# Environmental Law Centre Clinic

**Murray and Anne Fraser Building**
**University of Victoria**
**P.O. Box 1700 STN CSC**
**Victoria, BC, Canada V8W 2Y2**
**www.elc.uvic.ca**


## Protecting Human Health: Requiring Setbacks Around Feedlots


**Researcher: Alexander Stirling**


**Date Published: Summer 2015**

Environmental Law Centre
UNIVERSITY OF VICTORIA

Murray & Anne Fraser Building
PO Box 1700 STN CSC
Victoria, BC V8W 2Y2
Phone: 250.721.8188
Email: elc@uvic.ca
Web: www.elc.uvic.ca

August 17, 2015

Mr. Greg Baytalan
Canadian Institute of Public Health Inspectors, BC Branch
368 Valley Road
Kelowna BC
V1V 2E5

Dear Mr. Baytalan

**Re: Protecting Human Health: Requiring Setbacks Around Feedlots**
**Our File Number 2015-02-03**

You have asked us to provide you with the results of research addressing the environmental and human health risks associated with feedlots, and Concentrated Animal Feeding Operations ("CAFOs") in particular. You have described the BC regulatory model for feedlots as lacking specificity and have indicated that it could greatly benefit from enhanced clarity and direction. You have identified protection of ready-to-eat crops as a chief concern, and setbacks as being of particular interest. You have asked us to provide you with a written document that provides a survey of the gaps in BC legislation, and which outlines approaches to the issue that have been applied in other jurisdictions.

**ISSUES:**

In our retainer agreement letter we agreed to provide you with a memorandum addressing the following issues:

1. Gaps in legislation and enforcement that currently exist in British Columbia in regards to feedlot regulation, specifically in relation to human health risks.

    a. A particular focus on the contamination of ready-to-eat products at farms neighbouring feedlots

2. Legislation, permits, and other legal approaches used to address similar issues in other jurisdictions.

    a. A particular focus on setbacks

**SUMMARY OF OUR RESEARCH:**

Feedlots, and CAFOs in particular, present numerous environmental and human health risks to their surrounding communities. One particular concern is the potential for contamination of ready-to-eat crops being grown at neighbouring farms. This contamination may occur when manure or manure dust is transported to the field growing ready to eat crops by wind, or by birds and flies that are attracted to the manure.

Legislation in British Columbia is insufficient to effectively address this issue, and related issues associated with feedlots. Jurisdictional boundaries, gaps in legislation, and ambiguous definitions in legislation make enforcement difficult, if not at times impossible. There is currently a legislative review in process for an important piece of legislation that addresses some of the issues at hand. The BC Ministry of Environment welcomes input from community members and organizations to guide this legislative review process. A recent Intentions Paper published by the Ministry of Environment indicates that they already are sympathetic to, and intend to address, a number of the issues associated with feedlots and human health. This is an opportune moment to lobby the provincial government to make changes to the problematic legislation.

Numerous sources for model legislation, bylaws, and permitting structures have been identified. Environmental legislation in the United States, combined with recent jurisprudence, has represented a significant step forward on addressing feedlot issues. Bylaws are used in numerous jurisdictions in the United States and Canada to address feedlot issues at the local level. Not only do these bylaws provide examples of ways in which setbacks and other measures can be implemented to address concerns with feedlots, but the BC Ministry of Environment has indicated that it intends to bring province-wide regulations in line with requirements in local bylaws. For this reason, it is imperative to understand what is good and what is lacking in existing bylaws. Finally, one significant thing that is lacking in British Columbia's approach to feedlots is permit requirements. A number of permitting structures are surveyed in this memo.

The research culminates with a survey of the various options that exist at this moment to lobby for law reform on this issue. Each approach is briefly analyzed as to its strengths and weaknesses.

**FACTS:**

From the materials you have provided, and from our own research, we understand the key facts to be as follows:

- A danger exists of contamination of ready-to-eat crops in fields neighbouring feedlots, with pathogens such as *Escherichia coli 0157:H7* and *Cryptosporidium*. Manure and other biomass by-products from feedlots have been identified as a source of this potential contamination. They can be transported to neighbouring property by vectors such as flies, birds, and wind.

- British Columbia does not have the same strong permitting requirements for CAFOS as exist in other jurisdictions

- British Columbia has the following legislation in place: *Environmental Management Act* ("*EMA*")[1]; *Agricultural Waste Control Regulation* ("*AWCR*")[2] and the attached *Code of Agricultural Practice for Waste Management, April 1, 1992* ("*CAPWM*")[3].

- The Farm Industry Review Board (the "FIRB") hears complaints about farm practices under the *Farm Practices Protection (Right to Farm) Act* ("*FPP/RTFA*")[4]. The FIRB has indicated that it does not have "jurisdiction to order a farm to cease or modify operations that otherwise accord with normal farm practices but that may have potential food safety, public health or pollution implications."[5] Whether or not the FIRB is correct in so holding would be the subject of future research.

- Overlapping and unclear jurisdictional boundaries make enforcement of this legislation challenging. The FIRB's reported lack of jurisdiction over human health issues exacerbates these challenges.

If there are other relevant facts, or if I have misstated the facts or made incorrect assumptions, please understand that new information may change my opinion.

**ANALYSIS OF FACTS AND LAW:**

***Gaps in British Columbia's Legal Approach to the Issues***

Storage of manure and other potentially contaminated biomass from feedlot operations is regulated by the *EMA*, the *AWCR*, and the *CAPWM*.

Section 6(2) of the *EMA* states:

> Subject to subsection (5), a person must not introduce or cause or allow waste to be introduced into the environment in the course of conducting a prescribed industry, trade or business.

The conduct of a prescribed industry, trade or business is described in s. 6(1) of the *EMA*:

---

[1] SBC 2003, c 53
[2] BC Reg 131/92
[3] BC Reg 131/92
[4] RSBC 1996, c 131
[5] *Yunker and Nurkowski v Longhorn Farms Ltd.* (31 July 2014), online: BC Farm Industry Review Board <http://www2.gov.bc.ca/gov/DownloadAsset?assetId=ACE15B788C444F9F9E91EB9A6E556B6E>, at para 2

For the purposes of this section, **"the conduct of a prescribed industry, trade or business"** includes the operation by any person of facilities or vehicles for the collection, storage, treatment, handling, transportation, discharge, destruction or other disposal of waste in relation to the prescribed industry, trade or business. [Emphasis in the original]

Under s. 2 of the *Waste Discharge Regulation*, BC Reg 320/2004, ("*WDR*"), "Dairy Products Industry", "Meat By-product Processing Industry", "Agricultural Operations", and "Poultry Processing Industry" are included as "prescribed industries, trades, or businesses."

Subsection 6(5) of the *EMA* provides a number of exemptions from regulations made under subsection 2. Exemptions are extended to those who dispose of waste in compliance with the *EMA* and applicable permits, approvals, and orders. The remainder of the exceptions do not apply to feedlot operations specifically. However s. 2(1) of the *AWCR* states:

**2** (1) Subject to subsections (2) and (3), a person who carries out an agricultural operation in accordance with the Code is, for the purposes of carrying out that agricultural operation, exempt from section 6 (2) and (3) of the *Environmental Management Act*.[6]

Anyone who contravenes ss. 6(2) or 6(3) of the *EMA* "commits an offence and is liable on conviction to a fine not exceeding $1,000,000 or imprisonment for not more than 6 months, or both."[7] However, the end result of the exemption under *AWCR* s. 2(1) is that in order to avoid being in contravention of ss. 6(2) and (3) of the *EMA*, and to avoid the related consequences, one must simply comply with the Code (the *CAPWM*).

Sections 6(2), (3), and (5) of the *EMA* read as follows:

(2) Subject to subsection (5), a person must not introduce or cause or allow waste to be introduced into the environment in the course of conducting a prescribed industry, trade or business.

(3) Subject to subsection (5), a person must not introduce or cause or allow to be introduced into the environment, waste produced by a prescribed activity or operation.

…

(5) Nothing in this section or in a regulation made under subsection (2) or (3) prohibits any of the following:

(a) the disposition of waste in compliance with this Act and with all of the following that are required or apply in respect of the disposition:

[6] Note: Subsections 2(2) and 2(3) of the *AWCR* refer exclusively to the use of boiler heaters

[7] *EMA*, *supra* note 1, at s. 3

(i) a valid and subsisting permit;
(ii) a valid and subsisting approval;
(iii) a valid and subsisting order;
(iv) a regulation;
(v) a waste management plan approved by the minister;

…

(i) emission into the air of soil particles or grit in the course of agriculture or horticulture;

"Agricultural Waste" under the *CAPWM* includes manure.[8] For the purposes of the *CAPWM*, a "confined livestock area" is defined as:

> [A]n outdoor, non-grazing area where livestock, poultry or farmed game is confined by fences, other structures or topography including feedlots, paddocks, corrals, exercise yards and holding areas, but not including a seasonal feeding area[9]

Certain terms used in the *CAPWM* are vague and ambiguous. For instance s. 3 states that "[a]gricultural wastes, wood waste and mortalities must be collected, stored, handled, used and disposed of in accordance with this Code and in a manner that *prevents pollution*." The definition of "pollution" is defined as "the presence in the environment of substances or contaminants that *substantially alter or impair the usefulness of the environment*".[10] It may be difficult to arrive at a clear conclusion of what "substantially" means.

The more specific provisions do not offer much more help. Agricultural waste must be stored in a storage facility, as field storage, or under outdoor pens for fur-bearing animals.[11] Storage facilities are required to be set back 15 m from any watercourse, and 30 m from any source of water for domestic purposes.[12] The same setbacks are required for agricultural waste from fur bearing animals stored under their outdoor pens for up to 9 months.[13] You have expressed particular concern about potential for contamination originating from manure stored in open field storage. No setbacks are required for solid agricultural waste stored in field storage for 2 weeks or less. All that is required is that it be "stored in a manner that prevents the escape of agricultural waste that causes pollution."[14] When this waste is stored for longer than 2 weeks, it must be set back at least 30 m from any watercourse of any source of water used for domestic purposes.[15] Berms or other "works" must be constructed around field storage if that is necessary to "prevent the escape of agricultural waste that causes pollution."[16]

---

[8] *CAPWM*, *supra* note 3, at s. 2(1)
[9] *CAPWM*, *supra* note 3, at s. 2(1)
[10] *CAPWM*, *supra* note 3, at s. 2(1)
[11] *CAPWM*, *supra* note 3, at s. 5
[12] *CAPWM*, *supra* note 3, at s. 7(1)
[13] *CAPWM*, *supra* note 3, at s. 10(1)(b)
[14] *CAPWM*, *supra* note 3, at s. 8(1)(a) and (b)
[15] *CAPWM*, *supra* note 3, at s. 8(2)(b)
[16] *CAPWM*, *supra* note 3, at s. 8(3)

Aside from the above provisions addressing storage of agricultural waste, section 29(2) of the *CAPWM* also requires setbacks between "confined livestock areas" and water:

> If there are more than 10 agricultural units[17] in a confined livestock area or areas within the same drainage basin then the area or areas must be located at least 30 m from a high tide watermark, a watercourse, the bank of a watercourse or any source of water used for domestic purposes.

The majority of the protections that exist in regards to agricultural waste in the *CAPWM* focus almost exclusively on protection of watercourses and water for domestic use. Additional regulations will be required to address the potential for contamination of ready-to-eat crops at farms neighbouring feedlots.

Farms enjoy protection from nuisance suits under the *FPP/RTFA*, as long as their conduct is in accordance with "normal farm practices" (to be determined by FIRB), and not in contravention of the *Public Health Act* ("*PHA*"), *Integrated Pest Management Act* ("*IPMA*"), *EMA*, regulations under those acts, or any land use regulation.[18] Section 1 of the *FPP/RTFA* defines "normal farm practices" as follows:

> A practice that is conducted by a farm business in a manner consistent with
>
> (a) proper and accepted customs and standards as established and followed by similar farm businesses under similar circumstances, and
>
> (b) any standards prescribed by the Lieutenant Governor in Council,
>
> and includes a practice that makes use of innovative technology in a manner consistent with proper advanced farm management practices and with any standards prescribed under paragraph (b).

The FIRB hears complaints about farm practices under the *FPP/RTFA*, which addresses "normal farm practices." The FIRB is responsible for "hearing farm practices complaints from persons disturbed by odour, noise, dust or <u>other disturbances</u> arising from agriculture or certain aquaculture operations"[19] [emphasis added]. The FIRB has indicated that it does not have "jurisdiction to order a farm to cease or modify operations that otherwise accord with normal farm practices but that may have potential food safety, public health or pollution implications."[20] This renunciation of jurisdiction is in spite of the fact that the *FPP/RTFA* states that a farm operation must "not be conducted in contravention of the *Public Health Act*… the regulations under [that Act] or any land use regulation."[21] The

---

[17] Note: S. 1 of the *CAPWM* defines "Agricultural Unit" as "a live weight of 455 kg (1 000 lbs) of livestock, poultry or farmed game or any combination of them that equals 455 kg"
[18] *FPP/RTFA*, *supra* note 4, at s. 2
[19] British Columbia, *Farm Industry Review Board* (Website), online: BC Farm Industry Review Board <http://www2.gov.bc.ca/gov/topic.page?id=6A128F6B5E9C4BFF868F66BCB93B86DF> Accessed 16 June 2015
[20] *Yunker*, *supra* note 5 at para 2
[21] *FPP/RTFA*, *supra* note 4, at s. 2(2)(c)

*Yunker* decision has not been subject to judicial review by the courts, so further research would need to be carried out to determine whether the courts have rule on this jurisdiction.

The broad definition of "normal farm practices" can make enforcement of this legislation challenging. What is considered a "normal farm practices" is determined by the FIRB once the matter is subject to their review. The FIRB's reported lack of jurisdiction over human health issues[22] exacerbates these challenges.

The FIRB's decision to deny that it has jurisdiction over human health aspects of farm practices is based upon the fact that other agents such as medical health officers can assess these concerns and issue orders.[23] Medical health officers are empowered to issue orders regarding potential human health hazards under the *Public Health Act* ("*PHA*").[24]

Sections 27, 28, and 29 of the *PHA* delineate the ability of medical health officers to issue orders respecting infectious agents and hazardous agents. A medical health officer may issue an order to a person if they reasonably believe that person has custody or control of an *infected thing* and the order is necessary to protect public health.[25] One may interpret this to view a ready-to-eat farmer (or perhaps even a feedlot operator) as having "custody or control" over potentially infected/contaminated produce.[26]

An infected thing means a thing that "(a) is or is likely infected with or has been or has likely been exposed to, a prescribed infections agent, or (b) is or is likely contaminated with, or has been or has likely been exposed to, a prescribed hazardous agent".[27] A "hazardous agent" means "a *prescribed thing* that (a) may cause a risk to health if a person is contaminated with the thing, or (b) indicates the presence of a contaminant that could cause risk to health."[28] "Prescribed" means "prescribed by regulation".[29] Infectious agents include reportable communicable diseases within the meaning of the *Health Act Communicable Disease Regulation*.[30] Foodborne illnesses of any cause, as well as specifically "gastroenteritis epidemic: bacterial, parasitic, viral" are reportable communicable diseases.[31]

All of this is to say that the pathogens that are of concern in the context of contamination of ready-to-eat crops by neighbouring feedlots (*E coli, cryptosporidium*, etc.) satisfy the description of "infected thing" under the *PHA*. This could allow a medical health officer to make an order to the farmer of ready-to-eat crops whose crops either are, or are suspected to be, contaminated with infectious agents like *E coli* to take action to prevent it

---

[22] *Yunker*, *supra* note 5 at para 2
[23] *Yunker*, *supra* note 5 at para 2
[24] SBC 2008, c 28
[25] *PHA*, *supra* note 24, at ss. 27(1)(a)(ii), 27(1)(b), and 28(2)(b)
[26] Email from Greg Baytalan to Alex Stirling (2 July 2015)
[27] *PHA*, *supra* note 24, at s. 1
[28] *PHA*, *supra* note 24, at s. 1
[29] *Interpretation Act*, RSBC 1996, c 238, [*BCIA*], at s. 29
[30] *Public Health Act Transitional Regulation*, BC Reg 51/2009, [*PHATR*], at s. 3(2)(a)
[31] *Health Act Communicable Disease Regulation*, BC Reg 4/83, [*HACDR*], at Schedule A

causing risk to human health. While this may be the case, it does not address the underlying cause of the problem at hand; it is the feedlot operator and not the ready-to-eat farmer whose practices are problematic because they lead to contamination of the food crop. Numerous other relevant statutes and regulations addressing food safety in BC also target the producer, and not neighbouring sources of contamination.[32]

Sections 30-32 of the *PHA* allow medical health officers to order a person to do whatever the officer deems necessary to determine whether a health hazard exists or to prevent, stop, or mitigate the harm of a health hazard. On the face, it appears that this would allow a medical health officer to issue an order to feedlot operator to store manure in a particular way, dispose of manure, or take any one of a range of actions to reduce or eliminate the potential contaminations associated with feedlots. Where this becomes challenging is in the definition of "health hazard". A "health hazard" means:[33]

> (a) a condition, a thing or an activity that
>
> (i) endangers, or is likely to endanger, public health, or
>
> (ii) interferes, or is likely to interfere, with the suppression of infectious agents or hazardous agents, or
>
> (b) a prescribed condition, thing or activity, including a prescribed condition, thing or activity that
>
> (i) is associated with injury or illness, or
>
> (ii) fails to meet a prescribed standard in relation to health, injury or illness

Enforcement under subsection (a)(i) places the burden of proof on the medical health officer to show that the thing or activity "endangers, or is likely to endanger, public health." Enforcement under subsection a(ii) may be less problematic, given the above discussion of the inclusion of pathogens like *E coli* and *cryptosporidium* under the definition of "hazardous agents." Section 31(b) of the *PHA* allows a medical health officer to "order a person to do anything that the health officer *reasonably* believes is necessary… to prevent or stop a *health hazard*, or mitigate the harm or prevent further harm from a *health hazard*" (Emphasis added). Given that it appears as though contamination with *E coli* and other pathogens is a "health hazard" under the *PHA*, this section may enable the medical health officer to issue orders to feedlot operators to change their operations to reduce or eliminate contamination.

At this point it is uncharted territory to determine whether it would be "reasonable" (as required under *PHA* sections 27 – 32) for a medical health officer to issue an order to a feedlot operator for this reason, despite their operations otherwise being in compliance with "normal farm practices" under the *FPP/RTFA*. At this point, it is also unknown what level of proof would be required of the medical health officer.[34]

---

[32] *PHA*, *supra* note 24, at section 15; *Food Premises Regulation*, BC Reg 210/99, [*FPR*], at sections 2.1(1)(a), 7,11, 12, 13, and 14; *Food Safety Act*, SBC 2002, c 28, [*FSA*], at section 3.

[33] *PHA*, *supra* note 24, at section 1

[34] Email from Greg Baytalan to Alex Stirling (2 July 2015)

What is desired is a practicably enforceable legislative framework that protects ready-to-eat crops from contaminants originating from feedlots. The following sections of this letter identify legislation, permits, best practices guides, and other approaches that have been used to address this issue in other jurisdictions.

***Legislative Review Underway in British Columbia***

It is important to note that the *AWCR* is currently under review.[35] Two Policy Intentions Papers have been made publicly available since the review process began in 2012. Public commentary is invited in regards to the proposed changes.[36] The main concerns addressed in the Intention Paper are "surface water, groundwater and air quality – and environmentally sound agricultural practices."[37] The paper also addresses handling, application, and storage of manure and other agricultural by-products.

The paper states that the overarching goal for the revised regulation as follows:[38]

> Manure, agricultural wastes, agricultural products and byproducts, wood waste, mortalities, and other materials produced and used on an agricultural operation are managed in a manner that protects the environment <u>*and human health*</u> (Emphasis added)

The Intention Paper identifies the following proposed amendments to the *AWCR*:

- Requiring all farm operators to prepare and maintain a self-administered "environmental risk assessment", which would require them to consider their location, climate, weather conditions, and nature of their farming operation or activity.[39]
- Revising setback distances for permanent storage waste storage facilities, temporary field storage of manure, agricultural by-products, and wood waste:[40]
    - Making setbacks from property lines consistent with local government bylaws and other regulations, such as the *BC Drinking Water Protection Act* ("*DWPA*").[41]

[35] Government of British Columbia, *Agriculture* (Website), online: Government of British Columbia <http://www2.gov.bc.ca/gov/content/environment/waste-management/industrial-waste/agriculture> Accessed 11 July 2015
[36] Note: Commentary on the publicly available policy intentions paper can be sent to env.ag.reg.reviews@gov.bc.ca Public comment will be accepted until August 31st 2015.
[37] British Columbia Ministry of Environment, *Agricultural Waste Control Regulation Review: Update* (Policy Intentions Paper), at p. 1, online: Government of British Columbia <http://www2.gov.bc.ca/gov/content/environment/waste-management/industrial-waste/agriculture> Accessed 11 July 2015
[38] British Columbia Ministry of Environment, *supra* note 37, at p. 2
[39] British Columbia Ministry of Environment, *supra* note 37, at p. 2
[40] British Columbia Ministry of Environment, *supra* note 37, at pp. 4 – 5
[41] SBC 2001, c 9

    - Specific setbacks may be required in cases of "specific concerns or chronic problems"
- Additional protective measures addressing permanent waste storage facilities and temporary field storage:[42]
    - Higher levels of protection according to circumstances identified in the mandatory farm "environmental risk assessment"
    - Reduction of the maximum storage duration for temporary field storage from 9 to 7 months
    - Rotation of location of temporary field storage
    - Restrictions on quantity of material being stored in the case of specific concerns or chronic problems
- Requirement of effective controls to deal with vector attraction to manure composting operations. Higher levels of protection would be required if indicated by the farm's environmental risk assessment.[43]
- Modifications to regulation of land application of nutrients, including manure:[44]
    - Banning of application of manure and other nutrients to frozen or snow-covered ground, in strong or diverting winds, on areas having standing water, or on saturated soils
    - Banning of application of manure at rates that would result in the manure going beyond the property boundary
    - Protective measures to address human health concerns associated with applying manure to raw food crops

Compliance with the amended *AWCR* will be promoted using the Ministry's existing "Compliance Framework" and "Compliance Policy and Procedures". The proposed changes would be phased in over a period of approximately three years. However, certain amendments would be enforced immediately, such as requirements regarding temporary field storage in high-risk areas.[45]

The amendments that result from the *AWCR* review process will be harmonized with existing regulations and statutes, including many of the problematic and "gap-filled" examples discussed above.[46] Furthermore, the Ministry indicates that amendments to the *AWCR* will not duplicate existing 'protections' such as those contained in the *FPP/RTFA*.[47]

While there may be some hurdles to overcome, it would very likely be beneficial to provide a submission to the Ministry in the course of the review process, addressing concerns and alternative models identified in this memo. As indicated above, the intentions paper demonstrates that the Ministry intends to revise setback requirements, increase

[42] British Columbia Ministry of Environment, *supra* note 37, at p. 5
[43] British Columbia Ministry of Environment, *supra* note 37, at p. 5
[44] British Columbia Ministry of Environment, *supra* note 37, at pp. 5 - 6
[45] British Columbia Ministry of Environment, *supra* note 37, at p. 10
[46] British Columbia Ministry of Environment, *supra* note 37, at p. 2
[47] British Columbia Ministry of Environment, *supra* note 37, at p. 2

requirements for self-administered risk assessments by farm operators, and include consideration of human health risks. The content of the present memo addresses many, if not all of the same issues. The *AWCR* review process is an ideal opportunity, and avenue, to identify problems to the Ministry and encourage them to make appropriate amendments to the *AWCR*. The Ministry already appears sympathetic to many of the concerns addressed in this memo, and has publicized their intention to address them. The Ministry indicates that comments ***received by 31 August 2015*** will be considered by the Ministry in updating the *AWCR*.[48] In order to craft a submission, CIPHI BC will need to combine its members' scientific and practical field knowledge with the survey of approaches from other jurisdictions contained in this memo.

***Municipal Zoning Requirements and other Local Laws***

*United States:*

In some states in the USA, individual municipalities have used zoning bylaws to address problems associated with feedlots. This approach can be beneficial as it allows for municipal governments to tailor requirements to their unique community. Relying solely on municipal bylaws may be problematic as it can create an inconsistent patchwork of regulation across a state or province. Furthermore, municipal bylaws must be created within the range of delegated authority given to the municipality by the state or province. Often the bylaws will need to be approved by a higher level of government before they can regulate farming operations.

*New York State:*

The New York State Department of Agriculture (NYSDA) has published a set of guidelines for reviewing local laws that affect nutrient management practices on agricultural land.[49] In this report, the NYSDA emphasized that nutrient management practices are an integral part of most, if not all farming operations. Under the umbrella of nutrient management practices, the NYSDA includes land application of animal waste, sewage, septage, and food waste, as well as storage of animal waste. While local governments are allowed to regulate certain aspects of storage and disposal of these agricultural wastes, they are prohibited by statute from *unreasonably* restricting farm operations. The relevant law states:

> Local governments, when exercising their powers to enact and administer comprehensive plans and local laws, ordinances, rules or regulations, shall exercise these powers in such manner as may realize the policy and goals set forth in this

[48] British Columbia Ministry of Environment, *supra* note 37, at p. 10

[49] New York State Department of Agriculture, *Guidelines for Review of Local Laws Affecting Nutrient Management Practices* (Policy Document), online: New York State Department of Agriculture <http://agriculture.ny.gov/AP/agservices/guidancedocuments/305_a_Nutrient_Management_Guidelines.pdf?> Accessed 6 July 2015

article, and shall not unreasonably restrict or regulate farm operations within agricultural districts in contravention of the purposes of this article *unless it can be shown that the public health or safety is threatened*.[50]

The guidelines published by the NYSDA delineate which areas local governments may regulate by bylaw without contravening the limitations set out above. Permit requirements imposed by municipalities may be considered reasonable to a certain extent. The NYSDA will review any permitting requirements imposed by local governments to determine if they are unreasonably restrictive and thus in violation of state laws.[51]

The NYSDA guidelines state that local laws should allow for on-farm disposal and storage of solid waste for agricultural purposes, as long as it is consistent with New York State Department of Environmental Conservation (NYSDEC) regulations. The NYSDA's position is that animal waste management facilities, including field storage, are a common land use for cattle and dairy farmers, and absent any overriding local concern, local governments should not require them to obtain special permits or undergo site plan review when they are in a State-certified agricultural district.[52] Clearly state level legislative bodies have paramountcy over local governments. Local laws are only considered reasonable when they are in line with the New York State Agriculture and Marketing Law, as well as legislation passed by various other bodies like they NYSDEC.

In New York, a number of local governments have introduced laws prohibiting the storage of manure and other substances that produces dust and odours within 100 feet of any property line.[53] The NYSDA appears to take a contextual approach to evaluating the reasonableness of these setback requirements, indicating that they may be considered unreasonable in certain circumstances. Considerations include the way the neighbouring property is used, and whether the most environmentally and operationally beneficial location for a particular agricultural operation may be within 100 feet of a property line. It appears as though this framework provides some level of ability to local governments in New York State to create their own setback requirements, when the State has not done so.

*Applicability of Municipal Laws to Farming Operations in British Columbia:*

In Canada, all municipalities receive their powers and jurisdiction via delegation; they do not have any inherent jurisdiction. In British Columbia, limits on the powers of local governments are set out by the *Community Charter* (*CC*)[54] and the *Local Government Act* (*LGA*).[55] The *LGA* sets outs certain restrictions on local governments' abilities to regulate agricultural operations. Section 903(5) of the *LGA* states:

[50] New York State, Agriculture and Markets Law, art 25-AA, § 305-a
[51] New York State Department of Agriculture, *supra* note 49, at p. 2
[52] New York State Department of Agriculture, *supra* note 49, at p. 2
[53] New York State Department of Agriculture, *supra* note 49, at p. 3
[54] SBC 2003, c 26
[55] RSBC 1996, c 323

> Despite subsections (1) to (4) but subject to subsection (6), a local government must not exercise the powers under this section to prohibit or restrict the use of land for a farm business in a farming area unless the local government receives the approval of the minister responsible for the administration of the *Farm Practices Protection (Right to Farm) Act*.

The Minister of Agriculture is responsible for the administration of the *FPP/RTFA.* Subsections (1) to (4) of the *LGA* sets out the general ambit of local governments' ability to enact zoning bylaws. Subsection (6) empowers the Minister of Agriculture to define, by regulation, areas and circumstances in which approval under subsection (5) is not required.

Section 917 of the *LGA* creates a similar requirement for approval by the Minster of Agriculture for any municipal bylaws that relate to farming areas. Subsection 917(3) states that "[u]nless exempted under subsection (4), a bylaw under subsection (1) may only be adopted with the approval of the minister." Subsection 917(4) allows the Minister of Agriculture to, by regulation, define areas and circumstances under which approval under subsection (3) is not required.

Section 918 of the *LGA* states that subsection 903(5) and section 917 do not apply unless a regulation under section 918 states that they apply. What thus happens in practice is that if a local government enacts a bylaw that regulates farming practices, and the Province becomes aware of it, the Minister of Agriculture will state in a regulation that sections 917 and 903(5) apply. Generally the Ministry of Agriculture will list the identified municipal government in the existing *Right to Farm Regulation* under the *LGA*.[56] Currently Langley, Abbotsford, Delta, and Kelowna are listed under that regulation; sections 903(5) and 917 of the *LGA* apply to them all, and they are all required to receive approval from the Minister of Agriculture for any bylaw that regulates farm activity. For any local government not listed under this regulation, or a similar regulation invoking sections 917 and 903(5), the presumption is that they are not able to make any bylaws that regulate farming.

While local governments may not have the power, without approval from the Minister of Agriculture, to regulate actual farm practices, they may regulate certain activities associated with farms. For instance, a local government may regulate things like parking lots, housing, and other "non-farm" activities of the farming operation. Certain activities may be specifically defined as "farm use", "non-farm use", or "ancillary" in statutes or regulation. For instance, subsection 2(2)(k) of the *Agricultural Land Reserve Use, Subdivision and Procedure Regulation* (*ALRUSPR*)[57] designates as farm use "the production, storage and application of compost from agricultural wastes produced on the farm for farm practices in compliance with the *Agricultural Waste Control Regulation*."

[56] BC Reg 261/97
[57] BC Reg 171/2002

One of the best ways to understand what is possible in regards to municipal zoning bylaws in British Columbia is to take a look at what has been enacted by other jurisdictions. The Regional District of North Okanagan has zoning bylaws that specify agricultural setbacks in rural zones.[58] A 30 metre setback from all lot lines is required for compost storage, on-farm composting, solid agricultural waste field storage, agricultural waste storage facilities, confined livestock areas, and retention ponds that are part of livestock, poultry, game, and fur operations.[59] It would be important to determine whether the Minister of Agriculture has become aware of this bylaw and whether it will become subject to sections 917 and 903(5) of the *LGA*. It would also be important to assess the sufficiency of a 30 metre setback in the light of scientific research on transmission of contaminants from agricultural waste storage facilities.

It is interesting to note that setbacks from feedlot and/or manure storage structures are also in place in the zoning bylaws of each of the jurisdictions that are listed in the *ALRUSPR*. These bylaws, as they regulate farming, would have needed to be approved by the Ministry of Agriculture. In section 201.7 of Langley's zoning bylaws for rural zones, the following setbacks are mandated for feedlots:[60]

> (4) In a *feedlot*, no *building*, pen, enclosure or place where cattle are kept or manure is stored shall be sited less than:
> …
> (b) 53 metres from the nearest *lot line;*
> …

In Abbotsford's "Agricultural One Zone (A1)", a minimum setback of 30 metres is required between "keeping of cattle and associated manure storage" and exterior lot lines.[61] A smaller setback between confined livestock areas and lot lines is required in Kelowna:[62]

> Notwithstanding subsections 11.1.6(c) to (e), confined livestock areas and/or buildings housing more than 4 animals, or used for the processing of animal products… shall not be located any closer than 15.0 m from any lot line, except where the lot line

---

[58] Regional District of North Okanagan. *Zoning Bylaw (No. 1888, 2003): Schedule G – Agricultural Setbacks in Rural Areas* (Municipal Zoning Bylaw), online: Regional District of North Okanagan <http://www.rdno.ca/bylaws/1888_schedule_g.pdf> Accessed 9 July 2015

[59] Regional District of North Okanaga, *supra* note 58, Table 3

[60] Township of Langley. *Zoning Bylaw 2500 – Section 200 Rural Zones* (Municipal Zoning Bylaw), online: Township of Langley < http://www.tol.ca/Portals/0/township%20of%20langley/mayor%20and%20council/bylaws/2500%20-%20zoning/Zoning%20Bylaw%202500%20-%20Section%20200%20Rural%20Zones.pdf?timestamp=1436649714194> Accessed 11 July 2015

[61] City of Abbotsford. *Zoning Bylaw, 2014, Consolidated (Bylaw 2500-2014)* (Municipal Zoning Bylaw), at section 210.4, online: City of Abbotsford <https://abbotsford.civicweb.net/document/11750/210%20-%20Agricultural%20One%20Zone%20(A1),%20Consolidated.pdf> Accessed 11 July 2015.

[62] City of Kelowna. *Zoning Bylaw No 8000* (Municipal Zoning Bylaw), at section 11.1.6(f), online: <http://www.kelowna.ca/CityPage/Docs/PDFs/%5CBylaws%5CZoning%20Bylaw%20No.%208000/Section%2011%20-%20Agricultural%20Zones.pdf?t=024150130> Accessed 11 July 2015

borders a residential zone, in which case the area, building or stand shall not be located any closer than 30.0 m from the lot line.

Delta requires various setbacks from structures and features of feedlot operations in areas zoned as "A1 Agricultural".[63] The following setbacks from lot lines are required: 30 metres from "farm buildings, structures, or outdoor storage areas, including 'Confined Livestock Areas', containing swine and fur-bearing animals"; 30 metres from "agricultural liquid waste storage facility"; 15 metres from "agricultural solid waste storage facility"; 30 metres from "agricultural solid waste field storage".

***Setbacks in Other Jurisdictions***

*Alberta:*

In Alberta, setbacks are mandated by the *Standards and Administration Regulation* ("*SAR*")[64], under the *Agricultural Operation Practices Act* ("*AOPA*").[65] Schedule 2 to the *SAR* sets out a formula for determining the minimum distance that must be kept between manure storage and the outside walls of the nearest residence. The formula is stated as follows:

(a) for new operations, MDS = (odour production$_{(total)}$)K × odour objective × dispersion factor;
(b) for expanding operations, MDS = (odour production$_{(total)}$)K × odour objective × dispersion factor × expansion factor.

For the purposes of these formulae, the following definitions are given:

(a) "dispersion factor" allows for a variance to the MDS due to the unique climatic and topographic influences at the site, and is determined in accordance with section 5;
(b) "expansion factor" applies only to expanding operations that are increasing the size of the facility to store more manure, composting materials and compost or to accommodate more livestock, and is determined in accordance with section 6;
(c) "exponent" (K) equals 0.365 for all categories or types of livestock;
…
(e) "MDS" means minimum distance separation determined in accordance with section 2;
…
(g) "odour objective" means the odour objective determined in accordance with section 4;

[63] Corporation of Delta. *Zoning Bylaw 2750* (Municipal Zoning Bylaw), at section 510, online: <https://delta.civicweb.net/Documents/DocumentList.aspx?ID=48051> Accessed 11 July 2015
[64] AB Reg 267/2001
[65] RSA 2000, c A-7

(h) "odour production" means odour production determined in accordance with section 3;

…

In all of this it is important to note that the regulation explicitly states that the setback is from the exterior walls of the nearest residence, and *not* from lot lines. Thus, this particular setback requirement would not protect ready-to-eat crops being grown in a field next to manure storage.

*Ontario:*

Ontario, like Alberta, has Minimum Distance Separation (MDS) requirements. The Ontario MDS system is a "land use planning tool that determines a recommended separation distance between a livestock barn or manure storage and another land use."[66] MDS requirements are to be integrated into municipal zoning bylaws for enforcement in rural and "prime agricultural" areas. These are areas where keeping of livestock is permitted.[67] The formulas take into account the type of livestock, size of farm operation, type of manure system, tillable hectares, and form of land use development. A copy of the formulas, the software used to calculate MDS requirements, and historical documents outlining the development of the system can be requested from the Ontario Ministry of Agriculture, Food and Rural Affairs.[68]

Very clear guidelines are given to show what operations and structures the MDS requirements do, or do not, apply to.[69] They do apply to livestock facilities, but they do not apply to abattoirs, kennels, slaughterhouses, or livestock facilities that are less than $10m^2$ in floor area. They do apply to earthen manure storage structures.

A number of setbacks from certain features are required under the *Nutrient Management Act* ("*NMA*") and its regulations. The purpose of the *NMA* is "to provide for the management of materials containing nutrients in ways that will enhance protection of the natural environment and provide a sustainable future for agricultural operations and rural development."[70] According to the *General Regulation* under the *NMA*, nutrient management strategies are required for agricultural operations carried out on a farm unit.[71]

---

[66] Ontario Ministry of Agriculture, Food and Rural Affairs, *Minimum Distance Separation (MDS) Formulae* (Website), online: Ontario Ministry of Agriculture, Food and Rural Affairs <http://www.omafra.gov.on.ca/english/landuse/mds.htm> Accessed 14 July 2015

[67] Ontario Ministry of Agriculture, Food and Rural Affairs, *MDS Implementation Guidelines: Minimum Distance Separation Formulae* (Website), online: Ontario Ministry of Agriculture, Food and Rural Affairs <http://www.omafra.gov.on.ca/english/landuse/guide_p4.htm#1> Accessed 14 July 2015

[68] Ontario Ministry of Agriculture, Food and Rural Affairs, *supra* note 66

[69] Ontario Ministry of Agriculture, Food and Rural Affairs, *supra* note 67

[70] *Nutrient Management Act*, SO 2002, c 4

[71] *General Regulation*, ON Reg 267/03, at s. 9

Various setbacks are required between application of nutrients and water features and dwellings. For example, a setback of between 125 and 450 metres is required between a temporary field nutrient storage site where nutrients are stored for more than 24 hours and a dwelling or residential area, community, commercial, or institutional use of land.[72] "Commercial, community, or institutional use" is defined and agricultural use of land is not listed in the non-exhaustive definition.[73] It is probably unlikely that this requirement would apply in the context of neighbouring ready-to-eat farming. The remainder of the setback requirements in the *General Regulation* appear to apply to bodies of water and "commercial, community, or institutional use." The regulation does impose a great deal of other requirements for manure-management practices that may have the effect of reducing potential for contamination; future research into the remainder of this regulation may be worthwhile.

*United States:*

Setbacks are used extensively in the United States, to place mandatory minimum distances between feedlots and other structures, land features, institutions, and resources.[74] Many setbacks focus on protection of water, residences, and other inhabited structures. Setbacks vary by state, but the features that are protected tend to be similar across the board. At the state level, setbacks do not appear to exist between feedlots and farms producing ready-to-eat crops. However as mentioned above, many local governments in New York State have introduced laws requiring setbacks between storage of manure and other odour and dust-producing substances, and any property line. Many of these setbacks require a minimum distance of 100 feet.[75]

***United States – Permits***

*New York State:*

In New York State, larger farms are required by law to have a plan in place for management of liquid and solid waste in order to obtain a CAFO permit from the NYSDEC.[76] In issuing permits, the NYSDEC considers public health and safety issues related to water pollution.[77] Municipal or local governments may also wish to introduce a permitting process for CAFOs in their jurisdiction. The NYSDA holds that such municipal permits would not be unreasonable, as long as their requirements do not exceed state-set standards.[78] It appears that this makes it difficult for local governments to impose more stringent protections

[72] *General Regulation*, *supra* note 71, at s. 83(2)
[73] *General Regulation*, *supra* note 71, at s. 1(1)
[74] Further specific information about various setback requirements in the United States can be accessed in an online database: http://nmplanner.missouri.edu/software/setbacks.asp
[75] New York State Department of Agriculture, *supra* note 49, at p. 3
[76] New York State Department of Agriculture, *supra* note 49, at pp. 2-3
[77] New York State Department of Agriculture, *supra* note 49, at p. 3
[78] New York State Department of Agriculture, *supra* note 49, at p. 3

through permitting requirements when they feel their community's needs are not being met by state legislation. Thus, the state-issued permits are the best place to look for examples.

Larger farms in New York are required to have a plan in place for proper management of liquid and solid waste in order to obtain a DEC CAFO permit. Their waste management plan must be in accordance with the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) *Conservation Practice Standard Waste Management System No. NY-312*.[79] That code sets out requirements for management of waste in rural areas. Its goals are to "prevent or minimize degradation of air, soil, animal, plant and water resources and *protect public health and safety*" (Emphasis added).[80] This practice applies in situations where waste is generated by agricultural production or processing. The practice involves an assessment of a farm to identify areas of potential pollutant sources.

A nutrient management plan of this kind imports the requirements of other NRCS practice standards. Among these other NRCS standards is the *Natural Resources Conservation Service Conservation Practice Standard: Waste Storage Facility*.[81] That set of standards imposes requirements relating to location of facilities, maximum storage periods, and facility design. The language is quite vague in this document, but it does require that consideration be given to human safety and health factors.[82] In the end, this may ensure that human health considerations play a role in the determination of whether or not a CAFO permit is granted to a particular facility.

Online information about CAFO permits in New York is currently out of date, and the permits listed have expired. The following describes the status of the only permits made available on the Department of Environmental Conservation's website, as they may still serve as a useful model of a particular type of permitting framework. The New York *Environmental Conservation Law Interim General Permit* is issued for CAFOs that do not discharge waste.[83] (A separate permit under the *Clean Water Act* must be issued for discharges).[84] This permit mandates a minimum setback of 100 feet between manure and certain bodies of water.[85] The permit also requires the CAFO operator to have in place a

[79] New York State Department of Agriculture, *supra* note 49, at pp. 2-3
[80] *Natural Resources Conservation Service Conservation Practice Standard: Waste Management System Code*, NY312. USDA-NRCS (1999)
[81] *Natural Resources Conservation Service Conservation Practice Standard: Waste Storage Facility*, NY313. USDA-NRCS (2003)
[82] *Natural Resources Conservation Service Conservation Practice Standard: Waste Storage Facility*, *supra* note 81, at p. 6
[83] New York State Department of Environmental Conservation, *Environmental Conservation Law CAFO General Permit* (Website), online: New York State Department of Environmental Conservation <http://www.dec.ny.gov/permits/55368.html> Accessed 15 July 2015
[84] New York State Department of Environmental Conservation, *Clean Water Act CAFO General Permit* (Website), online: New York State Department of Environmental Conservation <http://www.dec.ny.gov/permits/55373.html>
[85] New York State Department of Environmental Conservation, *State Pollutatant Discharge Elimination System (SPDES) General Permit for Concentrated Animal Feeding Operations (CAFOs): General Permit No. GP-0.14.001*

Comprehensive Nutrient Management Plan ("CNMP"). An annual nutrient management plan must be submitted to the Department of Environmental Conservation. The permit specifically states that the CAFO operator must also comply with NRCS standards, such as those discussed above.[86] As mentioned above, nutrient management plans must take into account considerations of human health and safety.

A failure to comply with permit requirements can result in an enforcement action, loss of the permit, and denial of permit renewal applications.[87] Pecuniary penalties of up to $37,500 per day may also be applied for violations. Clearly enforcement of these permit requirements would have a serious impact for CAFO operators. This set of requirements also appears to be stronger than the optional "Nutrient Management Plan" in British Columbia.[88]

*Michigan:*

All CAFOS are governed by a discharge permit under the National Pollutant Discharge Elimination System (NPDES), and administered by the Michigan Department of Environmental Quality (MDEQ).[89] The NPDES is a permit program that is authorized by the federal *Clean Water Act*. The General NPDES CAFO Permit for 2015 applies to any CAFOS in Michigan that the MDEQ has not determined require an individual permit.[90] The permits create requirements relating to many aspect of CAFO operation, including waste storage and application.

The section of the NPDES permit that relates to construction of animal waste storage facilities states that the structures must be in compliance with the permittee's Comprehensive Nutrient Management Plan (CNMP).[91] The CNMP regulates seemingly every aspect of manure and waste management for CAFO operations, ranging from banning application to flooded fields[92] to instituting setbacks of 100 feet between certain bodies of water and application of CAFO waste.[93] Because this permit is issued as part of the NDPES

---

(Government Permit), at p. 21, online: New York State Department of Environmental Conservation <http://www.dec.ny.gov/docs/water_pdf/gp01401.pdf>

[86] New York State Department of Environmental Conservation, *supra* note 85, at p. 10

[87] New York State Department of Environmental Conservation, *supra* note 85, at p. 23

[88] British Columbia Ministry of Agriculture, *Nutrient Management Reference Guide* (Government Publication), online: British Columbia Ministry of Agriculture <http://www.agf.gov.bc.ca/resmgmt/EnviroFarmPlanning/EFP_Nutrient_Guide/Nutrient_Guide_toc.htm> Accessed 15 July 2015

[89] Michigan Department of Environmental Quality, *DEQ Announces CAFO Permit Change to Protect Michigan Waters* (Blog Post), online: Michigan Department of Environmental Quality <http://www.michigan.gov/deq/0,4561,7-135--353812--,00.html> Accessed 15 July 2015

[90] Michigan Department of Environmental Quality*, Permit No MIG010000: National Pollutant Discharge Elimination System Wastewater Discharge General Permit – Concentrated Animal Feeding Operations* (Government Permit), online: Michigan Department of Environmental Quality <http://www.michigan.gov/documents/deq/wrd-npdes-cafo-GP_2015_488595_7.pdf> Accessed 15 July 2015

[91] Michigan Department of Environmental Quality, *supra* note 90, at p. 6

[92] Michigan Department of Environmental Quality, *supra* note 90, at p. 13

[93] Michigan Department of Environmental Quality, *supra* note 90, at p. 14

program, which is under the *Clean Water Act*, most of its protections focus on water. While this is obviously important, it does not appear to directly address the concerns associated with contamination of ready-to-eat crops. However Part II, section C(6)(a) of the permit does require that "any noncompliance [with the permit] which may endanger health or the environment… shall be reported, verbally, within 24 hours from the time the permittee becomes aware of the noncompliance."

***United States – Federal Legislation and Jurisprudence***

The *Resource Conservation and Recovery Act* (*"RCRA"*) is a piece of US federal legislation whose objectives are "to protect human health and the environment form the potential hazards of waste disposal… and to ensure that wastes are managed in an environmentally sound manner."[94] Agricultural waste including manure may be considered "solid waste" under the *RCRA* when its storage methods allow it to knowingly leak into the environment, because this constitutes a wilful discard of the otherwise useful fertilizer. A 2015 Federal District Court decision called "*CARE v Cow Palace*" made significant strides in clarifying definitions. After *Cow Palace,* this act of knowingly allowing the fertilizer to continue to escape into the environment constitutes abandonment and transforms the manure from useful fertilizer into solid waste under the *RCRA*.[95] When mishandled, manure from industrial dairies is considered a solid waste under the *RCRA* and is recognized as having the potential to cause imminent and substantial danger to human health.[96]

The *Cow Palace* decision is very significant, as it ultimately found that Cow Palace's operations, specifically relating to manure, threatened public health. Also significant was the holding that the plaintiffs (an environmental non-governmental organization) did not need to quantify Cow Palace's contribution to pollution and contamination, but rather only had to show that Cow Palace "contributed to the disposal of solid waste that may pose a serious threat to public health."[97]

This decision demonstrates how court decisions may be very helpful in providing definitions and interpretations of environmental and human health protection legislation. These interpretations may lead to stronger enforcement, as in this case, where a certain category of prescribed activities was broadened. However, it is important to remember that litigation is very costly, and time consuming. For instance, while this decision is making waves at the moment, it will likely still be appealed.[98] While a favourable decision on appeal

---

[94] US Environmental Protection Agency, *Resource Conservation and Recovery Act (RCRA)* (Website), Resource Conservation and Recovery Act <http://www.epa.gov/agriculture/lrca.html> Accessed 18 June 2015

[95] *Community Association for Restoration of the Environment, Inc and Center for Food Safety, Inc v Cow Palace,* at p 93, 2015 WL 199345 (ED Wash, 2015)

[96] *CARE and Center for Food Safety v Cow Palace*, *supra* note 95, at p 88

[97] Lauren D Bernadett, "*CARE v Cow Palace, LLC*: Manure Management Practices Found to Violate RCRA", Case Comment. Online: Somach Simmons & Dunn <http://www.somachlaw.com/alerts.php?id=306> Accessed 9 June 2015

[98] Bernadett, *supra* note 97

may result in a new national precedent for regulation of dairy operations, such a decision is not guaranteed, and may take time and a great deal of money.

***Resources and Contact Information***

Lynn Henning is a farmer and a Goldman Environmental Prize-winning environmentalist from Michigan. She works for the Socially Responsible Agriculture Project[99], as well as Environmentally Concerned Citizens of South Central Michigan[100]. She has had considerable success in lobbying governments to address environmental and health-related problems associated with CAFOs. She has employed methods ranging from community monitoring of pollution from CAFOs, to lobbying numerous levels and departments of government to change their approach to CAFOs. She is interested in what is happening in British Columbia with feedlot regulation and can be reached at tigerpaw@tds.net.

Theresa McClenaghan is the Executive Director and Counsel of the Canadian Environmental Law Association (CELA). She worked at the Ontario Ministry of Agriculture, Food and Rural Affairs for many years prior to her work at CELA. She was co-counsel representing the Concerned Walkerton Citizens at the Walkerton inquiry and has experience in matters relating to contamination of, and contamination caused by agricultural operations. Theresa can be reached at (416) 960-2284.

Purdue University's Extension has compiled a great deal of information and research results on CAFOs. A summary of this research, and a number of very concise and point-first documents can be found on their website, at http://www.ansc.purdue.edu/CAFO/list.shtml

The Centre for a Livable Future at Johns Hopkins University's Bloomberg School of Public Health has published a notable collection of scientific research on the mechanisms for transmission of pathogens from manure. They also have a Food System Policy Program that aims to promote protection of human health. Their website can be accessed at http://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-a-livable-future/

**OPTIONS:**

We would strongly recommend submitting commentary to the Ministry of Environment regarding the issues and alternative models for addressing CAFO issues addressed in this memo. As discussed above, other jurisdictions have addressed similar issues by using permits, municipal zoning bylaws, jurisprudence, federal legislation and various setback schemes.

[99] http://www.sraproject.org/
[100] http://nocafos.org/

The *AWCR* review process is an ideal opportunity and avenue to influence the Ministry of Environment in policy development, as it already appears to acknowledge the concerns identified in this memo. Furthermore, in its Intentions Paper, the Ministry of Environment has indicated an intention to make a number of changes that you would already be advocating for. Any public accountability that the Ministry has created for itself in publishing this document could be leveraged.

An alternate solution would be to pursue zoning bylaw amendments in affected jurisdictions, in order to introduce setback requirements and other protective measures. As indicated above, the process of getting such bylaws implemented and enforced may be quite challenging, as they would likely require approval by the Provincial Government. However, numerous jurisdictions in British Columbia do already have setbacks mandated in their municipal zoning bylaws, so it appears as though in general this is something the Provincial Government may be receptive to.

Advocating for reform through changes to municipal bylaws may be a less efficient avenue. Given that it would be necessary to approach lobby individual municipal governments, and hope for provincial approval, this would be a very time consuming process. Furthermore, it would not be ideal to have a patchwork of different bylaw-mandated setbacks across the province. Advocating for law reform at the provincial level would ensure consistency across the province.

While waiting for legislative reform to occur, it would be beneficial to get in contact with the individuals and organizations listed in the proceeding section. These resources may provide useful information about successful models for community monitoring, law reform, court room success, and referrals to additional resources.

Yours Truly,

*Original signed by:*

_____

Alexander Stirling (Law Student)
Environmental Law Clinic
University of Victoria Faculty of Law

*Original signed by:*

_____

Mark Haddock (Supervising Lawyer)
Environmental Law Clinic
University of Victoria Faculty of Law