

# **Selling a lobbying pamphlet as science: Analysis of the May 15, 2014 AVMA pamphlet “Literature Review on the Welfare Implications of The Role of Breed in Dog Bite Risk and Prevention”**

**By Alexandra Semyonova**

**Introduction:** The principle use of this document is to frustrate any community efforts to pass breed specific legislation. The American Veterinary Medical Association (AVMA) is trying to [sell this political pamphlet](#) as a scientific document. It's therefore important for policy makers to be aware of the many scientific flaws this document contains.

**Summary:** This pamphlet is not a literature review. It contains not a single word about animal or human welfare. It misrepresents the research question: Breed-specific legislation (BSL) is not concerned with simple dog bites. **BSL is always aimed at getting catastrophic maulings and fatal attacks by dogs under control.** Since ordinary dog bites are not the issue, this pamphlet can be discarded as irrelevant to any discussion of BSL. As for content, this pamphlet contains no science. It is merely the repetition of a series of unfounded platitudes copied straight from the pit bull lobby's widely distributed list of talking points. The many footnotes and long list of references does not add quality: The references are cherry-picked to exclude articles that are relevant to the issue of catastrophic and fatal maulings by dogs, all of which reveal that the pit bull type has always dominated this type of attack. More than half of the references date from the previous century, when pit bulls were extremely rare. Almost half of the referenced articles were written by people who are active in, employed by, or have other financial or career ties to pit bull advocacy. The tables included in the study are put together in a way that disguises rather than reveals any information the cited studies contained. Closer examination shows that both the references and the tables actually support the effectiveness of BSL in preventing catastrophic maulings and fatal attacks. Finally, the last two sections of this pamphlet contain several outright falsehoods, that are explained in this detailed analysis.

**Note:** When the term ‘pit bull type’ is used, it does not refer to any kennel club ‘breed’. Herein, ‘pit bull type’ is defined as the biological and genetic population that is descended from or (by mixing) closely related to the original bull- and bear-baiting, pit-fighting bulldog types that were used for blood sport entertainment in 17<sup>th</sup> century England. This is the only valid definition of ‘pit bull type dog’ that population genetics allows.

## **Detailed analysis**

**Beginning with the title**, which (in science) should reflect the real content of any document.

“Literature Review on the Welfare Implications of The Role of Breed in Dog Bite Risk and Prevention”

This title is deceptive. This document is not a literature review. Rather, the sources it cites have been cherry-picked, leaving out a large number of recent, more relevant and objective studies. This is always a sign that a document is of poor scientific quality. Worse yet, this pamphlet misrepresents the content of some of the studies it does cite.

The time frame is cherry-picked: Of the 65 cited ‘studies’, more than half (34) are based on data from the previous century, when the pit bull type was extremely rare, constituting at most  $\leq 1 - 2\%$  of the entire pet dog population (as opposed to approximately 6% now). **The use of such old data is a serious flaw. In 1997-98, pit bull types killed an average of three people each year. In 2014-15, they killed an average of 27.5 people each year – a 816% increase.** See for example:

- ∞ Fatal Pit Bull Attacks - Fatalpitbullattacks.com, Oct. 2016  
<http://www.fatalpitbullattacks.com/>
- ∞ 2014 Dog Bite Fatalities - DogsBite.org, Feb. 2015  
<http://www.dogsbite.org/dog-bite-statistics-fatalities-2014.php>
- ∞ 2015 Dog Bite Fatalities - DogsBite.org, Feb. 2016  
<http://www.dogsbite.org/dog-bite-statistics-fatalities-2015.php>

Cherry-picking which studies to list: Forty percent (27) of the 65 articles this document refers to were written by people who are active in, employed by, or have other financial or career ties to pit bull advocacy. Of the 31 more recent reports, almost two-thirds (18) were written by people who are active in, employed by, or have other financial or career ties to pit bull advocacy. None of these authors admit this in their conflict of interest statements. In peer-review circles, this omission is considered scientific fraud. These fraudulent studies are most often published in journals that are heavily involved in and /or funded by the pit bull lobby – eg, JAAWS, Soc&An, AnBeh, JAVMA. This is similar to the tactic the tobacco lobby used, creating or funding ‘scientific’ journals to spread dubious studies intended solely to delay the regulation of the tobacco industry. **Besides citing mostly fraudulent recent studies, this AVMA pamphlet omits many recent, relevant, and more objective studies.** See for example:

- ∞ Level 1 Trauma Center Dog Bite Studies in All U.S. Geographical Regions Report Pit Bulls Highest Prevalence - DogsBite.org, Oct. 2016  
<http://blog.dogsbite.org/2016/10/report-level-1-trauma-dog-bite-studies-pitbull-highest-prevalence.html>
- ∞ Dog Bite Studies - DogsBite.org, Oct. 2016  
<http://www.dogsbite.org/dog-bite-statistics-studies.php>

The title is furthermore deceptive because there is in fact no discussion in the document of animal or human welfare. Not one of the 65 ‘studies’ cited addresses a welfare issue. This AVMA pamphlet doesn’t mention the **approximately 40,000 animals that are severely mauled or**

**killed yearly by pit bull type dogs, which is surely an urgent animal welfare question.** It doesn't mention the dramatic decline in dogfighting and in the abuse, neglect, and shelter killing of pit bulls – thus the **dramatic increase in pit bull welfare – everywhere BSL has been introduced and enforced.** See for example:

- ∞ Pit bulls killed 24,000 other dogs & 13,000 cats in 2015 - Animals 24-7, Jan. 2016  
<http://www.animals24-7.org/2016/01/31/pit-bulls-killed-24000-other-dogs-13000-cats-in-2015/>
- ∞ How many other animals did pit bulls kill in 2014? - Animals 24-7, Jan. 2015  
<http://www.animals24-7.org/2015/01/27/how-many-other-animals-did-pit-bulls-kill-in-2014/>
- ∞ Aurora Citizens: Do Not Allow Pit Bulls Back into Aurora - DogsBite.org, Oct. 2014  
<http://blog.dogsbite.org/2014/10/aurora-citizens-do-not-allow-pit-bulls-back-into-your-city.html>
- ∞ Pit bulls and shelter bankruptcy - 17 Barks (A. Semyonova), Jun. 2012  
<http://17barks.blogspot.nl/2012/06/pit-bulls-and-shelter-bankruptcy.html>

The title is deceptive because it uses the term 'breed', but nowhere in the pamphlet is this concept operationally defined. Without such operational definition, 'breed' lacks scientific validity as a concept. In its colloquial use, 'breed' is nothing more than an artificial distinction made by dog fancy kennel clubs (not scientists) to split various biological and genetic populations into recent, often artificial lineages purely for show and commercial purposes. Of note is that the AVMA itself switches in the pamphlet text to the term 'pit bull type dog', which it also fails to define.

The title is deceptive because it changes the subject of the discussion from the real problem to an entirely different issue. This document is a lobbying pamphlet against BSL. **BSL is always intended to get only catastrophic dog attacks under control, not mere (or even 'serious') 'dog bites'.** The AVMA uses the title to immediately substitute the irrelevant variable (dog bites) for the relevant variable (catastrophic maulings and fatal attacks). As it switches variables, the AVMA commits several scientific sins that void the paper of any claim to scientific content:

- 1) The diversion of the discussion to a completely different issue from the real research question. This is like turning in a piece about propeller airplanes when the research question is about moon launches.
- 2) The AVMA fails to operationally define the term 'dog bite'. It's deceptive to lump minor dog bites, even ones that require a hospital visit for a tetanus shot or three stitches, together with the catastrophic life-changing or fatal maulings BSL aims to reduce.
- 3) Without operational definition, the variable the AVMA uses (dog bites) lacks all forms of scientific validity. To wit:
  - a. Construct validity – You must provide a clear operational definition of the variable you are measuring. That operational definition must reflect the reality of the

construct (in this case ‘dog bite’) that you are using. The usual criterion for this is whether most people would agree that the term you use accurately reflects the reality you are measuring. It is unlikely that the majority of people would agree that a single dog bite, no matter how wounding, is the same as a sustained, catastrophic mauling or fatal attack in which a dog delivers up to a hundred deeply wounding bites.

- b. Content validity – Your test must actually measure the real, clearly defined variable in question.
- c. Criterion validity – The criterion on which cases are rated must be clear and valid. If the AVMA wants to group puncture wounds together with disfiguring, dismembering, life-changing attacks, they must explicitly state this.
- d. Concurrent validity – Two or more groups (eg, pit bull types vs companion dog types) should differ on the measure in the expected way. When they don’t, you need to examine the measure and the criteria you are using.
- e. Discriminant validity – The measure should discriminate between the construct being measured (in BSL, this is catastrophic and fatal maulings) vs. other unrelated constructs (simple dog bites).

**Section One: “Breeds implicated in serious bite injuries”.** The first paragraph repeats some of the same fallacies and contains some new ones:

#### “BREEDS IMPLICATED IN SERIOUS BITE INJURIES

In a range of studies, the breeds found to be highly represented in biting incidents were German Shepherd Dog, 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,50 mixed breed, 1,4,6,8,10,11,12, 19,17, 20,50 pit bull type,5,9,13,16, 21,20,22,23,24,25,26,27 Rottweiler, 15, 18,22,24, 25, 28 Jack Russell Terrier,21,25,26 and others (Chow Chow,7,23 Spaniel, 14,26 Collie,3,29 Saint Bernard,20 and Labrador Retriever2 ).”

Flaws: Failure to operationally define ‘serious bite incidents’. Shift in this first paragraph from ‘serious’ to *all* reported bite incidents. Failure to define ‘highly involved’. Dated and biased sources: Two thirds of the sources cited use data from the previous century, when pit bulls were extremely rare. Of the more recent studies cited here, more than half are written by pro-pit bull, anti-BSL activists.

**The second paragraph** adds new flaws:

“If you consider only the much smaller number of cases that resulted in very severe injuries or fatalities,21,23 pit bull-type dogs are more frequently identified. However this may relate to the popularity of the breed in the victim’s community, reporting biases and the dog’s treatment by its owner (e.g., use as fighting dogs21). It is worth noting that fatal dog attacks in some areas of Canada are attributed mainly to sled dogs and Siberian Huskies,56 presumably due to the regional prevalence of these breeds. See Table 1 for a summary of breed data related to bite injuries.”

Footnotes 21 and 23 refer to data collected in the previous century (1985; 1997-98). Disfiguring and fatal attacks by pit bull type dogs have increased dramatically since then.

Their Table 1 is put together in such a way that it is difficult to figure out what it is telling us without consulting the cited sources at length. The table tells us N (total number of records), but it doesn't tell what percent of N the listed dog types claimed. Close examination reveals that 20 of the 35 listed references are outdated. Of the 15 based on data after 2000, 10 look at foreign countries, including 5 countries where pit bulls are banned or regulated – and thus where they are indeed not regularly attacking people and animals. This table also shows that in the US, only pit bull types and Rottweilers are the top two in committing *fatal* attacks.

Back to the second paragraph text. This paragraph introduces alternative explanations for the deadly position of the pit bull type in the fatality statistics. In itself, this is good scientific practice. Unfortunately, none of the alternative explanations the AVMA puts forth are valid:

- 1) Popularity of the pit bull type – In fact, the CDC study (cited in pamphlet footnote 23) concludes, on page 4: “Despite these limitations and concerns [about identifying exactly which ‘breed’ of pit bull type dog was involved], the data indicate that Rottweilers and pit bull-type dogs accounted for 67% of human DBRF in the United States between 1997 and 1998. It is extremely unlikely that they accounted for anywhere near 60% of dogs in the United States during that same period and, thus, **there appears to be a breed-specific problem with fatalities.**” It must be noted that after 1998, pit bull type dogs and their mixes jumped to causing 82% of all dog bite-related fatalities in 2015. It remains doubtful that this type and its mixes are anywhere near 80% of the dog population. It is deceptive that the AVMA omits this information. Furthermore, in the U.S., the pit bull types have been responsible for more fatal attacks than all other ‘breeds’ and types of dogs combined, accumulatively, since the 1980s regardless of their ‘prevalence’ in the dog population.
- 2) Reporting bias – This is a conspiracy theory. The AVMA suggests that all parties concerned – from press to doctors to coroners – consistently refrain from reporting deaths by (for example) poodles. If you want to offer such a theory, you must also offer evidence.
- 3) Treatment by the owner (eg, use in dogfighting) – The AVMA footnote here refers to data from 1985, when pit bull types were indeed mostly kept only by dogfighters. If you go to the source, you find that nevertheless two of the five pit bull types involved in attacks were kept as family pets. As of 2016, almost all pit bull types are kept as household pets, and only a tiny portion is involved in dogfighting. These ‘family pet’ pit bulls are the only ones mauling and killing in our present century.
- 4) Treatment by the owner – This is a variable that randomizes out – all dogs types are subject to good and bad owners – so this is irrelevant and invalid as an alternative explanation for the high rate of catastrophic attacks by specifically pit bull type dogs.

The reference in this paragraph to Canadian data is also dated (data up to 2007). Only in recent years have American pit bull activists intensified efforts to export US pit bulls to Canada – and **in 2016, pit bull type dogs have so far killed twice as many Canadians as any sled dog type**, shows data collected by Animals 24-7. Hopefully the AVMA will speedily update this pamphlet to reflect that fact.

Note: The disclaimer note at the bottom of the first page of this pamphlet is deceptive. It calls this document ‘peer-reviewed’, a term reserved for scholarly works, usually at submission to scientific journals. The term is misplaced here. This is a political pamphlet; it is not a peer-reviewed scholarly article or a review of the scientific literature.

## **Section Two: “Controlled studies”**

This section tries to claim that you can only calculate ‘breed’ risk if you know exactly how prevalent a ‘breed’ of dog is in the canine population. As the CDC pointed out, one doesn’t need this precise information. It was enough for the CDC to know that one or two types of dogs were claiming 67% of all fatal dog attacks and that it was “extremely unlikely that they accounted for anywhere near 60% of dogs in the United States during that same period.” The same still holds for the present.

This section acknowledges the fact that other breeds – they name Dalmatians and setters – have been fashion dogs without the rate of human (or animal) maulings and killings – or indeed, even ‘bites’ – going up. Then they acknowledge that when Rottweilers became popular, they quickly became a problem due to aggression. What the AVMA actually demonstrates here is that indeed, it’s only when molosser / war dog types and baiting / fighting dog types become popular that casualties suddenly rise – that this is a breed-specific and type-specific problem. It’s relevant to mention here that talk of a ‘dog bite epidemic’ didn’t truly begin until fashion changed from various human-selected companion dog types to various human-selected aggressive dog types. And aside from questions of fashion, it remains a fact that pit bull types have always mauled and killed humans way out of proportion to their presence in the dog population.

The AVMA promised in their title to talk about animal welfare, but then left this issue out entirely. Why did they omit the information that pit bull types account for about 96% of the savage killing of companion type domestic dogs in our communities? This is cumulative data over the 3-year period (2013- 2015) collected by Animals 24-7. The pit bull types are certainly not 96% of any dog population anywhere, in any community.

This section claims that only ‘controlled studies’ can reveal which ‘breeds’ are involved in the most ‘bite’ incidents. In fact, behavioral science demands that field data be included in research. The AVMA then chooses to cite a single ‘controlled’ study done in the Denver area, **where pit bulls are banned** and...surprise, surprise...in Denver the only ‘biters’ left were two other breeds (both guard dog types) and **there were no dog bite related fatalities**. It would seem that the

AVMA is telling us here that the one controlled study they know of shows that BSL does in fact work.

The Italian study cited in this second paragraph included only registered dogs (a running joke in Italy), which will give a gross underestimate of any type of dog in a population. This is the only study in Table 2 that dates from this century. All the other cited studies use data from before 1994. Again the AVMA doesn't define "serious bites" the table supposedly includes. In fact, many of the sources they cite include *all* reported dog bites. The estimates of "breed prevalence" are based on dubious sources – few people license their dog; shelter admissions don't reflect the prevalence of a dog type in any population; Animal Control, shelters, and veterinary hospitals aren't acceptable sources of data on human injury rates and they often hide the fact that a dog is a pit bull type. On top of this, these 10 sources include a humane society newsletter, a master's thesis at a veterinary college, and again almost half are written by pit bull advocates.

The use of these outdated sources to say "Look! Other dog breeds bite!" is misleading. The surge in pit bull ownership (and the accompanying epidemic of catastrophic maulings) didn't begin until the late 1980s. The authors of this document furthermore repeatedly misrepresent what the cited studies say.

### **Section Three: "Aggressive breeds"**

Contrary to what this section claims, **there is no valid data that says small and medium-sized dogs are more aggressive than large dogs.** Three of the four recent studies this section cites are based on dubious data *and* were written by people involved in pit bull advocacy; the fourth uses data from a foreign country. All the other studies cited use data from the previous century; four of them use old data from non-US countries, and a fifth oldie is only about dog-dog aggression.

### **Section Four: "Pit bull types"**

Contrary to what this section claims, there is strong jurisprudence and even an ASPCA experiment to the effect that adult humans of average intelligence can easily identify a pit bull type dog or a pit bull mix. There is no valid study that proves we can't. There is no evidence that pit bull attacks on children have anything to do with 'breed prevalence'. Most attacks are on household members where one or more pit bull types are kept. It doesn't matter whether others in the neighborhood do or don't have pit bull type dogs – a population of one in your own household is enough to cause disaster.

### **Section Four: "Breed bans"**

This section is deceptive. They open with with a statement that "maulings by **dogs** can cause terrible injuries", then they cite a Detroit study that dealt exclusively with maulings by **pit bulls**. **It is deceptive to state that a study of specifically pit bull maulings shows what 'dogs' in general do.**

The 2008 study cited to emphasize within-breed variation was written by pit bull activists. It is based on a public, uncontrolled and non-valid owner-report questionnaire. This 2008 study also misrepresents behavioral variation within any given breed. In fact, **breed-specific behaviors vary only little within any breed or type of dog**, while breed-specific behaviors do indeed differ greatly among unrelated breeds or types of dogs.

Contrary to what this section states, population genetics and field data both tell us that **the nature of a 'breed' of dog does not vary over time**. Population genetics show that breed-specific characteristics, including behavior, remain in place unless there is strong active human selection against those traits. There has never been strong human selection against the type of explosive aggression that typifies the pit bull type. As for variation in time, there has been none – **pit bull types have killed more people than all other breeds and types of dogs combined for over 175 years now**.

Also contrary to what this section states, **the nature of a 'breed' does not vary geographically**. The dog trade is international – every 'breed' or type of dog represents a single, world-wide gene pool. **The pit bull type disproportionately kills more people (and animals) than all other types and breeds of dogs in every country where it is kept**.

As for alternative causes, the AVMA presents only outdated pit bull lobby talking points. Pit bull type dogs and mixes of pit bulls claim about 80% of catastrophic maulings and fatal attacks in the past three years (2013-2015), data from Animals 24-7 and DogsBite.org shows respectively. They are only about 6% of the canine population. All the alternative causes for this that the AVMA offers randomize out and must therefore be marked irrelevant background noise.

This AVMA document closes first with an outright falsehood. In fact, all valid data tell us that **breed or type of dog is the best predictor of the risk a dog represents with respect to sustained mauling, disfiguring, dismembering and/or fatal attacks** – which is what BSL is meant to control.

The AVMA follows this falsehood with a truth: if BSL is to work, a cluster of dog 'breeds' will have to be targeted. This follows from population genetics. The targeted cluster will consist of all of the 'breeds' that are in fact members of the biological and genetic population descended, directly or by mixing, from the bull-baiting, dogfighting types of the 17<sup>th</sup> century and were widely used for those purposes until only some fifty years ago, when they began to be widely marketed as family pets. The AVMA couldn't resist following this truth with one more falsehood: In fact, the GSD and other large dogs would not be targeted, since they are different genetic populations altogether and disfigure, maim and kill at only a small fraction of the rate shown by pit bull and war dog types.

**Closing remark:** Detailed analysis of this pamphlet is intended partly to help the public understand how to see whether a document has any valid content. I am personally puzzled as to



why a veterinary association would choose to lobby for continuation of the immense animal suffering – both for ordinary pets and for pit bull type dogs themselves – that BSL is successful in preventing. I am puzzled as to why the AVMA would ignore the veterinary oath that compels it and its members to guard public safety and animal welfare. I am puzzled as to why the AVMA is willing to use such deceptive tactics as the ones displayed in this pamphlet. It's unclear whether this is a failure of ethics or a failure of veterinary education.

Reference: [Literature Review on the Welfare Implications of The Role of Breed in Dog Bite Risk and Prevention](#)

Alexandra Semyonova  
Newark, NJ  
October 2016

*Alexandra Semyonova is an internationally acclaimed animal behaviorist and author of [The 100 Silliest Things People Say About Dogs](#). Academically educated in behavioral science and specialized in animal behavior, she has worked with dogs and their owners on a daily basis for more than 30 years. Visit her website at [Nonlinear Dogs](#).*

#### SUGGESTED BACKGROUND READING:

On Bullshit, by Harry Frankfurt at Princeton University, see especially pages 13 – 16, accessible at: [www.stoa.org.uk/topics/bullshit/pdf/on-bullshit.pdf](http://www.stoa.org.uk/topics/bullshit/pdf/on-bullshit.pdf)

*Betrayers of the Truth; Fraud and Deceit in the Halls of Science*, by William Broad and Nicholas Wade, Century Publishing Company Ltd, London, 1983.

*Doubt Is Their Product; How Industry's Assault on Science Threatens Your Health*, by David Michaels, Oxford University Press, New York, 2008.

*While We Were Sleeping; Success Stories in Injury and Violence Prevention*, by David Hemenway, University of California Press, Berkeley and Los Angeles, 2009.

*The Expert Witness Scam*, by Leon S. Robertson, PhD, Yale University (retired), 2000, 2006.

*Methods in Behavioral Research*, by Paul C. Cozby, McGraw-Hill Companies, Inc, New York, 2007.