



³ Calculated by multiplying the total population in each state times the percent of gun owners in the state (source from footnote 4) then dividing that by the number of firing ranges. As a result of that calculation, Vermont has 1 firing range for every 8,213 gun owners, New York has 1 firing range for every 14,843 gun owners.

	Firing ranges	2010 pop	gun owners	gun owners per firing range
VT	32	625,741	262,811	8,213
NY	235	19,378,102	3,488,058	14,843

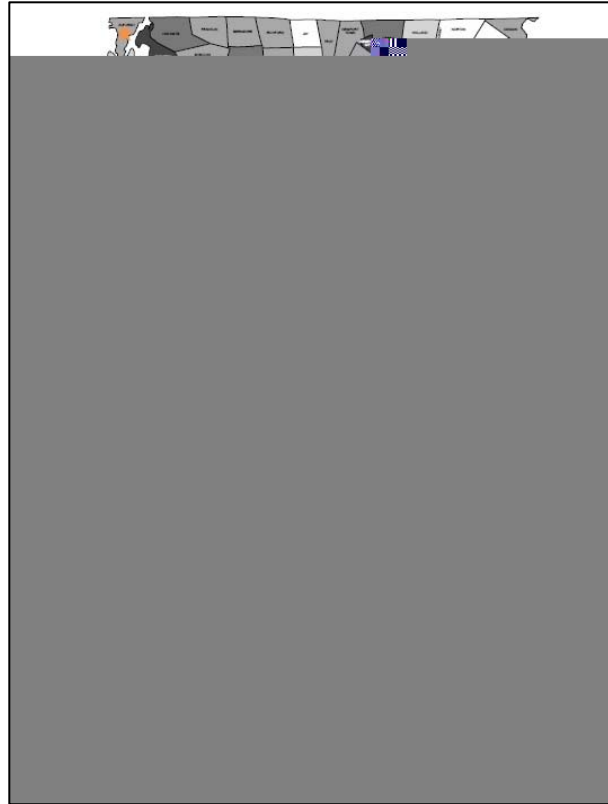
⁴ North Carolina State Center for Health Statistics, "Behavioral Risk Factor Surveillance System," accessed 2 May 2011, <http://www.schs.state.nc.us/SCHS/brfss/2001/us/firearm3.html>.

⁵ Picard, "Home for the Range?: So many guns in Vermont, so

in the map below (on which the locations of firing ranges are denoted by stars), 80 percent of the 20 outdoor facilities in Vermont lie within or adjacent to towns with populations over 5,000; the remaining 20 percent of outdoor ranges lie within or adjacent to towns with populations over 10,000.⁶

According to an investigative report by Ken Picard of *Seven Days*, “[t]here are surprisingly few publicly accessible ranges around the state,” given Vermont has “the highest per capita rate of gun ownership in New England.”⁷ (As shown above, this assertion may not hold when one calculates the number of firing ranges per gun owner, which, as shown above finds Vermont with a higher number of firing ranges than New York.) Picard argues that what he sees as the shortage of firing ranges in the Vermont

creates “problems for gun owners and non owners alike. Several accidental shootings in recent years, including the 2008 death of John Reiss, a former professor at St. Michael’s College, highlight the seriousness of the issue. Reiss was killed in his own home in Essex by a stray bullet from a Soviet era SKS semiautomatic carbine.”⁸ Gun ranges



noise use condition of any issued municipal or state land use permit otherwise required by law”¹²

According to Act 173, only owners of property abutting a firing range may bring nuisance claims against that range. A range does not constitute any form of nuisance if said range meets the following conditions:

- the range was established prior to the acquisition of the property owned by the person bringing the nuisance claim; and
- the frequency of the shooting or other alleged nuisance activity at the range has not significantly increased since acquisition of the property owned by the person bringing the nuisance claim.¹³

The Vermont Fish & Wildlife Department created the Shooting Range Improvement Grant Program to “encourage the improvement of shooting ranges and to support their operation.”¹⁴ The program encourages range owners and operators to apply for grant funds that are then used to reimburse eligible project expenditures for up to 75 percent of the total cost. Many projects are eligible for grant funding including lead recovery systems, lead recycling, lead mitigation projects and noise abatement structures.

Environmental & Health Impact of Lead

According to the EPA, “an estimated 9,000 non military outdoor ranges exist in the United States, collectively shooting millions of pounds of lead annually.”¹⁵ Firing ranges can damage the environment and “contaminate the soil, and possibly the groundwater, with lead from the birdshot, bullets, and bullet fragments, as well as produce airborne lead dust.”¹⁶ The impact of lead in firing ranges is long lasting. When bullets are left in shooting ranges, “lead oxidizes when exposed to air and dissolves when exposed to acidic water or soil. Lead bullets, bullet particles, or dissolved lead can be moved by storm water runoff.”¹⁷ Dissolved lead can then “migrate through soils to groundwater,” contaminating soil in the area.¹⁸

¹² Vermont Legislature, “Legislative Documents: No. 173. An Act Relating To Sport Shooting Ranges,” accessed 4 May 2011, <http://www.leg.state.vt.us/docs/legdoc.cfm?URL=/docs/2006/acts/ACT173.htm>.

¹³ Vermont Legislature, “The Vermont Statutes Online (10 V.S.A. § 5227),” accessed 12 April 2011, <http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=10&Chapter=119&Section=05227>.

¹⁴ Vermont Fish & Wildlife Department, “Shooting Ranges Grants & Information Page,” accessed 19 April 2011, http://www.vtfishandwildlife.com/Shooting_Range_Grants_page.cfm.

¹⁵ U.S. EPA, “Lead & Lead Poisoning.”

¹⁶ U.S. EPA, “Public Safety Management,” access 24 March 2011, <http://www.epa.gov/tribalcompliance/pubsafety/pspublicdrill.html>.

¹⁷ U.S. EPA, “Best Management Practices for Lead in Outdoor Shooting Ranges,”

Lead is particularly dangerous because its toxicity targets the nervous system.¹⁹ Lead toxicity can cause many health risks including increased blood pressure, digestive problems, anemia, brain damage and neurological disorders, kidney damage or dysfunction, memory and concentration problems, miscarriages among pregnant women.^{20,21} Children are especially at risk and have similar symptoms including stunted growth, hearing problems, brain and neurological damage, headaches, impaired vision and motor skills.²²

According to the EPA, the "three major sources for human exposure to lead are lead based paint, lead in dust and soil and lead in drinking water."²³ Typically, human exposure to lead occurs through ingestion or inhalation.²⁴

disposing of hazardous waste.

water of the United States.”³⁶ The NPDES permit “requires that the trap range use

community, including the Gun

National Shooting Sports Foundation (NSSF).⁴⁷ During visits to the range, the DEP offers “range managers a starting point for evaluating lead management issues and potential environmental problems that are specific to their facility.”⁴⁸ After each visit, “the DEP LSI representative sends the facility a letter identifying any lead management or other environmental issues the range needs to address and alternatives for dealing with these issues.”⁴⁹ In this letter, the DEP asks “every facility to develop a written best management practices or Environmental Stewardship Plan (ESP) for its ranges

Additionally, "the inability of creatures to successfully communicate or otherwise employ their auditory senses is detrimental to the long term survival of these displaced creatures and the overall biological integrity of the environment."⁶⁶

Federal, Vermont, Ohio and Minnesota State Laws Regarding Noise

Noise laws vary drastically from state to state and in most cases from county to county. Many counties, even ones that contain firing ranges, do not have specifically mandated ordinances, but instead rely on general noise ordinances. In addition, many states and counties have taken considerable measure in order to shield ranges from lawsuits relating to noise levels through legislation that excuses ranges from lawsuits.⁶⁷ Currently, there are six states that do address firing ranges specifically in legislation.⁶⁸ However the legislation usually only encourages ranges to comply with the National Rifle Association's (NRA) range safety standards as outlined in their most up to date edition of their book *The NRA Range Source Book*.⁶⁹

Noise ordinances in Vermont vary by community. In Essex, for example, town ordinance 6.08.050 states "No person shall discharge a firearm within the town of Essex within the hours of sunset and sunrise except when such hours are prescribed for the hunting of game birds or animals, and then such privilege shall extend only to licensed hunters for the sole purposes of taking game."⁷⁰ In Morristown, Vermont, the use of firearms

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requires ranges to “substantially comply” with the guidelines outlined in the *NRA Range Source Book*, specifically Section I, Chapter VI.⁷⁴ Additionally, Ohio has outlined hours of operation for ranges to be between the hours seven a.m. until ten p.m. with the exception of indoor and archery ranges.⁷⁵ More specifically, Ohio also regulates the noise levels for ranges at their boundaries with other property, specifically citing, “If the sound level exceeds ninety decibels dB(A) for one hour out of twenty four hours or eighty five decibels dB(A) for eight hours out of twenty four hours and the sound measuring receiver is located at the boundaries of the range property.”⁷⁶

Minnesota statutes 87A.03 states that, “a shooting range that operates in compliance with the shooting range performance standards must be permitted to do all of the following within its geographic boundaries, under the same or different ownership or occupancy, if done in accordance with shooting range performance standards.”⁷⁷ As with Ohio, Minnesota strictly limits the use of firing ranges to operation between seven a.m. and ten p.m.⁷⁸ Minnesota also encourages its ranges to freely acquire new grounds and area to act as noise buffers for their ranges.⁷⁹ Ranges that meet the standards set forth in this statute are considered to be in “nonconforming use” and are further exempt from any future litigation that would effect their “P use”

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