BCSPCA
SPEAKING FOR ANIMALS

Dr. Sara Dubois, R.P.Bio, Chief Scientific Officer
British Columbia Society for the Prevention of Cruelty to Animals (BC SPCA)
1245 E. 7th Ave, Vancouver, BC V5T 1R1
advocacy@spca.bc.ca, 1-800-665-1868

The BC SPCA was created under the auspices of the provincial *Prevention of Cruelty to Animals Act* in 1895, and is the only animal welfare organization in B.C. which has the authority to enforce laws relating to animal cruelty and to prepare cases for Crown Counsel for the prosecution of individuals who inflict suffering on animals. The Science and Policy division of the BC SPCA ensures that the practices of the organization are evidence-based and prepares responses grounded in animal welfare science for government consultations on legislation and policy. The below responses are submitted in response to the Humane Vertebrate Pest Control Consultation from the Pest Management Regulatory Agency of the Government of Canada.

1. Should PMRA include humaneness considerations as part of the pesticide registration process for products intended to control large vertebrate predators? If so, what would be the best options and approaches for doing so?

The BC SPCA strongly supports PMRA's proposal to include humaneness considerations as part of the pesticide registration process for products intended to control large vertebrate predators. Wildlife control with pesticides (e.g. poisoning) raises serious animal welfare concerns which are not addressed under existing Canadian legislation, regulations or codes of practice. Any product PMRA allows for use, whether humaneness is considered or not, is by default allowed under law as PMRA approval determines what is "lawful, reasonable" and "generally accepted practice of management" (Government of British Columbia 1996, Government of Canada 2008). Unfortunately, severe harms occur to large vertebrate predators (LVPs) and non-target animals when pesticide poisons are used. While proponents of LVP control may justify use of lethal methods due to conservation or other concerns, these animals have a similar capacity for suffering as other animals, and humaneness of control methods should also be considered.

In addition, concern over use of harmful methods of wildlife control is not restricted to the animal welfare and protection community. It exists and is growing among the public (Hadidian 2012, Dubois & Harshaw 2013, Dubois & Fraser 2013) as well as among wildlife scientists and veterinarians (Littin et al. 2004, Proulx et al. 2015b, JWD Wildlife Welfare Supplement Editorial Board 2016). There is particular concern from wildlife scientists directed towards the use of pesticides on LVPs (Brook et al. 2015, Proulx et al. 2015a). The Canadian Veterinary Medical Association (CVMA) states that "inhumane methods of pest control should not be condoned" and these include the vertebrate pesticides strychnine, Compound 1080 (sodium fluoroacetate) and Furadan (flowable carbofuran) which cause "severe pain, uncontrollable seizures, and death by asphyxiation" (Canadian Veterinary Medical Association (CVMA) 2014a).

To include humaneness considerations as part of the pesticide registration process, the BC SPCA recommends the following approach:

a. **Require each pesticide submission to include a scientific review of the animal welfare impacts on both target and non-target wildlife**.

Each review should seek to identify, understand and define animal welfare harms, and identify potential ways to mitigate or avoid the harms and be required to include information from the following sources:

- Peer-reviewed research from the fields of animal welfare, veterinary and wildlife sciences
- Animal use and killing standards, guidelines and policies produced by relevant North American veterinary associations (e.g. American Association of Zoo Veterinarians (AAZV) 2006, American Veterinary Medical Association (AVMA) 2013, Canadian Veterinary Medical Association (CVMA) 2014b)
- Published guidelines and policy statements for the use of animals in science (e.g. Canadian Council on Animal Care (CCAC) 2003, 2010)
- Position statements and other relevant documents published by animal welfare and protection organizations (Humane Canada n.d., British Columbia Society for the Prevention of Cruelty to Animals (BC SPCA) 2009a, 2009b)

b. Adopt a definition of the term "humane" that is scientifically defensible and socially acceptable and goes beyond current minimum legal definitions.

As mentioned, in Canada the legal interpretation of humane often relies on comparing generally accepted industry practices to actions that constitute animal cruelty offences under federal or provincial law. Acceptable industry practices are themselves defined by codes of practice or guidelines (e.g. American Veterinary Medical Association (AVMA) 2013, National Farm Animal Care Council (NFACC) 2019). However, many legally acceptable practices cause pain and suffering to animals so the definition of "legally humane" is not necessarily the same as other definitions of "humane".

Scientifically humane practices are determined by animal welfare and veterinary sciences, using quantitative and qualitative assessments of animal welfare. This includes observations and measurements of any changes to the physical and affective states of animals, and the ability of the animal to cope with changes to its environment. Negative changes, or lowered ability to cope with changes, reflect harms to the animal. Under this definition, "humane" actions are those causing few or minor harms to animals.

c. Assess each pesticide submission against scientifically-based criteria for humaneness

Examples of humane criteria are described below in response to question 3.

***2. Should PMRA develop public information, such as best practices / standards on humaneness considerations, that pesticide users could take into account when deciding whether to use a pesticide for controlling large vertebrate predators? If so, what kind of information would be most useful*?**

The BC SPCA strongly recommends development of public information on humaneness considerations, such as Best Practices, to educate and support pesticide users on how to avoid or minimize welfare harms to target and non-target wildlife. The BC SPCA has produced Best Practices information for urban wildlife and pest control that could provide a useful model (British Columbia Society for the Prevention of Cruelty to Animals (BC SPCA) 2018). Best Practices information for LVP pesticides should include:

a. **Guidance on decision-making and actions to take before using lethal control pesticides**

A formal framework for wildlife control decision making was established in a global, multi-author paper that defined International Consensus Principles for Ethical Wildlife Control (Dubois et al. 2017a, 2017b). The principles outline a path for achieving ethical wildlife control, which the authors define as taking a control action only after a comprehensive analysis of the action's necessity, benefits, feasibility, costs to people and animals, alternatives, and effects on animal welfare in terms of the humaneness of the physical methods used.

b. **Descriptions of the harms and risks to non-target animals from the pesticide use**
c. **Information on how to avoid or minimize harmful effects on target and non-target animals**

Avoiding or minimizing harms may include information about humane secondary killing methods for animals found poisoned but alive, how to safely deliver the pesticide to the targeted species, and instructions for carcass removal and safe disposal.

3. In either case, what should be the parameters to measure humaneness?

The BC SPCA recommends adopting the following parameters (criteria) to measure humaneness. To be considered scientifically humane, a lethal wildlife control method (including a pesticide) would cause:

1) Short duration to irreversible unconsciousness and/or death (approximately < 1 minute)
2) Short duration of physical injury and/or pain (approximately < 1 minute)
3) Low severity of physical injury and/or pain (physical injury approximately ≤ 10 points on ISO Trauma scale (Proulx 1999))
4) Short duration of distress
5) Low severity of distress
6) High reliability of method when used by trained and competent individuals
7) Minimal impact on non-target animals
8) Accessibility of animal for confirmation of irreversible unconsciousness or death

These humane criteria are a combination of descriptive, qualitative terms and semi-quantitative measures. The terminology used is widely employed when complex assessments of animal welfare must

rely on informed judgment to assess scientific evidence, for example in evaluations of the welfare of animals used in science (Canadian Council on Animal Care (CCAC) 1991, Fenwick et al. 2011) and in animal welfare evaluations of pest control (Beausoleil & Mellor 2015, Baker et al. 2016).

Criterion 1: Humaneness of lethal wildlife control methods is routinely evaluated by examining the "time to death" or, preferably, the "time to irreversible unconsciousness" (TIU) (e.g. Littin & Mellor 2005, Sharp & Saunders 2011) and to evaluate animal welfare when animals are killed for food (Canadian Food Inspection Agency (CFIA) 1990) or scientific purposes (Canadian Council on Animal Care (CCAC) 2010).

Qualitative terms such as "short duration" are widely used in assessing humaneness of killing methods. For example, veterinary organizations describe the preferred time to induce unconsciousness or death, as "instantaneous" (American Veterinary Medical Association (AVMA) 2013) and "quick" (Canadian Veterinary Medical Association (CVMA) 2014b, 2014a) and "rapid" (Canadian Veterinary Medical Association (CVMA) 2012). Similarly, CFIA requires that animals slaughtered for food are rendered unconscious with a methods that cause "immediate" or "rapid" loss of consciousness (Canadian Food Inspection Agency (CFIA) 1990). CCAC specifies for animals used in science that "euthanasia should result in rapid loss of consciousness" (Canadian Council on Animal Care (CCAC) 2010). In their evaluation of wildlife killing methods for the Australian Codes of Practice the authors used the descriptors of "immediate" or "not immediate" to assess TIU/time to death (Sharp & Saunders 2011).

Quantitative criteria are also used by some researchers. For example, the humaneness of TIU in kill-trapping has been quantified as traps that "render ≥70% of target animals irreversibly unconscious in ≤ 3 minutes" (Proulx et al. 2012). From an animal welfare perspective, a trap that in best case kills just 70% of the animals in under 3 minutes cannot be regarded as "humane". However, to reflect the use of semi-quantitative measures when assessing kill methods, time durations were included to clarify criterion 1.

Criteria 2 and 3: Humaneness is commonly evaluated by the duration and severity of physical injury and/or pain that the animal experiences (Talling & Inglis 2009, Sharp & Saunders 2011, Proulx et al. 2015b) and typically qualitative descriptors are used. For example, the AVMA describes the goal of animal euthanasia to achieve "minimum pain and distress" (American Veterinary Medical Association (AVMA) 2013). Similarly the CCAC uses a qualitatively-described Category of Invasiveness (CI) scale to evaluate the amount of pain (and distress) that scientific procedures may cause to subject animals. Procedures that cause "pain of short duration" to animals are considered CI-C procedures, such as blood or tissue sampling (Canadian Council on Animal Care (CCAC) 1991). Procedures that cause "moderate to severe distress or discomfort" are CI-D, while CI-E procedures, the most severe category of harms, cause "severe pain near, at, or above the pain tolerance threshold of unanesthetized conscious animals" (Canadian Council on Animal Care (CCAC) 1991). When evaluating the humaneness of pesticides, it is worth noting that "exposure to drugs or chemicals at levels that impair physiological systems" is a CI-C procedure while "exposure to drugs or chemicals at levels that (may) markedly impair

physiological systems and which cause death, severe pain, or extreme distress" is considered a CI-E procedure by Canadian animal-based scientists (Canadian Council on Animal Care (CCAC) 1991).

Semi-quantitative criteria have also been used to assess wildlife control methods. For example, Beausoleil et al. (2016) rank vertebrate toxic agents (VTAs) used against possums using scores assigned by a panel of 6 experts applying the '5-Domains' grading system. While this resulted in a numerical grade for overall animal welfare impact for each of the VTAs, the grading system relies (necessarily) on expert qualitative judgements to score and then apply qualitative descriptors (No impact, Mild, Moderate, Severe or Extreme).

Quantitative scales to assess the severity of physical injuries to mammals caught in traps have been published (Proulx 1999). The ISO Trauma Scale, although intended for animal trapping, uses a point scale to classify pathological observations of injuries into categories of mild trauma (injuries scoring 2, 5 or 10 points); moderate trauma (25 or 30 points); moderately severe trauma (50 points); and severe trauma (100 points). An LVP pesticide causing injuries that score low enough on the ISO Trauma Scale to be classified as mild trauma could be regarded as scientifically humane. To reflect the use of quantitative scales to assess injuries, and the common and accessible use of qualitative criterion applied to assess injury and pain other animal- use sectors we included both qualitative descriptors ("short", "low") and semi-quantitative measures ("approximately < 1 minute" and "approximately ≤ 10 points on ISO Trauma scale").

Criteria 4 and 5: Distress is an aversive, negative "state of excessive stress which will occur if an animal has to devote substantial effort or resources to the adaptive response to challenges emanating from the environmental situation, or if the animal is unable to make the necessary adaptations" (Canadian Council on Animal Care (CCAC) 2003). When animals are poisoned but do not quickly die they can experience distress, for example from fear, dehydration, human interaction, injury, predation and exposure to harmful environmental conditions (Canadian Council on Animal Care (CCAC) 2003, Sharp & Saunders 2011, Baker & Macdonald 2012).

The severity of distress is typically described qualitatively. For example, AVMA aims for "minimum" distress (American Veterinary Medical Association (AVMA) 2013), and animals slaughtered for food must be handled in a way that "minimizes distress" (Canadian Food Inspection Agency (CFIA) 1990). Minimal distress is also a key principle in the humane use of animals in science (Canadian Council on Animal Care (CCAC) 1989, Council for International Organization of Medical Sciences (CIOMS) & International Council for Laboratory Animal Science (ICLAS) 2012). Efforts to quantify distress (or excessive stress) rely on physiological measurements and pathology observations, however this information is rarely conclusive. Distress is also assessed via behavioural observations. In keeping with common usage of qualitative descriptions of distress levels, we conclude that distress caused by an LVP pesticide should be of short duration and low severity, if the methods is to be regarded as humane.

Criterion 6: A pesticide should be proven consistently reliable for its intended purpose to be humane. This criterion is used by veterinarians to evaluate the humaneness of killing methods (American

Veterinary Medical Association (AVMA) 2013, 2016) and used to assess trap performance (Sharp & Saunders 2011, Proulx et al. 2012). Reliability of the killing method also is a requirement for slaughtering animals for food (Canadian Food Inspection Agency (CFIA) 1990, Shimshony & Chaudry 2005).

Criterion 7: A pesticide should cause minimal harm to non-target animals. For example, the CVMA states that the secondary effects of poisons should be "minimized" (Canadian Veterinary Medical Association (CVMA) 2014a). This criterion is often applied to traps or devices, but equal consideration should be made for poisons given their indiscriminate use.

Criterion 8: Lastly, confirmation of death is widely regarded as a necessary step for ensuring animal welfare when animals are killed for human purposes (Canadian Council on Animal Care (CCAC) 2010, American Veterinary Medical Association (AVMA) 2013, 2016). Although this step is often difficult or impossible to implement for pesticides, it is included to highlight the full range of considerations that should be applied when assessing humaneness of a killing method.

References

American Association of Zoo Veterinarians (AAZV) 2006 Guidelines for Euthanasia of Nondomestic Animals. Yulee, FL

American Veterinary Medical Association (AVMA) 2013 AVMA Guidelines for the Euthanasia of Animals : 2013 Edition. AVMA, Schaumburg, IL

American Veterinary Medical Association (AVMA) 2016 AVMA Guidelines for the Humane Slaughter of Animals : 2016 Edition. AVMA, Schaumburg IL

Baker S and Macdonald D 2012 Not so humane mole tube traps. *Animal Welfare* 21: 613–615.

Baker SE, Sharp TM and Macdonald DW 2016 Assessing animal welfare impacts in the management of European Rabbits (Oryctolagus cuniculus), European Moles (Talpa europaea) and Carrion Crows (Corvus corone). *PLoS ONE* 11: 1–24.

Beausoleil N and Mellor D 2015 Advantages and limitations of the Five Domains model for assessing welfare impacts associated with vertebrate pest control. *New Zealand Veterinary Journal* 63: 37–43.

Beausoleil NJ, Fisher P, Littin KE, Warburton B, Mellor DJ, Dalefield RR and Cowan P 2016 A systematic approach to evaluating and ranking the relative animal welfare impacts of wildlife control methods: poisons used for lethal control of brushtail possums (Trichosurus vulpecula) in New Zealand. *Wildlife Research* 43: 553–565.

British Columbia Society for the Prevention of Cruelty to Animals (BC SPCA) 2009a Postion Statement-Nuisance Wildlife Management. BC SPCA, Vancouver BC

British Columbia Society for the Prevention of Cruelty to Animals (BC SPCA) 2009b Position Statement Wild Animal Welfare. BC SPCA, Vancouver BC

British Columbia Society for the Prevention of Cruelty to Animals (BC SPCA) 2018 For Wildlife Control

Operators. https://spca.bc.ca/programs-services/leaders-in-our-field/professional-resources/wildlife-rodent-control-operators/

Brook RK, Cattet M, Darimont CT, Paquet PC and Proulx G 2015 Maintaining ethical standards during conservation crises. *Canadian Wildlife Biology & Management* 4: 72–79.

Canadian Council on Animal Care (CCAC) 1989 CCAC policy statement on: ethics of animal investigation. CCAC, Ottawa, ON

Canadian Council on Animal Care (CCAC) 1991 CCAC policy statement on: categories of invasiveness in animal experiments. Ottawa, ON

Canadian Council on Animal Care (CCAC) 2003 CCAC guidelines on: the care and use of wildlife. Ottawa, ON

Canadian Council on Animal Care (CCAC) 2010 CCAC guidelines on: euthanasia of animals used in science. Ottawa, ON

Canadian Food Inspection Agency (CFIA) 1990 Meat Inspection Regulations, 1990 SOR/90-288, section 79. Canada

Canadian Veterinary Medical Association (CVMA) 2012 Trapping of fur-bearing animals - position statement. https://www.canadianveterinarians.net/documents/trapping-of-fur-bearing-animals

Canadian Veterinary Medical Association (CVMA) 2014a Pest control – position statement. http://www.canadianveterinarians.net/documents/pest-control

Canadian Veterinary Medical Association (CVMA) 2014b Euthanasia - Position Statement. https://www.canadianveterinarians.net/documents/euthanasia

Council for International Organization of Medical Sciences (CIOMS) and International Council for Laboratory Animal Science (ICLAS) 2012 International Guiding Principles for Biomedical Research Involving Animals

Dubois S, Fenwick N, Ryan E, Baker L, Baker S, Beausoleil N, Carter S, Cartwright B, Costa F, Draper C, Griffin J, Grogan A, Howald G, Jones B, Littin K, Lombard A, Mellor D, Ramp D, Schuppli C and Fraser D 2017a International consensus principles for ethical wildlife control. *Conservation Biology : The Journal of the Society for Conservation Biology*

Dubois S, Fenwick N, Ryan E, Baker L, Baker S, Beausoleil N, Carter S, Cartwright B, Costa F, Draper C, Griffin J, Grogan A, Howald G, Jones B, Littin K, Lombard A, Mellor D, Ramp D, Schuppli C and Fraser D 2017b 7 Principles for Ethical Wildlife Control. BC SPCA. https://spca.bc.ca/wp-content/uploads/Ethical-wildlife-control-infographic.pdf

Dubois S and Fraser D 2013 Rating harms to wildlife: a survey showing convergence between conservation and animal welfare views. *Animal Welfare* 22: 49–55.

Dubois S and Harshaw HW 2013 Exploring "Humane" Dimensions of Wildlife. *Human Dimensions of Wildlife* 18: 1–19.

Fenwick N, Ormandy E, Gauthier C and Griffin G 2011 Classifying the severity of scientific animal use: A

review of international systems. *Animal Welfare* 20: 281–301.

Government of British Columbia 1996 Prevention of Cruelty to Animals Act [RSBC 1996] Chapter 372

Government of Canada 2008 Criminal Code of Canada. Canada

Hadidian J 2012 Taking the " Pest " Out of Pest Control: Humaneness and Wildlife Damage Management. In Frey S (ed.) *Proceedings of the 14th Wildlife Damage Management Conference, April 18-21, 2011, Nebraska City, Nebraska* pp. 7–11. Nebraska City, Nebraska

Humane Canada (n.d.) Position Statements. Humane Canada. https://www.humanecanada.ca/position_statements

JWD Wildlife Welfare Supplement Editorial Board 2016 Advances in animal welfare for free-living animals. *Journal of Wildlife Diseases* 52: S4–S13.

Littin KE and Mellor DJ 2005 Strategic animal welfare issues: ethical and animal welfare issues arising from the killing of wildlife for disease control and environmental reasons. *Revue scientifique et technique (International Office of Epizootics)* 24: 767–782.

Littin KE, Mellor DJ, Warburton B and Eason CT 2004 Animal welfare and ethical issues relevant to the humane control of vertebrate pests. *New Zealand veterinary journal* 52: 1–10.

National Farm Animal Care Council (NFACC) 2019 Codes of Practice for the care and handling of farm animals. http://www.nfacc.ca/codes-of-practice

Proulx G 1999 Review of current mammal trap technology in North America. In Proulx G (ed.) *Mammal Trapping* pp. 1–46. Sherwood Park

Proulx G, Brook RK, Cattet M, Darimont C and Paquet PC 2015a Poisoning wolves with strychnine is unacceptable in experimental studies and conservation programmes. *Environmental Conservation* 43: 1–2.

Proulx G, Cattet MR. and Powell RA 2012 Humane and efficient capture and handling methods for carnivores. In Boitani L and Powell RA (eds.) *Carnivore Ecology and Conservation* p. 528. Oxford University Press, Oxford, UK

Proulx G, Rodtka D, Barrett MW, Cattet M, Dekker D, Moffatt E and Powell RA 2015b Humaneness and Selectivity of Killing Neck Snares Used to Capture Canids in Canada : A Review. *Canadian Wildlife Biology & Management* 4: 55–65.

Sharp T and Saunders G 2011 A model for assessing the relative humaneness of pest animal control methods**, 2nd edition.**. Canberra, ACT, ACT

Shimshony A and Chaudry MM 2005 Slaughter of animals for human consumption. *Revue scientifique et technique (International Office of Epizootics)* 24: 693–710.

Talling J and Inglis I 2009 Improvements to trapping standards. Brussels, Belgium