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10 *of the State of California*

11 IN THE UNITED STATES DISTRICT COURT
12 FOR THE CENTRAL DISTRICT OF CALIFORNIA
13 WESTERN DIVISION
14

15 **STEVEN RUPP; STEVEN**
16 **DEMBER; CHERYL JOHNSON;**
17 **MICHAEL JONES;**
18 **CHRISTOPHER SEIFERT;**
19 **ALFONSO VALENCIA; TROY**
20 **WILLIS; and CALIFORNIA RIFLE**
21 **& PISTOL ASSOCIATION,**
22 **INCORPORATED,**

23 Plaintiffs,

24 v.

25 **ROB BONTA, in his official capacity**
26 **as Attorney General of the State of**
27 **California; and DOES 1-10,**

28 Defendants.

Case No. 8:17-cv-00746-JLS-JDE

DECLARATION OF JOHN D.
ECHEVERRIA IN SUPPORT OF
DEFENDANT'S OPPOSITION TO
PLAINTIFFS' MOTION FOR
SUMMARY JUDGMENT

[Dkt. 150]

Date: July 28, 2023
Time: 10:30 a.m.
Courtroom: 8A
Judge: Hon. Josephine L. Staton
Trial Date: None set
Action Filed: April 24, 2017

1 I, John D. Echeverria, hereby declare and state the following:

2 1. I am a Deputy Attorney General at the California Department of Justice
3 and serve as counsel to Defendant Rob Bonta, in his official capacity as Attorney
4 General of the State of California (“Defendant”), in the above-titled matter. I make
5 this declaration in support of Defendant’s Opposition to Plaintiffs’ Motion for
6 Summary Judgement. Unless otherwise stated, I have personal knowledge of the
7 facts set forth herein and am competent to testify thereto.

8 2. In support of Defendant’s Motion for Summary Judgment, Dkt. 149,
9 Defendant relied on Defendant’s Exhibits 1 through 46, filed previously in support
10 of and in opposition to the prior motions for summary judgment, *see* Dkts. 76, 90.

11 3. In support of Defendant’s Motion for Summary Judgment, Defendant
12 also submitted Defendant’s Exhibits 47 through 87. *See* Dkt. 151.

13 3. Attached hereto are true and accurate copies of the following additional
14 exhibits, which Defendant relies on in support of the concurrently filed Defendant’s
15 Opposition to Plaintiff’s Motion for Summary Judgment:

Exhibit Number	Document Description	Page Number
88	Deposition of Mark T. Hanish, <i>Oregon Firearms Fed’n v. Brown</i> , D. Or. No. 2:22-cv- 01815-IM (Jan. 13, 2023) (excerpts)	3030- 3057
89	Email from Sean Brady to John D. Echeverria, dated March 3, 2023	3058- 3061
90	Am. Ass’n for Public Opinion Research, <i>The Code of Professional Ethics and Practices</i> (2020)	3062- 3070
91	Deposition of Gary D. Kleck, <i>Oregon Firearms Fed’n v. Brown</i> , D. Or. No. 2:22-cv- 01815-IM (Jan. 25, 2023) (excerpts)	3071- 3080
92	Nat’l Shooting Sports Found., <i>Modern Sporting Rifle Comprehensive Consumer Report</i> (2022)	3081- 3162
93	U.S. Dep’t of Justice, Bureau of Alcohol, Tobacco, Firearms & Explosives, <i>Firearms Commerce in the United States: Annual Statistical Update 2021</i> (2021)	3163- 3191

Exhibit Number	Document Description	Page Number
94	Ltr. From Stephanie M. Boucher, Chief, Disclosure Division, ATF, to Jeffrey E. Folloder, Feb. 24, 2016	3192-3193
95	Darrell A.H. Miller & Jennifer Tucker, <i>Common, Use, Lineage, and Lethality</i> , 55 U.C. Davis L. Rev. 2495 (2022)	3194-3213
96	Deposition of Ashley Hlebinsky, <i>Oregon Firearms Fed'n v. Brown</i> , D. Or. No. 2:22-cv-01815-IM (Jan. 20, 2023) (excerpts)	3214-3234
97	Deposition of Clayton Cramer, <i>Oregon Firearms Fed'n v. Brown</i> , D. Or. No. 2:22-cv-01815-IM (Jan. 19, 2023) (excerpts)	3235-3254
98	Second Declaration of Clayton Cramer, <i>Oregon Firearms Fed'n v. Brown</i> , D. Or. No. 2:22-cv-01815-IM (Dec. 19, 2022)	3255-3307
99	Declaration of Yvette Glover, <i>Miller v. Bonta</i> , No. 19-cv-1537 BEN-JLB (S.D. Cal. Dec. 15, 2020)	3308-3311

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on June 23, 2023, at San Francisco, California.

/s/ John D. Echeverria
John D. Echeverria
Deputy Attorney General

EXHIBIT 88

Deposition of Mark T. Hanish

Oregon Firearms Federation, Inc., et al. v. Brown, et al.

January 13, 2023



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(Continued)

MARK FITZ, et al.,
Plaintiffs,
v.
ELLEN F. ROSENBLUM, et al.,
Defendants.

KATERINA B. EYRE, et al.,
Plaintiffs,
v.
ELLEN F. ROSENBLUM, et al.,
Defendants.

DANIEL AZZOPARDI, et al.,
Plaintiffs,
v.
ELLEN F. ROSENBLUM, et al.,
Defendants.

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APPEARANCES CONTINUED

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* * * * *

EXAMINATION INDEX

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EXHIBIT INDEX

EXHIBIT	DESCRIPTION	PAGE
EXHIBIT 1	Declaration of Mark Hanish.	10
EXHIBIT 2	LinkedIn profile of Mark Hanish.	10
EXHIBIT 3	Press release titled "FN Announces Release of California-Compliant Rifles."	67
EXHIBIT 4	Article titled "Following private equity's gun money."	72

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1 Phoenix, Arizona; Friday, January 13, 2023

2 10:15 a.m.

3 -o0o-

4
5 THE VIDEOGRAPHER: This is the deposition
6 of Mark Hanish in the matters of Oregon Firearms
7 Federation, Inc., versus Brown, et al., Cause Numbers
8 is 2:22-cv-01815-IM and 3:22-cv-01859-IM and
9 3:22-cv-01869-IM and 3:22-cv-01869-IM in the United
10 States District Court for the District of Oregon and
11 was noticed by Brian Marshall.

12 The time now is approximately 10:16 a.m. on
13 this 13th day of January, 2023, and we are appearing
14 via videoconference.

15 My name is Brook Young from Buell Realtime
16 Reporting, LLC, located at 1325 4th Avenue, Suite 1840,
17 in Seattle, Washington 98101.

18 Will counsel and all present please identify
19 themselves for the record.

20 MR. MARSHALL: Good morning.

21 I'm Assistant Attorney General Brian Marshall
22 for the State defendants, the governor, the Attorney
23 General, and the superintendent of the state police.

24 MR. WILLIAMSON: Good morning.

25 This is Leonard Williamson from the law firm

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1 VanNess Williamson in Salem, Oregon. I'm here
2 representing the OFF versus Governor Brown.

3 MR. PEKELIS: This is Zach Pekelis with
4 the law firm Pacifica Law Group in Seattle, Washington,
5 and I represent intervenor defendant Oregon Alliance
6 for Gun Safety.

7 MR. LINDSAY: This is Shawn Lindsay from
8 Juris Law, LLP. I represent the Eyre plaintiffs in one
9 of the consolidated cases.

10 THE VIDEOGRAPHER: The court reporter may
11 now swear in the witness.

12 THE COURT REPORTER: Can I please get a
13 stipulation from counsel to swear in the witness, as
14 I'm a Washington state court reporter and notary, and
15 the witness is in Phoenix, Arizona?

16 MR. WILLIAMSON: So stipulated.

17 MR. MARSHALL: So stipulated.

18 Mr. Williamson, I want to confirm that you --
19 on the record that you have had an opportunity to
20 convey to the witness the ground rules that I sent to
21 you last night and that there's agreement on those.

22 MR. WILLIAMSON: Correct.

23

24 ///

25 ///

1 magazines break?

2 A. I mean, like I said, it's very subjective to
3 the use of it. They're -- you know, depending upon how
4 they're dropped or how much they're used. If someone
5 purchases one and, you know, sets it in a safe, it will
6 sit there, you know, fine for quite a period of time.
7 But regular use of it, you know, requires maintenance
8 to it.

9 MR. MARSHALL: Let's go off the record if
10 that's okay with everyone.

11 THE VIDEOGRAPHER: Going off the record.

12 The time now is approximately 11:25 a.m.

13 (Pause in the proceedings.)

14 THE VIDEOGRAPHER: Back on the record.

15 The time now is approximately 11:42 a.m.

16 BY MR. MARSHALL:

17 Q. Let's all turn to page 149 of Exhibit 1, which
18 is the 2021 National Firearms Survey Updated Analysis,
19 Including Types of Firearms Owned.

20 Mr. Hanish, when did you first encounter this
21 document?

22 A. Several weeks ago in preparation of gathering
23 data for the California case.

24 Q. How did you find out about it?

25 A. I believe I was searching for it or just --

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1 you know, searching for information through the NSSF
2 and online.

3 Q. Are you familiar with other sources of
4 estimates of the number of firearms owned in the United
5 States?

6 A. Not a particular one that I can point to other
7 than just being in the industry and hearing the
8 estimates year over year for total number of firearms.

9 Q. Why did you choose this report versus others
10 that exist?

11 A. In this one, finding it seemed to be -- and
12 conferring, again, with reaching out through the NSSF
13 and speaking with them, it was one that they had also
14 said was a good report.

15 Q. Who at NSSF did you talk to?

16 A. I would have to -- I can look. I mean, I know
17 I spoke with -- I think I conferred with Larry Keane.

18 Q. Do you know what Larry Keane's role was?

19 A. He's on the -- I don't know his specific role.
20 I know he's on the legal side of NSSF.

21 Q. And NSSF is paying you for this testimony?

22 A. Yes.

23 Q. What other reports did you consider when you
24 were deciding to -- what your testimony would be today?

25 A. The other one that I included in there, the

1 2004 Chris Koper report, the variety of the annual
2 firearms and manufacturing reports that are available.

3 Q. Okay.

4 And the -- so the 2004 report that you're
5 referring to is the study of the assault weapons ban?

6 A. Yes, sir.

7 Q. It's a federal report?

8 A. Yes.

9 Q. Okay.

10 The manufacturing report is that 2020 page --
11 cover page you're talking about?

12 A. Yes, sir.

13 Q. Were there any reports that you considered
14 that are not attached to your declaration?

15 A. I mean, I looked through -- I looked through
16 other reports. I attached these because there was
17 information in there that I specifically referenced.

18 Q. What other reports did you review?

19 A. More of the AFMRs, the Annual Firearms
20 Manufacturing Reports. I looked through some import
21 reports, just general aggregated data to confirm, you
22 know, opinions.

23 Q. So you didn't encounter the 2021 National
24 Firearms Survey in your -- in your day-to-day work?

25 A. No, I did not.

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1 Q. And did you encounter the 2004 study in your
2 day-to-day work?

3 A. It had been quite some time since I had seen
4 that, but I revisited it with -- with these cases.

5 Q. And did Mr. Keane from NSSF also suggest the
6 2004 report?

7 A. No.

8 Q. How did you come across that?

9 A. Just researching.

10 Q. And by researching, you mean searching in
11 Google or did you use something else?

12 A. No, Google.

13 Q. Did you compare the estimates in the 2021
14 National Firearms Survey to any other sources?

15 A. Not directly.

16 Q. Do you have any source of information about
17 the 2021 National Firearms Survey other than the
18 information that is in the report itself?

19 A. Could you say that one more time? Do I
20 have --

21 Q. Do you know anything about the 2021 National
22 Firearms Survey that is not in the report itself?

23 A. No, other than looking at some of the
24 extensions on there and then, you know, having personal
25 knowledge of some of the things, you know, that all,

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1 you know, check out through, you know, just my personal
2 knowledge of it.

3 Q. And by extensions, do you mean the appendices
4 that you included in your report?

5 A. Yes.

6 Q. And those are part of the original SSRN
7 download?

8 A. Yes.

9 Q. Have you spoken to Dr. English before?

10 A. No, I have not spoken to Dr. English.

11 Q. Did you try to speak with Dr. English about
12 this report?

13 A. I did not.

14 Q. Why not?

15 A. The one or two pieces of information out of it
16 that, you know, supported my opinion on it is what I
17 referenced out of it, and that was it.

18 Q. Has the 2021 National Firearms Survey been
19 published in a peer-reviewed journal?

20 A. I do not know.

21 Q. How were the participants for this survey
22 recruited?

23 A. That I remember -- that is in the -- in the
24 document, and I don't know that you want me to read
25 that and regurgitate it. Or is that what you would

1 like?

2 Q. Well -- well, can you correct me if I'm wrong
3 about this? The document doesn't say the number of
4 people who were given the initial screening instrument
5 that did not indicate what pieces of outdoor equipment
6 they used; is that right?

7 A. That, I can't -- I would have to find the
8 page on here because I remember there was a significant
9 number that they screened, and then there was some
10 discrimination or some discriminator questions to get
11 down to the folks that own firearms to be relevant to
12 the survey.

13 Q. Are you familiar --

14 A. (Speaking simultaneously.)

15 Q. Sorry.

16 Are you familiar with the term "nonresponse
17 bias"?

18 A. No.

19 Q. Are you an expert in survey methodology?

20 A. No.

21 Q. Are you familiar with -- with firearms
22 ownership on kind of a nationwide basis, or are you
23 more familiar with particular geographies?

24 A. I think that would depend upon the particular
25 question as far as -- I mean, I'm familiar in this

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1 geographic region, but I've also managed sales across
2 the country for, you know, larger trends.

3 Q. Do you have a greater understanding of the
4 western United States than the rest of the United
5 States?

6 A. I mean, I'm more familiar with, obviously, the
7 territory and terrain. But I've traveled the country
8 and had dealers in -- you know, across the entire
9 country.

10 Q. Would you say you're most familiar with
11 Arizona?

12 A. Yes.

13 Q. You've lived there your whole life; right?

14 A. Yes.

15 Q. And are you relatively familiar with
16 California?

17 A. Yes.

18 Q. Can we look at page 27 of the report, which is
19 page 175 of Exhibit 1.

20 Feel free to look at any other pages,
21 Mr. Hanish, but I'm just looking at this table which
22 appears to report the results of the number of what we
23 call large-capacity magazines that are owned by
24 firearms owners in each state.

25 A. Okay.

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1 Q. I see Arizona as having a 47.5 percent number
2 and California as having a 53.8 percent number.

3 Do you agree with that?

4 A. Yes, I see those.

5 Q. Does that seem odd to you?

6 A. Not particularly. I mean, California has a
7 huge firearms-owning population. I want to say at one
8 point in time when I was at FN, they were 17 to
9 19 percent of the firearm consumption in the country.
10 So it is a -- there is a significant number of gun
11 owners there.

12 Q. Let me focus you on the -- on the particular
13 column I'm talking about: Owned 11-plus capacity
14 magazines --

15 A. Yes.

16 Q. -- the top of this.

17 So am I correct that in California, except for
18 one week, there was no legal purchase of 11-plus
19 capacity magazines since 1994 in that state?

20 A. Well, they could purchase them. I think
21 California's law went into effect in 2000. So they
22 could purchase high-capacity magazines up until 2000.

23 Q. They weren't -- they weren't banned by the
24 assault weapons ban in the 1994 to 2004?

25 A. But that wasn't the purchase, sale or

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1 transfer. That was just the manufacture. So they were
2 still -- there were millions and millions in
3 circulation, and there was still millions being
4 imported. I think in '99, there was just shy of 5
5 million more imported into the US, so they were readily
6 available in 1999 to residents of California.

7 Q. Okay.

8 In the last 22 years, how many weeks have
9 large-capacity magazines been available for sale in
10 California?

11 A. One.

12 Q. And for Arizona, they have been continuously
13 available since -- for that entire period; correct?

14 A. Yes.

15 Q. Okay.

16 Does it strike you as odd that Arizona has a
17 lower ownership rate of large-capacity magazines than
18 California?

19 A. No, not particularly simply because we have --
20 we may have a broader range of folks that own guns. So
21 high-capacity magazines aren't for every firearm. So
22 if it's just asking for owning of a firearm, you know,
23 folks here don't necessarily have to have, you know --
24 or even potentially have a high-capacity magazine for
25 some of their hunting guns, their rifles or shotguns.

1 So I don't think it's a direct correlation between the,
2 you know, 53.8 percent of firearms owners in California
3 versus 47.5 percent firearms owners in Arizona owning a
4 high-capacity magazine.

5 Q. So you think it's likely that 54 percent of
6 California gun owners, in fact, own large-capacity
7 magazines despite there being a prohibition on purchase
8 for all but one week in the last 22 years?

9 A. Yeah.

10 Q. Okay.

11 And then let's talk about Wisconsin at the
12 bottom, 33.6 percent.

13 Are you aware of any times that large-capacity
14 magazines have not been available in Wisconsin?

15 A. No, I'm not aware of any times in Wisconsin.

16 Q. And two-thirds of -- of firearm owners have
17 chosen not to own a weapon or a magazine that is a
18 large-capacity magazine; correct?

19 A. Yes.

20 Q. And why would they make that choice?

21 A. Having been to Wisconsin quite a bit, the
22 firearms culture there is highly centered around
23 hunting and bird shooting, so two ownership categories
24 that don't really relate into high-capacity magazines.

25 Q. Would you have the same answer for Michigan,

1 37.1 percent?

2 A. I have -- actually haven't spent as much time
3 in Michigan, but that would -- it's plausible. I don't
4 have a particular knowledge of Michigan.

5 Q. Let's go back to California for a second.

6 Why do you think it's right that 54 percent of
7 Californian gun owners have -- have a high-capacity
8 magazine?

9 A. Since it's been so restricted and restrictive
10 to them, I would imagine those that folks have been
11 very particular to get them, you know, when they were
12 able to and, you know, preserve that.

13 Q. Okay.

14 Let's set that aside -- well, it's another
15 part of Exhibit 1, which is paragraph 11. But much --
16 that's going back to your original declaration. I
17 believe -- that's on page 8 of my copy.

18 A. All right. I'm at paragraph 11.

19 Q. What?

20 A. Paragraph 11, "AR-15 and civilian popularity."

21 Q. Perfect. Yep.

22 You're -- you make some statements about what
23 happened between 1964 and the 1980s. What is the basis
24 of those views?

25 A. Which statements? About firearms

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1 transitioning into fire capacity lower -- or smaller
2 cartridges or...

3 Q. I'm just talking generally. What is your
4 basis of knowledge about the consumer demand for AR-15s
5 between 1964 and, say, 1994?

6 A. Looking back at the sales records of Colt and
7 other manufacturers, data that was found on, you know,
8 how many were sold.

9 Q. What data is that?

10 A. Just some aggregated sales reports by serial
11 number for like Colt rifles, serial numbers by year
12 that people have assembled.

13 Q. Okay.

14 How many were sold in the 1960s?

15 A. I would have to refer back to it, but it would
16 be -- the thrust of it was since the introduction of
17 those AR designs and imported rifles, the sales
18 gradually increased over time as the rifles became more
19 popular up and then through the assault weapons ban.

20 Q. Do you agree that the AR-15 only represented
21 1 percent of firearms sales in 1993?

22 A. I would -- I don't have enough information in
23 front of me to agree or disagree with that.

24 Q. Okay.

25 How many sales were there in the 1960s of

1 AR-15s?

2 A. In the 1960s when it rolled out, there -- you
3 know, Colt was only manufacturing, you know, a couple
4 thousand a year.

5 Q. And what about in the 1970s?

6 A. It grew. I would have to find the numbers. I
7 mean, it just kind of grew year after year like a
8 standard product does as it gains market acceptance,
9 goes through trials and tribulations and, you know,
10 becomes adopted. And the AR and that style of rival is
11 on a, you know, standard product path of growth.

12 Q. Can you look at ECF -- or at Exhibit 1,
13 page 29. That's one of the reports you attached to
14 this, which is page 6 of "Guns Used in Crime."

15 A. Okay.

16 Q. In the box, there is -- the box there on that
17 page, page 29 of Exhibit 1, is "How often are assault
18 weapons used in crime." The last paragraph, that
19 partial paragraph on the left-hand column is "In 1993,
20 prior to the passage of the assault weapons ban, the
21 ATF reported that 1 percent of the estimated 200
22 million guns in circulation were assault weapons."

23 A. Okay.

24 Q. Do you agree with that?

25 A. That sounds plausible.

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1 Q. And would that include AR-15s?

2 A. Under their terminology, it sounds like they
3 are including AR-15s under the term "assault weapon."

4 Q. Okay.

5 So you agree that before the 1994 bill, only
6 1 percent of firearms, in their terminology, were
7 assault weapons.

8 A. Yes, that's plausible.

9 MR. WILLIAMSON: Hey, Brian, for the
10 record, on page 6, there are actually three columns in
11 that box. Which column are you referring to for the
12 reporter?

13 MR. MARSHALL: In the box, I'm referring
14 to the paragraph that spills over from the bottom of
15 Column 1 to the top of Column 2.

16 MR. WILLIAMSON: Got it. Okay.

17 MR. MARSHALL: That, again, is on page 29
18 of Exhibit 1.

19 BY MR. MARSHALL:

20 Q. Okay.

21 I'm going to send around an Exhibit 3.

22 THE COURT REPORTER: Okay. One moment.
23 I'll get that marked.

24 (Exhibit 3 marked for identification.)

25 THE COURT REPORTER: Exhibit 3 has been

1 marked.

2 BY MR. MARSHALL:

3 Q. Mr. Hanish, what is Exhibit 3?

4 A. I'm still waiting for it to come in. I'm
5 refreshing diligently.

6 All right. It just popped in.

7 That is an announcement of FN for
8 California-compliant rifles.

9 Q. Does this look like a press release to you?

10 A. Yes.

11 Q. Are you familiar with John Keppeler?

12 A. Yes.

13 Q. Who is that?

14 A. He was the VP of sales when I left.

15 Q. Do you respect him as a professional?

16 A. Yes.

17 Q. What do you -- are you familiar with the
18 terminology "featureless"?

19 (Reporter clarification.)

20 BY MR. MARSHALL:

21 Q. Are you familiar with the term "featureless"?

22 A. Yes.

23 Q. What does "featureless" mean?

24 A. California bans rifles by their features. So
25 then in order to manufacture a rifle suitable for sale

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1 in the state, it would be sans those features or
2 featureless.

3 Q. And what does "California-legal" mean? Is
4 that the same as "California-compliant"?

5 A. Yes, sir.

6 Q. FN says that this offers the same performance.
7 What does it mean to offer the same performance?

8 A. I'm trying to find that in here to...

9 Q. It's the second bolded line, "New rifles with
10 featureless stock offer same performance in
11 California-legal package."

12 What would "same performance" mean?

13 A. I think that's a stretch to call it the same
14 performance. Functionally, the action of the rifle is
15 the same, but the performance of the rifle overall in
16 its intended application or whatever application
17 wouldn't be the same.

18 Q. What does the term "same performance" mean?

19 A. I'm trying to figure out what -- I would use
20 the term "same performance" if it was, you know,
21 identical performance to the other models, but I
22 wouldn't agree that that rifle has the same
23 performance -- a California-legal one has the same
24 performance because you don't have a -- your whole hand
25 has to stay on one side of the rifle, and you have

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1 10-round magazines. So depending upon what you're
2 trying to do with it, you absolutely don't get the same
3 performance.

4 Q. How does the performance differ?

5 A. I mean, the rifles are more difficult to fire,
6 you know, holding your hand completely on one side.
7 And then you have -- over the years, California has had
8 multiple ways of having 10-round magazines of having
9 them fixed in the gun, having the gun via a bullet
10 button having to come apart to reload -- I'm sorry,
11 having a bullet button to use a tool to take a magazine
12 in and out. And there there's been different methods
13 of disassembling the gun to a certain degree to change
14 fixed magazines. So it does not -- it's not the same
15 performance or the same function.

16 Q. The holding the weapon on only one side of it,
17 of the gun, is that -- why is that a feature of this
18 weapon?

19 A. Why is it a feature? Well, the -- like one of
20 the California rules is you can't have a pistol grip.
21 So to not make it a pistol grip, they started to define
22 that about having your thumb being able to wrap around
23 to the other side. So then there's a stock that
24 completely blocks it off, so you just hold the rifle on
25 one side of it without being able to grasp -- grasp a

1 pistol grip.

2 Q. That doesn't relate to magazine size; correct?

3 A. Correct.

4 Q. And that rule doesn't exist in Oregon?

5 A. Not that I'm aware of, no.

6 Q. With respect to the other difference -- the
7 differences that is in -- the number of rounds that are
8 available and potentially difficult to reload, are
9 those the other differences?

10 A. Yes.

11 Q. Are there any other differences with a
12 10-round-capacity magazine or what you call a
13 standard-capacity magazine?

14 A. Is it -- I missed the point of your question.
15 Is there a difference in the magazines?

16 Q. Is there a difference in the performance aside
17 from the number of rounds available and potentially the
18 difficulty to reload and the performance of a 10-round
19 magazine or a larger magazine?

20 A. No, the mechanical function of the action is
21 the same.

22 Q. Why would FN have introduced this weapon?

23 A. To service customers in the state of
24 California.

25 Q. Do you know of any reason why this weapon

1 would not be available in Oregon?

2 A. No.

3 Q. Are -- do "handgun" and "pistol" have the same
4 meaning?

5 A. Well, I mean, you have -- revolvers are
6 included in handguns, but a pistol is kind of a more
7 specific term for a handgun.

8 Q. Are all pistols handguns?

9 A. Yes.

10 MR. MARSHALL: I have circulated an
11 Exhibit 4.

12 THE COURT REPORTER: One moment.

13 (Exhibit 4 marked for identification.)

14 THE COURT REPORTER: Exhibit 4 has been
15 marked.

16 THE WITNESS: All right.

17 Got it.

18 BY MR. MARSHALL:

19 Q. Have you reviewed Exhibit 4?

20 A. I mean --

21 Q. You just got it. Okay.

22 A. Yeah, I see it.

23 Q. Yeah. Okay.

24 I -- so you worked at SureFire in 2017?

25 A. Yes.

Page 127

C E R T I F I C A T E

STATE OF WASHINGTON

COUNTY OF PIERCE

I, Tia Reidt, a Certified Court Reporter in and for the State of Washington, do hereby certify that the foregoing transcript of the deposition of MARK T. HANISH, having been duly sworn, on January 13, 2023, is true and accurate to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 20th day of January, 2023.

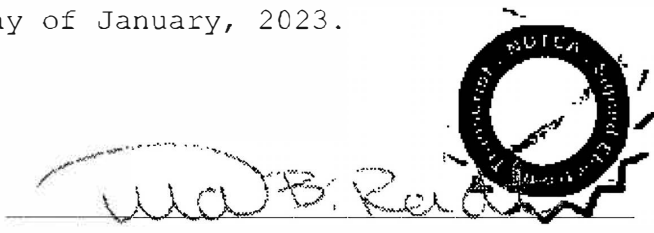

/S/ Tia B. Reidt
Tia B. Reidt, RPR, CSR #22-0001
NOTARY PUBLIC, State of
Washington.
My commission expires
5/15/2026.

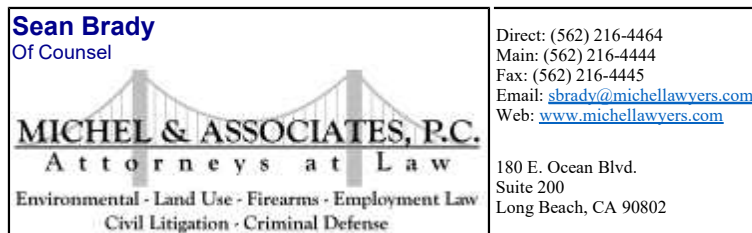
EXHIBIT 89

From: [Sean Brady](#)
To: [John D. Echeverria](#)
Cc: [Anna Ferrari](#); [Christina R Lopez](#)
Subject: RE: Rupp v. Bonta, No. 17-cv-00746-JLS-JDE [MA-Interwoven.FID92021]
Date: Friday, March 3, 2023 2:54:34 PM
Attachments: [image001.png](#)

EXTERNAL EMAIL: This message was sent from outside DOJ. Please do not click links or open attachments that appear suspicious.

John,

Mr. Hanish did not have access to any non-public information about that survey.



This email is confidential and legally privileged. If you received this email by mistake, you are on notice of its status. Please do not copy it, use it for any purposes, or disclose it to anyone. That could violate state and Federal privacy laws. Please notify us by reply email and then delete this message. Please get in touch with us at (562) 216-4444 if you need assistance.

From: John D. Echeverria <John.Echeverria@doj.ca.gov>
Sent: Friday, March 3, 2023 1:17 PM
To: Sean Brady <sbrady@michellawyers.com>
Cc: Anna Ferrari <Anna.Ferrari@doj.ca.gov>; Christina R Lopez <Christina.Lopez@doj.ca.gov>
Subject: RE: Rupp v. Bonta, No. 17-cv-00746-JLS-JDE [MA-Interwoven.FID92021]

Hi Sean,

Following up on the below request, there are two versions of English's paper available on SSRN: one posted in July 2021 (linked below) and another revised in September 2022 (cited in Mark Hanish's report). Can you confirm that Mark Hanish did not rely on any data underlying the 2021 firearms survey that English did not mention in either version of the SSRN paper? We want to confirm that Mark Hanish did not have access to data related to the 2021 firearms survey, such as questions asked, responses given, and analysis, that are not available to the public in those two SSRN papers.

Thanks,
John

From: Sean Brady <sbrady@michellawyers.com>
Sent: Thursday, February 16, 2023 4:07 PM
To: John D. Echeverria <John.Echeverria@doj.ca.gov>
Cc: Anna Ferrari <Anna.Ferrari@doj.ca.gov>; Christina R Lopez <Christina.Lopez@doj.ca.gov>
Subject: RE: Rupp v. Bonta, No. 17-cv-00746-JLS-JDE [MA-Interwoven.FID92021]

EXTERNAL EMAIL: This message was sent from outside DOJ. Please do not click links or open attachments that appear suspicious.


John,

Professor English's survey is publicly available and can be downloaded here:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3887145

I will get back to you about Professor Cramer as soon as I have his response.

Regards,

<p>Sean Brady Of Counsel</p>  <p>MICHEL & ASSOCIATES, P.C. Attorneys at Law Environmental - Land Use - Firearms - Employment Law Civil Litigation - Criminal Defense</p>	<p>Direct: (562) 216-4464 Main: (562) 216-4444 Fax: (562) 216-4445 Email: sbrady@michellawyers.com Web: www.michellawyers.com</p> <p>180 E. Ocean Blvd. Suite 200 Long Beach, CA 90802</p>
---	---

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From: John D. Echeverria <John.Echeverria@doj.ca.gov>

Sent: Thursday, February 16, 2023 2:56 PM

To: Sean Brady <sbrady@michellawyers.com>

Cc: Anna Ferrari <Anna.Ferrari@doj.ca.gov>; Christina R Lopez <Christina.Lopez@doj.ca.gov>

Subject: Rupp v. Bonta, No. 17-cv-00746-JLS-JDE

Sean,

I write to request that you provide the 2021 National Firearms Survey—including all questions asked and responses given—conducted by William English (one of your experts) and relied on by Mark Hanish (another of your experts). We also request all data relied on/referred to by your expert Clayton Cramer. As you know, we are entitled to all data underlying your experts' opinions pursuant to FRCP 26. Please confirm you will produce the requested survey, results, and data, and when we can expect the production.

Thanks,
John

John D. Echeverria
Deputy Attorney General
Office of the California Attorney General
Department of Justice

455 Golden Gate Avenue, Suite 11000
San Francisco, CA 94102-7004
Tel: (415) 510-3479
Fax: (415) 703-1234

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CONFIDENTIALITY NOTICE: This communication with its contents may contain confidential and/or legally privileged information. It is solely for the use of the intended recipient(s). Unauthorized interception, review, use or disclosure is prohibited and may violate applicable laws including the Electronic Communications Privacy Act. If you are not the intended recipient, please contact the sender and destroy all copies of the communication.

EXHIBIT 90

The Code of Professional Ethics and Practices

We—the members of the American Association for Public Opinion Research (AAPOR) and its affiliated chapters—subscribe to the principles expressed in this document, the AAPOR Code of Professional Ethics and Practices (“the Code”). Our goals are to support sound and ethical practice in the conduct of public opinion and survey research and promote the informed and appropriate use of research results.

The Code is based in fundamental ethical principles that apply to the conduct of research regardless of an individual’s membership in AAPOR or any other organization. Adherence to the principles and actions set out in the Code is expected of all public opinion and survey researchers.

As AAPOR members, we pledge to maintain the highest standards of scientific competence, integrity, accountability, and transparency in designing, conducting, analyzing, and reporting our work, and in our interactions with participants (sometimes referred to as respondents or subjects), clients, and the users of our research. We pledge to act in accordance with principles of basic human rights in research. We further pledge to reject all tasks or assignments that would require activities inconsistent with the principles of this Code.

The Code sets the standard for the ethical conduct of public opinion and survey research at the time of publication. Recommendations on best practices for research design, conduct, analysis, and reporting are beyond the scope of the Code but may be published separately by AAPOR Executive Council.

Definitions of Terms Used in the Code

1. “Public opinion and survey research” refers to the systematic collection and analysis of information from or about individuals, groups, or organizations concerning their behaviors, cognitions, attitudes or other characteristics. It encompasses both quantitative and qualitative research methods, traditional or emerging.

2. “Participants” refers to individuals whose behaviors, cognitions, attitudes, or other characteristics are measured and analyzed. Participants can include individuals representing groups or organizations, and individuals such as minors or those unable to consent directly, for whom a parent, legal guardian, or other proxy makes participation decisions or provides information.

3. “Personally identifiable information” refers to (i) measurements, records, or other data that can be used alone or in combination to distinguish or trace an individual’s identity and (ii) any other information that is linkable to an individual (e.g., employment information, medical history, academic records).

I. Principles of Professional Responsibility in Our Research

A. Responsibilities to Participants

1. We will avoid practices or methods that may harm, endanger, humiliate, or unnecessarily mislead participants and potential participants.

2. We will not misrepresent the purpose of our research or conduct other activities (such as sales, fundraising, or political campaigning) under the guise of conducting research.
3. We recognize that participation in our research is voluntary except where specified by regulation or law. Participants may freely decide, without coercion, whether to participate in the research, and whether to answer any question or item presented to them.
4. We will make no false or misleading claims as to a study's sponsorship or purpose and will provide truthful answers to participants' questions about the research. If disclosure of certain information about the research could endanger or cause harm to persons, could bias responses, or does not serve research objectives, it is sufficient to indicate, in response to participants' questions about the research, that some information cannot be revealed.
5. We recognize the critical importance of protecting the rights of minors and other vulnerable individuals when obtaining participation decisions and conducting our research.
6. We will act in accordance with laws, regulations, and the rules of data owners (providers of research or administrative records previously collected for other purposes) governing the collection, use, and disclosure of information obtained from or about individuals, groups, or organizations.

B. Responsibilities When Collecting Personally Identifiable Information

1. We recognize the right of participants to be provided with honest and forthright information about how personally identifiable information that we collect from them will be used.
2. We recognize the importance of preventing unintended disclosure of personally identifiable information. We will act in accordance with all relevant best practices, laws, regulations, and data owner rules governing the handling and storage of such information. We will restrict access to identifiers and destroy them as soon as they are no longer required, in accordance with relevant laws, regulations, and data owner rules.
3. We will not disclose any information that could be used, alone or in combination with other reasonably available information, to identify participants with their data, without participant permission.
4. When disclosing personally identifiable data for purposes other than the current research, we will relay to data users any conditions of their use specified in the participant permission we have obtained.
5. We understand that the use of our research results in a legal proceeding does not relieve us of our ethical obligation to protect participant privacy and keep confidential all personally identifiable data, except where participants have permitted disclosure.

C. Responsibilities to Clients or Sponsors

1. When undertaking work for a client, we will hold confidential all proprietary information obtained about the client and about the conduct and findings of the research undertaken for the client, except when the dissemination of the information is expressly authorized by the client.
2. We will inform those (partners, co-investigators, sponsors, and clients) for whom we conduct publicly released research studies about AAPOR's Standards for Disclosure in Section III of the Code, and provide information on what should be disclosed in their releases.

- 1 3. We will be mindful of the limitations of our expertise and capacity to conduct various types of research and will accept only
2 those research assignments that we can reasonably expect to accomplish within these limitations.
3

4 D. Responsibilities to the Public

- 5 1. We will disclose to the public the methods and procedures used to obtain our own publicly disseminated research results in
6 accordance with Section III of the Code.
7 2. We will correct any errors in our own work that come to our attention which could influence interpretation of the results. We
8 will make good faith efforts to identify and issue corrective statements to all parties who were presented with the factual
9 misrepresentation or distortions. If such factual misrepresentations or distortions were made publicly, we will correct them in a
10 public forum that is as similar as possible to original data dissemination.
11 3. We will correct factual misrepresentations or distortions of our data or analysis, including those made by our research
12 partners, co-investigators, sponsors, or clients. We will make good faith efforts to identify and issue corrective statements to
13 all parties who were presented with the factual misrepresentations or distortions, and if such factual misrepresentations or
14 distortions were made publicly, we will correct them in a public forum that is as similar as possible. We also recognize that
15 differences of opinion in the interpretation of analysis are not necessarily factual misrepresentations or distortions and will
16 exercise professional judgment in handling disclosure of such differences of opinion.
17

18 E. Responsibilities to the Profession

- 19 1. We recognize the importance to the science of public opinion and survey research of disseminating as freely as practicable
20 the ideas and findings that emerge from our research.
21 2. We can point with pride to our membership in AAPOR and adherence to the Code as evidence of our commitment to high
22 standards of ethics in our relations with research participants, our clients or sponsors, the public, and the profession.
23 However, we will not cite our membership in the Association nor adherence to this Code as evidence of professional
24 competence, because the Association does not certify the professional competence of any persons or organizations.
25

26 **II. Principles of Professional Practice in the Conduct of Our Work**

27 A. We will exercise due care in developing research designs, samples, and instruments, and in collecting, processing, and analyzing
28 data, taking all reasonable steps to assure the reliability and validity of results.

- 29 1. We will recommend and employ only those tools and methods of analysis that, in our professional judgment, are fit for the
30 purpose of the research questions.
31 2. We will not knowingly select research tools and methods of analysis that yield misleading conclusions.
32 3. We will not knowingly make interpretations of research results that are inconsistent with the data available, nor will we tacitly
33 permit such interpretations. We will ensure that any findings we report, either privately or for public release, are a balanced
34 and accurate portrayal of research results.
35 4. We will not knowingly imply that interpretations are accorded greater confidence than the data warrant. When we generalize
36 from samples to make statements about populations, we will only make claims of precision and applicability to broader
37 populations that are warranted by the sampling frames and other methods employed.

1 5. We will not engage in data fabrication or falsification.

2 6. We will accurately describe and attribute research from other sources that we cite in our work, including its methodology,
3 content, comparability, and source.

4 B. We will describe our methods and findings accurately and in appropriate detail in all research reports, adhering to the standards
5 for disclosure specified in Section III of the Code.
6
7

8 **III. Standards for Disclosure**

9 Broadly defined, research on public opinion can be conducted using a variety of quantitative and qualitative methodologies,
10 depending on the research questions to be addressed and available resources. Accordingly good professional practice imposes the
11 obligation upon all public opinion and survey researchers to disclose sufficient information about how the research was conducted to
12 allow for independent review and verification of research claims, regardless of the methodology used in the research. Full and
13 complete disclosure for items listed in Section A will be made at the time results are released, either publicly or to a research client,
14 as the case may be. As detailed below, the items listed in Section B, if not immediately available, will be released within 30 days of
15 any request for such materials. If the results reported are based on multiple samples or multiple modes, the preceding items (as
16 applicable) will be disclosed for each.
17

18 **A. Items for Immediate Disclosure**

19 1. **Data Collection Strategy:** Describe the data collection strategies employed (e.g. surveys, focus groups, content analyses).
20

21 2. **Who Sponsored the Research and Who Conducted It.** Name the sponsor of the research and the party(ies) who
22 conducted it. If the original source of funding is different than the sponsor, this source will also be disclosed.
23

24 3. **Measurement Tools/Instruments.** Measurement tools include questionnaires with survey questions and response options,
25 show cards, vignettes, or scripts used to guide discussions or interviews. The exact wording and presentation of any
26 measurement tool from which results are reported as well as any preceding contextual information that might reasonably be
27 expected to influence responses to the reported results and instructions to respondents or interviewers should be included.
28 Also included are scripts used to guide discussions and semi-structured interviews and any instructions to researchers,
29 interviewers, moderators, and participants in the research. Content analyses and ethnographic research will provide the
30 scheme or guide used to categorize the data; researchers will also disclose if no formal scheme was used.
31

32 4. **Population Under Study.** Survey and public opinion research can be conducted with many different populations including,
33 but not limited to, the general public, voters, people working in particular sectors, blog postings, news broadcasts, an elected
34 official's social media feed. Researchers will be specific about the decision rules used to define the population when
35 describing the study population, including location, age, other social or demographic characteristics (e.g., persons who

access the internet), time (e.g., immigrants entering the US between 2015 and 2019). Content analyses will also include the unit of analysis (e.g., news article, social media post) and the source of the data (e.g., Twitter, Lexis-Nexis).

5. Method Used to Generate and Recruit the Sample. The description of the methods of sampling includes the sample design and methods used to contact or recruit research participants or collect units of analysis (content analysis).

- a. Explicitly state whether the sample comes from a frame selected using a probability-based methodology (meaning selecting potential participants with a known non-zero probability from a known frame) or if the sample was selected using non-probability methods (potential participants from opt-in, volunteer, or other sources).
- b. Probability-based sample specification should include a description of the sampling frame(s), list(s), or method(s).
 - i. If a frame, list, or panel is used, the description should include the name of the supplier of the sample or list and nature of the list (e.g., registered voters in the state of Texas in 2018, pre-recruited panel or pool).
 - ii. If a frame, list, or panel is used, the description should include the coverage of the population, including describing any segment of the target population that is not covered by the design.
- c. For surveys, focus groups, or other forms of interviews, provide a clear indication of the method(s) by which participants were contacted, selected, recruited, intercepted, or otherwise contacted or encountered, along with any eligibility requirements and/or oversampling.
- d. Describe any use of quotas.
- e. Include the geographic location of data collection activities for any in-person research.
- f. For content analysis, detail the criteria or decision rules used to include or exclude elements of content and any approaches used to sample content. If a census of the target population of content was used, that will be explicitly stated.
- g. Provide details of any strategies used to help gain cooperation (e.g., advance contact, letters and scripts, compensation or incentives, refusal conversion contacts) whether for participation in a survey, group, panel, or for participation in a particular research project. Describe any compensation/incentives provided to research subjects and the method of delivery (debit card, gift card, cash).

6. Method(s) and Mode(s) of Data Collection. Include a description of all mode(s) used to contact participants or collect data or information (e.g., CATI, CAPI, ACASI, IVR, mail, Web for survey; paper and pencil, audio or video recording for qualitative research, etc.) and the language(s) offered or included. For qualitative research such as in-depth interviews and focus groups, also include length of interviews or the focus group session.

7. Dates of Data Collection. Disclose the dates of data collection (e.g., data collection from January 15 through March 10 of 2019). If this is a content analysis, include the dates of the content analyzed (e.g., social media posts between January 1 and 10, 2019).

8. **Sample Sizes (by sampling frame if more than one frame was used) and (if applicable) Discussion of the Precision of the Results.**

- a. Provide sample sizes for each mode of data collection (for surveys include sample sizes for each frame, list, or panel used).
- b. For probability sample surveys, report estimates of sampling error (often described as “the margin of error”) and discuss whether or not the reported sampling error or statistical analyses have been adjusted for the design effect due to weighting, clustering, or other factors.
- c. Reports of non-probability sample surveys will only provide measures of precision if they are defined and accompanied by a detailed description of how the underlying model was specified, its assumptions validated, and the measure(s) calculated.
- d. If content was analyzed using human coders, report the number of coders, whether inter-coder reliability estimates were calculated for any variables, and the resulting estimates.

9. **How the Data Were Weighted.** Describe how the weights were calculated, including the variables used and the sources of the weighting parameters.

10. **How the Data Were Processed and Procedures to Ensure Data Quality.** Describe validity checks, where applicable, including but not limited to whether the researcher added attention checks, logic checks, or excluded respondents who straight-lined or completed the survey under a certain time constraint, any screening of content for evidence that it originated from bots or fabricated profiles, re-contacts to confirm that the interview occurred or to verify respondent’s identity or both, and measures to prevent respondents from completing the survey more than once. Any data imputation or other data exclusions or replacement will also be discussed. Researchers will provide information about whether any coding was done by software or human coders (or both); if automated coding was done, name the software and specify the parameters or decision rules that were used.

11. **A General Statement Acknowledging Limitations of the Design and Data Collection.** All research has limitations and researchers will include a general statement acknowledging the unmeasured error associated with all forms of public opinion research.

B. **Additional Items for Disclosure.** After results are reported, we will make the following items available within 30 days of any request for such materials:

1. Procedures for managing the membership, participation, and attrition of the panel, if a pool, panel, or access panel was used. This should be disclosed for both probability and non-probability surveys relying on recruited panels of participants.

2. Methods of interviewer or coder training and details of supervision and monitoring of interviewers or human coders. If machine coding was conducted, include description of the machine learning involved in the coding.
3. Details about screening procedures, including any screening for other surveys or data collection that would have made sample or selected members ineligible for the current data collection (e.g., survey, focus group, interview) will be disclosed (e.g., in the case of online surveys if a router was used).
4. Any relevant stimuli, such as visual or sensory exhibits or show cards. In the case of surveys conducted via self-administered computer-assisted interviewing, providing the relevant screen shot(s) is strongly encouraged, though not required.
5. Summaries of the disposition of study-specific sample records so that response rates for probability samples and participation rates for non-probability samples can be computed. If response or cooperation rates are reported, they will be computed according to AAPOR Standard Definitions. If dispositions cannot be provided, explain the reason(s) why they cannot be disclosed, and this will be mentioned as a limitation of the study.
6. The unweighted sample size(s) on which one or more reported subgroup estimates are based.
7. Specifications adequate for replication of indices or statistical modeling included in research reports.

1 C. Access to Datasets

2 Reflecting the fundamental goals of transparency and replicability, AAPOR members share the expectation that access to datasets
3 and related documentation will be provided to allow for independent review and verification of research claims upon request. In order
4 to protect the privacy of individual respondents, such datasets will be de-identified to remove variables that can reasonably be
5 expected to identify a respondent. Datasets may be held without release for a period of up to one year after findings are publicly
6 released to allow full opportunity for primary analysis. Those who commission publicly disseminated research have an obligation to
7 disclose the rationale for why eventual public release or access to the datasets is not possible, if that is the case.

8
9 D. AAPOR Standards Complaint

10 If any of our work becomes the subject of a formal investigation of an alleged violation of this Code, undertaken with the approval of
11 the AAPOR Executive Council, we will provide additional information on the research study in such detail that a fellow researcher
12 would be able to conduct a professional evaluation of the study.

13
14 .

EXHIBIT 91

Deposition of Gary D. Kleck

Oregon Firearms Federation, Inc., et al. v. Brown, et al.

January 25, 2023



206.287.9066 | 800.846.6989

1325 Fourth Avenue, Suite 1840, Seattle, Washington 98101

www.buellrealtime.com

email: info@buellrealtime.com



Oregon Firearms Federation, Inc., et al. v. Brown, et al.

Gary D. Kleck

Page 1

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON

OREGON FIREARMS FEDERATION,)	
INC., et al.,)	
)	
Plaintiffs,)	
	)	Case No.
v.	)	2:22-cv-01815-IM
	)	3:22-cv-01859-IM
KATE BROWN, et al.,	)	3:22-cv-01862-IM
	)	3:22-cv-01869-IM
Defendants.)	
)	
)	
)	
(Continued))	

* VIDEOCONFERENCE *
VIDEOTAPED DEPOSITION UPON ORAL EXAMINATION
OF EXPERT
GARY D. KLECK

Witness located in:

Tallahassee, Florida

* All participants appeared via videoconference *

DATE TAKEN: January 25, 2023
REPORTED BY: Tia B. Reidt, Washington RPR, CSR #2798
Oregon #22-0001

BUELL REALTIME REPORTING, LLC
206.287.9066 | 800.846.6989

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(Continued))
)
MARK FITZ, et al.,)
)
Plaintiffs,)
v.)
)
ELLEN F. ROSENBLUM, et al.,)
)
Defendants.)
)

KATERINA B. EYRE, et al.,)
)
Plaintiffs,)
v.)
)
ELLEN F. ROSENBLUM, et al.,)
)
Defendants.)
)

DANIEL AZZOPARDI, et al.,)
)
Plaintiffs,)
v.)
)
ELLEN F. ROSENBLUM, et al.,)
)
Defendants.)

Page 3

APPEARANCES

For Oregon Firearms Federation:

LEONARD WILLIAMSON
VAN NESS WILLIAMSON
960 Liberty Street SE, Suite 100
Salem, OR 97302
(503) 365-8800
L.williamson@vwllp.com

For the non-intervenor defendants, governor, the
Attorney General, and the superintendent of the Oregon
state police:

BRIAN MARSHALL
OREGON DEPARTMENT OF JUSTICE
SPECIAL LITIGATION UNIT
100 SW Market Street
Portland, OR 97201
(971) 673-1800
Brian.S.Marshall@doj.state.or.us

For the Proposed Intervenor-Defendant Oregon Alliance
For Gun Safety:

ZACHARY J. PEKELIS
W. SCOTT FERRON
PACIFICA LAW GROUP
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(206) 245-1700
Zach.Pekelis@PacificaLawGroup.com

Videographer:

BROOK YOUNG
Buell Realtime Reporting
1325 Fourth Avenue, Suite 1840
Seattle, WA 98101
(206) 287-9066
Brook@BuellRealtime.com

* * * * *

Page 6

1 Tallahassee, Florida; Wednesday, January 25, 2023

2 9:38 a.m.

3 -oOo-

4
5 THE VIDEOGRAPHER: This is the deposition
6 of Gary Kleck in the matter of Oregon Firearms
7 Federation, Inc., et al., versus Brown, et al., Cause
8 Numbers 2:22-cv-01815-IM, and 3:22-cv-01859-IM, and
9 3:22-cv-01862-IM, and 3:22-cv-01869-IM in the United
10 States District Court for the District of Oregon and
11 was noticed by Brian Marshall.

12 The time now is approximately 9:38 a.m. on
13 this 25th day of January, 2023, and we are appearing
14 via videoconference.

15 My name is Brook Young from Buell Realtime
16 Reporting, LLC, located at 1325 4th Avenue,
17 Suite Number 1840, in Seattle, Washington 98101.

18 Will Counsel and all present please identify
19 themselves for the record.

20 MR. MARSHALL: Brian Marshall, Oregon
21 Department of Justice for the State defendants in the
22 four consolidated cases.

23 MR. WILLIAMSON: Leonard Williamson for
24 OFF plaintiffs and other consolidated plaintiffs.

25 MR. PEKELIS: Zach Pekelis for

Page 7

1 Intervenor-Defendant Oregon Alliance For Gun Safety,
2 Pacifica Law Group in Seattle.

3 MR. FERRON: And Scott Ferron, also with
4 Pacifica Law Group in Seattle.

5 THE VIDEOGRAPHER: The court reporter may
6 now swear in the witness.

7 THE COURT REPORTER: And can I please get
8 a stipulation on the record from counsel to swear in
9 the witness, as I am a Washington state court reporter
10 and notary, and the witness is in Florida?

11 MR. MARSHALL: So stipulated.

12 MR. WILLIAMSON: So stipulated. Thank
13 you.

14 MR. PEKELIS: Yes, stipulated.

15 GARY D. KLECK,
16 Having been first duly sworn by the
17 Certified Court Reporter, was deposed as follows:
18
19

20 EXAMINATION

21 BY MR. MARSHALL:

22 Q. Professor Kleck, at the beginning, I just want
23 to designate your declaration in this case as
24 Exhibit 33. It's a 59-page document that I emailed you
25 this morning that is -- was filed as ECF 76 in the

Page 76

1 the criticisms, which is not a scholarly practice. You
2 know, scholars will respond to criticism with some kind
3 of a rebuttal, but those who are big fans of the notion
4 that defensive gun use is rare simply don't respond.

5 Q. Are you familiar with William English of
6 Georgetown University?

7 A. Yeah. Yeah.

8 Q. Are you familiar with the 2021 National
9 Firearms Survey he's posted on SSRN?

10 A. Yeah.

11 Q. What do you think of that survey?

12 A. I don't think you can rely on it.

13 Q. Why not?

14 A. He's vague about exactly how he developed his
15 sample. And there's nothing in his report to
16 contradict the assumption that what he had was a
17 self-selected sample, where people were in effect --
18 who arrived at, let's say, a website were invited to
19 participate. And that's not a valid sample technique
20 to generate a sample that's representative of the
21 larger US population.

22 Q. Why does that matter?

23 A. Well, because you can't then generalize the
24 results from your sample to the population as a whole.
25 You only know, well, this was what was true in my

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1 sample, which was to some extent self-selected, but you
2 can't know that it applies in any way, shape, or form,
3 to the US population as a whole.

4 Q. Do you have other concerns with - with the
5 2021 National Firearms Survey that Dr. English posted
6 on SSRN?

7 A. No. That's sufficient.

8 Q. Without -- without that information that is
9 missing, you would not rely on that survey for any
10 purpose?

11 A. That is correct. I would not rely.

12 Q. Your thesis is that -- about the NRA defensive
13 use data, that NRA staff intentionally omit stories of
14 defensive gun use that have greater than ten rounds
15 fired?

16 A. I think they omit any kind of an incident that
17 would make defensive gun use look less reputable, less
18 responsible. If there's an excessive number of rounds
19 fired, they would be very reluctant to include that
20 among the incidents they publicize by putting it into
21 the armed citizen column.

22 Q. Why do you think that firing more than ten
23 rounds is excessive?

24 A. Well, it's unusual, for starters. And many
25 people would interpret it as indiscriminate fire. They

C E R T I F I C A T E

STATE OF WASHINGTON

COUNTY OF PIERCE

I, Tia Reidt, a Certified Court Reporter in and for the State of Washington, do hereby certify that the foregoing transcript of the deposition of GARY D. KLECK, having been duly sworn, on January 25, 2023, is true and accurate to the best of my knowledge, skill and ability.

Reading and signing was requested pursuant to FRCP Rule 30(e).

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 1st day of February, 2023.



/S/ Tia B. Reidt
Tia B. Reidt, RPR, CSR #22-0001
NOTARY PUBLIC, State of
Washington.
My commission expires
5/15/2026.

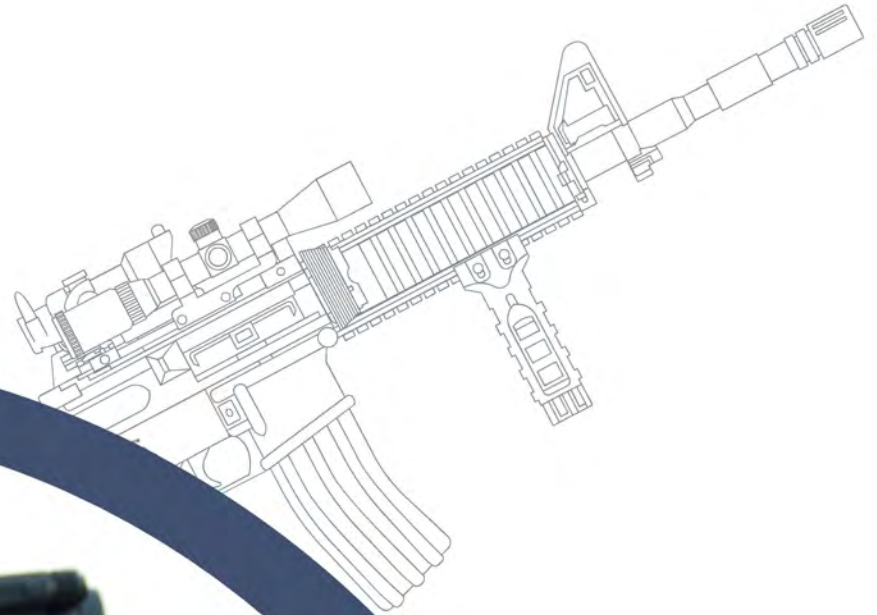
EXHIBIT 92

NSSF® Report

MODERN SPORTING RIFLE

COMPREHENSIVE CONSUMER REPORT

Ownership, Usage and Attitudes Toward
AR- and AK-Platform Modern Sporting Rifles



NSSF®
The Firearm Industry
Trade Association

NSSF MSR Consumer Study – Report of Findings

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NSSF MSR Consumer Study – Report of Findings

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NSSF MSR Consumer Study – Report of Findings

Executive Summary

EXPERIENCE WITH MSRs

- Ownership & Platform: The median MSR user owns nearly 4 MSRs, with 97% of owners saying they own an AR-platform MSR. 38% own another MSR platform and 27% own an AK platform MSR.
- When MSR was first owned: Over 40% obtained their first MSR since 2009, with 11% obtaining their first MSR within the last 2 years. while 20% of MSR owners obtained their first MSR prior to 1999.
- Other Firearms Owned First: 99% of MSR owners used or obtained another firearm before an MSR; the most popular firearm owned is a handgun, which 88% of MSR owners held before obtaining a MSR.
- Introduction to MSRs: One-third of MSR owners became interested through their own personal accord. About 21% first gained interest through military or their job, and another 20% through family & friends.
- Range membership: 52% of MSR owners are current members of a shooting range. 28% have never been a member, with the final 20% being former members.
- Reasons for ownership: Recreational target shooting was rated as the most important reasons for owning an MSR. Big game hunting and professional/job-related use were rated as least important.

MOST RECENTLY ACQUIRED MSR

- When Acquired: 48% of MSR owners said they obtained their most recently acquired MSR within the last two years (2021 or 2021), with 31% saying they obtained a MSR in 2021.
- Platform: Nearly 9 out of 10 MSR owners said the most recent MSR they acquired was an AR platform.

NSSF MSR Consumer Study – Report of Findings

Executive Summary

MOST RECENTLY ACQUIRED MSR (cont.)

- New/Used MSR: 83% of MSR owners said they bought their most recent MSR by purchasing it new.
- Place of purchase: 30% of owners bought their most recent MSR from a independent (mom & pop) retail store. 22% assembled their MSR using purchases of different parts, and 19% used the internet/website. The most popular retailers & online sites used were Palmetto State Armory, Gunbroker.com, Cabela's, and Sportsman's Warehouse.
- Price: The average price for a new MSR paid by owners was \$1,071; half of MSR owners paid between \$500 and \$1000 for their most recently acquired MSR.
- Brand: Survey data indicates the MSR market is highly fragmented. 11% of MSR owners said Palmetto was the brand of their most recently acquired MSR.
- Caliber – 60% of respondents said the caliber of their most recently acquired MSR is .223 / 5.56 mm.
- Reasons for buying- MSR owners said reliability, accuracy, and fun were the most important reasons for purchasing their most recently acquired MSR. The least important reasons were recommendations from a retailer and MSRs owned by family/friends.
- Accessories: 86% of MSR owners have their most recently acquired MSR customized to some extent, with 70% having 1-3 accessories. 75% of those with accessories added them to their MSR within 12 months after purchase. The average spent for accessories by owners on their most recently acquired MSR is \$618.
- Optics used: 61% of MSR owners have a scope equipped as a primary optics, while 55% utilize a red dot.

NSSF MSR Consumer Study – Report of Findings

Executive Summary

MOST RECENTLY ACQUIRED MSR (cont.)

- Scope: the most common scopes used by MSR owners are the 3-9x power scope and the 1-4x power scope.
- Magazine capacity: Over half (52%) of MSR owners stated the magazine capacity of their MSR is 30 rounds. When asked why they chose their respective capacity, most frequent responses were related to popularity/standard and being readily available.
- Stock: Approximately two-thirds of MSR owners have a collapsible/folding stock on their MSR.
- Receiver: 81% of owners have a flat top upper receiver.
- Handguard: The most common type of handguard is a free floating with rails handguard, used by 43% of respondents on their most recently acquired MSR.
- Finish color: 3 out of 4 owners have a black finish color on their MSR.
- Barrel: 67% have a threaded barrel on their MSR.
- Barrel accessories: Most used barrel accessories are flash hider (39% of MSR owners) and muzzle brake/compensator (37%).
- Barrel length: 75% have a MSR with a barrel length of 16" to 20".
- Operating system: The most recently acquired MSR for 59% of owners operates by direct gas impingement.

NSSF MSR Consumer Study – Report of Findings

Executive Summary

MOST RECENTLY ACQUIRED MSR (cont.)

- Storage: 67% store their MSR unloaded and secured in a safe, lock box, or with a trigger lock. An additional 19% store their MSR loaded and secured in a safe, lock box, or with a trigger lock.
- Likelihood to buy: On a scale from 1 to 10, where 1 is “not at all likely” and 10 is “very likely”, the average likelihood rating given by MSR owners that they’ll buy a MSR in the next 12 months is 6.2, slightly more to the “likely” end of the scale.
- Accessories owned: The most common accessories currently owned by MSR owners are gun cleaning kits, extra magazines, targets, and a soft carrying case. The accessory MSR owners most frequently said they planned to buy in the next 12 months is a suppressor/silencer. About 70% of MSR owners do not own and do not plan on buying a laser designator or night vision/thermal scope in the next 12 months.

USAGE AND ACTIVITIES

- Use: 88% of MSR owners used/shot their MSR(s) in the last 12 months. The average number of times used was 14, just over once a month. Compared to the 12 months before that, 41% said their MSR use was “about the same” while 38% said it was less.
- Desired usage: 75% of MSR owners said they did not use their MSR as much as they would like over the past 12 months. The most important factors preventing owners from using their MSR more are related to ammunition: lack of availability and cost.
- Activities: The most popular activity by MSR owners is target shooting — 54% said they did target shooting at a private range, while 49% said they did target shooting at a public range.
- Ammo used: Roughly 70% of MSR owners used budget factory and premium factory loads in the last 12 months. The ammo breakdown for an average MSR user is made up of 42% budget factory loads, 32% premium factory loads, 17% handloads/reloads, and 9% import ammo. The average number of rounds used by MSR owners in the last 12 months is 907 rounds. In the next 12 months, MSR owners project they’ll fire 984 rounds.

NSSF MSR Consumer Study – Report of Findings

Executive Summary

USAGE AND ACTIVITIES (cont.)

- Ammo purchases: The average number of ammo rounds typically purchased by MSR owners is 637.
- Ammo on hand: Nearly half (45%) of MSR owners own/keep more than 1,000 rounds on hand.
- Ammo reloads: 6 out of 10 MSR owners do not reload their own ammunition. Of the 40% who do, the average percentage of ammunition they reload is 53%.
- Activities – Distance: The most frequent distance that MSR owners hunt/target shoot is at 100–300 yards.
- Target shooting alone vs with others: 43% of MSR owners who go target shooting typically go with 1 other person. 27% go alone.
- Favorite part about owning MSR: MSR owners said their favorite part about owning a MSR was: fun/enjoyment of shooting, exercising freedom/2A rights, ease of use, and reliability.

RESPONDENT PROFILE

- Organizations: 61% of MSR owners are members of or recently donated to the NRA, the most frequently chosen organization. 21% of MSR owners are not members of or recently donated to any firearm organizations. 12% are members or recently donated to the NSSF.
- Military/Law-Enforcement: 38% of MSR owners are active/retired member of law enforcement or the military.
- Age/Gender/Race: 96% of MSR owners are Male. The average age of MSR owners is 55 years old. 88% are White/Caucasian.
- Marital status: 74% of MSR owners are married. Of these MSR owners, over half say their spouse accompanies them for target shooting. 24% say their spouse has no interest in target shooting or firearms.

NSSF MSR Consumer Study – Report of Findings

Executive Summary

RESPONDENT PROFILE (cont.)

- Education: 45% of MSR owners have attained at least a bachelors degree. One-quarter have attended some college, but did not graduate.
- Income: The average yearly household income for MSR owners is \$110,934. More than half are in households with an annual income of greater than \$85,000.
- Children in Household: 62% of MSR owners do not have any children living with them.
- State: The states with the most respondents were Texas (9%), California (5%), and Florida (5%).

NSSF MSR Consumer Study – Report of Findings

Methodology

In 2020, the National Shooting Sports Foundation (NSSF) contracted Sports Marketing Surveys for an online consumer survey on modern sporting rifles (MSRs) that was last carried out in 2013. Due to the COVID pandemic and personnel changes at NSSF, this survey was not able to be administered until December 2021. The aim is to provide the NSSF and manufacturers insights on current consumer needs and uses of MSRs as well as educate those influencing public policy in the effort to preserve our constitutional rights.

The online survey covered various aspects of MSR ownership, behavior, and attitudes. The NSSF promoted the survey via a partner email distribution list. A random drawing to win one of four \$250 Mastercard prepaid gift cards was included to incentivize participation. The term “Modern Sporting Rifle” was clearly defined as AR- or AK-platform rifles such as AR-15, AR-10, AK-47, AK-74 and did not include non-rifle firearms such as AR pistols, etc. Photographs of both AR- and AK-platform MSRs were shown on the survey landing page. All responses from those under 18 years old or said they did not own at least 1 MSR were removed from the analysis.

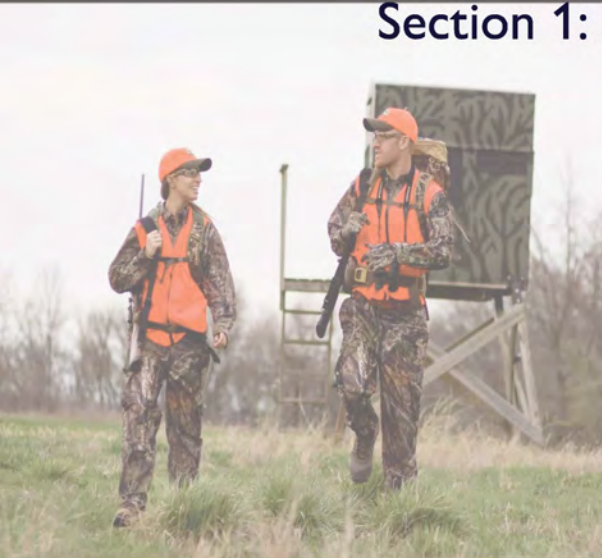
The survey was live from December 9, 2021 to January 2, 2022.

- **Completed Surveys: 2,421**
- **Usable responses for analysis: 2,185**

NSSF MSR Consumer Study – Report of Findings



Section 1: Experience with Modern Sporting Rifles

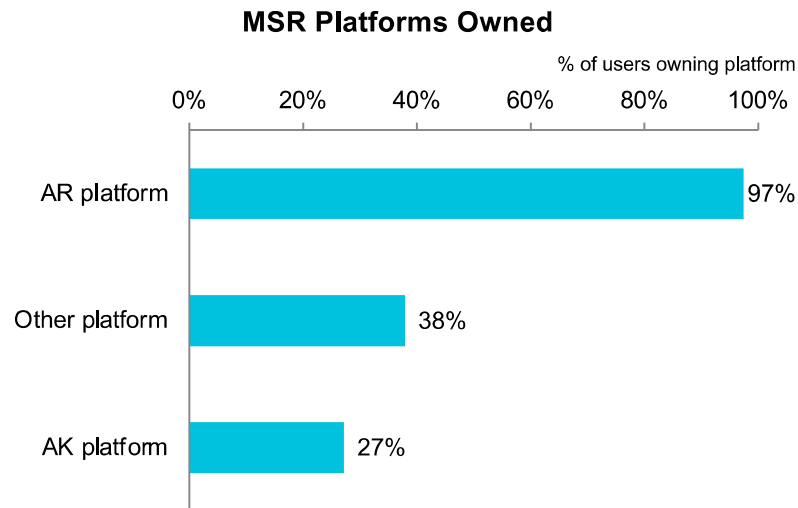


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NSSF MSR Consumer Study – Report of Findings

Modern Sporting Rifle Ownership: Platforms



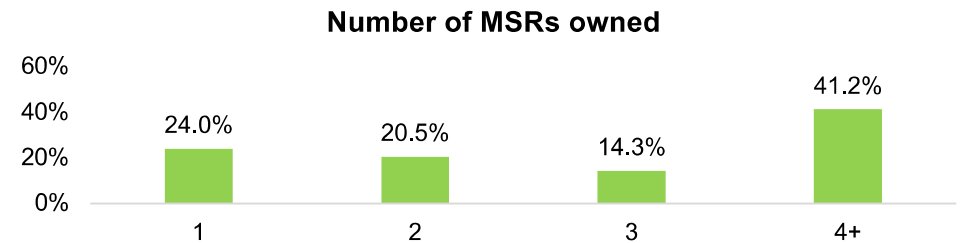
Platform	Average Number of MSRs owned (<u>must own at least one of specified platform</u>)
AR platform	2.7
Other platform	2.3
AK platform	1.5

Average number of MSRs owned: 3.8

- AR – 2.6
- Other – 0.8
- AK – 0.4

Median of all MSRs owned: 3

(may own zero of one or more platform, but must at least own one MSR)



Trend – Average Number of MSRs owned

2010: 2.6

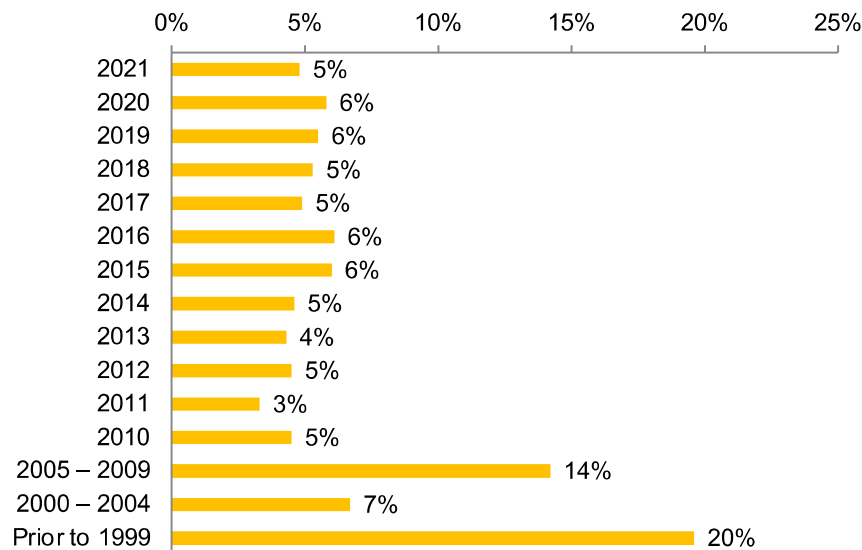
2013: 3.1

2021: 3.8

NSSF MSR Consumer Study – Report of Findings

Modern Sporting Rifle Ownership: Experience

When did you obtain your FIRST MSR?



By Number of MSRs Owned

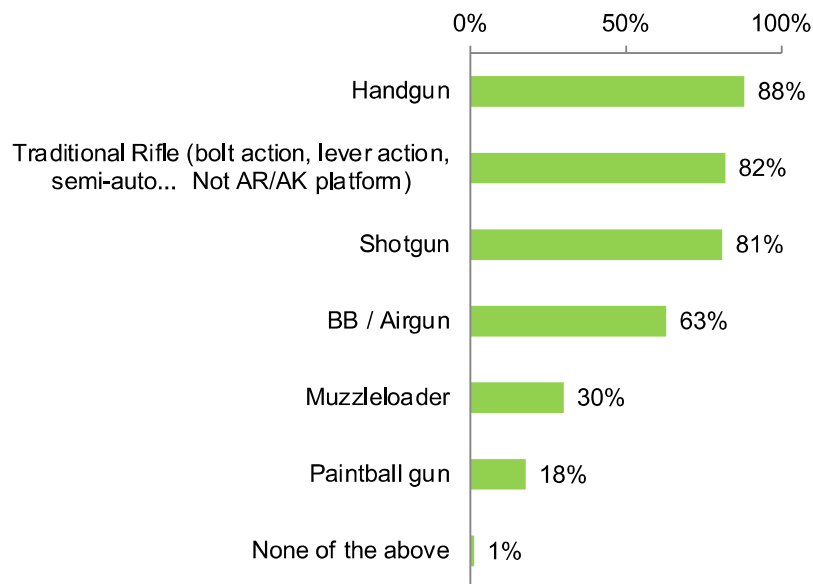
	1 MSR	2	3	4	5+
2021	14%	3%	3%	1%	1%
2020	13%	7%	3%	1%	2%
2019	9%	7%	5%	4%	2%
2018	9%	7%	5%	5%	2%
2017	8%	5%	5%	4%	3%
2016	7%	8%	8%	6%	3%
2015	7%	8%	6%	3%	5%
2014	5%	7%	3%	4%	3%
2013	3%	5%	6%	4%	4%
2012	4%	4%	4%	7%	5%
2011	2%	4%	4%	4%	4%
2010	2%	4%	7%	4%	6%
2005 – 2009	8%	13%	15%	15%	19%
2000 – 2004	3%	4%	7%	9%	11%
Prior to 1999	7%	13%	20%	28%	30%

- 20% of MSR owners obtained their first MSR before 1999. Over 40% have owned theirs since 2009.
- 11% obtained their first MSR within the last two years.
- 26% of those who own 1 MSR obtained it in 2020 or 2021.

NSSF MSR Consumer Study – Report of Findings

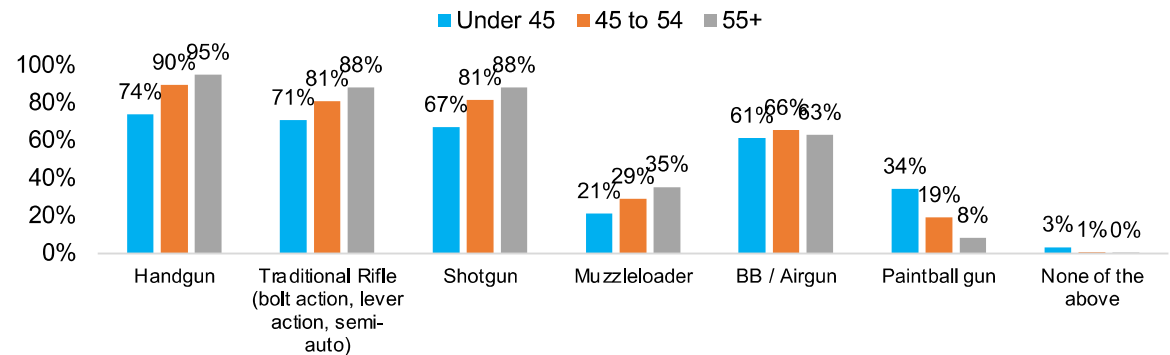
Modern Sporting Rifle Ownership: Experience

Firearms Used/Owned BEFORE obtaining a MSR



- Handguns are the most popular firearm used/owned before obtaining an MSR, with 88% of MSR owners selecting.
- Traditional rifles were also first used/owned by 82% of MSR owners.
- Younger MSR owners show less ownership of other firearm types before a MSR compared to other age groups.

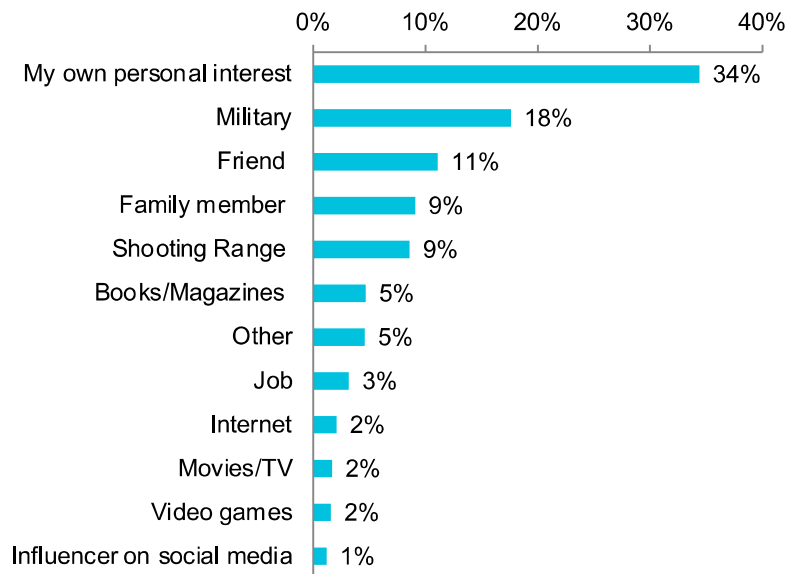
Firearms Used Before MSR - by Age



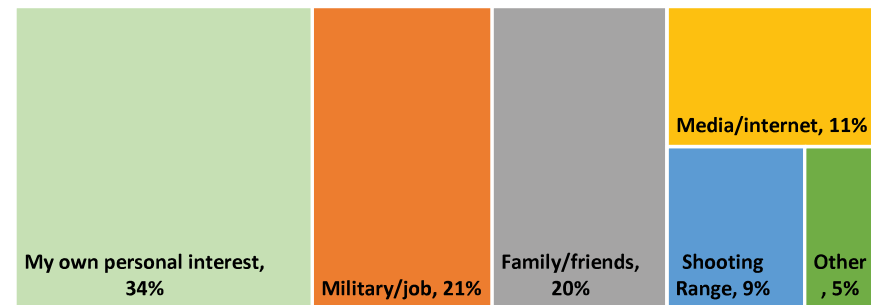
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Modern Sporting Rifle Ownership: Experience

Introduction to MSRs: where did you first gain interest?



Introduction to MSRs (Grouped)

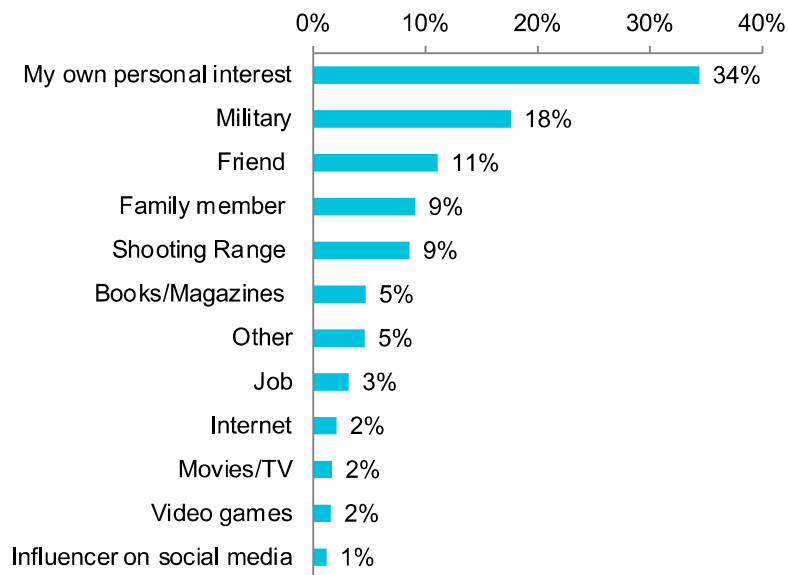


- One-third of MSR owners became interested through their own personal accord.
- About 21% first gained interest through the military or their job, and another 20% through family/friends.

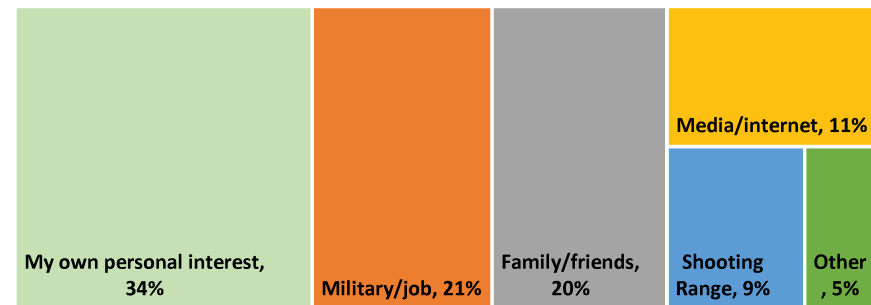
NSSF MSR Consumer Study – Report of Findings

Modern Sporting Rifle Ownership: Experience

Introduction to MSRs: where did you first gain interest?



Introduction to MSRs (Grouped)

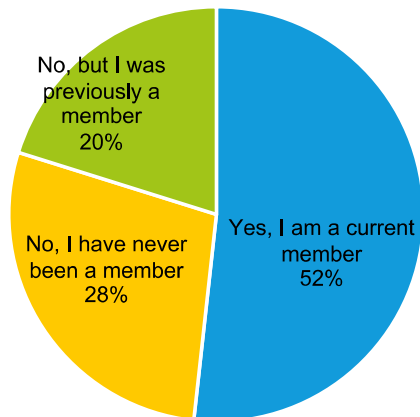


- One-third of MSR owners became interested through their own personal accord.
- About 21% first gained interest through the military or their job, and another 20% through family/friends.

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Modern Sporting Rifle Ownership: Shooting Ranges

Do you currently have a membership at a shooting range?



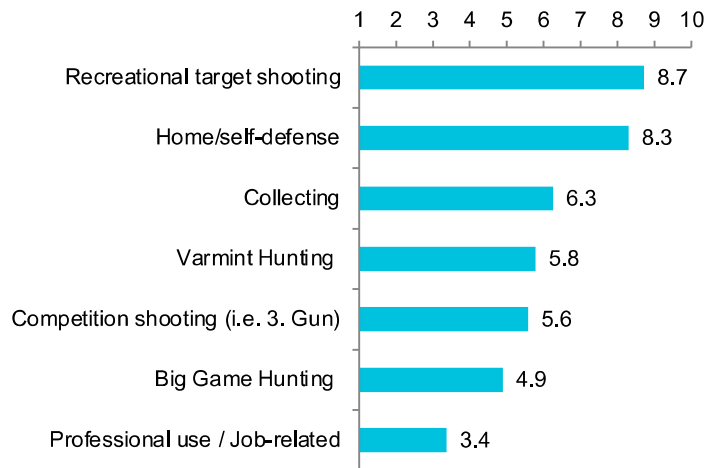
- About half of MSR owners are current members of a shooting range.
- 28% have never been a member of a shooting range.

NSSF MSR Consumer Study – Report of Findings

Modern Sporting Rifle Ownership: Reasons for Ownership

Respondents were asked to rate how important each of the following reasons are to owning an MSR. They rated each reason on a scale from 1 to 10, where 1 is “not at all important” and 10 is “very important.”

Rating: How important are these reasons to owning an MSR?



Scale:

1=Not at all important, 10= very important

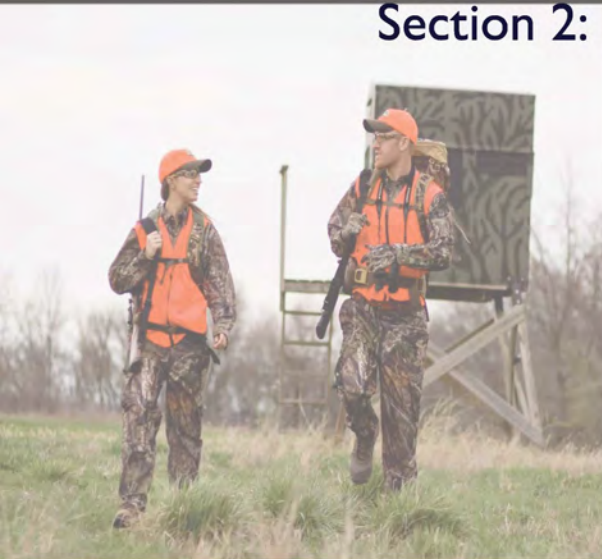
- Recreational target shooting was rated as the most important reason for owning an MSR.
- Big game hunting and professional/job-related use were given the lowest importance ratings.

	MSR Owned					Age			Usage Frequency			
	1	2	3	4	5+	Under 45	45 to 54	55+	3 times or less	4 to 11 times	12 to 23 times	24+ times
Recreational target shooting	8.4	8.7	8.8	8.6	9	8.4	8.8	8.9	8.5	8.8	9	9.1
Home/self-defense	7.9	8.2	8.2	8.3	8.7	8.4	8.3	8.2	8	8.3	8.5	8.7
Collecting	5.2	5.8	6.6	6.7	7.1	6.9	6.5	5.8	5.9	6.2	6.4	7
Varmint Hunting	5.2	5.5	5.8	5.9	6.3	5.7	5.8	5.8	5.2	5.7	6.2	7
Competition shooting (i.e. 3. Gun)	4.6	5.3	5.6	6	6.4	6	5.8	5.2	4.9	5.4	6.3	7
Big Game Hunting	4.3	4.4	4.9	5.4	5.5	5.2	4.9	4.7	4.4	4.9	5.2	6
Professional use / Job-related	2.8	3	3.7	3.5	3.9	4	3.4	3	3	3.2	3.6	4.5

NSSF MSR Consumer Study – Report of Findings



Section 2: Most Recently Acquired Modern Sporting Rifle



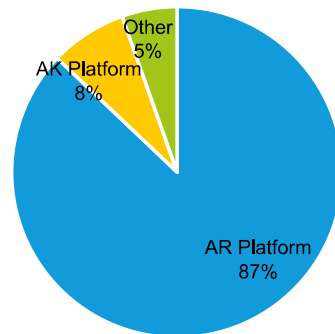
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NSSF MSR Consumer Study – Report of Findings

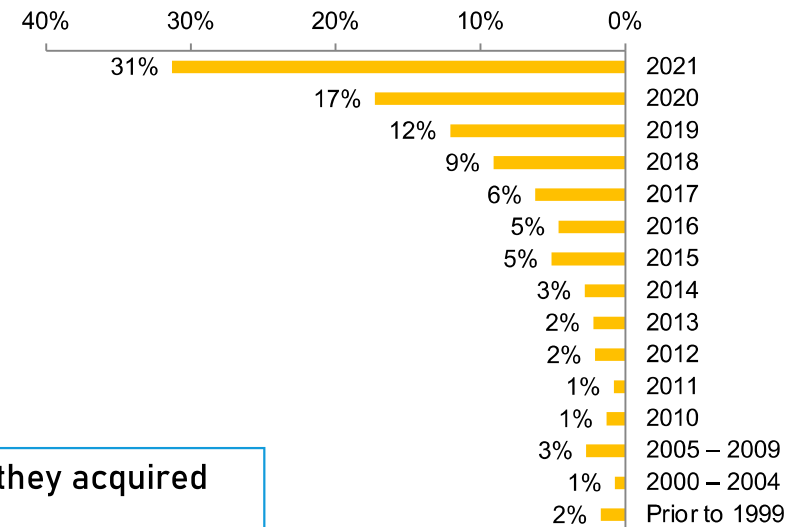
Most Recently Acquired MSR: Platform, When Acquired

Platform - Most Recent MSR Obtained



- Nearly 9 out of 10 MSR owners said the most recent MSR they acquired was an AR platform.
- Nearly one-third of MSR owners said they acquired their most recent one in 2021, nearly 50% within the last two years (2021 or 2020).

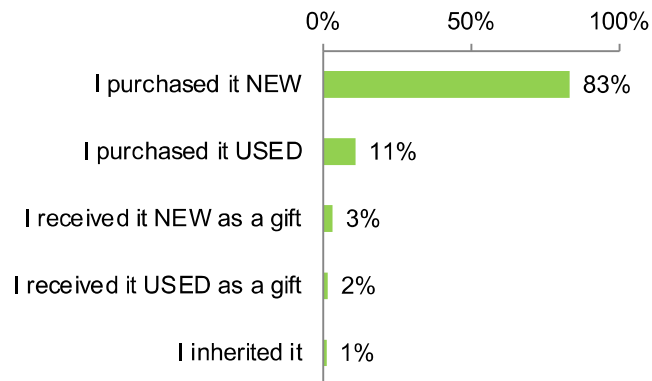
Year of Most Recently Acquired MSR



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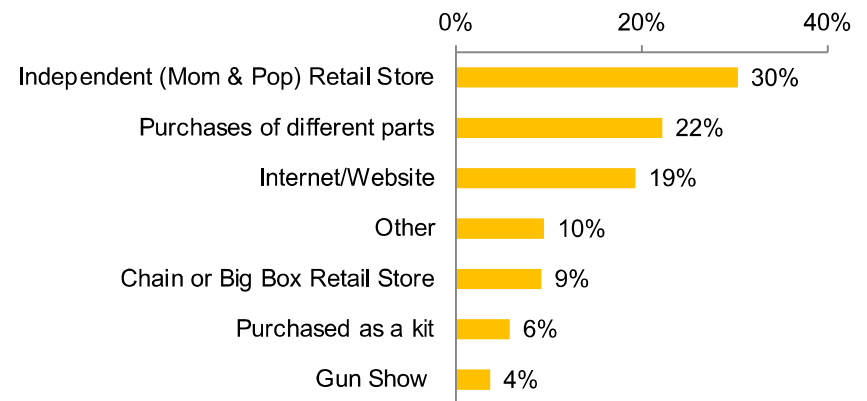
Most Recently Acquired MSR: How? Where?

How did you obtain your most recently acquired MSR?



- 83% of MSR owners acquired their most recent MSR by purchasing it new.

Place of Purchase



- For those purchasing a new or used MSR, the most common place of purchase was an independent retail store.
- Popular retailers & online sites used: Palmetto State Armory, Gunbroker.com, Cabela's, Sportsman's Warehouse,

NSSF MSR Consumer Study – Report of Findings

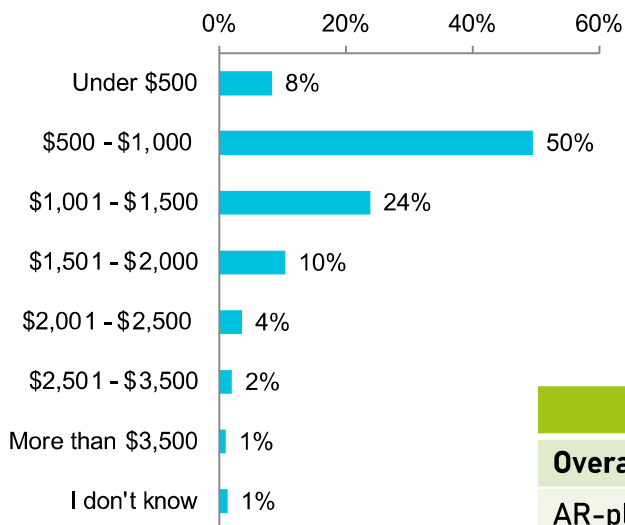
Most Recently Acquired MSR: Place of Purchase

	Total	Number of MSRs Owned					Age			Range Membership	
		1	2	3	4	5+	Under 45	45 to 54	55+	Member	Non-member
Independent (Mom & Pop) Retail Store	30.3%	31.9%	30.5%	31.1%	29.8%	28.9%	26.6%	35.1%	30.1%	33.9%	26.5%
Purchases of different parts	22.2%	12.0%	18.8%	24.8%	29.3%	28.6%	25.4%	25.8%	19.0%	21.3%	23.2%
Internet/Website	19.3%	18.6%	21.1%	16.2%	19.1%	20.2%	24.3%	14.1%	19.1%	18.1%	20.7%
Other	9.5%	11.4%	11.2%	9.6%	8.0%	7.3%	6.1%	7.8%	11.9%	8.9%	10.1%
Chain or Big Box Retail Store	9.2%	16.2%	10.1%	7.6%	5.3%	5.2%	7.9%	8.8%	9.9%	7.9%	10.5%
Purchased as a kit	5.8%	5.6%	4.6%	6.3%	5.8%	6.4%	7.0%	4.6%	5.6%	5.9%	5.6%
Gun Show	3.7%	4.2%	3.7%	4.3%	2.7%	3.5%	2.7%	3.8%	4.2%	4.0%	3.4%

NSSF MSR Consumer Study – Report of Findings

Most Recently Acquired MSR: Price

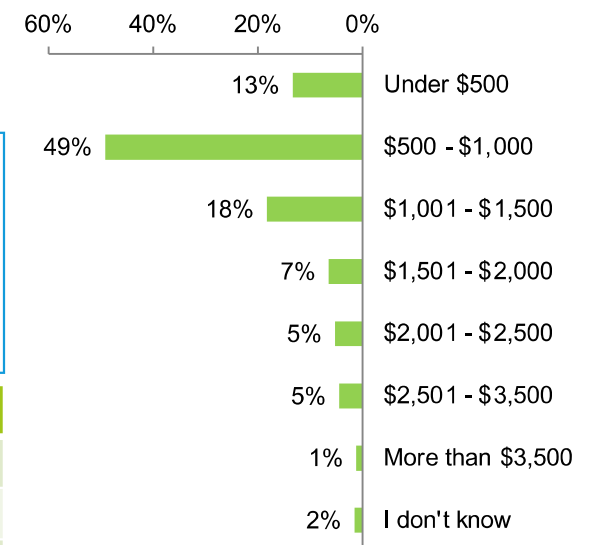
Price of most recently acquired NEW MSR



- Half of MSR owners paid between \$500 and \$1000 for their most recently purchased MSR, both those who bought a new MSR and those who bought a used MSR.
- Average price for last MSR: \$1,071.

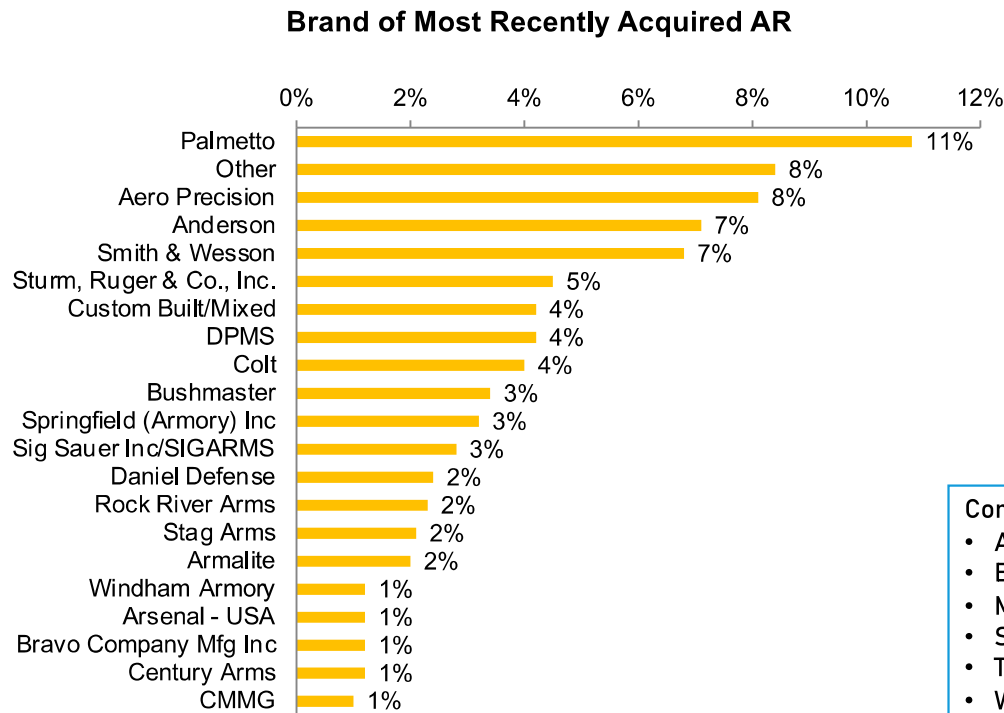
	2010	2013	2021
Overall average	\$1,083	\$1,058	\$1,071
AR-platform (new)		\$1,112	\$1,057
AR platform (used)			\$992
AK platform (new)		\$711	\$1,086
AK platform (used)			\$1,218

Price of most recently acquired USED MSR



NSSF MSR Consumer Study – Report of Findings

Most Recently Acquired MSR: Brand



- Survey data indicates the MSR market is highly fragmented. 11% of MSR owners said Palmetto was the brand of their most recently acquired MSR — the highest among the options available.

Commonly mentioned brands included in "Other":

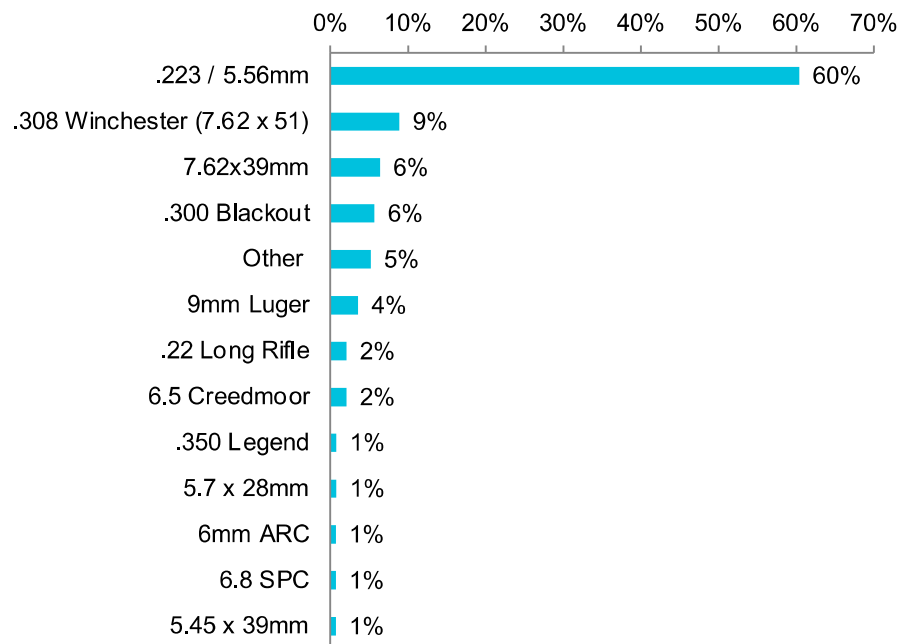
- ATI
- Battle Arms Development
- MBX
- Sharp Bros
- Tavor
- WBP

50+ other brands were selected by less than 1% of respondents; full list available upon request

NSSF MSR Consumer Study – Report of Findings

Most Recently Acquired MSR: Caliber

Caliber of Most Recently Acquired MSR



7 other calibers were selected by less than 1 % of respondents

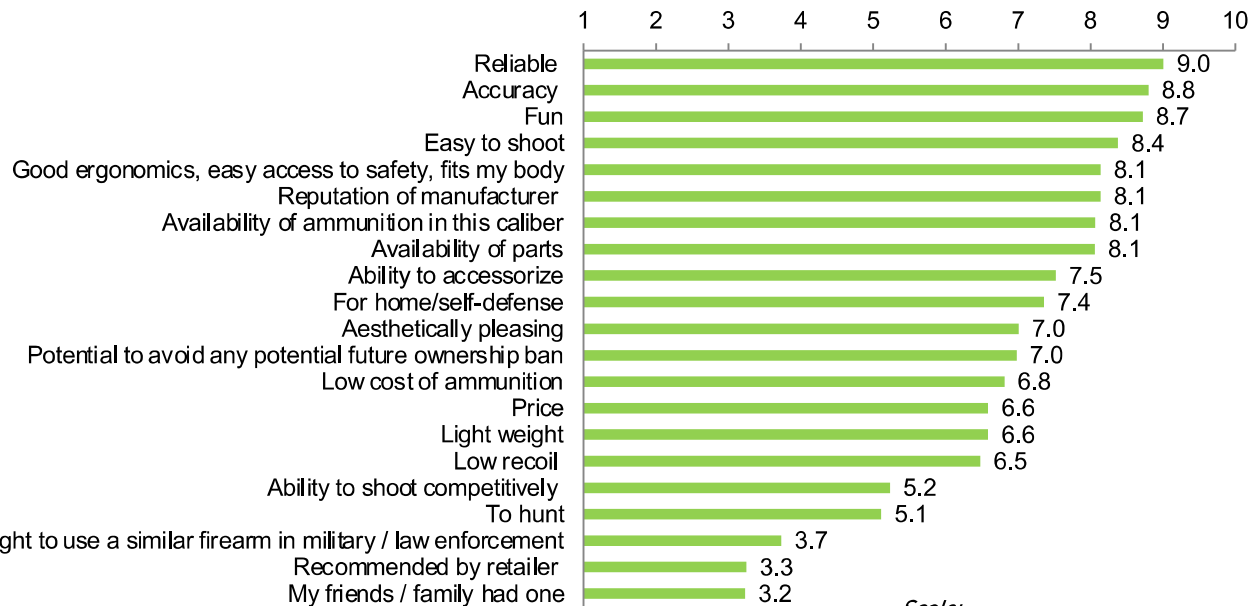
- 60% of respondents said the caliber of their most recently acquired MSR is .223 / 5.56 mm
- Of the 5% selecting “other,” the most frequently mentioned calibers included:
 - 6.5 Grendel
 - .458 SOCOM
 - .224 Valkyrie

NSSF MSR Consumer Study – Report of Findings

Most Recently Acquired MSR: Reasons for Buying

For the 94% of respondents that purchased their MSR new or used, they were asked to rate how important each of the following reasons are for selecting their most recently acquired MSR on a scale from 1 to 10, where 1 is “not at all important” and 10 is “very important.”

Rating: Most Important Reasons for Buying Most Recently Purchased MSR



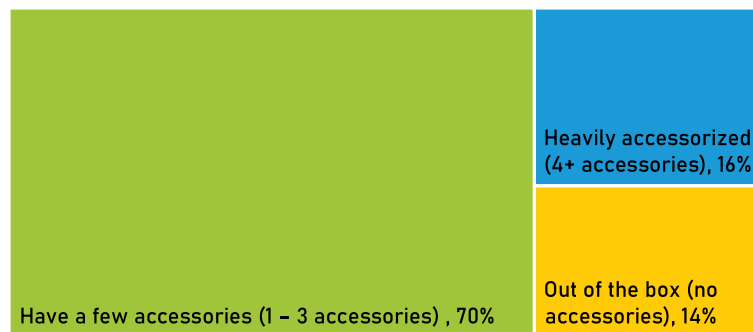
Scale:
1=Not at all important, 10= very important

- MSR owners rated reliability, accuracy, and fun as the most important reasons for purchasing their most recently acquired MSR.
- The least important reasons as rated by MSR owners include recommendations from a retailer and MSRs owned by family/friends.

NSSF MSR Consumer Study – Report of Findings

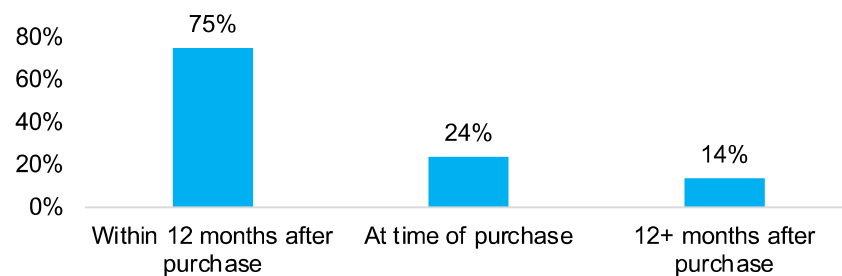
Most Recently Acquired MSR: Accessories

MSR - Use of Accessories



- 86% of have their most recently acquired MSR customized to some extent, 70% having 1-3 accessories.
- For those with accessories on their most recently acquired MSR, 75% added accessories within 12 months after purchase. Nearly a quarter added accessories at the time of purchase.

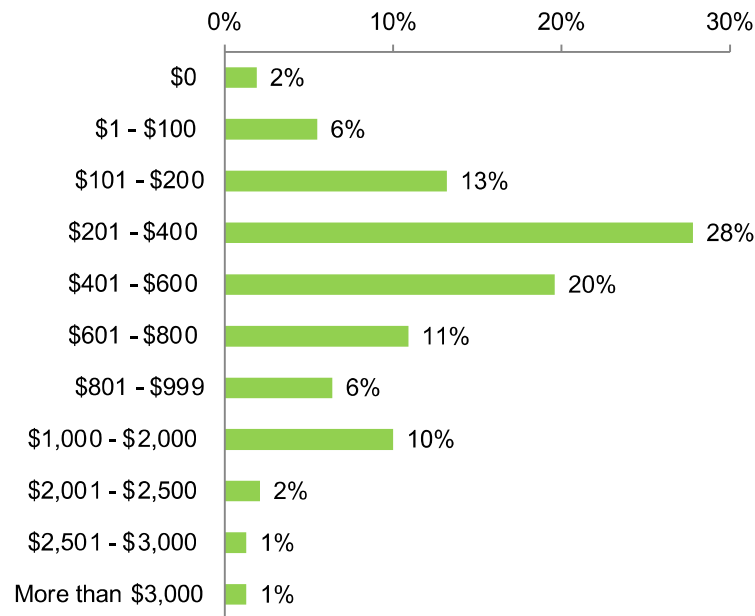
When have you added accessories to your MSR?



NSSF MSR Consumer Study – Report of Findings

Most Recently Acquired MSR: Accessories - Spend

Spend on After-Market Customization to Most Recently Acquired MSR



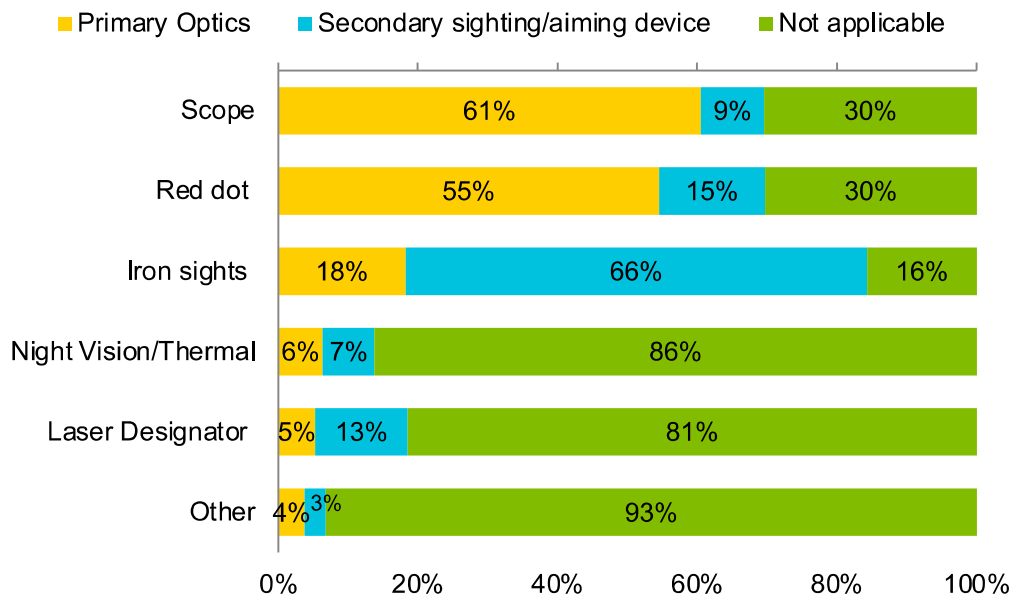
	2010	2013	2021
Average spent	\$436	\$381	\$618

- Of the MSR owners who have added accessories to their most recently acquired MSR, nearly half, or 48%, have spent between \$201 and \$600 on after-market customization.
- The average spent for accessories by owners on their most recently acquired MSR by owners is \$618.

NSSF MSR Consumer Study – Report of Findings

Most Recently Acquired MSR: Optics

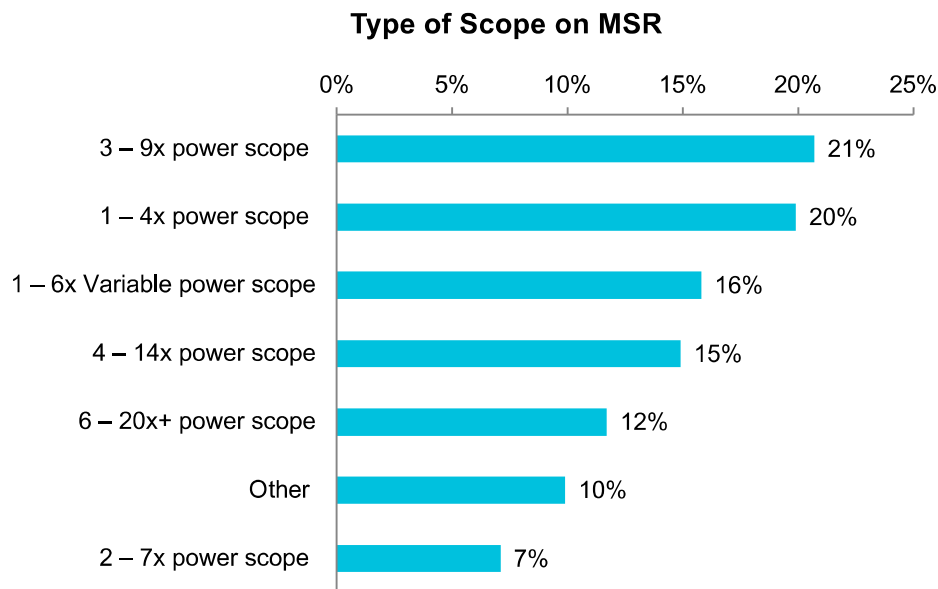
Optics Used on Most Recently Acquired MSR



- 61% of MSR owners have a scope equipped as a primary optic on their most recently acquired MSR.
- Iron sights are the most common secondary aiming device, equipped on two-thirds of respondents' MSRs.

NSSF MSR Consumer Study – Report of Findings

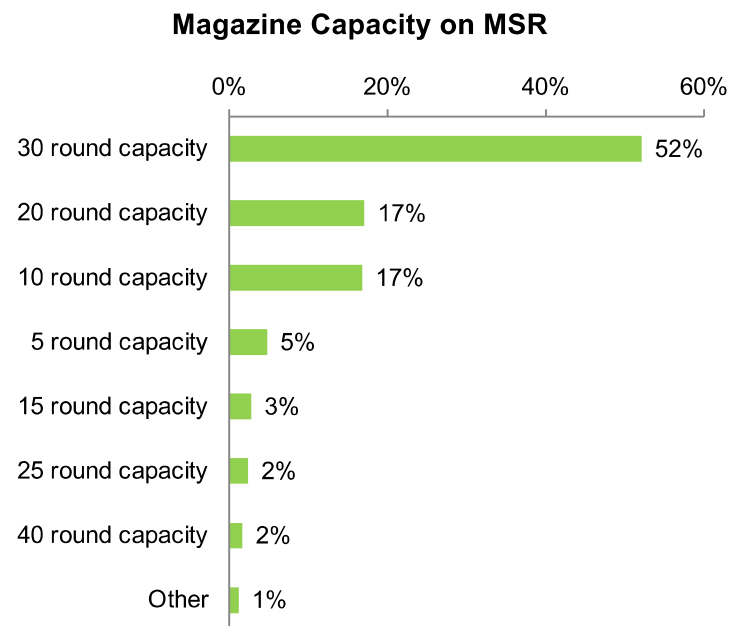
Most Recently Acquired MSR: Scope



- The most common scopes used by MSR owners are the 3-9x power scope (21%) and the 1-4x power scope (20%).
- Of the 10% who selected “Other,” the most frequently mentioned scopes were:
 - 1-8x variable power scope
 - 1-10x variable power scope

NSSF MSR Consumer Study – Report of Findings

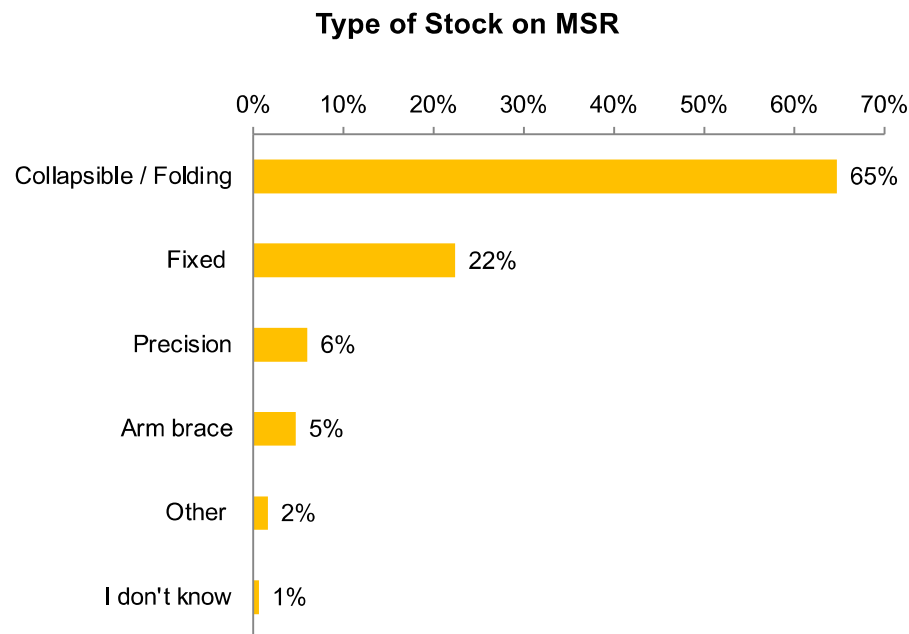
Most Recently Acquired MSR: Magazine Capacity



- Half (52%) of MSR owners stated the magazine capacity of their most recently acquired MSR is 30 rounds.
- When asked why they chose their respective magazine capacity, the most frequent responses were:
 - Common/standard
 - Readily available

NSSF MSR Consumer Study – Report of Findings

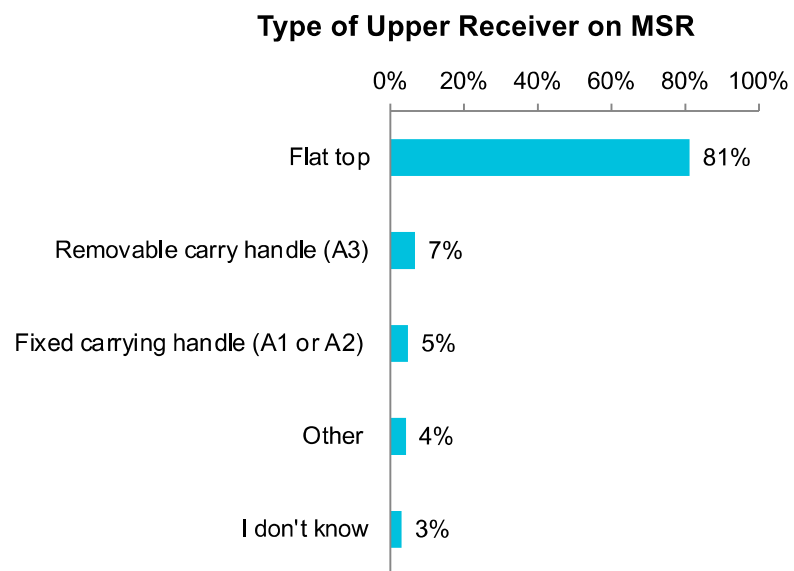
Most Recently Acquired MSR: Type of Stock



- 65%, or approximately two-thirds, of MSR owners have a collapsible/folding stock on their most recently purchased MSR.

NSSF MSR Consumer Study – Report of Findings

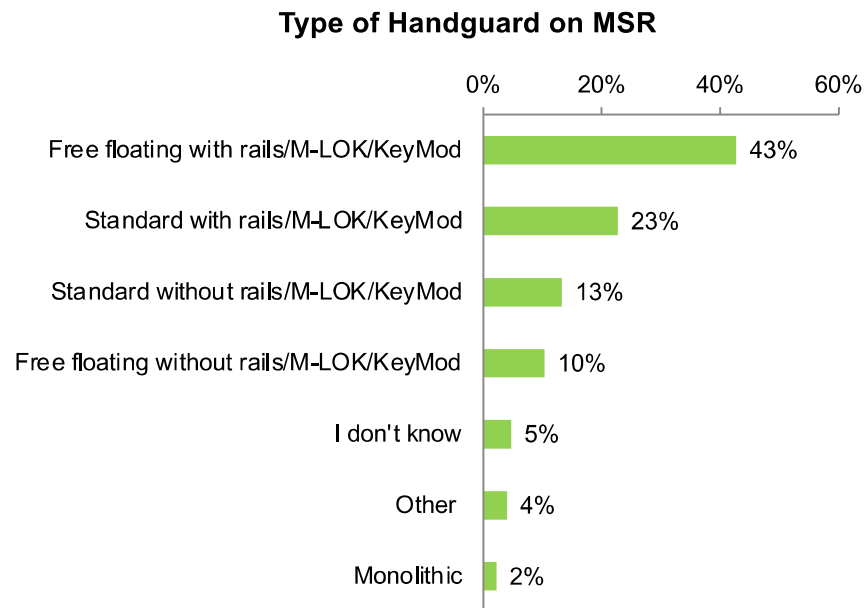
Most Recently Acquired MSR: Type of Upper Receiver



- 81% have a flat top upper receiver on their most recently acquired MSR.

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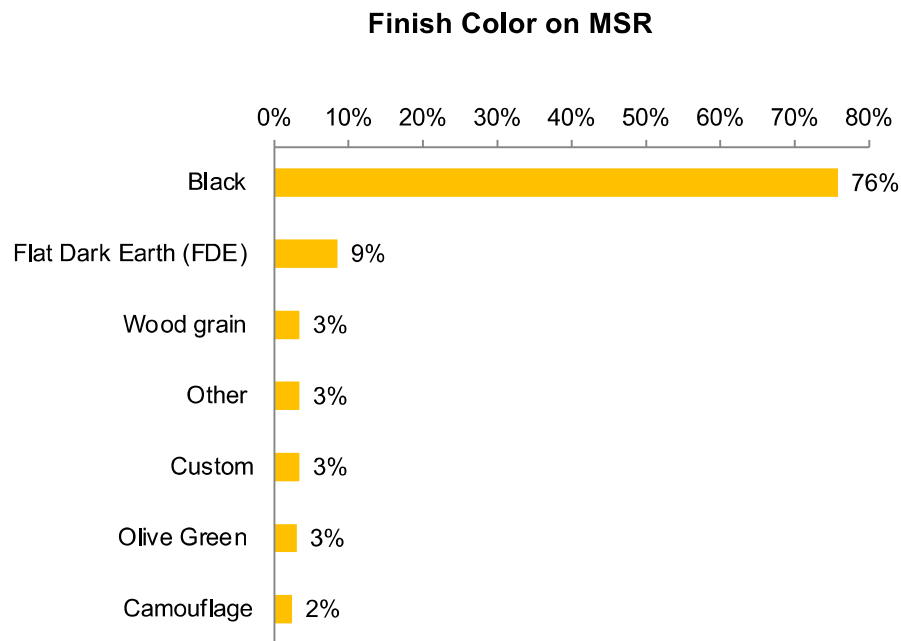
Most Recently Acquired MSR: Type of Handguard



- The most common type of handguard is a free floating with rails handguard, used by 43% of respondents on their most recently acquired MSR.

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Most Recently Acquired MSR: Finish Color

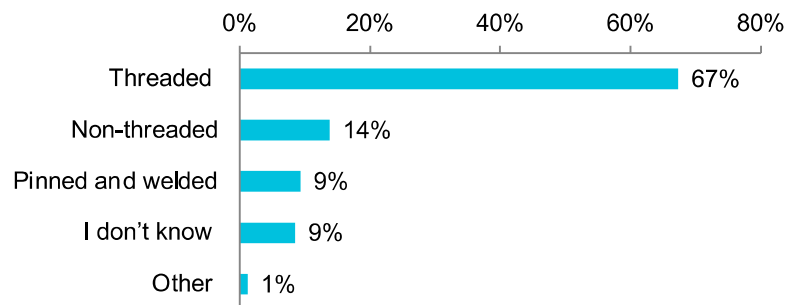


- 3 out of 4 MSR owners have a black finish color.

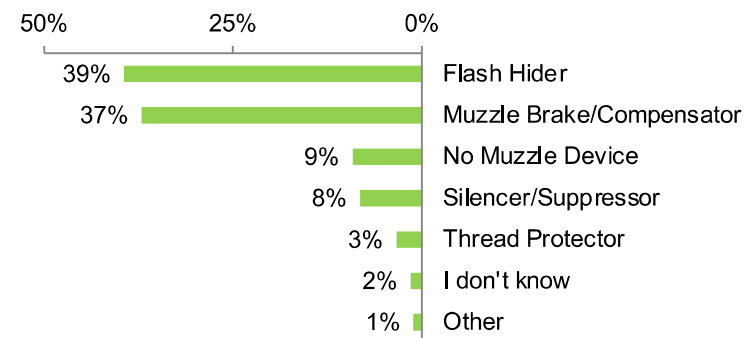
NSSF MSR Consumer Study – Report of Findings

Most Recently Acquired MSR: Barrels – Type, Accessories, Length

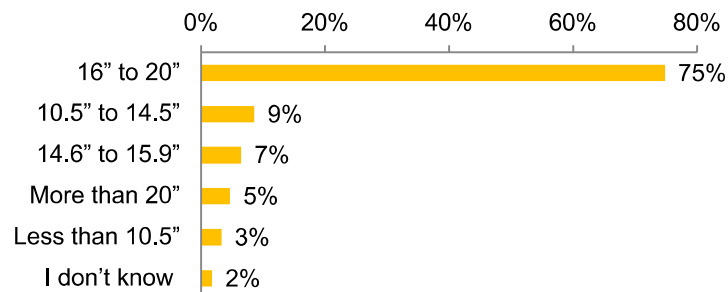
Type of Barrel on MSR



Barrel Accessories on MSR



Barrel Length on MSR

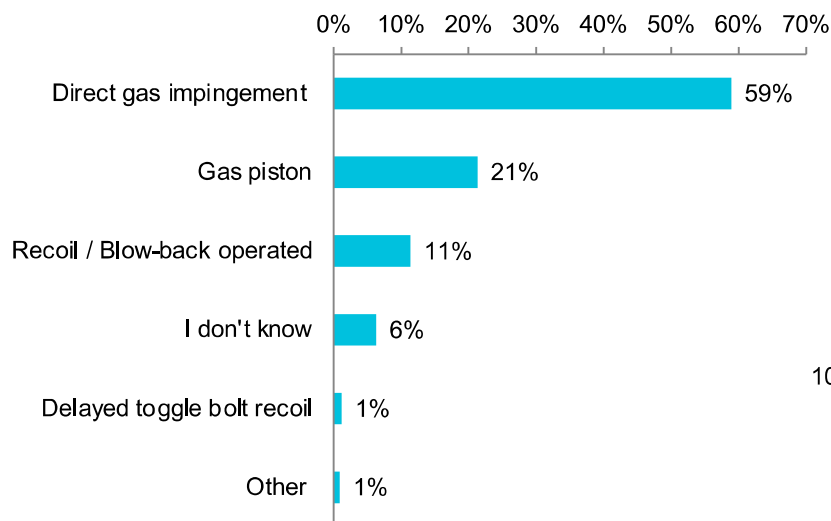


- Two-thirds of MSR owners have a threaded barrel.
- Most common accessories: flash hider (39%), muzzle brake/compensator (37%)
- 75% have a barrel length of 16-20"

NSSF MSR Consumer Study – Report of Findings

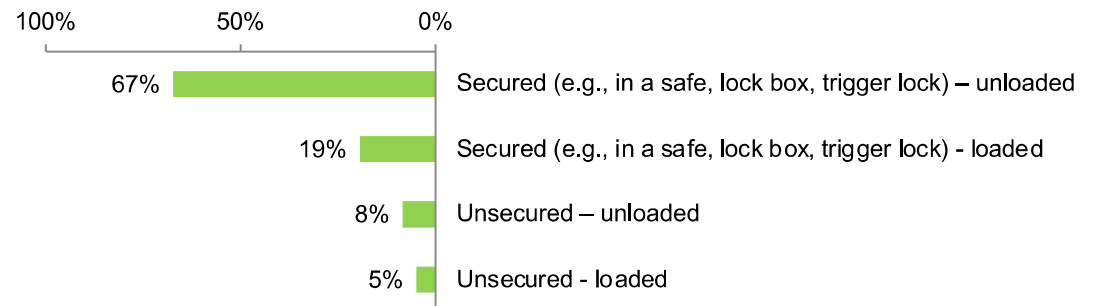
Most Recently Acquired MSR: Operating System, Storage

Operating System on MSR



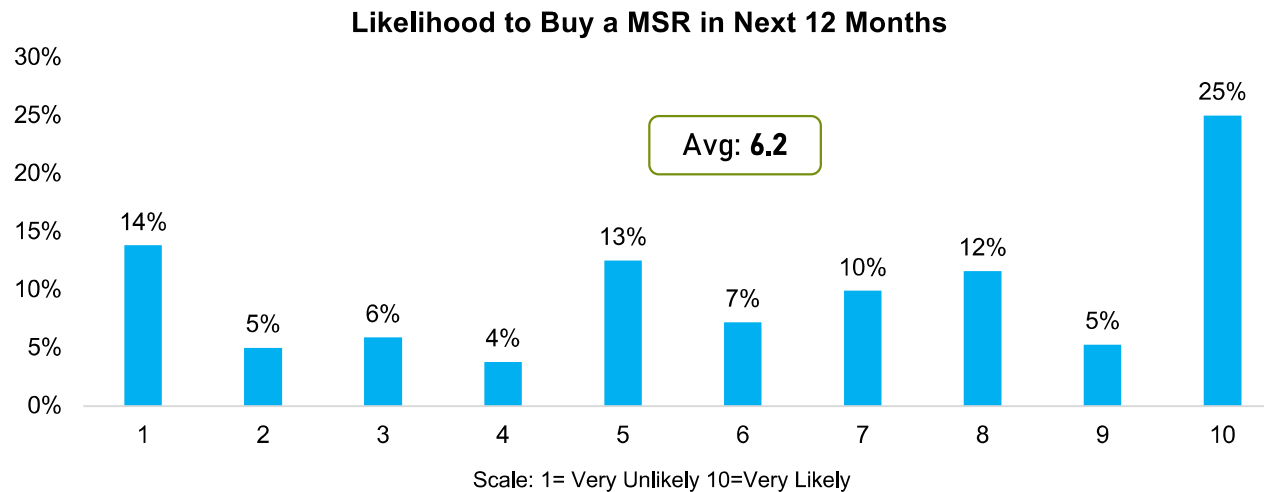
- 59% of MSR owners indicated their most recently acquired MSR is operated by direct gas impingement.
- 67%, or two-thirds, of MSR owners store their MSR secured and unloaded.

MSR Storage



NSSF MSR Consumer Study – Report of Findings

Most Recently Acquired MSR: Likelihood to Buy a MSR in Next 12 Months



- Average likelihood to buy an MSR in the next 12 months is a 6.2 out of 10, slightly more to the “likely” end of the scale.
- 25%, or one-fourth of respondents, said they are “very likely” to buy an MSR in the next 12 months.

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Most Recently Acquired MSR: Accessories Owned

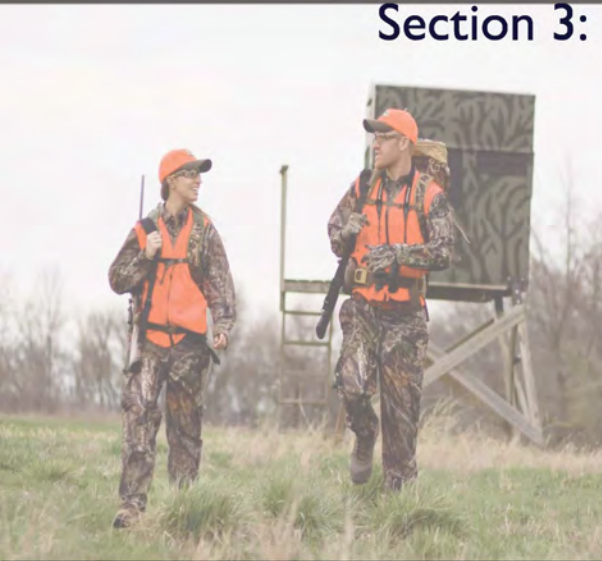
	Owned	Plan to buy in next 12 months	Don't own, don't plan to buy
Gun Cleaning Kit	94%	9%	3%
Extra Magazines	87%	23%	6%
Targets	84%	26%	5%
Soft Carrying Case	84%	9%	12%
Rifle Sling	81%	21%	8%
Gun Safe	78%	14%	13%
Rifle Scope	76%	23%	14%
Hard Carrying Case	69%	12%	25%
Gun Lock	64%	4%	32%
Backup sights	55%	20%	31%
Bipod	55%	21%	34%
Railed Handguard	54%	13%	36%
Spotting Scope	52%	19%	31%
Mounted Flashlight	46%	27%	36%
Trigger Upgrade	45%	26%	39%
Range Finder	43%	25%	37%
Vertical Fore-grip	41%	14%	49%
Stock Upgrade	37%	17%	49%
Suppressor/silencer	19%	37%	53%
Laser Designator	17%	12%	72%
Night Vision/Thermal	13%	26%	67%
Other	6%	4%	43%

- The most common accessories currently owned by MSR owners are gun cleaning kits, extra magazines, targets, and soft carrying case.
- The accessory that MSR owners most frequently said they planned to buy in the next 12 months is a suppressor/silencer.
- Roughly 70% of MSR owners do not own and do not plan to buy a laser designator or night vision/thermal scope in the next 12 months.

NSSF MSR Consumer Study – Report of Findings



Section 3: Modern Sporting Rifle Usage & Activities



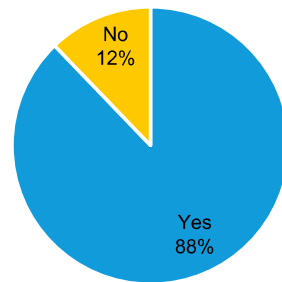
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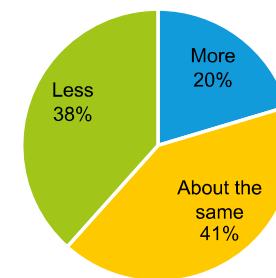
NSSF MSR Consumer Study – Report of Findings

MSR Usage and Activities

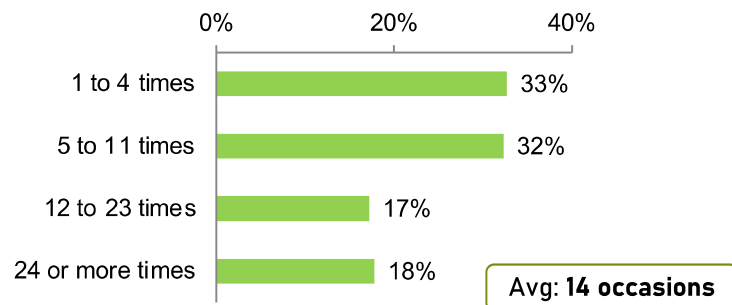
Used Your MSR(s) in the last 12 months?



MSR Use in Last 12 Months Compared to Previous 12 Months



MSR Usage: Number of Times in Last 12 Months

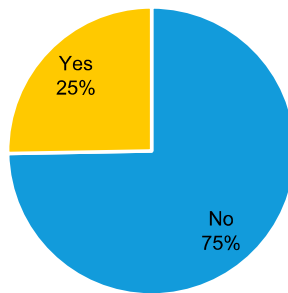


- 88% of MSR owners used/shot their MSR(s) in the last 12 months. Compared to the 12 months before that, 41% said their MSR use was “about the same.” 38% said it was less.
- Of those who used their MSR, the average number of times respondents used it in the last 12 months is 14.

NSSF MSR Consumer Study – Report of Findings

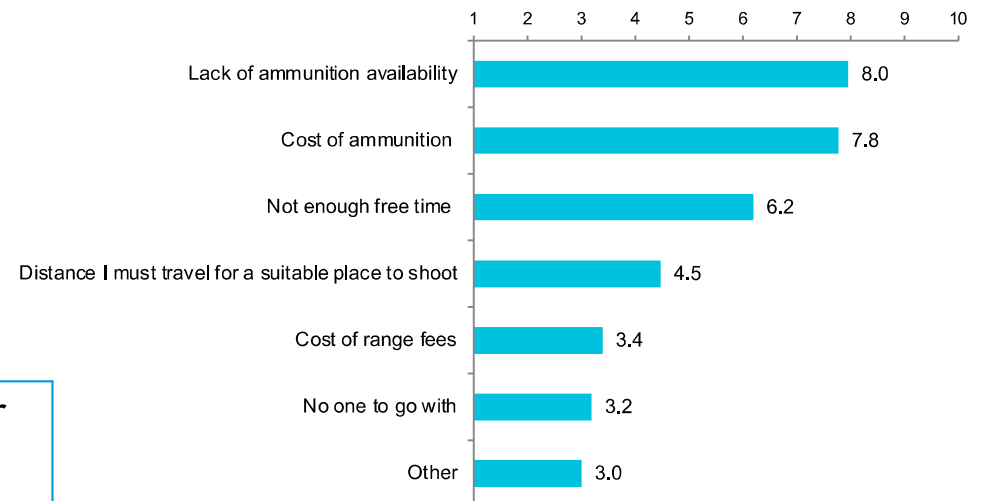
MSR Usage and Activities: Factors Preventing Usage

Used MSR As Much As You Would Like in Last 12 Months?



- 3 out of 4 MSR owners said they did not use their MSR as much as they would like over the past 12 months.
- The most important factors preventing owners from using their MSR more are related to ammunition: lack of availability and cost.

Rating: How important are the following in preventing you from using your MSR as much as you'd like?

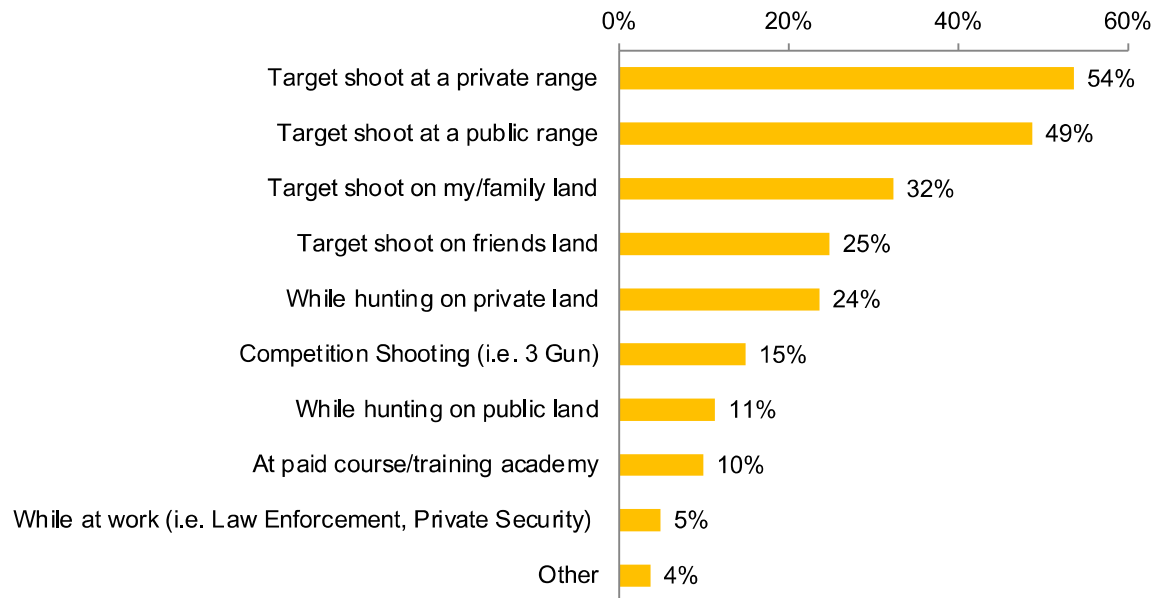


Scale:
1=Not at all important, 10= very important

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MSR Usage and Activities

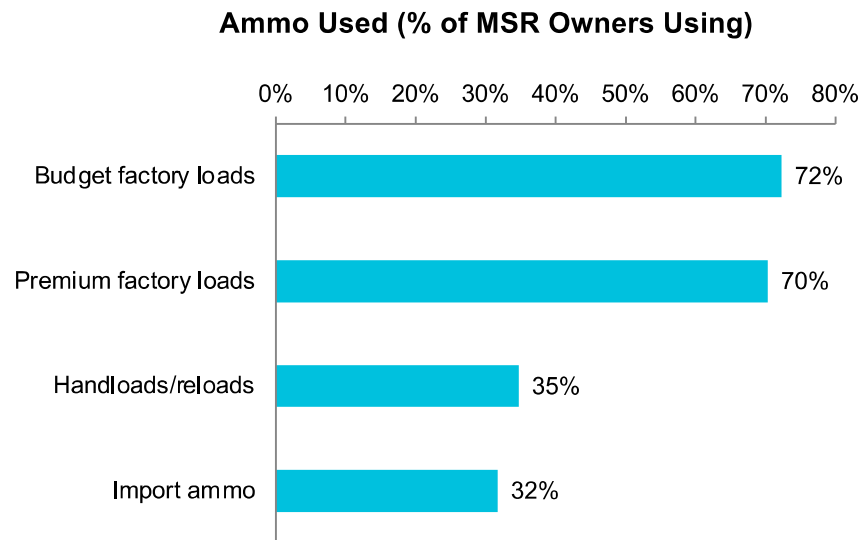
MSR Activities in Last 12 Months



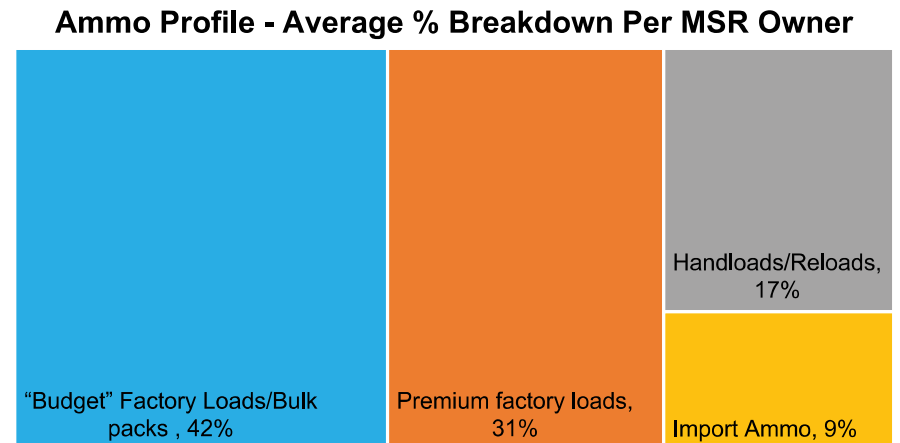
- The most popular activity by MSR owners is target shooting; 54% said they did at a private range, while 49% said they did at a public range.

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MSR Usage and Activities: Ammunition Used - Type



- Across all MSR owners, roughly 70% of used budget factory loads and premium factory loads in the last 12 months.

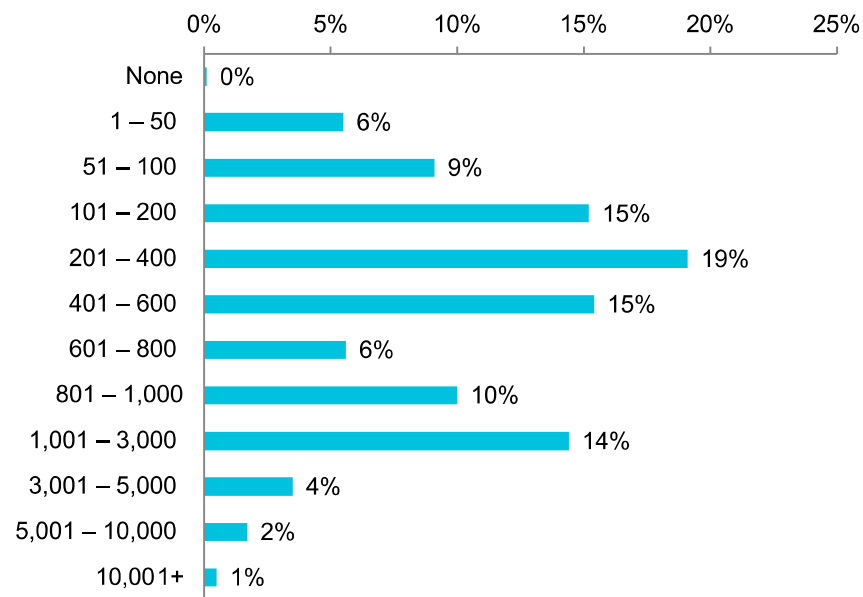


- The ammo breakdown per MSR owner shows that 42% of ammo they used in the past 12 months are factory loads/bulk packs.

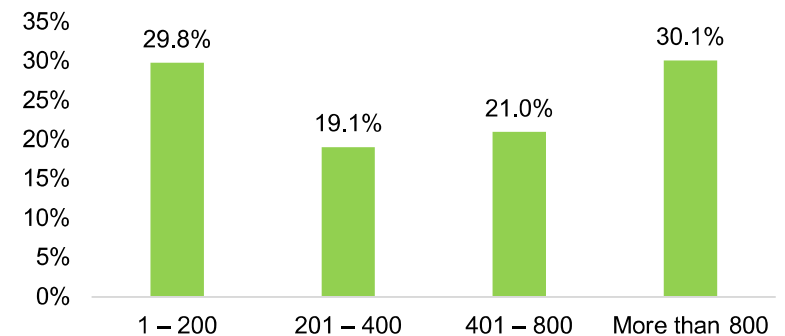
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MSR Usage and Activities: Ammunition Used - Amount

Rounds of Ammo Fired Through MSR In Last 12 Months



Rounds of Ammo Fired (Grouped)

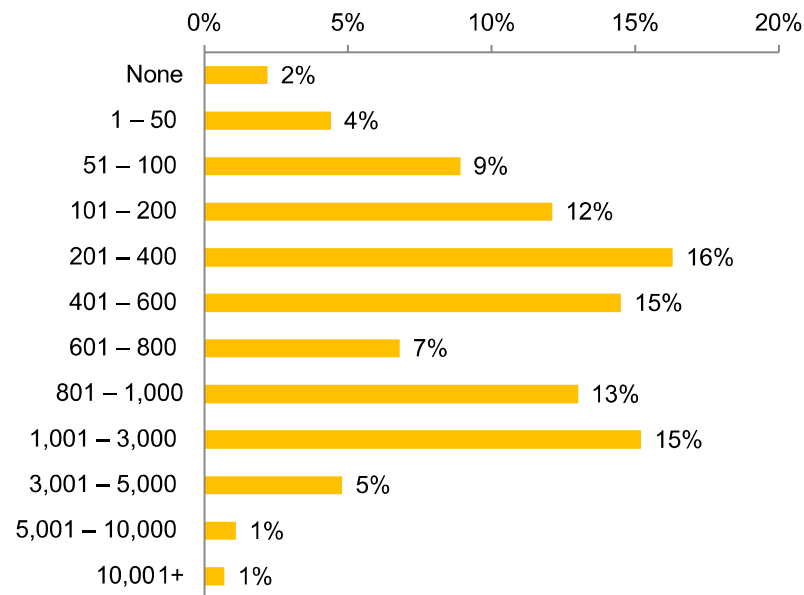


- The average number of rounds used by MSR owners in the last 12 months is 907.
- Approximately half of MSR owners fired between 1 and 400 shots in the last 12 months, the other half shooting more than 400 rounds.

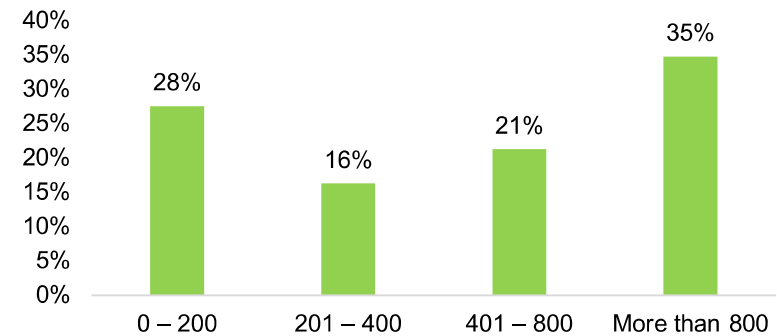
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MSR Usage and Activities: Ammunition Used – Projected Amount

Projected Rounds of Ammo Fired Through MSR In Next 12 Months



Projected Rounds of Ammo Fired (Grouped)

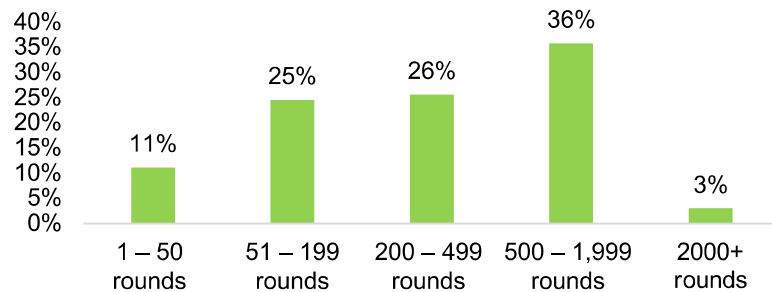


- The average number of rounds that MSR owners project they will fire in the next 12 months is 984.
- Over one-third of MSR owners anticipate firing more than 800 rounds of ammunition in the next 12 months.

NSSF MSR Consumer Study – Report of Findings

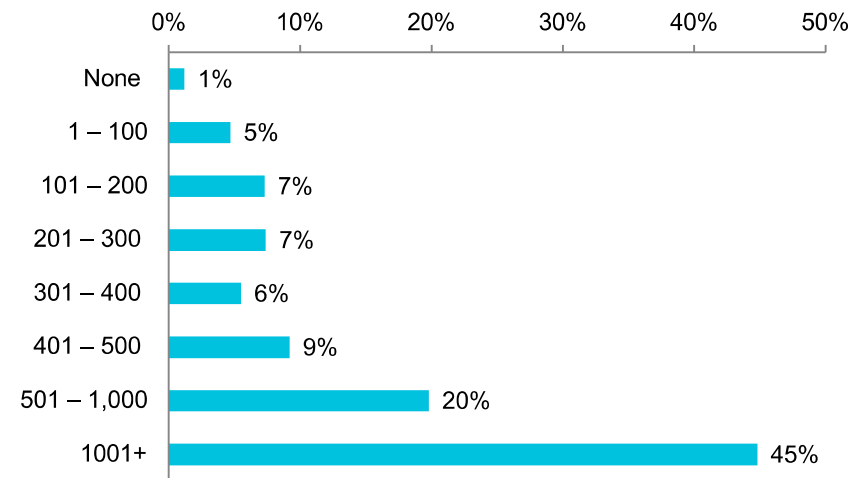
MSR Usage and Activities: Ammunition Quantity Purchased, Kept On Hand

Quantity of MSR Ammo Typically Purchased



- When purchasing ammunition, the average number of ammo rounds typically purchased by MSR owners is 637.
- 36% of MSR owners typically purchase between 500-1,999 rounds.
- Nearly half of MSR owners own/keep more than 1,000 rounds on hand.

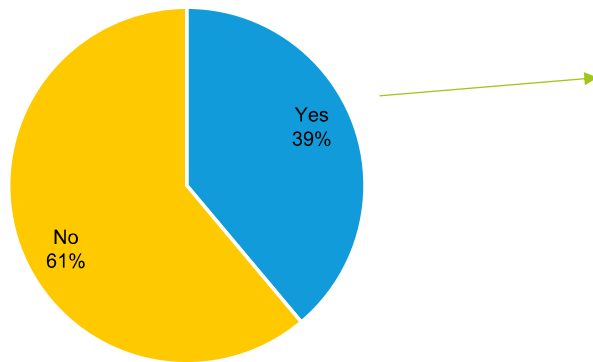
Number of MSR Rounds Owned/Kept on Hand



NSSF MSR Consumer Study – Report of Findings

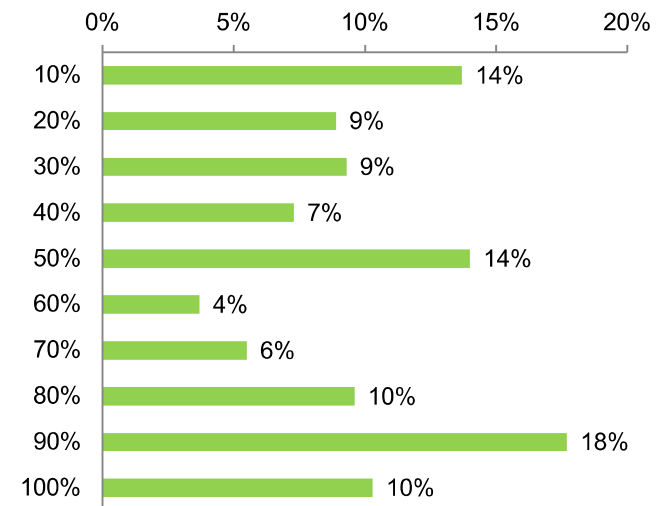
MSR Usage and Activities: Ammunition Reloads

Do you reload your own ammunition?



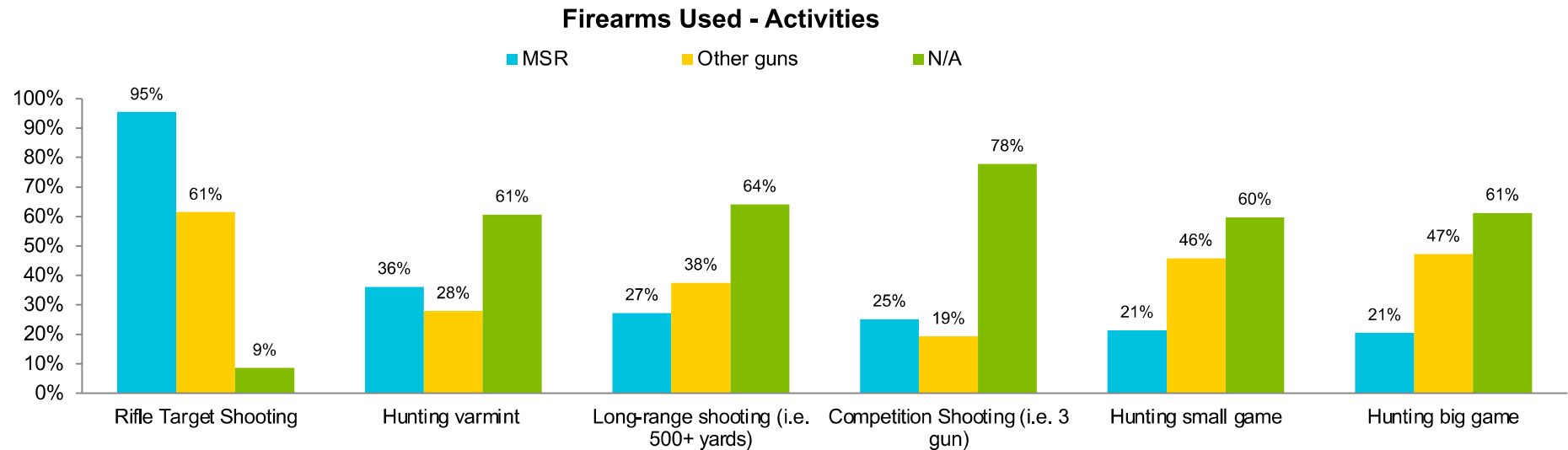
- 6 out of 10 MSR owners do not reload their own ammunition.
- Of the 40% who do, the average percentage of their ammunition they reload is 53%.

Percentage of Ammo Reloaded



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MSR Usage and Activities: Firearms Used

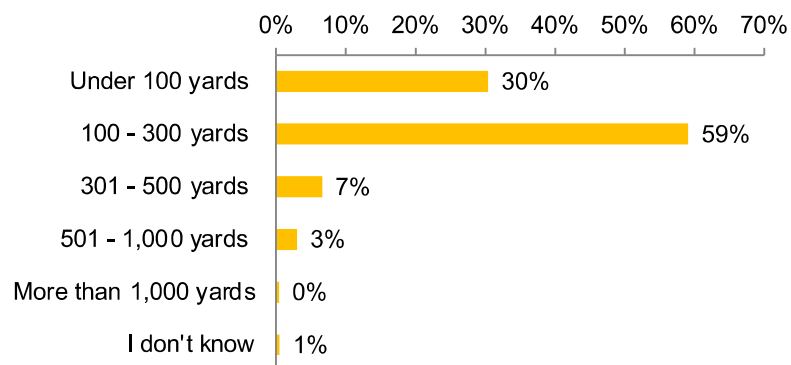


- 95% of respondents used their MSR to rifle target shoot.

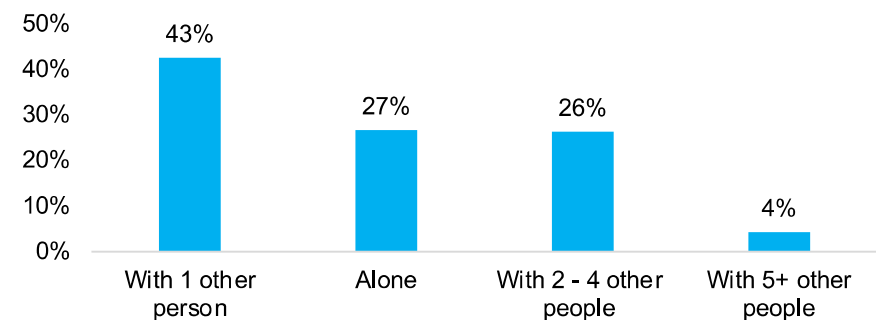
NSSF MSR Consumer Study – Report of Findings

MSR Usage and Activities: Target Shooting/Hunting

Typical Distance When Using MSR for Hunting/Target Shooting



Target Shooting - Do you generally go alone or with others?



- The most frequent distance that MSR owners hunt/target shoot at is 100-300 yards.
- 43% generally go target shooting with one other person. 27% go alone.

NSSF MSR Consumer Study – Report of Findings

Respondent Profile: Favorite Part About Owning MSR

Respondents were asked in an open-ended question to explain their favorite part of owning an MSR. Common themes in answers include:

FUN/ENJOYMENT OF SHOOTING

- General enjoyment of shooting; relaxing
- Challenge of target shooting, hunting; improving
- Camaraderie with others, quality time with loved ones
- Ability to customize/building from parts

EXERCISING FREEDOM/2A RIGHTS

- Represents freedom and America
- Tradition and history

EASE OF USE

- Lightweight
- Low-recoil
- Accurate, versatile
- Instills confidence

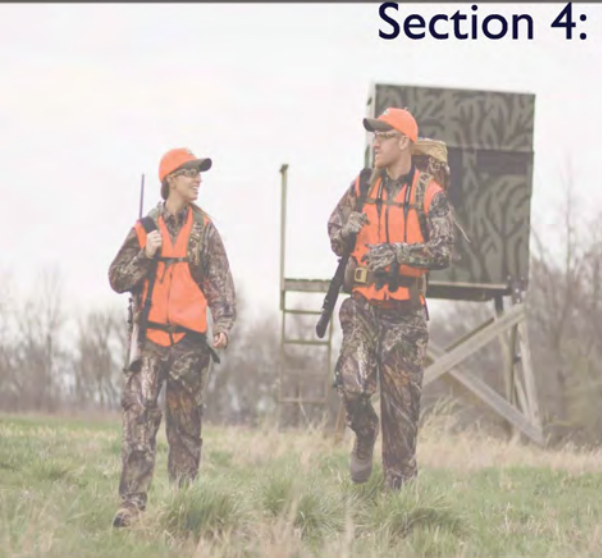
RELIABLE

- Craftsmanship and engineering
- Peace of mind — excellent for home defense

NSSF MSR Consumer Study – Report of Findings



Section 4: MSR Owner Profiles

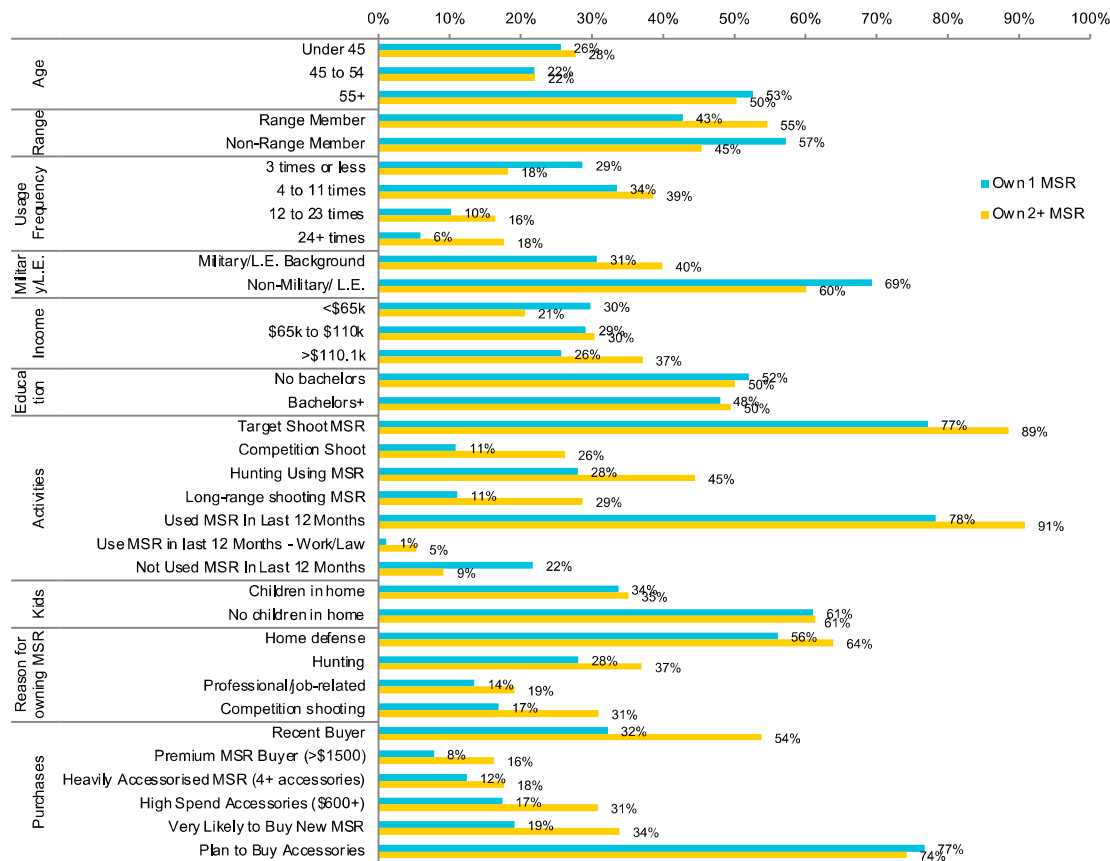


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Profile: Single MSR Owners vs Multi-MSR Owners

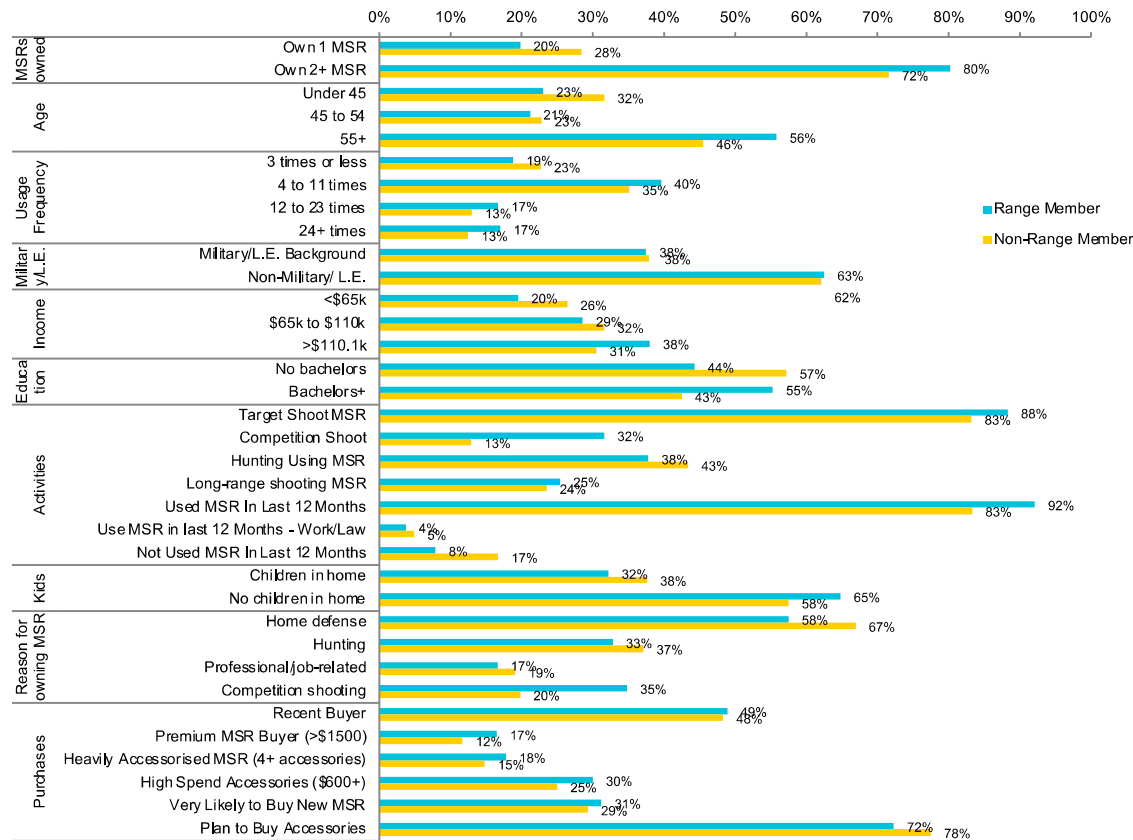


Multiple-MSR owners are relatively more likely to be:

- Ages 55+
- Non-range members
- Those who used MSR 11 or less times in the last 12 months
- Not from a military/law enforcement background
- Those with an income under \$65k, though there is fairly even distribution across ranges
- Users of MSR for target shooting
- Those with no kids at home
- Owners of a MSR(s) for home defense purposes
- Those who plan to buy MSR accessories in the next 12 months

NSSF MSR Consumer Study – Report of Findings

Profile: Range vs Non-Range Member

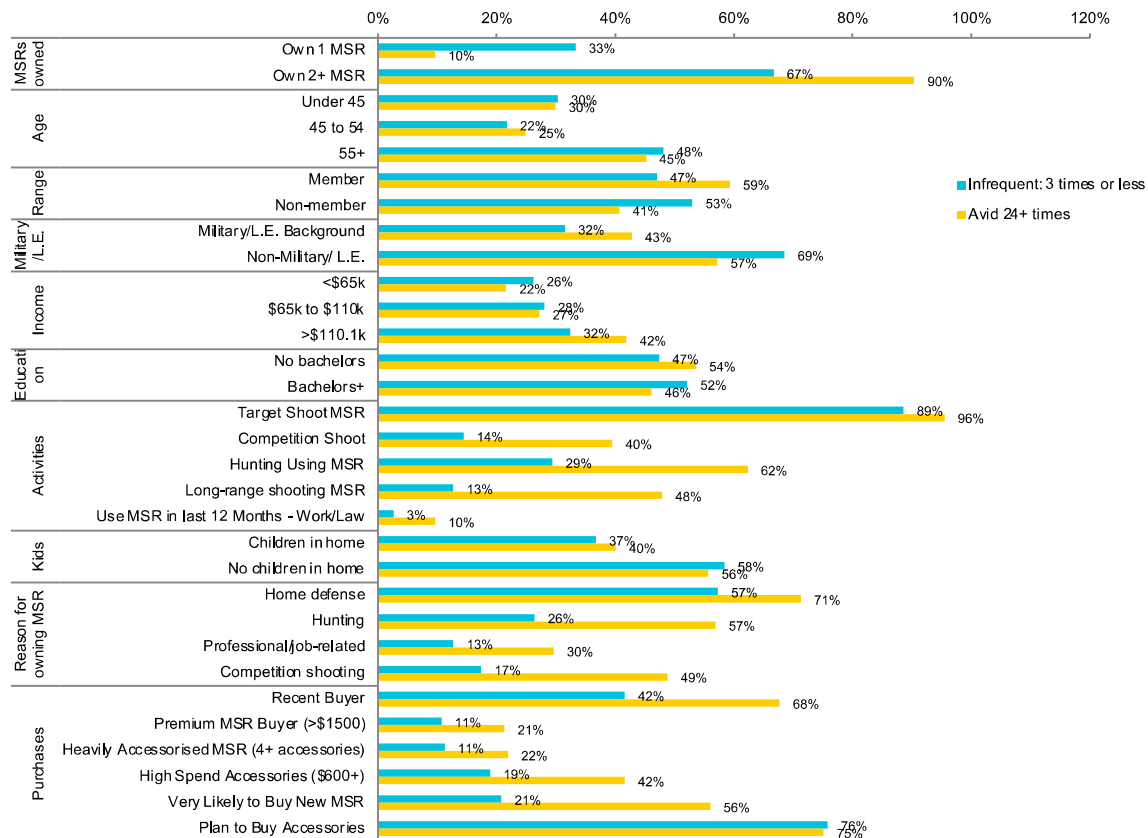


MSR owners who are shooting range members are relatively more likely to be:

- Owners of multiple MSRs
- Ages 55+
- Occasional users of MSRs – 4 to 11 times times in the last 12 months
- Not from a military/law enforcement background
- Those with an income over \$110k
- Users of MSR for target shooting
- Those with no kids at home
- Owners of a MSR(s) for home defense, hunting, competition shooting
- Those who plan to buy MSR accessories in the next 12 months

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Profile: Infrequent vs Avid MSR Users

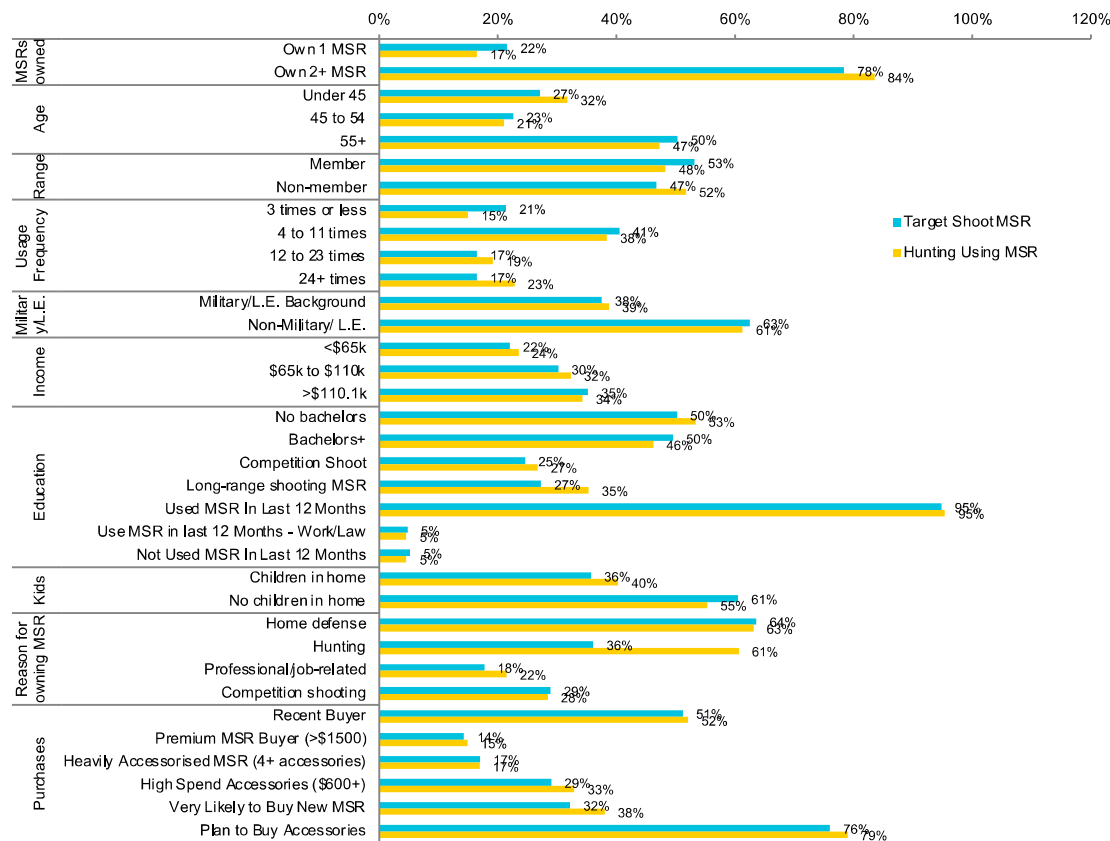


Avid MSR owners are relatively more likely to be:

- Owners of multiple MSRs
- Ages 55+
- A member of a shooting range
- Not from a military/law enforcement background
- Those with an income over \$110k
- Users of MSR for target shooting and hunting
- Those with no kids at home
- Owners of a MSR(s) for home defense, hunting, competition shooting
- Those who recently bought a MSR in 2020 or 2021, plan to buy accessories or a new MSR in the next 12 months

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Profile: Target Shooters vs Hunters

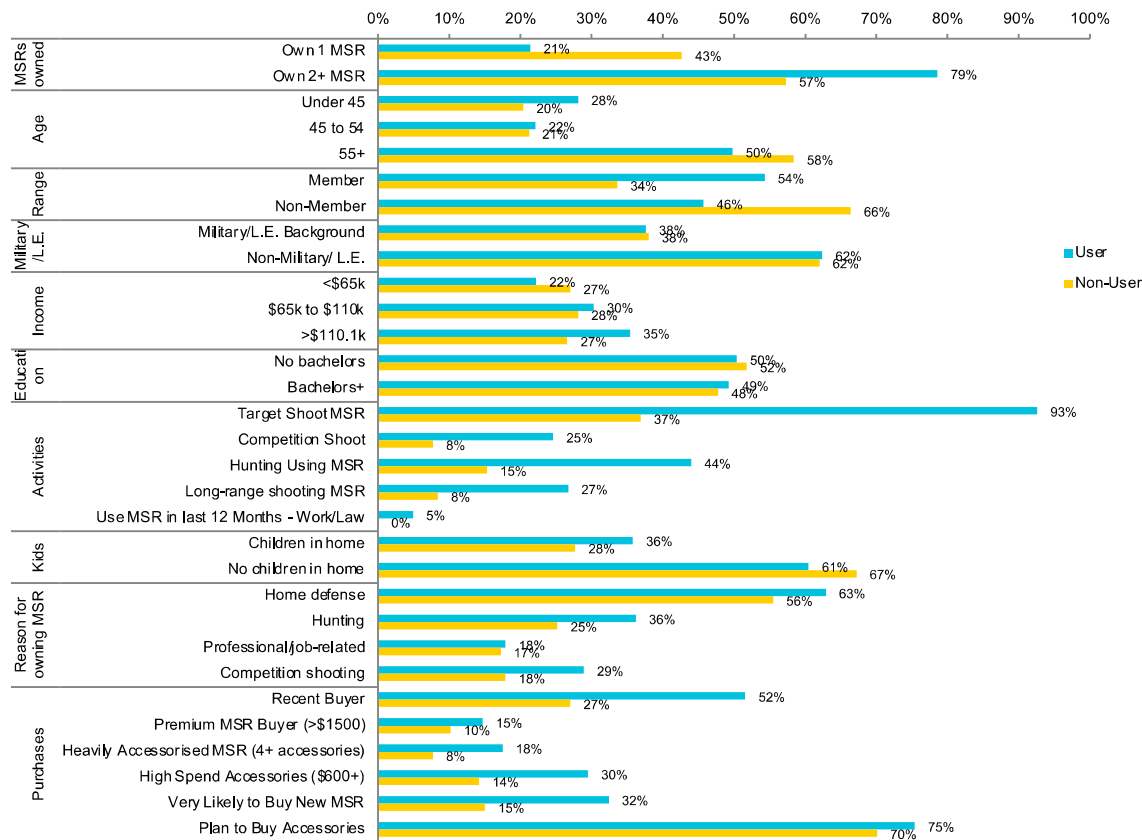


Target shooters and hunters have similar profiles. Hunters are slightly more likely to be:

- Owners of multiple MSRs
- Under 45 years old
- A frequent or avid user of MSRs
- Those without a bachelors degree
- Users of MSR for target shooting and hunting
- Those with kids at home
- Owners of a MSR(s) for home defense, hunting, competition shooting
- Those who are likely to buy a new MSR in the next 12 months

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Profile: Owners Who Haven't Used MSR In Last 12 Months

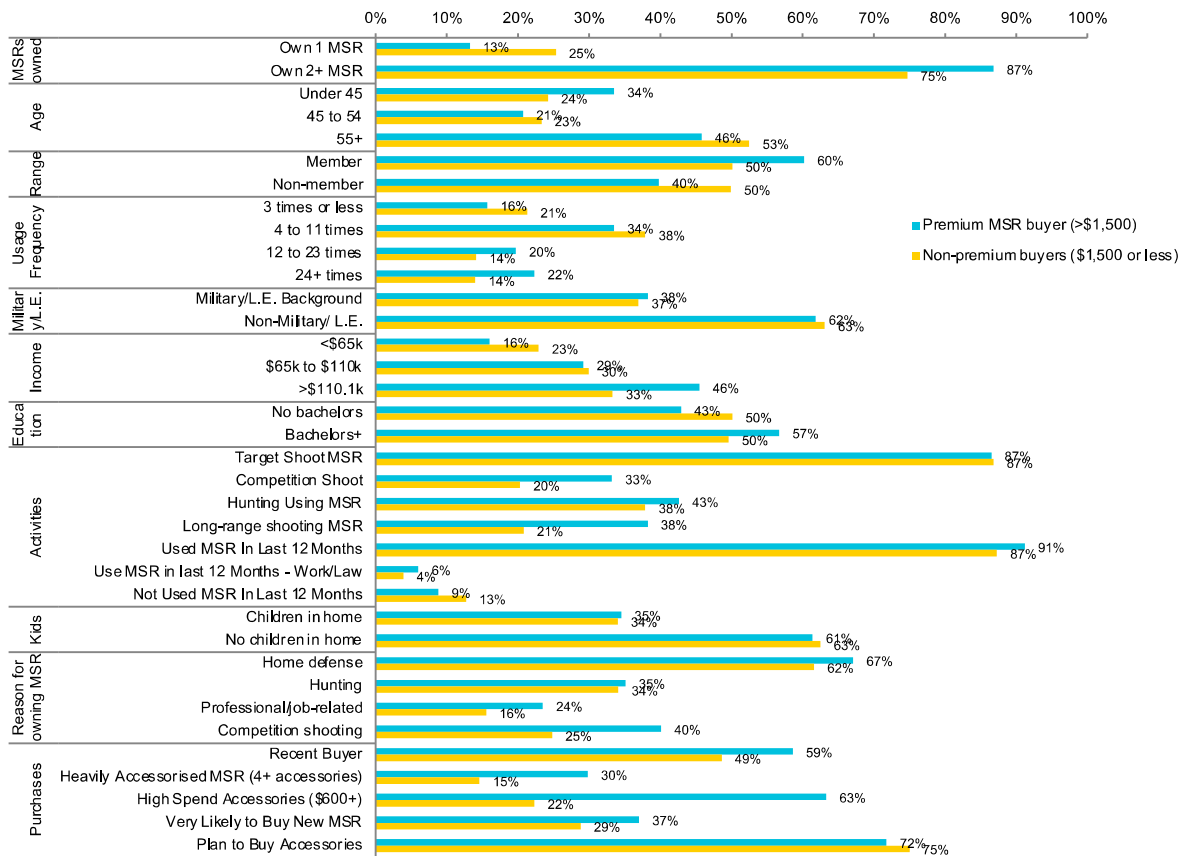


Non-MSR users are relatively more likely to be:

- Owners of multiple MSRs
- Ages 55 & older
- Not a member of a shooting range
- Those with a household income of less than \$110k
- Those with no kids at home
- Owners of a MSR(s) for home defense, some hunting
- Those who plan to buy accessories for their MSR in the next 12 months

NSSF MSR Consumer Study – Report of Findings

Profile: Premium Buyers (>\$1500 spent on MSR) vs Non-Premium Buyers

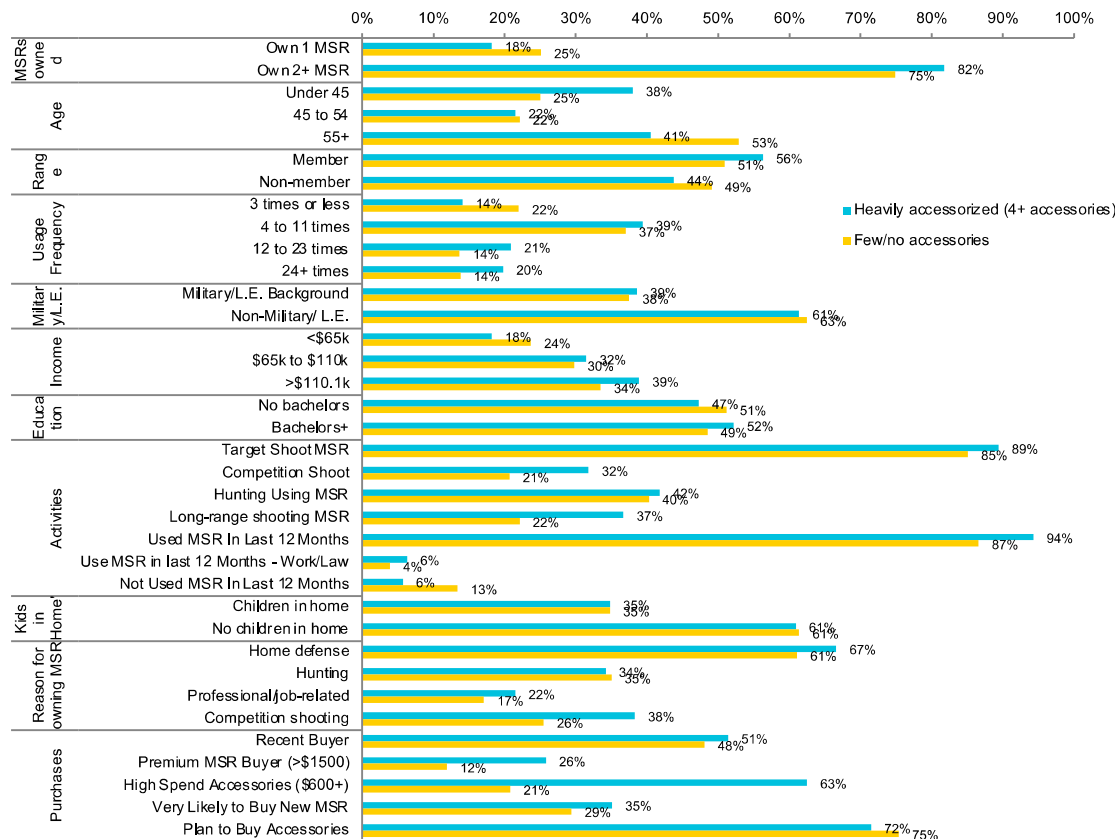


Premium MSR buyers are relatively more likely to be:

- Owners of multiple MSRs
- Ages 55 & older
- A member of a shooting range
- Regular users of MSRs, using 4 to 11 times a year
- Those with a household income greater than \$110k
- With a bachelors degree or more
- Using MSR for target shooting, competition shooting, and hunting.
- Owners of a MSR(s) for home defense, competition shooting, hunting
- Recent buyers (purchased MSR in 2021 or 2020), high-spenders on accessories (\$600+) and very likely to buy new MSR in the next 12 months.

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Profile: Heavily Accessorized (4+ accessories) MSR Owners

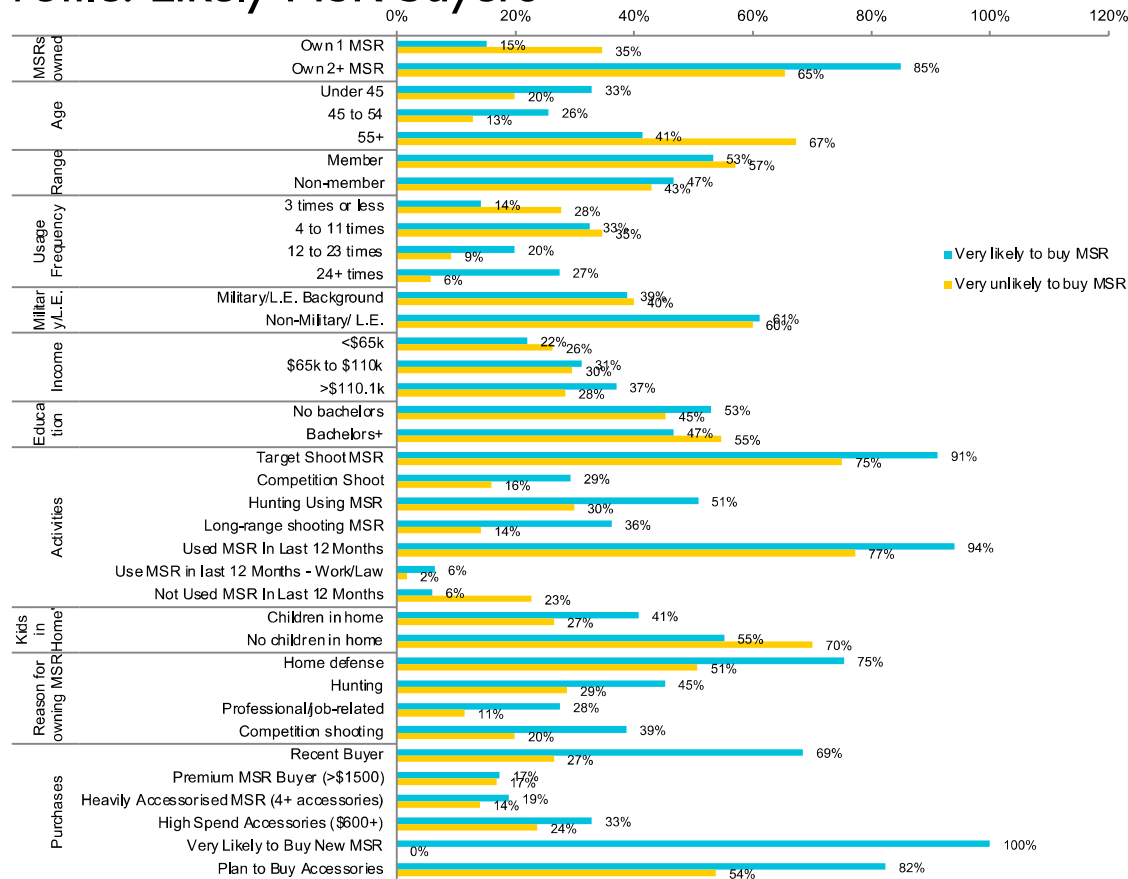


Owners of heavily accessorized MSRs are relatively more likely to be:

- Owners of multiple MSRs
- Under 45 years old
- A member of a shooting range
- Frequent/avid users of MSRs
- Those with a household income greater than \$110k
- With a bachelors degree or more
- Using MSR for target shooting, competition shooting, and hunting.
- Owners of a MSR(s) for home defense, competition shooting, hunting
- Premium MSR buyers (>\$1500 spent on last MSR), high-spenders on accessories (\$600+) and very likely to buy new MSR in the next 12 months.

NSSF MSR Consumer Study – Report of Findings

Profile: Likely MSR buyers

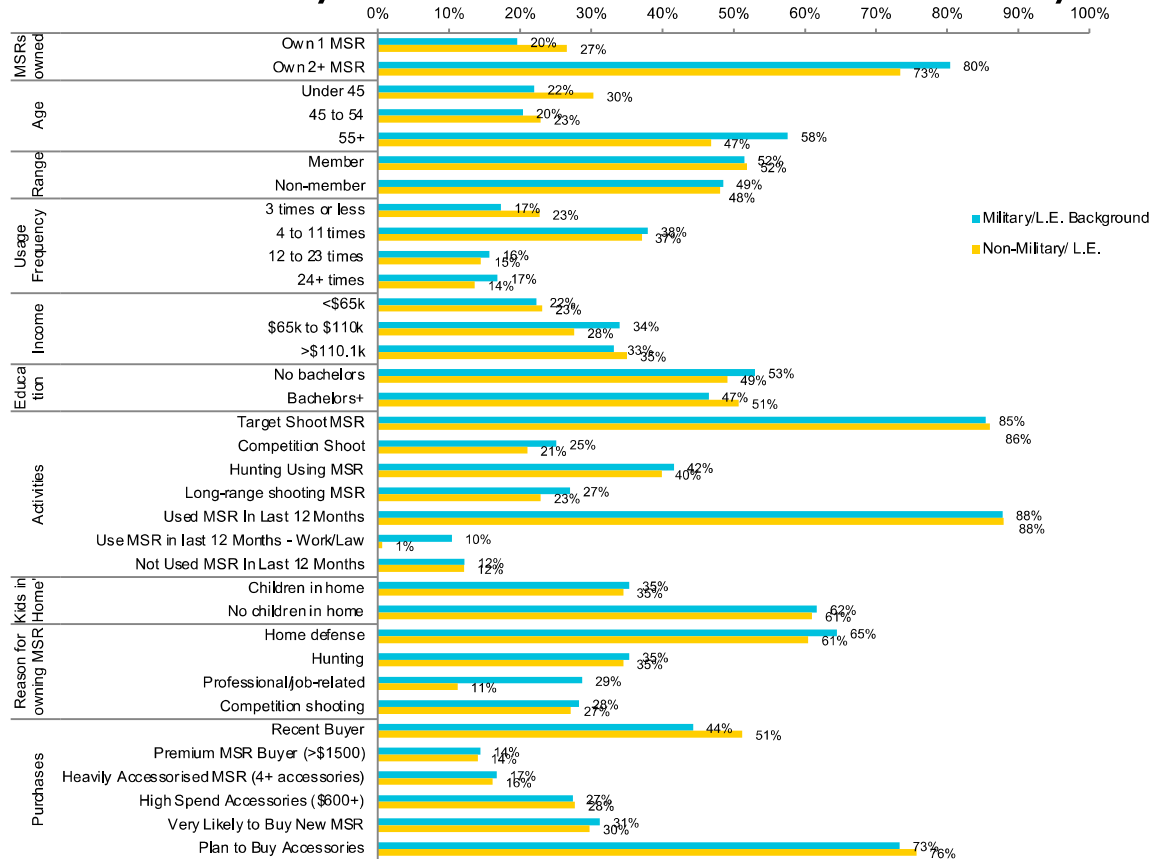


Likely MSR buyers are relatively more likely to be:

- Owners of multiple MSRs
- Under 45 years old
- Frequent/avid users of MSRs
- Those with a household income greater than \$110k
- With a bachelors degree or more
- Using MSR for target shooting, competition shooting, and hunting.
- Owners of a MSR(s) for home defense, competition shooting, hunting
- Premium MSR buyers (>\$1500 spent on last MSR), high-spenders on accessories (\$600+) and very likely to buy new MSR in the next 12 months.

NSSF MSR Consumer Study – Report of Findings

Profile: Military/Law Enforcement vs Non-Military/Law Enforcement



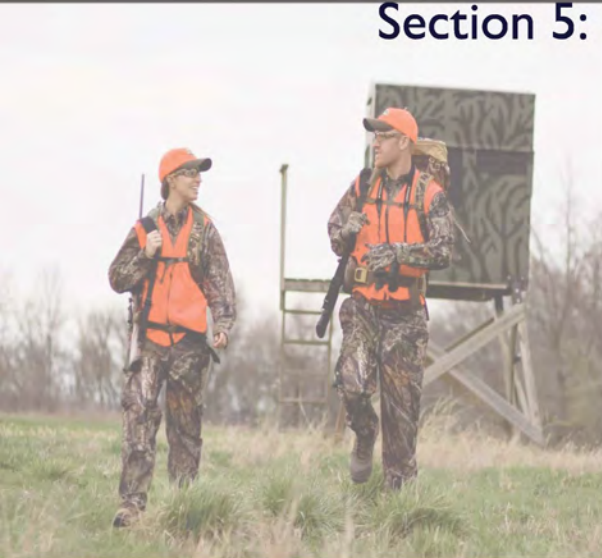
MSR owners with a military/law-enforcement background are relatively more likely to be:

- Owners of multiple MSRs
- 55 years old or older
- Frequent/avid users of MSRs
- Those with a household income of \$65-\$110k
- Those without a bachelors degree or more
- Using MSR for competition shooting or work
- Owners of a MSR(s) for home defense or professional/job-related purpose

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Section 5: Clusters/Segmentation



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Clusters Analysis/Market Segmentation Explained

A Cluster Analysis is method used in market segmentation to help marketers identify specific consumer groups based on a specific set and sub-set of demographic and specific product usage patterns. Market segmentation means dividing the market into distinct groups of individual segments or clusters with similar wants or needs and behaviors.

A market segment or cluster is a sub-set of a people, in this case, MSR owners with one or more characteristics that cause them to demand similar product and/or services based on qualities of those products — such as usage activity and demographics. A true market segment meets all of the following criteria: it is distinct from other segments (different segments have different needs), it is homogeneous within the segment (exhibits common needs), and responds similarly to market stimulus and media.

In the MSR Study, we used the following variables to establish clusters:

- Age
- Reasons for owning an MSR
- Annual Household Income
- Number of MSRs Owned
- Military/Law-Enforcement Affiliation

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MSR Clusters Summary

	1. Law Enforcement & Competition	2. Casual Hunter	3. Affluent Gun Enthusiast	4. Low-Use Home Defense	5. Hunting Aficionado
% of owners	18%	17%	23%	21%	21%
% of MSRs	24%	13%	27%	11%	25%
Number of MSRs Owned	3+	1	3+	1	3+
Age	Under 45	Under 45	45 to 54	55+	55+
Reasons for Owning a MSR	Professional use/job-related, competition	Hunting	Competition shooting	Home defense	Hunting
Annual Household Income	\$65 to \$110k	<\$65k	>\$110k	<\$65k	>\$110k
Military/Law-Enforcement Affiliation	Military/L.E.	Non-Military/L.E.	Non-Military/L.E.	Slightly more Military/L.E.	Slightly more non-Military/L.E.
MSR usage frequency (last 12 months)	More than 24 times	3 times or less	12 to 23 times	3 times or less	4 to 11 times
Range Member	Slightly more likely to be a range member	Non-member	Range Member	Non-member	Non-member
Education	Slightly more likely to not have a bachelors	No bachelors	Bachelors+	Both bachelors+/no bachelors	Bachelors+
Introduction to MSRs	Military/job, Other	Family/friends, personal interest	Shooting Range	Media/internet, military/job	Family/friends, personal interest
MSR Activities In Last Year	Use MSR for work, competition shooting	Hunting, long-range shooting	Competition shooting	Not Used MSR	Hunting
MSR Purchase Behavior	Very likely to buy MSR in next year, premium MSR buyer (>\$1500 for MSR), High-spend accessories, heavily accessorized, recent buyer	Very likely to buy MSR in next 12 months, plans on buying accessories	Premium MSR buyer (>\$1500), heavily accessorized MSR, high-spend on accessories, recent buyer	Slightly less likely to plan to buy accessories in next year	Recent buyer (obtained MSR in 2020 or 2021)
Place of Purchase	Mom & Pop Retail Store	Gun Show	Gun show, custom built	Chain/Big-Box Retail	Bought as kit/custom-built

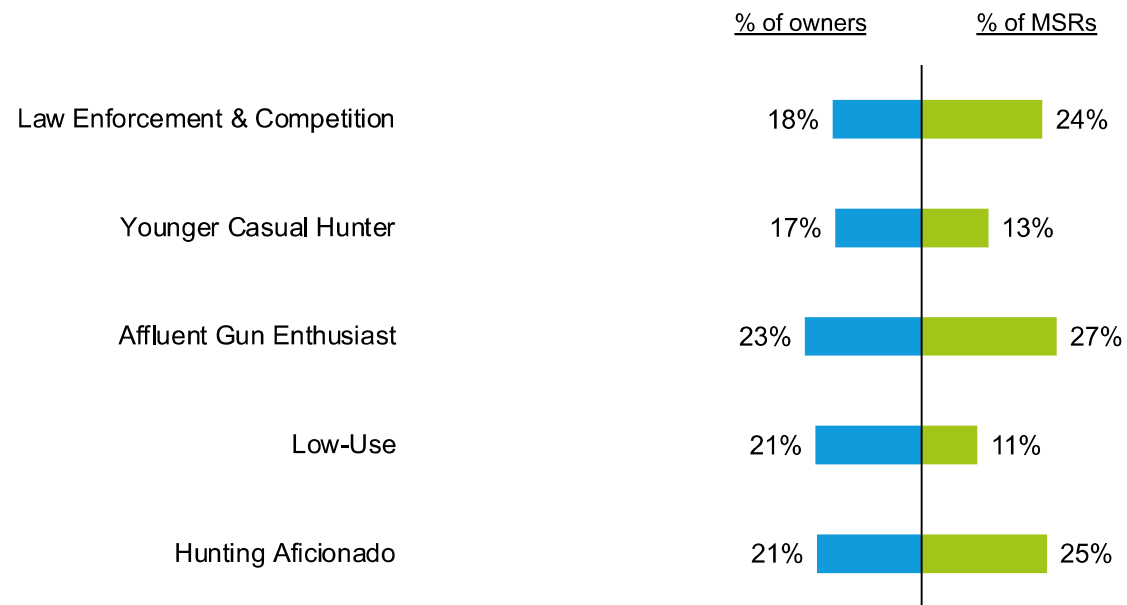
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MSR Clusters Summary

Clusters: Makeup of MSR Owners & Total MSRs Owned



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How to Read Cluster Graphs

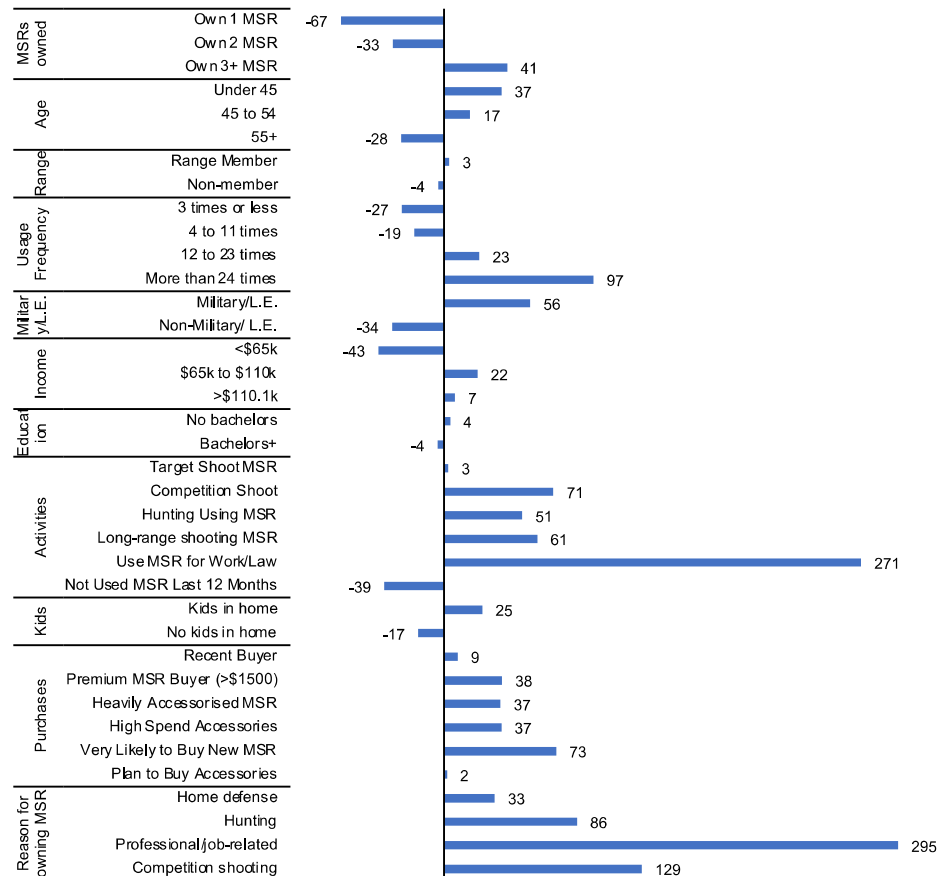
In the cluster graphs, the overall MSR sample profile is represented by a value of 0. The index is calculated by dividing the profile of the cluster (percentage of that cluster for a category) by the profile of the total MSR population. An index of 20 means the cluster is 20% more likely to exhibit that behavior or be a part of that group. For examples, MSR owners in Cluster 1 (Law Enforcement & Competition) have an index of 37 for ages under 45 —this means a MSR owner in this cluster is 37% relatively more likely to be under 45 years old compared to the overall MSR user population.

We describe this as a relative measure since it does not account for the percentage of the MSR owner population. Using our previous example, MSR owners in Cluster 1 (Law Enforcement & Competition) have an index of 37 for ages under 45; this does not mean MSR owners under 45 form the majority of Cluster 1, only that they're over-represented compared to the overall MSR owner population.

NSSF MSR Consumer Study – Report of Findings

Cluster 1: Law Enforcement & Competition

Index (All MSR Owners = 0)



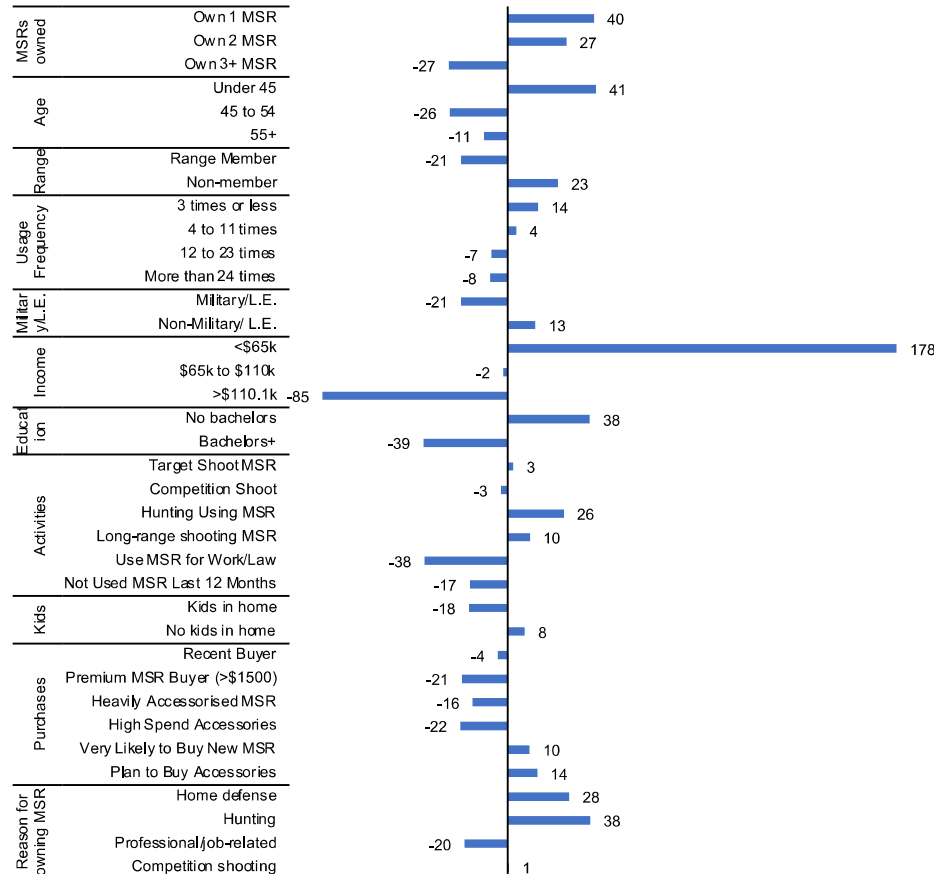
The **Law Enforcement & Competition** Cluster accounts for 18% of MSR owners. They tend to be:

- Owners of 3+ MSRs
- Under 45 years old
- Avid users of MSR
- From a military/law enforcement background
- Those with income of \$65k to \$110k
- Users of MSR for work/law, competition shooting
- Those with kids at home
- Very likely to buy new MSR in next 12 months, a premium buyer of MSRS (spending more than \$1500 most recently acquired MSR), high-spenders on accessories

NSSF MSR Consumer Study – Report of Findings

Cluster 2: Casual Hunter

Index (All MSR Owners = 0)



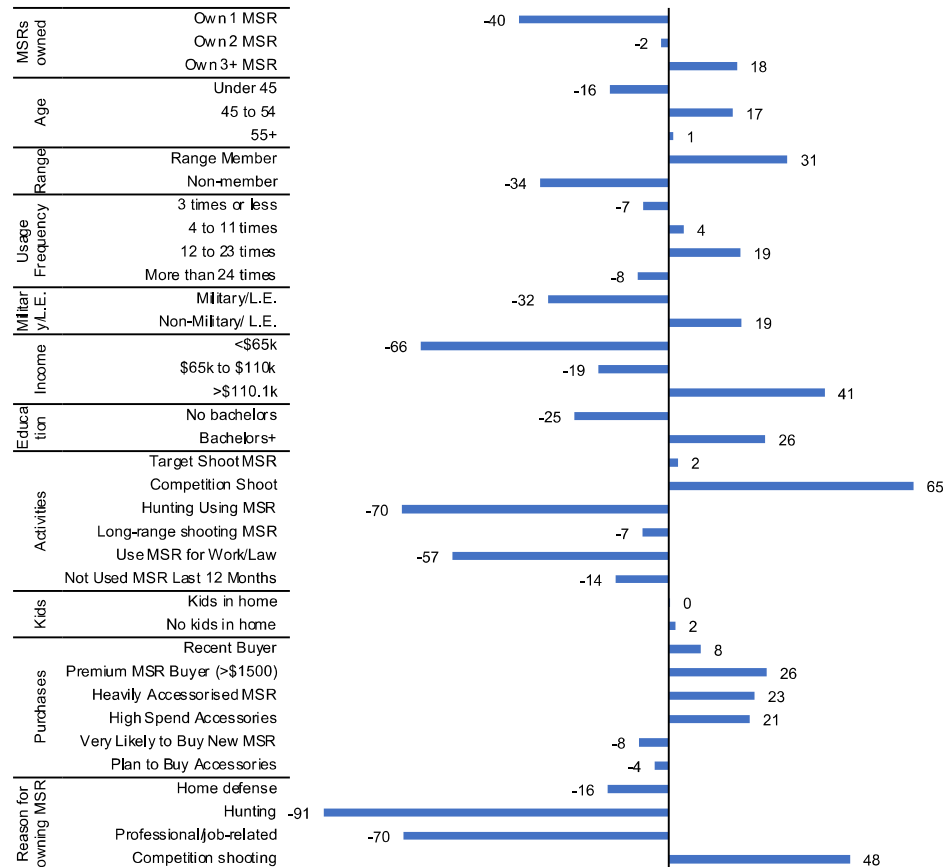
The **Casual Hunter** Cluster accounts for 17% of MSR owners. They tend to be:

- Owners of 1 MSR
- Under 45 years old
- Not members of a shooting range
- Casual users, using their MSR 3 times or less in the past 12 months
- Not from a military or law enforcement background
- Those with income less than \$65k
- Those without a bachelors degree
- Users of MSRs for hunting and long-range shooting
- Those without kids at home
- Very likely to buy new MSR in next 12 months and plan to buy accessories.
- Owners of MSRs for hunting and self-defense

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Cluster 3: Affluent Gun Enthusiast

Index (All MSR Owners = 0)



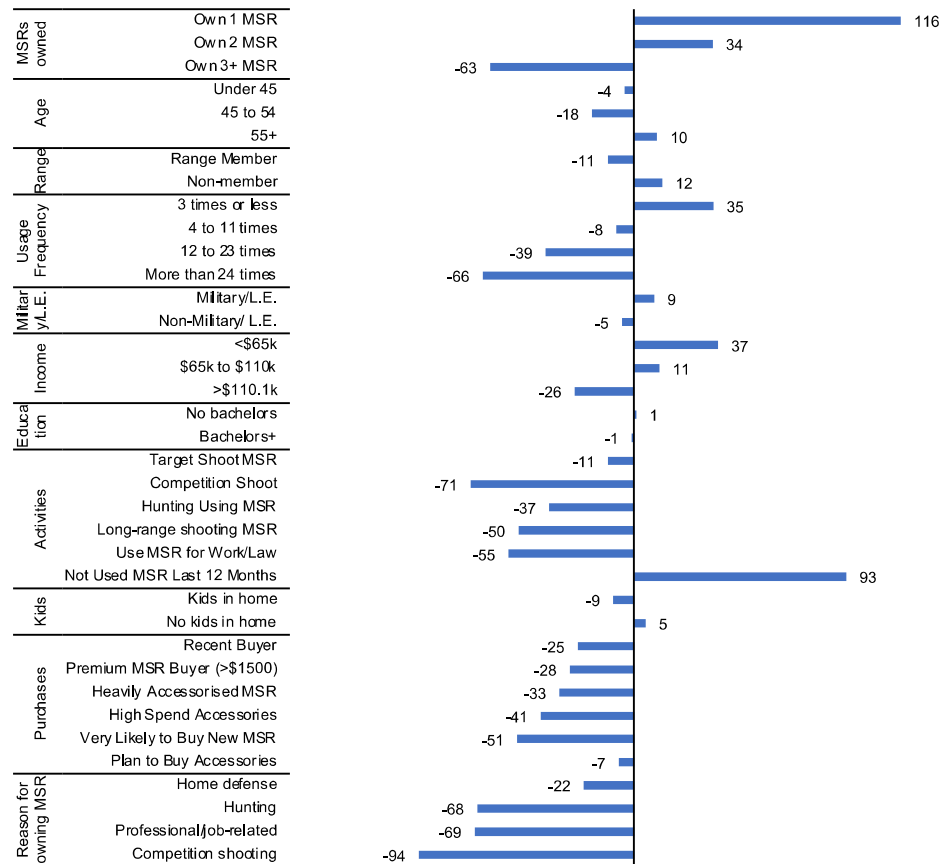
The **Affluent Gun Enthusiast** Cluster accounts for 23% of MSR owners. They tend to be:

- Owners of 3+ MSR
- 45 to 54 years old
- Members of a shooting range
- Frequent users, using their MSR 12 to 23 times in the last 12 months
- Not from a military or law enforcement background
- Those with income greater than \$110k
- Those with a bachelors degree
- Users of MSRs for competition shooting
- Premium MSR Buyers (>\$1500 on most recent MSR, heavily accessorized and high spender on accessories)
- Owners of MSRs for competition shooting

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Cluster 4: Low-Use Self Defense

Index (All MSR Owners = 0)



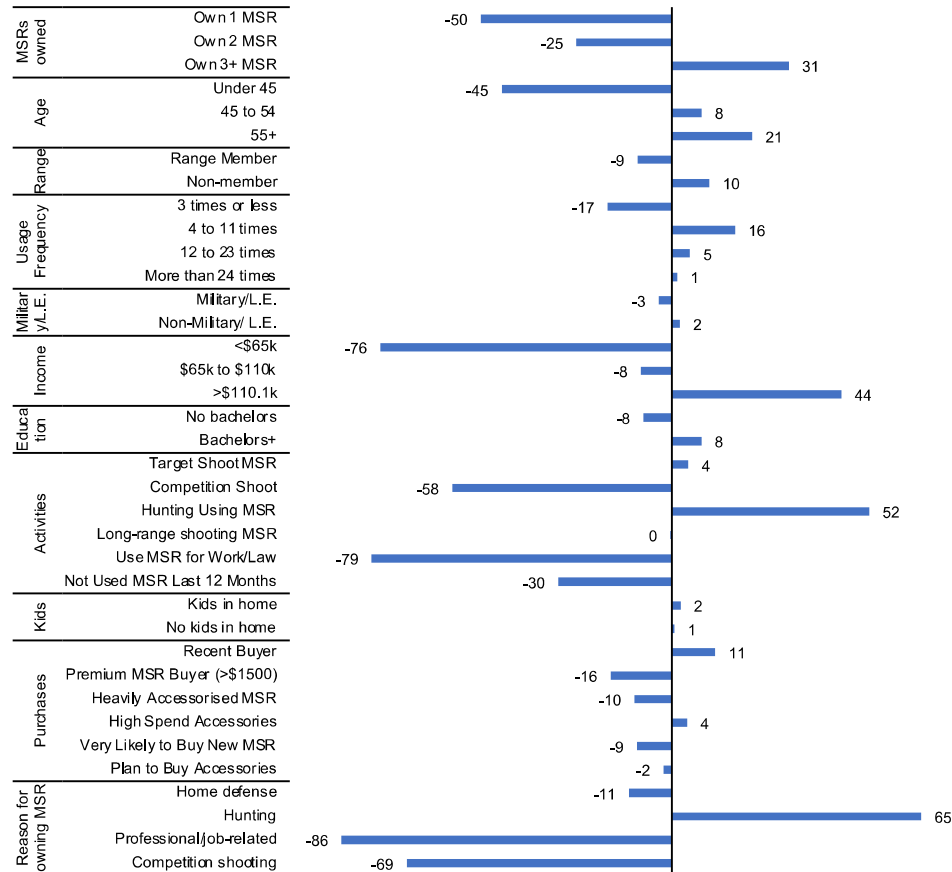
The **Low-Use Self Defense** Cluster accounts for 21% of MSR owners. They tend to be:

- Owners of 1 MSR
- 55 years old or older
- Not members of a shooting range
- Infrequent users, using their MSR 3 times or less in the last 12 months
- Slightly more likely to be from a military or law enforcement background
- Those with income less than \$65k
- Those who did not use their MSR in the last 12 months
- Those with no kids at home
- Less likely to buy new MSR or be a premium buyer
- Owners of MSRs for home defense

NSSF MSR Consumer Study – Report of Findings

Cluster 5: Hunting Aficionado

Index (All MSR Owners = 0)



The **Hunting Aficionado** Cluster accounts for 21% of MSR owners. They tend to be:

- Owners of 3+ MSRs
- 55 years old or older
- Not members of a shooting range
- Occasional MSR users, using their MSR 4 to 11 times in the last 12 months
- Slightly more likely to not be from a military or law enforcement background
- Those with income of greater than \$110k
- Those with a bachelors degree
- Those used their MSR for hunting in the last 12 months
- Recent buyers of a MSR (in 2020 or 2021)
- Less likely to buy new MSR or be a premium buyer
- Owners of MSRs for hunting

NSSF MSR Consumer Study – Report of Findings



Section 6: Sample Profile



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NSSF MSR Consumer Study – Report of Findings

Respondent Profile: Organizations

Current Membership or Recent Donation to Organizations

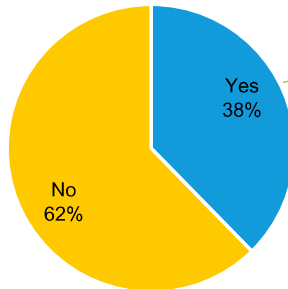


- When asked what organizations they are a member of or recently donated to, the most-selected organization was the NRA (61%), chosen more than twice as much as any other organization.
- 21% of MSR owners are not members of or recently donated to any organizations listed.
- 12% are members or recently donated to the NSSF.
- Of the 19% who selected “Other” organizations, the most common mentions were:
 - Firearms Policy Coalition
 - Liberal Gun Club/Liberal Gun Owners
 - Second Amendment Foundation
 - National Skeet Shooting Foundation
 - National Sporting Clays Association

NSSF MSR Consumer Study – Report of Findings

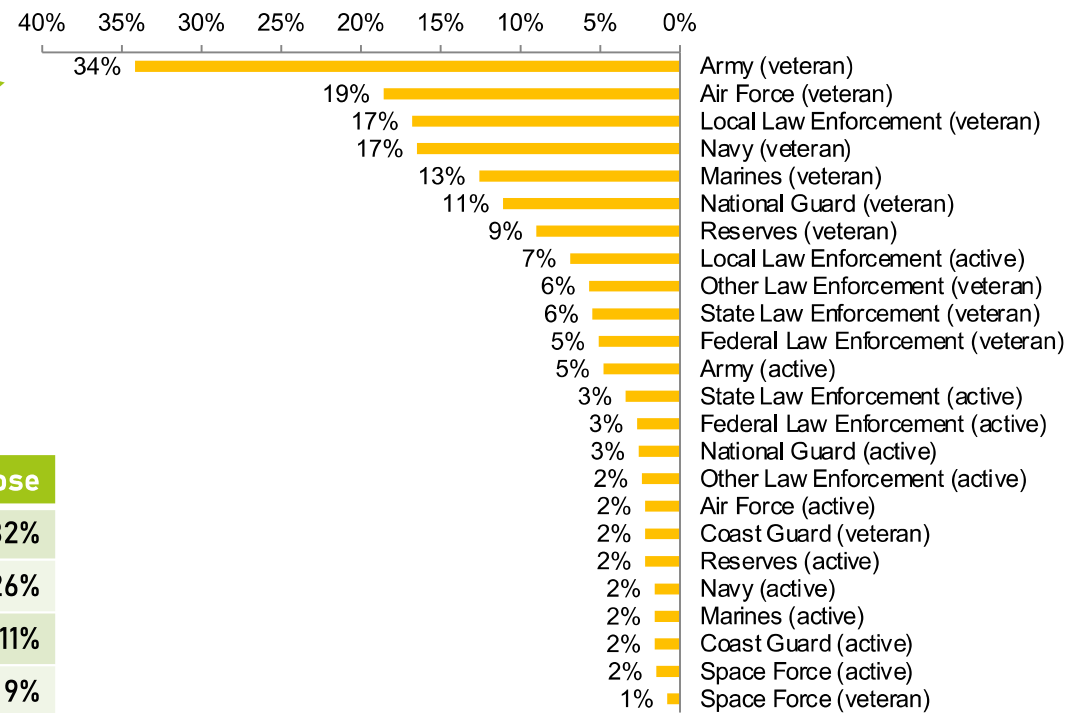
Respondent Profile: Military/Law-Enforcement

Active or Veteran/Retired Member of Law Enforcement/Military



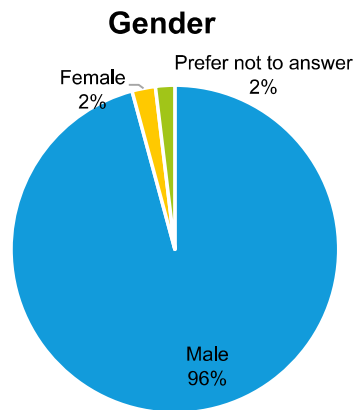
Military/law-enforcement (grouped)	% of those
Veteran military	82%
Veteran law enforcement	26%
Active law enforcement	11%
Active military	9%

Military/Law Enforcement Affiliation

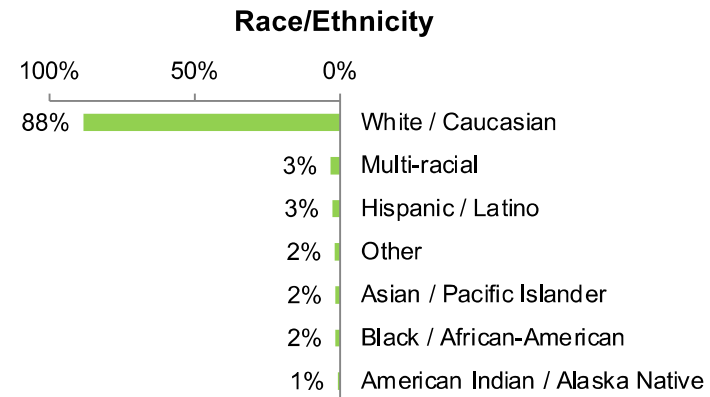
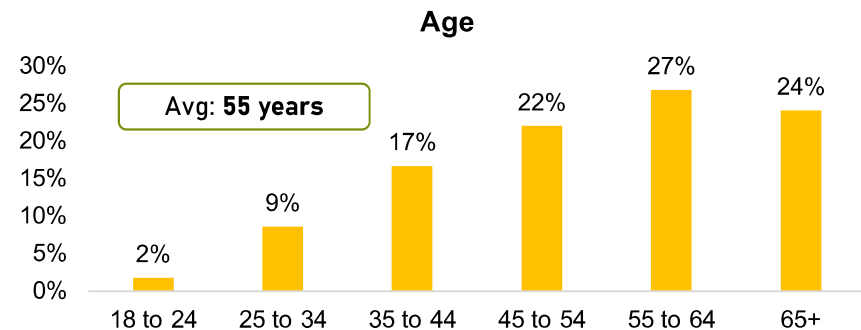


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Respondent Profile: Age, Gender

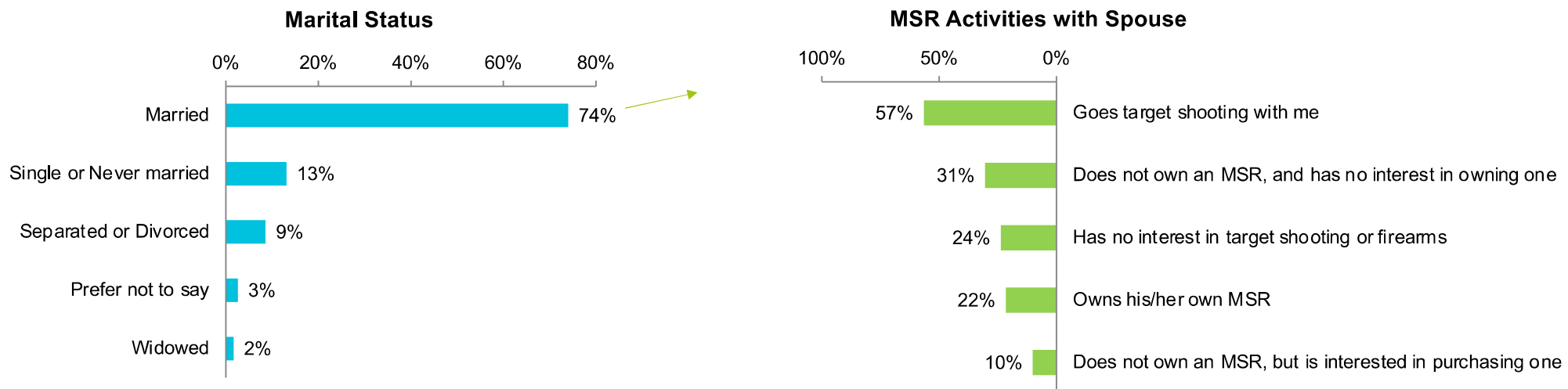


- 96% of respondents are Male.
- The average age of respondents is 55 years old. Only 27% are under the age of 45.
- 88% of respondents are White/Caucasian.



NSSF MSR Consumer Study – Report of Findings

Respondent Profile: Martial Status, Shooting Activities with Spouse

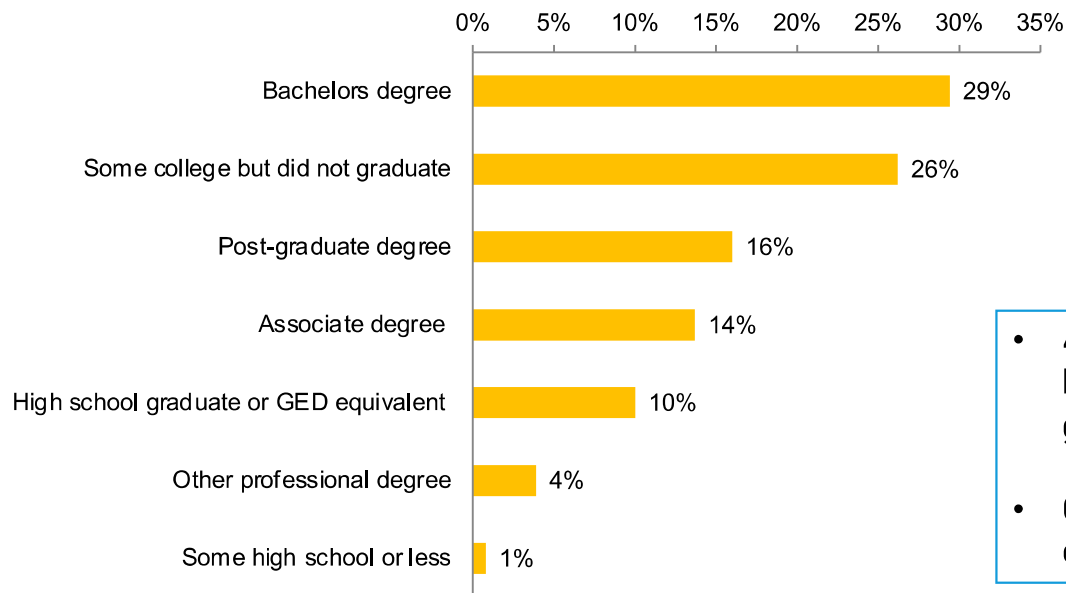


- 74% of respondents are married.
- Of these MSR owners, over half (57%) say their spouse accompanies them for target shooting. Nearly a quarter, 24%, say their spouse has no interest in target shooting or firearms.

NSSF MSR Consumer Study – Report of Findings

Respondent Profile: Education

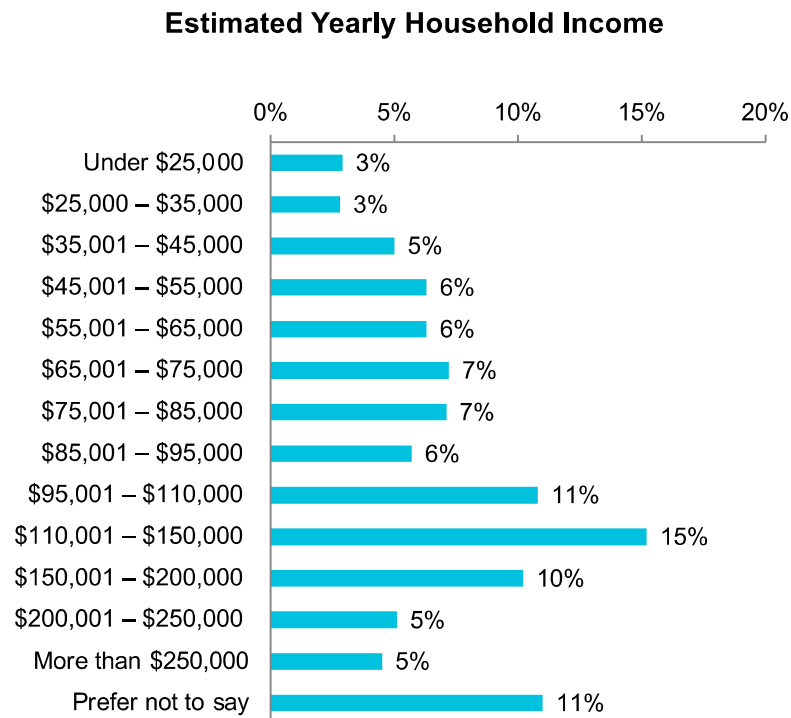
Highest Level of Education Completed



- 45% of respondents have attained at least a bachelors degree (29% have bachelors, 16% post-graduate).
- One-quarter of MSR owners have attended some college but did not graduate.

NSSF MSR Consumer Study – Report of Findings

Respondent Profile: Income



Avg: \$110,934

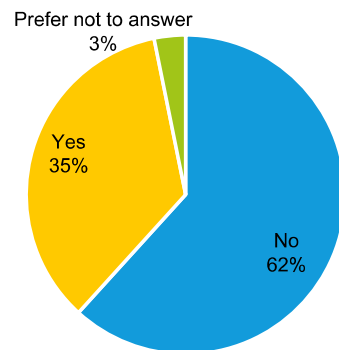
\$85k or less: 37%
More than \$85k: 52%

- The average yearly household income for respondents is \$110,934.
- More than half of MSR owners are in households with an annual income of greater than \$85,000.

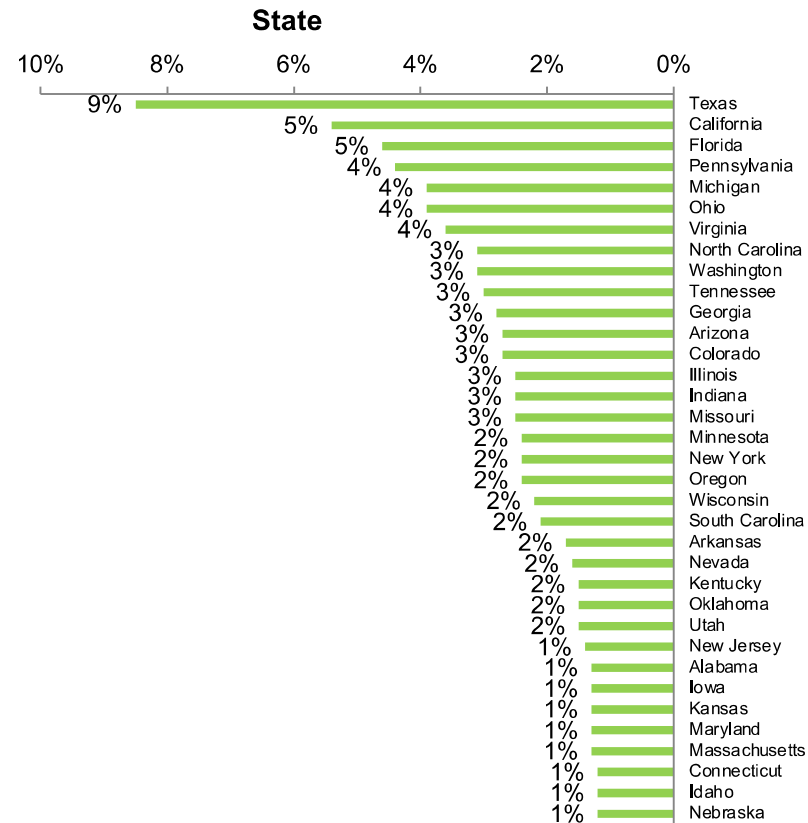
NSSF MSR Consumer Study – Report of Findings

Respondent Profile: State, Household Children

Do you have any children living with you?

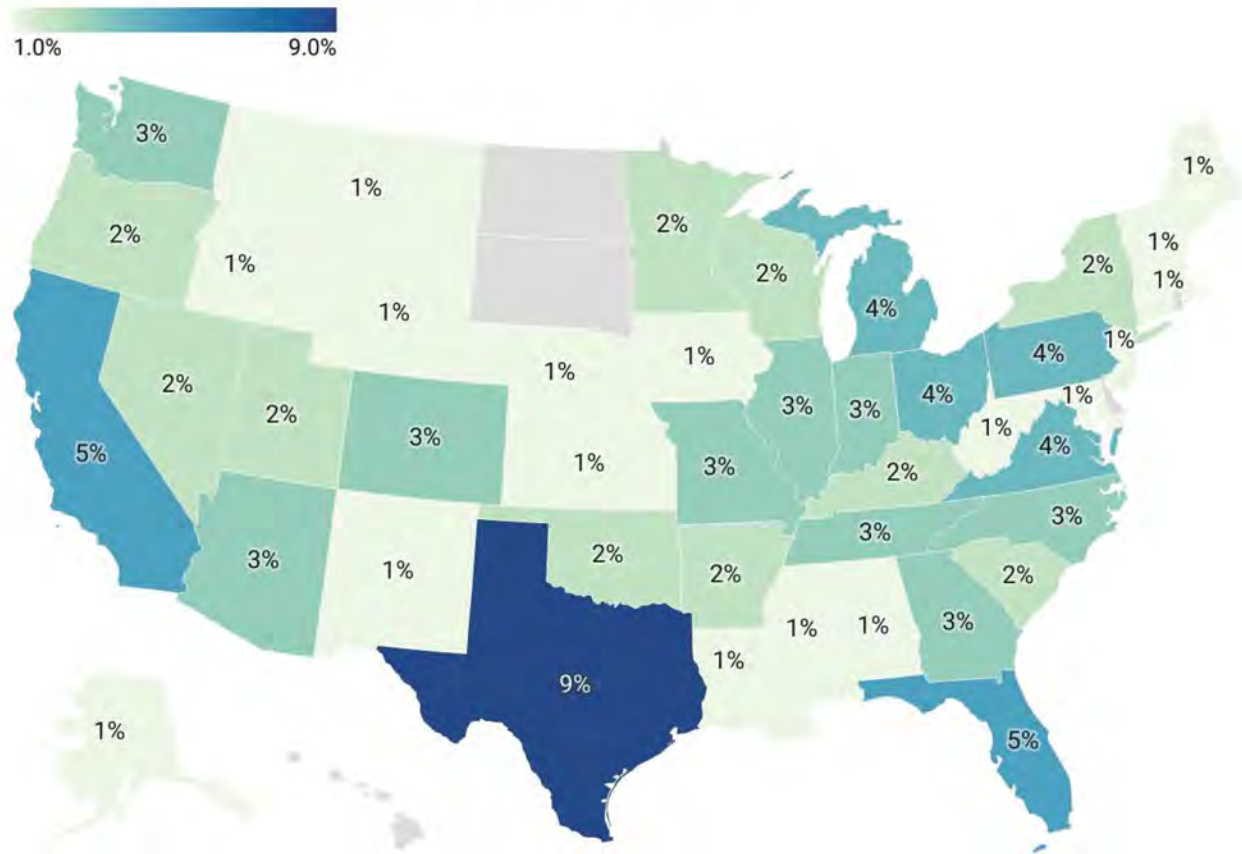


- Nearly two-thirds of respondents do not have any children living with them.
- The states with the most respondents are Texas (9%), California (5%), and Florida (5%).



NSSF MSR Consumer Study – Report of Findings

Respondent Profile: State, Household Children

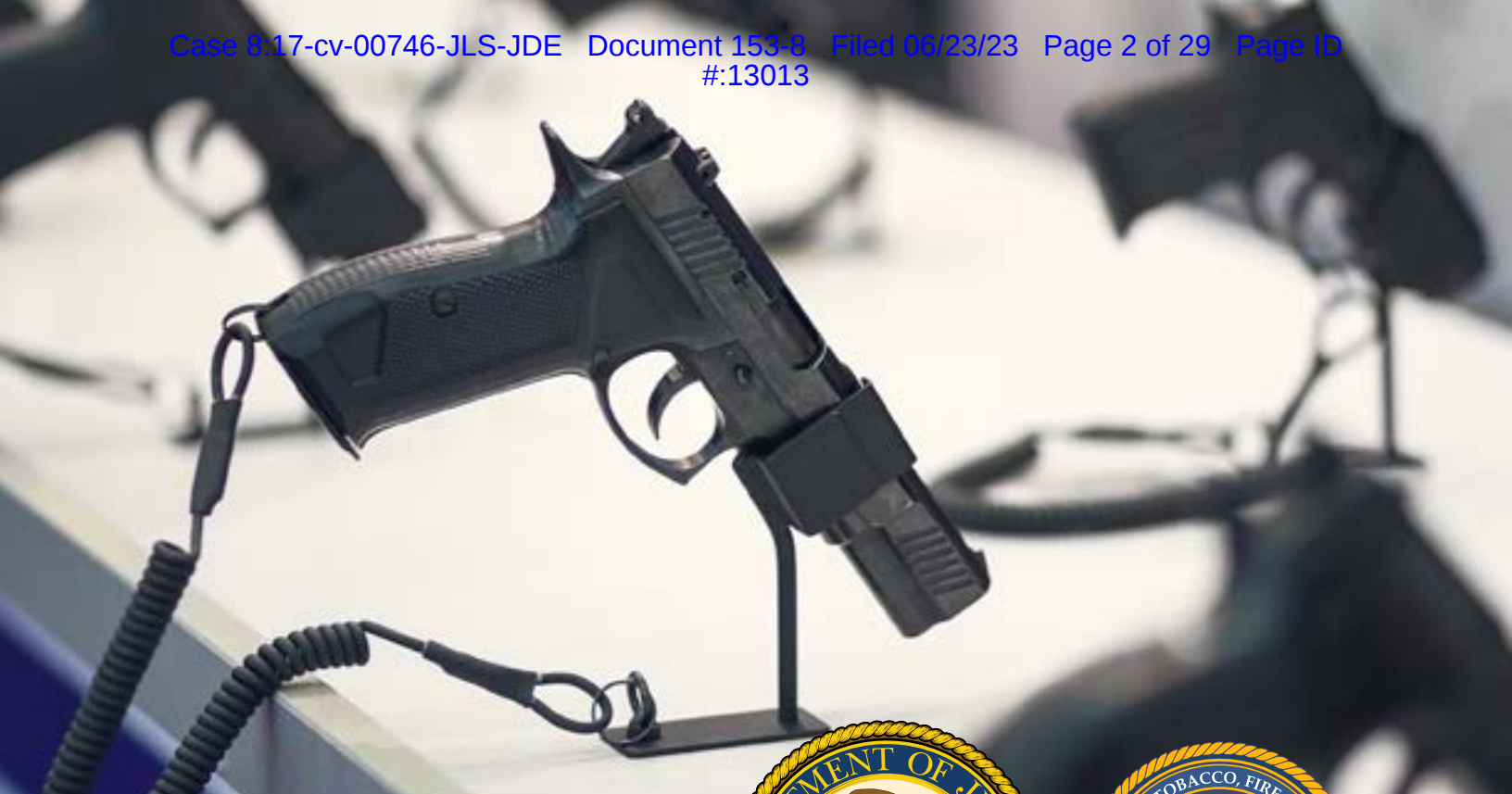




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7/22 Item #33101-21

EXHIBIT 93



Alcohol, Tobacco, Firearms and Explosives

Firearms Commerce in the United States

ANNUAL STATISTICAL UPDATE 2021

Exhibit 1: Firearms Manufactured (1986 – 2019)

Calendar Year	Pistols	Revolvers	Rifles	Shotguns	Misc. Firearms ¹	Total Firearms
1986	662,973	761,414	970,507	641,482	4,558	3,040,934
1987	964,561	722,512	1,007,661	857,949	6,980	3,559,663
1988	1,101,011	754,744	1,144,707	928,070	35,345	3,963,877
1989	1,404,753	628,573	1,407,400	935,541	42,126	4,418,393
1990	1,371,427	470,495	1,211,664	848,948	57,434	3,959,968
1991	1,378,252	456,966	883,482	828,426	15,980	3,563,106
1992	1,669,537	469,413	1,001,833	1,018,204	16,849	4,175,836
1993	2,093,362	562,292	1,173,694	1,144,940	81,349	5,055,637
1994	2,004,298	586,450	1,316,607	1,254,926	10,936	5,173,217
1995	1,195,284	527,664	1,411,120	1,173,645	8,629	4,316,342
1996	987,528	498,944	1,424,315	925,732	17,920	3,854,439
1997	1,036,077	370,428	1,251,341	915,978	19,680	3,593,504
1998	960,365	324,390	1,535,690	868,639	24,506	3,713,590
1999	995,446	335,784	1,569,685	1,106,995	39,837	4,047,747
2000	962,901	318,960	1,583,042	898,442	30,196	3,793,541
2001	626,836	320,143	1,284,554	679,813	21,309	2,932,655
2002	741,514	347,070	1,515,286	741,325	21,700	3,366,895
2003	811,660	309,364	1,430,324	726,078	30,978	3,308,404
2004	728,511	294,099	1,325,138	731,769	19,508	3,099,025
2005	803,425	274,205	1,431,372	709,313	23,179	3,241,494
2006	1,021,260	385,069	1,496,505	714,618	35,872	3,653,324
2007	1,219,664	391,334	1,610,923	645,231	55,461	3,922,613
2008	1,609,381	431,753	1,734,536	630,710	92,564	4,498,944
2009	1,868,258	547,195	2,248,851	752,699	138,815	5,555,818
2010	2,258,450	558,927	1,830,556	743,378	67,929	5,459,240
2011	2,598,133	572,857	2,318,088	862,401	190,407	6,541,886
2012	3,487,883	667,357	3,168,206	949,010	306,154	8,578,610

Source: ATF's Annual Firearms Manufacturing and Exportation Report (AFMER).

¹ Miscellaneous firearms are any firearms not specifically categorized in any of the firearms categories defined on the ATF Form 5300.11 Annual Firearms Manufacturing and Exportation Report. (Examples of miscellaneous firearms would include pistol grip firearms, starter guns, and firearm frames and receivers.)

The AFMER report excludes production for the U.S. military but includes firearms purchased by domestic law enforcement agencies. The report also includes firearms manufactured for export.

AFMER data is not published until one year after the close of the calendar year reporting period because the proprietary data furnished by filers is protected from immediate disclosure by the Trade Secrets Act. For example, calendar year 2012 data was due to ATF by April 1, 2013, but not published until January 2014.

Exhibit 1: Firearms Manufactured (1986 – 2019) – continued

Calendar Year	Pistols	Revolvers	Rifles	Shotguns	Misc. Firearms ¹	Total Firearms
2013	4,441,726	725,282	3,979,570	1,203,072	495,142	10,844,792
2014	3,633,454	744,047	3,379,549	935,411	358,165	9,050,626
2015	3,557,199	885,259	3,691,799	777,273	447,131	9,358,661
2016	4,720,075	856,291	4,239,335	848,617	833,123	11,497,441
2017	3,691,010	720,917	2,504,092	653,139	758,634	8,327,792
2018	3,881,158	664,835	2,880,536	536,126	1,089,973	9,052,628
2019	3,046,013	580,601	1,957,667	480,735	946,929	7,011,945

Source: ATF's Annual Firearms Manufacturing and Exportation Report (AFMER).

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Exhibit 1a: Firearms Manufactured (1986-2019)

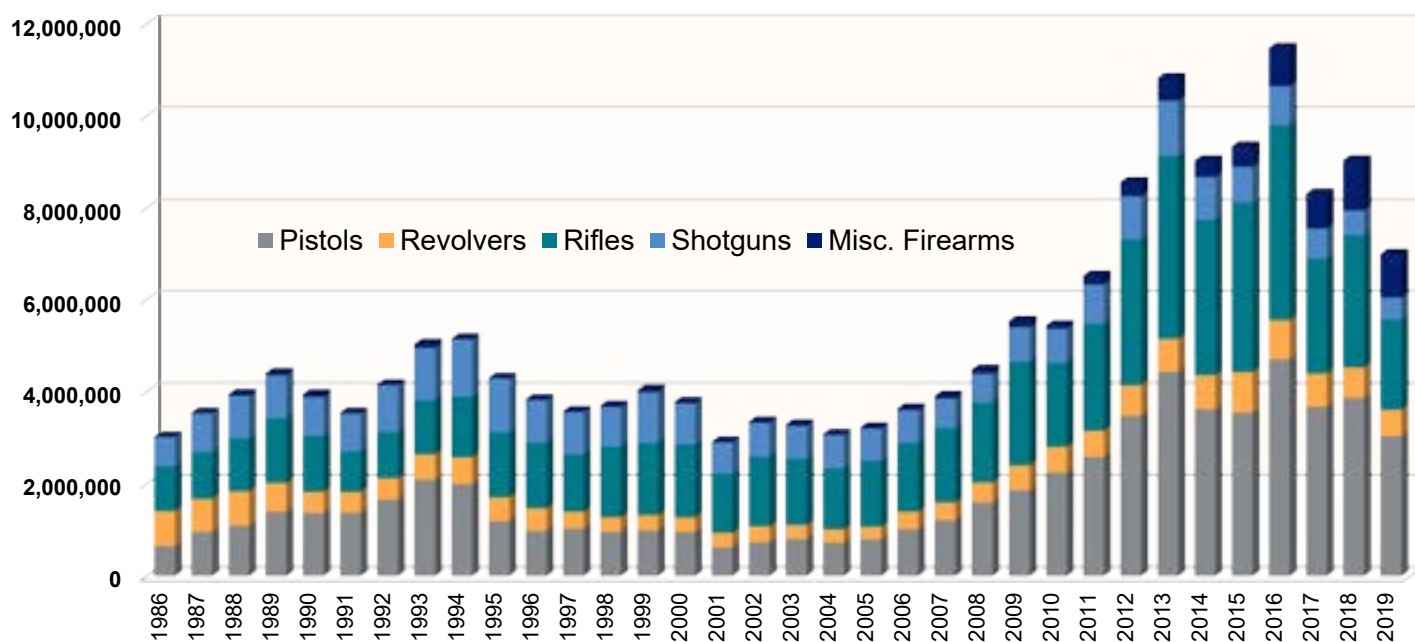


Exhibit 2: Firearms Manufacturers' Exports (1986 – 2019)

Calendar Year	Pistols	Revolvers	Rifles	Shotguns	Misc. Firearms ¹	Total Firearms
1986	16,511	104,571	37,224	58,943	199	217,448
1987	24,941	134,611	42,161	76,337	9,995	288,045
1988	32,570	99,289	53,896	68,699	2,728	257,182
1989	41,970	76,494	73,247	67,559	2,012	261,282
1990	73,398	106,820	71,834	104,250	5,323	361,625
1991	79,275	110,058	91,067	117,801	2,964	401,165
1992	76,824	113,178	90,015	119,127	4,647	403,791
1993	59,234	91,460	94,272	171,475	14,763	431,204
1994	93,959	78,935	81,835	146,524	3,220	404,473
1995	97,969	131,634	90,834	101,301	2,483	424,221
1996	64,126	90,068	74,557	97,191	6,055	331,997
1997	44,182	63,656	76,626	86,263	4,354	275,081
1998	29,537	15,788	65,807	89,699	2,513	203,344
1999	34,663	48,616	65,669	67,342	4,028	220,318
2000	28,636	48,130	49,642	35,087	11,132	172,627
2001	32,151	32,662	50,685	46,174	10,939	172,611
2002	22,555	34,187	60,644	31,897	1,473	150,756
2003	16,340	26,524	62,522	29,537	6,989	141,912
2004	14,959	24,122	62,403	31,025	7,411	139,920
2005	19,196	29,271	92,098	46,129	7,988	194,682
2006	144,779	28,120	102,829	57,771	34,022	367,521
2007	45,053	34,662	80,594	26,949	17,524	204,782
2008	54,030	28,205	104,544	41,186	523	228,488
2009	56,402	32,377	61,072	36,455	8,438	194,744
2010	80,041	25,286	76,518	43,361	16,771	241,977
2011	121,035	23,221	79,256	54,878	18,498	296,888
2012	128,313	19,643	81,355	42,858	15,385	287,554
2013	167,653	21,236	131,718	49,766	22,748	393,121
2014	126,316	25,521	207,934	60,377	784	420,932
2015	140,787	22,666	159,707	18,797	1,499	343,456

Source: ATF's Annual Firearms Manufacturing and Exportation Report (AFMER).

¹ Miscellaneous firearms are any firearms not specifically categorized in any of the firearms categories defined on the ATF Form 5300.11 Annual Firearms Manufacturing and Exportation Report. (Examples of miscellaneous firearms would include pistol grip firearms, starter guns, and firearm frames and receivers.)

The AFMER report excludes production for the U.S. military but includes firearms purchased by domestic law enforcement agencies.

Exhibit 2: Firearms Manufacturers' Exports (1986 – 2019) – continued

Calendar Year	Pistols	Revolvers	Rifles	Shotguns	Misc. Firearms ¹	Total Firearms
2016	172,408	24,587	147,044	24,668	8,111	376,818
2017	275,424	21,676	158,871	29,997	2,332	488,300
2018	333,266	21,498	165,573	27,774	6,126	554,237
2019	138,683	14,778	136,241	22,319	5,461	317,482

Source: ATF's Annual Firearms Manufacturing and Exportation Report (AFMER).

¹ Miscellaneous firearms are any firearms not specifically categorized in any of the firearms categories defined on the ATF Form 5300.11 Annual Firearms Manufacturing and Exportation Report. (Examples of miscellaneous firearms would include pistol grip firearms, starter guns, and firearm frames and receivers.)

The AFMER report excludes production for the U.S. military but includes firearms purchased by domestic law enforcement agencies.

Exhibit 2a: Firearms Manufacturers' Exports (1986-2019)

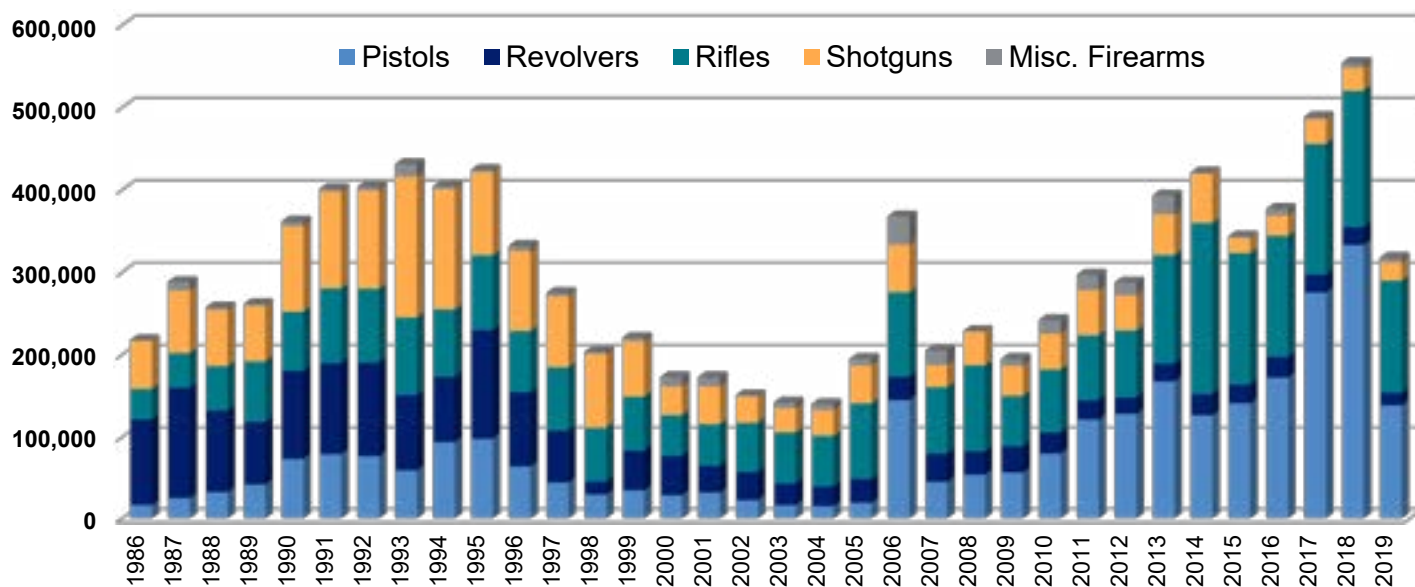


Exhibit 3: Firearms Imports (1986 – 2020)

Calendar Year	Shotguns	Rifles	Handguns	Total
1986	201,000	269,000	231,000	701,000
1987	307,620	413,780	342,113	1,063,513
1988	372,008	282,640	621,620	1,276,268
1989	274,497	293,152	440,132	1,007,781
1990	191,787	203,505	448,517	843,809
1991	116,141	311,285	293,231	720,657
1992	441,933	1,423,189	981,588	2,846,710
1993	246,114	1,592,522	1,204,685	3,043,321
1994	117,866	847,868	915,168	1,880,902
1995	136,126	261,185	706,093	1,103,404
1996	128,456	262,568	490,554	881,578
1997	106,296	358,937	474,182	939,415
1998	219,387	248,742	531,681	999,810
1999	385,556	198,191	308,052	891,799
2000	331,985	298,894	465,903	1,096,782
2001	428,330	227,608	710,958	1,366,896
2002	379,755	507,637	741,845	1,629,237
2003	407,402	428,837	630,263	1,466,502
2004	507,050	564,953	838,856	1,910,859
2005	546,403	682,100	878,172	2,106,675
2006	606,820	659,393	1,166,309	2,432,522
2007	725,752	631,781	1,386,460	2,743,993
2008	535,960	602,364	1,468,062	2,606,386
2009	558,679	864,010	2,184,417	3,607,106
2010	509,913	547,449	1,782,585	2,839,947
2011	529,056	998,072	1,725,276	3,252,404
2012	973,465	1,243,924	2,627,201	4,844,590
2013	936,235	1,507,776	3,095,528	5,539,539

Source: ATF and United States International Trade Commission.

Statistics prior to 1992 are for fiscal years; 1992 is a transition year with five quarters.

Exhibit 3: Firearms Imports (1986 – 2020) – continued

Calendar Year	Shotguns	Rifles	Handguns	Total
2014	648,339	791,892	2,185,037	3,625,268
2015	644,293	815,817	2,470,101	3,930,211
2016	736,482	729,452	3,671,837	5,137,771
2017	632,105	572,309	3,287,842	4,492,256
2018	713,931	652,031	2,939,889	4,305,851
2019	743,252	648,703	2,594,708	3,986,663
2020	1,924,937	875,159	4,031,280	6,831,376

Source: ATF and United States International Trade Commission.

Statistics prior to 1992 are for fiscal years; 1992 is a transition year with five quarters.

Exhibit 3a: Firearms Imports (1986-2020)

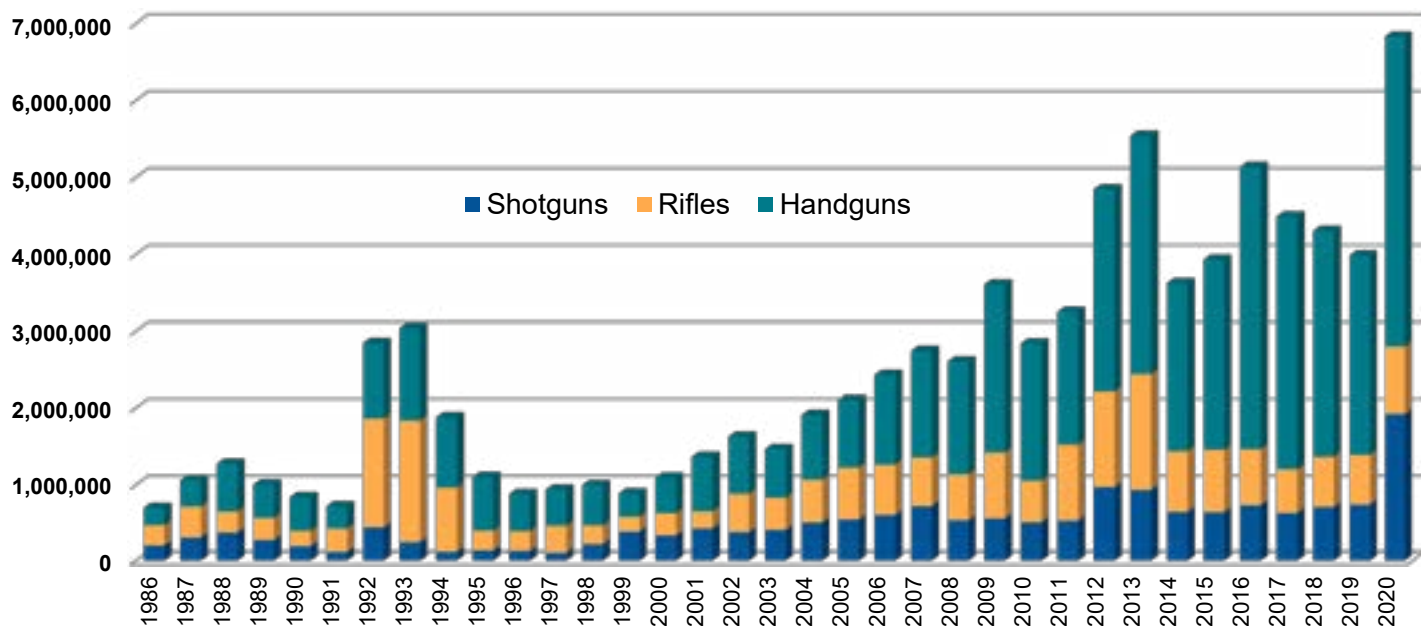


Exhibit 4: Importation Applications (1986 – 2020)

Fiscal Year	Licensed Importer	Military*	Other	Total
1986	7,728	9,434	2,631	19,793
1987	7,833	8,059	2,130	18,022
1988	7,711	7,680	2,122	17,513
1989	7,950	8,293	2,194	18,437
1990	8,292	8,696	2,260	19,248
1991	8,098	10,973	2,412	21,483
1992	7,960	9,222	2,623	19,805
1993	7,591	6,282	2,585	16,458
1994	6,704	4,570	3,024	14,298
1995	5,267	2,834	2,548	10,649
1996	6,340	2,792	2,395	11,527
1997	8,288	2,069	1,395	11,752
1998	8,767	2,715	1,536	13,019
1999	9,505	2,235	1,036	12,776
2000	7,834	2,885	1,416	12,135
2001	9,639	3,984	1,569	15,192
2002	9,646	6,321	3,199	19,166
2003	8,160	2,264	2,081	12,505
2004	7,539	1,392	1,819	10,750
2005	7,539	1,320	1,746	10,605
2006	8,537	1,180	1,505	11,222
2007	8,004	1,081	1,236	10,321
2008	7,610	718	980	9,308
2009	7,967	504	970	9,441
2010	7,367	823	1,088	9,278
2011	7,647	641	959	9,247
2012	8,408	420	895	9,723
2013	9,964	319	597	10,880

Source: ATF's Firearms and Explosives Import System (FEIS)

Import data excludes temporary permits issued to nonimmigrant aliens.

* Depicts ATF Form 6 Part II (5330.3C)

Exhibit 4: Importation Applications (1986 – 2020) – continued

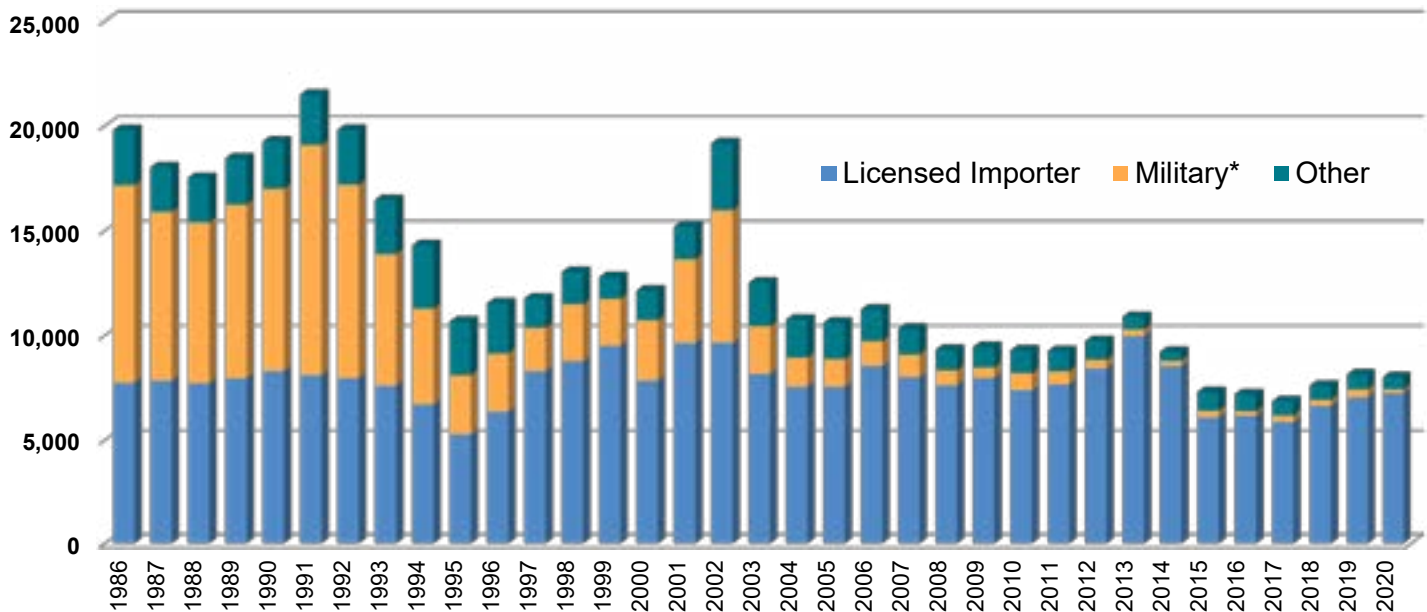
Fiscal Year	Licensed Importer	Military*	Other	Total
2014	8,529	255	429	9,213
2015	6,078	318	897	7,293
2016	6,154	220	814	7,188
2017	5,859	309	685	6,853
2018	6,631	289	670	7,590
2019	7,040	380	711	8,131
2020	7,243	180	583	8,006

Source: ATF's Firearms and Explosives Import System (FEIS)

Import data excludes temporary permits issued to nonimmigrant aliens.

* Depicts ATF Form 6 Part II (5330.3C)

Exhibit 4a: Importation Application (1986-2020)



**Exhibit 5: Firearms Imported into the United States
by Country 2020**

Country	Handguns	Rifles	Shotguns	Total Firearms
Turkey	415,180	29,450	1,045,621	1,490,251
Austria	1,279,123	5,632	30	1,284,785
Brazil	849,700	120,864	46,066	1,016,630
Croatia	521,932	0	0	521,932
Sweden	45	1,680	430,062	431,787
Italy	146,565	48,705	175,818	371,088
Germany	274,799	73,118	2,374	350,291
Czech Republic	247,491	28,418	34	275,943
Canada	3,050	232,395	982	236,427
China	0	12,000	205,462	217,462
Philippines	113,399	3,818	0	117,217
Japan	0	78,249	620	78,869
Spain	960	57,506	515	58,981
Israel	41,357	7,839	7,697	56,893
Serbia	22,703	24,096	0	46,799
Finland	8	46,506	32	46,546
Romania	22,145	15,911	0	38,056
Portugal	0	34,576	72	34,648
Argentina	29,030	0	0	29,030
Belgium	14,120	9,533	212	23,865
Switzerland	17943	3,390	35	21,368
Bulgaria	6,937	13,733	1	20,671
United Kingdom	65	11,937	8492	20,494
Poland	10,286	8,291	0	18,577
Slovenia	4,902	0	0	4,902

¹ On May 26, 1994, the United States instituted a firearms imports embargo against China. Sporting shotguns, however, are exempt from the embargo.

² Imports of fewer than 1,000 per country.

Imports from Afghanistan, Belarus, Burma, China, Cuba, Democratic Republic of Congo, Haiti, Iran, Iraq, Libya, Mongolia, North Korea, Rwanda, Somalia Sudan, Syria, Unita (Angola), Vietnam, may include surplus military curio and relic firearms that were manufactured in these countries prior to becoming proscribed or embargoed and had been outside those proscribed countries for the preceding five years prior to import. Imports may also include those that obtained a waiver from the U.S. State Department.

Imports from Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Turkmenistan, Ukraine, Uzbekistan are limited to firearms enumerated on the Voluntary Restraint Agreement (VRA).

**Exhibit 5: Firearms Imported into the United States
by Country 2020 – continued**

Country	Handguns	Rifles	Shotguns	Total Firearms
Montenegro	3,639	0	0	3,639
Taiwan	0	3,140	0	3,140
Slovakia	2,987	0	0	2,987
Georgia	608	1,500	0	2,108
Hungary	1,154	875	0	2,029
Russia	0	1,595	0	1,595
France	1,042	321	62	1,425
Other ²	110	81	750	941
Total	4,031,280	875,159	1,924,937	6,831,376

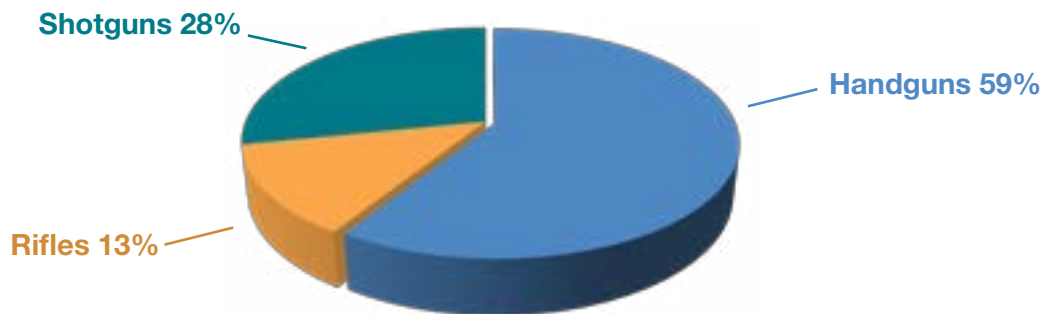
¹ On May 26, 1994, the United States instituted a firearms imports embargo against China. Sporting shotguns, however, are exempt from the embargo.

² Imports of fewer than 1,000 per country.

Imports from Afghanistan, Belarus, Burma, China, Cuba, Democratic Republic of Congo, Haiti, Iran, Iraq, Libya, Mongolia, North Korea, Rwanda, Somalia Sudan, Syria, Unita (Angola), Vietnam, may include surplus military curio and relic firearms that were manufactured in these countries prior to becoming proscribed or embargoed and had been outside those proscribed countries for the preceding five years prior to import. Imports may also include those that obtained a waiver from the U.S. State Department.

Imports from Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Turkmenistan, Ukraine, Uzbekistan are limited to firearms enumerated on the Voluntary Restraint Agreement (VRA).

Exhibit 5a: Imported Firearms Type 2020



**Exhibit 6: National Firearms Act
Tax Revenues and Related Activities (1984 – 2020)**

Fiscal Year ¹	Occupational Tax Paid ²	Transfer & Making Tax Paid	Enforcement Support ³	
			Certifications	Records Checks
1984	\$596,000	\$666,000	1,196	2,771
1985	\$606,000	\$594,000	921	3,682
1986	\$667,000	\$1,372,000	690	3,376
1987	\$869,000	\$1,576,000	575	4,135
1988	\$2,095,000	\$1,481,000	701	3,738
1989	\$1,560,000	\$1,527,000	1,196	6,128
1990	\$1,442,000	\$1,308,000	666	7,981
1991	\$1,556,000	\$1,210,000	764	7,857
1992	\$1,499,000	\$1,237,000	1,257	8,582
1993	\$1,493,000	\$1,264,000	1,024	7,230
1994	\$1,444,000	\$1,596,000	586	6,283
1995	\$1,007,000	\$1,311,000	882	5,677
1996	\$1,143,000	\$1,402,000	529	5,215
1997	\$1,284,000	\$1,630,000	488	4,395
1998	\$1,299,000	\$1,969,000	353	3,824
1999	\$1,330,000	\$2,422,000	345	3,994
2000	\$1,399,000	\$2,301,000	144	2,159
2001	\$1,456,000	\$2,800,000	402	5,156
2002	\$1,492,000	\$1,510,000	441	6,381
2003	\$1,758,000	\$2,699,000	401	6,597
2004	\$1,640,000	\$3,052,000	435	6,191
2005	\$1,659,000	\$2,810,000	447	6,218
2006	\$1,709,000	\$3,951,000	327	6,331
2007	\$1,815,000	\$4,890,000	530	7,468
2008	\$1,950,000	\$5,742,000	375	5,872
2009	\$2,125,000	\$7,971,000	418	5,736
2010	\$2,530,000	\$7,184,000	267	5,883
2011	\$2,952,000	\$9,576,000	287	6,313
2012	\$3,628,000	\$12,814,000	390	7,103
2013	\$4,294,000	\$18,182,000	501	7,138
2014	\$4,837,000	\$22,678,000	367	6,172

**Exhibit 6: National Firearms Act
Tax Revenues and Related Activities (1984 – 2020) – continued**

Fiscal Year ¹	Occupational Tax Paid ²	Transfer & Making Tax Paid	Enforcement Support ³	
			Certifications	Records Checks
2015	\$5,417,000	\$32,462,000	338	5,650
2016	\$6,018,000	\$62,596,000	397	6,547
2017	\$6,371,000	\$22,972,000	469	6,749
2018	\$6,753,000	\$33,371,000	537	6,130
2019	\$7,014,000	\$37,285,000	447	5,426
2020	\$7,982,000	\$51,677,000	456	4,520

Source: ATF's National Firearms Registration and Transfer Record (NFRTR).

¹ Data from 1997 - 2000 were based on calendar year data.

² Special occupational tax revenues for FY 1990 - 1996 include collections made during the fiscal year for prior tax years. Importers, manufacturers, or dealers in NFA firearms are subject to a yearly occupational tax.

³ ATF searches the NFRTR in support of criminal investigations and regulatory inspections in order to determine whether persons are legally in possession of NFA weapons and whether transfers are made lawfully.

Data from 2000-2010 for Certifications and Records Checks was corrected in the 2012 update.

Exhibit 7: National Firearms Act Firearms Processed by Form Type (1990 - 2020)

Calendar Year ¹	Application to Make NFA Firearms (ATF Form 1)	Manufactured and Imported (ATF Form 2)	Application for Tax Exempt Transfer Between Licensees (ATF Form 3)	Application for Taxpaid Transfer (ATF Form 4)	Application for Tax-Exempt Transfer ² (ATF Form 5)	Exported (ATF Form 9)	Total ³
1990	399	66,084	23,149	7,024	54,959	21,725	173,340
1991	524	80,619	19,507	5,395	44,146	40,387	190,578
1992	351	107,313	26,352	6,541	45,390	22,120	208,067
1993	310	70,342	22,071	7,388	60,193	24,041	184,345
1994	1,076	97,665	27,950	7,600	67,580	34,242	236,113
1995	1,226	95,061	18,593	8,263	60,055	31,258	214,456
1996	1,174	103,511	16,931	6,418	72,395	40,439	240,868
1997	855	110,423	18,371	7,873	70,690	36,284	244,496
1998	1,093	141,101	27,921	10,181	93,135	40,221	313,652
1999	1,071	137,373	28,288	11,768	95,554	28,128	302,182
2000	1,334	141,763	23,335	11,246	96,234	28,672	302,584
2001	2,522	145,112	25,745	10,799	101,955	25,759	311,892
2002	1,173	162,321	25,042	10,686	92,986	47,597	339,805
2003	1,003	156,620	21,936	13,501	107,108	43,668	343,836
2004	980	83,483	20,026	14,635	54,675	19,425	193,224
2005	1,902	65,865	26,603	14,606	26,210	20,951	156,137
2006	2,610	188,134	51,290	20,534	100,458	42,175	405,201
2007	3,553	296,267	51,217	22,260	194,794	76,467	644,558
2008	4,583	424,743	71,404	26,917	183,271	206,411	917,329
2009	5,345	371,920	56,947	31,551	201,267	163,951	830,981
2010	5,169	296,375	58,875	33,059	189,449	136,335	719,262
2011	5,477	530,953	107,066	33,816	147,341	311,214	1,135,867
2012	7,886	484,928	149,762	52,490	170,561	219,700	1,085,327
2013	9,347	477,567	206,389	57,294	110,637	224,515	1,085,749
2014	22,380	591,388	262,342	107,921	138,204	248,109	1,370,344
2015	32,558	583,499	365,791	130,017	127,945	306,037	1,545,847
2016	49,985	1,066,812	571,840	133,911	152,264	555,397	2,530,209
2017	40,444	497,329	344,197	184,312	180,850	224,389	1,471,521
2018	21,580	545,700	355,114	128,324	169,258	318,387	1,538,363
2019	28,006	844,378	361,754	170,182	234,486	402,626	2,041,432
2020	40,790	884,656	610,002	246,806	266,600	360,731	2,409,585

Exhibit 7: National Firearms Act Firearms Processed by Form Type (1990 - 2020)

Calendar Year ¹	Application to Make NFA Firearms (ATF Form 1)	Manufactured and Imported (ATF Form 2)	Application for Tax Exempt Transfer Between Licensees (ATF Form 3)	Application for Taxpaid Transfer (ATF Form 4)	Application for Tax-Exempt Transfer ² (ATF Form 5)	Exported (ATF Form 9)	Total ³
Source: ATF's National Firearms Registration and Transfer Record (NFRTR).							
¹ Data from 1990 - 1996 represent fiscal year.							
² Firearms may be transferred to the U.S., State or local governments without the payment of a transfer tax. Further transfers of NFA firearms between licensees registered as importers, manufacturers, or dealers who have paid the special occupational tax are likewise exempt from transfer tax.							
³ Totals do not include ATF Form 5320.20 or ATF Form 10 because these do not relate to commercial transactions.							

Exhibit 7a: National Firearms Act Firearms Processed by Form Type (1990-2020)

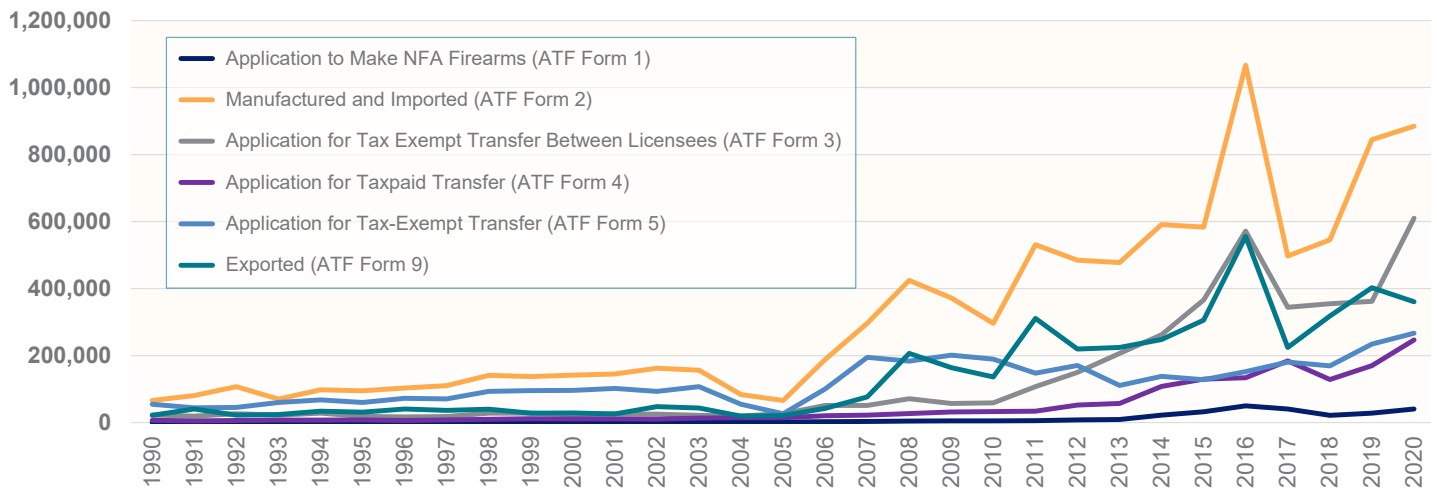
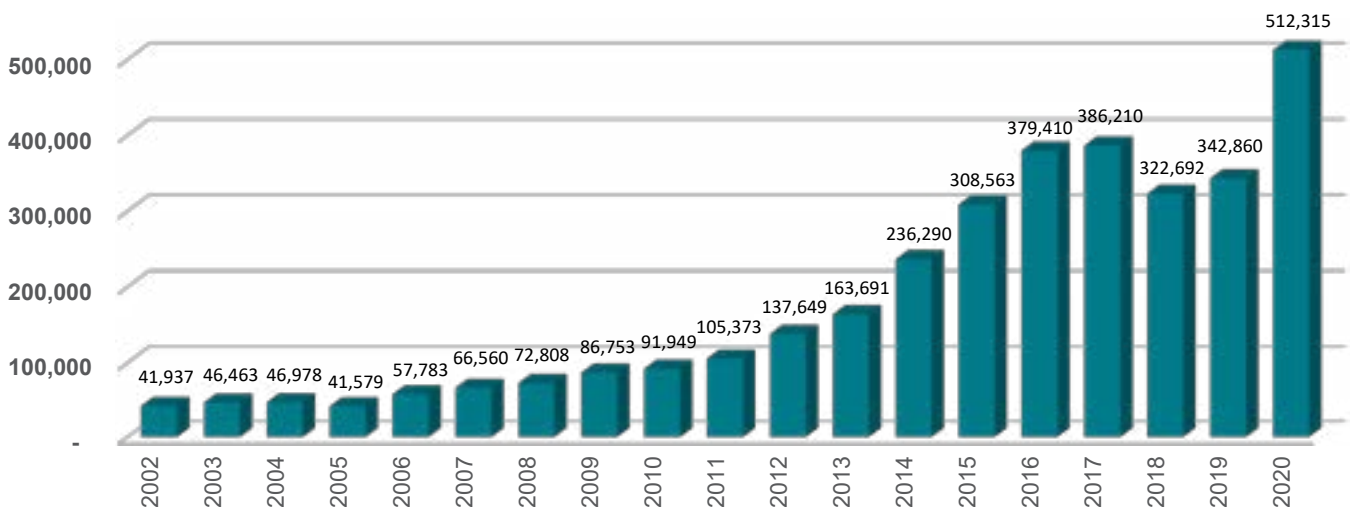


Exhibit 7b: National Firearms Act Firearms Processed by Fiscal Year (2002-2020)



**Exhibit 8: National Firearms Act Registered Weapons by State
(May 2021)**

State	Any Other Weapon ¹	Destructive Device ²	Machinegun ³	Silencer ⁴	Short Barreled Rifle ⁵	Short Barreled Shotgun ⁶	Total
Alabama	1,352	82,978	34,702	64,506	8,830	2,552	194,920
Alaska	345	6,256	1,802	15,192	3,108	1,534	28,237
Arkansas	703	83,161	5,689	38,058	5,076	1,294	133,981
Arizona	2,647	123,286	19,032	85,353	25,203	3,170	258,691
California	4,752	324,948	29,112	17,271	15,520	14,757	406,360
Colorado	1,154	57,926	7,666	67,008	13,509	2,119	149,382
Connecticut	1,034	14,610	35,235	18,648	4,212	1,135	74,874
District of Columbia	69	62,757	7,872	1,024	1,426	1,167	74,315
Delaware	52	3,876	537	411	565	651	6,092
Florida	4,100	230,917	47,117	175,156	50,848	10,587	518,725
Georgia	2,269	96,486	42,545	129,566	21,232	12,026	304,124
Hawaii	34	8,234	441	403	93	75	9,280
Iowa	919	19,353	7,228	22,529	2,937	1,212	54,178
Idaho	667	23,674	5,299	40,755	5,376	654	76,425
Illinois	1,075	103,440	30,576	3,297	4,622	1,739	144,749
Indiana	1,862	50,885	21,137	63,249	10,872	9,541	157,546
Kansas	823	26,035	3,986	31,811	5,924	1,271	69,850
Kentucky	1,212	36,615	18,128	44,040	6,717	2,121	108,833
Louisiana	713	60,863	7,206	72,042	9,212	2,025	152,061
Massachusetts	969	19,571	7,070	10,409	6,079	1,040	45,138
Maryland	1,137	61,460	29,854	32,275	7,633	3,898	136,257
Maine	600	3,789	5,109	8,285	3,057	556	21,396
Michigan	1,284	30,928	17,464	49,324	9,120	1,715	109,835
Minnesota	2,825	61,232	8,779	48,154	7,681	1,154	129,825
Missouri	1,574	37,631	11,167	49,754	10,230	2,995	113,351
Mississippi	564	32,211	4,906	36,545	5,354	1,132	80,712
Montana	467	4,999	2,531	25,409	2,612	660	36,678

Exhibit 8: National Firearms Act Registered Weapons by State
(May 2021) — continued

State	Any Other Weapon ¹	Destructive Device ²	Machinegun ³	Silencer ⁴	Short Barreled Rifle ⁵	Short Barreled Shotgun ⁶	Total
North Carolina	1,158	107,333	15,875	76,759	17,478	3,563	222,166
North Dakota	215	3,726	1,670	23,042	2,003	319	30,975
Nebraska	816	9,780	2,403	25,879	3,472	911	43,261
New Hampshire	534	5,834	20,817	36,954	7,613	681	72,433
New Jersey	534	47,080	44,422	3,889	3,775	2,528	102,228
New Mexico	404	93,029	4,233	19,873	4,590	839	122,968
Nevada	1,264	50,124	14,577	37,880	12,662	2,500	119,007
New York	1,848	54,148	13,554	7,406	7,622	7,613	92,191
Ohio	2,312	92,909	22,979	68,736	15,158	6,567	208,661
Oklahoma	1,253	19,174	9,776	62,404	8,738	2,023	103,368
Oregon	1,683	28,654	6,740	49,197	9,483	1,717	97,474
Pennsylvania	2,482	205,854	21,169	83,563	21,215	13,884	348,167
Rhode Island	46	3,663	630	96	338	114	4,887
South Carolina	733	44,017	10,997	50,422	9,088	3,948	119,205
South Dakota	388	4,559	2,176	55,666	1,612	265	64,666
Tennessee	1,803	54,554	14,683	60,573	13,350	6,573	151,536
Texas	7,517	332,208	46,318	529,150	81,000	10,362	1,006,555
Utah	578	19,648	7,745	79,557	9,212	1,668	118,408
Virginia	3,094	250,986	43,877	90,454	26,361	8,935	423,707
Vermont	238	3,106	1,465	3,528	904	210	9,451
Washington	1,981	62,633	4,673	78,279	16,919	1,049	165,534
Wisconsin	853	36,053	8,391	40,596	8,070	1,467	95,430
West Virginia	465	25,315	7,359	13,696	2,913	1,215	50,963
Wyoming	337	120,688	2,019	16,681	2,089	433	142,247
Other US Territories	6	323	408	20	12	103	872
Total	67,744	3,343,519	741,146	2,664,774	532,725	162,267	7,512,175

Exhibit 8: National Firearms Act Registered Weapons by State (May 2021) – continued

State	Any Other Weapon ¹	Destructive Device ²	Machinegun ³	Silencer ⁴	Short Barreled Rifle ⁵	Short Barreled Shotgun ⁶	Total
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Source: ATF National Firearms Registration and Transfer Record (NFRTR).

¹The term “any other weapon” means any weapon or device capable of being concealed on the person from which a shot can be discharged through the energy of an explosive, a pistol or revolver having a barrel with a smooth bore designed or redesigned to fire a fixed shotgun shell, weapons with combination shotgun and rifle barrels 12 inches or more, less than 18 inches in length, from which only a single discharge can be made from either barrel without manual reloading, and shall include any such weapon which may be readily restored to fire. Such term shall not include a pistol or a revolver having a rifled bore, or rifled bores, or weapons designed, made, or intended to be fired from the shoulder and not capable of firing fixed ammunition.

² Destructive device generally is defined as (a) any explosive, incendiary, or poison gas (1) bomb, (2) grenade, (3) rocket having a propellant charge of more than 4 ounces, (4) missile having an explosive or incendiary charge of more than one-quarter ounce, (5) mine, or (6) device similar to any of the devices described in the preceding paragraphs of this definition; (b) any type of weapon (other than a shotgun or a shotgun shell which the Director finds is generally recognized as particularly suitable for sporting purposes) by whatever name known which will, or which may be readily converted to, expel a projectile by the action of an explosive or other propellant, and which has any barrel with a bore of more than one-half inch in diameter; and (c) any combination of parts either designed or intended for use in converting any device into any destructive device described in paragraph (a) or (b) of this section and from which a destructive device may be readily assembled. The term shall not include any device which is neither designed nor redesigned for use as a weapon; any device, although originally designed for use as a weapon, which is redesigned for use as a signaling, pyrotechnic, line throwing, safety, or similar device; surplus ordnance sold, loaned, or given by the Secretary of the Army pursuant to the provisions of section 4684(2), 4685, or 4686 of title 10, United States Code; or any other device which the Director finds is not likely to be used as a weapon, is an antique, or is a rifle which the owner intends to use solely for sporting, recreational, or cultural purposes.

³ Machinegun is defined as any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger. The term shall also include the frame or receiver of any such weapon, any part designed and intended solely and exclusively, or combination of parts designed and intended, for use in converting a weapon into a machinegun, and any combination of parts from which a machinegun can be assembled if such parts are in the possession or under the control of a person.

⁴ Silencer is defined as any device for silencing, muffling, or diminishing the report of a portable firearm, including any combination of parts, designed or redesigned, and intended for the use in assembling or fabricating a firearm silencer or firearm muffler, and any part intended only for use in such assembly or fabrication.

⁵ Short-barreled rifle is defined as a rifle having one or more barrels less than 16 inches in length, and any weapon made from a rifle, whether by alteration, modification, or otherwise, if such weapon, as modified, has an overall length of less than 26 inches.

⁶ Short-barreled shotgun is defined as a shotgun having one or more barrels less than 18 inches in length, and any weapon made from a shotgun, whether by alteration, modification, or otherwise, if such weapon as modified has an overall length of less than 26 inches.

**Exhibit 9: National Firearms Act
Special Occupational Taxpayers by State
Tax Year 2020**

State	Importers	Manufacturers	Dealers	Total
Alabama	26	118	272	416
Alaska	1	33	112	146
Arizona	30	407	276	713
Arkansas	15	132	168	315
California	14	122	86	222
Colorado	6	157	343	506
Connecticut	3	88	114	205
Delaware	0	0	3	3
District of Columbia	1	0	0	1
Florida	66	462	595	1123
Georgia	13	203	380	596
Hawaii	0	0	1	1
Idaho	2	130	155	287
Illinois	11	96	37	144
Indiana	6	103	310	419
Iowa	1	65	226	292
Kansas	4	80	268	352
Kentucky	18	95	254	367
Louisiana	2	85	220	307
Maine	3	48	95	146
Maryland	8	77	152	237
Massachusetts	5	118	27	150
Michigan	12	134	300	446
Minnesota	13	109	228	350
Mississippi	11	77	172	260
Missouri	15	147	255	417
Montana	4	72	148	224
Nebraska	0	33	132	165
Nevada	12	173	135	320
New Hampshire	6	101	121	228
New Jersey	1	7	21	29

Source: ATF's National Firearms Act Special Occupational Tax Database (NSOT).
Numbers represent locations of qualified premises.

**Exhibit 9: National Firearms Act
Special Occupational Taxpayers by State
Tax Year 2020 – continued**

State	Importers	Manufacturers	Dealers	Total
New Mexico	10	70	133	213
New York	4	91	19	114
North Carolina	2	231	407	640
North Dakota	1	14	119	134
Ohio	6	239	379	624
Oklahoma	1	138	211	350
Oregon	1	110	210	321
Pennsylvania	17	210	457	684
Rhode Island	1	0	1	2
South Carolina	10	109	236	355
South Dakota	0	31	131	162
Tennessee	6	131	321	458
Texas	39	748	1035	1822
Utah	5	148	151	304
Vermont	4	26	71	101
Virginia	45	197	363	605
Washington	5	140	176	321
West Virginia	7	43	140	190
Wisconsin	1	115	252	368
Wyoming	2	47	119	168
Total	476	6,310	10,537	17,323

Source: ATF's National Firearms Act Special Occupational Tax Database (NSOT).

Numbers represent locations of qualified premises.

Exhibit 10: Federal Firearms Licensees Total (1975-2020)

Fiscal Year	Manufacturer of					Destructive Device				
	Dealer	Pawn-broker	Collector	Ammunition	Firearms	Importer	Dealer	Manufacturer	Importer	Total
1975	146,429	2,813	5,211	6,668	364	403	9	23	7	161,927
1976	150,767	2,882	4,036	7,181	397	403	4	19	8	165,697
1977	157,463	2,943	4,446	7,761	408	419	6	28	10	173,484
1978	152,681	3,113	4,629	7,735	422	417	6	35	14	169,052
1979	153,861	3,388	4,975	8,055	459	426	7	33	12	171,216
1980	155,690	3,608	5,481	8,856	496	430	7	40	11	174,619
1981	168,301	4,308	6,490	10,067	540	519	7	44	20	190,296
1982	184,840	5,002	8,602	12,033	675	676	12	54	24	211,918
1983	200,342	5,388	9,859	13,318	788	795	16	71	36	230,613
1984	195,847	5,140	8,643	11,270	710	704	15	74	40	222,443
1985	219,366	6,207	9,599	11,818	778	881	15	85	45	248,794
1986	235,393	6,998	10,639	12,095	843	1,035	16	95	52	267,166
1987	230,888	7,316	11,094	10,613	852	1,084	16	101	58	262,022
1988	239,637	8,261	12,638	10,169	926	1,123	18	112	69	272,953
1989	231,442	8,626	13,536	8,345	922	989	21	110	72	264,063
1990	235,684	9,029	14,287	7,945	978	946	20	117	73	269,079
1991	241,706	9,625	15,143	7,470	1,059	901	17	120	75	276,116
1992	248,155	10,452	15,820	7,412	1,165	894	15	127	77	284,117
1993	246,984	10,958	16,635	6,947	1,256	924	15	128	78	283,925
1994	213,734	10,872	17,690	6,068	1,302	963	12	122	70	250,833
1995	158,240	10,155	16,354	4,459	1,242	842	14	118	71	191,495
1996	105,398	9,974	14,966	3,144	1,327	786	12	117	70	135,794
1997	79,285	9,956	13,512	2,451	1,414	733	13	118	72	107,554
1998	75,619	10,176	14,875	2,374	1,546	741	12	125	68	105,536
1999	71,290	10,035	17,763	2,247	1,639	755	11	127	75	103,942
2000	67,479	9,737	21,100	2,112	1,773	748	12	125	71	103,157

Source: ATF Federal Firearms Licensing Center, Federal Licensing System (FLS). Data is based on active firearms licenses and related statistics as of the end of each fiscal year.

Exhibit 10: Federal Firearms Licensees Total (1975-2020) — continued

Fiscal Year	Manufacturer of					Destructive Device				
	Dealer	Pawn-broker	Collector	Ammunition	Firearms	Importer	Dealer	Manufacturer	Importer	Total
2001	63,845	9,199	25,145	1,950	1,841	730	14	117	72	102,913
2002	59,829	8,770	30,157	1,763	1,941	735	16	126	74	103,411
2003	57,492	8,521	33,406	1,693	2,046	719	16	130	82	104,105
2004	56,103	8,180	37,206	1,625	2,144	720	16	136	84	106,214
2005	53,833	7,809	40,073	1,502	2,272	696	15	145	87	106,432
2006	51,462	7,386	43,650	1,431	2,411	690	17	170	99	107,316
2007	49,221	6,966	47,690	1,399	2,668	686	23	174	106	108,933
2008	48,261	6,687	52,597	1,420	2,959	688	29	189	113	112,943
2009	47,509	6,675	55,046	1,511	3,543	735	34	215	127	115,395
2010	47,664	6,895	56,680	1,759	4,293	768	40	243	145	118,487
2011	48,676	7,075	59,227	1,895	5,441	811	42	259	161	123,587
2012	50,848	7,426	61,885	2,044	7,423	848	52	261	169	130,956
2013	54,026	7,810	64,449	2,353	9,094	998	57	273	184	139,244
2014	55,431	8,132	63,301	2,596	9,970	1,133	66	287	200	141,116
2015	56,181	8,152	60,652	2,603	10,498	1,152	66	315	221	139,840
2016	56,754	8,076	57,345	2,481	11,083	1,105	71	332	217	137,464
2017	56,638	7,871	55,588	2,259	11,946	1,110	78	357	234	136,081
2018	55,891	7,639	54,136	2,119	12,564	1,127	98	378	239	134,191
2019	53,924	7,341	52,446	1,910	13,044	1,109	129	391	252	130,546
2020	52,799	7,141	52,865	1,797	14,054	1,127	128	425	269	130,605

Source: ATF Federal Firearms Licensing Center, Federal Licensing System (FLS). Data is based on active firearms licenses and related statistics as of the end of each fiscal year.

**Exhibit 11: Federal
Firearms Licensees
by State 2020**

State	FFL Population
Alabama	2,114
Alaska	833
Arizona	3,385
Arkansas	1,871
California	8,461
Colorado	2,945
Connecticut	1,743
Delaware	316
District of Columbia	34
Florida	6,988
Georgia	3,478
Hawaii	223
Idaho	1,506
Illinois	4,506
Indiana	2,730
Iowa	1,994
Kansas	1,773
Kentucky	2,225
Louisiana	1,937
Maine	880
Maryland	2,837
Massachusetts	3,960
Michigan	3,856
Minnesota	2,434
Mississippi	1,433
Missouri	4,242
Montana	1,499
Nebraska	1,098

**Exhibit 11: Federal
Firearms Licensees
by State 2020 – continued**

State	FFL Population
Nevada	1,318
New Hampshire	1,174
New Jersey	473
New Mexico	1,022
New York	3,784
North Carolina	4,430
North Dakota	698
Ohio	4,454
Oklahoma	2,197
Oregon	2,148
Pennsylvania	6,136
Rhode Island	565
South Carolina	2,102
South Dakota	758
Tennessee	3,103
Texas	10,635
Utah	1,493
Vermont	548
Virginia	3,962
Washington	3,109
West Virginia	1,347
Wisconsin	2,848
Wyoming	878
Other Territories	122
Total	130,605

**Exhibit 12: Actions on Federal Firearms License Applications
(1975 - 2020)**

Fiscal Year	Original Application			
	Processed	Denied	Withdrawn ¹	Abandoned ²
1975	29,183	150	1,651	...
1976	29,511	209	2,077	...
1977	32,560	216	1,645	...
1978	29,531	151	1,015	414
1979	32,678	124	432	433
1980	36,052	96	601	661
1981	41,798	85	742	329
1982	44,745	52	580	370
1983	49,669	151	916	649
1984	39,321	98	706	833
1985	37,385	103	666	598
1986	42,842	299	698	452
1987	36,835	121	874	458
1988	32,724	30	506	315
1989	34,318	34	561	360
1990	34,336	46	893	404
1991	34,567	37	1,059	685
1992	37,085	57	1,337	611
1993	41,545	343	6,030	1,844
1994	25,393	136	4,480	3,917
1995	7,777	49	1,046	1,180
1996	8,461	58	1,061	629
1997	7,039	24	692	366
1998	7,090	19	621	352
1999	8,581	23	48	298
2000	10,698	6	447	91
2001	11,161	3	403	114
2002	16,100	13	468	175
2003	13,884	30	729	289
2004	12,953	18	572	235
2005	13,326	33	943	300
2006	13,757	35	898	234

**Exhibit 12: Actions on Federal Firearms License Applications
(1975 - 2020) – continued**

Fiscal Year	Original Application			
	Processed	Denied	Withdrawn ¹	Abandoned ²
2007	14,123	32	953	402
2008	15,434	21	1,030	291
2009	16,105	20	1,415	724
2010	16,930	32	1,467	380
2011	19,923	22	1,744	369
2012	20,977	28	2,252	358
2013	23,242	30	2,901	385
2014	17,816	27	2,192	444
2015	15,219	34	1,953	387
2016	15,853	16	2,165	307
2017	14,546	17	2,038	366
2018	14,054	17	1,913	377
2019	12,966	9	1,993	382
2020	13,429	11	2,387	319

Source: ATF Federal Firearms Licensing Center, Federal Licensing System (FLS).

¹ An application can be withdrawn by an applicant at any time prior to the issuance of a license.

² If ATF cannot locate an applicant during an attempted application inspection or cannot obtain needed verification data, then the application will be abandoned.

**Exhibit 13: Federal Firearms Licensees and Compliance Inspections
(FY 1975 – 2020)**

Fiscal Year	Inspections	Total Licensees	Percent Inspected	Licensed Business Entities*	Percent Inspected
1975	10,944	161,927	6.7%	156,716	7.0%
1976	15,171	165,697	9.1%	161,661	9.4%
1977	19,741	173,484	11.3%	169,038	11.7%
1978	22,130	169,052	13.1%	164,423	13.5%
1979	14,744	171,216	8.6%	166,241	8.9%
1980	11,515	174,619	6.5%	169,138	6.8%
1981	11,035	190,296	5.7%	183,806	6.0%
1982	1,829	211,918	0.8%	203,316	0.9%
1983	2,662	230,613	1.1%	220,754	1.2%
1984	8,861	222,443	3.9%	213,800	4.1%
1985	9,527	248,794	3.8%	239,195	4.0%
1986	8,605	267,166	3.2%	256,527	3.4%
1987	8,049	262,022	3.1%	250,928	3.2%
1988	9,283	272,953	3.4%	260,315	3.6%
1989	7,142	264,063	2.7%	250,527	2.9%
1990	8,471	269,079	3.1%	254,792	3.3%
1991	8,258	276,116	3.0%	260,973	3.2%
1992	16,328	284,117	5.7%	268,297	6.1%
1993	22,330	283,925	7.9%	267,290	8.4%
1994	20,067	250,833	8.0%	233,143	8.6%
1995	13,141	191,495	7.0%	171,577	7.7%
1996	10,051	135,794	7.4%	120,828	8.3%
1997	5,925	107,554	5.5%	94,042	6.3%
1998	5,043	105,536	4.8%	90,661	5.6%
1999	9,004	103,942	8.7%	86,179	10.4%
2000	3,640	103,157	3.5%	82,558	4.4%
2001	3,677	102,913	3.6%	77,768	4.7%

**Exhibit 13: Federal Firearms Licensees and Compliance Inspections
(FY 1975 – 2020) – continued**

Fiscal Year	Inspections	Total Licensees	Percent Inspected	Licensed Business Entities*	Percent Inspected
2002	5,467	103,411	5.2%	73,254	7.5%
2003	5,170	104,105	4.9%	70,699	7.3%
2004	4,509	106,214	4.2%	69,008	6.5%
2005	5,189	106,432	4.9%	66,359	7.8%
2006	7,294	107,316	6.8%	63,666	11.5%
2007	10,141	108,933	9.3%	61,243	16.6%
2008	11,100	112,943	9.8%	60,346	18.4%
2009	11,375	115,395	9.9%	60,349	18.8%
2010	10,538	118,487	8.9%	61,807	17.0%
2011	13,159	123,587	10.6%	64,360	20.4%
2012	11,420	130,956	8.7%	69,071	16.5%
2013	10,516	139,244	7.6%	74,795	14.1%
2014	10,437	141,116	7.4%	77,815	13.4%
2015	8,696	139,840	6.3%	79,188	11.0%
2016	9,790	137,464	7.1%	80,119	12.2%
2017	11,009	136,081	8.1%	80,493	13.7%
2018	10,323	134,191	7.7%	80,055	12.9%
2019	13,079	130,546	10.0%	78,100	16.7%
2020	5,827	130,605	4.5%	77,740	7.5%
Source: ATF Federal Firearms Licensing Center, Federal Licensing System (FLS).					
*Does not include Collector of Curio and Relics (Type 03).					



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U.S. Department of Justice
Bureau of Alcohol, Tobacco, Firearms and Explosives
99 New York Ave., NE, Washington, DC 20226

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EXHIBIT 94



Bureau of Alcohol, Tobacco,
Firearms and Explosives

www.atf.gov

February 24, 2016

REFER TO: 2016-0003 / AP-2015-05939

Mr. Jeffrey E. Folloder
NFATCA
20603 Big Wells Drive
Katy, TX 77449

Dear Mr. Folloder:

This is in response to your request for information that the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) initially withheld, pursuant to the reasons stated in our August 25, 2015 correspondence. By letter dated September 16, 2015, you appealed our decision to withhold the information requested to the Office of Information Policy (OIP). By letter dated December 9, 2015, OIP remanded the case for further processing. Your request has been assigned number 2016-0003. Please refer to this number on any future correspondence.

The following information corresponds to your request for an exact count of transferrable pre 86 machineguns, post May 86 machineguns, and sale sample machineguns, registered in the National Firearms Registration Transfer Record System (NFRTR).

Restricted 922(o)	297,667
Sales Samples	17,020
Pre 86	175,977

Please note that ATF utilizes customized Standard Query Language (SQL) to collect information from system databases. In the instant case, an SQL query may not capture all methods in which the requested information has been manually entered into system data fields. Thus, while each individual record is accurate, there is an inherent albeit wholly unintentional margin of error as to the aggregate statistical information requested.

Sincerely,

Stephanie M. Boucher
Chief, Disclosure Division

EXHIBIT 95

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Common Use, Lineage, and Lethality

Darrell A. H. Miller^{†*} & Jennifer Tucker^{**}

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Political and legal debates over assault rifles, large-capacity magazines, and other lethal technology are characterized by increasing rancor and hostility. Lack of a common vocabulary to describe the topics of debate, much less facilitate a constructive dialogue, only aggravates this trend. For example, gun rights advocates often disparage the term “assault rifle” as reflecting a practical illiteracy about firearms or treat it as some kind of “hoplophobic” smear.¹ Regulators sometimes

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^{**} Associate Professor of History, Wesleyan University. Thanks to Joseph Blocher and Jake Charles for discussing or reviewing previous versions of this essay. Thanks especially to Peter Rutland, who is working on a broader study on Trevor Dupuy, for bringing Dupuy’s Theoretical Lethality Index to our attention.

¹ Stephen P. Halbrook, *Banning America’s Rifle: An Assault on the Second Amendment?*, 22 *FEDERALIST SOC’Y REV.* 152, 152 (2021) (“The term ‘assault weapon,’ while usually applied to some kind of rifle, is actually a pejorative term without a

class weapons based on features that gun-rights advocates say are purely cosmetic, leading to charges that these regulations are grotesquely over- or under-inclusive.²

The doctrine defining constitutionally protected arms is advancing without a clear sense of the object of Second Amendment protections. *District of Columbia v. Heller* — the first Supreme Court case to hold that the Second Amendment protects an individual right to keep firearms for personal purposes like self-defense — uses various terminology for arms in its opinion. At its most general, the Court states that the constitution protects weapons in “common use” for “lawful purposes,” as distinct from “arms” that are “dangerous and unusual.”³ But it doesn’t take long for those broad categories to become muddled. *Heller* says that handguns capable of concealment are protected, but that short-barreled shotguns (which are modified specifically to be carried in one hand and concealed) are “dangerous and unusual” weapons that may be prohibited.⁴ It suggests that “M-16s and the like” may be banned; but also that “the Second Amendment extends, *prima facie*, to all instruments that constitute bearable arms” — which would include not only M-16s, but “weapons useful in warfare” such as rocket launchers, hand grenades, and more exotic and deadly weaponry.⁵ Some lower court judges, those who eschew conventional tailoring and are receptive to a “text-history-and-tradition-only” approach to Second Amendment questions, have begun to suggest that weapons that are “lineal descendants” of Founding Era arms are protected by the Second

definite meaning.”). Gun violence prevention advocates respond that the term is an accurate reflection of gun manufacturers’ own marketing materials, which emphasized “the military pedigree of its products.” VIOLENCE POL’Y CTR., THE MILITARIZED MARKETING OF BUSHMASTER ASSAULT RIFLES 5 (2018), <https://vpc.org/wp-content/uploads/2018/04/Bushmaster2018.pdf> [<https://perma.cc/U8N8-G6E5>]. “Hoplophobia” is a neologism that roughly translates to “fear of weapons.” For more on the idea of anti-gun animus, see Jacob D. Charles, *Second Amendment Animus*, 116 NW. U. L. REV. 1, 14-32 (2021).

² See Erica Goode, *Even Defining ‘Assault Rifles’ Is Complicated*, N.Y. TIMES (Jan. 16, 2013), <https://www.nytimes.com/2013/01/17/us/even-defining-assault-weapons-is-complicated.html> [<https://perma.cc/A3M8-GDEW>]; see also Allen Rostron, *Style, Substance, and the Right to Keep and Bear Assault Weapons*, 40 CAMPBELL L. REV. 301, 303 (2018) (“Critics of assault weapon bans complain that these laws irrationally draw distinctions among firearms based on cosmetic features”). But see E. Gregory Wallace, *“Assault Weapon” Lethality*, 88 TENN. L. REV. 1, 14 & n.64 (2020) (arguing for functionality of certain features).

³ *District of Columbia v. Heller*, 554 U.S. 570, 627 (2008). Elsewhere, the Court uses the phrase “dangerous or unusual.” *Id.* at 623 (emphasis added).

⁴ *Id.*

⁵ See *id.* at 624.

2022]

Common Use, Lineage, and Lethality

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Amendment,⁶ despite the fact that such familial metaphors more often obscure than illuminate historical relationships between technologies of different periods.⁷

Sorely missing from the current debate is a shared vocabulary for what the public policy and the constitutional doctrine is aiming to achieve. Terms like “common use,” “dangerous and unusual,” “lineal descendants” or “employed in civilized warfare”⁸ cannot adequately discipline doctrine or debate without some common denominator for the task. This Article suggests that focusing on lethality is one way to converge on a shared metric for the discussion.⁹

The late Trevor N. Dupuy, a senior U.S. Army officer during World War II who later became a respected and prolific military historian, developed one such metric in the middle of the twentieth century — the Theoretical Lethality Index (“TLI”). In 1964, the United States Army contracted with Dupuy to analyze how the killing power of weapons had increased over time — he created the TLI to measure how many people a particular weapon could kill in one hour.¹⁰ Dupuy

⁶ See, e.g., *Ass’n of N.J. Rifle & Pistol Clubs Inc. v. Att’y Gen.* N.J., 974 F.3d 237, 257 (3d Cir. 2020) (Matey, J., dissenting) (stating that “I believe the proper interpretive approach is to reason by analogy from history and tradition” and citing the “lineal descendant” language from *Heller* oral argument (internal quotation marks omitted and citations omitted)); *Parker v. District of Columbia*, 478 F.3d 370, 398 (D.C. Cir. 2007) (“The modern handgun — and for that matter the rifle and long-barreled shotgun — is undoubtedly quite improved over its colonial-era predecessor, but it is, after all, a lineal descendant of that founding-era weapon . . .”).

⁷ See Joseph Blocher, *Bans*, 129 YALE L.J. 308, 363 (2019) (“Is the modern AR-15 a ‘lineal descendant’ of the colonial-era musket? Guns have no progeny, so one cannot trace their lineage directly through some kind of family tree.”); see also Eugene Volokh, *Implementing the Right to Keep and Bear Arms for Self-Defense: An Analytical Framework and a Research Agenda*, 56 UCLA L. REV. 1443, 1478 (2009) (describing this analytical technique as “largely indeterminate”).

⁸ *Aymette v. State*, 21 Tenn. 154, 158 (1840).

⁹ See Jennifer Tucker, *Now That Guns Can Kill Hundreds in Minutes, Supreme Court Should Rethink the Rights Question*, CNN (Oct. 20, 2021, 7:31 AM EDT) <https://www.cnn.com/2021/10/20/opinions/supreme-court-gun-rights-case-lethality-tucker/index.html> [<https://perma.cc/8JMV-XR48>]. We are not the first to identify lethality as a potential metric. See Wallace, *supra* note 2, at 17. We have a number of disagreements with Professor Wallace’s assessment of lethality in his piece, as well his estimation of comparative lethality. For purposes of this Article, however, we differ in particular with his belief that lethality of a technology cannot be reduced to a single number — the TLI is proof of concept that it can — and his skepticism of the utility of such a metric within and between time periods.

¹⁰ HIST. EVALUATION & RSCH. ORG., FINAL REPORT ON HISTORICAL TRENDS RELATED TO WEAPON LETHALITY (1964), <https://apps.dtic.mil/sti/pdfs/AD0458760.pdf> [<https://perma.cc/K48C-FKDD>]; see also TREVOR N. DUPUY, THE EVOLUTION OF WEAPONS AND WARFARE 92 (1980) [hereinafter *EVOLUTION*] (reprinting Theoretical Lethality Index table).

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worked on this project for a non-partisan entity which had an interest in the accuracy and utility of his formula — the United States military. As such, Dupuy’s Theoretical Lethality Index offers a useful metric for quantifying the lethality of firearms in historical terms. His index can provide at least a starting point to construct a common scale to assess the functionality of weapons both within and across various time periods.

Part I of this Article outlines the state of Second Amendment doctrine with respect to which and what type of arms are protected, and the confused language and goals of that doctrine. Part II provides a short biography of Dupuy and his development of the TLI. Part III demonstrates how Dupuy’s TLI can help guide policy makers and judges as they engage with the right to keep and bear arms in a post-*Heller* world.

I. LACK OF A COMMON METRIC FOR ARMS

In *District of Columbia v. Heller*, the Supreme Court held for the first time that individuals have a right to keep arms in their home for lawful purposes such as self-defense, without regard to participation in any organized military unit such as the National Guard.¹¹ Key to that case was how to define the word “arms” in the Second Amendment.¹² It is indisputable that a strict dictionary-definition of the word “arms” in 1791 is radically over-inclusive. Justice Antonin Scalia states in *Heller* that “[t]he 18th-century meaning [of arms] is no different from the meaning today” and that “arms” simply means “weapons.”¹³ Indeed, he continues, it “borders on the frivolous” to suggest that only those arms that existed in 1791 are protected now: “[t]he Second Amendment extends, prima facie, to all instruments that constitute bearable arms, even those that were not in existence at the time of the founding.”¹⁴ But no one really believes that. Not even Justice Scalia believes that.

There are numerous modern weapons that “constitute bearable arms” that are categorically outside the Second Amendment’s coverage — no matter what “bearable arms” literally means. Let’s start with bearable arms of catastrophic lethality — vials of weaponized smallpox or VX nerve agent, for example. These are indubitably weapons; they also are

¹¹ See *District of Columbia v. Heller*, 554 U.S. 570, 635 (2008).

¹² The Second Amendment states in full: “A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed.” U.S. CONST. amend. II.

¹³ *Heller*, 554 U.S. at 581.

¹⁴ *Id.* at 582.

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capable of being carried, but no one treats these weapons of mass destruction as raising any *prima facie* Second Amendment question.¹⁵ Moving down the spectrum of lethality, *Heller* itself categorically excludes from Second Amendment coverage machine guns, “M–16 rifles and the like,” and short-barreled shotguns, notwithstanding Justice Scalia’s assertion that the Second Amendment extends *prima facie* to these types of weapons.¹⁶ Lower courts have followed suit, excepting weapons like hand grenades from Second Amendment coverage, despite their falling within a literal class of “bearable arms.”¹⁷

Instead of a radically over-inclusive textual definition of “weapons,” Justice Scalia concedes the Second Amendment really doesn’t protect all “bearable arms,” but only those arms in “common use,” and in particular, those weapons “typically possessed by law-abiding citizens for lawful purposes.”¹⁸ Handguns, according to the majority, are a popular form of self-defense technology, commonly owned by individuals for self-defense, and therefore are protected by the Second Amendment. But this common use test sets up a vicious circularity, one that Justice Stephen Breyer in his *Heller* dissent exposed. *Heller*’s common use test means that “if tomorrow someone invents a particularly useful, highly dangerous self-defense weapon, Congress . . . had better ban it immediately, for once it becomes popular Congress will no longer possess the constitutional authority to do so.”¹⁹ It can’t be, according to Justice Breyer, that the only permissible regulations are those regulations that currently exist.²⁰

For a decade now, lower courts and scholars have struggled to break out of this circularity. Some try to identify a reference group from which to assess “common use.”²¹ At its most crude, this can reduce to comparing the inventory of a certain weapon to that of another

¹⁵ See *Nordyke v. King*, 644 F.3d 776, 797 n.6 (9th Cir. 2011) (Gould, J., concurring in part) (“[T]o me it is obvious that the Second Amendment does not protect the right to keep a nuclear weapon in one’s basement, or a chemical or biological weapons in one’s attic, or a tank in one’s backyard.”), *reh’g en banc*, 681 F.3d 1041 (9th Cir. 2012).

¹⁶ See *Heller*, 554 U.S. at 572.

¹⁷ See *Hollis v. Lynch*, 827 F.3d 436, 448 (5th Cir. 2016) (acknowledging that hand grenades and machine guns are unprotected “dangerous and unusual weapons for the purposes of the Second Amendment”).

¹⁸ *District of Columbia v. Heller*, 554 U.S. 570, 625 (2008).

¹⁹ *Id.* at 721 (Breyer, J., dissenting).

²⁰ *Id.*

²¹ For a discussion of this effort, see Cody J. Jacobs, *End the Popularity Contest: A Proposal for Second Amendment “Type of Weapon” Analysis*, 83 TENN. L. REV. 231, 278–83 (2015).

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commercial product — like a pickup truck.²² The presumption here is that a weapon as widely possessed as this other product must be in “common use.”²³ Other, more sophisticated approaches attempt to identify a more relevant reference set. For example, scholars such as Michael O’Shea and Nelson Lund have suggested the measure for common use should be the weapons possessed by ordinary law enforcement.²⁴ Others have argued that civilians should be capable of owning even *more* firepower than the police.²⁵ Still others believe the reference group for common use should be some kind of military body, such as the National Guard, or at the most extreme, the standing army.²⁶

A recent development in Second Amendment doctrine is to analogize modern weapons to historical ones. This move first appeared in the District of Columbia Circuit Court opinion that eventually became *Heller*. In that case, *Parker v. District of Columbia*, the court suggested that “[t]he modern handgun — and for that matter the rifle and long-barreled shotgun — is undoubtedly quite improved over its colonial-era predecessor, but it is, after all, a lineal descendant of that founding-era

²² Kolbe v. Hogan, 813 F.3d 160, 174 (4th Cir. 2016) (“[W]e note that in 2012, the number of AR- and AK-style weapons manufactured and imported into the United States was more than double the number of Ford F-150 trucks sold, the most commonly sold vehicle in the United States.”), *reh’g en banc*, 849 F.3d 114 (4th Cir. 2017).

²³ Nicholas J. Johnson, *Supply Restrictions at the Margins of Heller and the Abortion Analogue: Stenberg Principles, Assault Weapons, and the Attitudinalist Critique*, 60 HASTINGS L.J. 1285, 1293 (2009) (“A gun might be common because it is widely owned . . .”).

²⁴ Michael P. O’Shea, *The Right to Defensive Arms After District of Columbia v. Heller*, 111 W. VA. L. REV. 349, 392 (2009); *see also* Craig S. Lerner & Nelson Lund, *Heller and Nonlethal Weapons*, 60 HASTINGS L.J. 1387, 1411 (2009) (arguing for a rebuttable presumption “that civilians have a right to use weapons commonly used by the police”).

²⁵ Brief of Pink Pistols in Support of Plaintiff-Appellants at 16, *Fyock v. City of Sunnyvale*, 779 F.3d 991 (9th Cir. 2014) (No. 14-15408)) (“If police need standard-issue magazines holding 15 to 17 rounds, a fortiori law-abiding citizens need the same firepower, if not more.”).

²⁶ Andrew P. Napolitano, *The Right to Shoot Tyrants, Not Deer*, WASH. TIMES (Jan. 10, 2013), <http://www.washingtontimes.com/news/2013/jan/10/the-right-to-shoot-tyrants-not-deer> [https://perma.cc/WW48-S9WP] (“[The Second Amendment] protects the right to shoot tyrants, and it protects the right to shoot at them effectively, with the same instruments they would use upon us.”). Part of the reason for this confusion is *Heller*’s unwillingness to expressly overrule *United States v. Miller*. In *Miller*, the Court held that short-barreled shotguns were not Second Amendment weapons because they were not suitable for military use. *United States v. Miller*, 307 U.S. 174, 178 (1939). However, in *Heller* the Court held that military application of a weapon was not required, and indeed, if a weapon was suitable only for military use that’s a reason why it is *not* protected. *District of Columbia v. Heller*, 554 U.S. 570, 589, 624-25 (2008).

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weapon.”²⁷ Chief Justice John Roberts echoed this “lineal descendant” line during *Heller* oral argument when he speculated: “[W]e are talking about lineal descendants of the arms but presumably there are lineal descendants of the restrictions as well.”²⁸ Some lower courts and advocates have picked up on this strain of reasoning. Occasionally, this search for “lineal descendants” of modern weapons can become arcane. For example, in 1718, an Englishman named James Puckle patented a multi-round “Puckle gun.” The weapon was never widely produced and contemporaries ridiculed it for its impracticality.²⁹ Nevertheless, some argue that today’s 100 round magazines must be constitutionally protected, because someone patented this curio in England in the eighteenth century.³⁰

None of these attempts to break out of *Heller*’s definitional morass is satisfactory, and that’s partially because these tests tend to focus on epiphenomenal rather than functional factors. Searching for answers in analogs from automotive sales or eighteenth-century patent applications fails to consider what rule of relevance makes the analogy analytically sound.³¹ What makes weapons relevantly similar is their lethality.³² Comparing the sales of AR-15s to pickup trucks or asking what features of an AR-15 resemble those of a Founding era flintlock is far less useful for assessing utility or dangerousness than focusing on how lethal an AR-15 is compared to some other kind of weapon. Lethality may not resolve all the definitional problems of what an “arm”

²⁷ *Parker v. District of Columbia*, 478 F.3d 370, 398 (D.C. Cir. 2007).

²⁸ Transcript of Oral Argument at 77, *District of Columbia v. Heller*, 554 U.S. 570 (2008) (No. 07-290).

²⁹ David B. Kopel, Clayton E. Cramer & Scott G. Hattrop, *A Tale of Three Cities: The Right to Bear Arms in State Supreme Courts*, 68 TEMP. L. REV. 1177, 1195 (1995). Other arcana common in briefing has to do with a multi round weapon taken by Meriwether Lewis and William Clark on the Corps of Discovery. See Halbrook, *supra* note 1, at 165.

³⁰ *Duncan v. Becerra*, 970 F.3d 1133, 1147 (9th Cir. 2020) (“Semi-automatic and multi-shot firearms were not novel or unforeseen inventions to the Founders, as the first firearm that could fire more than ten rounds without reloading was invented around 1580. Rapid fire guns, like the famous Puckle Gun, were patented as early as 1718 in London.”), *reh’g en banc granted, opinion vacated*, 988 F.3d 1209 (9th Cir. 2021), *reh’g en banc sub nom. Duncan v. Bonta*, No. 19-55376, 2021 WL 5577267 (9th Cir. Nov. 30, 2021).

³¹ See Cass R. Sunstein, *Analogical Reasoning* 10 (Harvard Pub. L., Working Paper No. 21-39, 2021), <https://ssrn.com/abstract=3938546> [<https://perma.cc/C9V8-FYHY>] (“For analogical reasoning to operate properly, we have to know that cases A and B are ‘relevantly’ similar, and that there are not ‘relevant’ differences between them.”).

³² DUPUY, *EVOLUTION*, *supra* note 10, at 286.

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is under the Second Amendment,³³ but it has the advantage of being relevant, functional, and unitary.³⁴

II. TREVOR DUPUY AND THE THEORETICAL LETHALITY INDEX

A. Brief Biography of Dupuy

In the middle of the twentieth century, a retired colonel named Trevor Nevitt Dupuy developed a metric to measure a weapon's lethality. Dupuy was one of the most respected and prolific American military thinkers of the last century.³⁵ Combat during World War II gave him a practical bent, which, combined with his analytical approach to military history provided a new outlook on the study of weapons and warfare. He developed sophisticated combat models that drew on his extensive archival research as well as his personal experience as a World War II commander.³⁶ His derivation of a theory of combat and

³³ A more rational test for a protected weapon would be not whether the weapon is in "common use" but whether the weapon is "unreasonably dangerous" — that is, whether its utility for something like self-defense is outweighed by its risks on other margins. The notion of "dangerous and unusual" seems to contemplate such a cost-benefit analysis. Joseph Blocher & Darrell A. H. Miller, *Lethality, Public Carry, and Adequate Alternatives*, 53 HARV. J. ON LEGIS. 279, 297 (2016).

³⁴ In this sense, our argument takes issue with a lower court judge who has suggested that "[n]othing in the Second Amendment makes lethality a factor to consider because a gun's lethality, or dangerousness, is assumed." *Duncan v. Becerra*, 366 F. Supp. 3d 1131, 1145-46 (S.D. Cal. 2019), *aff'd*, 970 F.3d 1133 (9th Cir. 2020), *reh'g en banc granted, opinion vacated*, 988 F.3d 1209 (9th Cir. 2021), *reh'g en banc sub nom. Duncan v. Bonta*, 19 F.4th 1087 (9th Cir. 2021), *rev'd and remanded sub nom. Duncan v. Bonta*, 19 F.4th 1087 (9th Cir. 2021). This is patently false, as the increased lethality of any arm (such as a hand grenade or landmine) is *certainly* relevant to whether it may be prohibited.

³⁵ Robert Mcg. Thomas, Jr., *Trevor N. Dupuy*, 79, *Prolific Military Historian*, N.Y. TIMES, June 9, 1995, at B11, <https://www.nytimes.com/1995/06/09/obituaries/trevor-n-dupuy-79-prolific-military-historian.html> [<https://perma.cc/DAE6-93J9>]; Jack Walker, *Trevor N. Dupuy Dead at 79*, PHALANX, Sept. 1995, at 33; Susan Rich, *Trevor N. Dupuy*, DUPUY INST., <http://www.dupuyinstitute.org/ndupuy.htm> (last visited Feb. 10, 2022) [<https://perma.cc/YNF7-R4N5>]. On Dupuy's contributions to military history, see CHRISTOPHER A. LAWRENCE, *WAR BY NUMBERS: UNDERSTANDING CONVENTIONAL COMBAT*, at ix-17 (2017).

³⁶ See Rich, *supra* note 35; Thomas, *supra* note 35, at B11. Dupuy regarded his chief contribution as integrating military theory with historical experience. See LAWRENCE, *supra* note 35, at ix-xii. See generally T.N. DUPUY, *NUMBERS, PREDICTIONS AND WAR: USING HISTORY TO EVALUATE COMBAT FACTORS AND PREDICT THE OUTCOME OF BATTLES* (1979) [hereinafter *NUMBERS*] (exemplifying Dupuy's commitment to integrating military theory and history); T.N. DUPUY, *UNDERSTANDING WAR: HISTORY AND THEORY OF COMBAT* (1987) [hereinafter *UNDERSTANDING*] (same).

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philosophy of war from these materials was unusual and widely praised inside the military. By the time of his death, he had published scores of books and articles in military and professional journals across the globe.³⁷

Dupuy was born in New York, the son of Richard Ernest Dupuy, who was himself a military historian and veteran. After graduating from the U.S. Military Academy at West Point in 1938, the younger Dupuy fought in Burma during the war and by age twenty-seven had been promoted to lieutenant colonel.³⁸ He commanded artillery units across several military theaters for the United States, the United Kingdom, and the Chinese military,³⁹ and received honors for service and valor from all three governments.⁴⁰

Following the war, after a stint working for the military in Europe and Washington, Dupuy began his academic career, first at Harvard and then at the Ohio State University. His writing began in earnest while teaching at Harvard. Seeing no text on military science that he could use to teach his students, he approached the elder Dupuy to assist in writing a textbook. What began as a mimeographed set of class materials⁴¹ eventually turned into a two-volume publication, *Military Heritage of America*, one of many projects father and son would complete together.⁴²

Dupuy focused on understanding the complexities of modern warfare through the review of massive amounts of historical data.⁴³ Roughly contemporaneously, major military institutions began to invest heavily in a discipline called “operations research” that sought to bring quantitative tools to bear on military strategy. Analytical centers and think tanks,⁴⁴ like RAND (for “research and development”), as well as other “civilian defense planners” became an “integral part” of United

³⁷ Walker, *supra* note 35, at 33.

³⁸ Thomas, *supra* note 35, at B11.

³⁹ Rich, *supra* note 35.

⁴⁰ *Id.*

⁴¹ Rich, *supra* note 35. On Dupuy’s contributions to military history, see LAWRENCE, *supra* note 35, at ix-17.

⁴² Rich, *supra* note 35. See DUPUY, UNDERSTANDING, *supra* note 36, at X; see also DUPUY, NUMBERS, *supra* note 36, at xv; LAWRENCE, *supra* note 35, at ix-xii.

⁴³ LAWRENCE, *supra* note 35, at x. For more information about the research on tactical weapons in the 1950s and 1960s, see, for example, James Fallows, *M-16: A Bureaucratic Horror Story Why the Rifles Jammed*, ATLANTIC (June 1981), <https://www.theatlantic.com/magazine/archive/1981/06/m-16-a-bureaucratic-horror-story/545153> [<https://perma.cc/QHN5-LE7E>].

⁴⁴ See CHARLES R. SHRADER, HISTORY OF OPERATIONS RESEARCH IN THE U.S. ARMY VOLUME 1: 1942-1962, at iii (2006).

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States security planning at this time.⁴⁵ However, “even after 3,300 years of recorded military history” reliable data was hard to come by.⁴⁶ This lack of hard data led Dupuy to reach for new techniques on which to base operational analysis and combat modeling. His research attempted to link combat modelers who needed reliable data on combat operations with the existing information present in the unit records of actual historical engagements.⁴⁷

Intense, professional, and tenacious, Dupuy believed that the study of historical combat could and should be used to prepare for future conflicts.⁴⁸ In more than two dozen works, he analyzed the patterns of warfare from ancient times to the present. He summarized his historical approach in his book, *The Evolution of Weapons and Warfare*.⁴⁹ While Dupuy was a great believer in quantifying the dynamics of warfare, he thought that the data should be drawn from the history of past wars.⁵⁰ He was skeptical about the value of war-gaming and simulation exercises divorced from what Carl von Clausewitz described as the “fog” and “friction” of war.⁵¹

From 1960 to 1962, Dupuy worked for the Institute of Defense Analysis, where he was frequently consulted for advice and expertise. For the next thirty years, he published books and gave lectures to military audiences about the role of technology in war. He documented a historical cycle for weapons technology: stagnant for long periods, followed by bursts of intense change. He understood that it could take decades — even centuries — for new technologies to be incorporated into the tactics and organizational structure of armies.⁵² His research documented technological change (from the stirrup to the gun) — and showed that the pace of that change accelerated exponentially with the nineteenth-century industrial revolution and then again with the intense state-led innovations of the two world wars.⁵³

In part to study these technological and military dynamics, in 1962 Dupuy formed the Historical Evaluation and Research Organization

⁴⁵ LAWRENCE, *supra* note 35, at ix.

⁴⁶ *Id.*

⁴⁷ LAWRENCE, *supra* note 35, at ix; DUPUY, *EVOLUTION*, *supra* note 10, at vii.

⁴⁸ Rich, *supra* note 35; Walker, *supra* note 35, at 33.

⁴⁹ DUPUY, *EVOLUTION*, *supra* note 10, at vii.

⁵⁰ *Id.*

⁵¹ 1 CARL VON CLAUSEWITZ, *ON WAR* 39-40, 106 (J.J. Graham trans. 1873) On the Pentagon’s reliance on wargaming, see JOHN PRADOS, *PENTAGON GAMES: WARGAMING AND THE AMERICAN MILITARY* 4 (1987).

⁵² DUPUY, *EVOLUTION*, *supra* note 10, at 300-05; *see also* LAWRENCE, *supra* note 35, at 6-7.

⁵³ DUPUY, *EVOLUTION*, *supra* note 10, at 287-94.

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(HERO) and would serve as its President and Executive Director for the next two decades. At HERO, he conducted many studies for the U.S. Army, for which he accumulated detailed, recorded data from actual battlefield experience. As he often remarked, military history was the true “laboratory of the soldier.”⁵⁴

In the process Dupuy developed an analytic procedure for comparing, quantitatively, the lethality of individual weapons (the Theoretical Lethality Index), described below.⁵⁵ He also continued his work as an author, lecturer, and military analyst until the end of his life. American diplomats and military leaders consulted with him during the first Gulf War, and he testified before Congress several times. He kept up a steady media schedule, appearing on over thirty television and radio programs, including spots on all of the major networks, C-Span, and CNN.⁵⁶

Dupuy died at the age of seventy-nine on June 5, 1995, of a self-inflicted gunshot wound, three weeks after being diagnosed with terminal pancreatic cancer.⁵⁷ At the time of his death he was considered “one of the world’s leading military historians.”⁵⁸ He left behind several unfinished projects, including his own autobiography, which he planned to call “A Footnote to History.”⁵⁹

The metrics on lethality that Dupuy pioneered are still being used in policy papers and military history projects as well as in analysis of modern military operations and combat.⁶⁰ Dupuy’s work showed that even military planners — whose profession is the study of weapons — have repeatedly struggled to fully understand the impact of new, improved weaponry on combat and society. Despite his prominence as a military commander and military historian, little has been written

⁵⁴ Shawn Woodford, “Human Factors in Warfare: Fear in a Lethal Environment,” THE DUPUY INST.: MYSTICS & STATISTICS BLOG (Nov. 2, 2018), [https://urldefense.com/v3/_http://www.dupuyinstitute.org/blog/2018/11/02/human-factors-in-warfare-fear-in-a-lethal-environment/_;!!OToaGQ!-mUY72ZfkYxHD9d0dFNBpg31R_LGM5aZ8X6i7U0SGha2GUuyOLcaw_FlFfJmj7Hk2yg\\$](https://urldefense.com/v3/_http://www.dupuyinstitute.org/blog/2018/11/02/human-factors-in-warfare-fear-in-a-lethal-environment/_;!!OToaGQ!-mUY72ZfkYxHD9d0dFNBpg31R_LGM5aZ8X6i7U0SGha2GUuyOLcaw_FlFfJmj7Hk2yg$) [https://perma.cc/Z7YJ-2K6L] (quoting Dupuy).

⁵⁵ HIST. EVALUATION & RSCH. ORG., *supra* note 10.

⁵⁶ Rich, *supra* note 35.

⁵⁷ Walker, *supra* note 35, at 79.

⁵⁸ Rich, *supra* note 35.

⁵⁹ *Id.*; see also Thomas, *supra* note 35, at B11.

⁶⁰ See, e.g., N.K. JAISWAL, MILITARY OPERATIONS RESEARCH: QUANTITATIVE DECISION MAKING 317-18 (1997); CARL MOSK, NATIONALISM AND ECONOMIC DEVELOPMENT IN MODERN EURASIA 91 (2013); James J. Schneider, *The Theory of the Empty Battlefield*, 132 J. ROYAL UNITED SERV. INST. 37, 37 (1987). The most recent validations of combat models are described in Volume I, Nos 4, 5, and 6 and Volume III, Nos 1 and 2 of The Dupuy Institute’s International Tactical, Numerical, Deterministic Model (“TNDM”) Newsletter. *International TNDM Newsletter*, TDI: PUBLICATIONS (last visited Feb. 21, 2022) <http://www.dupuyinstitute.org/tdipub4.htm> [https://perma.cc/36PD-Z4NW].

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about him, leaving a gap in our historical understanding of this important figure.

B. The Theoretical Lethality Index

A significant and underappreciated contribution of Dupuy is his creation of a single metric, the Theoretical Lethality Index (“TLI”) that provides apples-to-apples comparisons of the lethality of weaponry across time. As he wrote in his *Evolution of Weapons and Warfare*, “All weapons have at least one common characteristic: lethality — the ability to injure and if possible to kill people.”⁶¹ The TLI reduced to a single value how many persons a particular weapon could theoretically kill in one hour, considering a spectrum of different technological factors, including range, rate of fire, accuracy, reliability, mobility, “radius of action” and vulnerability.⁶²

Dupuy constructed the TLI by exhaustively examining the historical record of real battles across time, where the lethal capacity of the weapon was one among a host of other factors, including weather, terrain, and the defensive and offensive capabilities of opposing forces. His TLI represented an attempt to isolate, in one number, the lethality of technology alone, based primarily on the characteristics of that technology. Hence, the TLI number is not influenced by a military or civilian context; it does not take into account factors like combat tactics, how dispersed or bunched the targets may be or what defensive positions they occupy. Nor does it account for the social or psychological state of the individual using the weapon.⁶³ The TLI is solely about the lethality of the weapon as a technology designed to kill.

In contrast to those who analyzed warfare with abstract calculations based on combat modelling and wargaming, Dupuy based his analysis on scrupulous investigation of actual historical military engagements. As he put it, “The history of warfare is a review of the manner in which groups of men have . . . [used] their weapons more effectively than the opponents, or in other words, by realizing, or at least approaching, the ultimate degree of lethality of their weapons.”⁶⁴ He explained: “Lethality

⁶¹ DUPUY, *EVOLUTION*, *supra* note 10, at 286.

⁶² *Id.* at 92, 309-10.

⁶³ To account for these other factors, along with the TLI, Dupuy calculated an Operational Lethality Index (“OLI”). *Id.* at 309-10. A fruitful research question would be to construct a civilian version of the OLI with respect to different weapons. But that project is outside the scope of this paper.

⁶⁴ *Id.* at 286.

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is necessarily a comparative thing.”⁶⁵ A sword wielded by a trained combatant is lethal, “[b]ut its comparative lethality is limited by the factors of time, range, and the physical limitations of the man who wields it.”⁶⁶ Dupuy recognized that “[b]y assigning values to these factors it is feasible to compare the lethality of the sword with the lethality of the hydrogen bomb, or the tank, or whatever other weapon one pleases.”⁶⁷

Dupuy divided world history into three primary eras of weapons technology. The “Age of Muscle” (c. 350 BC to 13th century) was the era of the short sword and longbow. The “Age of Gunpowder” (14th century to middle of the 19th century) introduced the bayonet, the flintlock and the first cannons. But it was the “Age of Technological Change” (middle of 19th century to middle of 20th century), he thought, that ushered in major advances in weaponry. “The weapons of this period constitute a quantum jump in lethality over their predecessors of the age of gunpowder.”⁶⁸ This era saw the development of the conoidal rifle bullet (Minie ball) (1841); the breech-loading rifle (c. 1848); the Maxim machine gun (1883); the bolt-operated magazine rifle (1895); the tank (1916); the fighter-bomber (1917); the ballistic missile (1944); and the atomic bomb (1945).⁶⁹ Dupuy identified one of the most profound changes in combat occurred between 1850 and 1860, when firearms became both more common and more deadly.⁷⁰

Under contract with the U.S. Army, Dupuy and HERO analyzed the relationship between weapons and military doctrine from the fourth century BC to the end of the Korean War.⁷¹ The four-volume report that he and his team produced included the TLI as a unitary metric for lethality.

The report demonstrated that the TLI of weapons increased exponentially in the past 200 years. While an eighteenth century soldier with a flintlock musket could kill 43 people an hour, a soldier in the Civil War era using the Minie ball could kill 102 people per hour: a

⁶⁵ *Id.* at 286.

⁶⁶ *Id.* at 286.

⁶⁷ *Id.* at 286.

⁶⁸ *Id.* at 292.

⁶⁹ *See id.* at 292-94. In the age of technological change, there were many other ancillary developments, including: the percussion cap, electronic communication, barbed wire (first adapted to military purposes in 1874), smokeless powder (1885), recoil mechanism, quick-firing artillery (1890-1910); radar (1938), and earth satellites in space. *See id.* at 296-98.

⁷⁰ DUPUY, NUMBERS *supra* note 36, at 6.

⁷¹ The process of introduction and assimilation of these new weapons is described in a report that he produced, consisting of four volumes (342 pages).

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more than twofold increase.⁷² Breech-loading rifles, metal cartridges, and magazines boosted the TLI of infantry rifles even higher, to 495 by the end of the nineteenth century: a ten-fold increase over the flintlock musket. The introduction of automatic fire machine guns at the end of the nineteenth century again vastly increased the kill rate. The TLI of a World War I machine gun was 3,463, and that of World War II, 4,973.⁷³

Dupuy's Theoretical Lethality Index⁷⁴

Weapon	TLI
Sword, pike, etc.	23
Longbow	36
17th c. musket	19
18th c. flintlock	43
Early 19th c. rifle	36
Mid-19th c. rifle/conoidal bullet	102
Late 19th c. breech-loading rifle	153
Springfield Model 1903 rifle (magazine)	495
World War I machine gun	3,463
World War II machine gun	4,973
16th century 12-pdr cannon	43
17th century 12-pdr cannon	224
Gribeauval 18th century 12-pdr cannon	940
World War I tank	6,926
World War II medium tank	575,000
One-megaton nuclear airburst	695,385,000

Dupuy was convinced that there was a “relatively small” number of major advances in weapons throughout history. He defined a “major advance” as a “new development that changes the nature of warfare.”⁷⁵ A major advance was “a revolutionary” change, which might be followed by “a series of evolutionary changes.”⁷⁶ One such

⁷² See DUPUY, EVOLUTION, *supra* note 10, at 92.

⁷³ Situating the modern AR-15 (a successor to the German StG 44, the first “assault rifle,” that was used in World War 2) anywhere near the Maxim machine gun makes it exponentially more lethal than the flintlock musket of the Founder’s era. The term “AR-15” is now most-commonly used to refer only to the civilian variants of the rifle which lack the fully automatic function. There are a variety of ways to convert an AR-15 to a fully automatic weapon, as explained by Mike Searson, *Turning Your AR-15 into an M-16*, RECOIL (June 5, 2019), <https://www.recoilweb.com/turning-your-ar-15-into-an-m-16-150631.html> [<https://perma.cc/XGT9-4WBZ>].

⁷⁴ This table is constructed from Dupuy’s data. DUPUY, EVOLUTION, *supra* note 10, at 92.

⁷⁵ *Id.* at 287.

⁷⁶ *Id.*

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“revolutionary weapon” was the Maxim recoil-operated, belt-fed machine gun which later became the model for other machine guns.⁷⁷ He constructed the TLI using a standard formula. As he pointed out, “Obviously the weapons that kill more people in shorter periods of time have greater lethality.” The TLI showed that “there have been few major advances in weapons lethality through the ages, and most of them have occurred since about 1850.”⁷⁸

III. LETHALITY AS A COMMON METRIC FOR ARMS

Currently, the analysis to determine whether any given “arm” is constitutionally protected fails to display much analytical rigor. The very features of large-capacity magazines that one judge thinks are essential for self-defense⁷⁹ are the very same features other judges consider unreasonably dangerous.⁸⁰ Trying to avoid the impasse by searching for “lineal descendants” of muskets in the Sig Sauer catalog, or by comparing the sales of rifles to pickup trucks⁸¹ threaten to make Second Amendment analysis even more unmoored from anything rational or functional.

At the very least, the TLI offers proof of concept that one can construct a single metric for lethality that may provide a basis for systematic comparisons of arms within and between time periods.⁸² Moreover, to the extent any question about gun rights and regulation turns partially or wholly on historical analogs,⁸³ the TLI supplies vital historical context using a common denominator.

First, the TLI shows that weapons have increased sharply in lethality from the mid-nineteenth century to the present day. Speaking of the period between the 1850s and 1860s, Dupuy described weapon advancement over prior ages during this time as a “quantum jump in

⁷⁷ *Id.* at 287-90.

⁷⁸ *Id.* at 287.

⁷⁹ See *Kolbe v. Hogan*, 849 F.3d 114, 162 (4th Cir. 2017) (Traxler, J., dissenting) (indicating that untrained civilians need more rounds because they are likely to miss the target).

⁸⁰ See *id.* at 127 (“[W]hen inadequately trained civilians fire weapons equipped with large-capacity magazines, they tend to fire more rounds than necessary and thus endanger more bystanders.”).

⁸¹ See *id.* at 153.

⁸² But see Wallace, *supra* note 2, at 16-17 (arguing that lethality as a stable metric is difficult to determine).

⁸³ Currently history and historical analogs are part of the conventional two-step framework for Second Amendment adjudication. The question in *Bruen* is whether this historical test is the only step of the analysis.

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lethality.”⁸⁴ Another period of steady acceleration in lethality followed in the early to mid-twentieth century. Using apples-to-apples comparisons, based on this index, one can see that in 1903 it would only take two people with five-round Springfield rifles to kill as many as an eighteenth-century cannon.⁸⁵ By World War II it would require a battery of five eighteenth century cannon to be as lethal as a single machine gun.⁸⁶

Contrary to the implausible proposition that “[n]othing in the Second Amendment makes lethality a factor” in Second Amendment analysis,⁸⁷ it is apparent that the people’s representatives have considered lethality a relevant factor in the costs versus benefits of weapon technology from the beginning.⁸⁸ To the extent judges follow Justice Scalia’s proposition that “traditional restrictions go to show the scope of the [Second Amendment] right,”⁸⁹ the TLI can help courts ask the right questions. It is fruitless to ask counter-factuals like: “How would the founding generation have regulated widespread private ownership of AR-15s?” That’s akin to basing a First Amendment decision about home console entertainment on “what James Madison thought about video games.”⁹⁰ It’s a more useful question to ask: “What is the lethality threshold of the word ‘arms’ in the Second Amendment?” Using a single metric — lethality — can also help translate regulatory justifications to new technological environments as well as recognize the fact and pace of

⁸⁴ DUPUY, *EVOLUTION*, *supra* note 10, at 292.

⁸⁵ *See id.* at 92.

⁸⁶ *See id.*

⁸⁷ *Duncan v. Becerra*, 366 F. Supp. 3d 1131, 1145-46 (S.D. Cal. 2019), *aff’d*, 970 F.3d 1133 (9th Cir. 2020), *reh’g en banc granted, opinion vacated*, 988 F.3d 1209 (9th Cir. 2021), *reh’g en banc sub nom. Duncan v. Bonta*, No. 19-55376, 2021 WL 5577267 at *119 (9th Cir. Nov. 30, 2021), *rev’d and remanded sub nom.*

⁸⁸ *See* Cincinnati, Ohio, Ordinance to Prevent Accidents from the Firing of Cannon or Other Guns on Boats, in Front of the City of Cincinnati (Mar. 9, 1825) (“[I]t shall not be lawful for any person or persons having charge or being on board of any boat upon the Ohio river, when passing by, stopping at, or leaving the city of Cincinnati, to cause any cannon, gun or other fire-arms to be so fired as to discharge its contents towards the city”); Phila., Pa., Gun-Cotton Act of Assembly (Mar. 16, 1847) (“Whereas, an article called gun cotton, with properties of ignition and explosion similar to those of gunpowder, and equally if not more dangerous in towns and cities, has been introduced. Therefore . . . no gun-cotton shall be introduced in Philadelphia, nor placed in storage therein, in greater bulk or quantity in any one place, than is permitted by existing laws, with regard to gunpowder”).

⁸⁹ *McDonald v. City of Chicago*, 561 U.S. 742, 802 (2010) (Scalia, J., concurring).

⁹⁰ The quote is a sardonic remark by Justice Samuel Alito during oral argument over First Amendment protection of violent video games. Transcript of Oral Argument at 17, *Brown v. Ent. Merchs. Ass’n*, 564 U.S. 786 (2011) (No. 08-1448).

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change in lethality between different eras.⁹¹ The TLI or similar tools can also help give content to distinctions between weapons suitable for personal self-defense and those “weapons of war” not covered by the Second Amendment.⁹² By using lethality as a metric, rather than less functional traits like the shape of a weapon, its materials, or its popularity, researchers can make inferences across different times along a margin that is of practical relevance.

The Founders lived in a period when they could perhaps be forgiven for thinking that “a gun is a gun is a gun,” because the basic flintlock hadn’t really become significantly more lethal in the previous 150 or so years. If the Constitution had been written in the middle of the nineteenth century, instead of the 1780s, the Founders would have been much more aware of the pace of innovation.⁹³ But we don’t have to speculate about how lawmakers may have reacted to knowledge of technological change. As Saul Cornell has noted, the nineteenth century, especially during and after Reconstruction, witnessed a flurry of regulation and constitution-drafting just as technological change was making firearms more common, concealable, and deadly.

The massive battlefield casualties of the American Civil War vividly revealed the lethality of new firearms technologies — especially the Minie ball. Cornell has argued that “Reconstruction ushered in one of the most intense periods of gun regulation in American history.”⁹⁴ He has documented how — in a significant act of constitution drafting during Reconstruction — many states both guaranteed a right to arms in their state constitutions, but were “equally committed to enacting strong racially neutral gun regulations, aimed at reducing interpersonal violence and preserving the peace.”⁹⁵ For example, Georgia’s Reconstruction constitution of 1877 stated: “[T]he right of the people to keep and bear arms shall not be infringed, but the General Assembly shall have power to prescribe by law the manner in which arms may be

⁹¹ For more on this move of “translation,” see Lawrence Lessig, *Fidelity in Translation*, 71 TEX. L. REV. 1165, 1211 (1993) (“[T]he practice of translation moves in two stages: first, understanding the contexts between which the translator must move; and second, locating something called an equivalence between the two contexts.”).

⁹² *Kolbe v. Hogan*, 849 F.3d 114, 121 (4th Cir. 2017) (“[W]e have no power to extend Second Amendment protection to the weapons of war that the *Heller* decision explicitly excluded from . . . coverage.”).

⁹³ See Tucker, *supra* note 9.

⁹⁴ Saul Cornell, Symposium, *The Right to Regulate Arms in the Era of the Fourteenth Amendment: The Emergence of Good Cause Permit Schemes in Post-Civil War America*, 55 UC DAVIS L. REV. ONLINE 65, 67 (2021).

⁹⁵ *Id.*

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borne.”⁹⁶ The 1869 Constitution of Texas stated “Every person shall have the right to keep and bear arms, in the lawful defense of himself or the State, under such regulations as the Legislature may prescribe.”⁹⁷ Indeed, a brief examination of many of these Reconstruction and Gilded Age constitutions show both a statement about the right to keep and bear arms and a right to reasonably regulate such a practice. The TLI shows that these lawmakers were not operating in a technological vacuum; they were securing an express ability to regulate weapons at precisely the time that firearms were becoming dramatically more lethal.⁹⁸

Finally, whether you adhere to a theory that the Second Amendment is for self-defense against common criminals or against rogue governments, the TLI provides a tool to assess the weapon technology along a single dimension. For example, if one believes that right metric for self-defense weaponry is that kind of defensive armament most effective at countering a typical criminal threat, the TLI offers a number. How many people per hour is it necessary to kill in order to supply an adequate deterrent to common criminal perpetrators? Alternatively, although we are highly skeptical that the anti-tyranny purpose the Second Amendment contains much legally enforceable content, if one truly believes that weapons must be in the hands of private parties to counter the capacity of the United States military,⁹⁹ this metric provides some common denominator for that argument as well.¹⁰⁰

⁹⁶ GA. CONST. of 1877, art. I, § 1, pt. XXII (emphasis added).

⁹⁷ TEX. CONST. of 1869, art. I, § 13 (emphasis added).

⁹⁸ For more on this point, see Darrell Miller, *New Research from the UC Davis Symposium: The Theoretical Lethality Index, Reconstruction Regulation and Enforcement*, DUKE CTR. FOR FIREARMS L.: SECOND THOUGHTS BLOG (Oct. 22, 2021), <https://firearmslaw.duke.edu/2021/10/new-research-from-the-uc-davis-symposium-the-theoretical-lethality-index-reconstruction-regulation-and-enforcement/> [https://perma.cc/G7BC-QUNR].

⁹⁹ James B. Astrachan, *The Bumpy Road to the Supreme Court: Does the Second Amendment Prevent States from Prohibiting Ownership of Assault-Style Rifles and High-Capacity Magazines?*, 47 U. BALT. L. REV. 337, 375 (2018) (“[I]t is not the role of the courts to take away from the citizens the means to most effectively oppose such a [tyrannical] government.”).

¹⁰⁰ See JOSEPH BLOCHER & DARRELL A. H. MILLER, *THE POSITIVE SECOND AMENDMENT* 169 (2018) (“The keeping and bearing of lethal arms to deter government officials may be connected to the Second Amendment, but it is likely that the value is primarily moral or political, rather than a judicially administrable constitutional entitlement.”). But to the extent such an argument requires something other than speculation, the TLI offers some metric from which to assess what kind of weaponry in private hands would be necessary to counter a military armed with machine guns, artillery, and nuclear weapons. See Darrell A. H. Miller, *Second Amendment Equilibria*, 116 NW. U. L. REV. 239, 256-57 (2021).

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Granted, the TLI cannot provide answers to all interpretive challenges of the Second Amendment. The TLI itself does not provide metrics for a host of twenty-first century weapons. (Military experts must extrapolate from Dupuy's methods to say what the theoretical lethality index of a modern 9mm pistol would be, for example). Non-experts, or those without access to the proprietary methods of the Dupuy Institute, can only provide estimates about where modern technology fit (a modern AR-15 is almost certainly more lethal than an eighteenth century musket and less lethal than a World War II medium tank, for instance). However, even with these limitations the TLI does provides a reliable benchmark from which to generate judgments about comparative lethality. The TLI, and derivative indices, offer a useful metric for understanding the lethality of different weapons, across time, and can therefore make an important contribution to the debate over the right to keep and bear arms.

CONCLUSION

After a decade of slumber, it is clear the Supreme Court, with its new conservative super-majority, is now awakening to decide Second Amendment matters left undecided after *Heller*. In the next few years, the Court is almost certain to address what counts as a constitutionally protected "arm." In doing so, it is also likely to rely on history and tradition to a greater degree than most other rights. Lethality, and the Theoretical Lethality Index constructed by Dupuy and his team, offers one way for the justices to anchor their analysis to historically-driven metrics that are functional, intelligible, and relevant; rather than those that are rhetorical and trivial.

EXHIBIT 96

Deposition of Ashley Hlebinsky

Oregon Firearms Federation, Inc., et al. v. Brown, et al.

January 20, 2023



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Oregon Firearms Federation, Inc., et al. v. Brown, et al.

Ashley Hlebinsky

Page 1

UNITED STATES DISTRICT COURT
DISTRICT OF OREGON
PORTLAND DIVISION

OREGON FIREARMS FEDERATION,)	
INC., et al.,)	
)	
Plaintiffs,	)	Case Nos.
	)	2:22-cv-01815-IM
vs.	)	3:22-cv-01859-IM
	)	3:22-cv-01862-IM
KATE BROWN, et al.,	)	3:22-cv-01869-IM
)	
Defendants.)	

MARK FITZ, et al.,	)	VIDEO-RECORDED
	)	VIDEOCONFERENCE
Plaintiffs,	)	DEPOSITION OF
	)	ASHLEY HLEBINSKY
vs.)	
)	
ELLEN F. ROSENBLUM, et al.,)	
)	
Defendants.	)	*CAPTION

KATERINA B. EYRE, et al.,	)	CONTINUES*
)	
Plaintiffs,)	
)	
vs.)	
)	
ELLEN F. ROSENBLUM, et al.,)	
)	
Defendants.)	

DATE TAKEN: JANUARY 20, 2023

REPORTED BY: LORRIE R. CHINN, RPR,
Washington Certified Court Reporter No. 1902
Oregon Certified Court Reporter No. 97-0337

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1 DANIEL AZZOPARDI, et al.,)
2)
3 Plaintiffs,)
4)
5 vs.)
6)
7 ELLEN F. ROSENBLUM, et)
8 al.,)
9)
10 Defendants.)
11)
12)
13)
14)
15)
16)
17)
18)
19)
20)
21)
22)
23)
24)
25)

VIDEO-RECORDED VIDEOCONFERENCE DEPOSITION
OF
ASHLEY HLEBINSKY

1:03 p.m.

LAS VEGAS, NEVADA

(All participants appeared via videoconference.)

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ALSO PRESENT (via videoconference):

TANIA GRANT, VIDEOGRAPHER

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1 LAS VEGAS, NEVADA; JANUARY 20, 2023

2 1:03 p.m.

3 --oOo--

4
5 THE VIDEOGRAPHER: Good afternoon. This
6 is the video-recorded deposition of Ashley Hlebinsky in
7 the matter of Oregon Firearms Federation, Incorporated,
8 et al., versus Brown, et al. Cause numbers are
9 2:22-cv-01815-IM and 3:22-cv-01859-IM and
10 3:22-cv-01862-IM and 3:22-cv-01869-IM, in the U.S.
11 District Court for the District of Oregon, and was
12 noticed by Harry Wilson.

13 Today's date is January 20th, 2023. The time
14 is now 1:03 p.m. My name is Tania Grant from Buell
15 Realtime Reporting, LLC, located at 1325 Fourth Avenue,
16 Seattle, Washington. Your court reporter is Lorrie
17 Chinn.

18 Will counsel please identify yourselves and
19 state whom you represent.

20 MR. WILSON: Harry Wilson. I'm special
21 assistant attorney general for Defendants.

22 MR. PEKELIS: Zach Pekelis in Seattle,
23 Washington, and I represent Intervenor-Defendant Oregon
24 Alliance for Gun Safety.

25 MR. WILLIAMSON: Leonard Williamson. I

1 represent the Plaintiffs in OFF.

2 THE REPORTER: Mr. Ferron?

3 MR. FERRON: Scott Ferron also with
4 Pacifica Law Group for the Intervener-Defendants.

5 THE VIDEOGRAPHER: Thank you. The court
6 reporter may now swear in the witness.

7
8 ASHLEY HLEBINSKY, witness herein, having been first
9 duly sworn under oath, was
10 examined and testified as follows:

11
12 E X A M I N A T I O N

13 BY MR. WILSON:

14 Q. Good afternoon, Ms. Hlebinsky. My name is
15 Harry Wilson. I am an attorney representing Defendants
16 in the four matters that the videographer just read
17 into the record.

18 Could you -- could we start by having you
19 state your full name for the record?

20 A. Yes. My name is Ashley Hlebinsky.

21 Q. Do you understand that the oath that you just
22 took is the same oath that you would take if you were
23 in a courtroom today?

24 A. I do.

25 Q. Okay. Do you understand that this deposition

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1 rounds. And then looking at my notes, I know there was
2 a really early firearm that had 16 shots as well. But,
3 like I say, it's not -- it's not thought of in the same
4 way that we think about it today. So it's -- one could
5 be eight rounds. One could be 12. It just kind of
6 depended on what they were working on and sometimes
7 what people were commissioning.

8 Q. Okay. So you mentioned that you were
9 referring to your notes. Do you have a set of notes in
10 front of you?

11 A. Oh, no, sorry, I was looking at the
12 declaration.

13 Q. Okay. Got it. Okay. So that statement in
14 paragraph 19, then some of the firearms that you were
15 referring to was the Lorenzoni, the Cookson, and then
16 there are some one-offs in Europe, plus the fourth one
17 you mentioned is there's some rifle that has -- or, I'm
18 sorry, some firearm that had a 16-shot, but you didn't
19 know the name offhand. Is that right?

20 A. Yeah. I have the -- it's just kind of -- I've
21 seen lots of people call it different things. It's a
22 16-shot odd firearm you can see in the collection.
23 It's got many different components to make it a
24 repeater. It's pretty advanced technology.

25 Q. I see. Are there any other firearms to which

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1 you're referring in that particular sentence in
2 paragraph 19 that I just read that you haven't
3 mentioned?

4 A. Not specifically. I just know that within
5 different collections I've been in, there have been a
6 lot of different repeaters. It's just the names aren't
7 necessarily as memorable.

8 Q. So if there are ones that you can't
9 remember -- can't remember their names but you've seen
10 them, are those most likely one-off examples?

11 A. They can be, yeah. A lot of things during
12 this timeframe, when I say one-off is because we're not
13 really dealing with armories or major manufacturers, I
14 mean. So you're not getting mass production of really
15 anything unless it's an inexpensive firearm for the
16 military. And even then that's slow compared to, you
17 know, 19th century standards.

18 So for me just because it's a one-off doesn't
19 mean that it's not relevant to the conversation because
20 that's just kind of how gun making was back then. It
21 was considered an art.

22 Q. Sure. And I appreciate that, but at times I
23 want to understand how common a firearm was. So let me
24 ask this: Were you -- are you aware of repeaters,
25 including those with magazines with a capacity over ten

1 rounds, that were available during the ratification of
2 the Second Amendment that were commercially available
3 in the United States?

4 A. A specific example, not necessarily, but I
5 will say that pretty much all repeaters that would have
6 been sold and many during that period would have been
7 sold to individuals and not the military.

8 Q. But you can't identify a repeater with ten
9 rounds or more that was commercially available at the
10 time of the ratification of the Second Amendment?

11 A. There were ones that were created before the
12 Second Amendment. I'm not sure what the year, if there
13 was something specific. However, they were certainly
14 designed and around. And as I repeated as well,
15 everything would have been commercial at that point for
16 the repeaters.

17 Q. So are you aware of any -- you know, in the
18 Founding Era, were you aware of any repeaters with more
19 than ten rounds that were being sold in the United
20 States?

21 A. In terms of, you know, around the specific
22 Founding Era in 1791 I'm sure there were individuals,
23 but I do, you know, have the Cookson example of certain
24 firearms that were being marketed to be sold.

25 Q. You say -- well, let's split that answer

1 Q. And when you say clients, you mean your
2 consulting clients?

3 A. Correct.

4 Q. And are you including expert testimony as part
5 of that, or would that be a separate category in your
6 mind?

7 A. It would include that. Although, I'm not sure
8 if I was doing any in 2020.

9 Q. Since leaving Cody, would you say more income
10 that you've earned has come from scholarly work or
11 expert testimony?

12 A. More from museum work, which I consider
13 scholarly, but...

14 Q. Let me clarify. When I say scholarly work, I
15 mean written submissions, written publications.

16 A. For academic journals, no.

17 Q. Correct.

18 A. However for popular magazines, I do write for
19 popular magazines, but I wouldn't say it's the bulk of
20 my income. It doesn't pay very well.

21 Q. So expert testimony would be more than any
22 writing or any scholarly work that you've done?

23 A. It depends on the year. I go long periods of
24 time without doing it, so I would just have to look at
25 the year to be honest.

1 Q. Since leaving Cody?

2 A. Like I said, the expert testimony goes in
3 waves, so I have to look at how much I was actually
4 making on expert testimony versus writing. Because of
5 my schedule with museums, I haven't written as much in
6 the past six months. But I was writing a lot for about
7 a year there.

8 Q. Do you have any equity interests or other
9 financial stakes in any firearms industry companies?

10 A. No.

11 Q. You're married to another expert witness for
12 Plaintiffs in this case, are you not?

13 A. I am.

14 Q. And that's Mr. Hamish?

15 A. Hanish, yeah.

16 Q. Hanish. And Mr. Hanish testified earlier in
17 this case that he holds 600,000 shares in Ammo, Inc.?

18 A. Oh, sorry. I don't -- we never commingled our
19 bank accounts, so I always don't think about it that
20 way. But, yes, he has that, but I've never had
21 anything to do with any of that.

22 Q. Is that his separate property, or would that
23 be community property?

24 A. It would be community property. I just didn't
25 think about it like that.

1 Q. Understood. You and Mr. Hanish are business
2 partners, correct?

3 A. You could say that. I mean, he really
4 hasn't -- I added his name to the consulting business
5 when I founded it in the state of Arizona because I
6 knew at some point he would want to be doing
7 consulting. But he hasn't really -- I mean, until
8 recently he hasn't utilized that at all. I put it
9 there because I knew at some point, so I put his name,
10 but he hasn't really done anything until recently.

11 Q. And you're referring to The Gun Code, your
12 consulting company?

13 A. Correct.

14 Q. But you advertise it as kind of a husband/wife
15 duo of a consulting company, right?

16 A. Yes. I put that on the website.

17 Q. And you also advertise your services as an
18 expert witness on your website, right?

19 A. I do.

20 Q. You don't advertise your services as a history
21 scholar, though, on the website, do you?

22 A. No. To be honest, the website is just
23 something that's there. Most of my work comes through
24 word of mouth. So I put it up, but I will admit that I
25 did not really spend a lot of time doing that.

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1 Because, like I said, all of my clients are word of
2 mouth.

3 Q. How many clients do you have?

4 A. Let me see. Currently I've got three museum
5 clients. And then if you count my expert witness
6 clients individually for each of those cases because I
7 believe they're different law firms for several of
8 them. And then just my freelance writing, I still
9 consider it. Even though it's freelance writing, it's
10 still kind of all under the same umbrella.

11 Q. Are any of your clients in the firearms
12 industry?

13 A. Depends on how you qualify that. I mean, my
14 museum clients have firearms in their collections, and
15 so they've got -- I've been trying to get collections
16 from different companies within the firearms industry,
17 but they're not specifically affiliated.

18 Q. Understood. Does the website -- The Gun Code
19 website represent that firearms industry clients are
20 served by The Gun Code?

21 A. That's just what my husband would be working
22 on, but not my half of it. My half is specifically
23 history.

24 Q. Understood. Where are you now?

25 A. Physically?

1 A. I do.

2 Q. And what are your sources for that assertion?

3 A. I -- oh, I don't have that footnoted there,
4 but it's a combination of things, secondary sources
5 I've read over the years, as well as the Duke site
6 analyses that we used and have reviewed for Cody, many
7 different places.

8 Q. But you haven't cited those here?

9 A. No, I did not. I was speaking more generally
10 there.

11 Q. Okay. I want to go back to the Johnson
12 casebook. Do historians typically rely on law school
13 casebooks as sources for understanding historical
14 events?

15 A. If it provides a good description of it, I
16 don't know why you wouldn't.

17 Q. Okay. Also paragraph 26, this is the last
18 sentence -- oh, no, sorry. It's the next sentence.
19 "Within these laws, repeating and firing capacity are
20 not mentioned."

21 So did you conduct a search of laws mentioning
22 repeating or firing capacity in the Duke repository?

23 A. I believe I looked up repeating, not firing
24 capacity, because I don't think that's wording that
25 they would use. And then I utilized, you know, other

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1 resources that have summaries of the laws. But I do
2 think I searched repeating when I was doing that, but I
3 was also trying to be creative to make sure that I was
4 covering other firearms-based verbiage that they could
5 have used.

6 Q. Did you examine the prevalence of repeaters or
7 magazine-fed repeaters among civilians in the Founding
8 Era? I think I asked you that already.

9 A. The prevalence of it, no, not comprehensively.
10 But of the ones I mentioned I do reference that they're
11 one-offs or if they've been made.

12 Q. So just as kind of a common sense matter,
13 might the lack of widespread existence of those
14 technologies be a reason why you didn't find laws
15 mentioning them?

16 A. Not necessarily. Because in terms of
17 repeating, possibly. But in terms of regulations on
18 specific firearms, I mean, there were many firearms
19 around there, and I didn't necessarily find through my
20 searching things about firearms features in the
21 timeframe either. It's more focused, like I said, on
22 groups.

23 And then there are some other categories of
24 things that are more with, you know, gunsmith
25 relationships that I saw a few on on stamping and that

1 kind of thing. That wasn't really relevant to this,
2 but I saw when I was looking on the Duke site.

3 Q. So I think you're saying that you did conduct
4 a comprehensive, exhaustive search of firearm statutes,
5 ordinances, other laws from the 18th and 19th
6 centuries. Is that your testimony?

7 A. I said I looked into the Duke law and tried to
8 find at much as I could, and then I also utilized
9 secondary sources on that as well. I did not print out
10 every law and, you know, file it like has been done now
11 in California. I did not do that, but I did do my due
12 diligence to find as many things that I could that
13 would be related to that.

14 Q. Did you spend more time looking at the primary
15 source material or the secondary source material?

16 A. I would say I utilized a lot of secondary
17 sources, but I also did utilize primary.

18 Q. Which would you say more?

19 A. I would probably say secondary in this case.

20 Q. Okay. So in footnote 69 you cite David
21 Yamane?

22 A. Yes.

23 Q. Who is David Yamane?

24 A. He is a sociology professor at Wake Forest.

25 Q. Okay. And you're citing a book called

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1 Roth that you relied on or utilized in the course of
2 preparing this declaration that you didn't cite in this
3 declaration?

4 A. I tried to cite things when they were a
5 specific reference and not information that I've read
6 previously while I was working on it. But if it wasn't
7 a specific like cite, I didn't put it in there. So,
8 yes, I'm sure there are things in there that I also
9 read, but I did not actually necessarily cite anything
10 specific.

11 Q. And do any of those sources come to mind now?

12 A. Well, I've said several of them already. I
13 mean, I'm familiar also with Saul Cornell's work as
14 well, and I know he looks into some of that. I think
15 Michael Vorenberg's work as well talked about it a
16 little bit, that he's been working on these cases. But
17 I think the ones I've referenced are probably the big
18 ones.

19 Q. So of those three historians you just
20 mentioned, Roth, Cornell, and Vorenberg -- well, let's
21 take them one by one. Would you say that Professor
22 Roth is a reputable and recognized historian in the
23 field?

24 A. I'm not sure if he's a historian. I'm aware
25 of some of his scholarship, but I think, you know, for

1 the most part he is.

2 Q. How about Professor Cornell?

3 A. He has a long experience with this, correct.

4 Q. How about Vorenberg?

5 A. Honestly before I started working on this, I
6 was not familiar with his work, but I've been trying to
7 kind of read as much as I can on it. But, you know,
8 based on his CV, I would say yes.

9 Q. Okay. Returning to paragraph 39, laws on
10 restricting carry, do you know how many states or local
11 jurisdictions adopted carry regulations in the 19th
12 century?

13 A. I'm not sure.

14 Q. So on the following page on paragraph 41, this
15 is page 30, paragraph 41, I mean, in a general way it's
16 about the Black Codes and the Reconstruction Era. What
17 point were you trying to convey in your discussion of
18 the Reconstruction Era and Black Codes?

19 A. Well, I think I convey several of them. One
20 of them, though, is the conversation of the transition
21 from being able to use race-based language within the
22 law and not being able to use race-based language after
23 certain laws are put in place and after Civil Rights
24 Act and all of that.

25 So for part of this there was kind of just the

Page 140

1 transition of that and having defense -- let me
2 rephrase it. So it's a part of that transition of
3 race-based laws to not using that terminology anymore,
4 but then it's also a little bit on citizenship and
5 applying Second Amendment to African Americans once
6 they received their citizenship.

7 Q. So in terms of the 1860s era, did you conduct
8 any kind of survey or comprehensive examination of
9 state laws or local laws regulating firearms in that
10 period?

11 A. In the 1860s in terms of before and after?

12 Q. Yes.

13 A. I've looked into it a lot, but a comprehensive
14 survey of every single one, no.

15 Q. And you didn't do that for the purposes of
16 your declaration here?

17 A. Correct. A lot of it was based on work that
18 we had done when we were doing the timeline in Cody
19 then a little bit of extra research for this.

20 Q. Okay. In paragraph 42, I guess, the primary
21 subject is the Colfax Massacre. Again, kind of what
22 was your main point in your discussion of the Colfax
23 Massacre here?

24 A. I think it was a couple of things. I'm just
25 rereading it here. I know one point was about the

REPORTER'S CERTIFICATE

I, LORRIE R. CHINN, the undersigned Certified Court Reporter, pursuant to RCW 5.28.010 authorized to administer oaths and affirmations in and for the State of Washington, do hereby certify:

That the sworn testimony and/or remote proceedings, a transcript of which is attached, was given before me at the time and place stated therein; that any and/or all witness(es) were duly sworn remotely to testify to the truth; that the sworn testimony and/or remote proceedings were by me stenographically recorded and transcribed under my supervision, to the best of my ability; that the foregoing transcript contains a full, true, and accurate record of all the sworn testimony and/or remote proceedings given and occurring at the time and place stated in the transcript; that a review of which was requested; that I am in no way related to any party to the matter, nor to any counsel, nor do I have any financial interest in the event of the cause.

Reading and signing was not requested pursuant to FRCP Rule 30(e).

WITNESS MY HAND AND DIGITAL SIGNATURE this 26th day of January, 2023.

Lorrie R. Chinn



LORRIE R. CHINN, RPR, CCR
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Oregon State Certified Court Reporter No. 97-0337
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EXHIBIT 97

Deposition of Clayton Cramer

Oregon Firearms Federation, Inc., et al. v. Brown, et al.

January 19, 2023



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Oregon Firearms Federation, Inc., et al. v. Brown, et al.

Clayton Cramer

Page 1

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON

OREGON FIREARMS FEDERATION,)	
INC., et al.,)	
)	
Plaintiffs,)	
	)	Case Nos.
v.	)	2:22-cv-01815-IM
	)	3:22-cv-01859-IM
KATE BROWN, et al.,	)	3:22-cv-01862-IM
	)	3:22-CV-01869-IM
Defendants.)	
)	
)	
)	
(Continued))	

* VIDEOCONFERENCE *
VIDEOTAPED DEPOSITION UPON ORAL EXAMINATION
OF EXPERT
CLAYTON CRAMER

Witness located in:

Middleton, Idaho

* All participants appeared via videoconference *

DATE TAKEN: January 19, 2023

REPORTED BY: Tia B. Reidt, Washington RPR, CSR #2798
Oregon #22-0001

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(Continued))
)
MARK FITZ, et al.,)
)
Plaintiffs,)
v.)
)
ELLEN F. ROSENBLUM, et al.,)
)
Defendants.)
)

KATERINA B. EYRE, et al.,)
)
Plaintiffs,)
v.)
)
ELLEN F. ROSENBLUM, et al.,)
)
Defendants.)
)

DANIEL AZZOPARDI, et al.,)
)
Plaintiffs,)
v.)
)
ELLEN F. ROSENBLUM, et al.,)
)
Defendants.)

Page 3

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* * * * *

Page 6

1 Middleton, Idaho; Thursday, January 19, 2023

2 10:17 a.m.

3 -o0o-

4
5 THE VIDEOGRAPHER: Good morning.

6 This is the deposition of Clayton Cramer in
7 the matter of Oregon Firearms Federation, Inc., et al.,
8 v. Brown, et al, Case Numbers 2:22-cv-01815-IM,
9 3:22-cv-01859-IM, 3:22-cv-01862-IM, and
10 3:22-cv-01869-IM in the United States District Court
11 for the District of Oregon, and was noticed by
12 Markowitz Herbold.

13 The time now is approximately 9:37 a.m. on
14 this 19th day of January, 2023, and we are convening
15 via Buell virtual depositions.

16 My name is Cathy Zak from Buell Realtime
17 Reporting, LLC, located at 1325 4th Avenue, Suite 1840,
18 in Seattle, Washington 98101.

19 Will Counsel please identify themselves for
20 the record.

21 MS. DAWSON: I'm Erin Dawson. I'm with
22 the law firm Markowitz Herbold, and we represent
23 Defendants.

24 MR. WILLIAMSON: This is Leonard
25 Williamson from the law firm Van Ness Williamson, LLP

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1 in Salem, Oregon, and we represent the Oregon Federal
2 Firearms Federation, Plaintiffs in this matter.

3 MR. PEKELIS: This is Zach Pekelis with
4 the law firm Pacifica Law Group in Seattle, Washington,
5 and I represent Intervenor-Defendant Oregon Alliance
6 for Gun Safety.

7 MR. WILSON: Harry Wilson, Special
8 Assistant Attorney General with Markowitz Herbold for
9 Defendants.

10 MS. BLAESING: Lauren Blaesing from
11 Markowitz Herbold, also counsel for Defendants.

12 THE VIDEOGRAPHER: All right. Thank you.

13 The court reporter may now swear in the
14 witness.

15 THE COURT REPORTER: Can I please get a
16 stipulation from counsel to swear in the witness, as
17 I'm a Washington state court reporter and notary, and
18 the witness is in Idaho.

19 MR. WILLIAMSON: OFF plaintiffs stipulate.

20 MS. DAWSON: Defendants stipulate as well.

21 MR. PEKELIS: Intervenor-Defendant as
22 well.

23
24 CLAYTON CRAMER,
25 having been first duly sworn by the

1 Certified Court Reporter, was deposed as follows:

2

3

EXAMINATION

4

BY MS. DAWSON:

5

6

7

Q. Mr. Cramer, it's nice to meet you. As I said, my name is Erin Dawson. I'm with the law firm Markowitz Herbold, and I represent defendants.

8

Just for the record, what is your full name?

9

A. Clayton Earl Cramer.

10

11

12

Q. And do you understand that this deposition is being transcribed by the court reporter here as well as being recorded by audio and video?

13

A. Yes, I do.

14

Q. Great.

15

16

17

And can you confirm for me that Mr. Williamson shared with you the ground rules that the parties agreed to in advance of this deposition?

18

A. Yes, he did.

19

Q. Wonderful.

20

21

22

So do you understand that the oath that you just took is the same type of oath that you would take in a courtroom?

23

A. Absolutely.

24

Q. And here is how I envision this going:

25

I'll ask you questions. If you don't

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1 probably trying to murder a lot more than two.

2 Q. However, the Secret Service definition is of a
3 mass attack rather than a mass murder. So it didn't
4 seem as if they were purporting to define mass murder
5 in the same way that when I read mass murder in your
6 definition you have kind of the word "murder" in there.
7 Is there a reason you elected not to go with the FBI's
8 definition, which I think you state is kind of what's
9 accepted in scholarly research and is what the FBI
10 employs?

11 A. In fact, I'm not sure that there's any
12 agreement that it has to all be in one location or one
13 event. Because in fact, quite a few of the mass
14 murders that have been reported over the last 20 or 30
15 years have involved attacks that took place in several
16 locations. People commit murders in one place and move
17 on to commit murders in another place during the same
18 few hours.

19 Q. And I may have mis- -- misheard. I think your
20 definition of kind of what the scholarly -- scholarship
21 in the field accepts is just four or more dead.

22 A. Right.

23 Q. So setting aside the location, is there a
24 reason you didn't select that definition that you said
25 is pretty commonly accepted?

1 A. Mostly because of the fact the Secret Service
2 had this other strange definition of three or more
3 harmed. And that particular report was, in fact,
4 almost entirely related to firearms mass murders. They
5 seem to have paid very little attention to other
6 categories of mass murder.

7 Q. So it sounds like you have -- FBI, you have
8 the field of scholarship. And then you happen to have
9 a mass attack definition kind of hanging out over here
10 with the Secret Service definition. But you decided to
11 go with that one instead?

12 A. Well, as I said, I sort of -- I used
13 components of both of those to come up with a
14 definition, which seemed to me to be pretty logical.
15 At least two people are dead, and a lot of other
16 people -- other people are injured, presumably because
17 the killer was intending to kill more than those two
18 people.

19 Q. Okay.

20 So other than kind of the presence of the
21 Secret Service definition, was there anything else that
22 led you to base your decision to create your
23 definition? Did you base it on anything else?

24 A. Nope.

25 Q. Okay.

1 And do you know of any scholarship, kind of
2 scholarly authorities that would define mass murder
3 using two or three dead?

4 A. I can -- not immediately.

5 Q. Okay.

6 So if you move on to page 9, first paragraph,
7 first sentence, you note there that -- and I'll quote
8 you. It says "Suicide or lawful killing of the mass
9 murderer or murderers is not included in the total
10 dead."

11 And that's part of your definition; is that
12 correct?

13 A. They will not be included in the count of the
14 number of dead.

15 Q. Okay.

16 A. So if someone goes on a rampage and shoots
17 three or four people and a police officer or a civilian
18 shoots and kills the murderer during the commission of
19 that crime, the murderer's death will not be included
20 in the total dead for that incident.

21 Q. Are you using the murderer's death to create
22 -- to include it in your dataset, though? So let's say
23 you had -- if your definition is two murder victims and
24 the murderer kills one person and is then shot by
25 police officers, notwithstanding that you aren't going

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1 to include him as part of your death count, would you
2 then classify that as a mass murder incident in your
3 dataset?

4 A. His death does not count as one of the deaths
5 that matter. I mean, if he shoots someone and kills
6 them, and the police shoot and kill him, that's only
7 two dead. Even if he shoots two people and the police
8 shoot him, that's really only two victims. So two
9 dead.

10 Q. Okay.

11 So you're not counting his death for purposes
12 of whether or not to classify this incident --

13 A. No.

14 Q. -- in your dataset?

15 A. No.

16 Q. Okay. Thank you for clarifying that.

17 (Reporter asks parties to speak one at a
18 time.)

19 THE WITNESS: Okay. Sorry.

20 BY MS. DAWSON:

21 Q. On page 9, first full paragraph, first
22 sentence, you state "I have excluded multiday mass
23 murders committed in riots, such as the New York City
24 draft riots of 1863 and many of the race riots of the
25 20th century because they were not in one location."

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1 Let's go ahead and take -- how long do you
2 think you'd like just to not feel pressured and be able
3 to run those numbers?

4 THE WITNESS: I'd say about ten minutes.

5 MS. DAWSON: Okay.

6 Let's go ahead and take a quick ten-minute
7 break, then.

8 THE VIDEOGRAPHER: Going off the record.

9 The time is 11:15 a.m.

10 (Pause in the proceedings.)

11 THE VIDEOGRAPHER: We are back on the
12 record.

13 The time is 11:19 a.m.

14 BY MS. DAWSON:

15 Q. Mr. Cramer, during our break, did you have the
16 opportunity to calculate a total number for that chart
17 on page 20?

18 A. Yes. And you're right. It is -- it is -- I'm
19 not sure exactly which query produced that data, but
20 it's clearly wrong. I can tell you how many incidents
21 and dead there were by firearms before 1960 and how
22 many by non-firearm before 1960.

23 Q. And can you explain to me when you say that
24 it's clearly wrong?

25 A. Well, the query that I constructed to request

1 this information for the database was clearly not
2 properly constructed. I will say that I -- SQL
3 database queries can be sometimes rather confusing.
4 And I will not say that I'm quite as expert perhaps as
5 I need to be, but I at least have numbers that make
6 some sense now.

7 Q. So we have the -- we have the chart here,
8 which it sounds like you agree is likely incorrect. We
9 have the numbers on page 21. And just so that I am
10 clear, what do those numbers represent in the first
11 paragraph on page 21 where it says "When grouped by
12 incidents..."?

13 A. Incidents where only a non-firearm item was
14 marked. Because I've added a few entries in the
15 last -- in the last few days, incidents before 1960,
16 the non-firearms incidents are now 3,812 dead, a total
17 of 807 incidents. And the incidents by firearm are now
18 866 incidents, 3,740 dead. It definitely changes
19 things a bit.

20 Q. Okay.

21 And so if you flip to -- I'll take you to --
22 let me take a look at my page number. For my own
23 information, when we're looking at your non-firearm
24 data, were there any instances or incidents in that
25 dataset where more than 50 people were killed?

1 A. Yes.

2 Q. What were those events?

3 A. Well, the one I just mentioned where 74 people
4 died being trampled coming out of a -- out of that
5 hall. There's another one that happened not before
6 1960. There are a few other fairly large ones that --
7 let me take a quick look, and I can find you the number
8 of incidents that took place that involved more than --

9 Q. Prior to 1960?

10 A. Yes, before 1960.

11 Q. And is this based on the dataset that you have
12 that you put together?

13 A. Yes.

14 Actually, it might take a little more -- more
15 time than --

16 Q. Okay.

17 Can you tell me, does the phrase
18 "non-firearms" for purposes of your statement on
19 page 21, does that includes deaths where the weapon was
20 coded "Unknown"?

21 A. No, it does not.

22 Q. Okay.

23 And then -- so as I understand from our prior
24 conversation, the datasets between page 20 and page 21
25 do not have overlap?

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1 A. They should, but they clearly do not.

2 Q. Okay.

3 On page 14, if you'll move to page 14.

4 A. Page 14.

5 Q. Mm-hm.

6 And if you look at the second full paragraph
7 below the subheader "Data Limitations," there you state
8 "Before 1960, these intrafamily mass murders are 741 of
9 1,796 incidents and 2,784 out of 12,730 dead."

10 A. Yes.

11 Q. Can you help me understand why the death total
12 there is 12,730, but then it appears you have a death
13 total on pages 20 and 21 that differ from that?

14 A. Let's see. If you mean the table by weapon
15 type, yes, I agree that's clearly wrong.

16 Q. Well, if you look at page 21 and you add those
17 two numbers together, that is not 12,730.

18 A. No. But -- yeah. I would agree with you on
19 that.

20 The "Other" is part of that, but it's not all
21 of it.

22 Q. Okay.

23 A. The "Unknown," I mean. Yeah, "Unknown" and
24 "Other" definitely fiddle with this a bit.

25 Q. Well, when I look at the total number of

1 incidents here, it looks like it's, as you've stated,
2 1,796. And then on page 20, you stated that the
3 numbers here reflect incidents as well. And as we've
4 calculated, it's 10,032.

5 A. Yeah, that number is clearly wrong. This --
6 the table here on page 20 is clearly incorrect.

7 Q. Okay.

8 And then if you look at page 16.

9 A. Okay.

10 Q. And you look at the first full paragraph, you
11 state "Through 1960, there were seven thousand --"
12 sorry "-- 797 non-firearm mass murders." And then you
13 have ": 3,781 dead: an average of 4.74 dead per
14 incident; 840 exclusively firearms mass murders, 3,653
15 dead: an average of 4.35 dead per incident."

16 What went into that calculation?

17 A. Well, basically I went ahead and asked for an
18 account of all the mass murders that did not involve
19 firearms, that were some other category, and the total
20 number of people killed in these incidents, and the
21 database also calculated the average. The average
22 number of dead per incident.

23 Q. And does that include single-weapon incidents?

24 A. That would include any incident involving any
25 non-firearm weapon. And the other one involves

1 THE VIDEOGRAPHER: We are back on the
2 record.

3 The time is 11:51 a.m.

4
5 EXAMINATION

6 BY MR. PEKELIS:

7 Q. Good morning, Mr. Cramer. My name is Zach
8 Pekelis, and I represent Intervenor-Defendant Oregon
9 Alliance for Gun Safety in this matter.

10 I just have a few questions for you.

11 To pick up on Ms. Dawson's line of
12 questioning -- oh, let me say just out of the gate, the
13 exact same guidelines that Ms. Dawson went over at the
14 beginning of her questioning apply to this questioning
15 as well.

16 Does that make sense?

17 A. Yes.

18 Q. Okay.

19 So would you agree that in Ms. Dawson's
20 questioning and analysis of your declaration,
21 Exhibit 11, that she identified and you together
22 identified some fairly significant flaws in the data
23 contained in that declaration?

24 A. I would agree that some of the data there is
25 inconsistent and definitely requires some repair. And

1 although the general theme that a non-firearm
2 [indecipherable] is actually quite common in American
3 history --

4 (Reporter clarification.)

5 THE WITNESS: That non-firearm mass
6 murders are actually quite common in American history,
7 they've become more common -- firearm mass murders have
8 become more common in the last century or so. But
9 there's all sorts of horrible ways that people have
10 committed mass murder in American history without guns.

11 BY MR. PEKELIS:

12 Q. Understood.

13 Would you want the court to rely on the data
14 in your declaration, Exhibit 11?

15 A. Well, I can understand why they might be
16 reluctant to accept the data exactly as -- as it is
17 presented. Although, some of the larger themes that
18 I'm presenting, the problem with the fact that mental
19 illness is a major factor in what causes these mass
20 murders is, I think, still a valid point.

21 Q. Understood.

22 You mentioned when discussing your educational
23 backgrounds that you have a master's degree and a
24 bachelor's degree; is that right?

25 A. Correct.

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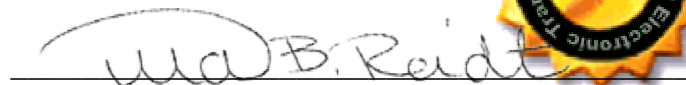
C E R T I F I C A T E

STATE OF WASHINGTON

COUNTY OF PIERCE

I, Tia Reidt, a Certified Court Reporter in and for the State of Washington, do hereby certify that the foregoing transcript of the deposition of CLAYTON CRAMER, having been duly sworn, on January 19, 2023, is true and accurate to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 26th day of January, 2023.

A handwritten signature in cursive script, reading "Tia B. Reidt", is written over a horizontal line.



/S/ Tia B. Reidt
Tia B. Reidt, RPR, CSR Oregon #22-0001
NOTARY PUBLIC, State of
Washington.
My commission expires
5/15/2026.

EXHIBIT 98

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UNITED STATES DISTRICT COURT
DISTRICT OF OREGON
PENDLETON DIVISION

OREGON FIREARMS FEDERATION, INC.,
et al.,

Plaintiffs,

v.

KATE BROWN, et al.,

Defendants.

MARK FITZ, et al.,

Plaintiffs,

v.

ELLEN F. ROSENBLUM, et al.,

Defendants.

KATERINA B. EYRE, et al.,

Plaintiffs,

v.

ELLEN F. ROSENBLUM, et al.,

Defendants.

Civil No. 2:22-cv-01815-IM (*Lead Case*)
Civil No. 3:22-cv-01859-IM (*Trailing Case*)
Civil No. 3:22-cv-01862-IM (*Trailing Case*)
Civil No. 3:22-cv-01869-IM (*Trailing Case*)

CONSOLIDATED CASES

**SECOND DECLARATION OF
CLAYTON CRAMER**

(MAGAZINE ISSUE)

DANIEL AZZOPARDI, et al.,

Plaintiffs,

v.

ELLEN F. ROSENBLUM, et al.,

Defendants.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON
PORTLAND DIVISION

OREGON FIREARMS FEDERATION, INC., an Oregon public benefit corporation;
BRAD LOHREY, Sherman County Sheriff;
ADAM JOHNSON, CODY BOWEN, Union County Sheriff; **BRIAN WOLFE**, Malheur County Sheriff; **HAROLD RICHARD HADEN, JR.**,

Plaintiffs,

v.

GOVERNOR KATE BROWN, Governor of Oregon, and **ATTORNEY GENERAL ELLEN ROSENBLUM**, Attorney General of Oregon, and **TERRI DAVIE**, Superintendent of the Oregon State Police,

Defendants.

Civil No. 2:22-cv-01815-IM

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CLAYTON CRAMER**

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I. PURPOSE

This Expert Declaration and Report identifies one gross error of fact in DEFENDANT'S SUPPLEMENTAL BRIEF IN RESPONSE TO THE COURT'S ORDER OF SEPTEMBER 26, 2022. The claim: "From the colonial period into the early 20th century, mass murder occurred in the United States, but typically as a group activity, because technological limitations impaired the ability of a single person to commit mass murder." Even without Large Capacity Magazines (LCMs), mass murder was common and often individual in nature.

II. MY CURRENT RESEARCH PROJECT

A. Defining Mass Murder

Since 2019, I have been researching the history of mass murder in the United States. The definition of mass murder does not have a universal definition. The FBI's definition of mass murder is four or more dead (including the killer) in one event, in one location.¹ Other agencies, such as the U.S. Secret Service use the term "mass attacks" in which "three or more people are harmed."²

For purposes of my research, I have adapted the Secret Service's definition. For purposes of this research, I slightly extended the FBI definition to include at least two murder

¹ FBI, *Serial Murder: Multidisciplinary Perspectives for Investigators* 8 (2008), distinguishing mass murder from serial murderers. "Generally, mass murder was described as a number of murders (four or more) occurring during the same incident, with no distinctive time period between the murders."

² U.S. Secret Service, *Mass Attacks in Public Spaces – 2019*, 6 (August, 2020).

victims committed in multiple locations within 24 hours and use the Secret Service's "three or more people harmed." The suicide or lawful killing of the mass murderer or murderers is not included in the total dead.

I have excluded multiday mass murders committed in riots, such as the New York City Draft Riots of 1863, and many of the race riots of the 20th century because they were not in one location. Determining when these murders took place precludes easy classification. I also have excluded crimes such as the Colorado cannibalism murders in 1874, because it is unclear over what period the victims were murdered.

There are deaths that might qualify as mass murder, but which have circumstances that might also qualify as lawful self-defense and are thus not included.³ There are mass murders which appear to be gang-related; I have excluded many of those because determining if they were defensive in nature or not requires confidence in the integrity of the participants, who often have reason to lie.

Obviously, mass murder does not include acts of war. Mass murders committed by governments as official policy are outside the legal definition of murder. Other horrifying mass killings outside our definition include those performed by non-state actors with the acquiescence, assistance, or encouragement of local, regional, or national governments. Example: The Armenian genocide in Turkey during and immediately following World War I. Also excluded are governmentally supported acts of mass murder committed outside the rules of land warfare. The bombing of the Soo Locks on the Great Lakes shortly after U.S. entry into World War I, which would otherwise meet the criteria of mass murder, smells

³ *Renewal of Mob Attacks Resulting in 3 Deaths and 13 Injured on Second Day of Lawlessness Causes Governor to Act*, GREAT FALLS [MONT.] DAILY TRIBUNE, Aug. 7, 1920, at 1.

suspiciously like German sabotage and I therefore excluded it.⁴ This also excludes one of the earliest American mass murders: ten murdered by Lenape Indians at a school in 1764 Greencastle, Pennsylvania,⁵ as well as the many thousands (at least) killed in various Indian wars (such as the hundreds killed during the Dakota War of 1862).

I have excluded *most* mass murders of Indians by Indians because most were outside the civil society of America, and the records of such crimes are thus necessarily incomplete. The Criminal Justice Research Center's data on Colonial and Revolutionary New England murders contains examples that meet this definition.⁶ I have included incidents here where a mass murder (by white or Indian and regardless of the victim's race) was clearly *not* a part of warfare, such as those motivated by robbery or kidnapping with the goal of ransom.

There are mass murders where the victim count includes people killed because a felony was taking place. Because of the felony-murder rule, I have included people killed lawfully in the course of a felony as mass murder victims, such as happened in the Johnson County War.⁷ I have excluded incidents in which all the dead were felons.⁸

There are incidents which might be best categorized as mutual combat, where armed groups attacked each other with great loss of life but determining who were the victims and who were the murderers is not easy from surviving news coverage, such as the struggle between Democratic and Republican campaign workers in Clayhole Voting Precinct in 1922.

⁴ *Attempt Made To Wreck Soo Locks*, EAST OREGONIAN, May 16, 1917, 1.

⁵ Robert J. Ursano, Carol S. Fullerton, Lars Weisaeth, Beverley Raphael, ed., *TEXTBOOK OF DISASTER PSYCHIATRY* 204 (2nd ed. 2017).

⁶ Criminal Justice Research Center, *Homicide Among Adults in Colonial and Revolutionary New England, 1630-1797*, <https://cjrc.osu.edu/research/interdisciplinary/hvd/united-states/colonial-revolutionary-new-england>.

⁷ *A War in Wyoming*, [Maysville, Ky.] EVENING BULLETIN, Apr. 13, 1892, 1.

⁸ *Nevada Mining Boss Besieged in His Office*, KALISPELL BEE, Jan. 09, 1903, 1

The ensuing gunfight killed at least five people and wounded ten to thirteen others.⁹

I have excluded a small number of cases where trial found the killer not guilty of what were clearly mass murders. Example: Miss Verna Ware opened fire in the Gatesville courthouse in 1909, killing the man she accused of seducing her, two others not involved in the case and wounding a fourth.¹⁰

B. Finding Mass Murders

How do you find historical mass murders? The phrase “mass murder” is quite rare in historical documents. Using the *ngram* tool in books.google.com for books published 1600-2000 shows essentially zero matches until 1952,¹¹ and many of the rare pre-1952 matches are actually abbreviations of Massachusetts such as “Mass. Murder” or “Mass., murder.”¹² The abbreviation “Mass.” causes similar problems when searching the Library of Congress’ collection of 1789-1963 newspapers for the words “mass” and “murder” within five words of each other.¹³ An additional problem is the use of the phrase to describe governmentally sanctioned and indeed government-operated warfare.¹⁴

⁹ *Some Facts About Clayhole*, [Lancaster, Ky.] CENTRAL RECORD, Jul. 20, 1922, 1.

¹⁰ *Woman to Face Murder Charge*, WAXAHACHIE [Tex.] DAILY LIGHT, Feb. 8, 1909, 1; *Four People Wounded*, PALESTINE [Tex.] DAILY HERALD, Feb. 4, 1909, 2; *Jury Verdict Not Guilty*, LIBERTY [Tex.] VINDICATOR, Feb. 11, 1910, 1.

¹¹ https://books.google.com/ngrams/graph?content=%27mass+murder%27&year_start=1600&year_end=2000&corpus=17&smoothing=3&share=&direct_url=t1%3B%2C%27%20mass%20murder%20%27%3B%2Cc0, last accessed June 12, 2018.

¹² Examples: Michigan State Prison, BIENNIAL REPORT OF THE BOARD OF CONTROL AND OFFICERS OF THE STATE HOUSE OF CORRECTION AND BRANCH PRISON OF STATE PRISON IN UPPER PENINSULA... 22, 41, 65 (1916); R.W. Bligh, comp., NEW YORK HERALD ALMANAC: FINANCIAL, COMMERCIAL AND POLITICAL REGISTER 1874 87 (1874).

¹³ <https://chroniclingamerica.loc.gov/search/pages/results/?state=&dateFilterType=yearRange&date1=1789&date2=1963&language=&ortext=&andtext=&phrasertext=&proxtext=mass+murder&proxdistance=5&rows=20&searchType=advanced>; Examples: ‘Joe is a Good Boy,’ Declares Ettor’s Parents, [Chicago, Ill.] THE DAY BOOK, Oct. 25, 1912; 14; *Queries Pour in on J. Frank Hickey*, [Chicago, Ill.] THE DAY BOOK, Dec. 4, 1912, 28; *Written Authority to Walk in Your Own Town*, [Chicago, Ill.] THE DAY BOOK, Feb. 5, 1912.

¹⁴ Jos. Veltman, *Do Workers Want War?* [letter to the editor] [Chicago, Ill.] THE DAY BOOK, Jan. 17, 1916, 23.

Searching the Library of Congress' *Chronicling America* collection of newspapers for the word's "murders", "murdered", "killed", "slain", "dead" in association with numbers found a sea of matches, most of which needed to be read before discarding. In many cases, similar or identical news stories appeared in multiple newspapers. If the same facts appeared repeatedly, and there were hundreds of references to an event, I did not read every newspaper account of that event.

There are several frustrating limitations of the *Chronicling America* collection:

1. Copyright restrictions make post-1922 newspaper collections incomplete.
2. Many of these mass murders, in addition to appearing in many different newspapers, sometimes appear in only one or two newspapers, far removed from the crime, both geographically and temporally. One example is a mass murder of three in Tamworth, N.H. in 1857 which appeared only in an 1858 summary of the previous year's events, which was published in Pennsylvania.¹⁵ This made it difficult to gather additional data on the crime.
3. Nineteenth century accounts often used the word "murders" rather far afield from its legal meaning, or in reference to general social problems such as alcohol. This produced so many thousands of matches that I have often settled for detailed examination of the first 100 front page news stories. Newspapers in the nineteenth century also published many foreign news accounts and fiction. Limiting searches to the front pages thus reduced false positives which would have to be laboriously examined for location and fiction status. (If it didn't make the front page, it seems unlikely it could be either a specific crime, or something as shocking as a mass murder.)

Defining a mass murder by the number of dead can understate mass murders, if either police or civilian intervention interrupts the murderer. (There are some examples in my list of mass murders cut short, although not soon enough, by such actions.) In addition, some of the events gathered here list crimes in which the immediate coverage includes persons

¹⁵ *Principal Events of General and Local Interest During the Year 1857*, LEWISTON [PENN.] GAZETTE, Jan. 21, 1858, 1.

wounded so seriously that the coverage describes them as “probably fatally.”¹⁶ When considering the nature of medical and surgical care available until my lifetime, it seems a good guess that those described as “probably fatally” wounded can be properly included among the dead.

Along with *Chronicling America*, I have made extensive use of the commercial site *Newspapers.com* and a few secondary sources.

Another valuable source was the list of “Homicide among Adults in Colonial and Revolutionary New England, 1630-1797,” compiled by Randolph Roth and Cornelia Hughes Dayton.¹⁷ While this is a list of *all* murders, not just mass murders, it provided an additional source of incidents.

C. Group Activity

The State’s claim is that earlier mass murders were “typically... a group activity, because technological limitations impaired the ability of a single person to commit mass murder.” The supposed distinction between modern individual mass murder and group mass murder of earlier centuries does not stand careful examination. Mass murder is *still* sometimes a group activity. Such happened at Littleton, Colo. on Apr. 20, 1999¹⁸ and the terrorist attacks of September 11, 2001. Other recent group mass murders include one on Oct. 31, 2019, in Orinda, Cal. A conflict between gangs led to a shooting in which the

¹⁶ *Maniacal Unknown in Attempt to Exterminate Whole Family*, BISBEE [ARIZ.] DAILY REVIEW, Apr. 6, 1922, 1.

¹⁷ Randolph Roth and Cornelia Hughes Dayton, comp., *Homicide among Adults in Colonial and Revolutionary New England, 1630-1797*, Oct. 2009, <https://cjrc.osu.edu/research/interdisciplinary/hvd/united-states/colonial-revolutionary-new-england>, last accessed June 12, 2018.

¹⁸ R. Barri Flowers and H. Loraine Flowers, *MURDERS IN THE UNITED STATES: CRIMES, KILLERS AND VICTIMS OF THE TWENTIETH CENTURY* 59 (2001).

murderers shot to death five people and “several others were injured.”¹⁹ On Dec. 31, 1986, in San Juan, P.R. three Teamsters attempted to negotiate a better labor contract with their employer by setting a fire that murdered 97 people.²⁰

As this declaration later shows, individual mass murder is neither particularly modern nor dependent on technological advances.

D. Data Limitations

It would be very useful to be able to extract data identifying which were group mass murders and which were individual. When I started this project, this seemed an unnecessary detail and so I did not gather it. While I cannot provide that level of detail on group vs. individual mass murders, I can say with confidence that the mass murders in my collection are primarily individual, although there are a number that are group. How can I be so sure? Family mass murders are very common both historically and in the present. They are usually by either the father or mother. I cannot immediately recall an intra-family mass murder carried out by more than one person.

Before 1960, these intra-family mass murders are 741 of 1796 incidents: 2,784 out of 12,730 dead. (To avoid giving fame to the infamous, which produces Herostratic mass murders,²¹ my synopses consistently exclude the murderer’s name.)

When gathering this data, I only recorded if a particular weapon was used rather than

¹⁹ Annie Sciacca, “It was a bloodbath”; Orinda Halloween shooting investigation reveals gang connections, SAN JOSE MERCURY-NEWS, Nov. 17, 2019.

²⁰ 3 Teamsters Charged in San Juan Hotel Fire, CHICAGO TRIBUNE, Feb. 4, 1988, <https://www.chicagotribune.com/news/ct-xpm-1988-02-04-8803270617-story.html>, last accessed November 24, 2018.

²¹ Clayton E. Cramer, *Ethical Problems of Mass Murder Coverage in the Mass Media*, 9:1 JOURNAL OF MASS MEDIA ETHICS 26-42 (Winter, 1993-94).

counting deaths by weapon. In older news accounts, there is no breakdown of deaths by weapon. In many cases, the state of forensic medicine would make it impossible to determine if the ax to the head or the subsequent knife to the throat was the fatal injury. It would make little difference which cause a victim's death: the murderer's punishment would be the same.

A few examples of individual mass murders:

Clarksburg, Va.: Nov. 10, 1805: Man murdered his wife and eight children. While found guilty, there was substantial evidence of mental illness. Weapon: ax.²²

Hallowell, Me.: Jul. 9, 1806, James Purrington (or Purrinton), murdered his wife and seven of his eight children with an axe or knife before killing himself with a knife. The cause was unclear, but the murderer mentioned poverty in a suicide note. Weapon: ax.²³

Uniontown, Wash. Feb. 25, 1901: A woman threw her six children down a 30 foot deep well, "then jumped into the well, and, the belief is, held their heads under water until all were drowned."²⁴ "She is violently insane. The woman's husband died a year ago, and she has been supported by the county and charity of neighbors."²⁵ Reporter interview supports evidence of insanity: "[S]he gave him incoherent reasons for slaying her little ones.... [s]he had read of the Chinese war and the terrible atrocities committed in the Orient, and had warning that the Chinese were coming today to burn her house and slay her children... Mr. Rustemeyer... was well acquainted with the family... He said... Mrs. Wurzer was never

²² *Trial of Abel Clements*, [Edinburgh, Scotland] CALEDONIAN MERCURY, Aug. 25, 1806, 4.

²³ Laurel Thatcher Ulrich, A MIDWIFE'S TALE: THE LIFE OF MARTHA BALLARD, BASED ON HER DIARY, 1785-1812 291-307 (1990); HORRID MURDER! AT AN EARLY HOUR ON WEDNESDAY MORNING LAST, THE INHABITANTS OF THIS TOWN WERE ALARMED WITH THE DREADFUL INFORMATION... 1 (1806).

²⁴ *Drowned Her Six Children*, ADAMS COUNTY NEWS [Ritzville, Wash.] Feb. 27, 1901, 4.

²⁵ WASHINGTON STANDARD [Olympia, Wash.], Mar. 1, 1901, 3.

considered just right in her mind and thinks she should have been restrained of her liberty long ago.” Weapon: drowning.²⁶

Through 1960, there were 797 non-firearm mass murders: 3,781 dead: an average of 4.74 dead per incident; 840 exclusively firearms mass murders, 3,653 dead: an average of 4.35 dead per incident. Nonetheless, firearms mass murders were not rare, even with “primitive” technology:

Swan River, Minn. Terr. (1860)

Early 1860 or late 1859: A very complex incident. One Chippewa warrior (“A”) murdered another Chippewa (“B”). A few days later, B’s squaw (“C”) saw A, and shot him. A’s brother (“D”) shot C. C’s brother (“E”) shot D.

Category: public

Suicide: no

Cause: revenge

Weapon: firearm²⁷

Coldwater, Mich. (1865)

Jan. 30, 1865: Young man becomes engaged to a woman in Lorain Co., Ohio. This is a problem, because his wife in Coldwater, Mich., is about to give birth, so he returns home, where his wife lives with the young man’s parents. In the midst of giving birth, the young man murdered his wife. When the young man’s father and mother showed up, he shot them

²⁶ *Killed Her Children*, COTTONWOOD [Ida.] REPORT, Mar. 1, 1901, 1.

²⁷ *Indian revenge*, MUSCATINE [Iowa] WEEKLY JOURNAL, Jan. 27, 1860, 1.

to death. (Other accounts identify the town as Woodstock, and that the murder of his wife and unborn child followed the murder of his parents.) His behavior after arrest, as newspaper coverage described, “suggests the charitable conjecture that the man is insane.” He confessed the crime and signed autographs for the crowd around the jail that described himself as “murderer of his wife, father and mother.” He invited his friends in Lorain County to visit him in jail “where they would find him ‘playing checkers with his nose, on the jail windows.’”

Category: family

Suicide: no

Cause: mental illness

Weapon: firearm²⁸

Sleepy Hollow, N.Y. (1870)

Jan. 1, 1870: Farmer murdered his wife, and two of his neighbors, father and son, who appear to have visited the murderer’s wife in his absence. The murderer had a reputation for being too fond of rum.

Category: public

Suicide: no

Cause: jealousy?

Weapon: firearm²⁹

²⁸ *A Triple Murder*, [Plymouth, Ind.] MARSHALL COUNTY REPUBLICAN, Feb. 16, 1865, 1.

²⁹ *A Triple Murder at Sleepy Hollow*, WILMINGTON [N.C.] JOURNAL, Jan. 14, 1870, 1.

Glenville, Minn. (1889)

Feb. 15, 1889: Murderer, relative of the victims, shot to death, “Mary Chemeieck, aged six, and her sister Rose, aged eleven...” Apparently, his niece, Rose, had spurned his advances. He then murdered their mother with a shotgun and committed suicide.

Suicide: yes

Cause: unknown

Weapon: pistol, shotgun³⁰

Here is a mass murder that is not part of the database that shows how “primitive” firearms technology is not a barrier to school mass murder. A former teacher showed up at a Bremen, Germany, Catholic school “armed with six loaded revolvers.” He killed one teacher, two children, “three children were gravely injured, and three other children were slightly wounded.” The article described him as “demented.”³¹ Depending on whether they were they were 5-shot, 6-shot, or 9-shot revolvers (all still common today) he could have fired 30, 36, or 54 shots without reloading. Of course, reloading a revolver with speedloaders can be done by a skilled shooter in a second or two at most.

Firearms become more common weapons by the 1920s. Axes and hatchets declined as wood stoves became less common. While I have not categorized the poison mass murders as precisely as I might do if I were starting from scratch, “illuminating gas” and “Rough on Rats” (both commonly used to wipe out your spouse and children) declined as automobile exhaust poisoning rose.

³⁰ *He was a Rejected Lover*, ST. PAUL GLOBE, Feb. 17, 1889, 1.

³¹ *Maniac Shot Many People*, BARRE [Vt.] DAILY TIMES, Jun. 20, 1913, 1.

This should be no surprise; mass murderers use what is available. This May 20, 1931, Mattoon, Ill. incident catches this improvisational nature well. A former employee of her late husband attempted to burn to death the woman and her two daughters with whom he had recently moved to Illinois. They escaped the burning house. He then shot to death the mother, attempted to strangle the daughters, then shot them and beat them to death with an automobile starter crank. Weapons: firearm, strangle, blunt.³² Even today's gun mass murderers are not as narrowly focused as the popular imagination sees them. May 24, 2014, Isla Vista, Cal.: College student, upset about his sex life (or rather its absence) stabbed to death his three roommates, shot three women at a sorority (two of whom died), shot another student, injured two bicyclists by ramming them with his car, and shot and wounded four pedestrians.

Category: public

Suicide: yes

Cause: mental illness

Weapon: knife, pistol, automobile³³

For the following table, some of these weapon types require explanation.

UNKNOWN means the weapon type was not identified in the article.

AIRCRAFT is for murders committed with an airplane (not all of which took place on Sep. 11, 2001). (Bombing of planes is in the EXPLOSIVE weapon type.)

TRAIN involves intentional derailment of trains to cause loss of life. The motivation

³² *Woman Shot. Tots Choked*, BROWNSVILLE HERALD, May 20, 1931, 1.

³³ Shelby Lin Erdman and Greg Botelho, *Timeline: A killer's rampage through a California college town*, CNN, May 27, 2014, <https://www.cnn.com/2014/05/24/us/california-rampage-timeline/>, last accessed November 27, 2018.

for most of these crimes in uncertain. One was insurance fraud; authorities alleged “that the men entered into the plot to get rid of their wives and at the same time to collect damages from the railroad company.” One of the murderers collected \$500 from the railroad for injuries to his wife.³⁴ Another, on Dec. 27, 1934: Police charged three men with the intentional derailment of a train, in the hopes that one of the train crew would lose his job, so that one of the three would get that job. The crash killed three employees and injured 16 passengers.³⁵

Incident count by weapon type for mass murders before 1960 where only one weapon type was used:

UNKNOWN	862
AX	646
HATCHET	135
KNIFE	588
OTHERSHARP	215
BLUNT	868
EXPLOSIVE	299
POISON	286
STRANGLE	109
DROWN	139
ARSON	708
HANG	284
OTHER	157
PERSONAL	21
FIREARM_UNKNOWN	2571
SHOTGUN	504
RIFLE	570
PISTOL	933
MACHINE_GUN	61
AIRCRAFT	
TRAIN	76

³⁴ *Plot to Kill Their Wives*, [Maysville, Ky.] EVENING BULLETIN, Mar. 26, 1896, 1.

³⁵ *Trio Held In Wreck Accused Of Murder*, [Washington, D.C.] EVENING STAR, Mar. 10, 1935, 1.

When grouped by incidents where only non-firearms were used, 3,809 died. For firearms only mass murders, 2,068 died.

Many mass murders involve multiple weapons. Robert McConaughy, May 30, 1840, murdered his mother-in-law and her five children. Cause: robbery. Weapon: strangulation; stone; axe, rifle; knife. He confessed after the first hanging failed.³⁶

III. KILLING PEOPLE WITHOUT MODERN FIREARMS TECHNOLOGY

How do you kill lots of people without modern firearms technology?

A. Explosives

One popular method was explosives.

Sells, Ark. (1900)

Oct. 15, 1900: “[F]ather, mother, and four young children blown to atoms” by dynamite explosion. “It is believed that a dispute over a homestead claim prompted the outrage.”

Category: family non-resident

Suicide: no

Cause: greed

Weapon: explosives³⁷

³⁶ *Trial, Confession, and Execution of Robert M’Conaghy for the Murder of Mrs. Brown and her Five Children* 6-7, 9-10 (1841).

³⁷ *Whole Family Murdered*, [St. Genevieve, Mo.] FAIR PLAY, Oct. 20, 1900, 1.

Cripple Creek, Colo. (1904)

Jun. 5, 1904: Someone set off a bomb under a train station platform where non-union men were waiting for a train during a strike. Twelve died “and a score or more injured...” Subsequently, “Forty shots were fired in a crowd in the street. Two men were killed and at least six persons wounded.” One of the dead “by blow from revolver.” Then the National Guard troops showed up and attempted to restore order.

Category: public

Suicide: no

Cause: labor

Weapon: explosives, firearm, blunt³⁸

Mullins, W.Va. (1909)

5/16/1909: The Black Hand used dynamite to blow up an Italian boarding house. One of the victims broke faith with the Black Hand. The explosion killed four and injured three.

Category: residential

Suicide: no

Cause: gang

Weapon: explosives³⁹

Mudlow, W.Va. (1912)

7/26/1912: Striking miners dynamited a machine gun operated by agents of the Baldwin

³⁸ *Terrorism and Death Dominate Colorado*, SAINT PAUL GLOBE, Jun. 7, 1904, 1.

³⁹ *Black Hand Kills Four By Dynamite*, BLUEFIELD [W.Va.] EVENING LEADER, May 17, 1909, 1.

detective agency, killing three miners and seven detectives.

Category: public

Suicide: no

Cause: labor

Weapon: explosives⁴⁰

Superior, Penn. (1914)

11/15/1914: Someone blew up the Kanaza general store, which was also the Kanaza residence, with two separate dynamite bombs, killing Kanaza's three children and two other men. Five others suffered injuries. Mr. Kanaza believed the motive was revenge for a lawsuit.

Category: family

Suicide: no

Cause: revenge

Weapon: explosives⁴¹

San Francisco, Cal. (1916)

July 22, 1916: Someone set off a dynamite bomb during the "Preparedness Day Parade," in preparation for World War I. While the identity of the murderers is uncertain (California Governor Culbert Olson many years later pardoned those originally convicted as evidence of perjury at the trial accumulated), circumstances suggests that it was the work of anarchists.

⁴⁰ *Seven Detectives and Three Miners Dead*, SEATTLE STAR, Jul. 26, 1912, 1.

⁴¹ *Dynamite Kills Five In Spite Act*, NEW-YORK TRIBUNE, Nov. 16, 1914, 1.

hostile to U.S. involvement in the war.

Category: public

Suicide: no

Cause: terrorism

Weapon: dynamite⁴²

New York, N.Y. (1920)

09/16/1920: Anarchists set off a bomb in Wall Street, killing 31 and injuring 125 others.

Category: public

Suicide: No

Cause: terrorism

Weapon: TNT⁴³

Germantown, Md. (1920)

11/18/1920: Two neighbors had a longstanding feud. On Election Day, one shot the other in the neck. The farmer shot in the neck took revenge with 50 pounds of dynamite, killing his neighbor, the housekeeper and her two children.

Category: family non-resident

Suicide: no

Cause: revenge

⁴² *Dynamite Trial Opens Today in 'Frisco; 10 Were Killed by Bomb*, BEMIDJI [Minn.] DAILY PIONEER, Jan. 3, 1917, 1; *Preparedness Day Bombing*, https://en.wikipedia.org/wiki/Preparedness_Day_Bombing#Later_investigations.

⁴³ *Bomb Batters Wall Street; 31 Slain, 125 Hurt*, THE SUN AND THE NEW YORK HERALD, Sep. 17, 1920, 1.

Weapon: explosives⁴⁴

Pittsburgh, Penn. (1925)

May 6, 1925: Two bombs destroyed three buildings, killing eight people immediately, and fatally injuring two others. One of the buildings housed a grocer who had been the victim of extortion threats by a Black Hand society.

Category: residential

Suicide: no

Cause: extortion

Weapon: explosive⁴⁵

Bath, Michigan (1927)

May 18, 1927: The treasurer of the local school board was angered by his property tax increase to pay for a new school building that he had opposed. He placed a dynamite bomb in the basement of the school, by which method he murdered 37 children and six adults as well as seriously injuring 44 others. Only a wiring mistake prevented other charges from taking down the rest of the building which would have endangered 150 more students. The murderer had already beaten his wife to death at their home before blowing up their house. He blew himself up in his car in front of the school 30 minutes after the school explosion.

Category: public

Suicide: yes

⁴⁴ *Bomb Wrecks Farmers Home Killing Three*, [Salem, Ore.] CAPITAL JOURNAL, Nov. 19, 1920, 1.

⁴⁵ *Eight Are Killed In Blasted Homes*, [Washington, D.C.] EVENING STAR, May 06, 1925, 1.

Cause: revenge

Weapon: explosive, blunt object⁴⁶

New York, N.Y. (1927)

Oct. 8, 1927: Someone set off a dynamite bomb demolishing a four-story apartment building, killing five and injuring eleven. Why did police assume a dynamite bomb?

“Finding of 20-Pound Unexploded Bomb Leads Police to Suspect Infernal Machine.”

Category: public

Suicide: no

Cause: unknown

Weapon: explosive⁴⁷

Newton, Mass. (1928)

01/31/1928: Someone used dynamite to destroy a building containing “extensive liquor making apparatus in the basement.” Six people died.

Category: private

Suicide: no

Cause: gang?

Weapon: explosive⁴⁸

⁴⁶ *Fate Saves Scores in Blast When Maniac's Plot Kills 43*, [Washington, D.C.] EVENING STAR, May 19, 1927, 1.

⁴⁷ *Four Killed In Bomb Explosion In Tenement District Of New York*, [Douglas, Ariz.] DOUGLAS DAILY DISPATCH, Oct. 09, 1927, 1; *Five Killed, 11 Hurt As Explosion Razes 35th St. Tenement*, NEW YORK TIMES, Oct. 9, 1927, 1.

⁴⁸ *Mystery Explosion Is Fatal To Six -Bodies Taken From Debris Of Two-Story*, BROWNSVILLE HERALD, Jan. 31, 1928, 1.

Seat Pleasant, Md. (1930)

01/01/1930: A belated and misdelivered Christmas gift was dynamite and exploded as the family unwrapped it. The explosion killed an expectant mother and two siblings, her mother, and injured two other siblings. The family was new to the community with no known enemies.

Category: family non-resident

Suicide: no

Cause: unknown

Weapon: explosives⁴⁹

Chesterton, Ind. (1933)

10/10/1933: A bomb explosion in the cargo compartment aboard a United Airlines flight ripped the plane apart, killing seven people. Motive remained uncertain.

Category: public

Suicide: no

Cause: unknown

Weapon: explosive⁵⁰

Denver, Colo. (1955)

11/1/1955: The 23-year-old son of passenger Daisie E. King eventually confessed that he placed a 25-stick dynamite bomb in her luggage, blowing up her airliner, killing 44

⁴⁹ *Gift Package Bomb Kills Woman; 5 Hurt*, [Washington, D.C.] EVENING STAR, Jan. 01, 1930, 1; *Bomb Survivors Tell Of Explosion*, [Washington, D.C.] EVENING STAR, Jan. 12, 1930, 1.

⁵⁰ *Ill-Fated Plane Wrecked By Bomb US Prober Says*, INDIANAPOLIS TIMES, Oct. 14, 1933, 1.

people. The murderer had taken out life insurance policies on his mother and was expecting to receive a “substantial inheritance” upon her death.

Category: public

Suicide: no

Cause: greed

Weapon: explosives⁵¹

Since 1960, this technology, despite attempts to regulate explosives, remain a big dead per incident killer. Using fertilizer, a murderer on Apr. 20, 1995, set off a truck bomb in front of the Oklahoma City Federal Building killing 168 people and injuring hundreds more.

Category: public

Suicide: no

Cause: terrorism

Weapon: explosives⁵²

B. Arson

Arson is also a common and very low technology method to cause lots of suffering.

New York, N.Y. (1903)

11/1/1903: Police and coroner believed that a tenement building fire that killed 26 people was “of incendiary origin.”

⁵¹ Flowers And Flowers, MURDERS IN THE UNITED STATES, 30-1; FBI, *Jack Gilbert Graham*, <https://www.fbi.gov/history/famous-cases/jack-gilbert-graham>, last accessed October 5, 2022.

⁵² Flowers and Flowers, MURDERS IN THE UNITED STATES, 56-7.

Category: residential

Suicide: no

Cause: unknown

Weapon: arson⁵³

Boston, Mass. (1913)

1Feb. 3/1913: A lodging house refused a man a room “for want of 15 cents.” He lit the structure on fire, killing 27 lodgers in a dangerously renovated structure.

Category: residential

Suicide: no

Cause: revenge

Weapon: arson⁵⁴

San Francisco, Cal. (1944)

03/27/1944: Over a period of four hours, five San Francisco skid row hotels “burst into flames” following a previous weekend of 11 fires in Oakland hotels. The New Amsterdam Hotel fire killed 22 and injured 27. “Authorities noted an odor of kerosene or gasoline.” One tenant, 33, showed injuries from the fire and was held in the “hospital psychopathic ward.”

Category: public

⁵³ *Tenement House Fire*, [Maysville, Ky.] EVENING BULLETIN, Nov. 2, 1903, 4.

⁵⁴ *Burns Lodging House When Refused Room; 27 Homeless Men Died*, [New York, N.Y.] EVENING WORLD, Dec. 3, 1913, 1.

Suicide: no

Cause: mental illness

Weapon: arson⁵⁵

Tulsa, Okla. (1921)

05/01/1921: The police arrested a young black man for what later appears to have been an accidental touching of a white female elevator operator. Rumors spread those police charged him with sexual assault. A lynch mob arrived at the county jail. The sheriff and deputies prevented seizure of the young man. A group of armed black men offered to help the sheriff defend the jail. This display of arms by black men inflamed white public sentiment leading to the destruction of Greenwood, the black section of Tulsa. More than one thousand homes were burned and *at least* 36 dead. Newspapers and public officials removed news accounts and official records about the riot from files. The Tulsa Race Riot Commission in 2001 “concluded that between 100 and 300 people were killed and more than 8,000 people made homeless over those 18 hours in 1921,” with many bodies buried in unmarked mass graves.

Category: public

Suicide: no

Cause: racism

Weapon: firearms, arson, unknown?⁵⁶

⁵⁵ *22 Killed In Hotel Fire In San Francisco*, [Santa Cruz, Cal.] SANTA CRUZ SENTINEL, Mar. 29, 1944, 1.

⁵⁶ *Tulsa Race Riots*, <https://www.history.com/topics/roaring-twenties/tulsa-race-massacre>, last accessed July 5, 2021.

Chicago, Ill. (1958)

Dec. 1, 1958: Our Lady of the Angels school burned, killing 95.⁵⁷ Several years later, a 13-year-old confessed while on a lie detector that he had started the fire: “because he hated school, rebelled at the authority of teachers, liked to hear the sound of fire sirens and to watch fire engines race along the street.”⁵⁸

After 1960, of course, there have been several arson mass murders with equal or larger death counts, and this remains a common method of mass murder in other nations. In Australia, an arsonist burned the Childers, Queensland’s Palace Backpackers Hostel in 2000, killing 15.⁵⁹ The 2011 Quakers Hill Nursing Home fire killed eleven, set by a nurse after police questioned him about drug abuse.⁶⁰ Japan had several arson mass murders in late 2021, killing 24, 17, and 33 in separate incidents.⁶¹ These required no advanced firearms technology or even firearms. The previously mentioned San Juan, P.R. arson mass murder killed 97.⁶² The March 25, 1990, Happyland Social Club fire killed 87 people, leaving three survivors. Angry at his girlfriend, the murderer used \$1 of gasoline and a match to set fire to her place of employment.⁶³

⁵⁷ Our Lady of the Angels School fire, https://en.wikipedia.org/wiki/Our_Lady_of_the_Angels_School_fire

⁵⁸ *Boy Admits Fire Fatal To 95*, MIAMI NEWS, January 16, 1962, 1.

⁵⁹ *A Decade On, Childers Remembers Hostel Fire Tragedy*, BRISBANE [Australia] TIMES, Jun. 23, 2010.

⁶⁰ Candace Sutton, *Man Who Murdered 11 People in Nursing Home Fire 'Frothed At The Mouth' From Drugs And 'Put Nails In Tyres And Poured Paint' Over Boss's Car*, INQUEST HEARS, [U.K.] DAILY MAIL, Sep. 8, 2014.

⁶¹ Makiko Inoue, Motoko Rich and Hikari Hida, *24 Dead in Suspected Arson at Office Building in Japan*, N.Y. TIMES, Dec. 16, 2021, <https://www.nytimes.com/2021/12/16/world/asia/japan-fire-osaka.html>, last accessed November 21, 2022.

⁶² *3 Teamsters Charged in San Juan Hotel Fire*, CHICAGO TRIBUNE, Feb. 4, 1988, <https://www.chicagotribune.com/news/ct-xpm-1988-02-04-8803270617-story.html>, last accessed November 24, 2018.

⁶³ Ralph Blumenthal, *Fire in the Bronx; 87 Die in Blaze at Illegal Club; Police Arrest Ejected Patron; Worst New York Fire Since 1911*, NEW YORK TIMES, Mar. 26, 1990.

New Orleans, La. (1973)

Jun. 24, 1973: The murderer took revenge for being expelled from the Upstairs Lounge, a gay bar. He walked down the street and bought a bottle of cigarette lighter fluid, killing 33 people.⁶⁴

Chicago, Ill. (1976)

01/30/1976: An employee of Wincrest Nursing Home with a mental illness problem (pyromania) started a fire in a clothing wardrobe, which killed 22 residents. The employee was charged with arson.⁶⁵

C. Brutal Misuse of Tools

Villisca, Ia. (1912)

Sep. 9, 1912: It appears that a business competitor and member of the Iowa State Senate murdered Joseph Moore, his wife Sarah, their four children and two visiting children “with an ax.” An “itinerant minister” was charged. The Iowa Attorney-General “sought to commit” the minister “to an insane asylum, a step that would bar the prosecution of any other person suspected of the crime.”

Relatives of the victims claimed that the Attorney-General blamed the wrong person; in response, the Iowa legislature passed a law prohibiting public discussion of the crime. This led to an “injunction against J.N. Wilkerson, a detective, whose four years’

⁶⁴ Elisabeth Dias with Jim Down, *The Horror Upstairs*, TIME, Jul. 1, 2013.

⁶⁵ National Fire Protection Association, *Preliminary Report NFPA Fire Analysis Department Wincrest Nursing Home*, 1, 4, <https://oac.cdlib.org/view?docId=hb9v19p0sd&doc.view=frames&chunk.id=div00008&toc.id=0>, last accessed November 27, 2022; *Woman Indicted in Chicago Blaze*, NEW YORK TIMES, Feb. 4, 1976.

investigation of the murders cast suspicion on a prominent state senator.” The public meeting by Villisca residents took place in Omaha, Neb., instead.

Category: greed

Suicide: no.

Cause: greed

Weapon: ax⁶⁶

D. Panic

Calumet, Mich. (1913)

Dec. 24, 1913: A man shouted, “Fire! Fire! Everybody rush!” in the Italian Hall where striking miners and their families were meeting for a Christmas party. (There was no fire.) As the crowd attempted to exit the hall through an inadequate exit, seventy-four people (mostly children) were trampled to death.⁶⁷ One account ascribed the false claim to “a drunken” man,⁶⁸ but considering the murder of strikebreakers in Calumet a few weeks before in the middle of a fierce labor dispute,⁶⁹ this seems unlikely as the cause.

Category: public

Suicide: no

Cause: labor

Weapon: mouth⁷⁰

Causes

⁶⁶ *Villisca Ax Murders to Be Discussed in Mass Meeting*, OMAHA DAILY BEE, Jul. 6, 1917, 1.

⁶⁷ *Ore Miner Charged Eight-Seven Cents for Month's Labor*, OMAHA DAILY BEE, Feb. 12, 1914, 1.

⁶⁸ *Day of Joy is One of Sorrow*, [Valley City, N.D.] WEEKLY TIMES-RECORD, January 1, 1914, 6.

⁶⁹ *Strike Breakers Taken to Mines at Point of Pistols*, OMAHA DAILY BEE, Jan. 11, 1914, 1 (based on U.S. Dept. of Labor report).

⁷⁰ *Ore Miner Charged Eight-Seven Cents for Month's Labor*, OMAHA DAILY BEE, Feb. 12, 1914, 1.

The focus of the State on the *method* of mass murder might be better spent on solving the problem by solving underlying causes.

The following table shows the proximate cause of all mass murders in my database before 1960. (After 1960, the data is not yet complete.) A breakdown of these abbreviations:

- **Rob** is a mass murder performed as part of a robbery or to eliminate witnesses to the robbery.
- **MI** (Severe mental illness, primarily psychoses and other illnesses that cut off the sufferer from reality) includes all crimes where either contemporary accounts describe the murderer as insane, or where the nature of the crime makes other explanations implausible (this is necessarily a judgment call, on which my experience with mentally ill relatives and friends informs my opinion). The legal definition of mental illness is much narrower than the medical definition. Through most of U.S. history, the M'Naughton Rule (sometimes spelled M'Naughten) defined legal insanity as: "at the time of committing the act, the accused was laboring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing or, if he did know it, that he did not know what he was doing was wrong."⁷¹ A person who did not know he was doing wrong, was insane.
Persons who are medically mentally ill sometimes know that they are doing wrong and try to escape arrest and conviction (perhaps because the "aliens," or the CIA or KGB "agents" that they have just murdered are still after them). Such persons are legally sane, while in any conventional sense, they are as "mad as hatters."
- **MI?** are persons whose sanity seems questionable but for which contemporary accounts are less than persuasive.
- **PPD** (Postpartum Depression): Tragically, many of these mentally ill or possibly mentally ill incidents are mass murders by mothers with recently born babies. In cases where the murders are by recent mothers and where news accounts provide no other explanation, I have categorized these as **postpartum depression**. Some news accounts identified the mother as "temporarily insane" with no previous history of mental illness. In a few cases the news accounts

⁷¹ *The insanity defense and Diminished Capacity*, <https://www.law.cornell.edu/background/insane/insanity.html>

report on previous mental illness hospitalizations associated with previous births.

- Many cases I have listed as “**PPD?**” because this is a plausible explanation when no other seems more likely.
- **Resist** is a criminal resisting arrest.
- **Unknown** describes a very large number of crimes where either the motivation is unclear, or the newspaper coverage is silent; this also includes some mass murders where the inability to identify the murderer makes cause impossible to determine.
- **Religion** is mass murders committed as part of religious persecution. (And yes, in America!)
- **Racism** is its frequent cousin. In some cases, these include revenge or retribution against Indians for crimes not, or at least not clearly committed by the victims.
- **Politics** are murders committed to advance a political cause.
- **Terror** are mass murders committed to cause mass fear for purposes of political change outside elections. Example: 9/11.
- **Revenge** are mass murders committed to take revenge for real or perceived injuries by the murdered, family, or acquaintances.
- **Ind** are crimes between Indians and settlers that are not official acts of war, but that might have been seen that way by the murderers. I have classified all attacks against peaceful travelers, settlers, and Indians in this cause. (In some cases, the killers openly admitted that the victims were “peaceful,” but were supplying guns to less friendly tribes.)⁷²
- **Financial** is a strange subclass of family murders committed, usually by a parent concerned their family is about to become impoverished, who then “protect” them from that suffering by mass murder. In some cases, this seems to be a form of mental illness: at least one example involved a mass murderer who was in no danger of impoverishment.
- **Labor** are crimes committed during labor disputes, sometimes against strikebreakers, sometimes against labor unionists.
- **Quarrel** are incidents that start out as some relatively minor dispute before escalating into a disproportionate response.
- **Cult** refers to mass murders committed by oddball religious cults; I was surprised how widespread these were in the early 20th century (the Church of the Sacrifice slaughtered entire families, often with the family’s own ax).

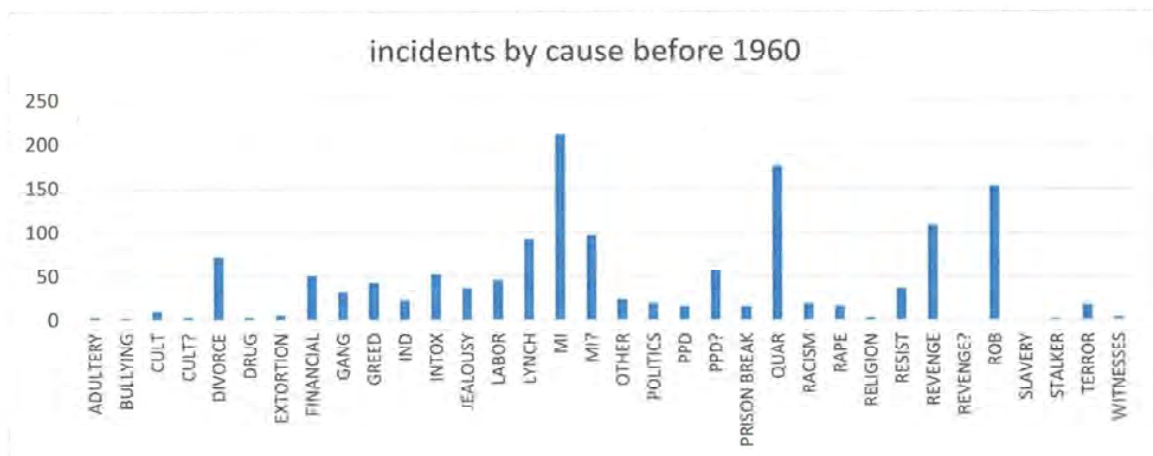
⁷² *From California and Oregon*, [Washington, D.C.] EVENING STAR, Mar. 21, 1860, 2.

- **Rape** are mass murders committed to eliminate witnesses to a rape.
- **Greed** are mass murders carried out to obtain wealth other than by robbery, often by inheritance from the deceased.
- **Divorce** is an alternative form of **Revenge**; divorce has been or is in the process and someone is seeking retribution. This includes separated spouses attempting reconciliation.
- **Adultery**: a variant of **Revenge**.
- **Jealousy**: should be obvious.
- **Intoxication** are crimes attributed to alcohol or drug-induced stupidity. The strong overlap between **mental illness** and **substance abuse** (one often causing the other) makes some of these hard to distinguish, especially 150 years after the crime.
- **Bullying** is a recent category, and one that I suspect reflects some deeper mental illness.
- **Stalker**: someone did not get their attentions rewarded as they saw fit.
- **Witnesses**: Eliminating witnesses to some crime other than rape or robbery.

incidents by cause before 1960	
Cause	incidents
ADULTERY	3
BULLYING	2
CULT	10
CULT?	3
DIVORCE	73
DRUG	3
EXTORTION	6
FINANCIAL	51
GANG	33
GREED	43
IND	24
INTOX	53
JEALOUSY	37
LABOR	46
LYNCH	93
MI	211
MI?	97
OTHER	25

incidents by cause before 1960	
Cause	incidents
POLITICS	21
PPD	17
PPD?	58
PRISON BREAK	17
QUAR	176
RACISM	20
RAPE	18
RELIGION	3
RESIST	37
REVENGE	109
REVENGE?	1
ROB	153
SLAVERY	1
STALKER	2
TERROR	19
UNKNOWN	447
WITNESSES	4

Plotting the cause without UNKNOWN shows the high frequency causes:



It should surprise no one that mental illness and likely mental illness are a high frequency category. While most mentally ill people are primarily a hazard to themselves,

severely mentally ill people are overrepresented in murder and other violent crimes.⁷³

Deinstitutionalization of the mentally ill starting with New York in 1964 and California in 1969 played significant roles in increased homelessness and violent crime rates.⁷⁴

Professor Bernard E. Harcourt points out that the rise in murder rates in the 1960s, and their decline in the 1990s, correlated with the change in the percentage of the population that was institutionalized: those who were confined to either a mental hospital or prison. According to Harcourt, sociologists examining the expansion of imprisonment in the 1990s, the so-called “incarceration revolution,” missed the even more important component of institutionalization: mental hospitals. When adding mental hospital inmates to prisoners, Harcourt found an astonishingly strong negative correlation between the institutionalization rate, and the murder rate: -0.78. Harcourt found that even when adjusting for changes in unemployment and the changing fraction of the population that was at their peak violent crime ages, the negative correlation remained strong, and did a better job of predicting both the 1960s rise and the 1990s decline in murder rates than other models.⁷⁵

Steven P. Segal of the University of California, Berkeley studied state-to-state variations in murder rates and mental health care, controlling for socioeconomic, demographic, and geographic data. He concluded that “[l]ess access to psychiatric inpatient-beds and more poorly rated mental health systems were associated with increases in the

⁷³ See Clayton E. Cramer, *Mental Illness and the Second Amendment*, 46 Connecticut Law Review 1301-6 (May 2014):(collecting studies).

⁷⁴ See Clayton E. Cramer, *MY BROTHER RON: A PERSONAL AND SOCIAL HISTORY OF THE DEINSTITUTIONALIZATION OF THE MENTALLY ILL* (2012) and Jean Isaac Rael and Virginia C. Arinal, *MADNESS IN THE STREETS: HOW PSYCHIATRY AND THE LAW ABANDONED THE MENTALLY ILL* (1990) for how beautiful abstract theories and fanaticism created the tragic urban landscape of modern America.

⁷⁵ Bernard E. Harcourt, *From the Asylum to the Prison: Rethinking the Incarceration Revolution*, 84 Texas Law Review 1766-75 (2006).

homicide rates of 1.08 and 0.26 per 100,000, respectively.” (Since the national average homicide rate was 7.4 per 100,000 people for 2020,⁷⁶ more access to beds is clearly quite important in reducing homicide rates; “poorly rated mental health systems” matter, but not as dramatically.)

Segal observed an even greater difference from the variation in involuntary civil commitment (ICC) laws. “Broader ICC-criteria were associated with 1.42 less homicides per 100,000” or bit more than one-fourth of the national homicide rate. In short, states where involuntary commitment of the mentally ill was relatively easy had significantly fewer murders than states where it was very hard.⁷⁷

A 2000 *New York Times* examination of mass murderers concluded:

The Times' study found that many of the rampage killers... suffered from severe psychosis, were known by people in their circles as being noticeably ill and needing help and received insufficient or inconsistent treatment from a mental health system that seemed incapable of helping these especially intractable patients.

Only a small percentage of mentally ill people are violent, and many advocates bristle at any link between mental illness and violence out of concern that it will further stigmatize an already mistreated population.

However, the Times investigation of this particular style of violence -- public rampage killings -- turned up an extremely high association between violence and mental illness. Forty-seven of the killers had a history of mental health

⁷⁶ Centers for Disease Control and Prevention. National Center for Health Statistics. National Vital Statistics System, Mortality 1999-2020 on CDC WONDER Online Database, released in 2021. Data are from the Multiple Cause of Death Files, 1999-2020, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. Accessed at <http://wonder.cdc.gov/ucd-icd10.html> on Nov 3, 2022 12:51:23 PM

⁷⁷ Steven P. Segal, *Civil Commitment Law, Mental Health Services, and US Homicide Rates*, SOCIAL PSYCHIATRY AND PSYCHIATRIC EPIDEMIOLOGY, November 10, 2011, <https://web.archive.org/web/20170323153646/http://kendas-law.org/national-studies/commitmenthomiciderates.pdf>, last accessed August 19, 2022.

problems before they killed; 20 had been hospitalized for psychiatric problems; 42 had been seen by mental health professionals.⁷⁸

A few representative cases from the period before 1960:

New Haven, Conn. (1930)

Jun. 21, 1930: The father had been involuntarily committed to a mental hospital. He escaped, threw his four children and wife from a 400-foot cliff, then jumped.

Category: family

Suicide: yes

Cause: mental illness

Weapon: other⁷⁹

New York, N.Y. (1953)

Apr. 01, 1953: A college professor, 52, under psychiatric care, strangled his wife and their two children, then stabbed himself to death.

Category: family

Suicide: yes

Cause: mental illness

Weapon: strangled⁸⁰

⁷⁸ Laurie Goodstein and William Glaberson, *The Well-Marked Roads to Homicidal Rage*, NEW YORK TIMES, Apr. 10, 2000.

⁷⁹ *Maniac Veteran Kills His Family*, NEW BRITAIN HERALD, Jun. 23, 1930, 9.

⁸⁰ *Triple Murder, Suicide Apparent*, [Parsons, Kansas] PARSONS SUN, Apr. 04, 1953, 7.

Eleva, Wisc. (1909)

Feb. 2, 1909: The father stabbed to death his four children, then “stabbed himself and then jumped from the barn loft with a rope around his neck. At the same time, he hurled a fire brand into the stable, firing the barn.”

Category: family

Suicide: Yes.

Cause: “[Father] was recently released from an insane asylum.”

Weapon: knife⁸¹

Summary

Mass murder is not particularly new, nor is historical mass murder a peculiarly group activity. Almost everything can be, and has been, used to commit mass murder in America.

Mental illness is an important, often overlooked cause. The mass murder at Cleveland School, Stockton in 1989 that started California’s legislative focus on LCMs involved a mentally ill drifter with a history of involuntary commitment and a spotty record of outpatient treatment. As the California Dept. of Justice’s official report observed:

In an ideal world, ample resources would have been available to detect his problems, identify them as potentially dangerous and likely to result in his life being uselessly wasted, and to provide for a type of intervention with a reasonable prospect of making a difference. However, in a world in which

⁸¹ *Murders Whole Family and Then Kills Self*, [Pendleton, Ore.] EAST OREGONIAN, Feb. 22, 1909, 8.

government spending has to recognize realistic limits set by the public, such resources will never be plentifully available.⁸²

This is an especially painful paragraph for me. My smarter, older brother's spiral down into schizophrenia resulted in brushes with the law but never with such a horrible ending. It was still a life wasted by California's confused and irrational mental health policy. Has more than 20 years of LCM laws, defenses of those laws, prison sentences for offenders, and dealing with other mass murders (not all with guns) *really* been cheaper than providing mental health care?

The focus of the State on the *method* of mass murder might be better spent on solving the underlying *causes*. The following abstract closes with a chilling sentence:

A case of an attempted mass shooting at a large psychiatric hospital in the United States by a 30-year-old male with severe mental illness, somatic delusions, and exceptional access to healthcare professionals is reported. Six persons were shot, one died at the scene, and the shooter was then killed by the police. Data were gathered from court documents and media accounts. An analysis of the shooter's psychiatric history, his interactions with healthcare professionals, and communications prior to the shooting suggest a rare form of mass murder, a random attack by a documented psychotic and delusional individual suffering with somatic delusions. Despite his being

⁸² Nelson Kempsey, *A Report to Attorney-General John K. Van de Kamp on Patrick Edward Purdy and the Cleveland School Killings*, October, 1989, 19, <https://schoolshooters.info/sites/default/files/Purdy%20-%20official%20report.pdf>, last accessed November 26, 2022.

psychotic, the killer planned the attack and made a direct threat 1 month prior to the shootings. **This case highlights problems with the healthcare system, indicating that it might be ill equipped to appropriately deal with severe mental illness.**⁸³ [emphasis added]

Confronting the extent which a shortage of mental health services and the difficult nature of involuntary mental health commitment in much of America would be a more effective strategy. A severely mentally ill person without an LCM could follow in the footsteps of previous generations and use less regulated weapons: ax, hatchet, knife, poison, trail derailment.

BACKGROUND AND QUALIFICATIONS

A copy of my *curriculum vitae* is attached to this Declaration as *Exhibit Cramer-1*.

I attended Sonoma State University where I received a Bachelor of Arts and master's degree in history. My Master's Thesis was "Concealed Weapon Laws of the Early Republic".

I was awarded First Place by the Association for Education in Journalism and Mass Communication Ethics Prize for my article "Ethical Problems of Mass Murder Coverage in the Mass Media," *Journal of Mass Media Ethics* 9:1 [Winter, 1993-94] 26-42.

I am currently employed as an Adjunct Professor College of Western Idaho, Nampa, teaching Western Civilization I and U.S. History I.

My publication "Why Footnotes Matter: Checking Arming America's Claims,"

⁸³ Christine Sarteschi. (2015). *Severe Mental Illness, Somatic Delusions, and Attempted Mass Murder*. JOURNAL OF FORENSIC SCIENCES, 61, 10.1111/1556-4029.12876.

Plagiarism 1(11):1-31 (2006) revealed the falsehoods presented in Michael A. Bellesiles's book "Arming America: The Origins of a National Gun Culture" (New York: Alfred A. Knopf, Inc., 2000), including significant discrepancies in American history and citations and quotes that did not match the historical record. Bellesiles' book contained quotations taken out of context, which completely reversed the author's original intent. Dates were altered and statutory text was changed to completely reverse the meaning of the law. The sheer volume of these errors, and their consistent direction, would seem to preclude honest error. Emory University conducted an investigation that strongly criticized Bellesiles' ethical standards; Bellesiles resigned from his tenured position at Emory. Columbia University initially awarded Bellesiles the Bancroft prize for his book "Arming America", but revoked the award after my research proved that the book was fraudulent.

My publications include:

- *Lock, Stock, and Barrel: The Origins of America Gun Culture*, Praeger Press, 2018;
- *Social Conservatism in An Age of Revolution: Legislating Christian Morality in Revolutionary America*, CreateSpace, 2016;
- *Historical Evidence Concerning Climate Change: Archaeological and Historical Evidence That Man Is Not the Cause*, CreateSpace, 2016;
- *My Brother Ron: A Personal and Social History of the Deinstitutionalization of the Mentally Ill*, CreateSpace, 2012;
- "What Did 'Bear Arms' Mean in the Second Amendment?" *Georgetown Journal of Law and Public Policy*, 6:2 [2008]. Co-authored with Joseph Edward Olson;
- *Armed America: The Remarkable Story of How and Why Guns Became as American as Apple Pie*, Nelson Current, 2006;
- *Concealed Weapon Laws of the Early Republic: Dueling, Southern Violence, and*

Moral Reform, Praeger Press, 1999;

· *Black Demographic Data, 1790-1860: A Sourcebook*, Greenwood Press, 1997;

· *Firing Back: Defending Your Right to Keep and Bear Arms*, Krause Publishing, 1995;

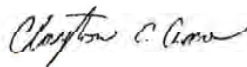
· *For The Defense of Themselves and the State: The Original Intent and Judicial Interpretation of the Right to Keep and Bear Arms*, Praeger Press, 1994;

· *By The Dim and Flaring Lamps: The Civil War Diary of Samuel McIlvaine*, Editor, Library Research Associates, Inc., 1990

I was retained at a rate of \$75/hour to prepare this declaration.

My compensation is not in any way dependent on the outcome of this or any related proceeding, or on the substance of my opinion.

I declare under penalty of perjury that the foregoing is true and correct. Executed within the United States on December 19, 2022.



Clayton Cramer

EXHIBIT CRAMER-1

Exhibit Cramer -1 Page 1 of 7

Clayton E. Cramer
36 Sunburst Road
Horseshoe Bend, ID 83629
(208) 793-3044
clayton@claytoncramer.com
<http://www.claytoncramer.com>

EDUCATION:

June 1998	Sonoma State University, Rohnert Park, California M.A. in History
June 1994	<i>Master's Thesis: "Concealed Weapon Laws of the Early Republic"</i> B.A. in History <i>Honors: cum laude and With Distinction</i>

AWARDS:

1993 Association for Education in Journalism and Mass Communication Ethics Prize
First Place, Undergraduate Division

TEACHING EXPERIENCE:

Fall, 2017 – present	Adjunct Faculty: College of Western Idaho, Nampa, teaching Western Civilization I, U.S. History I.
Fall, 2014 – Spring, 2017	Recovering from stroke
Spring, 2010 – Spring, 2014	Adjunct Faculty: College of Western Idaho, Nampa, teaching Western Civilization I, U.S. History I.
Fall, 2009 – Summer 2010	Adjunct Faculty: ITT Technical Institute, Boise, teaching State and Local Government and Introduction to Computers.
Fall, 2003	Adjunct Faculty: Boise State University, teaching U.S. Constitutional History and at George Fox University (Boise Center), teaching America and the World.

1996 **Teaching Assistant:** Assisted Professor Peter Mellini in his course "Twentieth Century World." I graded quizzes, exams, and answered weekly written questions from students. I also prepared and lectured about the rise of totalitarianism in the period between the world wars.

BOOKS:

Lock, Stock, and Barrel: The Origins of America Gun Culture Praeger Press, 2018

Social Conservatism in An Age of Revolution: Legislating Christian Morality in Revolutionary America CreateSpace, 2016

Historical Evidence Concerning Climate Change: Archaeological and Historical Evidence That Man Is Not the Cause
CreateSpace, 2016

My Brother Ron: A Personal and Social History of the Deinstitutionalization of the Mentally Ill
CreateSpace, 2012

Armed America: The Remarkable Story of How and Why Guns Became as American as Apple Pie
Nelson Current, 2006

Concealed Weapon Laws of the Early Republic: Dueling, Southern Violence, and Moral Reform
Praeger Press, 1999

Black Demographic Data, 1790-1860: A Sourcebook
Greenwood Press, 1997

Firing Back: Defending Your Right to Keep and Bear Arms
Krause Publishing, 1995

For The Defense of Themselves and the State: The Original Intent and Judicial Interpretation of the Right to Keep and Bear Arms
Praeger Press, 1994

By The Dim and Flaring Lamps: The Civil War Diary of Samuel McIlvaine,
editor
Library Research Associates, Inc., 1990

SELECTED PUBLICATIONS:

"Bellesiles' Arming America Redux: Does the Gunning of America Rewrite American History to Suit Modern Sensibilities?" *Southern Illinois University Law Journal* Spring 2017 Forthcoming "

"Assault Weapon Bans: Can They Survive Rational Basis Scrutiny?" *University of Akron ConLawNow* 8:1, article 1.

Co-authored with David B. Kopel and Joseph Olson, "Knives and the Second Amendment," *University of Michigan Journal of Legal Reform*, 47:1 167-215 (2013).

"Mental Illness and the Second Amendment," 46 *Conn. Law Review* 4:1301 (2014).

Co-authored with David B. Kopel, "State Court Standards of Review for the Right to Keep and Bear Arms," 50 *Santa Clara Law Review* 101-208 (2010).

Co-authored with David B. Kopel, "The Keystone of the Second Amendment: Quakers, the Pennsylvania Constitution, and the Questionable Scholarship of Nathan Kozuskanich," 19 *Widener Law Journal* 277-320 (2010).

Co-authored with Nicholas J. Johnson and George A. Mocsary, "This Right is Not Allowed by Governments that are Afraid of the People': The Public Meaning of the Second Amendment When the Fourteenth Amendment was Ratified," 17 *George Mason Law Review* 3:823-862 (2010).

Co-authored with Don B. Kates, "Second Amendment Limitations and Criminological Considerations," 61 *Hastings Law Journal* 1339-1370 (2009).

Co-authored with Joseph Edward Olson, "Gun Control: Political Fears Trump Crime Control," *Maine Law Review*, 61:1 [2009] 57-81

Co-authored with Joseph Edward Olson, "What Did 'Bear Arms' Mean in the Second Amendment?" *Georgetown Journal of Law & Public Policy*, 6:2 [2008]

Co-authored with Joseph Edward Olson, "Pistols, Crime, and Public Safety in Early America." *Willamette Law Review*, 44, [2008]

"Why Footnotes Matter: Checking *Arming America's* Claims." *Plagiary* 2006 1 (11): 1-31 [29 September 2006]

"Michael Bellesiles and Guns in the Early Republic." *Ideas on Liberty* 52:9 [September, 2002] 17-22.

"The Peaceable Kingdom?" *Books & Culture: A Christian Review*, July/August 2002, 29.

"Confiscating Guns From America's Past." *Ideas on Liberty* 51:1 [January, 2001] 23-27.

"Disarming Errors." *National Review*, October 9, 2000, 54-55.

"An American Coup d'Etat?" *History Today* [November, 1995].

"A Tale of Three Cities: The Right to Bear Arms in State Supreme Courts." *Temple Law Review* 68:3 [Fall, 1995] 1178-1241. Co-authored with David Kopel and Scott Hattrop.

"'Shall Issue': The New Wave of Concealed Handgun Permit Laws." *Tennessee Law Review* 62:3 [Spring, 1995] 679-757.

"The Racist Roots of Gun Control." *Kansas Journal of Law & Public Policy* 4:2 [Winter, 1995] 17-25.

"Ethical Problems of Mass Murder Coverage in the Mass Media." *Journal of Mass Media Ethics* 9:1 [Winter, 1993-94] 26-42.

A comprehensive list of popular magazine articles would run to many pages; for a complete list see <http://www.claytoncramer.com/popular/popularmagazines.htm>.

CONFERENCES & EXPERT TESTIMONY:

Ohio State Senate Judiciary Committee, March 22, 1995.

Michigan House of Representatives Judiciary Committee, December 5, 1995

American Society of Criminology, San Diego, Cal., November, 1997. "Fear And Loathing In Whitehall: Bolshevism And The Firearms Act Of 1920."

American Society of Criminology, Chicago, Ill., November, 2002. "The Duty to be Armed in Colonial America."

Assisted in research and writing of Respondent's Brief and Academics for the Second Amendment and Claremont Institute amicus briefs for *D.C. v. Heller* (2008).

Panelist on "Up in Arms: The Second Amendment in the Modern Republic"
University of Connecticut School of Law, November 15, 2013.

WORKS CITED IN COURT DECISIONS:

"'Shall Issue': The New Wave of Concealed Handgun Permit Laws," cited in *Pagel v. Franscell*, 57 P.3d 1226, 1234 (Wyo. 2002); *Moody v. ARC of Howard County, Inc.*, Civil No. JKB-09-3228 (D.Md. 2011).

"'This Right is Not Allowed by Governments that are Afraid of the People':" cited in *McDonald v. Chicago* (2010); *Ezell v. City of Chicago* (7th Cir. 2011).

"Second Amendment Limitations and Criminological Considerations" cited in *U.S. v. Yancey*, 09-1138 (7th Cir. 2010); *U.S. v. Chester*, 628 F.3d 673 (4th Cir. 2010); *U.S. v. Skoien*, 587 F.3d 803 (7th Cir. 2009).

"What Did 'Bear Arms' Mean in the Second Amendment?," cited in *D.C. v. Heller* (2008). In addition, significant parts of Justice Scalia's opinion are derived from amicus briefs that I helped to research and write.

For the Defense of Themselves and the State, cited in *Mosby v. Devine*, 851 A.2d 1031, 1052 (RI 2004) (Flanders, J., dissenting); *U.S. v. Emerson*, 46 F.Supp.2d 598 (N.D.Texas 1999); *State v. Sieyes* 225 P. 3d 995 (Wash. 2010).

"A Tale of Three Cities," cited in *State v. Mendoza*, 920 P.2d 357, 360 n. 4 (Hawaii 1996).

Concealed Weapon Laws of the Early Republic, cited in *Senna v. Florimont*, 958 A.2d 427, 433 (N.J. 2008).

"Mental Illness and the Second Amendment," cited in *In Rec EC* (N.J.App. 2015).

A comprehensive and up to date list can be found at <http://claytoncramer.com/scholarly/journals.htm#citations>.

LANGUAGES:

Very basic reading competence in German.

OTHER SKILLS:

I have 35 years of experience as a computer software engineer, including embedded telecommunications equipment development, web page creation and maintenance. I also have an unusually detailed knowledge of the physical sciences (for an historian), a deep interest in the history of science and technology, and how both influence society.

EXHIBIT 99

XAVIER BECERRA
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State Bar No. 118517
MARK R. BECKINGTON
Supervising Deputy Attorney General
State Bar No. 126009
PETER H. CHANG
State Bar No. 241467
JOSE A. ZELIDON-ZEPEDA
State Bar No. 227108
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E-mail: John.Echeverria@doj.ca.gov
Attorneys for Defendants

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF CALIFORNIA

JAMES MILLER, et al.,

Plaintiffs,

v.

**CALIFORNIA ATTORNEY
GENERAL XAVIER BECERRA,
et al.,**

Defendants.

19-cv-1537 BEN-JLB

**DECLARATION OF YVETTE
GLOVER**

Declaration of Yvette Glover (19-cv-1537 BEN-JLB)

DEFENDANTS' EXHIBIT CZ

DEF3220

Def. Exhibit 99

Page 003309

DECLARATION OF YVETTE GLOVER

I, Yvette Glover, declare as follows:

1. I make this declaration of my own personal knowledge, and if called upon as a witness to testify in this matter, I could and would testify competently to the matters stated herein.

2. I have been employed by the California Department of Justice, Bureau of Firearms since 2010, in the following positions: Criminal Identification Specialist II, Staff Services Analyst, and Associate Governmental Program Analyst.

3. Since 2016, my job responsibilities have included tasks involving the issuance and renewal of dangerous weapons permits (i.e., assault weapons, destructive devices, machine guns, short-barreled rifles/shotguns), maintenance and creation of assault weapon registrations, responding to public inquiries regarding dangerous weapons and assault weapon permits, providing education to the general public and law enforcement agencies regarding obtaining dangerous weapons permits and the acquisition or disposal of assault weapons.

4. The California Department of Justice maintains data on assault weapons registered in California. The Assault Weapon Registration (AWR) application portal is an internal application (non-public/access limited only to Department of Justice staff) used to manage assault weapon registration data and reports on assault weapon registrations. The AWR application portal enables entry, modification and deletion of assault weapon registration data as well as generating reports and letters.

5. On December 3, 2020, I requested our IT manager to query the AWR application portal to obtain registration data for assault weapons. I reviewed the query results and, from those results, obtained the following information:

6. There are approximately 200,039 assault weapons currently registered with the California Department of Justice, of which approximately 180,142 are rifles, 16,419 are pistols, and 3,478 are shotguns.

1 7. Excluding assault weapons registered to peace officers, there are
2 approximately 185,569 assault weapons currently registered with the California
3 Department of Justice, of which approximately 165,804 are rifles, 16,306 are pistols
4 3,459, and are shotguns.

5 8. As of December 3, 2020, there are approximately 90,886 persons
6 currently registered to possess the assault weapons identified in paragraph 7 above,
7 not including peace officers.

8 9. Registered assault weapons may be de-registered for various reasons
9 listed in Code of Regulations, title 11, section 5478, or other reasons including the
10 death of the registrant, or the registrant becoming prohibited from possessing the
11 weapon.

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13 Executed on December 15, 2020 at Sacramento, California.

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Yvette Glover