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Ontario Federation of Anglers
and Hunters

WHAT FIREARMS ARE REASONABLE AND PROPORTIONATE FOR HUNTING IN CANADA

AN EXAMINATION OF PREVIOUSLY
NON-RESTRICTED FIREARMS PROHIBITED
UNDER SOR/2020-96

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EXECUTIVE SUMMARY

It is the Government of Canada's view that the firearms prohibited under Regulation SOR/2020-96 are "unreasonable and disproportionate" for hunting. This report offers a comprehensive, subject-specific analysis of the use of firearms for hunting that helps to inform whether SOR/2020-96 firearms are reasonable and proportionate. Based on the findings of this report, many non-restricted firearms prohibited under SOR/2020-96 are reasonable and proportionate for hunting in Canada.

To truly understand what is reasonable and proportionate for hunting, there are many factors that must be considered beyond the characteristics of the firearm itself, including the cartridges used, and the situation (e.g., terrain) in which it will be used in. This report unpacks the complexities of considering what firearms are reasonable and proportionate for hunting in Canada by examining the plethora of contributing variables such as legality, conservation, military use, ethics, hunter preference, hunted species, practical use, modern designs and modularity, firearm operating systems, non-operational firearm features, calibre, cartridge availability, and magazines.

Of these considerations, this report includes a detailed examination of the many physical features and characteristics that determine the operation and function of a firearm. Based on an examination of firearms and component features, the characteristic that most expressly defines what is reasonable for hunting is what is already illegal for hunting in Canada (automatic action, high-capacity magazines, explosive payloads). Outside of that characteristic, the findings in this report demonstrate that labelling firearms based on appearance or overall design without comprehensive consideration of actual operation and function cannot determine what is reasonable and proportionate for hunting.

The report shows that almost all previously non-restricted shoulder arms prohibited under SOR/2020-96 and assessed in this study were used for hunting by Canadians. The use of these firearms does not appear to be a result of proximity or availability, but rather because the form, functions, and features of these firearms have a long history related to hunting and are commonly used, if not preferred by hunters. The availability of hunting-specific cartridges in Canada for almost all calibres is another indicator of the proportionate use for hunting. Not only are key characteristics (e.g., action and calibre) of SOR/2020-96 prohibited firearms proportionate relative to other firearms used for hunting, these firearms were tested by the RCMP to ensure they cannot mate with restricted and prohibited firearms (i.e., allowing for easy adaptability to automatic capability) when the previous non-restricted classification was determined.

There are many considerations and individual conclusions drawn in this report about what is reasonable and proportionate for hunting, but can be summarized using an actual model comparison that illustrates the pitfalls and inappropriateness of oversimplifying and generalizing firearms by 'type'. A semi-automatic rifle chambered in 308 WIN, with a walnut or composite stock, a 22" barrel, and detachable box magazine that weighs about nine pounds could describe dozens of popular non-restricted rifles used for hunting. It is also the description of a model of the Springfield Armory M1A series that was prohibited under SOR/2020-96. The Springfield Armory M1A shares the features of other rifles used for hunting, but it also shares the design of the M14 rifle that was standard issue for the U.S. military in the 1950s and 1960s. The modern civilian M14 'types' share the design and military lineage but have key functional distinctions, most notably being limited to only having a semi-automatic action instead of the 'select fire switch' of the U.S. military version that allowed for fully automatic fire. The civilian Springfield Armory M1A accepts detachable box magazines, but the high-capacity 20-cartridge magazines of the military version are already illegal in Canada.

The Springfield Armory M1A example illustrates that although there are clear connections to the M14 (targeted rifle for prohibition by SOR 2020/96) in design and lineage, the complete distinction in key form and function characteristics make it inappropriate to 'type' as a firearm that is not reasonable or proportionate for hunting in Canada.

KEY FINDINGS

THE FOLLOWING IS A SUMMARY OF FINDINGS FROM THE FULL REPORT

HUNTING FIREARM – There is no such thing as a ‘hunting firearm’ type. Firearms primarily used for hunting, are also frequently used for plinking, shooting at the range, or even competition. Hunter selection of a firearm is generally determined based on: 1) being legal for hunting, 2) the calibre is appropriate for the type of hunting, 3) usability for the intended purpose, 4) performance (firearm + cartridge combined), and 5) affordability. Firearm type (e.g., M14) is not an appropriate criterion because it does not provide sufficient resolution to determine if a firearm is reasonable for hunting.

SOR/2020-96 FIREARMS USED FOR HUNTING – An OFAH survey found that 64 previously non-restricted firearms prohibited by SOR/2020-96 were identified by respondents (Note: this only includes those identified in the survey, and not all non-restricted firearms prohibited by the regulation). The results show a wide variety of legitimate, lawful, highly regulated, and socioeconomically important uses, including but not limited to collection, hunting, protection of property (e.g., livestock), sport shooting, teaching firearms safety and skills, and trapping. Fifty-five (85.9%) of the 64 firearms were identified as being used for hunting prior to prohibition, with 44 (68.8%) identifying hunting as the primary use.

DESIGNED FOR HUNTING – Some modern firearms are designed and marketed for hunting, while others may look like traditional firearms used for hunting because of the style, construction materials, or even camouflage stocks. Of the SOR/2020-96 prohibited models that are still manufactured, many have specific references to hunting applications through naming, as well as descriptions and marketing.

DESIGNED FOR HUNTING IN CANADA – Using a criterion of ‘designed for hunting in Canada’ is not appropriate to determine whether a firearm is reasonable for hunting in Canada. Most firearms, calibres, cartridges, and other features were designed and intended for use outside of Canada; however, the firearms have features and functions that make them reasonable, and often ideal for Canadian hunting applications. Hunting outside of Canada was not considered to be a primary use for most firearm models identified in the OFAH survey, suggesting that most hunting activities indicated by respondents occurred in Canada.

WHAT IS NOT REASONABLE FOR HUNTING – There is no history of use, or any justification to suggest that mortars, grenade launchers, rocket launchers, and missile launchers are reasonable for hunting in Canada. A fully automatic action is not required for any form of hunting in Canada, and there is no sound rationale to suggest it is reasonable for that purpose (and has not been available for hunting for decades).

WHAT IS REASONABLE FOR HUNTING – The threshold for ‘reasonable’ is not clearly or formally defined and is incredibly subjective due to diversity in hunting activities. The spectrum of reasonableness for hunting is quite broad and labelling ‘hunting firearms’ from a basic functional perspective or drawing an evidence-based hard line that generalizes reasonableness for all hunters or all hunting is not possible.

WHAT IS REASONABLE: LEGALITY – A prohibited or restricted classification can be based on type (e.g., handguns, true AR platforms, automatic actions) or specific features (e.g., short barrel length) and dictates whether a firearm can be legally used for hunting; however, classification status cannot be used to determine whether a firearm is reasonable for hunting. For example, a restricted classification (e.g., true AR platforms) imposes transportation and use restrictions that do not permit them to be used for hunting in Canada, but some of those firearms are permitted in other jurisdictions. All non-restricted firearms prohibited by model by SOR/2020-96 examined for this report were previously legal for hunting in Canada.

WHAT IS REASONABLE: CONSERVATION – There are very few conservation-related firearm restrictions; however, the largest bore firearms loaded with shot (e.g., punt guns) make them unreasonable for modern hunting in Canada because of the challenges in adhering to conservation (e.g., harvest limits) and responsible hunting practices (e.g., knowing your target).

WHAT IS REASONABLE: OBSOLESCENCE – Modern firearm models have evolved dramatically to improve performance, functionality, handling, and/or durability for hunting. Older firearms, however, may remain completely reasonable and even common for hunting, particularly if chambered for a modern calibre that continues to have factory cartridges available. Firearms with inferior design and features remain reasonable for modern hunting in Canada long after technology and market standards have surpassed them.

KEY FINDINGS CONT.

WHAT IS REASONABLE: MILITARY ORIGINS – Military descendancy is common for firearms, calibres, and components because innovation in the commercial firearms industry has been driven by military interests throughout history. The military origins of a firearm, calibre, or accessory cannot determine reasonableness for hunting, especially because ‘clone’ and ‘type’ models marketed and sold to civilians in Canada often have critical functional differences from those used in military applications.

WHAT IS REASONABLE: MILITARY DESIGN – Many firearm models, past and present, were inspired by military design and share many of the basic characteristics, but models available to civilian Canadians do not have the automatic action capability and large-capacity magazines of the military versions. Despite similarities in appearance, design elements, and sharing some functionality to military firearms, non-restricted classification requires key differences (e.g., not automatic) and must pass rigorous RCMP tests to ensure they cannot be mated with key components of restricted/prohibited firearms.

WHAT IS REASONABLE: MILITARY SPECIFICATIONS – Despite similarities in specification standards of some components, the clones and ‘military-style’ firearms available to civilians are not used by the military. Military-grade is a standard that can apply to all components of a firearm, operating or non-operating, and do not necessarily make a firearm or component specific to military operations.

WHAT IS REASONABLE: COLLECTIVE MORALITY vs. INDIVIDUAL PREFERENCE – A distinction between what is reasonable and proportionate for hunting is sometimes perceived to be a moral or ethical dichotomy, but often it is simply personal hunter preference based on an individual hunter’s lived and learned experiences related to firearms. It is not appropriate to look through the lens of an individual hunter or even group of hunters because, in almost all cases, it will be too narrow to represent the spectrum of hunting in Canada. What is perceived to be reasonable and proportionate varies widely because hunter-specific factors such as physical size and strength, handedness, and personal preferences, making generalizations inappropriate.

WHAT IS REASONABLE: BASED ON HUNTING ACTIVITY – In addition to hunter-specific preferences, there are many unique sets of considerations for each individual hunted species and hunting scenario that will also contribute to what firearm is reasonable for hunting. Hunting in Canada varies dramatically depending on the hunted species, method of hunting (still hunting, stalking, treestand/blind), terrain, and many other factors that influence firearm performance for a hunting activity.

WHAT IS REASONABLE: PRACTICALITY – What is considered practical for firearm use depends on an individual hunter’s abilities and specific hunting scenarios. Considerations like what a hunter is willing to spend, the weight they will carry, and the recoil they are comfortable with will vary dramatically and determine what is practical for an individual’s circumstances. This measure of practicality and reasonableness for an individual should not necessarily be conflated with what is reasonable in general. For example, most 50 BMG firearms are not practical for many hunters or hunting applications, but it does not make them unreasonable if the weight and size issues are mitigated.

WHAT IS REASONABLE: MODERN DESIGN – Overall design elements (e.g., split receiver) and accessories (e.g., grips) influence appearance and perceptions, but there is no single design feature that can determine what it is reasonable for hunting. The operating system of a firearm, including the receiver, action, chamber volume, and calibre, is important for determining functionality and practical applications, but barrel characteristics, magazine, and cartridges used will also contribute to the performance of the firearms and how they can be used for hunting in Canada.

WHAT IS REASONABLE: MODULARITY – The potential for adding accessories and upgrades through modern modular designs is appealing to hunters because it enables customization to fit individual shooter needs and preferences. Some previously non-restricted firearms are designed to achieve modularity, but manufacturers were careful to avoid functionality (e.g., ability to mate with AR receivers) that results in restricted classification by the RCMP (i.e., no longer available for hunting in Canada).

KEY FINDINGS CONT.

WHAT IS REASONABLE: FIREARM ACTION – All legal firearm actions (i.e., everything except for fully automatic actions), are reasonable for hunting and are commonly selected by hunters. This includes all actions of the nine principal models prohibited under SOR/2020-96. Manufacturers continue to produce new hinge, bolt, pump, lever, and semi-automatic action firearms to supply hunter demand. The actions of the nine principal models prohibited under SOR/2020-96 are all reasonable for hunting.

WHAT IS REASONABLE: CALIBRE – Calibre cannot be used to determine what is reasonable for hunting. Canadian hunters use the entire spectrum of modern calibres and gauges. Some are associated with and preferred for certain types of hunting; however, most calibres are versatile and used for a range of hunting applications. There is considerable overlap between the hunting applications of calibres (i.e., a single calibre can be used for many different species) and between the calibres that can be used for a single type of hunting (i.e., many different calibres can be used to hunt a single species). Additionally, hardline species-specific calibre thresholds are almost impossible to rationalize because 1) the metrics for assessing what is 'reasonable' for a quick, clean kill, and an acceptable level of damage to meat and/or fur are highly subjective and difficult to define, 2) environmental variables (e.g., terrain, range to target, etc.), and 3) a complex relationship between the calibre, cartridge load, and the firearm itself (e.g., barrel length) that effect relevant ballistics influencing hunting performance (e.g., range, accuracy, velocity, penetration, etc.).

WHAT IS REASONABLE: CARTRIDGE/LOADS – Cartridges for most calibres are not only produced by ammunition manufacturers, but they are also designed and clearly marketed for hunting. A specific cartridge may be reasonable for multiple hunting (and non-hunting) applications depending on the combination of its calibre, powder load, and bullet structure, as well as environmental factors (e.g., range to target). For hunting, these factors all play an important role to ensure accuracy and proper penetration for the specific target species and conditions. Five major ammunition manufacturers were assessed to determine whether they produced hunting cartridges for 14 calibres that were available as non-restricted firearms before being prohibited under SOR/2020-96. The five manufacturers produced 145 factory hunting cartridges in thirteen of the 14 calibres assessed, with an average of three manufacturers producing at least one product in each calibre and many producing more than one hunting cartridge per calibre.

WHAT IS REASONABLE: HUNTING CARTRIDGE AVAILABILITY – Cartridges designed for hunting for most calibres are commercially produced and widely available in Canada. Following an assessment of two major Canadian retailers, it was determined that at least one of them had a hunting cartridge option for 13 (93%) of the 14 calibres studied; however, some hunters use firearms chambered in calibres with limited factory cartridges available (i.e., require speciality or handloaded cartridges). These specialized calibres (e.g., 460 WBY MAG) are not common, but are intended for hunting. Other calibres (e.g., 50 BMG) do not have hunting-specific factory cartridges but could still be reasonable for hunting in limited applications.

WHAT IS REASONABLE: CARTRIDGE MAGAZINES – Detachable magazines are very common for centrefire rifles of all actions and have become more common for shotguns. Detachable box magazines allow a hunter to pre-load cartridges outside the firearm, and quickly, easily, and safely remove cartridges in a contained way. In general, the Criminal Code of Canada prohibits the possession of any magazine that holds more than five shots for a semi-automatic centrefire long gun. Round capacity is also restricted for the purposes of hunting in Canada (e.g., hunters are not permitted to use a firearm capable of holding more than three shells in the chamber and magazine combined while hunting migratory birds in Canada; Ontario has the same three-shell restriction for all hunting with shotguns). Detachable magazines are reasonable and proportionate for hunting use in Canada.

WHAT IS REASONABLE: FIREARM SIZE – Firearm size does not determine what is reasonable or proportionate for hunting. The size, weight, fit, and ergonomics play an important role in handling performance and hunting applications. A shorter barrel can be advantageous for accuracy in some cartridges, while an overall compact design can be more comfortable for some shooters, easier to carry in rugged terrain, and handle faster and smoother, especially in confined spaces. Previously non-restricted models prohibited under SOR/2020-96 have barrel length options, weight, and overall sizes consistent with other hunting firearms.

KEY FINDINGS CONT.

WHAT IS REASONABLE: FIREARM CONSTRUCTION – The materials and quality of construction is important to hunters to ensure firearms withstand harsh environmental conditions. Various modern chemical and coating processes are now common for firearms and parts. The hardcoat anodizing process (and Parkerizing), produces a gray/black finish that contributes to colloquially grouping of ‘black rifles’.

THE ONTARIO FEDERATION OF ANGLERS AND HUNTERS



The OFAH is the largest, non-profit, fish and wildlife conservation-based organization in Ontario, representing 100,000 members, subscribers, and supporters, and 725 member clubs. OFAH members are anglers, hunters, trappers, recreational shooters, and conservation-minded; many are all the above.

OFAH-affiliated clubs are made up of OFAH members, and vary in their size, function, and mandates. Some are small private hunting camps and fishing clubs, but there are also many large community clubs that work on fish and wildlife conservation projects, youth programs, and offer services.

The OFAH has 58 affiliated shooting clubs that operate 125 licensed firearms ranges approved by the Chief Firearms Officer (CFO) of Ontario.

OFAH VISION AND MISSION

The OFAH's vision is to ensure a future that includes healthy lakes and forests, bountiful fish and wildlife, and accessible opportunities for all Ontarians to share our passion for fishing, hunting, trapping, and conservation.

The OFAH's mission is to be the voice of anglers and hunters and a leader for fish and wildlife conservation by: 1) striving to ensure the protection of our fishing, hunting, and trapping heritage, and enhancement of opportunities to pursue these activities, 2) promote and encourage safe and responsible participation, and 3) champion the conservation of Ontario's fish and wildlife resources.

To achieve this mission, the OFAH represents all firearms interests, including hunting, trapping, and recreational shooting with public and political advocacy, as well as education and outreach on the safe and responsible use of firearms. OFAH firearms advocacy occurs at all levels of government, and spans a broad spectrum of issues, including how, when, where, and what firearms should be used for hunting, trapping, and recreational shooting.

THE OFAH AND FIREARMS POLICY

The OFAH is a respected and trusted source of knowledge and experience during the debate and development of discharge of firearms, noise, and other municipal bylaws related to firearms, and has participated in hundreds of these discussions over the years. Provincially, the OFAH administers the Ontario Hunter Education Program on behalf of the Government of Ontario, and enjoys a strong working relationship, particularly as it relates to education and outreach, with the CFO and the Firearms Safety Education Service of Ontario. The OFAH is also actively engaged in firearms discussions at the provincial level as it relates to how firearms are used for hunting (e.g., caliber restrictions).

Federally, the OFAH has a long history of involvement in firearms policy discussions, including appearing and offering testimony before both House of Commons and Senate Standing Committees on most significant policy discussions that have occurred during the past 25 years (since the introduction of the Firearms Act). A list of OFAH appearances at parliamentary standing committees is available in Schedule 1.

The OFAH also had representation on the Canadian Firearms Advisory Committee (CFAC) from 2006 until 2015, a body intended to provide advice to the Minister of Public Safety and Emergency Preparedness on federal government policies related to firearms.

THE OFAH & NATIONAL LEADERSHIP RELATED TO FIREARMS

The OFAH is also the lead organization of the National Fishing and Hunting Collaborative (NFHC; www.ofah.org/nfhc), a group of 12 non-partisan, non-profit provincial/territorial fishing and hunting organizations that work collaboratively to provide national leadership on important conservation issues and a voice for more than 375,000 Canadians from coast-to-coast-to-coast. This collaborative was formed in 2019 after decades of working together on issues of national importance, including a similar predecessor, the National Coalition of Provincial and Territorial Wildlife Federations (NCPTWF) that made joint submissions during firearms policy discussions related to the development of the Firearms Act (Bill C-68).

THE ONTARIO FEDERATION OF ANGLERS AND HUNTERS CONT.

THE OFAH & NATIONAL LEADERSHIP RELATED TO FIREARMS CONT.

In 2019, the OFAH partnered with the industry association, Canadian Sporting Arms and Ammunition Association, to commission the Conference Board of Canada to quantify the overall economic footprint of fishing, hunting, trapping, and recreational shooting in Canada. The study report, *The Economic Footprint of Angling, Hunting, Trapping and Sport Shooting in Canada*, includes specific spending estimates for firearms and ammunition by Canadians, as well as an economic footprint analysis for hunting and recreational shooting.

The full report can be accessed at <https://www.ofah.org/wp-content/uploads/2019/09/Economic-Footprint-Analysis-of-AHTS.pdf>.

THE OFAH AND & SOR/2020-96

The OFAH critically analyzed the *Regulations Amending the Regulations Prescribing Certain Firearms and Other Weapons, Components and Parts of Weapons, Accessories, Cartridge Magazines, Ammunition and Projectiles as Prohibited, Restricted or Non-Restricted: SOR/2020-96*, introduced on May 01, 2020. This analysis focuses on the policy and social implications of the prohibitions on the hunting and recreational shooting communities.

The OFAH's letter to Minister of Public Safety and Emergency Preparedness, Bill Blair, including a comprehensive analysis of SOR/2020-96 can be accessed at <https://www.ofah.org/firearms/2020-firearms-ban/dear-minister-blair/>.

MATT DEMILLE, M.Sc

EDUCATION AND PROFESSIONAL Experience

Matt has a Master of Science degree in Biology from Queen's University (2010).

Matt is the Manager of Fish & Wildlife Services with the Ontario Federation of Anglers and Hunters (OFAH) and has held this position since 2014. Prior to this, he held the positions of Assistant Manager of Fish & Wildlife Services/Fisheries Biologist (2011-2014), and Land Use Specialist (2010-2011). Matt has more than a decade of experience analyzing government policy and advocating on behalf of the fishing, hunting, trapping, and recreational shooting communities.

In that role, he manages, supervises, and administers OFAH's Fish & Wildlife Services department staff and activities to deliver conservation programs, and represent the interests of anglers and hunters in discussions related to fish and wildlife conservation management. He advises the OFAH Executive Director, OFAH Board of Directors, OFAH staff, and OFAH members on all issues related to fish and wildlife management. Matt also reviews, analyzes and responds to binational, federal, provincial and municipal legislation, regulations and policies that affect anglers and hunters. He liaises with the angling and hunting community, the public, media, diverse stakeholder groups, and all levels of government to maintain or enhance hunting and fishing opportunities in Ontario.

His CV is included in Schedule 2.



PROFESSIONAL FIREARMS POLICY Experience

Matt has been the lead on federal firearms policy for OFAH since 2017, including the OFAH's involvement in Bill C-21, SOR/2020-96, Bill C-71, and the federal government's 2018 Reducing Violent Crime: A dialogue on Handguns and Assault Weapons discussions.

During this time, the OFAH surveyed over 3,500 firearms owners to get their reaction, concerns, and suggestions on Bill C-71, and presented the findings in a report (https://www.ofah.org/wp-content/uploads/2018/05/OFAHInsights_FirearmsSurveyReport_final.pdf). Matt also presented testimony on behalf of the OFAH to the Standing Committee on Public Safety and National Security (May 2018) and the Standing Senate Committee on Public Safety and National Defence (April 2019) on Bill C-71.

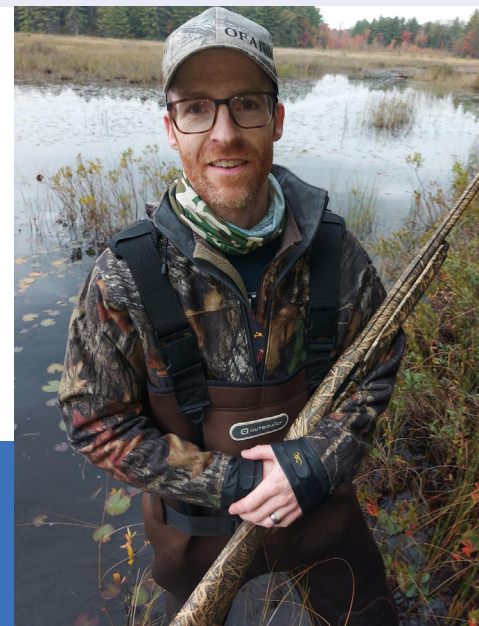
In October 2018, Matt was invited with other stakeholders to participate in a round-table discussion hosted by former Minister of Border Security and Organized Crime (now Minister of Public Safety and Emergency Preparedness), Bill Blair, about how to reduce violent crime, gun violence, and strategies to reduce the number of illegal firearms in Canada.

Matt is responsible for organizing and facilitating discussions and actions of the National Fishing and Hunting Collaborative, where firearms policy is a top priority for affiliate organizations across Canada.

Since 2017, Matt and his colleagues have discussed firearms policy with hundreds of firearms owners, community clubs, representatives of other firearms user groups, and industry.

PERSONAL FIREARMS Experience

Matt has been a licensed firearms owner for more than 20 years. He is also a licensed, life-long hunter, and a licensed trapper in Ontario with considerable personal experience with a variety of makes, models, calibres, and actions of non-restricted firearms. Matt has participated in the spectrum of hunting activities, including for white-tailed deer, moose, bear, coyote, turkey, upland game, migratory birds, among others. He has also participated in recreational shooting activities with restricted and non-restricted firearms, including range shooting, plinking¹ and target shooting, and clay targets.



¹SAAMI: 'Plinking' is the informal target shooting at inanimate objects other than paper targets located at arbitrary or indefinite distances from the firing point.

PURPOSE OF THE REPORT

This report will examine how firearms are used in Canada for hunting and provide an informed perspective on whether some of the firearms prohibited under the *Regulations Amending the Regulations Prescribing Certain Firearms and Other Weapons, Components and Parts of Weapons, Accessories, Cartridge Magazines, Ammunition and Projectiles as Prohibited, Restricted or Non-Restricted (SOR/2020-96)* are reasonable and proportionate for hunting purposes.

CONTEXT

On May 01, 2020, the Government of Canada introduced SOR/2020-96 that prohibited more than 1,500 models of firearms.

When the regulations were gazetted, the government stated that *“the newly prescribed firearms are primarily designed for military or paramilitary purposes with the capability of injuring, immobilizing or killing humans in large numbers within a short period of time given the basic characteristics they possess, such as tactical or military design and capability of holding a quickly reloadable large-capacity magazine. While some of these newly prohibited firearms were previously used by individuals for hunting or sporting purposes, it is the view of the Government that those firearms are unreasonable and disproportionate for such purposes.”*

For further clarity, the stated rationale for prohibiting firearms previously used for hunting or sporting purposes was:

“The prohibited firearms are tactical and/or military-style firearm and are not reasonable for hunting or sport shooting. Individuals may have used some of the listed firearms for hunting purposes on the basis that they were previously classified as non-restricted firearms. In addition, some of the listed firearms may have been used by individuals for sport shooting on the basis that they have been classified as restricted or non-restricted. However, the fact that these firearms are sometimes used for hunting or sport shooting does not supersede the fact that they were built with the intent to be used by the military and are capable of killing a large number of people in a short period of time. Due to the public safety concerns posed by these firearms, they are not reasonable for use in Canada for hunting or sport shooting purposes.”

The relationship of SOR/2020-96 prohibited firearms to the military and whether they are reasonable for hunting are clearly important topics for consideration.

SCOPE OF THIS REPORT

While many of the firearms included in this report are used for both hunting and sporting purposes, the discussion will be focused on their relationship to hunting.

Only firearms classified as non-restricted are available for hunting in Canada, so only previously non-restricted firearms prohibited under SOR/2020-96 are the focus of this report.

DEFINING ‘FIREARM’

The Sporting Arms and Ammunition Manufacturers’ Institute (SAAMI), the association responsible for developing industry standards used by the Royal Canadian Mounted Police (RCMP), defines firearm as *“an assembly of a barrel and action from which a projectile is propelled through a deflagration of propellant”*. Similarly, Canada’s Criminal Code defines firearm as *“a barrelled weapon that discharges projectiles capable of causing bodily harm or death, or anything that can be adapted as a firearm”*. These broad definitions are inclusive of many types or models of firearms that go well beyond what has been traditionally used for hunting or sporting purposes. In this report, the term firearm will be used to describe shoulder-arms, defined by SAA-MI as *“any firearm fitted with a stock and designed to be used while held with both hands and supported by a shoulder.”*

MILITARY-GRADE FIREARMS IN CANADA

Prior to May 01, 2020, the firearms prohibited under SOR/2020-96, were available to civilians in Canada with the appropriate level of licensing required to own and possess them. As illustrated above, the Government of Canada has characterized the SOR/2020-96 prohibited firearms as being designed for the military. It is important to examine what a military firearm is, and explore how the history, perceptions, and functional characteristics of these firearms relate to modern hunting applications.

PUBLIC CONFUSION AND MISCONCEPTIONS ABOUT FIREARMS AVAILABLE TO CANADIAN CIVILIANS

The possession and use of fully automatic firearms and large-capacity magazines commonly associated with military applications were prohibited in Canada long before May 01, 2020. Despite similarities in appearance, design elements, and specification standards of some components, the clones and 'military-style' firearms available to civilians are not used by the military.

The only true 'military' firearms are those that are made for and used by government militaries based on a detailed list of specifications (often referred to as MIL-SPEC). Although some SOR/2020-96 prohibited firearms may look similar and/or share design features with military firearms, no shoulder firearms actively being used by the U.S. or Canadian militaries were available to civilians immediately preceding the introduction of SOR/2020-96.

MILITARY VS. 'MILITARY-STYLE'

There is an important distinction between military and military-style firearms that is often lost in public discourse. Many modern firearms available to civilians are inspired by and designed to look like current and classic military firearms but are not military firearms in function. Having a military style, military standard, or even a military function is not necessarily a defining characteristic or influences the public safety risk of a firearm. The quality and performance of many 'military-style' characteristics are highly sought after by civilian firearm users such as hunters and sport shooters, and there is more than a century of entangled design, innovation, and use of firearms and related components between the industries.

A modular design is commonly used in military firearms because it allows for greater versatility in the applications of a single firearm in the field, as well as easy repair with components rather than an entirely new firearm. This modularity² is a common feature of SOR/2020-96 prohibited firearms and is a contributing factor to the 'military appearance' that many are described to have.

Some of the SOR/2020-96 firearm groupings describe 'types' of firearms based on similarities (in look and/or design) to an automatic military firearm (e.g., US Rifle M14 or M16), and capture both semi-automatic clones (e.g. Springfield Armory M1A Series styled after the U.S. Military M14) as well as '-type' or '-style' firearms (e.g., Alberta Tactical Rifle Modern Series which has a modular design) that share some form of similarity.

In Canada, the previously non-restricted models of SOR/2020-96 prohibited firearms may share some elements of design in look, quality, and even functionality to military firearms, but they were also required to be different in critical functions, namely they cannot be automatic (e.g., in order to achieve non-restricted classification, the RCMP performed rigorous tests to ensure they couldn't be matched with key components of other restricted or prohibited firearms).

'MILITARY-GRADE' SPECIFICATIONS

Modern firearms that have military style or functions are often marketed to civilians with references to having MIL-SPEC characteristics. MIL-SPEC in civilian firearms is a common reference that signifies that a component meets a certain military standard or specification. Military specifications for most firearms and related components, especially those that are transferrable to civilian firearms, are primarily based on...

²Modularity' in firearms refers to the ability to remove components with relative ease to allow for reconfiguration (often without tools). Modularity may be as simple as interchangeable barrels (as described above), but modern firearms are often modular in many different ways.

MILITARY-GRADE FIREARMS IN CANADA CONT.

‘MILITARY-GRADE’ SPECIFICATIONS CONT.

...compatibility across military operations, as well as reliability and durability in the field. For example, the hardcoat anodizing of firearm components is often described as MIL-SPEC and is entirely intended to improve the durability of a firearm. The military standards are often desired in non-military activities like hunting where firearms are often exposed to similar harsh conditions (described in more detail below).

THE USE OF ‘MILITARY’ IN MODERN MARKETING

The reference to MIL-SPEC is relatively common in modern marketing strategies of firearms-related manufacturers looking for a competitive advantage. Much like Ford Motor Company marketing military-grade aluminum for their F-150 trucks, manufacturers of firearms and firearm components are advertising MIL-SPEC. While they may be designed and made from the specific materials or to specific tolerances required to meet the standards, they have not passed government inspections and testing or received official certification to truly be military firearms. Military-grade is a standard, and not necessarily a distinction of a firearm or component being specific to military operations.

MILITARY ORIGINS OF HUNTING FIREARMS

A distinction must be drawn between what a firearm or firearm component was originally designed for, and what it is designed for in the civilian market. Products derived from military-driven innovation is common in modern society and available to civilians across countless sectors. This is particularly true for firearms and ammunition given the direct relevance of these items to past and present military needs.

Most common calibres³ were originally developed for military purposes. For example, the .30-06 (“30” describes the calibre; “06” describes the year it was adopted, 1906) was developed for and used by the U.S. Military and in conflicts such as World War I, World War II, and the Korean War. The availability of firearms chambered in .30-06 and surplus ammunition during post-war periods helped to make .30-06 a commonly used hunting calibre, and it arguably remains the most popular for hunting today. The .30-06 is an example of a popular modern hunting calibre that has strong military origins and was standard issue by the military for a period, but has enormous modern relevance in past and modern hunting applications.

Figure 1. Two American soldiers with their United States Rifle, cal. .30, Model of 1917 Enfield (M1917 Enfield). M1917 Enfield rifles were chambered in .30-06 and many were released for civilian use after WWI, while many others were sold as surplus. Photo: Dan Morrison



³SAMMI: 1. ‘Calibre’ is used to designate the specific cartridge(s) for which a firearm is chambered. 2. Firearms: the approximate diameter of the circle formed by the tops of the lands of a rifled barrel, often expressed in hundredths of an inch or millimeters. 3. Ammunition: A numerical term included in a cartridge name to indicate a rough approximation of the bullet diameter.

MILITARY-GRADE FIREARMS IN CANADA CONT.

MILITARY ORIGINS OF HUNTING FIREARMS CONT.

In other cases, popular hunting calibres are distinct from similar military calibres in name and with slightly different dimensions and specifications, but these differences do not translate into discernible differences in function. Two of the most common examples would be the .308 and .223 hunting calibres that are descendants of the 7.62MM NATO and 5.56MM NATO military calibres, respectively. In almost all these cases, the hunting calibre is a descendent of the military design, and subsequently marketed for civilian application.

In addition to calibres, this type of military descendency is common for firearms and components because innovation in the commercial firearms industry has been driven by military interests throughout history. It is not surprising that many of the firearms and associated calibres, cartridges⁴, features, and functions have found civilian application in hunting. The modern muzzle brake⁵ was developed as a feature on anti-tank guns to reduce the area needed for kickback and has since been applied on rifles to reduce recoil⁶. This is important to all shooters, including hunters. The Picatinny rail common on SOR/2020-96 firearms was developed for the U.S. Military as a standardized mounting system for mounting optical and other accessories. There is interest in quick and easy mounting systems for all firearms users, including hunters, so this design is not limited to military application. These are only two of the many examples of common features of modern firearms that are often perceived to be used for military purposes. A discussion of the application and relevance of these and other features for hunting is included in the following section.



Figure 2. A bolt-action rifle with a scope mounted on a Warne M673M tactical Picatinny rail.

Source: <https://warnescopemounts.com/picatinny-vs-weaver-style-bases/>

⁴SAAMI: 'Cartridge' is a single round of ammunition consisting of the case, primer and propellant with or without one or more projectiles. Also applies to a shotshell.

⁵SAAMI: 'Muzzle brake' is a muzzle attachment or feature that uses the propellant combustion gas with the desired effect of redirecting the recoil.

⁶SAAMI: 'Recoil' is the rearward movement of a firearm resulting from firing a cartridge or shotshell. Sometimes called "kick".

FIREARMS USED FOR HUNTING IN CANADA

Only non-restricted firearms are available for hunting in Canada. The transportation requirements (i.e., Authorization to Transport between two specified places) and use restrictions (i.e., only legal to shoot at an approved shooting club or range) of restricted firearms make them illegal to use for hunting in Canada.

Not surprisingly, there is a considerable legacy of use in Canada for many previously non-restricted firearms prohibited by SOR/2020-96. This legacy includes both the historical, as well as modern use of these firearms. Both are important considerations in a discussion about the value of these firearms to Canadians. For the purpose of this report, all references to firearm use is in the modern context unless otherwise noted.

EVOLUTION OF FIREARMS AND THE ACTIVITIES THEY ARE USED FOR

Much like the activities themselves, the firearms used for hunting and sporting purposes have evolved over time. Although the basic principles of hunting remain the same, many of the strategies and gear are much different now than when our forebearers hunted. Fourth-generation family heirloom firearms likely have the traditional or classic design and appearance often linked to hunting – wooden stock, polished blued⁷ steel barrel, and a hinge, bolt, or lever action⁸.

Modern designs, however, have much more variation in both appearance and function available in a variety of actions, calibres, construction materials, and accessories like optics⁹. Modern features and the potential to customize a firearm are appealing to many hunters.

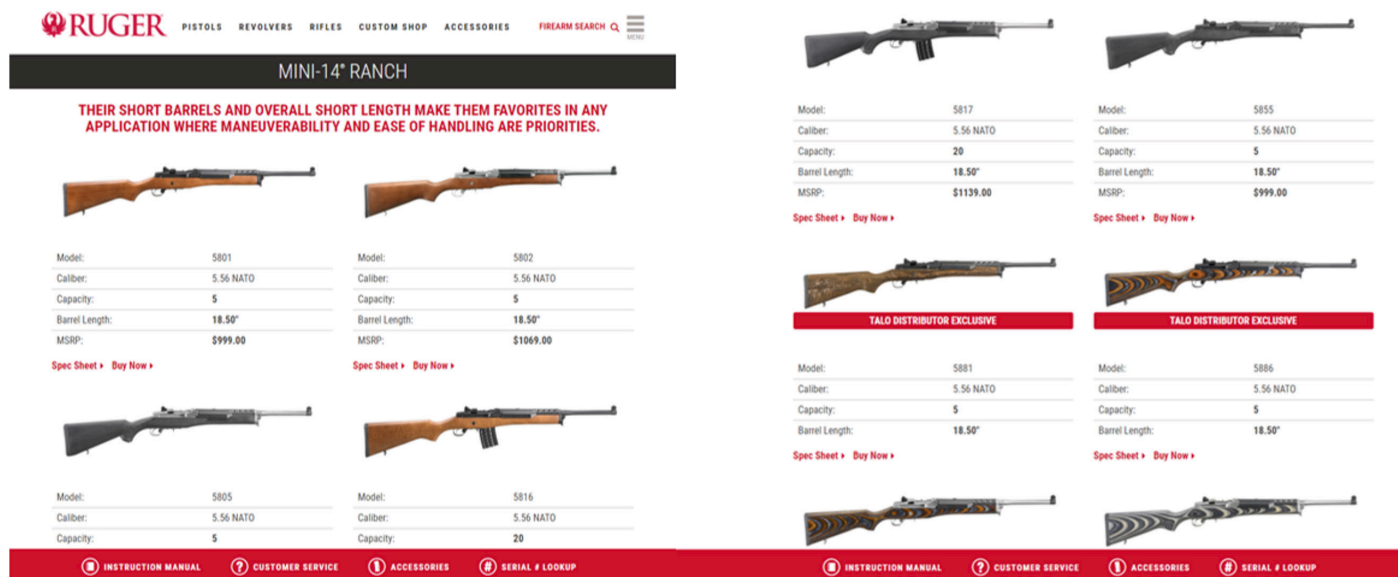


Figure 3. The Ruger Mini-14 Ranch rifle (prohibited by SOR/2020-96) comes in different stock materials (e.g. hardwood, synthetic, laminated) and colours (e.g., black, brown, chevron), material (e.g., alloy steel, stainless steel), and finishes (e.g., blued, stainless steel matte).

Source: www.ruger.com

CLASSIFICATION OF FIREARMS AS IT RELATES TO HUNTING

Firearms can be categorized based on physical (e.g., barrel length) and mechanical (e.g., action) characteristics.

⁷SAAMI: 'Bluing' is the chemical oxidation to colour ferrous metal parts various shades of blue or black.

⁸SAAMI: 'Action' is the combination of the receiver or frame together with the other parts of the mechanism by which a firearm is loaded, fired, and unloaded.

⁹SAAMI: 'Optic' in firearms refers to a sight containing optical elements which may magnify the target.

FIREARMS USED FOR HUNTING IN CANADA CONT.

CLASSIFICATION OF FIREARMS AS IT RELATES TO HUNTING CONT.

At the highest level, firearms can be separated into classes – small arms, light weapons, and heavy weapons. Small arms are the only class of firearms that is relevant for a discussion about firearms used for hunting, and it allows easy separation of firearms that are not used for hunting like light weapons included in SOR/2020-96 (e.g., mortars, grenade launchers, rocket launchers, and missile launchers).

Small arms can be divided into groups (e.g., long guns vs. handguns) based on physical features. Handguns are used for hunting in other jurisdictions but are not available for hunting in Canada because of their classification status (restricted or prohibited). Therefore, handguns will not be discussed further in this report.

Firearms can be further classified into sub-groups or types based on mechanical features such as the general type of operating system (machine gun¹⁰ vs. self-loading rifles¹¹ vs. manually operated rifles). Machine guns are fully automatic firearms that have been prohibited in Canada for decades and are not available for hunting. There are many self-loading and manually operated firearms used for hunting.

These sub-groups or types can be further classified into sub-types based on the specific mechanical action (e.g., automatic, bolt-action, semi-automatic¹²). As mentioned previously, fully automatic actions have been prohibited in Canada for decades and are not available for hunting. With the exception of fully automatic, all actions are commonly used in firearms used for hunting.

The last level of categorization is the make, model, and variants. The majority of reclassifications under SOR/2020-96 occurred at this level of categorization (Item 83 and Items 87-94).

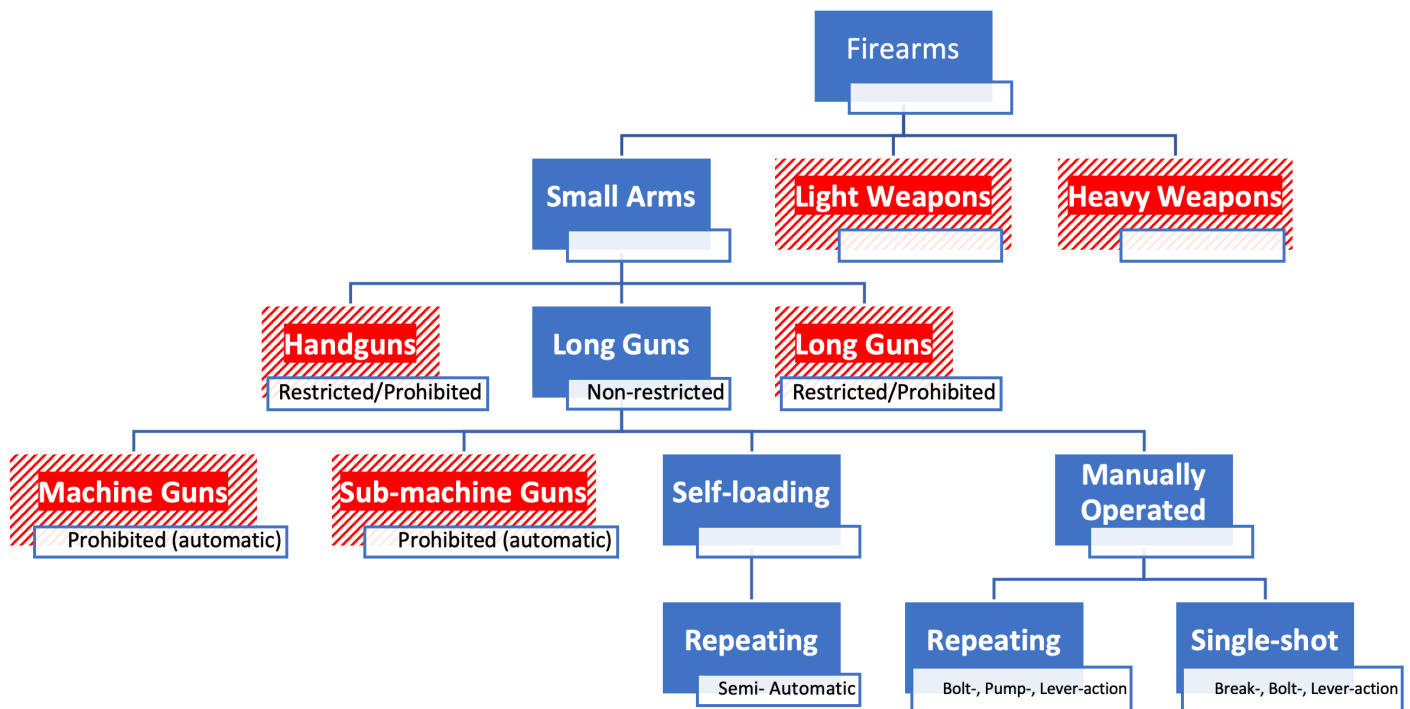


Figure 4. A graphical representation of a categorization system for firearms. The solid blue boxes indicate firearm categories that have firearms available for hunting in Canada. The diagonal red lines in boxes indicate firearm categories that do not have firearms available for hunting in Canada. The associated 'sub-text' boxes provide additional details about the category where appropriate (e.g., classification status in Canada).

¹⁰SAAMI: 'Machine gun' is a fully automatic firearm that loads and fires live cartridges and ejects the spent cartridges continuously when the fire mechanism is held until ammunition is exhausted, the firearm's designed burst cycle is completed or the firing mechanism is released.

¹¹SAAMI: 'Self-loader' is an action in which each pull of the trigger results in a complete firing cycle from discharge through reloading.

¹²SAAMI: 'Semi-automatic' is a firearm which fires, extracts, ejects, and reloads once for each pull and release of the trigger.

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING

There are many unique sets of considerations for each individual hunted species and hunting scenario that will ultimately influence what is considered to be reasonable. These considerations are outlined below.

Hunting in Canada varies dramatically depending on the species being hunted, method of hunting (still hunting, stalking, treestand/blind), terrain, and many other factors. The firearm used will be dependent on a multitude of these factors, as well as the size, strength, handedness, and personal preferences of the hunter. Many modern firearms cater to individual needs using adjustable features in the manufactured design itself, as well as the factory and aftermarket accessories that can be added.

There are five general categories that are considered by a hunter when selecting a firearm:

- 1) is it legal for hunting*
- 2) what calibre and cartridge is appropriate for the type of hunting*
- 3) usability for the intended purpose*
- 4) performance (firearm and cartridge combined)*
- 5) affordability*

LEGAL CONSIDERATIONS

In Canada, only non-restricted firearms are available for hunting. The classification status, however, does not determine what is suitable for hunting in Canada. For example, many other jurisdictions allow handgun hunting, but the classification status of these firearms in Canada make them unavailable for hunting. Individual provinces and territories, and even local or regional municipalities, may have additional restrictions related to the calibre or gauge that can be used for a certain hunting activity. Legal considerations are the first filters used by hunters when selecting a firearm.

CARTRIDGE CONSIDERATIONS

Cartridge, or ammunition, choice is a fundamental consideration when selecting a firearm to use for hunting. It is important to define some of the components of a cartridge that influence the appropriateness for hunting purposes. The calibre/gauge (or diameter) influences the size of the overall cartridge and whether it will be compatible with a given firearm (i.e., a firearm is chambered¹³ for a particular calibre). The bullet is the projectile(s) fired, and the structure, weight, shape, and material can influence the internal, external, and terminal ballistics¹⁴. The propellant¹⁵ creates the energy that moves the projectile, and the type and amount (powder charge¹⁶) can also influence the ballistics. Together, the many combinations of these components result in a multitude of cartridge ‘loads’¹⁷ influencing the effectiveness of a firearm for different hunting applications.

RIFLE CARTRIDGES

The visual representation in Figure 5 illustrates an example of basic guidelines for hunters selecting the appropriate rifle cartridge for representative Canadian game animals and varmints (calibre as the indicator).

¹³SAAMI: ‘Chambered’ refers to forming the rearmost part of the barrel to accept a specific cartridge or shell.

¹⁴SAAMI: ‘Terminal ballistics’ refers to the branch of ballistics related to the effects of projectiles at or inside the target.

¹⁵SAAMI: ‘Propellant’ refers to the chemical composition which, when ignited by a primer, generates gas. The gas propels the projectile. Also called powder/gunpowder.

¹⁶SAAMI: ‘Powder charge’ is the amount of powder by weight in a cartridge case or shotshell.

¹⁷SAAMI: ‘Load’ is the combination of components used to assemble a cartridge or shotshell.

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING CONT.

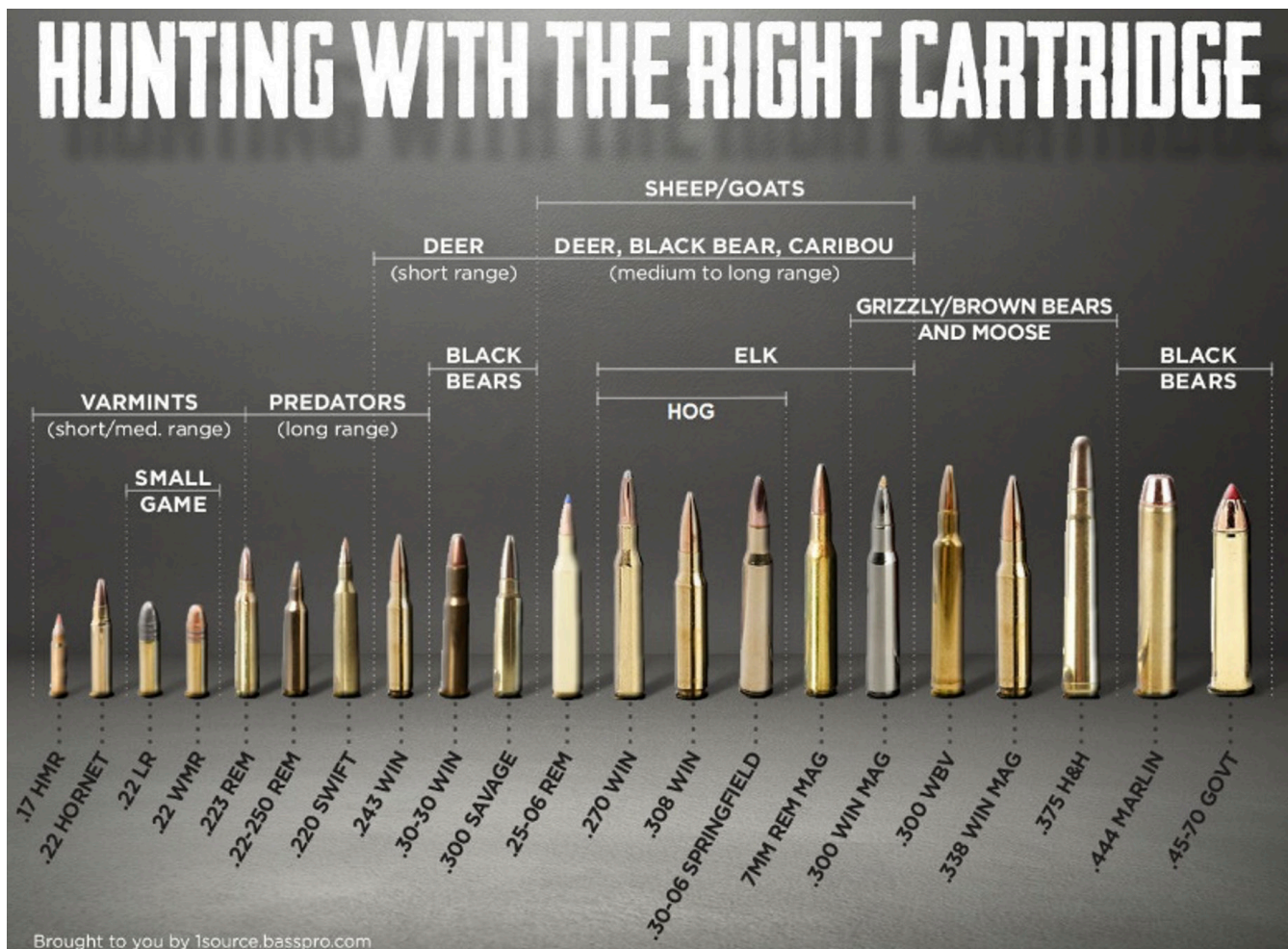


Figure 5. A visual representation of common rifle cartridges and game animals/varmints that they would typically be used for.

Figure 5 only shows rifle cartridges and does not illustrate all calibres of SOR/2020-96 prohibited firearms; however, calibres can be loosely grouped to gain a better understanding of how they may be used by hunters:

- *Rimfire¹⁸ rifles* (e.g., 22LR) are commonly used for small game and varmint hunting;
- *Mini-action centrefire¹⁹ calibres* (e.g., 223 REM, 5.56MM NATO, .22-250, 6.5 Grendel, 6.8MM SPC, 7.62x39MM) are commonly used for predator and varmint hunting, and for some medium game (e.g., deer) in certain situations;
- *Short-action centrefire calibres* (e.g., 308 WIN, 7.62MM NATO, 6.5MM Creedmoor), are commonly used for medium and big game (e.g. elk);
- *Standard or long-action centrefire calibres* (e.g., 30-06 Springfield) are commonly used for medium and big game hunting;
- *Magnum-action calibres and large-bore rifles²⁰* (e.g., 416 BARRETT, 460 WBY MAG, 600 NITRO EXPRESS, 50 BMG) are often used for larger big game hunting, and many are described as ‘dangerous game’ rifles; and,
- *Handgun calibres* (e.g., 9MM LUGER) are often used for varmint hunting.

¹⁸SAAMI: ‘Rimfire cartridge’ is a rimmed cartridge design in which the rim is formed with a cavity to contain the priming mix.

¹⁹SAAMI: ‘Centrefire cartridge’ is any cartridge intended for use in rifles, pistols, and revolvers that has its primer central to the axis in the head of the case.

²⁰SAAMI: ‘Big bore’ is a non-technical term generally referring to any firearm using a centrefire rifle cartridge with a bullet .30” or larger in diameter.

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING CONT.

RIFLE CARTRIDGES CONT.

It should be noted that the above groupings are generalizations based on cartridge overall length for illustration, but there are no clear lines in how calibres are selected and used for hunting because it is dependent on other cartridge considerations (e.g., powder load, bullet structure) and environmental factors (e.g., 'range'²¹ as indicated in Figure 5) to ensure accuracy and proper penetration for the specific target species and conditions. For example, a 30-30 calibre is commonly used to hunt white-tailed deer and has the accuracy and penetration needed to harvest an animal at close range; however, this same calibre may not be effective to use in all white-tailed deer hunting situations (e.g., long range).

SHORT RANGE TRAJECTORY

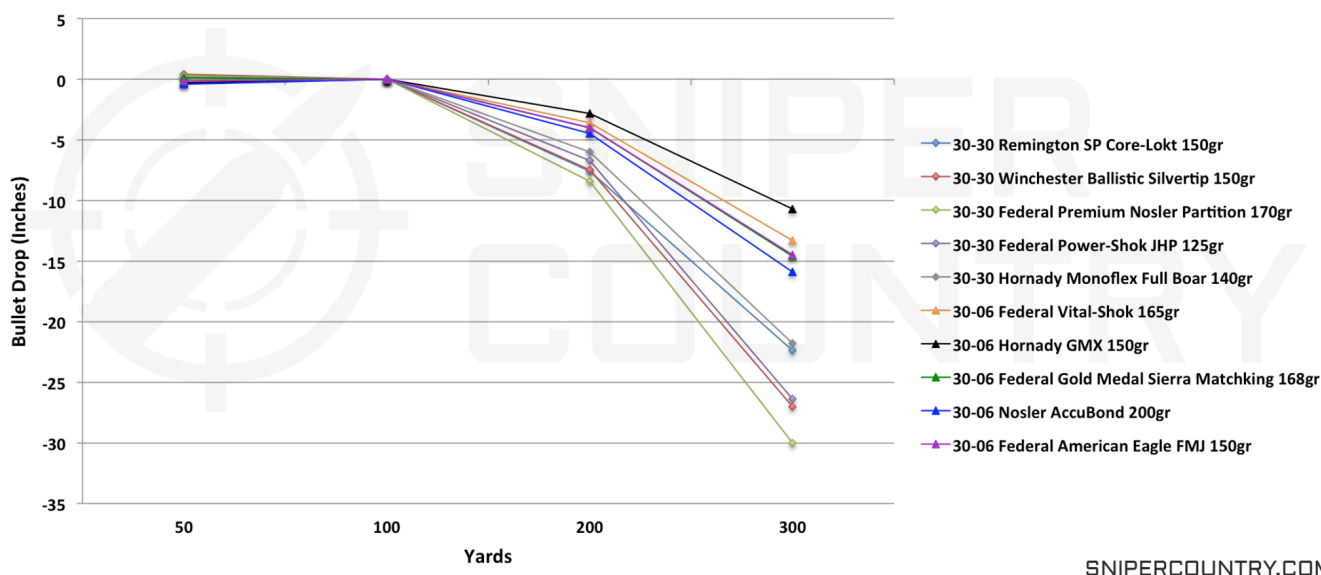


Figure 6. A graphical representation of the bullet drop (inches) by distance to target (yards) to illustrate the differences in effective range of multiple cartridges for two common hunting calibres

Source: www.snipercountry.com

SHOTGUN CARTRIDGES

Similar to rifle cartridges, there are many shot size options for shotgun cartridges, each with different possible hunting applications. Table 1 shows some common shotgun gauge²², shot size²³, and choke²⁴ combinations for different hunting applications. The table only lists shot size for load considerations (largely based on relative size of the animal), but the shotshell length (i.e., 2¾", 3", 3½") can also influence cartridge selection because it changes the amount of shot and powder charge to change the effective range. In addition to the size of target and the range, the style of hunting is also important. For example, duck hunting shot²⁵ and choke selection may depend on whether the hunter will be pass shooting (i.e., birds flying by) or hunting over decoys. Because of the different 'load' options available, the gauge of the shotgun is not a clear determinant of what hunting applications it can be used for.

²¹'Range' refers to the distance between the target and firing point.

²²SAAMI: 'Gauge' is a term used in identification of most shotgun bores. It is related to the number of bore diameter lead balls weighing one pound.

²³SAAMI: 'Shot size' is a numerical or letter(s) designation indicating the average diameter of a pellet.

²⁴SAAMI: 'Choke' refers to the interior construction at or near the muzzle end of a shotgun barrel for the purpose of controlling shot dispersion.

²⁵SAAMI: 'Shot' refers to spherical pellets used in loading shotshells. Commonly formed by lead but may be made from steel or other material.

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING

CONT.

Table 1. Shows common hunting applications for gauges and shot size options, as well as chokes for shot-guns. These are based on a combination of experience (personal and fellow hunters), manufacturer guides, and research. This is for illustrative purposes only and not intended to be an exhaustive list of shot size and choke options, or species that can be hunted with the gauge, loads, chokes listed. IC = improved cylinder, M = modified, IM = improved modified, F = full, XF = extra full.

GAUGE	Shot size	CHOKE	COMMON HUNTING APPLICATIONS
.410	Slug (Sabot/rifled) Lead 5, 6, 7.5, 8 Lead 4, 5, 6, 7.5 Lead 4, 5, 6 Lead 6, 7.5, 8	IC/M IC/M M/IM/F IC/M	Medium game Grouse Rabbit Squirrel Woodcock
28 GAUGE	Lead 5, 6, 7.5, 8 Lead 4, 5, 6, 7.5 Lead 4, 5, 6 Lead 6, 7.5, 8	IC/M IC/M M/IM/F IC/M	Grouse Rabbit Squirrel Woodcock
20 GAUGE	Slug (Sabot/rifled), Buckshot Steel 4, 6, 7, 8 Steel 1, 2, 3, 4, 6 Steel T, BBB, BB Lead 5, 6, 7.5, 8 Lead 4, 5, 6, 7.5 Lead 4, 5, 6, 7.5 Lead 4, 5, 6 Lead 4, 5, 6 Lead 6, 7.5, 8	IC/M IC/M/IM M/IM IC/M IC/M/IM IC/M M/IM/F F/XF IC/M	Medium & big game Dove Ducks Geese Grouse Pheasant Rabbit Squirrel Wild Turkey Woodcock
16 GAUGE	Lead 4, 5, 6, 7.5 Lead 4, 5, 6, 7.5 Lead 4, 5, 6 Lead 6, 7.5, 8	IC/M/IM IC/M M/IM/F IC/M	Pheasant Rabbit Squirrel Woodcock
12 GAUGE	Slug (Sabot/rifled), Buckshot Steel 4, 6, 7, 8 Steel 1, 2, 3, 4, 6 Steel T, BBB, BB, 1, 2 Lead 4, 5, 6, 7.5 Lead 4, 5, 6, 7.5 Lead 4, 5, 6 Lead 4, 5, 6 Lead 6, 7.5, 8	IC/M IC/M/IM M/IM IC/M/IM IC/M M/IM/F F/XF IC/M	Medium & big game Dove Ducks Geese Pheasant Rabbit Squirrel Wild Turkey Woodcock
10 GAUGE	Steel 1, 2, 3, 4, 6 Steel T, BBB, BB, 1, 2 Lead 4, 5, 6	IC/M/IM M/IM Lead F/XF	Ducks Geese Wild Turkey

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING

CONT.

MINIMUM CALIBRE/GAUGE THRESHOLDS FOR HUNTING

Many hunters often think in terms of what is ‘necessary’ when it comes to firearms and ammunition to ensure a quick, clean kill of their target animal. This is usually considered as a minimum threshold, and some jurisdictions even include these in their hunting regulations (e.g., hunters are not permitted to use rimfire rifles or less than .230 calibre for hunting white-tailed deer). These species-specific calibre restrictions are not universally accepted because of their subjective nature (see Challenges in establishing firearm/calibre thresholds for hunting section below). In Ontario, only a centrefire rifle or shotgun not smaller than 20-gauge when using shot (shot size must be SG or number one buck or larger) may be used to hunt moose, elk, bear, and deer, but there are no species-specific rifle calibre restrictions.

MAXIMUM CALIBRE/GAUGE THRESHOLDS FOR HUNTING

In Canada, no person can hunt a migratory bird with a shotgun larger than a 10-gauge. In Ontario, and many other jurisdictions, there are no species-specific maximum calibre restrictions for hunting beyond local considerations related to perceived safety concerns (i.e., density of hunters or public).

In most cases, species-specific calibre maximums for hunting are not regulated, but are determined by hunters themselves based on performance. Hunters are taught, through mandatory hunter education programs, to maximize the potential for a quick, clean kill while minimizing damage to the meat available for consumption. It is often the desire to minimize damage to the meat that will influence a hunter’s firearm and maximum calibre choice when hunting. In situations where the meat will not be consumed, such as furbearers (e.g., coyote) the hunter must harvest and use the fur, resulting in similar choices by the hunter for maximum calibres to minimize damage to the pelt. For other forms of hunting where meat/fur harvest is not the primary objective, such as varmint hunting, the maximum threshold considerations are not as obvious and ‘overkill’ in calibre/gauge may not be as much of a concern as it is for game animals and furbearers.

BULLET/SHOT HUNTING RESTRICTIONS

Rifle bullets are made from many different materials (e.g., lead, copper), have many different weights (grain²⁶), shapes (e.g., round, flat nose), and structures (e.g., jacket thickness and bonding to core, polymer tip). These affect the ballistics and the terminal performance (e.g., energy transfer, penetration, expansion). These are important considerations for hunting. In some jurisdictions (e.g., Alberta), there are hunting regulations making it unlawful to use ammunition that contains non-expanding bullets for big game. Penetration is an important consideration of terminal performance (discussed below), but bullet expansion is arguably even more critical, especially for big game hunting. The intention of using expanding bullets for hunting (or prohibiting use of non-expanding bullets) is to transfer maximum energy to the animal to generate maximum tissue damage (preferably vital organs) to 1) ensure a quick, clean kill, and 2) avoid overpenetration, which has the potential to carry large amounts of energy beyond the target.

There are many different types of modern shotgun loads, but they can be generally split into three categories – birdshot, buckshot, and slug. Shot refers to the pellets (small metal spheres, usually of the same size) that are the projectiles for non-slug shotgun loads. As the name suggests, birdshot is used for flying targets such as upland game birds and waterfowl, as well as turkey and small mammals. The diameter of the shot determines the ‘shot size’ and influences the number of projectiles in the cartridge. There are generally multiple options for the amount of shot in a cartridge for a given gauge. Buckshot is similar to birdshot with larger pellets and intended for larger animals such as deer. A slug is a shotgun cartridge with a single metal projectile. There are some restrictions on shotgun projectiles for hunting. For example, you are not permitted to hunt migratory birds in Canada with a rifle or a shotgun loaded with a single bullet (i.e., slug). In Ontario, you are not permitted to hunt big game with a shotgun smaller than 20 gauge when using shot (must be SG or number one buck or larger).

²⁶SAAMI: ‘Grain’ is a unit of weight commonly used in ammunition practice to measure the weight of components (7000 grains per pound).

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING

CONT.

BULLET/SHOT HUNTING RESTRICTIONS CONT.

Modern shotgun cartridges (shells) are available in multiple lengths, and larger shells not only have more pellets (30-50% more in a 12 gauge 3.5" shell compared to 2.75" shell), but also more powder. These larger shells (sometimes referred to as magnum loads) are often used to maintain pattern²⁷ density for longer shots, and is used most often for hunting wild turkey and larger migratory birds like geese.

CHALLENGES IN ESTABLISHING CARTRIDGE-RELATED THRESHOLDS FOR HUNTING

Drawing a clear line of what is an effective firearm calibre/gauge for hunting is not appropriate. Hardline species-specific calibre thresholds are almost impossible to rationalize because: 1) the metrics to assess what is 'reasonable' for a quick, clean kill, and an acceptable level of damage to meat and/or fur are highly subjective and difficult to define, and 2) there are a multitude of factors that influence ballistics to determine the accuracy and penetration potential of a given firearm and calibre/gauge.

There are many specific combinations of firearm, calibres/gauges, and loads that will influence ballistics and ultimately appropriateness of species-specific firearm use. Additionally, the range (distance to the target) and other environmental factors will impact the ballistics. In other words, the answer to the question of "what is required to harvest a white-tailed deer?" is almost always, "it depends". Although hunting white-tailed deer with rimfire cartridges and calibres less than .230 are not permitted in some jurisdictions, it has been shown that proper range and shot placement with these calibres can make them proportionate for effective use. These are choices by the hunter, similar to using a bow within an appropriate range for hunting.

FIREARM & CARTRIDGE CONSIDERATIONS (COMBINED)

While cartridge consideration is important for things like accuracy and recoil, the firearm itself plays an important role too. The combination of the cartridge and the firearm must be considered by the hunter.

ACCURACY

Hunter experience, practice, and other factors will ultimately influence accuracy, but firearm and cartridge selection can also play an important role. Many manufacturers of SOR/2020-96 prohibited firearms claim, and owners have reported, sub-MOA²⁸ accuracy out of box with capable ammunition. While a MOA firearm is not required for most practical hunting scenarios, the accuracy of the firearm itself does help maintain overall accuracy when you factor in the human influences while in the field (e.g., positioning, shooting an animal, etc.). Increased accuracy of the firearm increases the hunter's confidence in making an accurate shot, and factory specifications like MOA can be an important determining factor for hunter firearm selection, particularly for long range shooting. For example, the now prohibited Alberta Tactical Rifle Modern Hunter is reported to have sub-MOA groups with high quality factory loads, and as low as 0.5 MOA with properly developed handloads²⁹.

RECOIL AND MUZZLE MOVEMENT

Recoil is an important consideration for many hunters. There are many factors that contribute to the amount of recoil and shooters employ different tactics to control it directly through 'managed recoil' loads (reduce the powder charge and/or use lighter weight bullet) and muzzle brakes. There are also recoil pads and other buttstock adjustments that help dampen the felt recoil perceived by the hunter. Compensators can also be used to minimize muzzle movement (e.g., muzzle jump³⁰). Actual recoil reduction and stabilizing muzzle movement allow for faster target acquisition and accuracy on follow-up shots. This is particularly important for varmint (e.g., wild pigs) control where multiple targets are encountered together and the time available for follow-up shots can be limited. For example, muzzle brakes and compensators are commonly integrated into the design or available as an option on many of the previously non-restricted firearms prohibited under Item 87 of SOR/2020-96 (e.g., Stag Arms Stag-10 firearms come standard with a muzzle brake).

²⁷SAAMI: 'Pattern' is the distribution of individual pellets fired from a single shotshell in a shotgun. Generally measured as a percentage of the total number of pellets striking within a 30" circle at 40 yards.

²⁸SAAMI: 'MOA' or minute of angle is an angular measurement method used to describe accuracy capability. A minute of angle is one sixtieth of a degree, and subtends 1.047 inches at 100 yards (MOA = 1" at 100 yards).

²⁹SAAMI: 'Handloading' is the process of manually assembling a cartridge from component parts (casing, primer, propellant and bullet or wads and shot).

³⁰SAAMI: 'Muzzle jump' is the upward motion of the muzzle of a firearm which occurs upon firing.

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING CONT.

FIREARM USABILITY CONSIDERATIONS

FIREARM COMPONENTS

ACTIONS

Firearms used for hunting come in both single shot models like break actions or muzzleloader³¹ and repeating actions³² that are either manually operated (e.g., bolt, pump, or lever action) or autoloading (e.g., semi-automatic). Fully automatic firearms are prohibited in Canada, and therefore not available for hunting. All firearm actions, except for fully automatic, continue to be selected by hunters for various hunting applications. Manufacturers also continue to produce new hinge, bolt, pump, lever, and semi-automatic action firearms to supply the demand by hunters.

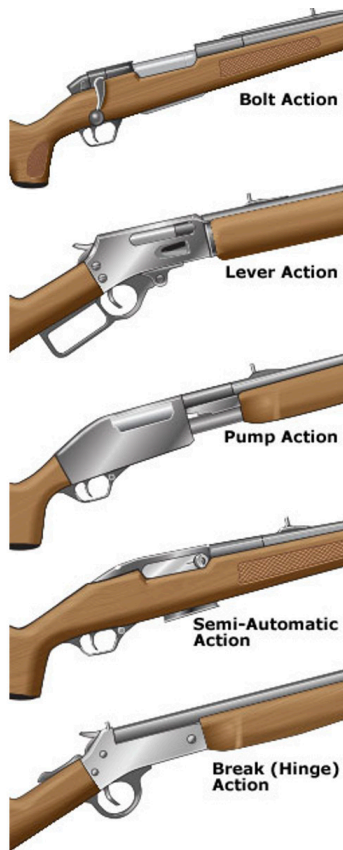


Figure 7. An illustration of the common actions in firearms used for hunting, including bolt, lever, pump, semi-automatic, and hinge.

Source: www.hunter-ed.com

Hinge action are common in shotguns and are often selected as the first firearm for a new hunter because they are easy to load and unload. Repeating actions, both manual and autoloading, have a variety of hunting applications and selection by a hunter is often based on personal preferences influenced by traditions, experience, cost, durability, and specific hunting applications. There is a diversity of practical hunting applications for all firearm actions and much like other considerations for selecting hunting firearms, it is dependent on several factors.

³¹SAAMI: 'Muzzleloader' is any firearm into which the projectile(s) and, usually, propellant charge are loaded from the muzzle of the barrel.

³²SAAMI: 'Repeater' is any firearm equipped with a magazine that holds more than one shot without reloading.

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING

CONT.

ACTIONS CONT.

For example, repeating firearms are often selected by hunters who want to have quick and fluid reloading for successive shots because cycling³³ can be done without significantly altering the shooting position allowing the hunter to remain focused on a target, or quickly move to the next target. A semi-automatic goes one step further, with automatic cycling that chambers a new cartridge without any additional manual operation; it only requires the hunter to pull the trigger again to take the follow-up shot. For example, pump and semi-automatic shotguns are common for activities like waterfowl hunting where birdshot (multiple projectiles), larger bag limits, and flocking behaviour of the target species can benefit from multiple successive shots. Although shotguns using bolt and lever actions exist, they are far more common as rifles. Bolt actions are frequently used in hunting applications where high accuracy single shots (often from a resting position) are preferred. These examples are generalizations to illustrate some common preferences, but do not represent the diversity of hunting applications for each type of action.

Most firearms prohibited by model-type under SOR/2020-96 have a semi-automatic action. Firearms prohibited under Item 96 (muzzle energy) have single-shot, bolt, and semi-automatic actions.

ROUND CAPACITY & MAGAZINES

In general, the Criminal Code of Canada prohibits the possession of any clip³⁴ or magazine³⁵ that holds more than five shots for a semi-automatic centrefire firearm, and ten shots for a handgun. Round capacity is also restricted in Canada for the purposes of hunting. While hunting migratory birds in Canada, a hunter is only permitted to use a firearm capable of holding no more than three shells in the chamber and magazine combined. Ontario has the same three-shell restriction for all hunting with shotguns.

Magazines are often used in hunting to allow for ease and effectiveness of follow-up shots in repeating action firearms. Fixed spring-loaded tubular magazines³⁶ are common on pump and semi-automatic shotguns, rimfire rifles, and some lever-action firearms. Detachable box magazines³⁷ have become more common for shotguns in recent years and are very common for centrefire rifles of all actions. Detachable box magazines allow a hunter to pre-load cartridges outside of the firearm, and quickly, easily, and safely remove cartridges from the firearm in a contained way (i.e., ejecting cartridges individually can increase the likelihood of losing them (i.e., in the snow, leaves, etc.)). Hunters are taught during training to unload their firearm prior to crossing obstacles (e.g., fence), making detachable magazines helpful in quickly unloading and loading a firearm. Additionally, some hunters remain concerned that spitzer (pointed) bullets can be a safety issue because of the end-to-end configuration of the magazine (i.e., a pointed bullet can strike the primer of the next round resulting in ignition), although this does not seem to be as much of a concern with modern firearms and cartridges.

BARREL AND CHOKE CONSIDERATIONS

Some firearms are capable of switching out barrels for different hunting applications. This is particularly common for shotguns where a hunter will switch between a smooth-bore³⁸ and rifled (slug) barrel depending on their hunting activity. This allows a hunter to use a single firearm to hunt many different species in many ways with a single firearm. Some manufacturers are also producing 'switch-barrels' for rifles. Shotguns also have different choke options that have different hunting applications. Prior to the 1980s, firearm barrels were manufactured with fixed/permanent...

³³SAAMI: 'Cycling an action' is the act of chambering a cartridge, firing the cartridge, opening the action, ejecting the spent cartridge case, and loading the next cartridge if applicable.

³⁴SAAMI: 'Cartridge clip' is a separate cartridge container to hold cartridges or shells in proper sequence for feeding into a specific firearm. It is a magazine charger, and unlike a magazine does not contain a feeding spring.

³⁵SAAMI: 'Magazine' is a receptacle for a firearm that holds a plurality of cartridges or shells under spring pressure preparatory for feeding into the chamber.

³⁶SAAMI: 'Tubular magazine' is a metal tube that contains cartridges or shells end to end.

³⁷SAAMI: 'Box magazine' is a rectangular receptacle attached to or inserted into a firearm that holds cartridges stacked on top of one another ready for feeding into the chamber.

³⁸SAAMI: 'Smooth-bore' is a firearm with an unrifled bore, typically a shotgun.

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING CONT.

BARREL AND CHOKE CONSIDERATIONS CONT.

... chokes; however, many modern firearms are manufactured to accept screw-in choke tubes that offer more hunting options with a single firearm. Figure 8 shows the different shot patterns that can be achieved using a single firearm with different chokes to alter the effective range and potential hunting applications.



Choke Tube Pattern Chart

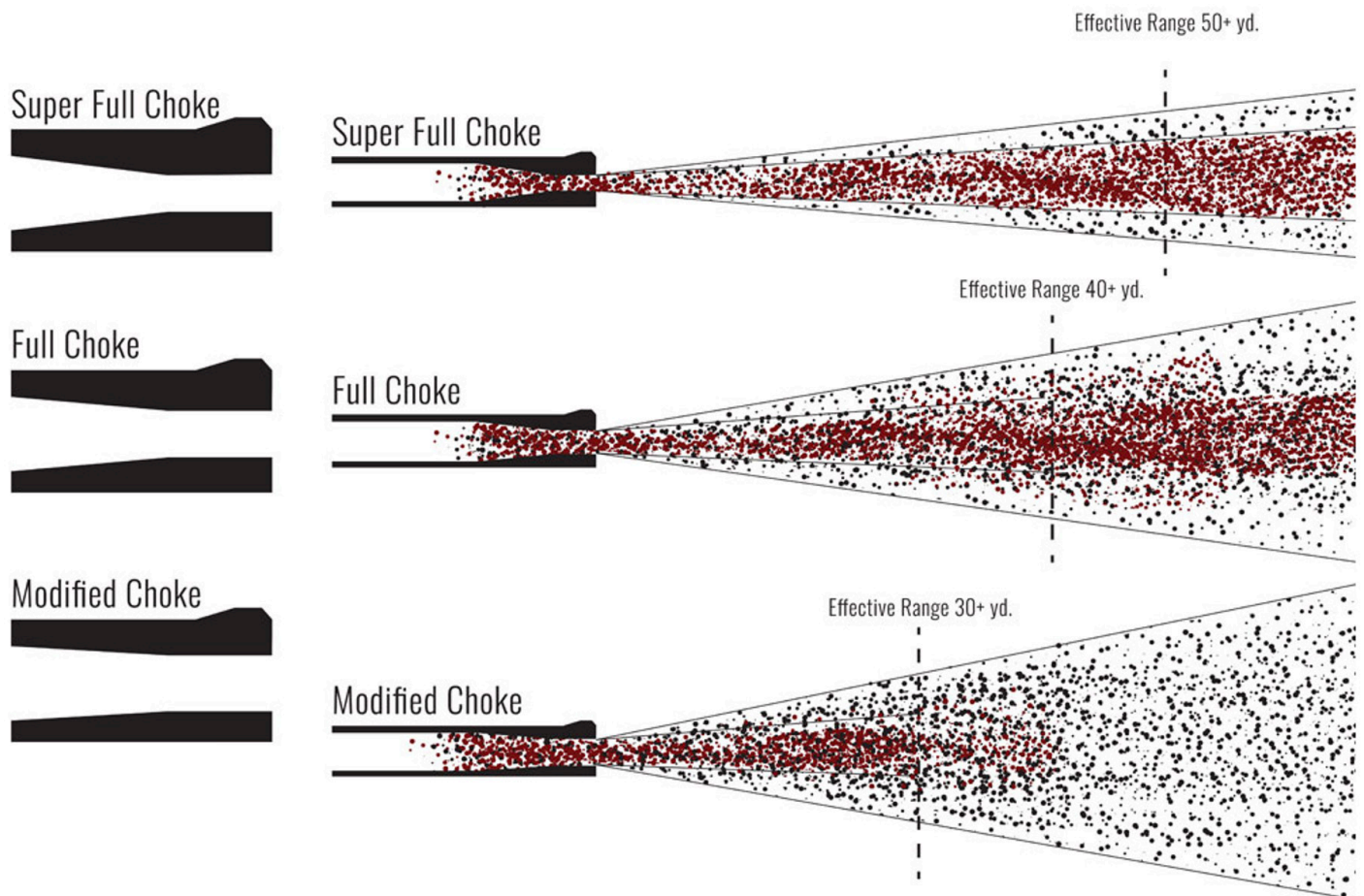


Figure 8. A visual representation of how different shotgun choke tubes alter the pattern and effective range for turkey hunting.

Source: <https://www.mossyok.com/our-obsession/blogs/how-to/how-to-pattern-a-shotgun-for-turkey-hunting>.

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING CONT.


BARREL AND CHOKE CONSIDERATIONS CONT.





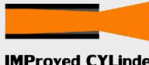









Figure 9 shows photos of firearms with fixed chokes and screw-in chokes (installed and uninstalled), the type of ammunition, the effective range, and some examples of hunting applications.

Figure 9. A graphical representation of select shotgun choke options, the different projectiles, and suggestions on potential hunting applications and effective ranges.

Source: www.rem870.com.

Rem870.com Graphic Guide to Shotgun Choke Tubes



TYPE:	RECOMMENDED AMMO:	INFORMATION:
 CYLinder 5 notches Constriction: 0.00	 Rifled Slugs  Birdshot (steel/lead)  Buckshot	Home Defense Close waterfowl, quail, grouse, pheasants hunting <i>Effective range for birdshot: 0-20 yd</i>
 IMProved CYLinder 4 notches Constriction: 0.10	 Rifled Slugs  Birdshot (steel/lead)  Buckshot	Home Defense Close waterfowl, quail, grouse, pheasants hunting <i>Effective range for birdshot: 15-30 yd</i>
 MODified 3 notches Constriction: 0.20	 Birdshot (steel/lead)  Buckshot	Distant waterfowl, pheasants, doves, pigeons, rabbits, medium ducks, squirrels hunting <i>Effective range for birdshot: 20-35 yd</i>
 Full 1 notch Constriction: 0.30	 Birdshot (steel/lead)  Buckshot	Turkey, geese, large ducks, fox hunting <i>Effective range for birdshot: 30-45 yd</i>

Always read the choke tube manufacturer's instructions!

MODULAR & ADJUSTABLE DESIGN

One of the appealing features of many SOR/2020-96 prohibited firearms is the modular design that enables customization to fit the individual shooter's needs and preferences and can even allow for adjustments that enable more inclusive multi-shooter participation with a single firearm (i.e., family use). Modularity in firearms refers to the ability to remove components with relative ease to allow for reconfiguration (often without tools). Modularity may be as simple as interchangeable barrels (as described above), but modern firearms are often modular in many ways.

DESIGN FOR FIT & ERGONOMICS – ADJUSTABLE & AMBIDEXTROUS FEATURES

Proper gun alignment is important for hunting because it can impact the perception of recoil as well as a shooter's accuracy. The configurations available with a modular design and adjustable features have benefits for properly fitting a firearm to the individual and the activity. There are a variety of butt³⁹ and fore stock⁴⁰ styles, adjustable features, and accessories that support different shooter and shooting needs.

Modern firearms include more adjustable features in the manufactured design, such as a moveable comb⁴¹ (i.e., cheek rest on buttstock) to align your eye to the optic and/or collapsible buttstock with multiple settings to fit individual...

³⁹SAAMI: 'Butt-stock' is the rear or butt end of the firearm normally placed against the shooter's shoulder.

⁴⁰SAAMI: 'Fore-end' or fore stock is traditionally the forward portion of a stock.

⁴¹SAAMI: 'Comb' is the ridge at the upper forward part of the butt stock just in back of the grip section.

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING CONT.

DESIGN FOR FIT & ERGONOMICS – ADJUSTABLE & AMBIDEXTROUS FEATURES CONT.

...shooters. These features are common on firearms prohibited under SOR/2020-96 Item 87 (e.g., Alberta Tactical Rifle Modern Hunter/Varminter and Stag Arms Stag 10 have the option of an adjustable stock).



Figure 10. The Alberta Tactical Rifle Modern Hunter has more than a dozen accessories, including the adjustable stock shown in the photo. Source: www.albertatacticalrifle.com.

Left-handed shooters generally require firearms specifically tailored to their handedness. While more manufacturers are producing ambidextrous or left-handed firearms today, there are still fewer options available and left-handed models have a smaller market for resale. The ambidextrous or reversible options for the safety, magazine release, and other features found on many of the firearms prohibited under SOR/2020-96 Items 87, 91, 92, and 93 allow for use by any shooter in any shooting position, making them preferred by some left-handed shooters (e.g., Alberta Tactical Rifle Modern Hunter/Varminter, Black Creek Labs BCL 102 MK7, Robinson Armament XCR, CZ Scorpion EVO 3, Beretta Cx4 Storm).

LOOK AND PROFILE

In many cases, the modularity allows for customization of ‘external’ features. There are external components like hand stops⁴², muzzle brakes, sights, optics, stocks, and grips that can significantly change the usability and even functionality of a firearm, but also change the profile or appearance of the firearm.

ACTION AND RECEIVERS

Modularity is not just for aesthetics, comfort, and optics. It has also become increasingly common in the design of the ‘operating’ components of the firearm, including the receiver⁴³. A split receiver (separate upper and lower receivers) system has become extremely popular because of the versatility it offers for different shooting situations. The most common split receivers are the AR ‘platforms’ that can be subdivided into the AR-10 (think short-action centrefire calibres described above) and AR-15 (mini-action centrefire calibres). A standard lower receiver assembly could be mounted with many different upper receivers chambered for 223 REM, 5.56MM NATO, 300 AAC BLACKOUT, 6.5MM GRENDDEL, 6.8MM SPC, 7.62x39MM, or even 22 LR, .410 bore, and 50 BMG. There are specific magazine considerations for the different calibres, but there are also options available for multi-calibre magazines. In some cases, the upper receivers themselves are not completely calibre-specific and components like the bolt, barrel, and magazine can be changed to accept a different calibre, although this reduces how quickly a firearm calibre can be interchanged.

⁴²SAAMI: ‘Hand stop’ is an attachment beneath the fore-end or forearm of a target rifle to restrict the forward movement of the hand.

⁴³SAAMI: ‘Receiver’ is the basic unit of a firearm which houses the firing and breech mechanism and to which the barrel and stock are assembled.

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING CONT.

CUSTOMIZATION TO YOUR OWN STANDARDS

The popularity of modularity in firearms has generated increased demand for after-market components that improve performance beyond what comes standard with firearms. Triggers, bolt carrier groups, and other receiver components can be substituted to offer enhanced function (e.g., two-stage trigger⁴⁴) or meet the standards or preferences of shooters (e.g., trigger pull weight⁴⁵). More and more hunters are becoming aware of how they can use and enhance individual features of their firearms to attain better performance that suits their individual hunting needs.

PROPRIETARY RECEIVER MODULARITY

Prior to SOR/2020-96, AR platforms were restricted in Canada and therefore, not available for hunting. Some manufacturers went to great lengths over many years to design modular firearms, including split receiver models, that would be available to be used in Canada with a non-restricted firearms licence (e.g., hunters). To receive non-restricted status and qualify for hunting use in Canada, these firearms were inspected by the RCMP through a series of tests to ensure they cannot mate, easily or by force. For example, the Alberta Tactical Rifle Modern Hunter is one of the previously non-restricted firearms that was prohibited under SOR/2020-96. On the manufacturer's website it describes why the Modern Hunter is classified as non-restricted: *"The proprietary design of the upper and lower does not permit either to be used with any AR-10 upper or lower. It has only a front pin for takedown on our lower which can only work with our upper receiver. It also can only be built with a Timney trigger pack utilizing proprietary mounting techniques, so no full auto components can be installed due to design."*

Figure 11. Page 2 of the RCMP's FRT Report for the Alberta Tactical Rifle Modern Hunter from July 07, 2017 that shows the rationale for classifying the firearm as non-restricted.

FRT Report		Firearm Reference No.: 149826	Date: 2017/07/19		
Network Version 3.18.0			Page: 2 / 13		
Model	<ul style="list-style-type: none"> - introduced in 2015. - this firearm is a production version of the ATRS, Model, Modern Hunter firearm. - the ATRS Modern Hunter uses a Timney AR-10 self-contained drop in trigger unit with single hammer pin mounting system. - the trigger well in the lower receiver is machined to fit mil-spec AR-10, 15 trigger and hammer parts, however this particular firearm receiver has a self-contained trigger mechanism which mounts on the hammer axis pin, there is no trigger pin hole in the receiver. - the ATRS, Model - Modern Hunter upper receiver does not have a cut for an automatic sear, and has a different system for mounting upper to lower receivers than either the AR-10 or AR-15 Rifles. - overall length of firearm butt collapsed 980mm. - overall length of firearm butt extended 1080mm. 				
Manufacturer	<ul style="list-style-type: none"> - Albertal Tactical Rifle/Alberta Tactical Rifle Supply is located in Calgary, Alberta, Canada. - Albertal Tactical Rifle/Alberta Tactical Rifle Supply is a Division of Magnum Machine Limited. - Albertal Tactical Rifle/Alberta Tactical Rifle Supply specializes in custom precision rifle manufacture, upgrades and modifications. 				
Action	- gas operated.				
Calibre	- 308 WIN 1:10 and "ATRS" may be found marked on the barrel.				
Shots	<ul style="list-style-type: none"> - detachable box magazine. - the magazine well of the ATR Modern Hunter is of an early (first generation) AR-10 design, and will accept early AR-10 magazines and the Stoner SR-25 magazine. - late model AR-10 magazines do not fit and function in this firearm. 				
Serial Number	<ul style="list-style-type: none"> - serial number rationalization as follows: - the ATRS prefix is an abbreviation of the manufacturer's brand name, Alberta Tactical Rifle Supply, followed by 2 digits - indicating the year of manufacture, followed by the Roman alphabet letters "MH" denoting the model - "Modern Hunter", with the final six (6) numbers being the firearm's unique serial number within the Modern Hunter series production. - serial number was observed marked on the right side of the magazine housing of the lower receiver/frame. - observed serial number consisted of a four letter prefix followed by a series of letters and numbers. 				
Canadian Law Comments	- this firearm design is derived from an amalgamation of several different firearm designs and does not trace its design lineage directly or uniquely to a "prohibited" or a "restricted" firearm found in the Regulations appended to the Criminal Code.				
Other Markings	<ul style="list-style-type: none"> - the trade name "Alberta Tactical Rifle" may be found marked upon the left side of the upper receiver. - a stylized maple leaf and the word CANADA may be found marked on the right side of the upper receiver to the rear of the ejection opening. 				
Cross-References					
Firearm Ref. No.	Make	Model	Manufacturer	Type	Action
146190	Alberta Tactical Rifle	Modern Hunter Prototype	Alberta Tactical Rifle	Rifle	Semi-Automatic
Also Known As/Product Code					
ATRS MH					
MH					
Firearms Reference Table. A National Police Service of the Royal Canadian Mounted Police. Network Version 3.18.0, 2017/07/19. All rights reserved, RCMP, 1998-2017.					

⁴⁴SAAMI: '2 stage trigger' or 'double pull trigger' is a trigger which has two distinctive pull characteristics. The first or take-up stage is usually long and light in pull and force; the second stage having a short but distinct increase in the pull force required to discharge the firearm.

⁴⁵SAAMI: 'Trigger pull (force)' is the average force (applied approximately parallel to the bore line) which must be applied to the trigger of a firearm to cause the sear, striker, or hammer to release.

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING CONT.

RAIL SYSTEMS (AND HANDGUARDS)

The traditional 'wood and steel' firearm have limited options for mounting accessories used in hunting like optics, bipods, and grips. Many of the firearms prohibited under SOR/2020-96 have top rail mounting systems (e.g., Picatinny) that allow for variable-position attachment of a wide range of optical sights. The handguard or barrel shroud is commonly considered to give a firearm a 'military' look often allows for extended upper rail, and even lower rail mounting systems that enable for attachment of bipod features that are common in some forms of hunting (e.g., open terrain, varmint hunting). Some hunters prefer the ability to swap optics easily on rail systems (relative to traditional base and ring mounts), especially if they travel to hunt (carry a back-up scope already sighted in for the firearm). Picatinny rails come standard on the Black Creek Labs SLR Coyote and MK7 models prohibited under SOR/2020-96.

Figure 12. The SLR Coyote developed by Black Creek Labs and Maccabee Defense Inc. shows a Picatinny rail that extends to the fore-end of the barrel shroud.



WEATHER-RESISTANCE AND DURABILITY

The construction of firearms is an important consideration for hunters in preventing short- and long-term damage to their firearms because they are often facing the elements, namely inclement weather. In recent years, there has been a proliferation of alternative options for firearm construction and design using alternative and synthetic materials that improve resistance to dirt, moisture, and physical contact. While there is a diversity of materials used in many different firearm components, it is often most noticeable in stock and barrel construction.

Traditional or classic wood stocks are being increasingly replaced by synthetic stocks (polymer and composite). This is not only to have more weather-resistance, but also to be more durable from being damaged while in the field (e.g., cracking in wooden stocks). Many synthetic stocks are produced in camouflage patterns that are highly sought-after by some hunters because the concealment advantage can be critically important. Stainless steel, carbon fibre, and other materials are becoming more popular in barrel construction. For example, the Alberta Tactical Rifle Modern Hunter and Varminter rifles have a stainless-steel barrel option.

Figure 13. Models from the Springfield Armory M1A series are available in wooden and composite stocks.

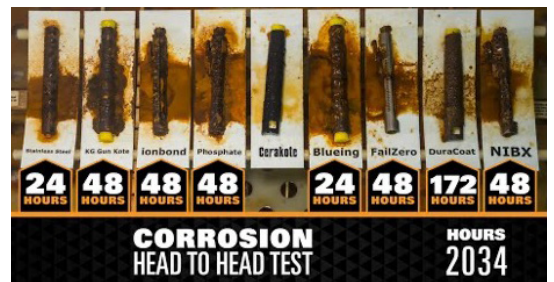
Source: www.springfield-armory.com



In addition, various chemical and coating processes are now common for firearms and firearm parts, including anodizing, Parkerizing/phosphating, and cerakote coating. Each construction material and treatment carry various advantages in weather resistance, durability, weight, and other things like heat dissipation. Some SOR/2020-96 prohibited firearms like all three models in the Alberta Tactical Rifle Supply Modern Rifle series (Hunter, Varminter, Sporter) use hardcoat (Type III) anodizing that is commonly used in MIL-SPEC applications. The hardcoat anodizing process, as well as Parkerizing, produces gray or black finish and contributes to the colloquially grouping of firearms into 'black rifles'.

Figure 14. Results of corrosion testing of multiple common firearm finishes shows the variety of modern options and their resistance to corrosion.

Source: www.cerakote.com



CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING

CONT.

SIZE AND WEIGHT

The overall size, particularly length, of the firearm is an important consideration. Many of the previously non-restricted SOR/2020-96 firearms examined in this report are semi-automatic, centrefire rifles. To be non-restricted and available for hunting in Canada, these rifles must have a minimum barrel length of 470mm (18.5”), and many firearm models have various barrel length options above the minimum. A shorter barrel can be advantageous for accuracy in some cartridges, and an overall compact design can be more comfortable for some shooters, easier to carry in rugged terrain, and handles faster and smoother while maneuvering in the close quarters of a treestand, hunting blind, or other surrounding landscape features such as brush or trees. For these reasons, the compact, shorter barrel options of many SOR/2020-96 prohibited firearms were preferred by some hunters. Many previously non-restricted firearms prohibited under SOR/2020-96 have barrel length options in the 470-483mm (18.5”-19.0”) range, except for firearms prohibited under Items 95 and 96.

Shorter barrel length often translates into a proportional reduction in weight; however, there are other construction features such as some synthetic stocks or barrel material (e.g., carbon fibre vs. alloy or stainless steel) that can also change the weight of the firearm. A firearm used for hunting should be light enough to carry without significant strain, but heavy enough to allow for accurate shooting and moderation of the recoil it is chambered for. The weight of the firearm can be a very important consideration for hunting in remote locations where firearms will be packed and/or carried for extended periods. It is also an important factor for youth and other small-statured hunters, as well as individuals with mobility issues. Many of the SOR/2020-96 prohibited firearms pack in a lot of features without being much heavier than other firearms used for hunting (e.g., the Black Creek Labs MK7 and Stag Arms Stag-10S are 8.3 lbs and 8.2 lbs, respectively).

Some large bore rifles like those chambered in 50 BMG or 416 BARRETT, tend to be extremely heavy firearms weighing nearly 30 lbs on average (e.g., Noreen ULR is 32 lbs, Bushmaster BA50 is 30 lbs, Cadex CDX-50 is 22.6 lbs, Steyr-Mannlicher Hs-50 is 30.4 lbs, Accuracy International AX50 is 28.6 lbs). The lightest of the BMG 50 firearms is a carbine⁴⁶ model of the Serbu BFG-50A at 15.25 lbs without a scope or bipod. For comparison, the average bolt-action rifle chambered for .308 or .30-06 rifles is in the eight to nine-pound range. Due to the weight of firearms chambered in 50 BMG, these firearms would only be practical for fixed hunting styles in locations that are relatively easy to access.

⁴⁶SAAMI: ‘Carbine’ is a rifle of relatively short length and light weight originally designed for mounted troops.

CONSIDERATIONS WHEN SELECTING A FIREARM FOR HUNTING CONT.

AFFORDABILITY AND AVAILABILITY

In addition to the functionality of a firearm, cost and availability is an important consideration for hunters. The SOR/2020-96 prohibited firearms previously used for hunting run the entire spectrum of the price range and can be difficult to directly compare with other firearms because of differences in features.

For semi-automatic rifle models prohibited under SOR/2020-96, there is a range of costs from high-end (e.g., Alberta Tactical Rifle Modern Hunter is \$3,650 CAD), mid-range (e.g., Springfield Armory M1A series – starting at \$1,685 USD), and low-end (e.g., Mini-Thirty – starting at \$1,069 USD). For many models, these prices are the base and do not reflect the additional features and upgrades available. For comparison, the Browning BAR is a semi-automatic rifle that can be chambered in 308 WIN and starts at \$1,300 USD.

For semi-automatic shotgun models prohibited under SOR/2020-96, the Derya MK12 started at just over \$1,000 CAD, but there were less expensive models in the \$600-\$999 CAD range (e.g., Axor MF1, Axor MF2, Derya VR90, Uzkon BR99). For comparison, there are all-purpose 12-gauge semi-automatic shotguns that remain non-restricted from manufacturers like Mossberg and Stoeger in the \$800-\$900 CAD range.

The 50 BMG calibre firearms are expensive relative to most other shoulder-firearms with price tags of \$8,000 and higher (e.g., Cadex CDX-50 Tremor - \$8,182.90 CAD, Accuracy International AX50 - \$13,810 CAD, McMillan Brothers TAC50 – \$14,999 CAD). The Noreen ULR, chambered in 416 BARRETT retails for more than \$3,150 CAD.

The cost of the firearm is one factor, but the ammunition is also important to consider. For example, commercial cartridges in 416 BARRETT have limited availability and the cost can be \$10 USD/round. Commercial 50 BMG cartridges are more widely available and have a cost \$6 CAD/round. This is very expensive when compared to a common calibre like 308 WIN that will have commercial factory cartridges available in Canada for as low as \$22.49 CAD/20 rounds (\$1.12/round) up to \$66.99 CAD/20 rounds (\$3.35/round). While many hunters will select the lower cost cartridges (less than \$2 CAD/round), some select higher cost ammunition because of the brand, availability, quality, material (i.e., non-lead), etc.

NON-RESTRICTED FIREARMS PROHIBITED UNDER SOR/2020-96

PRELIMINARY REPORT ON THE CANADIAN USE AND VALUE OF NON-RESTRICTED FIREARMS PROHIBITED UNDER SOR/2020-96

PURPOSE

In June 2020, the OFAH surveyed Canadian firearm owners to gain a better understanding of the use of previously non-restricted firearms prohibited under SOR/2020-96. The results of this survey were presented in the Survey Report, *The Preliminary Report on the Canadian use and value of non-restricted firearms prohibited under SOR/2020-96* and released in September 2020.

METHODOLOGY

There is currently no registry of non-restricted firearms in Canada, and there is considerable fear among firearms owners about the potential for submitted information to be used by government to develop some form of registry, so the survey was anonymous to ensure sufficient participation. The Survey Report is not able to quantify how many people own or use these firearms, the frequency of uses, or the collective financial value of the firearms being prohibited. Short of asking survey respondents for their firearms licence number, there is no way of determining whether they are licensed, and there would be no way of validating whether they own (or have owned) the firearms in question.

As a result, the survey results do not allow for the quantification of previously non-restricted firearms in Canada, but rather they are intended to provide a qualitative list that illustrates categorical uses by Canadians. This offers a more scoped list relative to the full list of more than 1,500 firearms prohibited under SOR/2020-96. This scoped list was used for subsequent assessment of the reasonableness of SOR/2020-96-prohibited firearms for hunting (see Firearms Used for Hunting in Canada and Analysis of Hunting Applications Based on Calibre and Availability in Canada sections).

Detailed survey and analysis methodologies are presented in the full Report, and can be accessed at https://www.ofah.org/wp-content/uploads/2020/10/FirearmsSurveyReport_FINAL_Sept2020.pdf.

INTERPRETATION OF RESULTS

Survey respondents offered many makes and models not listed in the Firearms Reference Table (FRT)⁴⁷ as of June 22, 2020. In some cases, the firearms do not fit the stated criteria of the SOR/2020-96 prohibitions, and it may reflect the significant confusion and uncertainty about what these prohibitions mean. In other cases, firearms may appear to fit the criteria for SOR/2020-96, but do not appear in the FRT. These firearms are not included in this report, but many more firearms are expected to be added to the FRT in the future, particularly in the relatively inclusive Item 95 (bore larger than 20mm) and 96 (muzzle energy greater than 10,000 joules) categories (i.e., SOR/2020-96 items where firearms were not prescribed in the regulations).

There were differences in the number of times a firearm was identified through survey responses. It is important to note that this is not a quantification of ownership, or indication of relative importance or relevance in the Canadian firearms community. There are many factors that could be contributing beyond popularity, including prevalence through public dialogue, relative availability in the Canadian market (e.g., how long have they been manufactured) and/or when they were classified as non-restricted in Canada.

⁴⁷The Firearms Reference Table (FRT) is a comprehensive list of firearm descriptions and classifications available to law enforcement and the public.

NON-RESTRICTED FIREARMS PROHIBITED UNDER SOR/2020-96 CONT.

SUMMARY OF RESULTS

NON-RESTRICTED FIREARMS PROHIBITED UNDER SOR/2020-96

Sixty-four previously non-restricted firearms were identified by survey respondents for eight of the legal authority sections (i.e., items) described in Part 1 of the Schedule of the amended regulations. Fifty-four are rifles and 10 are shotguns. There are many more previously non-restricted firearms impacted by SOR/2020-96 that are not yet listed on the FRT and those already listed in the FRT, but not identified through the survey.

ACTIVITIES THE PROHIBITED FIREARMS WERE PREVIOUSLY USED FOR

The results show a wide variety of reported uses that are legitimate, lawful, highly regulated, and socioeconomically important in Canada. This includes, but is not limited to collection, hunting (big game, migratory birds, predators/varmint, small game), protection of property (e.g., live-stock), sport shooting (competition, target shooting/plinking, trap and skeet), teaching firearms safety and skills, and trapping.

Fifty-five (85.9%) of the 64 firearms were identified as being used for hunting prior to prohibition, with 44 (68.8%) of them having hunting identified as the primary use. Some of the previously non-restricted firearms identified through the survey were versatile in their use by Canadians, whereas others were relatively narrow in use. Thirty (46.9%) models were identified as having two or more primary hunting applications, and 13 (20.3%) were identified as having three or more (Table 2).

Table 2. The number of firearm models in each prohibition category ('Item') by the number of primary hunting applications (e.g., big game, hunting outside of Canada, migratory birds, predators/varmint, small game) identified through the survey.

	Primary Hunting Applications Identified					
	0	1	2	3	4	5
Item 87	1	7	8	4	1	0
Item 88	0	0	1	3	0	0
Item 89	10	2	1	3	0	0
Item 90	2	0	2	0	0	0
Item 91	0	0	1	2	0	0
Item 92	0	0	1	0	0	0
Item 93	0	0	1	0	0	0
Item 96	7	5	2	0	0	0
TOTAL	20	14	17	12	1	0

Forty-three (67.2%) models were identified as having two or more 'other' hunting applications, and 25 (39.1%) were identified as having three or more (Table 3). The percentage of firearms identifying shooting sports (competition, target shooting/plinking, trap and skeet) as a use was even higher at 92.2% (81.3% as a primary use).

Table 3. The number of firearm models in each prohibition category ('Item') by the number of 'other' (non-primary) hunting applications (e.g., big game, hunting outside of Canada, migratory birds, predators/varmint, small game) identified through the survey.

	'Other' Hunting Applications Identified					
	0	1	2	3	4	5
Item 87	3	2	4	4	8	0
Item 88	0	0	1	3	0	0
Item 89	3	2	6	3	2	0
Item 90	1	1	0	2	0	0
Item 91	0	0	2	1	0	0
Item 92	0	0	1	0	0	0
Item 93	0	0	0	1	0	0
Item 96	4	5	4	1	0	0
TOTAL	11	10	18	15	10	0

NON-RESTRICTED FIREARMS PROHIBITED UNDER SOR/2020-96 CONT.

HUNTING APPLICATIONS OF THE PROHIBITED FIREARMS

ITEM 87: FIREARMS OF DESIGNS COMMONLY KNOWN AS M16, AR-10, AND AR-15 RIFLES, AND M4 CARBINES

The survey identified 21 previously non-restricted firearms prohibited under the legal authority of Item 87. Twenty (95.2%) of the 21 models were identified by at least one survey respondent as having some form of hunting as a primary use, with small game as the most common (14 models).

ITEM 88: FIREARMS OF DESIGNS COMMONLY KNOWN AS RUGER MINI-14

The survey identified four previously non-restricted firearms prohibited under the legal authority of Item 88. All four models were identified by at least one survey respondent as having some form of hunting as a primary use, with predators/varmint and small game as the most common (100%), followed by big game (75%).

ITEM 89: FIREARMS OF DESIGNS COMMONLY KNOWN AS THE US RIFLE AND M14

The survey identified 16 previously non-restricted firearms prohibited under the legal authority of Item 89. Six (37.5%) of the 16 models were identified by at least one survey respondent as having some form of hunting as a primary use, with big game as the most common (37.5%). More models (81.3%) of these firearms were identified as having a hunting use as 'other' as opposed to 'primary'.

ITEM 90: FIREARMS OF DESIGNS COMMONLY KNOWN AS THE VZ58 RIFLE

The survey identified four previously non-restricted firearms prohibited under the legal authority of Item 90. Two (50%) of the four models were identified by at least one survey respondent as having some form of hunting as a primary use, with big game and predators/varmint as the most common (50% of models for each).

ITEM 91: FIREARMS OF DESIGNS COMMONLY KNOWN AS THE ROBINSON ARMAMENT XCR RIFLE

The survey identified three previously non-restricted firearms prohibited under the legal authority of Item 91. All three models were identified by at least one survey respondent as having some form of hunting as a primary use, with big game and predators/varmint as the most common (100% of models for each), followed by small game (66.7%).

ITEM 92: FIREARMS OF DESIGNS COMMONLY KNOWN AS THE CZ SCORPION EVO 3 CARBINE

The survey identified one previously non-restricted firearm prohibited under the legal authority of Item 92. This model was identified by at least one survey respondent as having some form of hunting (predators/varmint and small game) as a primary use.

NON-RESTRICTED FIREARMS PROHIBITED UNDER SOR/2020-96 CONT.

ITEM 93: FIREARMS OF DESIGNS COMMONLY KNOWN AS THE BERETTA CX4 STORM CARBINE

The survey identified one previously non-restricted firearm prohibited under the legal authority of Item 93. This model was identified by at least one survey respondent as having some form of hunting (predators/varmint and small game) as a primary use.

ITEM 95: FIREARMS WITH A BORE DIAMETER OF 20MM OR GREATER

Although the survey did not result in the identification of any specific models of firearms prohibited under the legal authority of Item 95 that were listed in the FRT, there are many large bore firearms that Canadians have identified as being at risk of being prohibited. Although the amended regulations and FRT mostly include grenade launchers and mortars under Item 95 at the time of the survey results analysis, it also includes some large bore shotguns (e.g., 4 GA Greener, W W Duck Gun; 4 GA Webley & Scott Wild Fowl Gun). There are many large bore shotguns not listed that would significantly expand the current list of firearms prohibited under this legal authority.

ITEM 96: FIREARMS CAPABLE OF DISCHARGING A PROJECTILE WITH A MUZZLE ENERGY GREATER THAN 10,000 JOULES

The survey identified 14 previously non-restricted firearms prohibited under the legal authority of Item 96. Unlike the other 'Items' that are grouped together based on design, Item 96 can be sub-divided into at least two categories (50 BMG and other large bore rifles) because they vary greatly in their form, function, and uses. Two (25.0%) of the eight 50 BMG models were identified by at least one survey respondent as having some form of hunting as a primary use, with big game and predators/varmint as the only activities (12.5% of models for each). Five (83.3%) of the six other large bore rifle models were identified by at least one survey respondent as having some form of hunting as a primary use.

FIREARM USE INSIDE AND OUTSIDE OF CANADA

Hunting outside of Canada was not considered to be a primary use for most of the models of firearms identified in this report, suggesting that most hunting activities indicated by survey respondents occurred in Canada. The most common type of firearm used for hunting outside of Canada are those prohibited under the legal authority of Item 96, chambered in 460 WBY (four of four models) and 600 NITRO EXPRESS (one of one model).

DISCUSSION

Canadians identified a connection between many of the non-restricted firearms prohibited under SOR/2020-96 and hunting. The single biggest take-away from the survey results is that at least 55 of SOR/2020-96 prohibited firearms were used by Canadian hunters. Based on survey responses, there are other non-restricted firearms that may eventually be added to the FRT because they arguably fit the prohibition criteria, for example, under Items 95 (bore diameter) and 96 (muzzle energy), depending on how those provisions are interpreted.

Only nine of the 64 previously non-restricted firearms were not identified as having a hunting application. Of those nine models, four (44.4%) were chambered for 50 BMG, meaning that only five previously non-restricted models (without looking at 50 BMG) were not identified as being used for hunting.

NON-RESTRICTED FIREARMS PROHIBITED UNDER SOR/2020-96 CONT.

DISCUSSION CONT.

These firearms were not identified by survey respondents as being used for hunting, but that does not necessarily mean they are not.

These results are not surprising; OFAH staff have talked to hundreds of Canadians who have identified as owners, former owners, and users of the firearms for the purposes of hunting. The OFAH also received many photos of SOR/2020-96 prohibited firearms while being used for hunting by Indigenous and non-Indigenous Canadians. Some of these photos are featured in the Survey Report.

As expected, the survey indicated trends in the previous uses of SOR/2020-96 prohibited firearms based on available calibres. In general, smaller calibre firearms were used for small game, varmint, and predators, whereas larger calibres were used for hunting bigger game. This is consistent with the analysis of hunting-specific cartridge production and marketing (see Analysis of Hunting Applications Based on Calibre and Availability in Canada), as well as the considerations by hunters when selecting a firearm (see Firearms Used for Hunting in Canada).

The results do not indicate how many people own and use these firearms, or the relative importance of a given firearm or type of firearm for a particular activity. Like most surveys, the results rely on unsubstantiated respondent answers. These results of the report are consistent with other sections of this report, including a general examination of how firearms are selected and used by hunters in the Firearms Used for Hunting in Canada section to illustrate how the prohibited firearms relate to hunting from a legal, practical use, and performance perspective. Additionally, the commercial availability of hunting cartridges was assessed in the Analysis of Hunting Applications Based on Calibre and Availability in Canada section to determine market supply as a relative indicator of hunter demand (and ultimately use by Canadians).

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA

PURPOSE

The analysis was intended to illustrate what calibres are appropriate for different hunting applications identified in the *Preliminary Report on the Canadian use and value of non-restricted firearms prohibited under SOR/2020-96*, as well as whether specific commercial ‘factory’ cartridges in those calibres are designed for and/or marketed for those hunting applications. The second purpose was to determine the relative availability of those cartridges in Canada. The combined results are intended to illustrate market supply to make inferences about market (hunter) demand in Canada to illustrate whether calibres are reasonable for hunting.

METHODOLOGY

On September 10, 2020 a search of the websites for five ammunition manufacturers (Barnes, Federal, Hornady, Nosler, Winchester) was carried out to determine if they produced cartridges in calibres that were relevant to non-restricted firearms prohibited under SOR/2020-96 (and identified in the survey). Only those products with applications related to hunting identified on the manufacturers’ websites and/or product packaging were included (See Schedule 3 for examples). Despite not being manufactured by one of the five companies, the WBY 460 MAG calibre was included in the table because it is available through Ellwood Epps and other independent Canadian retailers. There are many other major commercial and speciality ammunition manufacturers that were not assessed, as well as many handloading components that can be purchased and used to build loads for the calibres assessed.

In the second stage of analysis, the websites of two Canadian retailers (Cabela’s Canada, Ellwood Epps) were searched to determine availability of the products identified during the assessment of manufacturers (also occurred on September 10, 2020). These retailers were selected because of the relatively large selection of cartridges available, and accessibility to Canadian purchasers through multiple stores across the country (Cabela’s Canada) and online sales (Cabela’s Canada and Ellwood Epps). There are many local and regional ‘bricks and mortar’ retailers and an increasing number of online options for purchasing ammunition that were not assessed.

Shotgun cartridges, as well as the 416 BARRETT, 600 NITRO EXPRESS, 50 BMG, and 55 BOYS calibres were not included in this assessment. The shotguns identified in the survey were almost all 12 GA with the exception of one .410 bore, with both being very common and widely available in Canada. The 416 BARRETT, 600 NITRO EXPRESS, 50 BMG, and 55 BOYS calibres were not included because none of the five manufacturers produce a cartridge in those calibres. The 416 BARRETT is a relatively new calibre and cartridges are not available from many manufacturers, the 600 NITRO EXPRESS is an older calibre that is no longer widely produced commercially, the 50 BMG was not included because none of the manufacturers produced a cartridge identified as having specific hunting applications, and 55 BOYS was not included because survey respondents did not indicate it was used for hunting.

RESULTS AND DISCUSSION

AVAILABILITY OF CARTRIDGES INTENDED FOR HUNTING USE

There are many cartridges produced by the manufacturers assessed that are designed and clearly marketed for hunting. In most cases, the products listed are at the ‘product line’ level and there are a variety of load options available (and often marketed) for relatively specific hunting applications (Table 3).

There are 145 hunting cartridge products available from the five manufacturers for the 14 calibres that were examined (Table 4). Thirteen of the 14 calibres assessed were available in hunting cartridges (Table 5). The 460 WBY MAG calibre was included in the analysis because a hunting cartridge is available from a Canadian retailer, but not from any of the five manufacturers assessed. Four large bore calibres (50 BMG, 55 BOYS, 416 BARRETT, and 600 NITRO EXPRESS) were not included in the analysis because there was no hunting cartridge found for the manufacturers or the retailers that were examined. It is important to note that some of the manufacturers have other product lines and products that are not designed or marketed specifically for hunting, but could be used for hunting applications. This is also true for some of the calibres not included in the analysis. For example, 50 BMG cartridges are available, but hunting was not referenced on the website.

In many cases, factory ‘hunting’ cartridges are available from multiple manufacturers, with an average of three in each calibre (Table 5). Eleven (79%) of the 14 calibres have at least two manufacturers producing hunting cartridges, and eight (57%) have at least four (Table 5).

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

OVERALL AVAILABILITY OF CARTRIDGES TO HUNTERS IN CANADA

Many factory hunting cartridges are available for purchase by Canadians. An assessment of two major Canadian retailers determined that at least one of them had a hunting cartridge option for 13 (93%) of the 14 calibres studied.

Cabela's Canada has at least one hunting cartridge available for nine (64%) of 14 assessed calibres (Table 6), but nothing available in 5.56MM NATO, 6.5 GRENDDEL, 6.8MM SPC, 7.62MM NATO, and 460 WBY MAG. Cabela's Canada seem to carry more options in the most popular hunting calibres like 308 WIN (13), 223 REM (11), 6.5 CREEDMOOR (9), and 22-250. These four calibres only represent 28.6% of the total calibres studied, but account for a total of 83.3% of their targeted hunting cartridges available at Cabela's Canada (Table 1 & Table 4).

Ellwood Epps has at least one cartridge available for 13 (93%) of the 14 assessed calibres (Table 6), but no hunting-specific cartridge available in 7.62MM NATO. There is overlap in the availability of certain hunting cartridge options, but Ellwood Epps tends to have multiple options for calibres not available at Cabela's Canada (Table 1 & Table 4). This shows that retailers service different interests to provide a broad range of options to satisfy the demands of Canadian hunters.

Combined, the two retailers have 90 (62%) of the 145 hunting cartridge products available from the five manufacturers assessed, with an average of 6.5 cartridge products/calibre (range: 0-19; Table 4). Ellwood Epps has 70 (48%) of the 145 hunting cartridge products available from the five manufacturers assessed, with an average of 5.1 cartridge products/calibre (range: 0-14; Table 4). Cabela's Canada has 48 (33%) of the 145 hunting cartridge products available from the five manufacturers assessed, with an average of 3.4 cartridge products/calibre (range: 0-13; Table 4).

CALIBRES WITH LIMITED AVAILABILITY IN THE COMMERCIAL MARKET

There are some calibres that have fewer manufacturers (of those studied) producing them, including the 5.56MM NATO (3), 6.8MM SPC (2), 7.62MM NATO (0), 9MM LUGER (1), and 460 WBY MAG (0) (Table 5).

There are also some calibres that may be produced by four or five of the manufacturers, but there are limited overall options available (< 7) for all manufacturers combined, including the 222 REM, 6.5 GRENDDEL, and 7.62x39 RUSSIAN (Table 4).

It is not the purpose of these analyses to determine ammunition market dynamics as it relates to the manufacturing and retail availability of specific products. This is complex and beyond the scope of this report; however, there are a few factors that may contribute to availability as it relates to hunting use in Canada and are discussed further.

5.56MM NATO cartridges designed for hunting appear to be less common relative to other calibres, and this may be because there are many 223 REM hunting cartridges available, and a rifle chambered in 5.56MM NATO can use 223 REM cartridges. This, in combination with the fact that 223 REM has always been the calibre marketed for hunting, is the most likely explanation for the limited number of hunting-specific cartridges available in 5.56MM NATO.

Firearms chambered in 6.8MM SPC are relatively rare and the overall demand for ammunition may be low due to limited overall commercial demand for factory cartridges.

There are a relatively large number of firearms considered for this study that are chambered in 7.62MM NATO, which is very similar to the very popular hunting calibre 308 WIN. More than half (six of eleven) of the firearm models chambered in 7.62MM NATO are also available in 308 WIN, and two of the remaining five models have a 308 WIN option in that manufacturers' family/series of firearms. The popularity of 308 WIN likely results in more hunters selecting it over 7.62MM NATO in those models of firearms. In other words, the high number of firearm models available in 7.62MM NATO may not reflect the actual prevalence or share of non-restricted firearms chambered in this calibre. The combination of these two factors is likely responsible, at least in part, to reduce the demand for hunting cartridges in this calibre.

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

CALIBRES AS IT RELATES TO SOR/2020-96

ITEM 87: FIREARMS OF DESIGNS COMMONLY KNOWN AS M16, AR-10, AND AR-15 RIFLES, AND M4 CARBINES

The survey identified 21 previously non-restricted firearms prohibited under the legal authority of Item 87 with one rimfire calibre (22 LR), five centrefire rifle calibres (308 WIN, 5.56MM NATO, 223 REM, 6.5 GRENDDEL, 6.5 CREEDMOOR), and two shotguns (12GA, and .410). Eight of the models identified in the survey were chambered in 12 gauge, five in 308 WIN, three in 5.56MM NATO, three in 22 LR, two in 223 REM, one in 6.5MM GRENDDEL, and one in 6.5MM CREEDMOOR. Hunting cartridges are manufactured in all these rifle calibres (Table 5) and are available in Canada (Table 6). Although shotguns were not specifically assessed, hunting cartridges for 12 gauge and .410 are very common in Canada.

ITEM 88: FIREARMS OF DESIGNS COMMONLY KNOWN AS RUGER MINI-14

The survey identified four previously non-restricted firearms prohibited under the legal authority of Item 88 with five centrefire rifle calibres (222 REM, 223 REM, 5.56MM NATO, 300 AAC BLACKOUT, 7.62x39 RUSSIAN). Three of the four models identified in the survey were chambered in 223 REM, two in 222 REM and 7.62x39 RUSSIAN, and one in each of 5.56MM NATO and 300 AAC BLACKOUT. Hunting cartridges are manufactured in all these calibres (Table 5) and are available in Canada (Table 6).

ITEM 89: FIREARMS OF DESIGNS COMMONLY KNOWN AS THE US RIFLE AND M14

The survey identified 16 previously non-restricted firearms prohibited under the legal authority of Item 89 with five centrefire rifle calibres (222 REM, 223 REM, 5.56MM NATO, 300 AAC BLACKOUT, 7.62x39 RUSSIAN). Eleven of the sixteen models identified in the survey were chambered in 7.62MM NATO, ten in 308 WIN, and one in each of 22-250 and 7.62x39 RUSSIAN. Six of the 11 models chambered in 7.62MM NATO were also available in 308 WIN. Many hunting cartridges are manufactured in all these calibres (7.62MM NATO is limited to one cartridge option from the manufacturers we assessed; Table 5) and are available in Canada (with the exception of the 7.62MM NATO option; Table 6).

ITEM 90: FIREARMS OF DESIGNS COMMONLY KNOWN AS THE VZ58 RIFLE

The survey identified four previously non-restricted firearms prohibited under the legal authority of Item 90 with three centrefire rifle calibres (223 REM, 5.56MM NATO, and 7.62x39 RUSSIAN). All four models identified in the survey were chambered in 7.62x39 RUSSIAN, and one in each of 223 REM and 5.56MM NATO. Many hunting cartridges are manufactured in all these calibres (Table 5) and are available in Canada (Table 6).

ITEM 91: FIREARMS OF DESIGNS COMMONLY KNOWN AS THE ROBINSON ARMAMENT XCR RIFLE

The survey identified three previously non-restricted firearms prohibited under the legal authority of Item 91 with four centrefire rifle calibres (5.56MM NATO, 6.8MM SPC, 7.62x39 RUSSIAN, and 308 WIN). Two of the three models identified in the survey were chambered in 5.56MM NATO and 7.62x39 RUSSIAN, and one in each of 6.8MM SPC and 308 WIN. Many hunting cartridges are manufactured in all these calibres (Table 5) and are available in Canada (Table 6).

ITEM 92: FIREARMS OF DESIGNS COMMONLY KNOWN AS THE CZ SCORPION EVO 3 CARBINE

The survey identified one previously non-restricted firearm prohibited under the legal authority of Item 92 with one centrefire calibre (9MM LUGER). Hunting cartridges are manufactured in this calibre (Table 5) and are available in Canada (Table 6).

ITEM 93: FIREARMS OF DESIGNS COMMONLY KNOWN AS THE BERETTA CX4 STORM CARBINE

The survey identified one previously non-restricted firearm prohibited under the legal authority of Item 93 with one centrefire calibre (9MM LUGER). Hunting cartridges are manufactured in this calibre (Table 5) and are available in Canada (Table 6).

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

ITEM 95: FIREARMS WITH A BORE DIAMETER OF 20MM OR GREATER

While large-bore shotguns (greater than 10-gauge) play a considerable role in the history of hunting, they have become largely obsolete. In most cases, hunting with large-bore shotguns is often specifically prohibited in Canada. For this reason, factory cartridges for these firearms are no longer manufactured or available to hunters.

ITEM 96: FIREARMS CAPABLE OF DISCHARGING A PROJECTILE WITH A MUZZLE ENERGY GREATER THAN 10,000 JOULES

The survey identified 14 previously non-restricted firearms prohibited under the legal authority of Item 96 with five centrefire rifle calibres (50 BMG, 55 BOYS, 416 BARRETT, 460 WBY MAG, 600 NITRO EXPRESS). Eight of the 14 models identified in the survey were chambered in 50 BMG, four in 460 WBY MAG, and one in each of 55 BOYS, 416 BARRETT, and 600 NITRO EXPRESS. No hunting cartridges were available from the manufacturers assessed (although 50 BMG cartridges not targeted towards hunting were available). Hunting cartridges in 460 WBY MAG are available in Canada through Ellwood Epps, but are not produced by one of the five manufacturers assessed. The 600 NITRO EXPRESS was not included in the analysis because there were no cartridge options available through the five manufacturers, or the two retailers assessed. This is because this is one of the rarest of calibres in double rifles, and there are estimated to be at or near 100 in existence. There are no factory cartridges available, and custom loads would be required (and likely expensive). The 416 BARRETT calibre is relatively new and commercial factory loads are not available (beyond Barrett).

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Table 3. Shows rifle cartridges available from five ammunition manufacturers (Barnes, Federal, Hornady, Nosler, Winchester) that indicate a target/application/use related to hunting (on the manufacturer's website or product packaging), as well as indication of availability in Canada at two ammunition retailers, Cabela's Canada (CC) and Ellwood Epps (EE). The target/application/use references are different for each manufacturer: Barnes ammunition use descriptions are limited to the product line. Hornady describes hunting applications as varmint (<50 lbs), medium game (50-300 lbs), large game (300-1500 lbs) and dangerous game. Nosler describes hunting applications as varmint, deer sized game (antelope, deer, hogs, ram), elk/moose sized game (elk, moose), dangerous game (bear, buffalo, lion). Winchester describes specific species for hunting applications.

Calibre	Firearms Prohibited under SOR/2020-96	Ammunition Brand & Product	Target/Application/Use	Available
22 LR	Alberta Tactical Rifle Modern Sporter Mossberg 702 <u>Plinkster</u> Tactical 22 Mossberg 715 Tactical 22	Federal Premium	Small Game/Varmint	
		Federal Small Game	Small Game	
		Winchester Subsonic	Small Game	EE
		Winchester Super X	Small Game	EE
		Winchester Varmint HE	Small Game & Varmint	EE
		Winchester Varmint LF	Small Game & Varmint	
		Winchester Wildcat	Small Game	CC/EE
		Winchester XPERT HV	Small Game & Varmint	
22-250	<u>Norinco</u> 305	Barnes VOR-TX	Hunting (product line)	EE
		Federal American Eagle	Varmint	EE
		Federal Fusion	Medium Game	CC/EE
		Federal Power- <u>Shok</u>	Small Game	
		Federal Premium	Medium Game/Varmint	EE
		Federal Varmint & Predator	Varmint/Predator	
		Hornady American Gunner	Varmint	
		Hornady Black	Varmint	
		Hornady Custom	Medium Game	CC
		Hornady Frontier	Varmint	
		Hornady Full Boar	Medium Game	
		Hornady <u>Superformance</u> Varmint	Varmint	CC
		Hornady Varmint Express	Varmint	CC/EE
		Nosler Ballistic	Varmint	
		Nosler Custom	Varmint/Deer Sized Game	
		Nosler Trophy Grade Varmint	Varmint	CC
		Nosler <u>Varmageddon</u>	Varmint	CC/EE
		Winchester Ballistic Silvertip	Varmint & Predator	EE
		Winchester Super X	Varmint & Predator/Deer & Antelope	EE
		Winchester USA	Varmint	EE
Winchester Varmint X	Varmint & Predator	CC/EE		
222 REM	Ruger - Mini-14 - Mini-14 Ranch Rifle	Federal Premium Varmint & Predator	Varmint	
		Federal Power- <u>Shok</u>	Small game	
		Hornady <u>Superformance</u> Varmint	Varmint	CC/EE
		Nosler <u>Varmageddon</u>	Varmint	EE
		Winchester Super X	Varmint & Predator	EE

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Calibre	Firearms Prohibited under SOR/2020-96	Ammunition Brand & Product	Target/Application/Use	Available
223 REM	Black Creek Labs BCL 102B (SLR Coyote) Maccabee Defense SLR-MULTI Ruger Mini-14 - Ranch Rifle - Ranch Target Rifle Czech Small Arms SA VZ-58 Sporter 223	Barnes VOR-TX	Hunting (product line)	CC
		Federal Fusion	Medium Game	CC/EE
		Federal Power-Shok	Small Game/Medium Game	CC/EE
		Federal Premium	Medium game/Varmint	CC/EE
		Federal Varmint & Predator	Varmint/Predator	EE
		Hornady American Gunner	Varmint	CC
		Hornady Black	Varmint	CC/EE
		Hornady Custom	Varmint	EE
		Hornady Frontier	Varmint	
		Hornady Full Boar	Medium Game	
		Hornady Superformance	Medium Game	CC
		Hornady Superformance Varmint	Varmint	CC/EE
		Hornady Varmint Express	Varmint	CC/EE
		Nosler Varmageddon	Varmint	CC/EE
		Winchester Ballistic Silvertip	Varmint & Predator	EE
		Winchester Deer Season XP	Deer	
Winchester Power Max	Deer & Antelope			
Winchester Super X	Deer & Antelope			
Winchester USA	Varmint & Predator	EE		
Winchester Varmint X	Varmint & Predator	CC/EE		
5.56MM NATO	Alberta Tactical Rifle - Modern Sporter - Modern Varminter Black Creek Labs BCL 102B (SLR Coyote) Ruger Mini-14 Ranch Rifle Czech Small Arms SA VZ-58 Sporter 5.56 Robinson Armament - XCR - XCR-L	Barnes VOR-TX	Hunting (product line)	EE
		Hornady Superformance	Medium game	
		Hornady Frontier	Varmint	
		Nosler Noveske Varmageddon	Varmint	
6.5MM GRENDL	Maccabee Defense SLR-MULTI	Barnes VOR-TX	Hunting (product line)	
		Federal Fusion	Medium Game	EE
		Hornady Custom	Medium Game	EE
		Hornady Frontier	Varmint	
		Nosler Ballistic Tip	Deer Sized Game	
		Nosler Trophy Grade	Deer Sized Game	
		Nosler Varmageddon	Varmint	

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Calibre	Firearms Prohibited under SOR/2020-96	Ammunition Brand & Product	Target/Application/Use	Available
6.8MM SPC	Robinson Armament XCR-L	Federal American Eagle Varmint & Predator	Varmint	
		Federal Fusion	Medium Game	EE
		Hornady American Gunner	Varmint	EE
		Hornady Black	Varmint	
		Hornady Custom	Medium Game	EE
		Hornady Full Boar	Medium Game	
		Hornady Varmint Express	Medium Game	EE
300 AAC BLACKOUT	Ruger Mini-14 Ranch Rifle	Barnes VOR-TX	Hunting (product line)	EE
		Federal Fusion	Medium Game	
		Federal Power-Shok	Medium Game	CC
		Hornady American Gunner	Varmint	EE
		Hornady Black	Varmint	
		Hornady Custom	Medium Game/Varmint	
		Hornady Frontier	Varmint	EE
		Hornady Full Boar	Medium Game	EE
		Hornady Subsonic	Medium Game	
		Hornady Superformance	Medium Game/Large Game	
		Nosler Ballistic Tip	Deer Sized Game	
		Nosler E-tip	Deer Sized Game	
		Nosler Varmageddon	Varmint	EE
		Winchester Deer Season	Deer	
Winchester Super X	Predators & Varmint			
7.62x39 RUSSIAN	Ruger - Mini-14 Ranch Rifle - Mini Thirty <u>Norinco 305A</u> CZ - CZ958 Hunter - CZ858 Tactical-2 Czech Small Arms SA VZ-58 Sporter 7.62 Kodiak Defense WR762 Robinson Armament - XCR - XCR-L	Federal Fusion	Medium Game	CC/EE
		Federal Power-Shok	Medium Game	CC
		Hornady Black	Medium Game/Varmint	CC
		Nosler Ballistic Tip	Deer Sized Game	EE
		Nosler E-tip	Deer Sized Game	
		Nosler Varmageddon	Varmint	EE
		Winchester Super X	Deer & Wild Boar	CC/EE
6.5MM CREEDMOOR	Stag Arms Stag-10	Barnes VOR-TX	Hunting (product line)	EE
		Federal Buckmaster	Big Game	
		Federal Fusion	Medium Game	CC
		Federal Non-Typical	Whitetail Deer	CC
		Federal Power-Shok	Medium Game	EE
		Federal Premium	Big Game/Medium Game	CC/EE
		Federal Varmint & Predator	Varmint/Predator	CC/EE

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Calibre	Firearms Prohibited under SOR/2020-96	Ammunition Brand & Product	Target/Application/Use	Available
6.5MM CREEDMOOR (cont'd)	Stag Arms Stag-10	Hornady American Gunner	Varmint	EE
		Hornady American Whitetail	Medium Game	EE
		Hornady Black	Varmint/Medium Game	
		Hornady Custom International	Medium Game	EE
		Hornady Full Boar	Medium Game/Large Game	EE
		Hornady Outfitter	Medium Game/Large Game	
		Hornady Precision Hunter	Medium Game/Large Game	CC/EE
		Hornady <u>Superformance</u>	Medium Game/Large Game	CC/EE
		Hornady Varmint Express	Varmint	EE
		Nosler Ballistic Tip	Deer Sized Game	CC
		Nosler E-tip	Deer Sized Game	
		Nosler Trophy Grade	Deer Sized Game	CC/EE
		Winchester Ballistic Silvertip	Deer, Antelope & Black Bear	
		Winchester Deer Season	Deer	CC
		Winchester Expedition Big Game Long Range	Big Game	
308 <u>WIN</u>	Alberta Tactical Rifle Modern Hunter Black Creek Labs BCL 102B (MK7) Stag Arms - Stag-10 - Stag-10S Troy Defense Troy 102 Norinco - M305 - 305 - M14 Semi-automatic Poly Technologies M305 Springfield Armory - US Rifle M1A - US Rifle M1A Loaded - US Rifle M1A National Match - US Rifle M1A SOCOM 2 - US Rifle M1A-A1 Scout Rifle Robinson Armament XCR-L	Barnes VOR-TX	Hunting (product line)	CC/EE
		Federal Buckmaster	Big Game	
		Federal Fusion	Medium Game	CC/EE
		Federal Non-Typical	Whitetail Deer	CC
		Federal Power- <u>Shok</u>	Medium Game	CC/EE
		Federal Premium	Big Game/Medium Game	CC/EE
		Federal Varmint & Predator	Varmint/Predator	CC/EE
		Hornady American Gunner	Varmint	EE
		Hornady American Whitetail	Medium Game/Large Game	CC/EE
		Hornady Black	Medium Game/Varmint	EE
		Hornady Custom	Medium Game/Large Game	CC
		Hornady Custom International	Medium Game/Large Game/Dangerous Game	EE
		Hornady Custom Lite	Medium Game	EE
		Hornady Full Boar	Medium Game/Large Game	
		Hornady Precision Hunter	Medium Game/Large Game	CC
		Hornady <u>Superformance</u>	Medium Game/Large Game	CC/EE
		Hornady Varmint Express	Varmint	CC
		Nosler Ballistic Tip	Deer Sized Game	EE
		Nosler E-tip	Deer Sized Game	
		Nosler Trophy Grade	Deer Sized Game	CC
		Nosler <u>Varmageddon</u>	Varmint	
		Winchester Ballistic Silvertip	Deer, Antelope & Black Bear	
		Winchester Deer Season XP	Deer	
		Winchester Power Max	Deer, Antelope & Black Bear	
		Winchester Super X	Deer, Antelope & Wild Boar	CC/EE
		Winchester XP3	Deer, Antelope & Black Bear	EE

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Calibre	Firearms Prohibited under SOR/2020-96	Ammunition Brand & Product	Target/Application/Use	Available
7.62MM NATO	Dominion Arms <u>Socom</u> 18	Nosler <u>Noveske</u> Ballistic Tip	Deer Sized Game	
	LRB Arms M14SA US Rifle <u>Norinco</u> - M305 - 305 - M14 Semi-automatic Poly Technologies M305 Smith Enterprises US Rifle M14 Springfield Armory - US Rifle M1A - US Rifle M1A Super Match - US Rifle M1A-A1 Scout Rifle - US Rifle M25			
9MM LUGER	Beretta Cx4 Storm CZ Scorpion EVO 3 S1 Carbine	Hornady American Gunner	Varmint	CC
		Hornady Black	Varmint	
		Hornady Custom	Varmint	
		Hornady Subsonic	Varmint	EE
460 WBY MAG	CZ CZ550 Safari Classic Magnum	Weatherby	Dangerous Game	EE
	Ruger No 1 Weatherby - Mark V - Classic Mark			

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Table 4. Shows the number of hunting cartridge products produced by five ammunition manufacturers (Barnes, Federal, Hornady, Nosler, Winchester) and the availability in Canada at two ammunition retailers, Cabela's Canada and Ellwood Epps. The TOTAL Products Available represents the number of products available between the two retailers (i.e., the same product may be available at both retailers, so the totals may not be a sum of the individual retailer numbers).

Calibre	Firearms Prohibited under SOR/2020-96	Manufacturer	Products Produced	Retailer	Products Available
22 LR	Alberta Tactical Rifle Modern Sporter Mossberg 702 Plinkster Tactical 22 Mossberg 715 Tactical 22	Barnes	0	Cabela's	1
		Federal	2	Ellwood Epps	4
		Hornady	0	TOTAL Available in Canada	4 (50%)
		Nosler	0		
		Winchester	6		
		TOTAL	8		
22-250	Norinco 305	Barnes	0	Cabela's	7
		Federal	5	Ellwood Epps	9
		Hornady	7	TOTAL Available in Canada	12 (60%)
		Nosler	4		
		Winchester	4		
		TOTAL	20		
222 REM	Ruger - Mini-14 - Mini-14 Ranch Rifle	Barnes	0	Cabela's	1
		Federal	2	Ellwood Epps	3
		Hornady	1	TOTAL Available in Canada	3 (60%)
		Nosler	1		
		Winchester	1		
		TOTAL	5		
223 REM	Black Creek Labs BCL 102B (SLR Coyote) Maccabee Defense SLR-MULTI Ruger Mini-14 - Ranch Rifle - Ranch Target Rifle Czech Small Arms SA VZ-58 Sporter 223	Barnes	1	Cabela's	11
		Federal	4	Ellwood Epps	12
		Hornady	8	TOTAL Available in Canada	15 (75%)
		Nosler	1		
		Winchester	6		
		TOTAL	20		
5.56 NATO	Alberta Tactical Rifle - Modern Sporter - Modern Varminter Black Creek Labs BCL 102B (SLR Coyote) Ruger Mini-14 Ranch Rifle Czech Small Arms SA VZ-58 Sporter 5.56 Robinson Armament - XCR - XCR-L	Barnes	1	Cabela's	0
		Federal	0	Ellwood Epps	1
		Hornady	2	TOTAL Available in Canada	1 (25%)
		Nosler	1		
		Winchester	0		
		TOTAL	4		

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Calibre	Firearms Prohibited under SOR/2020-96	Manufacturer	Products Produced	Retailer	Products Available
6.5MM GRENDL	Maccabee Defense SLR-MULTI	Barnes	1	Cabela's	0
		Federal	1	Ellwood Epps	2
		Hornady	2	TOTAL Available in Canada	2 (29%)
		Nosler	3		
		Winchester	0		
		TOTAL	7		
6.8MM SPC	Robinson Armament XCR-L	Barnes	0	Cabela's	0
		Federal	2	Ellwood Epps	4
		Hornady	5	TOTAL Available in Canada	4 (57%)
		Nosler	0		
		Winchester	0		
		TOTAL	7		
300 AAC BLACKOUT	Ruger Mini-14 Ranch Rifle	Barnes	1	Cabela's	1
		Federal	2	Ellwood Epps	5
		Hornady	6	TOTAL Available in Canada	6 (43%)
		Nosler	3		
		Winchester	2		
		TOTAL	14		
7.62x39 RUSSIAN	Ruger - Mini-14 Ranch Rifle - Mini Thirty Norinco 305A CZ - CZ958 Hunter - CZ858 Tactical-2 Czech Small Arms SA VZ-58 Sporter 7.62 Kodiak Defense WR762 Robinson Armament - XCR - XCR-L	Barnes	0	Cabela's	4
		Federal	2	Ellwood Epps	3
		Hornady	1	TOTAL Available in Canada	6 (86%)
		Nosler	3		
		Winchester	1		
		TOTAL	7		
6.5 CREEDMOOR	Stag Arms Stag-10	Barnes	1	Cabela's	9
		Federal	6	Ellwood Epps	12
		Hornady	9	TOTAL Available in Canada	16 (73%)
		Nosler	3		
		Winchester	3		
		TOTAL	22		

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Calibre	Firearms Prohibited under SOR/2020-96	Manufacturer	Products Produced	Retailer	Products Available
308 WIN	Alberta Tactical Rifle Modern Hunter	Barnes	1	Cabela's	13
	Black Creek Labs BCL 102B	Federal	6	Ellwood Epps	14
	Stag Arms	Hornady	10	TOTAL Available in Canada	19 (86%)
	- Stag-10	Nosler	4		
	- Stag-10S	Winchester	5		
	Troy Defense Troy 102	TOTAL	26		
	Norinco				
	- M305				
	- 305				
	- M14 Semi-automatic				
Poly Technologies M305					
Springfield Armory					
- US Rifle M1A					
- US Rifle M1A Loaded					
- US Rifle M1A National Match					
- US Rifle M1A SOCOM 2					
- US Rifle M1A-A1 Scout Rifle					
Robinson Armament XCR-L					
7.62MM NATO	Dominion Arms Socom 18	Barnes	0	Cabela's	0
	LRB Arms M14SA US Rifle	Federal	0	Ellwood Epps	0
	Norinco	Hornady	0	TOTAL Available in Canada	0 (0%)
	- M305	Nosler	1		
	- 305	Winchester	0		
	- M14 Semi-automatic	TOTAL	1		
	Poly Technologies M305				
Smith Enterprises US Rifle M14					
Springfield Armory					
- US Rifle M1A					
- US Rifle M1A Super Match					
- US Rifle M1A-A1 Scout Rifle					
US Rifle M25					
9MM LUGER		Barnes	0	Cabela's	1
		Federal	0	Ellwood Epps	1
	Beretta Cx4 Storm	Hornady	4	TOTAL Available in Canada	2 (50%)
	CZ Scorpion EVO 3 S1 Carbine	Nosler	0		
		Winchester	0		
		TOTAL	4		

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Calibre	Firearms Prohibited under SOR/2020-96	Manufacturer	Products Produced	Retailer	Products Available
460 WBY MAG	CZ CZ550 Safari Classic Magnum Ruger No 1 Weatherby - Mark V - Classic Mark	Barnes	0	Cabela's	0
		Federal	0	Ellwood Epps	1
		Hornady	0	TOTAL Available in Canada	1* (0%)
		Nosler	0		
		Winchester	0		
		TOTAL	0		
TOTAL		Barnes	6	Cabela's	48 (33%)
		Federal	32	Ellwood Epps	71* (48%)
		Hornady	55	TOTAL	90 (62%)
		Nosler	24		
		Winchester	28		
		TOTAL	145		
AVERAGE (per calibre)		Barnes	0.4	Cabela's	3.4
		Federal	2.3	Ellwood Epps	5.1*
		Hornady	3.9	TOTAL	6.5
		Nosler	1.7		
		Winchester	2.0		
		TOTAL	2.1		

* includes a product not produced by one of the five assessed manufacturers

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Table 5. Availability of hunting cartridges for the five ammunition manufacturers examined and total number available to hunters by calibre.

Calibre	Manufacturer	Hunting Cartridge Available
22 LR	Barnes	No
	Federal	Yes
	Hornady	No
	Nosler	No
	Winchester	Yes
NO. WITH HUNTING CARTRIDGE AVAILABLE		2
22-250	Barnes	No
	Federal	Yes
	Hornady	Yes
	Nosler	Yes
	Winchester	Yes
NO. WITH HUNTING CARTRIDGE AVAILABLE		4
222 REM	Barnes	No
	Federal	Yes
	Hornady	Yes
	Nosler	Yes
	Winchester	Yes
NO. WITH HUNTING CARTRIDGE AVAILABLE		4
223 REM	Barnes	Yes
	Federal	Yes
	Hornady	Yes
	Nosler	Yes
	Winchester	Yes
NO. WITH HUNTING CARTRIDGE AVAILABLE		5
5.56 NATO	Barnes	Yes
	Federal	No
	Hornady	Yes
	Nosler	Yes
	Winchester	No
NO. WITH HUNTING CARTRIDGE AVAILABLE		3
6.5MM GRENDEL	Barnes	Yes
	Federal	Yes
	Hornady	Yes
	Nosler	Yes
	Winchester	No
NO. WITH HUNTING CARTRIDGE AVAILABLE		4

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Calibre	Manufacturer	Hunting Cartridge Available
6.8MM SPC	Barnes	No
	Federal	Yes
	Hornady	Yes
	Nosler	No
	Winchester	No
NO. WITH HUNTING CARTRIDGE AVAILABLE		2
300 AAC BLACKOUT	Barnes	Yes
	Federal	Yes
	Hornady	Yes
	Nosler	Yes
	Winchester	Yes
NO. WITH HUNTING CARTRIDGE AVAILABLE		5
7.62x39 RUSSIAN	Barnes	No
	Federal	Yes
	Hornady	Yes
	Nosler	Yes
	Winchester	Yes
NO. WITH HUNTING CARTRIDGE AVAILABLE		4
6.5 CREEDMOOR	Barnes	Yes
	Federal	Yes
	Hornady	Yes
	Nosler	Yes
	Winchester	Yes
NO. WITH HUNTING CARTRIDGE AVAILABLE		5
308 <u>WIN</u>	Barnes	Yes
	Federal	Yes
	Hornady	Yes
	Nosler	Yes
	Winchester	Yes
NO. WITH HUNTING CARTRIDGE AVAILABLE		5
7.62MM NATO	Barnes	No
	Federal	No
	Hornady	No
	Nosler	Yes
	Winchester	No
NO. WITH HUNTING CARTRIDGE AVAILABLE		1

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Calibre	Manufacturer	Hunting Cartridge Available
9MM LUGER	Barnes	No
	Federal	No
	Hornady	Yes
	Nosler	No
	Winchester	No
NO. WITH HUNTING CARTRIDGE AVAILABLE		1
460 WBY MAG	Barnes	No
	Federal	No
	Hornady	No
	Nosler	No
	Winchester	No
NO. WITH HUNTING CARTRIDGE AVAILABLE		0
TOTAL Number of Calibres with a Hunting Cartridge Available	Barnes	6 (43%)
	Federal	10 (71%)
	Hornady	11 (79%)
	Nosler	10 (71%)
	Winchester	8 (57%)
		13
	TOTAL (All manufacturers)	(93%)
TOTAL Number of Calibres with a Hunting Cartridge Available by the number	Five manufacturers	4
	Four manufacturers	4
	Three manufacturers	1
	Two manufacturers	2
	One manufacturer	2
	Zero manufacturers	1
	AVERAGE No. of manufacturers per calibre	3.2

ANALYSIS OF HUNTING APPLICATIONS BASED ON CALIBRE AND AVAILABILITY IN CANADA CONT.

Table 5. Availability of hunting cartridges for the five ammunition manufacturers examined and total number available to hunters by calibre.

Calibre	Retailer	Products Available
22 LR	Cabela's	Yes
	Ellwood Epps	Yes
22-250	Cabela's	Yes
	Ellwood Epps	Yes
222 REM	Cabela's	Yes
	Ellwood Epps	Yes
223 REM	Cabela's	Yes
	Ellwood Epps	Yes
5.56 NATO	Cabela's	No
	Ellwood Epps	Yes
6.5MM GRENDL	Cabela's	No
	Ellwood Epps	Yes
6.8MM SPC	Cabela's	No
	Ellwood Epps	Yes
300 AAC BLACKOUT	Cabela's	Yes
	Ellwood Epps	Yes
7.62x39 RUSSIAN	Cabela's	Yes
	Ellwood Epps	Yes
6.5 CREEDMOOR	Cabela's	Yes
	Ellwood Epps	Yes
308 WIN	Cabela's	Yes
	Ellwood Epps	Yes
7.62MM NATO	Cabela's	No
	Ellwood Epps	No
9MM LUGER	Cabela's	Yes
	Ellwood Epps	Yes
460 WBY MAG	Cabela's	No
	Ellwood Epps	Yes
TOTAL CALIBRES AVAILABLE		9
	Cabela's	(64%)
	Ellwood Epps	13 (93%)
	TOTAL (at least one retailer)	13 (93%)

REASONABLE AND PROPORTIONATE FIREARMS FOR HUNTING IN CANADA

WHAT IS “REASONABLE AND PROPORTIONATE” FOR HUNTING

There are no straightforward criteria or metrics to make determinations of what firearms are reasonable and proportionate for hunting in Canada. We need to start by defining hunting in the Canadian context to situate firearm use in what are normal hunting practices.

WHAT MAKES A FIREARM REASONABLE AND PROPORTIONATE FOR HUNTING?

Hunting in its broadest and simplest form is relatively easy to define as ‘the pursuit of game’. To provide the resolution required to determine whether a firearm is appropriate and proportionate for a given use, hunting must be examined in a more comprehensive way. When we ‘look under the hood’, we find considerable variability in how firearms relate to hunting.

Geography and terrain, personal interests and opportunities, traditions and experiences, target species and tactics used, and many other factors influence individual hunter requirements. It is not sufficient to look through the single lens of an individual hunter or even group of hunters because, in almost all cases, it will be too narrow to represent the entire spectrum of hunting in Canada. What is perceived to be adequate for one individual may not be for others, so it is critical to look at the entirety of potential hunting applications to truly determine what firearms are reasonable and proportionate for hunting in Canada.

The challenges of determining reasonableness due to variability in hunting and hunter perspectives are compounded significantly by the fact that the firearm itself is not the only factor to consider. There are many factors beyond the firearm that must be considered. The characteristics of available cartridges and the combined effect of the cartridge and the firearm together can be arguably more influential in determining what is reasonable for hunting than the firearm itself.

There is no one feature (action, calibre, barrel length, weight, etc.) that can be used to determine whether it is reasonable and proportionate for hunting. A certain calibre may be considered to be too much or too little for a certain hunting application, but appropriate and even common for another. A firearm that may be considered too heavy to carry for a backcountry mountain hunt may be appropriate for hunting in an open environment where it is not required to be carried very far.

CONCLUSION: *The spectrum of hunting applications is broad and overlapping, and therefore, the criteria to determine what firearms are reasonable and proportionate for hunting must be proportionally broad to encompass all legal hunting activities in Canada.*

HISTORICAL USE VS. MODERN RELEVANCE OF FIREARMS FOR HUNTING IN CANADA

There are also some SOR/2020-96 prohibited firearms, namely large bore shotguns and rifles, that have a history of use for hunting in Canada, but have limited modern use today.

CONSERVATION PRINCIPLES & RESPONSIBLE HUNTING AS A DETERMINANT FOR WHAT IS REASONABLE AND PROPORTIONATE FOR HUNTING

Our understanding of wildlife management has evolved substantially since the 19th century and hunting regulations were at the core of this modern conservation movement now referred to as the North American Model of Wildlife Conservation (NAMWC). The establishment of conservation principles to guide wildlife management has resulted in restrictions on firearm use and offer some insight for what is reasonable for hunting in Canada.

For example, hunters are not permitted to use a shotgun larger than 10-gauge to hunt migratory birds anywhere in Canada, and Alberta has the same gauge-restriction applying to all wildlife. These government regulations are well established and the specific rationale for limiting gauge size are not always clear, but are generally attempting to...

REASONABLE AND PROPORTIONATE FIREARMS FOR HUNTING IN CANADA CONT.

CONSERVATION PRINCIPLES & RESPONSIBLE HUNTING AS A DETERMINANT FOR WHAT IS REASONABLE AND PROPORTIONATE FOR HUNTING CONT.

...eliminate the large and non-discriminatory pattern size created by the largest bore diameter firearms. These large-bore shotguns were largely used for hunting birds in the late nineteenth century, and commonly used for market hunting. The largest bore shotguns were often mounted on small boats (punts) and are commonly referred to as 'punt guns'.

These firearms, when loaded with shot, have the potential to bring down dozens of birds with a single firing into a raft or flock of waterfowl. This strategy is not consistent with the modern harvest limits that are the backbone for the NAMWC and modern wildlife harvest management. Not only would it be difficult to control the number of birds harvested, but a flock of waterfowl may have multiple species, some of which are not legal to harvest (or have small harvest limits). In addition to conservation principles, these firearms are not consistent with the modern responsible hunting practice of 'knowing your target' that is foundational knowledge taught to new hunters through mandatory hunter education training.

It is difficult to draw a hard line because the load (shot and powder charge) can influence the pattern and range of the shot and may be reasonable and proportionate under the right circumstances (number of targets, range, etc.). It is generally accepted that 10-gauge and smaller shotguns loaded with shot are appropriate for hunting in Canada.

Note: For the purposes of this discussion, a firearm being consistent with conservation principles refers primarily to the purpose of the firearm and not the choices made by a hunter. In other words, a hunter could use any firearm to hunt illegally (e.g., harvest beyond legal limits), but for a firearm to be not consistent with conservation it would mean that its purpose is to 'overharvest' by modern conservation principles.

CONCLUSION: *There are very few conservation-related firearm restrictions; however, the challenges in adhering to conservation and responsible hunting practices with the largest bore firearms loaded with shot (i.e., shotguns larger than 10-gauge) make them unreasonable and disproportionate for modern hunting in Canada.*

OBSOLETION AS A DETERMINANT FOR WHAT IS REASONABLE AND PROPORTIONATE FOR HUNTING

Aside from the elimination of market hunting and establishment of modern responsible hunting practices, technology advancements in the effectiveness of firearms, calibres, and cartridges at the turn of the nineteenth century favoured smaller gauges and made many large-bore shotguns obsolete.

During the second half of the nineteenth-century large-bore firearms were also used with a solid projectile in dangerous game hunting in Africa, India, and elsewhere. Sometimes referred to as 'elephant guns,' these firearms were often 4, 6, and 8 bore. Many of the early large-bore 'elephant guns' were muzzle-loaded with black powder and were replaced by breech-loaded smokeless powder cartridges like the Nitro Express (and others in turn), which have made them largely obsolete from a hunting perspective.

Although not commonly used or practical for many modern hunting applications in Canada, the characteristics of large bore firearms designed to fire a single projectile do not make it 'unreasonable' for hunting use unless specifically prohibited by a jurisdiction. Unlike large-bore firearms loaded with shot, using a single projectile for hunting applications does not have the same conservation-based concerns of knowing your target and potential to harvest large numbers of wildlife with a single shot. This example illustrates the versatility of firearms and the potential for different hunting applications (which has increased dramatically since large-bore firearms were commonly used) and emphasizes the inappropriateness of discussing reasonableness for hunting based on firearm characteristics alone.

'Elephant guns' are no longer manufactured (at least at a commercial scale), commercial factory ammunition is not available, and many are rare (considered to be collector's items). For these reasons, they are seldom used for modern hunting, but many remain reasonable and proportionate for certain hunting applications. Like most other aspects of our modern world, the latest and greatest technological advances are quickly replaced. Not unlike VCRs that were once the gold standard for video, firearm technology has changed many times over the years, and many people continue

to own and use older technology even as it becomes harder to find the VHS tapes for VCRs or older calibre ammunition for firearms.

CONCLUSION: *Some firearm-types and many models may be considered obsolete for hunting because better models that improve performance, functionality, handling, and/or durability are available; however, the original firearm may remain completely reasonable, and even common for hunting, particularly if it is chambered for a modern calibre that continues to have factory cartridges available.*

REASONABLE AND PROPORTIONATE FIREARMS FOR HUNTING IN CANADA CONT.

TRADITION CAN STILL TRUMP TECHNOLOGY IN MODERN HUNTING IN CANADA

Hunting is an activity that is heavily steeped in heritage and tradition, and 60-year, 80-year, and century-old firearms maintain modern relevance and are commonly used in Canada. These firearms may not have all, or even any, of the advanced technology available in today's firearms that have replaced them, but they have nostalgic and heritage appeal that cannot be replaced by even the greatest advancements in technology. For the purposes of this section, 'older firearms' are limited to those chambered in modern calibres and have factory cartridges available to hunters (i.e., not necessarily obsolete).

It may be surprising to a fellow hunter or a non-hunting observer as to why someone would continue to use an older and seemingly obsolete firearm, especially if it is heavier than similar models, has relatively unmitigated recoil, limited choke options, or any other firearm features considered to be inferior by today's standards; however, tradition, heritage, cost of upgrading, and resistance to change are significant factors in hunters continuing to use older models that are considered inferior or even obsolete.

CONCLUSION: *If the functional characteristics of the firearm remain consistent with conservation principles and responsible hunting practices, then older firearms with inferior design and features can remain reasonable and proportionate for modern hunting in Canada long after technology and market standards have surpassed them.*

MODERN APPLICATIONS BEYOND HUNTING IN CANADA

Some firearms and cartridges are rarely manufactured, and often do not have hunting applications in the modern era but are important to collectors and for education about the history of wildlife management (e.g., museums), as well for other modern uses beyond hunting (e.g., 8 bore firearms are used in industrial applications). These considerations are beyond the scope of this report.

FIREARM DESIGNS, CHARACTERISTICS, AND USES THAT DETERMINE WHAT IS REASONABLE AND PROPORTIONATE

As this report has indicated, there are firearms that are not appropriate for hunting for legal reasons (e.g., handguns), conservation reasons, responsible hunting reasons, or a combination of factors (e.g., automatic actions). Of those remaining shoulder-firearms available for hunting based on classification status, there are limited conservation and safety-related limitations, meaning that most are reasonable and proportionate for hunting in Canada.

There is no such thing as a 'hunting firearm'. Some may be designed and marketed for hunting, and/or look like traditional firearms used for hunting because of the style, construction materials, or even camouflage stocks, but the function of those firearms are rarely limited to a single hunting application, or even to hunting in general. Firearms primarily used for hunting, are frequently used for plinking, shooting at the range, or even competition. The type, style, action, calibre, and other features of hunting firearms are often more similar than different across firearm-related activities.

This report has detailed why the spectrum of what is reasonable and proportionate for hunting is quite broad and labelling 'hunting firearms' from a basic functional perspective is extremely challenging. There are considerations that may make a certain firearm more preferred for a particular hunting activity. These considerations are based on the performance for that activity, as well as practicality (which can also impact performance).

PRACTICAL HUNTING VS. REASONABLE HUNTING

The reasonableness of a firearm for hunting is dependent on many factors and individual hunters may have very different perspectives of what is reasonable and proportionate based on a unique set of personal considerations. The different viewpoints also result from conflation between what is practical and what is reasonable or disproportionate for hunting. What a hunter is willing to spend, weight they will carry, recoil they are comfortable with, will all vary dramatically across the hunting community and contribute to seemingly opposing viewpoints.

REASONABLE AND PROPORTIONATE FIREARMS FOR HUNTING IN CANADA CONT.

PRACTICAL HUNTING VS. REASONABLE HUNTING

Using the list of 64 previously non-restricted firearms that have been the focus of this report, the models chambered for 50 BMG would be considered by most to be an outlier when it comes to hunting use. Although some of the 50 BMG models were identified as having hunting applications, only two of the eight models had hunting identified as a primary use. This is lower than all other types of firearms identified through the survey. This does not, however, mean that they are unreasonable for hunting. In most cases they are not practical for hunting because of their cost (upwards of \$15,000 CAD) and weight (averaging close to 30 lbs). The calibre of the bullet is slightly larger than others used for hunting like modern muzzleloading firearms, 460 WBY, and .45-70. The big difference is muzzle energy (the characteristic that is being used to restrict 50 BMG calibre firearms under SOR/2020-96) and the energy it maintains down range, which makes for a much higher maximum (and effective) range than other firearms used for hunting. This may appear like a safety concern; however, the maximum range, and even effective range, of common calibres like 308 WIN and .30-06 far exceed average practical hunting ranges based on terrain, hunter shooting abilities, and other factors.

A 50 BMG calibre firearm may not be affordable, practical, or preferred by most hunters, but if used in a practical setting (i.e., does not need to be carried far or held while shooting) it could be used for hunting. Although the 50 BMG is a relative outlier for muzzle energy and many would describe it as ‘overkill’ for many hunting applications, it demonstrates the challenges of determining thresholds for what is reasonable and proportionate for hunting using single ballistic characteristics.

CONCLUSION: *While most 50 BMG firearms are not practical for many hunting applications, they are not necessarily unreasonable if someone is using it to hunt in a way where the weight and size issues are mitigated.*

FIREARM-TYPES AS A DETERMINANT OF WHAT IS REASONABLE AND PROPORTIONATE FOR HUNTING

Given the variability in hunting activities and considerations for selecting a firearm for a given hunting application, firearm-type is not an appropriate criterion for determining what is reasonable and proportionate. A type of firearm (e.g., M16-type) does not provide enough resolution to determine if a firearm is reasonable for hunting. SOR/2020-96 prohibited nine categories of firearms based on principal models. The actions of these firearms are all semi-automatic, which have been used extensively in hunting rifles and shotguns since they were introduced. The SOR/2020-96 prohibited firearms are chambered in 13 different calibres that are all produced in cartridges that have loads consistent with what is commonly used for hunting various species. The SOR/2020-96 prohibited firearm models all have options for barrel lengths consistent with other firearms commonly used for hunting in Canada. The weight and overall size of the firearms are similar to other hunting firearms. Many SOR/2020-96 prohibited firearms accept detachable magazines, which is common for many firearms used for hunting in Canada. The firearms also tend to be constructed to high specifications and can take the ‘abuse’ of being used in the field and during severe environmental conditions.

CONCLUSION: *While most 50 BMG firearms are not practical for many hunting applications, they are not necessarily unreasonable if someone is using it to hunt in a way where the weight and size issues are mitigated.*

FIREARM MODEL AS A DETERMINANT OF WHAT IS REASONABLE AND PROPORTIONATE FOR HUNTING

MANUFACTURER-IDENTIFIED HUNTING PURPOSES

Not all models of firearms prohibited under SOR/2020-96 are still manufactured. Of the models that are still manufactured, many have specific references to hunting applications through naming, as well as descriptions and marketing. For example, two Canadian companies, Alberta Tactical Rifle and Black Creek Labs, specifically target hunters. The Alberta Tactical Rifle Modern Hunter and Modern Varminter models target hunters directly in the name of the firearm, whereas the Black Creek Labs SLR Coyote uses the tagline “Canada’s small caliber hunting and sport shooting rifle”. Many of the other firearms make reference to hunting applications in the descriptions of their firearms (e.g., the Beretta Cx4 Storm references “varminting” as a use of the firearm). In other cases, the manufacturer makes suggestions for what models are used for hunting through a ‘firearm selector’ tool on their website (e.g., Springfield Armory M1A series rifles).

REASONABLE AND PROPORTIONATE FIREARMS FOR HUNTING IN CANADA CONT.

FIREARM CHARACTERISTICS AS DETERMINANTS OF WHAT IS REASONABLE AND PROPORTIONATE FOR HUNTING

This report has outlined the factors that contribute to firearm selection for the purposes of hunting. The following summarizes the features and functions of a firearm to provide perspectives on the appropriateness of using them for hunting.

APPEARANCE AND DESIGN

The appearance of a firearm is often determined by the overall design elements (e.g., split receiver) and accessories (e.g., grips). The appearance commonly leads to perceptions about whether it can or should be used for an activity, but it cannot be used to determine whether it is reasonable or proportionate for hunting.

Many of the SOR/2020-96 prohibited firearms have modular designs that allow for the addition of accessories and upgrades that are often considered to be military-style and/or not traditionally used for hunting. No 'design' features of these prohibited firearms, including an AR-style split receiver system that were non-restricted under the pre-SOR/2020-96 classification process, make them unreasonable or disproportionate for hunting. The RCMP used a series of tests to determine non-restricted classification status. Some firearms have been designed to achieve an AR-style modularity, but were careful to avoid features (e.g., barrel length shorter than 18.5" for semi-automatic centrefire rifles) and functionality (e.g., ability to mate with AR receivers) that would result in restricted classification and make them unavailable for hunting in Canada.

CONCLUSION: *Design and style of firearm is not sufficient to determine what is reasonable and proportionate for hunting. Design functionality must be carefully considered to determine what firearms are reasonable and proportionate for hunting in Canada.*

FUNCTIONALITY

The operating system of the firearm, particularly the receiver, is important for determining the functionality and practical applications for hunting in Canada. This includes the action type, chamber volume, and calibre, but barrel characteristics, magazine, and cartridges used will also contribute to the performance of the firearms and how they can be used for different hunting activities. As outlined throughout this report, the large majority of non-restricted firearm features as determined by the RCMP prior to SOR/2020-96, are reasonable for hunting when examined in isolation. However, the reasonableness of firearms for hunting can only be determined by examining the sum of their parts.

Some features and functionality are already not permitted for hunting through classification, most notably the pre-SOR/2020-96 prohibitions on fully automatic actions, as well as restrictions on barrel length and magazine capacity. It is important to note that some firearm features (e.g., barrel length) that resulted in restricted or prohibited classification prior to SOR/2020-96 are considered reasonable for hunting, but are not available because only non-restricted firearms are available for hunting (i.e., firearms available for hunting are determined by classification, but classification is not determined by reasonableness for hunting).

CONCLUSION: *The functionality of the firearm is directly related to potential hunting applications. When considered in isolation, the design features of non-restricted firearms (available for hunting) are almost all, if not all, reasonable and proportionate for hunting; however, it is the combined functional design elements that will ultimately determine appropriateness for different hunting application.*

USEABILITY

The size and weight, as well as the fit and ergonomics play an important role in the handling performance and hunting applications it can be used for. The materials used and quality of construction, adjustable features, ease and speed of cycling rounds, recoil management, ability to withstand harsh environmental conditions, and downrange accuracy are all 'usability' features that drive hunter selection of firearms.

CONCLUSION: *The usability of a firearm is a very important consideration for hunting applications. The characteristics of a firearm that influence usability will be different based on the specific hunting activity.*

REASONABLE AND PROPORTIONATE FIREARMS FOR HUNTING IN CANADA CONT.

PERFORMANCE

The performance of a firearm is a function of its design and features and any upgrades that are added (e.g., after-market triggers, optics). The firearm design and features influencing performance are described in the functionality section above, including calibre. While calibre/gauge can influence performance objectives (range, accuracy, velocity, etc.) desired by hunters, there are many other factors beyond the firearm itself that contribute to terminal ballistics that are important in hunting. Due to the influence of cartridge selection on overall performance, it is described in more detail in the following section.

CONCLUSION: *The performance of a firearm is important in firearm selection for hunting, but there are many contributing factors beyond the firearm itself that must be considered.*

CALIBRE AND CARTRIDGE AS A DETERMINANT OF WHAT IS REASONABLE AND PROPORTIONATE FOR HUNTING

Hunted species in Canada come in all shapes and sizes, and require different calibres/gauges and cartridges to successfully hunt them. This creates a wide spectrum of calibres used for hunting, from small calibre rimfire to much larger calibre centrefire rifles and large gauge shotguns. Cartridges designed for hunting for most of these calibres are produced commercially and widely available in Canada. Each calibre has a range of hunting applications, but there is considerable overlap between them. The spectrum of hunting applications for a given calibre are a function of the size of the animal being hunted and the distance to the target, but the cartridge used can also play an important role. Some calibres are associated with, and preferred for certain types of hunting; however, most are versatile and used for many hunting and non-hunting applications. Some hunters continue to use firearms chambered in calibres that have limited factory cartridges available (i.e., require speciality or handloaded cartridges), and although these calibres are not common, they continue to be reasonable and proportionate for hunting (e.g., 460 WBY MAG). Other calibres do not have commercial cartridges targeted towards hunters but could still be reasonable for hunting in some limited applications (e.g., 50 BMG).

CONCLUSION: *Canadian hunters use the entire spectrum of modern calibres and gauges for a variety of hunting applications, so there is no way to use calibre as a determinant of what is reasonable and proportionate for hunting in Canada.*

PERCEIVED USES OF FIREARMS

MILITARY ORIGINS AS A DETERMINANT OF WHAT IS REASONABLE AND PROPORTIONATE FOR HUNTING

Although firearms, ammunition, and firearm accessories are being designed and intended to be used for non-military purposes (i.e., products targeted for hunting and recreational shooting activities), many products used and manufactured today have military origins. For more than a century, military-driven innovation has dominated both the military and civilian firearms industry. Firearms, calibres, and cartridges that were designed for and used extensively by the military are now some of the most popular for hunting. The .30-06 calibre is arguably the best example of this. The military origins of this calibre have no bearing on its utility for hunting.

CONCLUSION: *Whether a firearm, calibre, or accessory has military origins cannot be a determining factor for what is reasonable and proportionate for hunting. Much more specific criteria and a detailed assessment is required.*

MILITARY ORIGINS AS A DETERMINANT OF WHAT IS REASONABLE AND PROPORTIONATE FOR HUNTING

There are also examples of former military service firearms that have inspired or been 'cloned' for models that are designed, marketed, and sold to civilians. An example of this is the M14-type firearms that were prohibited under SOR/2020-96. The M14 was a standard issue rifle for the U.S. military at one time (1958-1968), and while still used today, it has largely been relegated to specialized roles. This rifle has inspired the production of many civilian versions, but without the select fire switch of military M14s that allowed for fully automatic fire. Many civilian models are...

REASONABLE AND PROPORTIONATE FIREARMS FOR HUNTING IN CANADA CONT.

MILITARY ORIGINS AS A DETERMINANT OF WHAT IS REASONABLE AND PROPORTIONATE FOR HUNTING

...chambered in 308 WIN, a popular hunting calibre, as opposed to the military's 7.62MM NATO. Both military and civilian versions accept detachable box magazines, but the military version used a 20-cartridge detachable box magazine, whereas the civilian version is limited to five rounds in Canada. If the non-restricted M14-type firearms were described based on their form and function, then they would be considered to be a hunting rifle. For example, the Springfield Armory US Rifle M1A series rifles come in a composite or walnut stock, are semi-automatic, chambered in 308 WIN, have 22" barrel, accept detachable box magazines, and weigh between 8 lbs 8 oz and 9 lbs 8 oz. This could be the same as dozens of older and late-model semi-automatic firearms chambered in 308 WIN (e.g., Winchester Model 100, Browning BAR, Remington Model 742 Woodsmaster) that are common hunting rifles. Many of the Springfield Armory US Rifle M1A series models are listed as hunting rifles.

CONCLUSION: *Many firearm models, past and present, were inspired by military design, but do not have the automatic action functionality, and share many of the basic characteristics with hunting firearms. Military design can be reasonable and proportionate for hunting, so it is critical to look beyond the basic design and assess the functionality of firearms.*

HUNTING OUTSIDE OF CANADA

Some firearms were designed for hunting outside of Canada, particularly 'dangerous game' calibres designed for hunting large and thick-skinned animals in Africa. The 600 NITRO EXPRESS and 460 WBY MAG calibres are two examples. Unlike the 600 NITRO EXPRESS, rifles continue to be chambered in 460 WBY MAG and cartridges are available. Although considered to be a rifle for African dangerous game hunting, hunters use the 460 WBY MAG for hunting deer, elk, bison, and brown bears with them. Beyond the muzzle energy exceeding the new maximums created under SOR/2020-96, the characteristics of the action, calibre, and size of the firearms are consistent with other hunting rifles. For example, the Weatherby WBY 460 MAG cartridge loaded with a 450 grain Barnes TSX bullet can change the potential hunting application as well as the muzzle energy.

CONCLUSION: *Using a criterion of 'designed for hunting in Canada' is not appropriate to determine whether a firearm is reasonable and proportionate for hunting in Canada. Most firearms, calibres, cartridges, and other features were designed and intended for use outside of Canada. If there is a practical hunting application in Canada for a particular firearm, then it should not be considered to be unreasonable for hunting in Canada.*

FIREARMS THAT ARE CLEARLY NOT USED FOR HUNTING

In the context of SOR/2020-96, there are some shoulder-firearms that have been prohibited under Items 95 and 96 that are easily separated from hunting firearms. Light weapons, such as the mortars, grenade launchers, rocket launchers, and missile launchers, regardless if they are mounted or shoulder-fired, are not reasonable for hunting in Canada.

CONCLUSION: *There is no history of use, or any justification to suggest that mortars, grenade launchers, rocket launchers, and missile launchers prohibited under SOR/2020-96 are reasonable or proportionate for hunting in Canada.*

Restricted and prohibited firearms are not available for hunting, although these classifications may be based on characteristics that do not contribute to determining whether or not the firearm is reasonable for hunting (e.g. barrel length). Regardless of whether the classification criteria are related to appropriateness for hunting, the classification of restricted or prohibited firearm makes it unavailable for hunting purposes.

Prohibited firearms and firearm accessories are not available to Canadian civilians, unless under exceptional circumstance (e.g. grandfathering). Fully automatic firearms have been prohibited for decades in Canada and are not impacted by SOR/2020-96.

CONCLUSION: *A fully automatic action is not required for any form of hunting in Canada, and there is no sound rationale to suggest it is reasonable or proportionate for that purpose.*

ARE SOR/2020-96 FIREARMS REASONABLE AND PROPORTIONATE FOR HUNTING IN CANADA?

The old adage of ‘a picture is worth a thousand words’ may not be true for firearms. When many people see a firearm, they immediately draw conclusions about what it should be used for. The overall design or presence of certain features like a pistol grip, a rail system, or a muzzle break result in firearms being labelled as military-style. The style and features may be considered to some as military, but the functionality is not limited to military activities and can be useful and desirable for hunting applications.

To truly understand what uses a firearm is reasonable for, you need to look at many factors – most of which will not be readily apparent by simply looking at it. In fact, the potential uses of a firearm are better represented by describing key functional features because it helps to overcome the immediate perception issues that are common, especially by those who are not familiar with firearms.

A semi-automatic rifle chambered in 308 WIN, with a walnut or composite stock, a 22” barrel, detachable box magazine, and weighs 8 lbs 8 oz to 9 lbs 8 oz. This could describe dozens of popular non-restricted rifles used for hunting. It is also the description of a model of the Springfield Armory M1A series that was prohibited under SOR/2020-96. It shares the features of other rifles used for hunting, but it also shares the design of the M14 rifle that was standard issue for the U.S. military in the 1950s and 1960s. The primary and most significant difference is that the modern civilian version is limited to only having a semi-automatic action. The firearm accepts detachable box magazines, but high-capacity magazines are already illegal in Canada.

If other firearms, particularly those 64 firearms identified through the OFAH survey, were described in a similar way based on their primary physical and mechanical features, it would be challenging to tell the difference between those prohibited under SOR/2020-96 and those that remain non-restricted in Canada.

Not all firearms prohibited under SOR/2020-96 are reasonable for hunting. The term ‘firearm’ is broad and incorporates a lot more than we would even consider in the realm of reasonable use for hunting. It is important to create a distinction between the broad classes of firearms prohibited by SOR/2020-96 and remove those that have no relevance in the discussion.

All firearms used in hunting can be used by a single person, and only include long guns (shoulder-firearms) because handguns are considered restricted or prohibited, making them unavailable for hunting. Long guns used in hunting do not include firearms with a fully automatic action (machine guns and sub-machine guns) because they were already prohibited in Canada. Additionally, those firearms considered to be ‘light weapons’ such as mortars, grenade launchers, rocket launchers, and missile launchers are not appropriate for hunting of any kind. This means that we can eliminate all handguns, fully automatic firearms, and light weapons.

Therefore, our discussion is limited to rifles and shotguns that were available for hunting prior to SOR/2020-96. All previously non-restricted rifles and shotguns that were prohibited under SOR/2020-96 can be reasonable and proportionate for hunting in Canada.

Some firearms have a relatively narrow use for a select number of species and under limited conditions (e.g., range of target, mobility), while others are incredibly versatile and can be used for many species in variable situations. Outside of bow hunting, firearms are arguably the most important tool that hunters use. It is not surprising that modern hunters have developed varied and sometimes sophisticated preferences for the firearms they use.

Firearms used for hunting come in all different styles, and have incredible range in the functionality, usability, and performance potential using countless permutations of features that are available with modern designs and are intended to customize the shooting experience for a diversity of people and activities.

There is no such thing as a ‘hunting firearm’ from a functional perspective. The operating systems, features, functionality, usability, and overall performance of firearms used for hunting and non-hunting activities have more similarities than differences, which makes it challenging to clearly distinguish them. In some cases, there may be unique specifications of similar firearms and ammunition to suit a particular activity, but the intended uses of modern firearms and ammunition tend to be driven through naming, marketing, and cosmetic enhancements (e.g., camouflage stock and barrel). Firearms chambered in the same calibre may have hunting, recreational shooting, and even military functionality.

Many firearm designs, operating systems, and features have been driven by military innovation. Some of this innovation became standard issue for militaries (past and present), while others may have seen more limited use or even none. Regardless of whether there were military origins or continued active use, it is not relevant to whether these firearm features are reasonable and proportionate for hunting.

When most Canadians think about military firearms, they think of the capability for rapid fire (fully automatic) and use of large capacity magazines. The military use firearms with fully automatic actions and large capacity magazines, and civilian activities like hunting and recreational shooting cannot. While the potential for rapid fire and the use of large capacity magazines are important distinguishing factors between firearms used for military and hunting applications, almost all other individual components that have been borrowed or developed in parallel do not functionally separate the activities.

SCHEDULE 1: OFAH PRESENTATIONS RELATING TO FIREARMS TO PARLIAMENTARY STANDING COMMITTEES

	Standing Committee	Topic	Date
1	Standing Committee on Justice and Legal Affairs	Bill C-68, an Act respecting firearms and other weapons	May, 1995
2	Standing Senate Committee on Legal & Constitutional Affairs	Bill C-68, an Act respecting firearms and other weapons	September, 1995
3	Standing Committee on Justice and Legal Affairs, Sub-committee on the Draft Regulations on Firearms	Draft Regulations on Firearms Tabled in the House by the Minister of Justice on Wednesday, November 27, 1996	February, 1997
4	Standing Committee on Justice and Legal Affairs, Sub-committee on the Draft Regulations on Firearms	Draft Regulations on Firearms Tabled in the House by the Minister of Justice on October 30, 1997	November, 1997
5	Standing Committee on Public Safety and National Security	Bill C-391, an Act to amend the Criminal Code and Firearms Act	May, 2010
6	Standing Senate Committee on Legal and Constitutional Affairs	Bill C-19, an Act to amend the Criminal Code and the Firearms Act	March, 2012
7	Standing Senate Committee on Legal and Constitutional Affairs	Proposed Firearms Information Regulations (Non-Restricted Firearms), tabled in the Senate on June 13, 2012, pursuant to subsection 118(3) of the Firearms Act	June, 2012
8	Standing Committee on Public Safety and National Security	Bill C-42, an Act to amend the Firearms Act and the Criminal Code and to make a related amendment and consequential amendment to other Acts (Common Sense Firearms Licensing)	April, 2015
9	Standing Committee on Public Safety and National Security	Bill C-637, an Act to amend the Criminal Code (firearms storage and transportation)	May, 2015
10	Standing Committee on Foreign Affairs and International Development	Bill C-47, an Act to amend the Export and Import Permits Act and the Criminal Code	November, 2017
11	Standing Committee on Public Safety and National Security	Bill C-71, an Act to amend certain Acts and Regulations in relation to firearms	May, 2018
12	Standing Senate Committee on National Security and Defence	Bill C-71, an Act to amend certain Acts and Regulations in relation to firearms	April, 2019

SCHEDULE 2: CURRICULUM VITAE FOR MATT DEMILLE

WORK EXPERIENCE

Ontario Federation of Anglers and Hunters, Peterborough, ON

Manager, Fish & Wildlife Services

June 2014 – Present

Manage, supervise, and administer Fish & Wildlife Services department staff and activities to deliver conservation programs, and represent the interests of anglers and hunters in discussions related to fish and wildlife conservation management. Advise the OFAH Executive Director, Board of Directors, staff and members on all issues related to fish and wildlife management. Review, analyze and respond to binational, federal, provincial and municipal legislation, regulations and policies that affect anglers and hunters. Liaise with the angling and hunting community, the general public, media, diverse stakeholder groups, and all levels of government to maintain or enhance hunting and fishing opportunities in Ontario.

Public Appointments: Ontario's Species at Risk Program Advisory Committee; Canadian Advisor - Great Lakes Fishery Commission

Committee Representation: Chicago Area Waterway System Advisory Committee; Lake Ontario Atlantic Salmon Restoration Program Steering Committee (co-chair); Hunting and Angling Advisory Panel (alternate)

Ontario Federation of Anglers and Hunters, Peterborough, ON

Assistant Manager, Fish & Wildlife Services

December 2011 – May 2014

Assist with the management, supervision and administration of the Fish & Wildlife Services department staff and activities.

Ontario Federation of Anglers and Hunters, Peterborough, ON

Fisheries Biologist

November 2011 – May 2014

Meet the needs of OFAH members and anglers by remaining current and knowledgeable on relevant fisheries issues. Identify, review, analyze, and provide advice on local, provincial, national and binational fisheries-related issues to promote fisheries conservation and maximize fishing opportunities.

Committee Representation: Bait Review Advisory Group; Black Sturgeon River Dam Structured Decision Making; Fisheries Management Zone 19 Council; Lake Erie Percid Management Advisory Group; Lake Simcoe Fisheries Stakeholder Committee

Ontario Federation of Anglers and Hunters, Peterborough, ON

Land Use Specialist

August 2010 – November 2011

Meet the needs of OFAH members and anglers by remaining current and knowledgeable on relevant access and land use management issues in Ontario.

Committee Representation: Boreal Landscape Guide Development Team; Crown Land Use Atlas Harmonization Working Group; Kawartha's Naturally Connected Scenario Planning Team; McLaughlin Bay Restoration Strategy Steering Committee; Stakeholder Groups of the Kawartha Highlands.

SCHEDULE 2 CONT: CURRICULUM VITAE FOR MATT DEMILLE

Queen's University, Kingston, ON

Laboratory Manager, Dr. Bruce Tufts Lab

September 2007 – December 2009

Manage and coordinate research projects, including administration, supervision of undergraduate students, and organization of lab personnel and activities.

PEER-REVIEWED PUBLICATIONS AND PAPERS

Tufts, B.L., J. Holden and M. DeMille. 2015. Benefits arising from sustainable use of North America's Fishery Resources: economic and conservation impacts of recreational angling. *International Journal of Environmental Studies*. 72 (5): 850-868.

Currie, S., B. Bagatto, M. DeMille, A. Learner, D. Leblanc, C. Marks, K. Ong, J. Parker, N. Templeman, B. Tufts and P. Wright. 2010. Metabolism, nitrogen excretion and heat shock proteins in the central mudminnow, *Umbra limi*, a facultative air-breathing fish living in a variable environment. *Canadian Journal of Zoology*. 88 (1): 43-58.

DeMille, M. and B. Tufts. 2010. The behaviour of largemouth bass in Lake Opinicon, Ontario. A biological perspective for the evaluation of Murphy Bay fish sanctuary. (M.Sc. Thesis)

DeMille, M., C. Suski and B. Tufts. 2007. Physiological Consequences of simulated decompression and fizzing in smallmouth bass *Micropterus dolomieu*. (B.Sc.H. Thesis)

EXPERT TESTIMONY (RECENT HIGHLIGHTS)

House of Commons Standing Committee on Fisheries and Oceans – Witness for study on Aquatic Invasive Species (May 6, 2019)

Senate Standing Committee on National Security and Defence – Witness for study on Bill C-71, An Act to amend certain Acts and Regulations in relation to firearms (April 1, 2019)

House of Commons Standing Committee on Public Safety and National Security – Witness for study on Bill C-71, An Act to amend certain Acts and Regulations in relation to firearms (May 31, 2018)

House of Commons Standing Committee on Environment and Sustainable Development – Witness for study on Bill C-69, An Act to enact the

Impact Assessment Act and the Canadian Energy Regulator Act, to amend the Navigation Protection Act and to make consequential amendments to other Acts (April 26, 2018)

Legislative Assembly of Ontario Standing Committee on Social Policy – Witness for study on Bill 37, An Act respecting Invasive Species (September 29, 2015).

PROFESSIONAL AWARDS

OFAH/Toronto Sportsmen's Show Fisheries Research Grant

January 2009

Dean's Honour List, Queen's University

2006, 2007

COURSES AND QUALIFICATIONS

Possession and Acquisition Licence (Firearms Licence)

Class H1 Outdoors Card (Ontario Fishing & Hunting Licences)

Fur Harvest, Fur Management and Conservation Course (Ontario Trapper's Licence)

Royal Ontario Museum Fish Identification Workshop Certificate

Pleasure Craft Operator's Card (Boating Licence)

Marine Emergency Duties A3 (Small Vessel Operator Proficiency)

SCHEDULE 3: EXAMPLES OF HUNTING-SPECIFIC ONLINE MARKETING FOR FIVE AMMUNITION MANUFACTURERS (BARNES, FEDERAL, HORNADY, NOSLER, WINCHESTER; TOP TO BOTTOM)


VOR-TX RIFLE




VOR-TX PREMIUM HUNTING AMMUNITION

Barnes® VOR-TX® is precision ammunition loaded with the deadliest bullets on the planet. Barnes, the leader in bullet innovation offers hunters the ultimate in accuracy, terminal performance and handloaded precision in a factory loaded round.

Offering double-diameter expansion, maximum weight retention and excellent accuracy, the TSX®, Tipped TSX™, and TSX FN™ provide maximum tissue and bone destruction, pass-through penetration and devastating energy transfer.

Multiple grooves in the bullet's shank reduce pressure and improve accuracy. Barnes all-copper bullets open instantly on contact – no other bullet expands as quickly. Nose petals back into four sharp-edged copper petals destroying tissue, bone and vital organs for a quick, humane kill.



 <p>Buckmaster Bonded 308 Win BMB308SP165</p> <p>\$30.99 Available</p> <p>Bullet Weight: 165 Bullet Style: BuckMasters Bonded Soft Point Ballistic Coefficient: .446 Package Quantity: 20 Usage: Big Game</p>	 <p>American Eagle Varmint & Predator 308 Win AE308130VP</p> <p>\$56.99 Available</p> <p>Bullet Weight: 130 Bullet Style: Jacketed Hollow Point Ballistic Coefficient: .263 Package Quantity: 40 Usage: Varmint</p>	 <p>Nosler Partition 308 Win P308E</p> <p>\$47.99 Available</p> <p>Bullet Weight: 180 Bullet Style: Nosler Partition Ballistic Coefficient: .474 Package Quantity: 20 Usage: Big Game</p>
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Find Rifle Ammunition

FILTER BY: CARTRIDGE BULLET TYPE PRODUCT LINE APPLICATION

CARTRIDGE	BULLET	PRODUCT LINE	B.C.	APPLICATION	ITEM #	COUNT	COMPARE
6.5 CREEDMOOR	118gr V-MAX™	Varmint Express™	.309	200 (20)	81861	20	↕
6.5 CREEDMOOR	129gr EXPL	FullBore™	.248	200 (20)	81866	20	↕
6.5 CREEDMOOR	129gr EXPL	Superformance™	.248	200 (20)	81869	20	↕
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Deer Season XP ammunition combines our extensive experience into a product engineered specifically for deer hunters. The Extreme Point bullet features an oversized impact diameter. A bigger impact diameter means more impact trauma, better energy transfer, and larger wound cavities for faster knockdown.

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