser. Sunday, July 9, 2023.

Ajax lays 14 charges for fireworks being set-off in parks and greenspaces.

https://www.durhamregion.com/news/ajax-lays-14-charges-for-fireworks-being-set-off-in-parks-and-greenspaces/article_0b5a569d-5a42-53c0-ae15-111486153669.html

Toronto Star. Monday, July 3, 2023.

Long weekend in full swing, Star readers weigh in on issues impacting the summer ahead. Montreal is sensible about not allowing fireworks on Canada Day due to the bad air we have been exposed to. Toronto had the worst air in the world on Wednesday just before police responded to fireworks being used as weapons, yet it seems holiday fireworks will go on as planned.

It has become the wild west of fireworks in the city. Legally, they are only allowed on Victoria Day and Canada Day, and yet, they fly into the sky on many weekends with no regard and no policing.

Time for politicians to wake up not only to the dangers of fireworks, but also to the pollution and bad air quality they cause. Control the sales of these weapons and hand out hefty fines to those who do not adhere to the law.

Mari Carlo, Toronto

https://www.thestar.com/opinion/letters-to-the-editor/affordable-housing-and-homelessness-fireworks-and-air-quality-beer-in-parks-and-yom-kippur/article_ed95119e-63bc-535b-85b0-80d4322a3350.html

Toronto Star. Monday, July 10, 2023.

Drones replacing fireworks over Niagara Falls a possibility, but not this year.

Niagara Parks Commission looking into new ways to “animate” the destination.

https://www.thestar.com/business/drones-replacing-fireworks-over-niagara-falls-a-possibility-but-not-this-year/article_41e79de6-9e5b-5921-bf3c-813b52875161.html

Organizations, Agencies and Other Stakeholder Position Statements and Comments

Canadian Association of Fire Chiefs (CAFC) Resolutions

Fireworks 2022.3. Consumer Fireworks

(Adopted at the 2022 AGM)

Preamble

2022.3.1 Consumer fireworks are readily available across the nation for purchase and use by citizens, in many cases without any safety training, conditions, permits, or restrictions required; **2022.3.2** Consumer fireworks storage and transportation requirements for vendors are not as stringent as those for High Level Fireworks used under permits by trained and certified shooters; and that professional firework (pyrotechnic) companies exist to run events safely and effectively, contributing to the economy and community enjoyment;

2022.3.3 Consumer fireworks use continues to result in documented cases of fire and injury (of a sample of 587 fire departments across Canada, 142 or 24% of fire departments responded to at least one call involving consumer fireworks in 2022 so far);

2022.3.4. Different levels of government each have a role in firework related legislation, that each municipality or county works hard at developing bylaws and protocols to maintain community safety and that differences in approaches across neighbouring municipalities or counties can unintentionally undermine efforts within any one region.

Recommendation

2022.3.5 That CAFC members espouse as a common approach a complete ban on the sale and use of consumer fireworks in Canada, in favour of the professional fireworks industry, and lobby the Government of Canada for the immediate implementation of such. This resolution, as passed, replaces resolutions 10.1, 10.4, 17.1.

This resolution was adopted at the 2022 CAFC Annual General Meeting, September 13, 2022. <https://cafc.ca/page/PMfireworks>

Canada Safety Council (CSC)

Fireworks Safety Tips: Home & Community Safety

Canada Safety Council believes that the safest way to enjoy fireworks is to attend an exhibition show handled by professionals. There might be an event hosted by your community, overseen by a trained, certified professional. If you choose to hold a family show with “common fireworks” sold to consumers, remember that injuries almost always result from improper handling and a disregard to safety.

Prevent Blindness

Fireworks Position Statement

<https://preventblindness.org/wp-content/uploads/2020/06/PSFW-Fireworks-Statement.pdf>

Facts About Fireworks Injuries

<https://preventblindness.org/wp-content/uploads/2023/06/MK21-Fireworks.pdf>

Wildlife Rehabilitator Statements

Permission to feature all wildlife rehabilitator statements for this report has been granted.

Fur-Ever Wild Rehabilitation

I have no doubt that wildlife, whether they are a bird, or a mammal react to fireworks just like many domestic pets and most domestic birds do, terrified. Fireworks are not programmed in their DNA.

I have observed my juveniles I have in temporary captivity and it's heartbreaking to watch them cower and shake. Some of my animals are in outdoor pre-release cages. The squirrels hide in their nesting box, the skunks under logs we provide. Even the next day they seem reluctant to come out other than to drink. Where I live, my cages are in my backyard which backs onto a forested hill making the loud booms amplify.

I have not admitted any adult animals that are a direct result of being injured or traumatized but I have received a few babies that I am convinced have been. This past spring for example, the morning after the fireworks a young cottontail rabbit was found hiding inside a flowerpot in a lady's shed. Odd. Guessing from its age, it had just left the nest. Hearing loud bangs coming from everywhere might have caused it to become disoriented.

In the spring of 2022, during the Victoria Day long weekend I tried for 2 nights to reunite a fawn with its mother.

They initially got separated when people walked into their yard and scared the mother who was laying with her baby in the empty lot next door. She ran, unfortunately leaving her baby. He started to wander and cry. Neighbours were concerned and called me. Seeing that the lot was bare with no bushes to put him in, I took him into temporary care for the day. I returned him to where he had been found. The fireworks were relentless, even into the early morning. I can only imagine how frightening it must have been for this 4-day old baby, alone wandering and crying for his Mother with ear piercing explosions going off in all directions. And for his Mom caring about her own safety, hid from the explosions. The next morning, he was still there. I brought him back into care, hydrated him and kept him quiet for the day. The 2nd night I put him out long after the fireworks. From a distance and out of sight I listened to him wailing for his Mom for hours. When he stopped, I left hoping his Mom had found him. We have coyotes in the area. The fireworks probably scared them too, which in all likelihood saved this little

fawn from being predated. He was found the next afternoon quite a few houses away, alone and now in a critical state. I decided not to put him through another night. I believe that fireworks played a major role in this baby's mother not returning for him.

Municipalities need to have the negative effects that fireworks have on wildlife and their new babies, brought to their attention.

Technology has created some fireworks that are quieter without the loud explosions but I agree, no fireworks at all would be the best. Best for wildlife and for people's pets.

I would be, if at all possible, interested in receiving your findings as approaching our council about this very issue has been in the back of my mind. Right now, I am working with a few local council members on how we can educate the general population to stop feeding wildlife. With Covid and the Highly Pathogenic Avian Influenza affecting some wildlife I now have Council's support.

Have you contacted the Canadian Wildlife Health Cooperative in Guelph? Maybe they have statistics on wildlife fatalities attributed to fireworks?? I don't know.

Thank you for contacting me. I hope you are successful.

Sincerely,

Colleen Burns
Authorized Wildlife Custodian,
Fur-Ever Wild Rehabilitation
Port Stanley, Ontario
519-777-6440

Itty Bitti Critters Wildlife Rehabilitation

. We wish more municipalities would reach out to ask the questions in order to make informed decisions.

With regards to the effect of fireworks on wildlife, I can share with you. Something that I was told last evening at a dinner gathering. A gentleman was talking to us and stated that during the last fireworks celebrations there was infant, fawn, running and bleating back and forth in his backyard during the fireworks displays both public and private. The phone was panicked and was calling out for its mother. Unfortunately, this happens consistently and can almost be timed based on the holiday seasons. We prepare ourselves prior to weekend fireworks for the numerous calls and any intakes that follow. Much like when there is a big windstorm, we prepare for the onslaught of baby squirrels dislodged from nests, during fireworks. Of first-time moms panic and babies are orphaned.

Kelly Bender

itty bitty critters wildlife rehabilitation
St. Thomas, ON. N5P 3T1

Phone: 226-919-7678

Contact: Kelly Bender Email: kelly@ittybittycritters.ca

Animals care for: Bat, Chipmunk, Groundhog, Possum, Raccoon, Skunk, Squirrel

https://www.ontariowildliferescue.ca/wildlifecentres/details.php?wildlifecenter_id=1567

PROCYON WILDLIFE

This is definitely a real concern for wildlife rehabbers.

We have approached different councils in regards to fireworks so I am glad you recognize the problem.

After a fireworks display, our admissions and phone calls within the next few days definitely increases. Babies get startled and frightened and fall out of the nest. Babies are abandon by parents fleeing and not able to find their way back. Rabbits & deer can die just from the stress and anxiety of the noise. Animals dart out onto roads and get hit by cars.

We even post on social media the posters below to educate the public on how fireworks cause harm to our wildlife. If I can be of more help, my contact info is below.

Thanks again,

Debra Spilar, Director/Custodian

PROCYON WILDLIFE

(C) 416-550-9723







PROCYON (905) 729-0033

debras@procyonwildlife.com

www.procyonwildlife.com

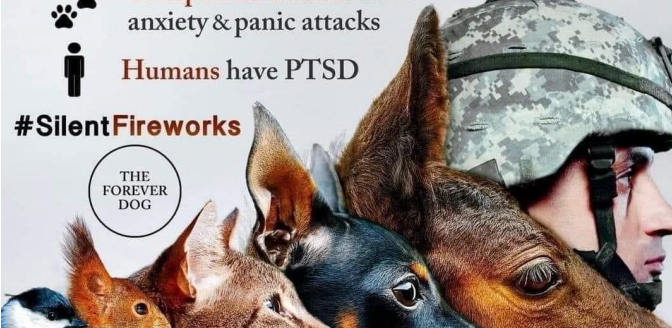
Fireworks

explode like magnified gunfire in the exquisitely sensitive ears of all creatures.

-  **Bees** become so disoriented they don't go back to their hives
-  **Birds** have panic attacks at night, causing mass deaths
-  **Wild animals** raising babies abandon their dens in fear
-  **Fish** & other animals perish after ingesting firework debris
-  **Companion animals** have anxiety & panic attacks
-  **Humans** have PTSD

#SilentFireworks

THE FOREVER DOG



Your dog isn't the only one upset by fireworks.



The panic brought on by fireworks can cause wildlife moms to abandon their babies and be too disoriented to find their way home.

Squirrels, small mammals, birds and butterflies have been known to exhibit detrimental, even life threatening behavior as a result of fireworks, while waterbirds and fish perish after ingesting fireworks' debris.

This summer, celebrate in a way that does no harm.

Celebrate without fireworks.

Shades of Hope Wildlife Refuge

Yes, we do experience an increase in intake after fireworks. Although I can't give you a percentage it is definitely a significant number. Lots of displaced babies ... scared out of nests. Collision traumas on adult animals ... running scared and hitting things in the dark. Etc. The noise scares the hell out of me, but wildlife has at least 10X the hearing that we do. It actually hurts!

Gail Lenters

Authorized Wildlife Custodian

Shades of Hope Wildlife Refuge

Monday, July 10, 2023 P: (705) 437-4654

www.shadesofhope.ca

Team Chelsea

Team Chelsea Facebook Post

FIREWORKS WARNING

A reminder as Canada Day approaches, there will be numerous events to celebrate our country's birthday and also to focus on education, reconciliation and reflection.

Traditionally, fireworks are part of the celebration and are not well liked by cats or dogs and not uncommon for them to run when fireworks are set off.

Please keep your pets safe inside commencing tonight and for the next few nights, including July 4th, in order for some residents who will celebrate Independence Day (in the USA).

Team Chelsea has historically had an increase in missing dogs during this time due to fireworks and pets who are normally calm and not fearful, have escaped.

This trend is also very common throughout Canada during this time, many dogs go missing as a result of fireworks and some sadly have lost their lives as a result of being hit by cars. Take all necessary precautions and remember there is always a first time for your pet, thus play it safe, **KEEP OUR DOGS SECURED AND SAFE.**

To help keep your pets' safety and comfort in mind, we've listed 7 Canada Day tips to help you keep them at ease

1) Keep pets indoors

Walking dogs before dusk or keeping outdoor cats inside will help them feel safer in the comfort of their home.

2) Close your blinds and curtains

Your pet will be more at ease if they can't see the parties or fireworks. Placing a

blanket over your dogs' crate is also a good way to keep them feeling safe and secure.

3) Close windows and doors

Dogs and cats have acute hearing and can hear far better than we can. Many dogs and cats will try and escape when they feel panicked, so limiting noise levels can help protect them from getting out and getting lost.

4) Offer a distraction

Giving your dog a bone or a peanut butter-filled Kong will keep them happily distracted. The same can be said for cats; provide a catnip toy or a game of laser tag to keep your feline friend preoccupied

5) Fit your dog with an anti-anxiety shirt

Scientifically designed and used by professionals, Swaddleshirts are specially designed to apply gentle, constant pressure on nervous pets to calm anxiety and fear during fireworks, thunder, separation, travel, vet visits, and much more.

6) Microchip your pet

Microchipping your pet and/or ensuring their identification is up to date in the occurrence of a panicked escape is an important preventative measure to have in place.

7) Stay at home

If your dog or cat is extra susceptible to noise-related anxiety, consider skipping fireworks this year and keeping your furkids company instead of leaving them alone.

Help keep your pets safe. Happy Canada Day to everyone! 🇨🇦



Nicole Sterk

🇨🇦 eoopsrtnS5 h6nagm3l9009aac19gu7f5eJfh8903ttm2261c2m91g03aff



Fireworks

- . Frighten some birds to death
- . Disorient them, so they lose their nests with fledglings who then die of starvation
- . Terrify wildlife
- . Terrify domestic animals
- . Result in injuries to human and non-humans
- . Cause pollution on land, sea and in the air
- . Use child labor in production

**U.S Department of Labor
Bureau of International Labor Affairs**

List of Goods Produced by Child Labor or Forced Labor

The Bureau of International Labor Affairs (ILAB) maintains a list of goods and their source countries which it has reason to believe are produced by child labor or forced labor in violation of international standards, as required under the Trafficking Victims Protection Reauthorization Act (TVPRA) of 2005 and subsequent reauthorizations. The

List of Goods Produced by Child Labor or Forced Labor comprises 159 goods from 78 countries and areas, as of September 28, 2022.

The International Labor Affairs Bureau (ILAB) maintains the list primarily to raise public awareness about forced labor and child labor around the world and to promote efforts to combat them; it is not intended to be punitive, but rather to serve as a catalyst for more strategic and focused coordination and collaboration among those working to address these problems.

Publication of the List has resulted in new opportunities for ILAB to engage with foreign governments to combat forced labor and child labor. It is also a valuable resource for researchers, advocacy organizations and companies wishing to carry out risk assessments and engage in due diligence on labor rights in their supply chains.

The countries on the List span every region of the world. The most common agricultural goods listed are sugarcane, cotton, coffee, tobacco, cattle, rice, and fish. In the manufacturing sector, bricks, garments, textiles, footwear, carpets, and **fireworks** appear most frequently. In mined or quarried goods, gold, coal and diamonds are most common.

ILAB published the initial TVPRA List in 2009 and updated it annually through 2014, following a set of procedural guidelines that were the product of an intensive public consultation process. ILAB now updates and publishes the List every other year, pursuant to changes in the law.

Procedural Guidelines

On May 15, 2020, ILAB's Office of Child Labor, Forced Labor, and Human Trafficking published Procedural Guidelines for the development and maintenance of the List of Goods from countries produced by child labor or forced labor in violation of international standards.

https://www.dol.gov/agencies/ilab/reports/child-labor/list-of-goods?tid=All&field_exp_good_target_id=5788&field_exp_exploitation_type_target_id=1=15413&items_per_page=10

Government of Canada

360410 - Fireworks - Canadian Importers Database (CID)

Major Canadian importers Footnote2 in 2021

| Company name (alphabetical order) | City | Province | Postal code Footnote3 |
|--|-------------|-----------------|------------------------------|
|--|-------------|-----------------|------------------------------|

| | | | |
|----------------------|---------|---------|---------|
| 2644255 ONTARIO INC. | Toronto | Ontario | M2J 4T1 |
|----------------------|---------|---------|---------|

| | | | |
|---|--|---------------|--------|
| B E M SOUVENIRS ET FEUX D'ARTIFICE INC J0P 1B0 | | Coteau-du-Lac | Quebec |
|---|--|---------------|--------|

| | | | |
|----------------------|---------|---------|---------|
| KABOOM FIREWORKS INC | Toronto | Ontario | M6A 1Z4 |
|----------------------|---------|---------|---------|

Diwali (Divali) Day

The following information is presented to offer insight into the origins and culture of the Diwali celebration and its strong association to the use of earthenware 'lamps placed in a row'.

Diwali, the Hindu festival of light, begins this year on November 12th. The holiday dates back more than 2,000 years, and it is usually celebrated for five days each year. Diwali, the Hindu festival of light, begins this year on October 24.

The holiday is typically celebrated with the lighting of lamps, candles and often fireworks and firecrackers, as well as other forms of merriment. In Hindu culture, light and fire are believed to ward off evil spirits.

Huge banquets, family gatherings and prayers also are part of the celebrations. Although Diwali is mainly seen as a Hindu festival, Jaines and Sikhs also celebrate it.

Etymology

Merriam-Webster

Borrowed from Hindi dīvālī, divālī, going back to Middle Indo-Aryan dīvālī-, dīvāvalī-, going back to Sanskrit dīpāvalīḥ "row of lights, the Diwali festival," from dīpaḥ "lamp, light" (noun extracted from dīpayati "[s/he] sets alight, lights, illuminates," causative derivative from the base of dīdeti "[it] shines, is bright") + āvalīḥ "row, line" (of uncertain origin).

Wikipedia

A diya, diyo, deya,[1] deeya, dia, divaa, deepa, deepam, deep, deepak or saaki (Sanskrit: दीपम्, romanized: Dīpam) is an oil lamp made from clay or mud with a cotton wick dipped in oil or ghee. These lamps are commonly used in the Indian subcontinent and they hold sacred prominence in Hindu, Sikh, Buddhist, and Jain prayers as well as religious rituals, ceremonies and festivals including Diwali.

Fireworks are a more modern phenomenon when it comes to Diwali celebrations, with gunpowder first emerging in 1400 AD when it came to be used exclusively in Indian warfare, historian PK Gode said. Also, Dr. Bihani Sarkar, departmental lecturer in Sanskrit at the University of Oxford, told Newsweek, "Fireworks are a modern phenomenon and usually in traditional Hindu/or other Indian homes the clay lamps are

lit and placed in the front courtyard to mark the joyous occasion of light symbolizing optimism and hope for the future,"

"But since modern times, (hard to pin down exactly when it became part of it) the festival began to include fireworks. They are not necessary, and the festival does not lose its significance in any way if they are absent."

Indeed, fireworks are a personal preference, and many people believe that fireworks are not part of Diwali because of the environmental impact and those who may be sensitive to the noise, such as elders, cats and dogs.



People light earthen lamps on the banks of the river Sarayu during celebrations on the eve of the Hindu festival of Diwali in Ayodhya on November 3, 2021.

SANJAY KANOJIA/GETTY/AFP

The origin of Diwali is disputed. The most well-known story behind the celebration is in the Ramayana, one of the two important legends of Hinduism.

The story tells the story of Rama, the prince of Ayodhya who was ordered into exile by his father, King Dasharatha, and come back after living in the forest for 14 years. Rama went into exile with his wife Sita and brother Lakshmana. But Ravana, the demon king of the island kingdom Lanka, abducted his wife and took her to Lanka.

Rama later fought against and killed Ravana, rescuing Sita and returning to Ayodhya after 14 years. Residents of Ayodhya lit up their houses with earthen lamps (dīpa) and decorated the entire city when they found out Rama had returned home, marking the day of Diwali.

Diwali 2022: Here is all you need to know about the ban reinstated on the states and the heavy fine imposed for violation of the rules.

Firecracker Prohibition and Air Pollution Regulation in India

Air pollution affects the environment drastically and the regulatory laws as well as the recent firecracker ban act as a voluntary step towards curbing its harmful effects. ***The use of fireworks during Diwali amounts to serious air and noise pollution***, so it is our responsibility as citizens to protect ourselves and the environment by abiding by the laws and the proper bans enforced in the respective States.

<https://www.reddyandreddy.org/firecracker-prohibition-and-air-pollution-regulation-in-india/>

India Today

The Environment Minister Gopal Rai in a press conference on Wednesday declared a ban on the bursting of crackers on Diwali with a penalty of Rs 200, (3.30 CAD) which could go up to Rs 5,000 (82.53 CAD) and a jail sentence of six months to three years.

<https://www.indiatoday.in/information/story/diwali-2022-list-of-states-which-have-banned-firecrackers-and-penalties-for-violating-them-2287596-2022-10-20>

Latest Updates on Firecrackers in India – Air Quality

Comparing the above readings to Delhi in 2017, the AQI metrics dwindled between 300-400 numeric values, translating to 878-1179 micrograms per cubic metre. A dangerous condition flagged as hazardous, making it impossible to breathe the outside air.

In 2018, the AQI levels hit 654 – a number that is way above the hazardous level. According to a published study in Lancet Planetary Health in 2018; the toxic air that blanketed India in 2017 claimed close to 1.24 million lives or contributed to 12.5% of the total deaths.

In 2020, The air quality in Delhi-NCR plunged into the ‘severe’ category with the air quality index (AQI) reaching 421 on the day after Diwali according to the latest estimates updated by a system of air quality and weather forecasting and Research (SAFAR).

Most of the areas in the national capital including Delhi University, Pusa Road, Lodhi Road, Mathura Road, IIT-Delhi, Indira Gandhi International Airport (Terminal-3) and Ayanagar recorded air quality in the ‘severe’ category with an AQI of 479, 433, 392, 427, 398, 468 and 424 respectively.

The Arvind Kejriwal-led Delhi government even issued a ban on firecrackers between 9 November and 30 November. During this time, several states and UTs issued a partial ban on fireworks in a bid to reduce air pollution.

Notably, these numbers were still better than the previous year’s AQIs that had touched 900 in some parts of the national capital.

While it is impossible to impose a blanket ban on firecrackers during Diwali in the national capital region, ***the Supreme Court said that there was a need to rethink how Diwali was celebrated*** and asked the state governments to put in certain rules regarding the bursting of firecrackers during this period.

Be an Environment-Friendly Citizen

The government of India is doing its part in trying to curb the pollution levels from rising further. Though the odds are against us, it is up to citizens of India like you and me, to ensure this Diwali turns out ***green & environment-friendly*** than the past years.

<https://vakilsearch.com/blog/are-fireworks-legal-in-india/>

Industry Monetization

Associations such as the Canadian National Fireworks Association are created to not only act to promote industry regulations and to liaise between various interests and governmental bodies but also to serve their members to promote the sale and use of fireworks.

In the case of Diwali, as opposed to claims from interests promoting the use of fireworks, it can be seen from historian PK Gode and the following comment from Dr. Bihani Sarkar, departmental lecturer in Sanskrit at the University of Oxford that “fireworks are not necessary, and the festival does not lose its significance in any way if they are absent” and this is telling when referencing the etymological meaning of the name, lighted clay lamp and row of lights.

If culture is to be posited as an argument, then it has little or nothing to do with fireworks whereas the cultural practise over the centuries appropriately relates to rows of lit earthenware lamps.

On a broader scale the comments from historian PK Gode and Dr. Bihani Sarkar could be extrapolated to apply to such celebrations as New Years Eve, Victoria Day and Canada Day, whereas fireworks should not be considered as an essential component when weighed against the widespread disruption to people and wildlife together with the resultant pollution incurred to our air, soil and waterways.



Fireworks violations continue: Canada Day at Somerset Park in 2023 as in 2022. City By-law complaints platform announced it was unable to record messages as it was already full on the Saturday at 10:00 pm as per last year. As a result, the city would have missed many related complaints and therefore this would be a less reliable reference to gauge resident complaints for any statistical information gathering.

City of Oshawa Strategic Plan 2020 – 2023

The use of both personal consumer grade fireworks could be viewed to be in conflict with the **City of Oshawa Strategic Plan 2020 – 2023**, specifically, goal provisions contained in,

4.1 Economic Prosperity & Financial Stewardship Theme: Wise Land Use

5. (Extract) Continue to improve and protect the Lake Ontario waterfront as an important community asset....

6. Work effectively with all levels of government to fund and support effective protection of Lake Ontario waterfront lands

4.5. Environmental Responsibility. Protect, conserve and promote the environment.

Theme: Proactive Environmental Management and Combat Climate Change.

- 1. Identify, connect and protect natural heritage features, areas and habitats including the city's urban forest canopy.**
- 2. Identify, evaluate and implement adaptation measures to strengthen the city's resilience to a changing climate, invasive species and other stressors.**

4. Ensure City policies and practices, including stormwater management, **respect and enhance the natural environment**.

5. Educate the public about the value and importance of **all aspects of environmental responsibility**. **Theme: Cleaner Air, Land and Water** 1. Encourage and implement actions to continue **to improve water quality and water aquifers**.

FORBES > INNOVATION > SCIENCE

This article is featured to show the sheer disruption to wildlife, in this case birds. We will see the extent to which fireworks impact these populations in terms of the intensity of the disturbance and the duration.

Birds Flee En Masse From Fireworks **GrrlScientist Senior Contributor**

Evolutionary & behavioural ecologist, ornithologist & science writer



New Year's Eve fireworks illuminate Sydney's iconic Harbour Bridge.

An international team of researchers based in the Netherlands used weather radars to monitor the movements of wild birds on New Year's Eve. Radar data revealed that tens of thousands of birds explode into flight promptly at midnight when public firework shows begin. The panicked birds reached altitudes of 500 metres where they flew in dense flocks for 45 minutes. The highest flock densities were detected over grasslands and wetlands, and over conservation sites, which are the wintering homes where many tens of thousands of waterfowl, wading and shorebirds, and seabirds rest and feed.

How well do birds tolerate fireworks?

Although people enjoy the colourful flashing lights and loud explosions created by fireworks, almost nothing is known about how wild birds and other wildlife respond to such bizarre nighttime extravaganzas. Previous studies revealed that terrestrial and marine animals respond fearfully to a wide variety of disturbances caused or influenced

by humans, such as low-flying aircraft and drones, motorboats, hunting, noise, and even just the mere presence of humans.

Although the Netherlands is a civilised nation, the public is allowed to light their own fireworks on New Year's Eve, a practice that they enthusiastically seize on a massive scale nearly everywhere in the country. The amount of fireworks consumed annually in the Netherlands alone is estimated to be 10.8 million kilograms (or 23.8 million pounds, which is roughly the same mass as *three* Saturn V rockets).

In the Netherlands, recreational fireworks can be legally detonated during a four-hour period of time between 10:00 pm on 31 December until 2:00 am on 1 January -- although most are lit

during the first 30 minutes after midnight. Additionally, the Netherlands is densely populated, so wildlife conservation areas are typically located close to inhabited areas, where large numbers of birds concentrate.

How to monitor flying birds in the middle of the night?

Since it is nearly impossible to observe birds in the middle of the night, an interdisciplinary team of researchers from the University of Amsterdam, the Royal Netherlands Air Force, and the Royal Netherlands Meteorological Institute used a weather radar to quantify where and when wild birds were disturbed by large-scale fireworks shows held on three consecutive New Year's Eves from 2008 through 2010. Although this radar was designed to monitor rain and other weather conditions, it could also detect flying birds.

The radar was located 44 metres above sea level in De Bilt, the Netherlands (central red spot, Figure 1). The radar monitored echoes created by flying birds at 5-minute intervals, in various altitude bands within a 25-kilometre (15.5 mile) radius. (Continued)

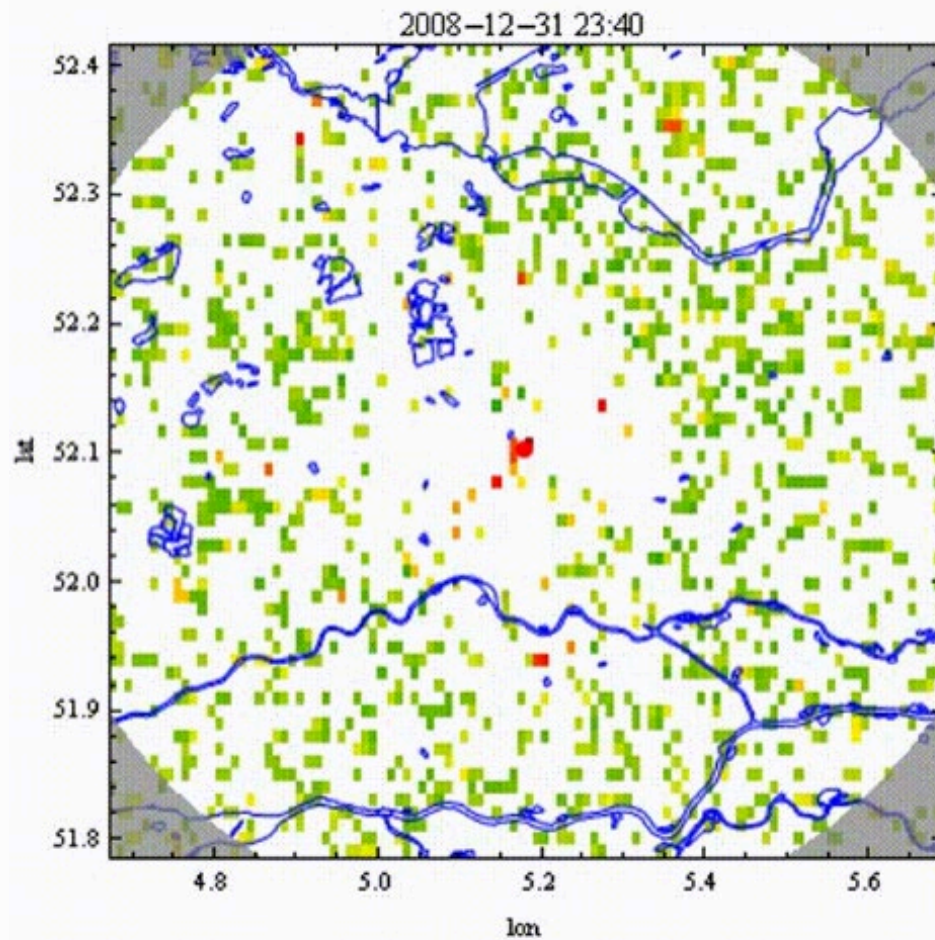


Figure 1. Radar images from The Netherlands showing birds scattering when fireworks are set off at midnight during New Year's Eve. KEY: green = 101; yellow = 103; red = 106 birds (Credit: the Institute for Biodiversity and Ecosystem Dynamics (IBED) at the University of Amsterdam / doi:10.1093/beheco/arr102) [-]

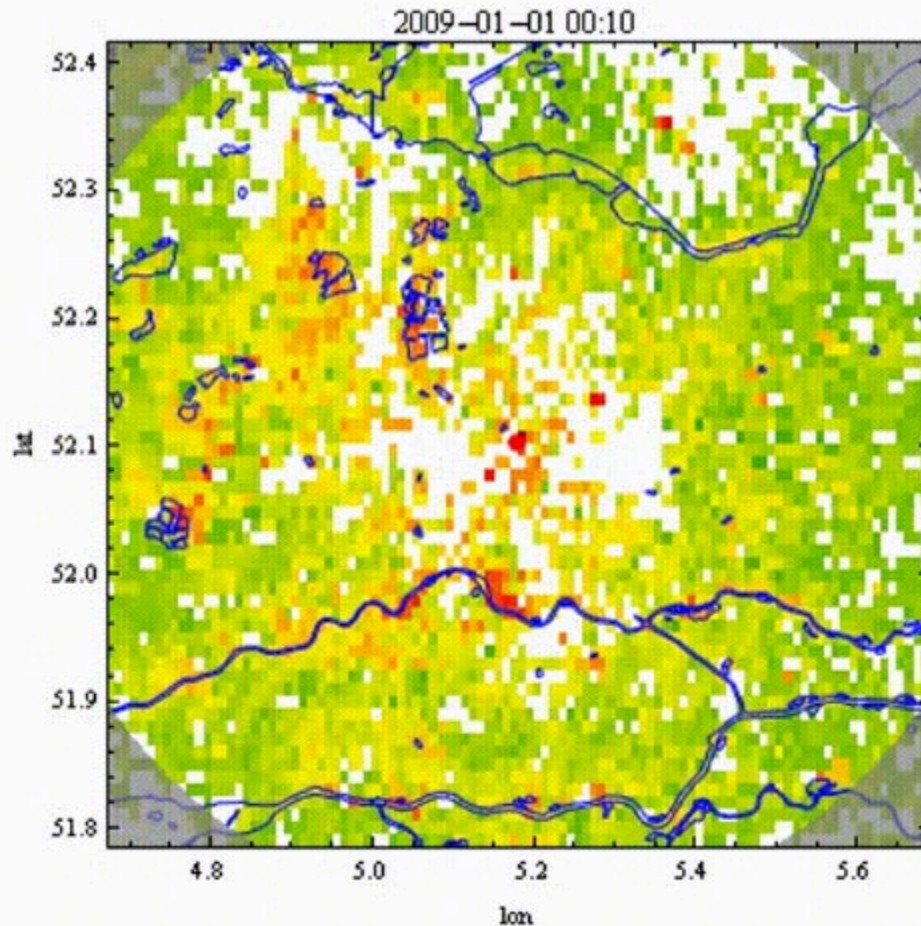


Figure 1. Radar images from The Netherlands showing birds scattering when fireworks are set off at midnight during New Year's Eve. KEY: green = 101; yellow = 103; red = 106 birds (Credit: the Institute for Biodiversity and Ecosystem Dynamics (IBED) at the University of Amsterdam / doi:10.1093/beheco/arr102) [-]

As you can see, almost no birds were in flight immediately before midnight on New Year's Eve. But only a few minutes after midnight, when fireworks were being lit in inhabited areas all over the country, massive movements -- one could say "explosive" movements -- of wild birds were detected. The areas with the greatest radar reflectivity (indicating the greatest density of flying birds) were seen over lakes, wetlands, and river floodplains (blue lines) -- many of which are designated Natura 2000 sites, which are protected as breeding and resting sites for rare and threatened species.

Based on annual winter bird censuses conducted within the radar area, the researchers assumed that most birds present during this time period were large waterfowl -- mostly ducks and geese. To identify relative numbers of passerines: ducks: geese, the researchers estimated the birds' relative body volume by calculating the body area-to-volume as a sphere. Based on their calculations from radar density measurements, the research team estimated that the highest density of birds in the air at the same time may reach 1000 birds/km².

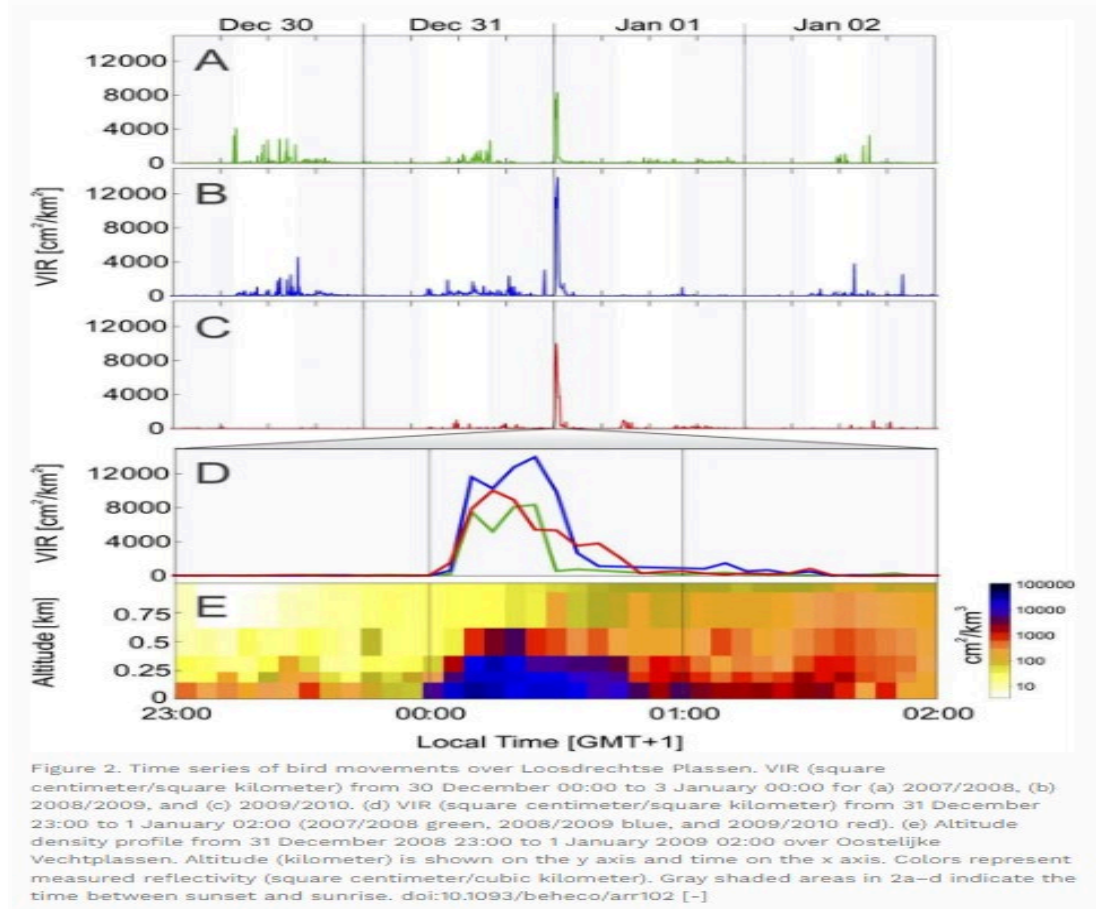
"It is estimated that hundreds of thousands of birds take flight, just within a 40 kilometre radius of where the radar was taking measurements", said the study's first author, Judy Shamoun-Baranes, who is an Assistant Professor in the Institute for Biodiversity and Ecosystem Dynamics at the University of Amsterdam, in a press release. "If we consider the entire country using this statistic, millions of birds could be affected. These figures are quite staggering, especially when considering that birds are disturbed from areas that are otherwise designated for conservation of the species, especially during the winter and migration season", said Professor Shamoun-Baranes.

"This phenomenon has also been observed in Belgium, so this issue is clearly not isolated to the area where this particular study took place."

How high did the birds fly and how long did they stay aloft?

Although the research team's time series of radar density measurements from several days and nights before and after New Year's Eve showed short intervals of bird movements (Figure 2), these were dwarfed by the very abrupt and explosive increase in density beginning on 1 January at 00:05, as recorded for each year of the study. This density of flying birds reached a maximum between 00:15 and 00:25, with the majority of birds in flight for about 45 minutes. Figure 2d): Local Time (GMT +1)

Figure 2. Time series of bird movements over Loosdrechtse Plassen



The radar revealed that the birds rapidly flew up to an altitude of approximately 500 m (1640 feet; Figure 2e) or higher, and then slowly descended -- a pattern that was also seen over other lakes and wetlands in the radar area.

"These altitudes far exceed any these birds would usually reach during local flights, and are in fact comparable to flight altitudes measured during migration", said Professor Shamoun-Baranes.

What happens to hundreds of thousands of panicked birds flying in the dark?

Like humans, birds cannot see very well in the dark (unless, of course, they are owls). This means that, similar to a human stampede trying to escape from a dark and crowded theatre or concert hall, panicked wild birds will crash into power lines, automobiles, buildings, trees, and even each other, especially on cloudy or moonless nights. As with a human stampede, mid-air bird collisions can result in serious injury or death, particularly since birds fly much much faster than a human can possibly run, and because birds fall from the sky after an impact, which can easily render a survivable injury into a mortality.

"The observations in the Netherlands are perhaps extreme due to the high concentrations of birds found in waterbodies in the winter and the close proximity of human activity", said Professor Shamoun-Baranes.

But as people claim more and more wild lands for their own uses, birds and wildlife are concentrated into smaller and smaller areas that are in closer proximity to humans, so more tragedies such as these will occur.

And the fact is that, year after year, somewhere in the world, people are greeted by the chilling sight of dead and dying wild birds falling from the sky on the first day of the New Year, in the aftermath of fireworks displays.

Mental Health and Fireworks

National Library of Medicine

National Center for Biotechnology Information

Post-Traumatic Stress Disorder in Canada

Michael Van Ameringen, Catherine Mancini, Beth Patterson, and Michael H. Boyle.

Abstract

Post-traumatic stress disorder (PTSD) has become a global health issue, with prevalence rates ranging from 1.3% to 37.4%. As there is little current data on PTSD in Canada, an epidemiological study was conducted examining PTSD and related comorbid conditions. Modified versions of the Composite International Diagnostic Interview (CIDI) PTSD module, the depression, alcohol and substance abuse sections

of the Mini International Neuropsychiatric Interview (MINI), as well as portions of the Childhood Trauma Questionnaire (CTQ) were combined and administered via telephone interview in English or French. Random digit dialing was used to obtain a nationally representative sample of 2991, aged 18 years and above from across Canada. The prevalence rate of lifetime PTSD in Canada was estimated to be 9.2%, with a rate of current (1-month) PTSD of 2.4%. Traumatic exposure to at least one event sufficient to cause PTSD was reported by 76.1% of respondents. The most common forms of trauma resulting in PTSD included unexpected death of a loved one, sexual assault, and seeing someone badly injured or killed. In respondents meeting criteria for PTSD, the symptoms were chronic in nature, and associated with significant impairment and high rates of comorbidity. PTSD is a common psychiatric disorder in Canada. The results are surprising, given the comparably low rates of violent crime, a small military and few natural disasters. Potential implications of these findings are discussed.

Extract:

Predictors

The association between PTSD and selected demographic variables were tested using logistic regression (Table 7). Being divorced, separated, or widowed produced the strongest association with PTSD (OR = 3.261). Estimates of PTSD were higher for those living in rural areas, Western Canada, and Ontario as well as among those who were single (never married). The risk for PTSD was significantly lower among males.

Conclusion

A large portion of the Canadian population has been exposed to trauma in their lifetime, making it a relatively common occurrence. We suspect that most of these people will develop some symptoms of PTSD in the period of time immediately following the event; however, in the majority of people, these symptoms will likely resolve [45]. There is a subgroup of Canadian individuals (approximately 10%) who appear to be particularly vulnerable and develop full-syndromal PTSD. This disorder seems to have significant morbidity and impairment in social and occupational functioning and, along with its associated sequelae, is quite chronic in a large proportion of affected individuals. It is therefore paramount for Canadian primary care and mental health workers, as well as other front-line individuals, to become better equipped in recognizing and treating PTSD. Public Education initiatives promoting awareness of the effects of exposure to trauma and the development of PTSD should be incorporated into Public Health directives. In addition, the early identification of pre and post-trauma risk factors may influence the course and development of this disorder, and its comorbid conditions, and decrease the societal burden.

Articles from CNS Neuroscience & Therapeutics are provided here courtesy of Wiley-Blackwell.

Full detailed report

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6494052/#:~:text=The%20prevalence%20rate%20of%20lifetime,month\)%20PTSD%20of%202.4%25.](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6494052/#:~:text=The%20prevalence%20rate%20of%20lifetime,month)%20PTSD%20of%202.4%25.)

Statistics Canada

Any selected anxiety disorder includes post-traumatic stress disorder, generalized anxiety disorder, panic disorder, and social phobia. However, these disorders cannot be added to create this rate because the disorders are not mutually exclusive, meaning that people may have a profile consistent with one or more of these disorders.

Depression (major depressive episode) is identified as a period of two weeks or more with persistent depressed mood or loss of interest in normal activities, as well as other symptoms including: decreased energy, changes in sleep and appetite, impaired concentration, feelings of hopelessness, or suicidal thoughts.

Post-traumatic stress disorder can occur after witnessing or experiencing a traumatic event involving actual or threatened death, serious injury or violent personal assault, such as sexual assault. The response to the event is marked by extreme fear and helplessness. Symptoms must persist for a minimum of one month and could include: repeated reliving of the event, disturbance of day-to-day activity, avoidance of stimuli associated with the event, and irritability, outbursts of anger, or sleeping difficulty.

Generalized anxiety disorder is identified by a pattern of frequent, persistent worry and excessive anxiety about several events or activities lasting at least six months along with other symptoms.

Panic disorder is marked by recurrent, unexpected panic attacks, in the absence of real danger. These attacks are followed by at least one month of concern about having additional attacks or a change in behaviour related to the attacks.

A panic attack is characterized by an isolated period of intense fear often associated with feelings of imminent doom. During these attacks, physical symptoms, such as heart palpitations, shortness of breath or sweating develop abruptly and reach a peak within 10 minutes of the start of the attack.

Social phobia is marked by a persistent fear of one or more social or performance situations involving exposure to unfamiliar people or to possible scrutiny by others. The feared social or performance situation is avoided and exposure to the social situation provokes anxiety.

<https://www150.statcan.gc.ca/n1/daily-quotidien/190423/dq190423d-eng.htm>

Canadian Armed Forces members and Veteran Mental Health Follow-up Survey, 2018 Released in The Daily, April 23, 2019

Better understanding the mental health of its members is an important objective of the Canadian Armed Forces (CAF). In 2018, Statistics Canada, in collaboration with the CAF, Veterans Affairs Canada and the University of Manitoba, conducted a follow-up study of CAF members who were participants in a survey in 2002. This cohort of CAF members was re-contacted to see how they were faring.

More than 4 in 10 members of this cohort (44%) said they had experienced symptoms consistent with depression or an anxiety disorder at some point during the period between 2002 and 2018, and one-quarter (25%) experienced symptoms consistent with both.

Depression is defined as a period of two weeks or more with persistent depressed mood or loss of interest in normal activities, while anxiety disorders include generalized anxiety disorder, panic disorder, post-traumatic stress disorder, and social phobia.

Results of the 2018 Canadian Armed Forces Members and Veteran Mental Health Follow-up Survey are now available and provide updated information on the activities and well-being of people who were regular force members of the CAF in 2002.

1. The category "Any selected mental disorder" includes people who reported symptoms consistent with any of the disorders measured by the survey.
2. Anxiety disorders include generalized anxiety disorder, panic disorder, post-traumatic stress disorder, and social phobia.

Source(s): Canadian Armed Forces Members and Veterans Mental Health Follow-up Survey (5084).

Veterans are more likely to report a mental disorder than those who are still members of the CAF

The study found that there are differences in the mental health of those who were still members of the CAF in 2018 and those who are now veterans.

CAF members who became veterans since 2002 reported higher rates of mental disorder, as compared with those who were still in the Forces in 2018. Overall, 48% of female veterans and 38% of male veterans reported symptoms consistent with at least one anxiety disorder at some point between 2002 and 2018, compared with 38% of women and 31% of men who were still in the Forces.

Similar results were reported for members who experienced symptoms consistent with depression. For female veterans, 45% reported that they had experienced symptoms consistent with depression, compared with 41% for those who remained in the Forces in 2018. Among men, the rates were lower, at 33% for veterans and 28% for those who were still members of the CAF.

It is important to note that differences in the characteristics of veterans, such as age, could be a factor in these results. Such results do not necessarily imply that veterans left the Forces because of mental disorders and should not be interpreted as pointing to a causal relationship.

The Daily, Tuesday, April 23, 2019

2 Component of Statistics Canada catalogue no.11-001-X

Veterans reporting a mental disorder experience difficulties in transition to civilian life.

More than one-third (36%) of veterans reported that they had a very or moderately difficult transition to civilian life.

These results are similar to those from another survey focusing on veterans in 2016—the Life After Service Survey—which found that one-third of veterans (33%) reported transition difficulties.

Among the 2002 CAF cohort, those who reported having experienced symptoms consistent with a mental disorder between 2002 and 2018 were more likely to experience difficulty transitioning to civilian life. For those who experienced symptoms consistent with both depression and anxiety, more than 6 in 10 said that they had a difficult transition to civilian life.

Veterans who experienced symptoms consistent with a mental disorder were less likely to participate in the labour market (44% for both depression and anxiety disorders, versus 66% for those without a disorder).

<https://www150.statcan.gc.ca/n1/en/daily-quotidien/190423/dq190423d-eng.pdf?st=AKpaBwhe>

Evaluation of the Department of Veterans Affairs Mental Health Services.

National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Health Care Services; Committee to Evaluate the Department of Veterans Affairs Mental Health Services. Washington (DC): [National Academies Press \(US\)](#); 2018 Jan 31.

Extract

TABLE 6-5, Percentage of OEF/OIF/OND Veterans Who Have a Mental Health Need* by Screener and/or Received a Mental Health Diagnosis - Evaluation of the D...
ncbi.nlm.nih.gov/books/NBK499497/table/tab_6-5/?report=objectonly

TABLE 6-5 Percentage of OEF/OIF/OND Veterans Who Have a Mental Health Need* by Screener and/or Received a Mental Health Diagnosis

| Mental Health Screener or Diagnosis | Unweighted n | Weighted N | Weighted % | Standard Error % |
|---|--------------|------------|------------|------------------|
| Total | 4,180 | 4,179,998 | — | — |
| Any mental health need based on positive screener or diagnosis: | 2,007 | 1,705,168 | 41.0% | 1.0% |
| Screened positive on: | | | | |
| Psychological distress (Kessler) screener | 661 | 541,956 | 13.0% | 0.6% |
| PTSD screener | 1,279 | 965,520 | 23.2% | 0.8% |
| Depression screener | 795 | 682,963 | 16.4% | 0.7% |
| Alcohol dependence screener | 239 | 220,025 | 5.3% | 0.5% |
| Drug dependence screener | 116 | 111,223 | 2.7% | 0.3% |
| Mental health diagnosis in past 24 months | 1,502 | 1,179,971 | 28.4% | 0.9% |

NOTES: Percentages will not sum to 100 percent because OEF/OIF/OND veterans may screen positive for more than one condition.

* Mental health need could not be determined for 16 cases.

SOURCE: Committee to Evaluate VA Mental Health Services, Veteran Survey, 2017.

Results from the individual mental health screeners in the committee's survey showed 23 percent of the veterans screened positive for PTSD, 16 percent screened positive for major depression, and 13 percent screened positive on the Kessler six-item measure of general psychological distress. Five percent screened positive for alcohol dependence and 3 percent for drug abuse. In the survey by Elbogen et al. (2013), 20 percent screened positive for PTSD, 24 percent for major depression, and 27 percent for alcohol misuse. The large discrepancy between these two studies in the percentage scoring positive for problem drinking is likely accounted for by the different cut-offs each study used to score the Alcohol Use Disorder Identification Test scale, which assesses problems with drinking.

In the committee's survey, 28 percent of OEF/OIF/OND veterans self-reported that they had received at least one mental health diagnosis in the previous 24 months. Among those who had a positive result on the mental health screeners, nearly 7 in 10 reported having had received a mental health diagnosis.

Prevalence of common mental health disorders in military veterans: using primary healthcare data

Author:

Alan Finnegan, R Randles

Publication:

Journal of The Royal Army Medical Corps

Publisher:

BMJ Publishing Group Ltd.

Date:

Jan 18, 2022

Copyright © 2022, BMJ Publishing Group Ltd. All rights reserved.

Creative Commons

This is an open access article distributed under the terms of the [Creative Commons CC BY 4.0](https://creativecommons.org/licenses/by/4.0/) license, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. You are not required to obtain permission to reuse this article.

Abstract

Introduction Serving military personnel and military veterans have been identified as having a high prevalence of mental disorders. Since 1985, UK patients' primary healthcare (PHC) medical records contain Read Codes (now being replaced by Systematized Nomenclature of Medicine - Clinical Terms (SNOMED CT) codes) that mark characteristics such as diagnosis, ethnicity and therapeutic interventions. This English study accesses a cohort profile of British Armed Forces veterans to examine the diagnosed common mental disorders by using PHC records.

Methods This analysis has been drawn from initiatives with PHC practices in the Northwest of England to increase veteran registration in general practice. Demographic

data were collected including gender, age and marital status. Data were also collected on common mental health disorders associated with the Armed Forces.

Result 2449 veteran PHC records were analysed. 38% (N=938) of veterans in this cohort had a code on their medical record for common mental health disorders. The highest disorder prevalence was depression (17.8%, N=437), followed by alcohol misuse (17.3%, N=423) and anxiety (15.0%, N=367). Lower disorder prevalence was seen across post-traumatic stress disorder (PTSD) (3.4%, N=83), dementia (1.8%, N=45) and substance misuse (0.8%, N=19). Female veterans had a higher prevalence of mental disorders than their male counterparts, while men a higher prevalence of PTSD; however, the gender difference in the latter was not significant ($p>0.05$).

Conclusion The SNOMED searches do not detail why certain groups had higher recordings of certain disorders. A future study that accesses the PHC written medical notes would prove enlightening to specifically identify what situational factors are having the most impact on the veteran population. The results from a sizeable English veteran population provide information that should be considered in developing veteran-specific clinical provision, educational syllabus and policy.

<http://dx.doi.org/10.1136/bmjmilitary-2021-002045>

Canadian Department of National Defense

ARCHIVED - Executive Summary for the Report on Cumulative Incidence of Post-Traumatic Stress Disorder and Other Mental Disorders

Extract

Results

Over an average period of follow-up after return from the first deployment of 54 months, an estimated 30% of the cohort received specialty mental health services (that is, care other than Psychosocial Services or primary care) through the CF. 8% of the entire cohort was diagnosed with Afghanistan-related PTSD (with or without other disorders), and an additional 5.2% were diagnosed with other Afghanistan-related OSI's, such as depression (2.2%), adjustment disorders (2.0%), or anxiety disorders other than PTSD (1.9%). Non-OSI mental disorders and OSI's related to other operations were less common in this cohort (affecting 4.5% and 1.2%, respectively).

The fraction of a cohort diagnosed with a given condition at any point over a specified period of follow-up is termed the "cumulative incidence" of the condition. The cumulative incidence of OSI's was highest for those deployed to Kandahar (17.1%) and to Kabul (14.5%) and was lower for those deployed to the Arabian Gulf (6.5%) and to Camp Mirage or elsewhere in SW Asia (3.3%). However, even lower-threat locations such as Camp Mirage had meaningful rates of OSI's.

Discussion

13.2% of a large, diverse cohort of CF personnel who deployed in support of the mission in Afghanistan were diagnosed with an Operational Stress Injury over an average period of follow-up of almost five years. PTSD was the most common disorder (seen in 8% of the cohort), but 5.2% had one or more OSI's other than PTSD. A sizable

fraction of all mental health disorders diagnosed in the previously deployed cohort were judged to be OSI's.

Once methodological differences (particularly the duration of the follow-up period) are considered, the cumulative incidence for Afghanistan-related OSI's (13.2%) is consistent with other studies on the mental health impact of the mission, such as the frequently reported findings from the Enhanced Post-deployment Screening Process. Unfortunately, there is no methodologically similar international comparison data, so it is unknown whether this rate is higher or lower than those of our allies.

<https://www.canada.ca/en/department-national-defence/corporate/reports-publications/health/cumulative-incidence-post-traumatic-stress-disorder-other-mental-disorders/executive-summary.html>

Martin Field