Office of the Fire Marshal ANNUAL REPORT AND STATISTICS



2023 - 2024

The Honourable John Lohr Minister of Municipal Affairs Province of Nova Scotia Department of Municipal Affairs P.O. Box 216 Halifax, NS B3J 2M4

RE: Office of the Fire Marshal 2023-2024 Annual Statistics Report

The Annual Report attached is a compilation of the activities and data collected from our records for the fiscal year 1 April 2023 through 31 March 2024.

Today, I have the privilege to submit the report as required by the Fire Safety Act. 2002, c.6, s.1.

The office is responsible to educate, enforce, and engineer policies, regulations and programs regarding fire and building safety. We also provide advice on all initiatives and issues concerning building and fire safety; advising various levels of government; working with fire services partners throughout the province; leading, coordinating and providing government departments, municipalities and the public with effective approaches for building and fire safety.

Over this period, the dedicated staff from the Office of the Fire Marshal have continued to develop and promote the protection of Nova Scotia residents and visitors.

Doug MacKenzie

<u>INTRODUCTION</u>

MUNICIPAL AFFAIRS AND HOUSING

From the period of 1 April 2023 to 31 March 2024, the Minister of Municipal Affairs and Housing (now Municipal Affairs) was the Honourable John Lohr.

RESOURCES

In 2023-2024, the OFM consisted of nineteen (19) full time staff located throughout the province:

- Fire Marshal, Doug MacKenzie. Director responsible for the overall direction and management of the OFM.
- Assistant Fire Marshal, Jamie Young. Manages the Operations team.
 A total of ten (10) Deputy Fire Marshals, conduct inspections, investigations & education activities
- Manager of Corporate Policy, Kirk Janes. Manages two groups.

Administration:

- Fire Service Coordinator. Certifications, awards, support to fire services.
- Administrative Assistant, Administrative support for the OFM.
- Research & Statistics Officer. Databases & statistical reporting.

Codes Team:

- Fire Code Coordinator leads policy and administration related to fire code. Conducts plan reviews, provides technical support.
- Building Code Coordinator leads policy and administration related to building codes. Provides techn support.
- Assistant Code Coordinator, Building and Fire Code Coordinator support.

FINANCE

For the fiscal period 2023-2024, the Office of the Fire Marshal had an annual budget of approximately \$2,768,000

INTEGRATION

The Office of the Fire Marshal is responsible for the fire and building safety for all residents and visitors of Nova Scotia.

OFM is responsible to educate, enforce, and engineer policies, regulations and programs regarding fire safety protocols and provide guidance to all municipal fire inspections while maintaining strong partnerships with Police, RCMP and Medical Examiners Office by conducting fire investigations, and prosecutions under the NS *Fire Safety Act*.

LOCATION

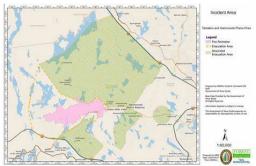
The Office of the Fire Marshal head office is centrally located at Baker Drive in Dartmouth. Field offices are located throughout Nova Scotia, in Yarmouth, Kentville, Bible Hill, and Sydney.

OFM ACTIVITIES

PROVINCE WIDE FIRE BAN

The end of May brought several wildfires across Nova Scotia. The Provincial Coordination Centre (PCC) was activated, and a state of Local Emergency was declared. Mandatory evacuation orders were issued. The largest wildfire in the history of Nova Scotia began at Barrington Lake and burned a total of 23,379 hectares in Shelburne County before being stopped after 61 days. Devastating loss also occurred in Halifax County – Tantallon wildfire started on May 28th and burned a total of 969 hectares and was stopped after 59 days. A provincewide ban on all fireworks and setting fires for any reason within 1,000 feet of woods, including private campgrounds, provincial parks, and backyard fires was issued; with a fine increased to \$25,000 for breaking the burn ban. Travel and activities

in the woods were restricted.

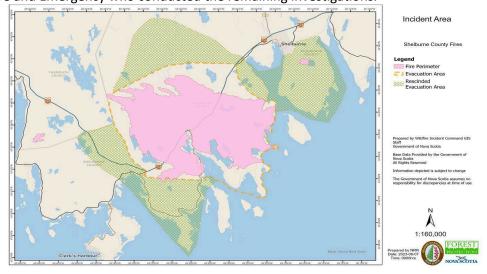




For the first time in current history under the State of Emergency, the Fire Marshal took control of the Fire service as a whole to direct resources and provide support where necessary due to the extent of the wildfires across the province.

The Office of the Fire Marshal provided continued support at the Emergency Coordination Centre (ECC); Deputy Fire Marshals provided investigation services and gave full support to the fire service. The OFM Administration and Codes teams provided field and office support including deliveries of additional equipment for investigations.

In Shelburne, there were a total of 60 fire investigations completed by OFM as a result of the wildfires, and in Halifax (Tantallon) there were a recorded 39 fire investigations completed by OFM for Halifax Regional Fire and Emergency who conducted the remaining investigations.



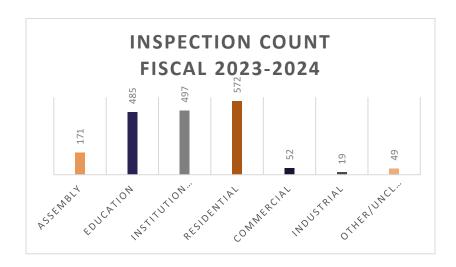
INSPECTIONS

The OFM conducted a total of 2,078 activities at various buildings and properties which generated 1,368 inspection reports, 28 orders to take action, 5 appeals, 18 inspection related training events and 687 other-event correspondence.

Many of the inspections undertaken were in concert with our provincial partners in various departments. . The OFM holds responsibility for inspections of all licensed care facilities, group homes, hospitals including nursing homes, provincial buildings and all community colleges and universities. During the year, we visited



numerous nursing homes, group and small option homes, schools, hospitals, and public venues. The numbers and types of inspections undertaken are illustrated below.



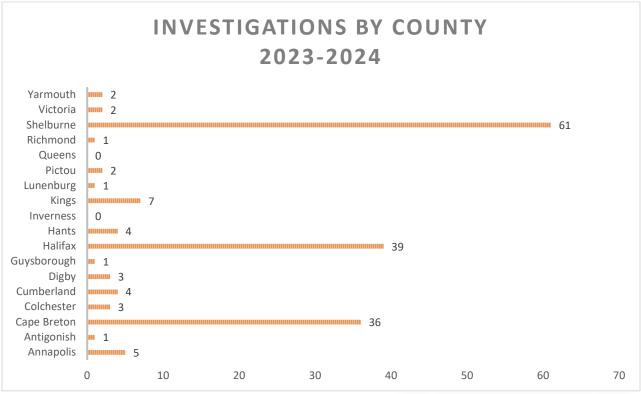


INVESTIGATIONS

The OFM collaborates closely with the fire service, local assistants, Royal Canadian Mounted Police and municipal police services, NS Medical Examiner Service and the insurance industry.

For service to the residents of Halifax Regional Municipality, a Memorandum of Understanding was signed in 2006. Halifax Fire Prevention Division carry out their own system of investigations, with assistance provided by the OFM if requested.

In 2023-2024, the OFM received 339 requests from local assistants and police services. Through consultations with our on-duty Deputy Fire Marshals, the Local Assistants were guided through the process to determine the cause of the fire or to make the determination if a response by the OFM was warranted to conduct an investigation safely, resulting in 172 investigations being performed by the Deputy Fire Marshals.



*The spikes in Halifax and Shelburne were a result of the wildfires.



STATISTICS

The Office of the Fire Marshal maintains a fire incident database from information submitted by the fire service, OFM staff and the insurance industry. This data forms the basis of the analysis of statistics and trends of fires in Nova Scotia which assists in the development of fire safety education programming and shapes the recommendations to Government.

In 2023-2024, there were 11,314 fire service response events reported to the OFM including 3,140 fire related incidents; 2, 038 false alarms; 548 public hazards; 5,586 rescue calls, and 2 uncategorized. There was a reported structure loss of \$25,812,659; a reported contents loss of \$12,319,627 for a total reported fire loss of \$38,132,286.

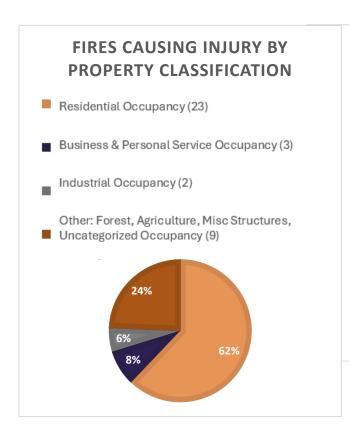
A total of 684 of the reported fires were found to be Accidental. There were 151 Incendiary fires reported. Of all reported fires, a total of 30 were deemed to be of natural cause, 970 undetermined / under investigation and 1,295 no official cause reported.

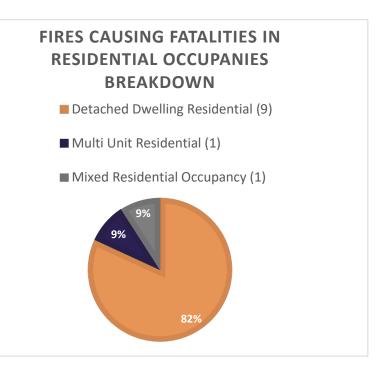
In 2023-2024, there were 11 reported fire related fatalities, and 37 fire related injuries reported, including 12 cases of firefighter injury. There were also 95 possible cases of arson and 34 suspicious fires. Throughout this year, 41 accidental fire incidents caused by unattended cooking were reported. There were 729 Single Dwelling Fire and 168 Semi Detached / Town House / Multi Unit Dwelling Fires. A complete outline of fire incident data for 2023-2024 is illustrated in Appendices A-1 to A-5.

This fiscal period revealed the greatest number of fires that caused injuries occurred in residential occupancies.

Other types of fire call incidents during the 2023-24 period included 1,494 Vehicle Accidents, 2,792 Medical Calls, 883 Accidental Alarms, and 790 Malfunctioning Alarms.

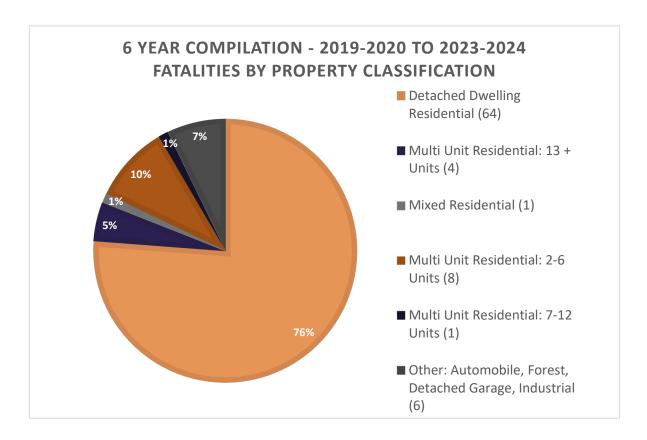
100% of fatal fires in this fiscal period occurred in residential occupancies. The top identified cause of fire causing fatalities was improper disposal and handling of smoking articles.





AGGREGATE OF DATA 2019-2020 THROUGH 2023-2024

Between April 1, 2019, to March 31, 2024, the top three fire causes reported are misuse (2,801), failures (1,428), and incendiary (892).



CONSULTING WITH STAKEHOLDERS

OFM staff at all levels provide information, advice and support for municipal building officials and fire inspectors, architects, engineers, government departments and other consultants as well as private citizens.

OFM also works closely with fire services as a bridge to other provincial departments and elected government officials at the municipal and provincial levels.

BUILDING SAFETY

The OFM establishes policies, regulations and programs for the regulation of construction for all buildings in Nova Scotia, develops & delivers training & educational materials, and provides stakeholders with sound technical advice on construction codes. Provincial representation is provided on the Canadian Board for Harmonized Construction Codes and many other working groups.

In the 2023-2024 period, the OFM Building Safety team supported our partners, the Nova Scotia Building Officials Association, in their delivery of 14 Building Code Courses.

The Nova Scotia Building Advisory Committee (NSBAC) comprised of 12 members who represent building construction stakeholders worked together to develop recommendations regarding the 2020 Building Code Regulations. In August 2023, the revised Building Code Regulations were publicly available for a 45-day public notice period. In response to feedback from the public and construction industry, adoption of the 2020 Codes was paused for necessary planning and training.

Throughout the year, the NSBAC scheduled and held 9 regular meetings. The NSBAC also received 7 Tribunal Applications and held 6 Hearings (1 was withdrawn).



In June of 2023 our colleague Joe Rogers, Building Code Coordinator was recognized by the Canadian Standards Association Groupe (CSA Groupe) for his exceptional leadership, advocacy, and outstanding dedication to the development of plumbing standards and accessible design for the built environment standard, Joe was presented with the CSA Groupe 2023 Award of Merit.

Joe Rogers was also the recipient of the 2023 Joesph K. Seidner award by the Canadian Institute of Plumbing & Heating. This award is in recognition of his outstanding commitment and dedication of the plumbing industry and his experience and expertise in developing safer plumbing codes and standards.



BUILDING PLANS REVIEW SUMMARY

In fiscal period 2023-24, the average turn-around time from when a set of building plans were received by the OFM to the time the review was carried out and comments sent was 24 working days. The time required to review a set of plans is dependent on several factors and whether the submission is complete, i.e. sealed, ready for construction and containing all necessary information. The timeline is also affected by things such as if there are multiple plans submitted at or around the same time and the plan examiners' availability. In all cases, correspondence is provided to all those submitting plans for review.

A total of 89 projects submitted plans for review. Of those plans received, 10 plans did not require review as the construction or alterations contained a class of occupancy that was not within the scope of Section 12 of the Nova Scotia Fire Safety Regulations.

Seventy-nine (79) plans and five (5) alternative solutions were reviewed and the OFM had an opportunity to advise of any contraventions of the *Fire Safety Act*, or the *regulations*. There was a noticeable increase in plans submitted for care and treatment occupancies projects from throughout the Province compared to the previous year (examples; alteration projects at hospitals and long term care homes).

Building Plans Received by OFM for Review 4 Year Comparison by Month

	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
2023/24	7	9	11	6	7	6	6	6	2	11	7	11
2022/23	5	6	8	9	14	5	2	5	3	8	8	12
2021/22	3	7	20	6	9	6	7	5	4	5	2	6
2020/21	11	14	18	10	15	8	12	8	8	5	8	3

See Appendix B for more information on Building Plans Submitted to the OFM for Review 2023-2024.

SUPPORT TO NOVA SCOTIA FIRE SERVICES

As part of our continuing commitment to the fire services in Nova Scotia, the Office of the Fire Marshal employs a full-time Fire Service Coordinator to administer several programs to support these first responders.



Nova Scotia Fire Services Long Service Medal

First awarded in 1980, "The Fire Services Long Service Medal" is an expression of public appreciation for the dedication and hard work of Nova Scotia firefighters.

During the fiscal year 2022-2023, the OFM issued:

NS Long Service Medal – 25 Years: 121

NS Long Service Bar – 35 Years: 72

NS Long Service Bar – 45 Years: 24

Governor General's Fire Services Exemplary Service Medal

The Fire Services Exemplary Service Medal, created on 29 August 1985, honours members of a recognized Canadian fire service who have completed 20 years of service, ten years of which have been served in the performance of duties involving potential risks.

The Office of the Fire Marshal has been established as the provincial awards committee whose primary function is to make recommendations to the Governor General for the medal or bar.

During the fiscal year 2022-2023, the OFM recommended to the Governor General the awarding of:

- Fire Service Exemplary Service Medal 20 Years: 41
- Fire Service Exemplary Service Bar 30 Years: 21; 40 Years: 12; 50 Years: 6



LICENSING OF PORTABLE EXTINGUISHER SERVICE PROVIDERS

Under the *Fire Safety Act*, agencies that sell and service portable extinguishers are required to be licensed by the Province of Nova Scotia on an annual basis. The OFM administers this licensing process and during the 2023-2024 fiscal year, 45 licenses were issued.

A current list of licensed service providers is maintained on the OFM webpage as a resource for the general public and other regulatory authorities: https://beta.novascotia.ca/documents/licensed-fire-extinguisher-maintenance-companies-and-individuals

TRAINING & EDUCATION FOR MUNICIPAL PARTNERS

The Office of the Fire Mashal has dedicated a minimum of 4-6 weeks to facilitating courses for our municipal partners

Fire Inspectors of Nova Scotia

During the Spring and Fall conferences of FIANS the following courses were delivered and facilitated by the OFM staff:

- Spring Training Level 1 Fire Inspector Training (Building Classification)
- Spring Training NFPA 172
- Spring Training NFPA 10
- Spring Training Hoarding
- Spring Training Fire Protection in Small Buildings
- Fall Training Introduction to Fire Alarms
- Fall Training Introduction to Sprinklers
- Fall Training NFPA 96
- FIANS Home Study Program

Nova Scotia Building Official Association

During the fiscal year the following courses were delivered and facilitated by the OFM staff:

- NS Legal
- NSBOA Plumbing
- Barrier Free

PUBLIC EDUCATION

The Office of the Fire Marshal completed a total of 71 sessions with over 927 people trained in fire and life safety programs during 2023-2024, including the following:



<u>Fire and Life Safety Program – Long Term Care</u>

The OFM completed 48 sessions (639 people) of the 6-hour Fire and Life Safety program. These seminars provide caregivers with information on how to select and use a portable fire extinguisher, their duties when the fire alarm sounds, and how they can control a fire until the fire department arrives.

Fire Equipment and Evacuation Training (FEET)

This two-day program is directed toward correctional officers looking at fire protection systems and evacuation planning. This period, 80 Correctional Officers were trained over 4 two-day programs.

Roles and Responsibilities of the Local Assistants

The OFM provided 4 sessions (83 people) of the Roles and Responsibilities of the Local Assistants Course for local fire chiefs or other senior officers of the fire service.

Portable Fire Extinguishers / Floor Warden / Fire Warden

A total of 9 two-hour fire extinguisher training programs (55 people) with the Bullex digital fire extinguisher system were held. Fire Warden / Floor Warden training involved 4 four-hour sessions (68 people).

Conferences, Displays and Tradeshows

During this period 8 events were attended, including the National Fire Prevention Association Fire Marshal Fire Commissioner Forum which provides a national and international view of emerging trends and safety protocols.

Fire Prevention Week

National Fire Prevention Week is observed in Canada, during the week (from Sunday to Saturday) in which October 9 falls. Since 1922, the National Fire Protection Association (NFPA) continues to be the international sponsor of the Fire Prevention week.



fpw.org

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LOOKING FORWARD

AUDITOR GENERAL REVIEW

During 2023/2024 fiscal year the Office of the Fire Marshal participated in an Auditor General review of the OFM. We welcomed the opportunity to have open and independent discussions of our past performance and the opportunity to plan for the future. The identified gaps have allowed the Office of the Fire Marshal to look at new and more efficient methods to conduct business that can be incorporated into the work we do over the next few years.

UPGRADES TO DATABASE SYSTEM

The work that has been ongoing for the last number of years on data entry and fire reporting from the fire service has made a significant difference in the quantity and quality of the data the OFM can draw upon for analysis, this is shaping some of the recommendations being brought forward. The data collected from the fire service allows the NS OFM to submit data to the National Fire Incident Data Base which helps to shape our national fire prevention programing and identify trends.

PLANS REVIEW

Nova Scotia is experiencing an upswing in construction including new hospitals, care facilities and schools. As part of the AG recommendations and to streamline the process the OFM has updated the plans examination policy, created a procedure to ensure that only submissions that contain the required information proceed to the review process.

2020 NATIONAL FIRE CODES

The Office of the Fire Marshal will support the adoption and implementation of the 2020 National Fire Code of Canada. This process involves proposed changes that will create a safer Nova Scotia for all. Recommended changes are based on the 2023 Auditor General report, fire statistics from the reported fire incidents, discussions with the municipalities and the municipal fire inspectors/ fire service.

IN CLOSING

During the 2023/2024 fiscal year, the experiences and insights we gained have proven invaluable, providing us with knowledge and clarity, even in the face of significant challenges – this year has been one of resilience, development, and evolution.

The unparalleled circumstances of recent years have tested our versatility, but we have come through stronger, more focused, and even more aligned with our long-term goals.

Office of the Fire Marshal remains dedicated in our efforts to further our mission of improving safety for all residents and visitors of Nova Scotia while improving efficiency and evolving to meet new obstacles.

Sincerely,

Doug MacKenzie Fire Marshal



Prepared by: Chelsea Partridge; Lisa Cadger Burgess; Jonathan Gillies

APPENDIX A: 2023-2024 FIRE INCIDENT STATISTICS

Appendix A-1

Fatalities From Fire 2023—2024

Casualty Type Name	Property Classification
Adult	301 Detached Dwelling
Adult	331 Apartment/Flat with Business
Adult	321 Multi-Unit Dwelling 2- 6 Unit
Adult	301 Detached Dwelling
Adult	301 Detached Dwelling

TOTAL Fatalities from Fire 2023-2024: 11

Adult = 18+ Years

Appendix A-2 Injuries From Fire 2023—2024

Casualty Type Name	Property Classification	Igniting Object	Possible Cause
Adult	301 Detached Dwelling	11 Stove Range-top Burner	32 Unattended
Adult	942 Industrial	69 Other Processing Equipment	52 Electrical Failure
Adult	603 Motor Vehicle Repair Garage	88 Mult Ignition Source (? Arson	68 Undetermined
Adult	301 Detached Dwelling	332 Wood Stove	39 Other Misuse
Adult	No data reported	96 Chemical Reaction/Spontaneous	31 Improperly Discarded
Civilian	321 Multi-Unit Dwelling 2- 6 Unit	No data reported	No data reported
Firefighter	321 Multi-Unit Dwelling 2- 6 Unit	99 Undetermined	69 Under Investigation
Firefighter	321 Multi-Unit Dwelling 2- 6 Unit	99 Undetermined	69 Under Investigation
Firefighter	321 Multi-Unit Dwelling 2- 6 Unit	99 Undetermined	69 Under Investigation
Adult	868 Greenhouse	93 Hot Ashes/Embers/Spark	No data reported
Adult	902 Small Truck/Pickup/Van	81 Vehicle - Electrical	52 Electrical Failure
Adult	301 Detached Dwelling	31 Central Heating/Cooling Unit	51 Mechanical Failure
Adult	301 Detached Dwelling	31 Central Heating/Cooling Unit	51 Mechanical Failure
Firefighter	719 Other Agri Products/Food/Beve	76 Lighters (open flame)	01 Arson
Firefighter	719 Other Agri Products/Food/Beve	76 Lighters (open flame)	01 Arson
Adult	301 Detached Dwelling	No data reported	No data reported
Adult	301 Detached Dwelling	55 Candle	32 Unattended
Adult	301 Detached Dwelling	88 Mult Ignition Source (? Arson	01 Arson
No data reported	899 Other Misc Structure/Property	73 Blow Torch/Bunsen Burner	39 Other Misuse
No data reported	No data reported	No data reported	No data reported
Firefighter	301 Detached Dwelling	99 Undetermined	69 Under Investigation
Firefighter	301 Detached Dwelling	99 Undetermined	69 Under Investigation
Firefighter	301 Detached Dwelling	99 Undetermined	69 Under Investigation
Adult	301 Detached Dwelling	79 Other Open Flame Tools/Smoker	01 Arson
Civilian	903 Large Truck-Excluding Trailer	99 Undetermined	12 Vehicle Accident/Collision
Firefighter	862 Forest, Standing Timber	99 Undetermined	68 Undetermined
Adult	862 Forest, Standing Timber	99 Undetermined	68 Undetermined
Adult	301 Detached Dwelling	99 Undetermined	68 Undetermined
Firefighter	862 Forest, Standing Timber	99 Undetermined	05 Suspicious Fire
Continued	Continued	Continued	Continued

Adult	301 Detached Dwelling	98 Other	68 Undetermined
Adult	301 Detached Dwelling	98 Other	68 Undetermined
Child	301 Detached Dwelling	98 Other	68 Undetermined
Adult	301 Detached Dwelling	98 Other	68 Undetermined
Adult	301 Detached Dwelling	98 Other	68 Undetermined
Adult	942 Industrial	69 Other Processing Equipment	51 Mechanical Failure
Firefighter	301 Detached Dwelling	No data reported	No data reported
Firefighter	301 Detached Dwelling	No data reported	No data reported

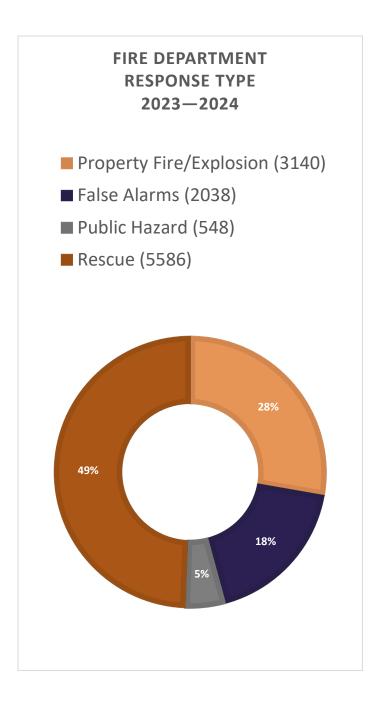
TOTAL Injuries from Fire 2023-2024: 37

Adult = 18+ Years Child = Less than 18 years

Appendix A-3

Fire Department Response Type 2023—2024

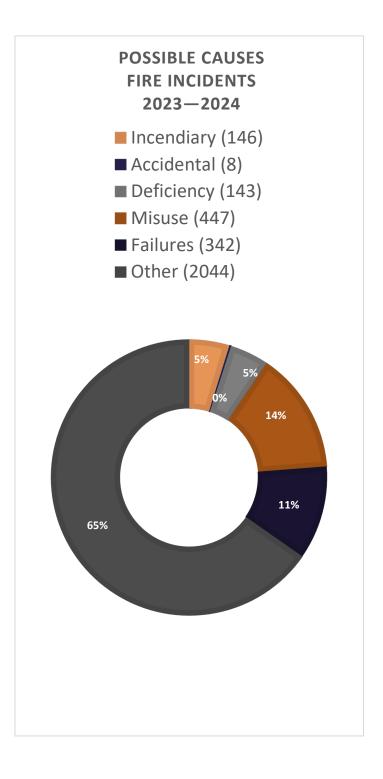
Uncategorized	2
Property Fire/Explosion	3140
01 Fire	3130
02 Combustion Explosion (no fire)	10
False Alarms	2038
31 Alarm Equip - Malfunction	790
32 Alarm Equip - Accidental	881
33 Human - Malicious	25
34 Human - Perceived Emergency	173
35 Human - Accidental	31
39 Other False Fire Call	138
Public Hazard	548
41 Gas Leak - Natural Gas	1
42 Gas Leak - Propane	46
43 Gas Leak - Refrigeration	1
44 Gas Leak - Miscellaneous	14
45 Spill - Gasoline or Fuel	29
46 Spill - Toxic Chemical	1
47 Spill - Miscellaneous	2
49 Ruptured Water, Steam Pipe	14
50 Power Lines Down, Arcing	397
59 Other Public Hazard	43
Rescue	5586
61 Vehicle Extrication	86
62 Vehicle Accident	1494
63 Building Collapse	6
64 Commercial/Industrial Accident	3
65 Home/Residential Accident	11
66 Persons Trapped in Elevator	16
67 Water Rescue	98
68 Water Ice Rescue	13
69 Other Rescue	64
70 Medical/Resuscitator Call	2791
94 Other Public Service	268
95 Auth FD Activated Activity	55
99 Other Response	681
Grand Total	11,314



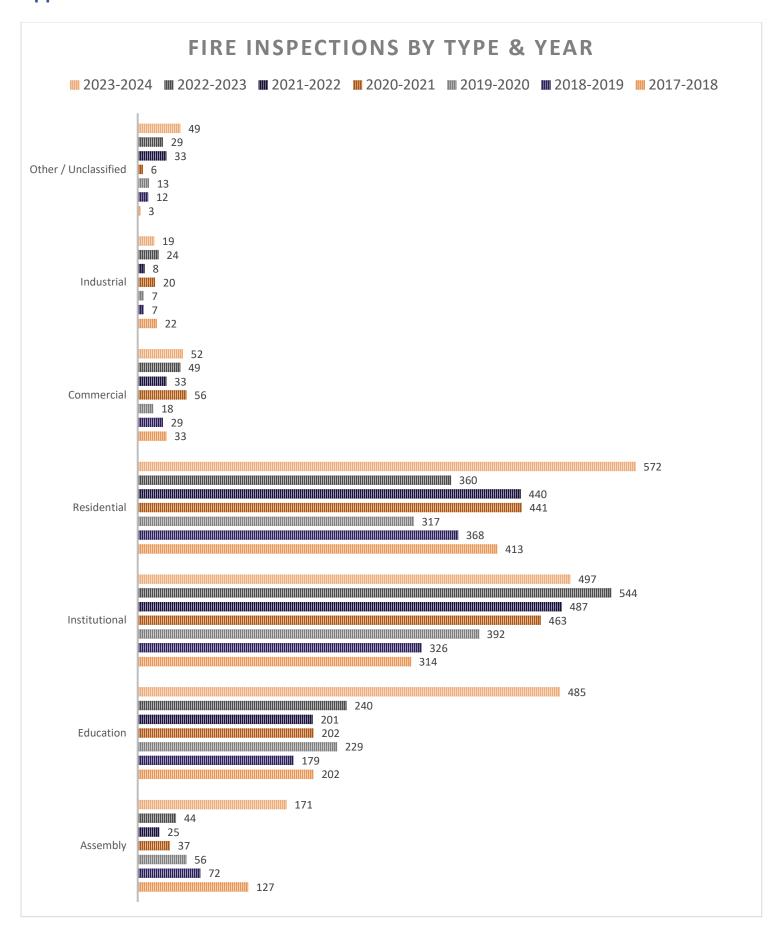
Appendix A-4

Possible Causes of Fire Incidents 2023—2024

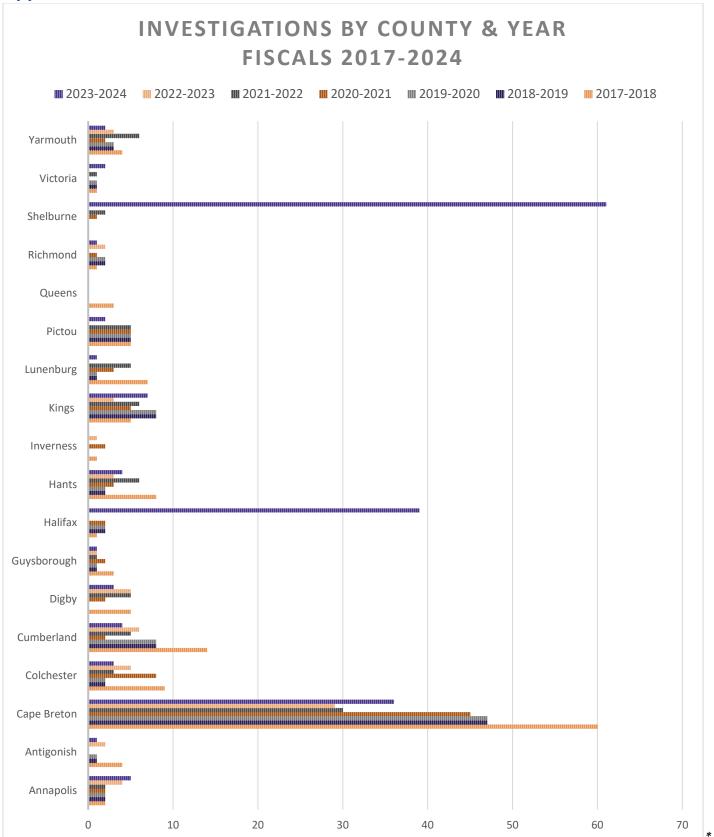
Incendiary	146
01 Arson	95
02 Riot/Civil Commotion	1
03 Vandalism	10
04 Youth Vandalism (Age 12-17)	6
05 Suspicious Fire	34
Accidental	8
11 Children Playing (Age 1-11)	2
12 Vehicle Accident/Collision	6
Deficiency	143
21 Design Deficiency	3
22 Construction Deficiency	5
23 Installation Deficiency	12
24 Maintenance Deficiency	97
29 Other Deficiency	26
Misuse	447
31 Improperly Discarded	74
32 Unattended	136
33 Used/Placed Too Close/Combust	35
34 Used for Purpose Not Intended	9
35 Creosote Buildup	77
39 Other Misuse	29
41 Improper Storage	6
42 Improper Handling	19
43 Used for Purpose not Intended	7
49 Other	55
Failures	342
51 Mechanical Failure	39
52 Electrical Failure	122
53 Short Circuit	36
67 Other	145
Other	2044
68 Undetermined	358
69 Under Investigation	142
No Data Provided	1544
Grand Total	3,130



Appendix A-5.1

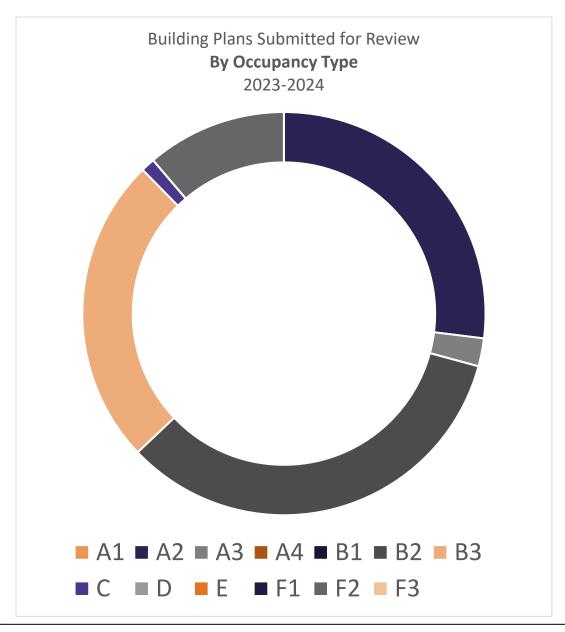


Appendix A-5.2



*2023/24 The Spikes in Halifax and Shelburne were as a result of the wildfires *HRM performs own investigations * Covid Pandemic began in Nova Scotia on 15 March 2020

Appendix B-1: SUMMARY OF BUILDING PLANS SUBMITTED TO OFM FOR REVIEW



- A1 Assembly occupancies intended for the production and viewing of the performing arts
- A2 Assembly occupancies not elsewhere classified in Group A (schools, churches, clubs, etc.)
- A3 Assembly occupancies of the arena type (Indoor swimming pools, rinks, etc.)
 - A4 Assembly occupancies in which occupants are gathered in the open air (amusement park structures, bleachers, grandstands, etc.)
- B1 Detention occupancies (jails, police stations with detention quarters, etc.)
- B2 Treatment occupancies (hospitals, long term care homes with treatment, etc.)
- B3 Care occupancies (day cares with infants, long term care homes without treatment, group homes, etc.)
- C Residential occupancies (apartments, boarding houses, hotels, etc.)
- D Business and personal services occupancies (offices, banks, beauty parlours, etc.)
- E Mercantile occupancies (shops, malls, supermarkets, etc.)
- F1 High hazard industrial occupancies (bulk fuel plants, distilleries, spray paint operations, etc.)
- F2 Medium hazard industrial occupancies (repair garage, cold storage plants, etc.)
- F3 Low hazard industrial occupancies (warehouse, storage garage, etc.)

