



ANIMAL AGRICULTURE AND ENVIRONMENTAL PROTECTION: A MULTI-JURISDICTIONAL LEGISLATIVE REVIEW

March 2023

In collaboration with:



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ABOUT US



AEL Advocacy is a public interest law practice and not-for-profit organization based in Ontario. Our lawyers understand the important interconnection between humans, animals, and the environment. We combine our in-depth knowledge of the legal and political landscape with a commitment to supporting individuals and organizations working to protect animals and the environments where they live.



World Animal Protection (formerly known as the World Society for the Protection of Animals – WSPA) is the global voice for animal welfare, with more than 70 years' experience working to protect animals from cruelty through science-based, practical and sustainable solutions that help people and animals alike. They have offices in 12 countries and work across 47 countries. The organization collaborates with local communities, the private sector, civil society and governments to change animals' lives for the better. They have General Consultative Status with the UN, are members of the National Farm Animal Care Council (NFACC) and founded the Global Ghost Gear Initiative (GGGI).

Table of Contents

Disclaimer	i
About Us	ii
Table of Contents	iii
Executive Summary	01
A. Research Methodology	02
B. Jurisdiction Over Agriculture and the Environment	03
C. Outline of Report	04
Part I. Introduction	06
A. The Environmental Impacts of Animal Agriculture	06
Part II. Laws and Policies	09
A. Key Components of the Legislative and Policy Framework	09
B. Summary of Select Canadian Jurisdictions	11
I. British Columbia	12
II. Manitoba	16

Table of Contents

III. New Brunswick	20
IV. Nova Scotia	23
V. Ontario	25
VI. Quebec	32
C. Summary of Select International Jurisdictions	36
I. California (US)	37
II. Australia	41
III. United Kingdom	43
Part III. Comparative Analysis	48
Part IV. Conclusion and Recommendations	61
Appendix A: Endnotes	71

Executive Summary

Over the past 30 years, the animal agriculture industry in Canada has undergone major intensification—the number of farms across the country has decreased drastically while the average farm size, feed crop area, and number of livestock per farm have all increased. Unfortunately, this intensification has a substantial environmental footprint resulting in water and air pollution, land degradation, and biodiversity loss.

World Animal Protection is interested in understanding what laws and regulations are currently in place that could restrict the construction or expansion of Intensive Livestock Operations ("ILOs") in Ontario due to their environmental impacts, as well as what legislative and policy reforms are needed to better address these impacts. To support World Animal Protection, AEL Advocacy conducted a multi-jurisdictional legislative review of select Canadian and international laws dealing with the environmental impacts of animal agriculture.

Our extensive review shows that current environmental protection legislation in most Canadian jurisdictions is woefully inadequate to deal with, or entirely exclusionary of, the environmental impacts of the animal agriculture sector. As such, new laws and policies are needed to encourage best practices and support the transition to a more sustainable, higher welfare farming system—one that emphasizes the benefits of a predominantly plant-based food system.

AEL Advocacy strongly recommends the Government of Ontario: (1) restructure government subsidies for the agriculture sector; (2) remove exemptions for the animal agriculture sector from environmental laws and policies; (3) expand the application and enforcement of the *Nutrient Management Act, 2002*; (4) introduce mandatory best management practices; and (5) impose a moratorium on the construction and expansion of Intensive Livestock Operations ("ILOs") in the province.

A. RESEARCH METHODOLOGY

This research, conducted independently by AEL Advocacy, began with a process to select relevant jurisdictions within and outside Canada that are representative of various kinds of nutrient management and environmental protection regimes, whether that protection is embedded in legislation or policy. The selection process was conducted in collaboration with World Animal Protection.

As part of this selection process, a general jurisdictional scan of nutrient management and environmental protection regimes was conducted, with a focus on English-speaking, common-law jurisdictions as a matter of practicality.

The scan identified six key Canadian jurisdictions: British Columbia, Manitoba, New Brunswick, Nova Scotia, Ontario, and Quebec.

Consideration was also given to including international jurisdictions in the research and three jurisdictions were identified: California, Australia, and the United Kingdom. These international jurisdictions were selected because they are all common-law jurisdictions whose primary language is English. Furthermore, two of the three jurisdictions (the United Kingdom and California) are known as leaders for their animal welfare laws and policies. For example, the United Kingdom is one of the highest ranking



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countries on World Animal Protection's "Animal Protection Index", which ranks countries around the world according to their animal welfare policy and legislation.[1] As detailed further in Part IV of this Report, the status of a jurisdiction's animal welfare laws and policies is relevant because there is evidence to suggest that improved animal welfare can play a significant role in mitigating the environmental impacts of animal agriculture.[2]

After selecting the above jurisdictions, we reviewed the current pieces of legislation in force and narrowed down the laws, regulations, and policies relevant to the environment and animal agriculture, such as those related to climate change, fuel, waste management, pollution, and water. We then reviewed and summarized the relevant functions of these pieces of legislation for each jurisdiction.

Next, we consulted peer-reviewed academic journals and articles, as well as published government recommendations, to gather effluent limits and scientific benchmarks related to contaminants from the animal agriculture sector.

Finally, based on the scientific benchmarks, we reviewed our findings from each jurisdiction to determine which laws were strictest and most beneficial to the environment. Based on our findings, we made recommendations for legislative and policy reform.

B. JURISDICTION OVER AGRICULTURE AND THE ENVIRONMENT

Canada's *Constitution Act, 1867* (the "Constitution") recognizes and creates a division of powers between the federal and provincial governments.[3] Section 92 outlines provincial authority to create laws concerning natural resources and agriculture. Accordingly, the provinces have the primary responsibility for water management and agricultural regulation.

The environment is not listed under either section 91 or 92 of the Constitution. As such, courts have interpreted the environment as a matter of shared jurisdiction between the provincial and federal governments.

Typically, provincial governments also grant municipal governments the power over municipal land-use planning, including the creation of municipal planning strategies and zoning/land use by-laws. As such, municipal governments may create by-laws to regulate certain agricultural and environmental issues, such as the location of manure storage, as well as setback distances from neighbouring properties or streams.

C. OUTLINE OF REPORT

For the purposes of this Report, AEL Advocacy conducted a comprehensive review of legislative and policy approaches to environmental protection as it relates to animal agriculture across Canada and internationally with the aim of (1) providing recommendations to strengthen this protection and (2) identifying ways to use existing laws and policies to address the negative environmental impacts of the sector in Ontario.

This Report provides an overview of the approaches taken in each of the jurisdictions that were reviewed. It begins with a summary of the legislative and policy frameworks in each jurisdiction.

Next, the primary discussion section highlights the key components that were found in most nutrient management and environmental protection regimes, and includes a comparative analysis of approaches across jurisdictions.

Finally, the Report concludes with a list of recommendations for legislative and policy reform in Ontario and Canada.

Sources relied upon throughout this Report are set out in the appendix.



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PART I. Introduction

From nutrient runoff to methane emissions and land degradation, intensive animal agriculture has major impacts on the environment.

A. THE ENVIRONMENTAL IMPACTS OF ANIMAL AGRICULTURE

The environmental impacts of animal agriculture can be broken down into three key categories: air pollution and greenhouse gas emissions, water pollution, and land degradation & biodiversity loss.

AIR POLLUTION

Animal agriculture is a major source of air pollution in Canada and around the world. Particulate matter air pollution, for example, is created when the ammonia found in fertilizer, manure, and animal waste lagoons undergoes chemical changes in the atmosphere.^[4] Ammonia in the particulate form travels long distances, is potentially toxic to humans, and can damage certain plant communities and ecosystems.^[5]

Animal agriculture also contributes a significant share of all three major greenhouse gases ("GHGs") to the atmosphere: carbon dioxide ("CO₂"), methane ("CH₄"), and nitrous oxide ("N₂O"). According to the Food and Agriculture Organization of the United Nations, the animal agriculture industry accounts for approximately nine percent of all anthropogenic CO₂ emissions, between 35 and 40 percent of all CH₄ emissions, and roughly 65 percent of the N₂O emissions.^[6]

Notably, the livestock sector emits much larger shares of methane and nitrous oxide than any other individual sector, and these two GHGs have much higher potentials to warm the atmosphere than CO₂. [7] This unique composition of GHG emissions means that reductions in the animal agriculture industry can mitigate climate change much more rapidly than reductions in CO₂ from any other sector.

WATER POLLUTION

Animal agriculture is also a leading cause of surface and ground water pollution. One of the largest and most dangerous sources of water pollution from animal agriculture is nonpoint source pollution—specifically, nutrient runoff from fertilizer and animal waste, which results in large amounts of nitrogen and phosphorus entering the environment. According to the US Environmental Protection Agency, "too much nitrogen and phosphorus in the water causes algae to grow faster than ecosystems can handle", leading to habitat loss, changes in biodiversity, loss of recreational potential, and impaired drinking water quality.[8]

WHAT IS NONPOINT SOURCE POLLUTION?

Nonpoint source ("NPS") pollution refers to contamination that does not originate from a single discrete source. NPS pollution generally results from land runoff, drainage, precipitation, rainfall, or melting snow.

In contrast, point source pollution is pollution discharged from any single identifiable source, such as a pipe, ship, or factory smokestack.[9]

LAND DEGRADATION & BIODIVERSITY LOSS

The creation and expansion of farmland for animal agriculture and feed crop production often results in deforestation, land degradation, habitat fragmentation, and the destruction of native habitat.^[10] This, combined with the toxic effect of pesticides, fertilizers, and manure, and the contribution of the animal agriculture sector to climate change, is a major force of biodiversity loss across all classifications of organisms.^[11]



Photo Credit: We Animals Media

PART II. Laws and Policies

Laws and policies have a key role to play in enabling the transition towards a sustainable agricultural sector that protects animals and the environment.

A. KEY COMPONENTS OF THE LEGISLATIVE AND POLICY FRAMEWORK

The adverse environmental impacts of animal agriculture are numerous, and the trend towards larger, more intensive systems—commonly referred to as Intensive Livestock Operations ("ILOs")—has only exacerbated these environmental problems. The purpose of this Report is to better understand how Canada is currently dealing with these issues and how we can improve our legislative and policy framework to limit this intensification.

In Canada, as in other jurisdictions, existing legislative and policy instruments designed to reduce the environmental impacts of animal agriculture typically do so by: (1) restricting the use of polluting inputs such as fertilizers, manure, and pesticides, and (2) requiring farm management practices that reduce the likelihood of pollutants reaching water bodies, such as setbacks and vegetative buffers.^[12]

Some jurisdictions also have legislative and policy regimes in place to deal with GHG emissions from animal agriculture—however, this is a more recent development.

Key components of the legislative and policy framework include:

Nutrient Management: Nutrient management "involves using crop nutrients as efficiently as possible to improve productivity while protecting the environment. The key principle behind nutrient management is balancing soil nutrient inputs with crop requirements."^[13] Nutrient management is regulated through:

- Nutrient management plans;
- Storage requirements;
- Land application standards; and
- Setbacks and buffer zones.

Integrated Watershed Management: Most Canadian jurisdictions have environmental protection regimes based on the concept of Integrated Watershed Management ("IWM"). IWM involves managing human activities and natural resources in an area defined by watershed boundaries aiming to protect and manage natural resources and their functions today and into the future.^[14] IWM is carried out using the following mechanisms:

- Watershed and subwatershed plans;
- Policy and guidance documents;
- Land-use management; and
- Environmental Assessments.

Monitoring, Compliance, and Enforcement: Jurisdictions vary in the kinds of administrative regimes and mechanisms they use to monitor compliance and enforce the various nutrient management and environment protection systems. Some of these mechanisms include:

- Creation of offences with penalties including fines and imprisonment;
- Compliance and enforcement orders;
- Restoration orders; and
- Progress and monitoring reports.

B. Summary of Select Canadian Jurisdictions

We have reviewed relevant laws, policies and regulations federally and across six Canadian provinces and identified the following key trends (each discussed in more detail below):



LACK OF A COMPREHENSIVE LEGAL FRAMEWORK

None of the provincial jurisdictions reviewed have a comprehensive legislative framework dealing with pollution from animal agriculture. Instead, separate laws, policies, and regulations generally deal with isolated issues—such as nutrient runoff, drinking water safety, waste management, and general environmental contamination.



EXEMPTIONS FOR ANIMAL AGRICULTURE

Across jurisdictions, new animal agriculture projects and expansions are often exempt from environmental assessment legislation and laws and policies regulating GHG emissions.



BROAD DISCRETION

Environmental protection legislation across Canadian provinces typically uses broad discretionary language that may lead to the exclusion of pollution from animal agriculture. For example, Ontario's *Environmental Protection Act* prohibits the release of a contaminant that is likely to cause an "adverse effect" and creates exemptions for "normal farming practices".^[15]

I. BRITISH COLUMBIA



Overview

British Columbia ("BC") does not have comprehensive legal regime dealing with pollution from animal agriculture. Instead, it has various environmentally oriented statutes and regulatory regimes to govern various aspects of the animal agriculture sector, such as source water protection, nutrient management, and general environmental protection. BC does well in setting out Codes of Practice for the agriculture industry, but should require the industry to abide by environmental assessments.

Legislation

Climate Change Accountability Act, SBC 2007, c 42

The *Climate Change Accountability Act* ("CCAA") establishes BC's greenhouse gas emission target levels, including for the agriculture sector.^[16] Under the CCAA, the minister must prepare an annual report regarding progression towards the targets and the climate change risks.^[17]

In March 2022, Sierra Club BC filed an application for judicial review alleging that the provincial government has failed in its legal duty to disclose detailed emission reduction plans to demonstrate how it will meet its targets pursuant to the CCAA, specifically in the oil and gas sector.^[18] BC's 2021 Climate Change Accountability Report similarly fails to set out detailed plans for reducing GHG emissions from animal agriculture.^[19]

Drinking Water Protection Act, SBC 2001, c 9

The *Drinking Water Protection Act* ("DWPA") sets out minimum water quality standards and provides that a person must not "introduce anything or cause or allow anything to be introduced into a domestic water system, a drinking water

source, a well recharge zone or an area adjacent to a drinking water source [...] if this will result or is likely to result in a drinking water health hazard in relation to a domestic water system.”[20]

The DWPA also allows the minister to designate an area that requires a drinking water protection plan to be developed, based on monitoring results indicating a threat to drinking water health.[21]

Environmental Assessment Act, SBC 2018, c 51

The *Environmental Assessment Act* (“EAA”) sets out the regime for reviewing potential projects that may have an adverse effect on the environment. While agricultural projects and expansions are not subject to environmental assessments under the EAA, there are a few designated projects relevant to the industry, including: water management projects, waste management projects, and waste disposal projects.[22]

Environmental assessments require consideration of the following matters:

1. Positive and negative direct and indirect effects of the reviewable project, including environmental, economic, social, cultural, and health effects and adverse cumulative effects;
2. Risks and uncertainties associated with those effects;
3. Risks of malfunctions or accidents;
4. Disproportionate effects on distinct human populations;
5. Effects on biophysical factors that support ecosystem function;
6. Effects on current and future generations;
7. Consistency with any land-use plan of the government or an Indigenous nation if the plan is relevant to the assessment and to any assessment conducted under section 35 or 73 of the EAA;
8. GHG emissions, including the potential effects on the province being able to meet its targets under the *Climate Change Accountability Act*;
9. Alternative means of carrying out the project that are technically and economically feasible, including through the use of the best available

- technologies, and the potential effects, risks, and uncertainties of those alternatives;
10. Potential changes to the reviewable project that may be caused by the environment; and
 11. Other prescribed matters.[\[23\]](#)

Environmental Management Act, SBC 2003, c 53

The *Environmental Management Act* ("EMA") sets out prohibitions and authorizations in relation to various environmental matters including:

- Waste disposal;
- Municipal waste management;
- Contaminated site remediation;
- Clean air provisions; and
- Powers in relation to managing the environment, such as
 - Spill prevention;
 - Pollution prevention; and
 - Environmental protection orders. [\[24\]](#)

While the EMA includes a general prohibition against introducing waste into the environment, the Regulations establish codes of practice that carve out certain exceptions for animal agriculture. For example, the Code of Practice of Agricultural Environmental Management ("CPAEM") prescribes "environmentally responsible and sustainable practices" to be used for any type of agricultural operation in BC, including raising or keeping livestock, poultry, or insects.[\[25\]](#) It sets out:

- Emission requirements in relation to boilers and heaters;
- Setback requirements and prescribed distances for agricultural operations from drinking water sources, watercourses and property boundaries;
- High-risk areas and conditions;
- Collection, storage, and use requirements for agricultural by-products;

- Nutrient management requirements; and
- Livestock and poultry requirements.[26]

Provincial inspectors verify compliance with the CPAEM during scheduled inspections of agricultural sites or in response to complaints.[27]

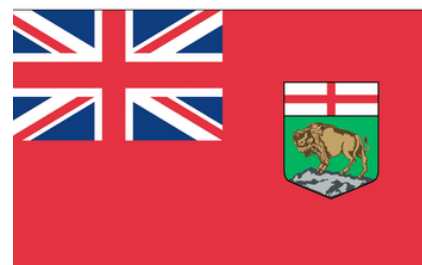
Greenhouse Gas Industrial Reporting and Control Act, SBC 2014, c 29

The *Greenhouse Gas Industrial Reporting and Control Act* (“GGIRCA”) requires emission reports from certain industrial operations.[28] Failure to meet compliance obligations or failure to report can result in administrative penalties, set out in the *Greenhouse Gas Emission Administrative Penalties and Appeal Regulation* (BC Reg 248/2015). For example, failure to submit a required emission or compliance report could result in a financial penalty of up to \$50,000.[29] At present, the GGIRCA only requires liquefied natural gas facilities to report their GHG emissions and adhere to an emissions benchmark. However, it could apply to animal agriculture operations in the future.[30]

Water Sustainability Act, SBC 2014, c 15

The purpose of the *Water Sustainability Act* is to ensure BC residents have access to a sustainable supply of clean water.[31] Among other things, it includes a prohibition against introducing, causing, or allowing animal waste, pesticides, fertilizers, and other contaminants into a stream, a well, or groundwater.[32]

II. MANITOBA



Overview

Manitoba has a patchwork of legal regimes that together address pollution from animal agriculture. These regimes include monitoring GHG emissions, setting drinking water quality standards, setting out licencing requirements for ILOs, and prescribing limits for nutrient management land application.

Manitoba has some of the strongest air pollution and water pollution laws of the jurisdictions analyzed. However, considering the maximum phosphorus concentration targets for Lake Winnipeg are not being met, this suggests the laws and their enforcement do not go far enough.

Legislation

Climate and Green Plan Act, SM 2018, c 30, Sch A

The *Climate and Green Plan Act* ("CGPA") requires the minister to establish greenhouse gas emission reduction goals for five-year periods, as well as publish annual reports on the climate and green plan.^[33] While the CGPA applies to the agriculture sector, the most recent Manitoba Conservation and Climate Report for 2020-2021 does not specifically address greenhouse gas emissions from animal agriculture.^[34]

Drinking Water Safety Act, SM 2002, c 36

The *Drinking Water Safety Act* establishes drinking water quality standards and provides technical expertise to facilitate co-operative efforts in drinking water programs and policies.^[35] The Schedule found in the *Drinking Water Quality Standards Regulation* sets out the maximum acceptable concentration of certain chemicals found in drinking water. For example, 1mg/L is the maximum acceptable concentration of nitrogen in groundwater or in groundwater under the direct influence of surface water.^[36] If such standards are not met, safety orders or boil water advisories may be implemented.^[37]

Environment Act, SM 1987-88, c 26

Under the *Environment Act* ("EA"), a licence is required to “construct, alter, operate or set into operation” any Class 2 development, including dairy plants, food processing plants, meat processing, and slaughter plants, or rendering plants.[38] To obtain a licence, a person must file a proposal in writing. Upon receiving a proposal the director must file a summary in the public registry and notify the public of the opportunity for comments and objections.[39]

The director has the ability to issue or refuse a licence. If a licence is refused, written reasons must be provided. Notably, the director must take into account the amount of GHG emissions to be generated by the proposed development and the energy efficiency of the proposed development when considering proposals. Additionally, if the development affects or may affect water, the licensee must ensure compliance under the *Water Protection Act*. [40]

The EA also gives the director the ability to issue environmental protection orders against persons responsible for pollutants.[41]

Under the EA, the *Livestock Manure and Mortalities Management Regulation (Man Reg 42/98)* governs the storage of livestock manure by prescribing requirements for the size and operation of associated manure storage facilities. Permits must be acquired to construct or modify a manure storage facility.[42] The Regulation also provides that “[n]o person shall handle, use or dispose of livestock manure, or store livestock manure in an agricultural operation, in such a manner that it is discharged or otherwise released into surface water, a surface watercourse or groundwater”. [43]

Under the Regulation, the following agricultural activities must be done in a way that would not “cause pollution of surface water, groundwater or soil”:

- Applying livestock manure to land;
- Storing livestock manure;

- Composting manure;
- Operating a confined livestock area of an agricultural operation;
- Disposing of mortalities by incineration or burial on the property of an agricultural operation;
- Composting livestock mortalities; or
- Operating a seasonal feeding area.[44]

For clarity, pollution means “the presence in the water or soil of substances or contaminants that are foreign to or in excess of the natural constituents of the water or soil and that adversely affect the uses of the water or soil.”[45]

The Regulation also provides that manure shall not be composted on agricultural property unless the site is located at least 100 meters from any surface watercourse, sinkhole, spring, or well and does not cause pollution of surface water, groundwater or soil.[46] Section 12.1 of the regulation sets out the allowable limits of phosphorus levels when applying livestock manure to land.

The Water Protection Act, SM 2005, c 26

The *Water Protection Act* ("WPA") sets water quality standards, objectives and guidelines.[47] Under the WPA, there are regulations that provide further clarification of the required standards for nutrient management and phosphorus discharge. For example, the Manitoba Water Quality Standards, Objectives and Guidelines Regulation provides that licences for class 2 developments (such as dairy plants, food processing plants, meat processing and slaughter plants, or rendering plants) can only be provided if that proponent can "ensure the concentration of phosphorus in wastewater effluent discharged from the development does not exceed 1.0 milligram per litre of total phosphorus.”[48]

The Nutrient Management Regulation ("NMR") regulates the application and disposal of nutrients. Under the NMR, nutrient means “any substance that

provides nourishment and promotes growth of aquatic organisms when transmitted to water.”[\[49\]](#) This includes phosphorus and nitrogen. The NMR prohibits applying these nutrients where water that is sensitive to impact is nearby.[\[50\]](#) These “vulnerable bodies of water” are listed in the NMR’s Schedule.

The NMR also prescribes limits for the application of nitrogen and phosphorus. Both can be applied in accordance with a registered plan. In the absence of a registered plan:

- Substances containing nitrogen cannot be applied in zones N1 to N3 if the rate of application results in a residual concentration of nitrate nitrogen within the top 0.6 meters (2 feet) of soil at the end of the growing season; and
- The rate of phosphorus application cannot exceed:
 - two times the applicable phosphorus removal rate if the phosphorus levels are less than 120 parts per million (“ppm”), or
 - the applicable phosphorus removal rate, if the soil test phosphorus levels are 120 ppm or more but less than 180 ppm.[\[51\]](#)

III. NEW BRUNSWICK



Overview

New Brunswick's legislation sets out requirements to manage contaminants entering its waters and air. In addition, New Brunswick has legislation devoted to agriculture and livestock operations that set out protections for the industry and detail licencing requirements, including considering the measures taken to minimize the risk of environmental degradation.

Legislation

Clean Water Act, SNB 1989, c C-6.1

The *Clean Water Act* ("CWA") gives the Minister of Health the power to designate a "solid, liquid, gas, micro-organism, odour, radiation or combination of any of them" as a contaminant when they are in water, or to set a maximum permissible concentration of a contaminant.^[52] The CWA restricts anyone from releasing a designated contaminant directly or indirectly into water without authorization.^[53]

With approval of the Lieutenant-Governor in Council, the Minister also has the power to designate watersheds or portions of watersheds as protected areas and to restrict certain activities within such designated areas. The CWA sets out offences and penalties for persons who violate the Act.^[54]

Clean Environment Act, RSNB 1973, c C-6

The *Clean Environment Act* ("CEA") deals with pesticide control and contaminant designation.^[55] Similar to the CWA, the CEA gives power to the Minister of Environment and Climate Change to designate "a solid, liquid, gas, micro-organism, odour, heat, cold, sound, vibration, radiation or combination"

as a contaminant and to designate the levels or concentrations of a contaminant that may be released into the environment.[56]

The CEA gives broad powers to the Minister to investigate potential sources of contaminant release and to issue orders relating to the management of contaminants. The CEA also sets out offences and penalties.[57]

Clean Air Act, SNB 1997, c C-5.2

The purpose of the *Clean Air Act* (“CAA”) is to protect and improve air quality by “controlling the type and amount of contaminants that are released into the atmosphere, through a system of Air Quality Approvals.”[58] The CAA applies to “all businesses, industries, and individuals in New Brunswick, to federal and provincial governments, and to Crown corporations.”[59]

No one is permitted to release a contaminant into the air without an Air Quality Approval (“Approval”).[60] For clarity, “contaminant” under the CAA is defined as anything “that is foreign to or in excess of the natural constituents of the environment”, “any pesticide or waste”, or “anything that is designated by the Minister as a contaminant”. [61] Regardless of whether an Approval has been issued, “no one can release a contaminant if it may damage property, interfere with the normal conduct of business, or cause substantial loss of the normal enjoyment of the use of any property.”[62]

The CAA also contains the *Air Quality Regulation*, which sets out the process for issuing Approvals, and the *Public Participation Regulation*, which requires a formal public review process if a facility seeks an Approval for a large source of air pollution.[63] The CAA also permits inspection of facilities and provides a process to submit complaints for investigation to the Department of Environment.[64] The CAA sets out the offences for penalties with fines ranging from \$1,000 to \$1 million for corporations. [65]

Agricultural Operation Practices Act, RSNB 2011, c 107

The *Agricultural Operations Practices Act* (“AOPA”) protects agricultural operations from being held liable for nuisance as long as the operation is “using acceptable farm practices”.^[66] The AOPA grants the Farm Practices Review Board the authority to determine what constitutes an “acceptable farm practice”.^[67]

Livestock Operations Act, SNB 1998, c L-11.01

The *Livestock Operations Act* (“LOA”) sets out the requirement of needing a licence to carry on a livestock operation.^[68] The Minister of Agriculture and Fisheries is permitted to impose conditions when issuing, renewing or amending a livestock operation licence including “measures to be taken to minimize the risk of environmental degradation,” and “the method of collection, transfer, treatment, transportation, containment and storage of manure and waste water”.^[69] The LOA sets out offences and penalties for failing to comply with the LOA, its regulations, or a term or condition of a livestock operation licence.^[70]

IV. NOVA SCOTIA



Overview

Nova Scotia does not have a legal regime specifically targeted towards the animal agriculture industry. Instead, it has general environmental legislation that seeks to prohibit excessive substance release into the environment and sets out GHG emission targets. Animal agriculture is exempt from many of Nova Scotia's relevant regulations.

Legislation

Environment Act, 1994-95, c 1

The purpose of the *Environment Act* ("EA") is to support and promote the protection, enhancement, and prudent use of the environment.^[71] The EA sets out a number of goals it is designed to achieve, some of these goals are:

- Maintaining environmental protection as essential to the integrity of ecosystems, human health and the socio-economic well-being of society;
- Maintaining the principles of sustainable development; and
- Taking remedial action and providing for rehabilitation to restore adversely affected areas.^[72]

The EA creates a prohibition against releasing substances into the environment in "an amount, concentration or level or at a rate of release that is in excess of that expressly authorized by an approval or the regulations".^[73]

Unfortunately, new agricultural operations or expansions are exempt from the majority of the regulations under the EA, including the *Environmental Assessment Regulations* and the *Regulations Respecting Greenhouse Gas Emissions*.^[74]

Environmental Goals and Climate Change Reduction Act, 2021 c 20

The *Environmental Goals and Climate Change Reduction Act* (“EGCCRA”) establishes the province’s greenhouse gas emission targets as follows:

- By 2030, to be at least 53% below the levels that were emitted in 2005; and
- By 2050, to be net zero, by balancing greenhouse gas emissions with greenhouse gas removals and other offsetting measures.[\[75\]](#)

Under the EGCCRA, climate change risk assessments are to be conducted and released every five years.[\[76\]](#)

The EGCCRA also sets out the government’s food goals, which include supporting low-impact sustainable aquaculture through considering environmental impacts, animal welfare, and fish health, as well as developing a strategy to increase local food production and consumption.[\[77\]](#)

V. ONTARIO



Overview

Ontario has various pieces of legislation that together govern the animal agriculture sector through various aspects of agricultural activities like nutrient management, spills, pesticide use, and air quality. Ontario does well in setting out a right to a healthy environment and specific nutrient management requirements but exempts "normal farming practices" from discharging contaminants into the natural environment.

Legislation

Nutrient Management Act, 2002, SO 2002, c 4

The *Nutrient Management Act* ("NMA") is the primary legislation used in Ontario to govern the storage and application of nutrients to farm lands.[78] In this context, "nutrient" includes manure, fertilizer and compost, but also non-agricultural source materials such as sewage biosolids and pulp and paper biosolids.[79] The NMA "sets out regulatory requirements for certain nutrient management practices and requires farmers to document these practices to reduce risk of water contamination by agricultural sources." [80]

Specific requirements related to land application standards, such as maximum application rates and minimum separation distances from wells, surface water, and groundwater, are set out in **O. Reg. 267**. [81] For example, nutrients should not be applied within:

- 330 feet (100 meters) of a municipal well;
- 50 feet (15 meters) from drilled wells or 100 feet (30 meters) from any other well; and
- 10 feet (3 meters) to 200 feet (60 meters) from the bank of surface water.

The NMA requires large or expanding livestock farms to develop a Nutrient Management Strategy ("NMS"), which addresses the generation, transfer, and storage of manure. The NMA also requires large livestock farms to develop a Nutrient Management Plan (NMP), which deals with the actual application of manure and fertilizer to land.[\[82\]](#)

Under the NMA, total phosphorous application to land (by both fertilizer and manure) is limited such that the total plant available phosphate in the nutrients that are applied to land per hectare during any consecutive five-year period does not exceed the greater of:

- The crop production requirements per hectare for that five-year period plus 85 kilograms of phosphate per hectare; and
- The phosphate removed from the land per hectare in the harvested portion of the crop during that five-year period plus 390 kilograms of phosphate per hectare.[\[83\]](#)

Unfortunately, the NMA does not effectively protect Ontario's water from most of Ontario's manure. According to a 2018 report by the Environmental Commissioner of Ontario:

Only 6,513 farms out of 19,409 livestock operations in Ontario are required to prepare and follow a nutrient management strategy. Of those 6,513 farms, 1,303 large operations must also prepare and follow a nutrient management plan [...]. Since smaller farms [...] are not captured, these rules only catch about 34% of Ontario's livestock operations, 6% of the farms that spread manure, and 44% of Ontario's total manure by volume.[\[84\]](#)

Environmental Protection Act, RSO 1990, c E 19

The Environmental Protection Act ("EPA") provides for the protection and conservation of the natural environment in the province of Ontario. The EPA prohibits a person from discharging a contaminant or causing or

permitting the discharge of a contaminant into the natural environment, if the discharge causes or may cause an adverse effect.[\[85\]](#)

Under the EPA, “contaminant” includes any solid, liquid, gas, odour, heat, sound, vibration, radiation, or combination of any one of them resulting directly or indirectly from human activities that causes or may cause an adverse effect.[\[86\]](#) “Adverse effect” includes:

- Impairment of the quality of the natural environment for any use that can be made of it;
- Injury or damage to property or to plant or animal life;
- Harm or material discomfort to any person;
- An adverse effect on the health of any person;
- Impairment of the safety of any person;
- Rendering any property or plant or animal life unfit for human use;
- Loss of enjoyment of normal use of property; and
- Interference with the normal conduct of business.[\[87\]](#)

The EPA generally does not apply to the discharge of contaminants if it is in accordance with both “normal farming practices” and the regulations made under the *Nutrient Management Act*.[\[88\]](#)

Under the EPA, many businesses that conduct activities that result in the release of contaminants into the air, land, or water in Ontario must apply for an Environmental Compliance Approval (“ECA”). The purpose of an ECA is to set rules for these activities in a way that helps protect the natural environment and human health.

A person who applies for an ECA in respect of a facility that discharges or will discharge a contaminant into the air must also comply with the requirements under the Ontario Regulation 419/05: Air Pollution – Local Air Quality, including preparing an Emission Summary and Dispersion Modelling Report.[\[89\]](#)

Environmental Bill of Rights, 1993, SO 1993, c 28

The Environmental Bill of Rights (“EBR”) protects Ontarians' rights to a healthy and sustainable environment by providing them with the right to become involved in decisions that affect the environment, and by bringing accountability and transparency to ministry decision-making.^[90]

O. Reg. 681/94 **Classification of Proposals for Instruments** sets out the types of proposals that must be posted on the Environmental Registry of Ontario (“ERO”) for public review and comment, and that can be appealed under the EBR.^[91] Proposed ECAs, for example, are posted on the ERO and are open for public comment for a minimum of 30 days. If an ECA is approved, you may seek leave (permission) to appeal the decision from the Ontario Land Tribunal under Part II of the EBR (sections 38 to 48).

Part V of the EBR enables Ontarians to report suspected violations of environmental laws and request that the Ministry responsible conduct an investigation into the matter. The application process requires two Ontario applicants to make a joint request in writing, and the Minister has a “duty to investigate” the matter. The Ministry must notify you within 60 days of receiving your application whether they will investigate. If the Ministry undertakes the requested investigation, the EBR requires the Ministry to report back to you on the outcome of the investigation. In the event the Minister chooses not to investigate, they must provide reasons to you. For accountability purposes, the Ministry’s handling of, and response to, the application will be monitored and reported upon by the independent Commissioner of the Environment in the office of the Auditor General of Ontario.

Ministries that are subject to the EBR have to develop a Statement of Environmental Values (“SEV”) and must take reasonable steps to consider their SEVs when making decisions that might significantly affect the environment. You can read each ministries’ Statements of Environmental Values [online](#).

Clean Water Act, 2006, SO 2006, c 22

The Clean Water Act ("CWA") protects existing and future sources of drinking water.[92] Under the CWA, any land use activity classified as a "drinking water threat" or "significant drinking water threat" may be required to mitigate risk as stipulated in a local Source Protection Plan ("SPP"). An SPP is "a strategy and suite of policies designed to protect municipal sources of drinking water from contamination and overuse." [93] A number of agricultural activities, including the application, storage and management of agricultural source material, are classified as drinking water threats under the CWA.[94]

Pesticides Act, RSO 1990, c P 11

The *Pesticides Act* ("PA") protects human health and the natural environment by controlling the sale, use, storage, display, disposal, and transportation of pesticides and fertilizers containing pesticides.[95] The PA prohibits use of pesticides in a manner that may cause, or likely cause, damage to the quality of the environment and requires safe and proper pesticide storage facilities. Under the PA, licences are required to undertake regulated activities in agricultural operations.

Ontario Water Resources Act, RSO 1990, c O 40

The *Ontario Water Resources Act* ("OWRA") provides for the conservation, protection, and management of Ontario's waters.[96] The OWRA prohibits discharge or deposit of any material into any water body or watercourse that may impair water quality. Under the OWRA, a certificate of approval is required to discharge material to land or surface water.

Safe Drinking Water Act, 2002, SO 2002, c 32

The *Safe Drinking Water Act* prohibits a person to cause anything to enter a drinking water system if it could result in a drinking water health hazard.[97]

USING THE EBR TO STOP ILOS

It may be possible to use Ontario's *Environmental Bill of Rights* ("EBR") to stop construction of new Intensive Livestock Operations ("ILOS") or the expansion of existing ILOS.

This is because the EBR provides an avenue for Ontarians to appeal the decision of the Minister to grant an Environmental Compliance Approval ("ECA") for an ILO. As noted above, businesses that conduct activities that result in the release of contaminants into the air, land, or water—including ILOS—must apply for an ECA under the *Environmental Protection Act* ("EPA").

So, how can you use the EBR to stop ILOS?

Under the EBR, proposed ECAs are posted on the Environmental Registry of Ontario ("ERO") and are open for public comment for a minimum of 30 days. If you wish to stop the construction or expansion of an ILO, you should submit written comments in advance of the deadline. If the ECA is approved and you have submitted comments, you may seek leave (permission) to appeal the decision from the Ontario Land Tribunal ("Tribunal") under Part II of the EBR (sections 38 to 48).

It is important to note that the time for serving and filing a leave-to-appeal application under the EBR is very short—it must be filed within 15 days after notice of the decision is posted on the ERO.

STEP 1 Submit comments on the ERO



STEP 2 Seek leave to appeal (within 15 days)



What about challenging existing ILOs?

If you believe an existing ILO is operating without an ECA or is exceeding the conditions of its ECA, you may request an investigation under Part V of the EBR. This mechanism enables Ontarians to report suspected violations of environmental laws and request that the Ministry responsible conduct an investigation into the matter. The application process requires two Ontario applicants to make a joint request in writing, and the Minister has a “duty to investigate” the matter. The Ministry must notify you within 60 days of receiving your application whether they will investigate. If the Ministry undertakes the requested investigation, the EBR requires the Ministry to report back to you on the outcome of the investigation, and in the event the Minister chooses not to investigate, they must provide reasons to you. For accountability purposes, the Ministry’s handling of the application will be monitored and reported on by the independent Commissioner of the Environment in the office of the Auditor General of Ontario.

In this case, you would be alleging violations of section 9(1)(a) of the EPA, which states that “no person shall, except under and in accordance with an environmental compliance approval, [...] use, operate, construct, alter, extend or replace any plant, structure, equipment, apparatus, mechanism or thing that may discharge or from which may be discharged a contaminant into any part of the natural environment other than water.”^[98]

Before submitting an application for investigation, you should gather as much information and evidence as you can about the extent and degree of pollution coming from the ILO, and any potential adverse impacts. For more information, visit the [Environmental Bill of Rights website](#), and scroll down to “Request an Investigation”.

VI. QUEBEC



Overview



Quebec has a comprehensive piece of legislation that governs agricultural operations. The Regulation applies to raising animals, to facilities used in raising of such animals, to the storage facilities for their waste, and to the spreading of such waste. The Regulation also sets out the process and potential penalties for non-compliance.

Legislation

Agricultural Operations Regulation under the Environment Quality Act, Q-2, r 26

The object of the *Agricultural Operations Regulation* ("AOR") is to protect the environment, particularly water and soil, against pollution caused by certain agricultural activities.^[99] According to the Ministry of the Environment and the Fight against Climate Change, the Regulation "establishes standards that contribute to compliance with the phosphorus support capacity of Quebec's rivers, among other things, by overseeing the management of animal waste and the cultivation of plants. It also provides that animal manure and other fertilizing materials produced or used by an agricultural operation (raising site or spreading site) be stored and spread appropriately in order to limit their flow into watercourses."^[100]

The AOR provides that farmers must store most of the animal manure produced in an airtight structure. It also establishes standards governing the doses, methods, dates and distances for spreading animal waste.^[101]

Under the Regulation, owners of livestock facilities have four options for management of livestock waste:

- It can be spread on lands belonging to the owner or to neighbouring farms;
- It can be sent to a manure management organization;
- It can be treated by an authorized establishment; or
- It can be sent to a storage facility for later spreading or treatment.

The Regulation requires farmers to maintain an agro-environmental fertilization plan and document all manure spreading. The goal of the plan is to ensure that livestock wastes are spread in such a manner as to minimize water pollution.[\[102\]](#) All agro-environmental fertilization plans must be prepared and signed by an agrologist who is a member of the Ordre des Agronomes du Quebec, a professional technologist who is a member of the Ordre des technologies professionnels du Quebec, or an owner or shareholder in the operation who has completed an authorized training course.[\[103\]](#) Copies of plans must be retained for a minimum of five years after the activities it documents have been completed.

When one or more elements of non-compliance is observed during the inspection of a farm, the following actions may be taken depending on the seriousness of the violation committed:

- A notice of non-compliance is sent to the operator, who then has the possibility of proposing a corrective action plan to bring his operation into compliance;
- A notice of non-compliance may lead to the imposition of an administrative monetary penalty ("AMP") by a regional director, which consists of a fine imposed on the offending operator;
- A notice of non-compliance may also lead to the transmission of the operator's file for the purposes of investigation and criminal prosecution.

[\[104\]](#)

The amount of an AMP varies according to the breach observed and can reach an amount of \$250 to \$2,000 for a natural person and \$1,000 to \$10,000 in other cases (for legal persons).[\[105\]](#)

As part of criminal proceedings, the operator may be ordered to pay a fine of up to \$1,000 to \$1,000,000 for a natural person and \$3,000 to \$6,000,000 in other cases (for legal persons), depending on the seriousness of the offence committed and whether or not it is a repeat offence.[\[106\]](#)

For clarity, the term "natural person" refers to a human being, whereas a "legal person" encompasses other entities classified as persons under the law, which includes both natural persons and corporations. Of note, animals are not currently considered persons under the law.

AN OPPORTUNITY FOR FEDERAL AND PROVINCIAL POLICY REFORM: ENVIRONMENTAL FARM PLANS

All of the reviewed Canadian provinces have Environmental Farm Plan ("EFP") programs. An EFP is a voluntary planning tool meant to educate farmers about the environmental impacts of agriculture, help them identify areas in which they can improve their own environmental performance, and promote best management practices.

Financial incentives and cost-share programs are often available to assist farmers in implementing projects under their EFPs.

Based on the research of Dr. Heather McLeod-Kilmurray and Dr. Nathalie Chalifour^[107], AEL Advocacy recommends two key changes to the EFP program:

1. The federal government should establish national principles for sustainable agriculture to guide the direction of EFPs. Much like the European Commission's "Farm to Fork Strategy"^[108], these principles should be based on the Guiding Principles for Sustainable Healthy Diets developed by the Food and Agriculture Organization of the United Nations and the World Health Organization, which highlight the combined health and environmental benefits of shifting towards a more plant-based diet^[109].
2. The amount of funding farmers receive for creating and implementing an action plan based on an EFP should be considerably increased to encourage participation in the program.

C. Summary of Select International Jurisdictions

We have reviewed relevant laws, policies and regulations across three international jurisdictions and identified the following key trends (each discussed in more detail below):



LACK OF AIR POLLUTION CONSIDERATIONS

The international jurisdictions reviewed generally fail to prioritize reducing air pollution in the animal agriculture industry—either by ignoring the air pollution implications of animal agriculture altogether, or by creating exemptions for the industry in their climate change and GHG legislation.



PRIORITIZING PROTECTING BIODIVERSITY

These jurisdictions place greater emphasis on preventing land degradation and biodiversity loss than Canadian jurisdictions. For example, Queensland may require federal approval before conducting land clearing for a new farming activity.



UNIQUE STRATEGIES TO REDUCE ENVIRONMENTAL POLLUTION FROM ANIMAL AGRICULTURE

The international jurisdictions reviewed offer approaches, different from Canada, to reduce the environmental impact of animal agriculture, such as: the UK's financial assistance incentives to manage land, water, or livestock in a manner that mitigates climate change; and California's proposed bill that would put a moratorium on factory farm construction.

I. CALIFORNIA (U.S.)



Overview

California does not have a comprehensive legal regime to address the pollution caused by the animal agriculture industry. As with most other jurisdictions we reviewed, California has various pieces of environmental legislation that govern these issues separately. However, two promising bills have recently been proposed that would change this approach—the first would place a moratorium on the construction and expansion of large concentrated animal feeding operations and the second would require the Department of Food and Agriculture to provide grants to farmers to transition to plant-based agriculture.

Legislation

Federal Clean Water Act

The federal *Clean Water Act* ("CWA") requires all States to develop a program to protect the quality of water resources from the adverse effects of nonpoint source ("NPS") water pollution, including pollution from agricultural sources.

[110] California's NPS Control Program accomplishes this by:

1. Implementing and enforcing waste discharge requirements, waivers of waste discharge requirements, and waste discharge prohibitions to control and reduce NPS pollution to waters of the state;
2. Collaborating with state, local, and federal agencies on initiatives to control and reduce NPS pollution to waters of the state;
3. Administering a grant program that focuses on controlling and reducing NPS pollution to targeted waterbodies;

4. Researching, investigating, and employing traditional and nontraditional mechanisms for reducing, regulating, and/or otherwise decreasing NPS pollution to waters of the state; and
5. Evaluating success through tracking program activities, NPS pollutant load reductions, and water quality improvements.[\[111\]](#)

One of the other methods of regulating water pollution under the CWA is the National Pollutant Discharge Elimination System ("NPDES") permitting process. Per the CWA, all Concentrated Animal Feeding Operations ("CAFOs") are required to operate under a NPDES permit if they are designed, constructed, operated, or maintained such that a discharge will occur. The main requirements of the CAFO NPDES permit include discharge prohibitions, land application restrictions, inspections of equipment and structures by owner/operator, record-keeping, submission of an annual report, and potentially water quality sampling.[\[112\]](#)

Porter-Cologne Water Quality Control Act

At the state level, California's *Porter-Cologne Water Quality Control Act* ("PCWQCA") covers any discharge activity that could affect the quality of surface water, wetlands, or ground water, including point source and NPS pollution from animal agriculture activities.[\[113\]](#)

Under the PCWQCA, agricultural discharges may be regulated through general or site-specific permits called waste discharge requirements, waivers of waste discharge requirements, or prohibitions.[\[114\]](#) To address agricultural discharges, the Water Boards developed the Irrigated Lands Regulatory Program ("ILRP"), which requires private agricultural land owners to:

1. Monitor surface water for agricultural pollutants, whether individually or regionally through grower coalitions;
2. Complete farm evaluations that describe conservation efforts on each farm;
3. Have management plans in place for sediment and erosion control, irrigation water management, and nitrogen management; and

4. Test drinking water wells on agricultural parcels for nitrate contamination.

[115]

Cannella Environmental Farming Act

The *Cannella Environmental Farming Act* requires the Department of Food and Agriculture to establish and oversee an environmental farming program to provide incentives to farmers whose practices promote the well-being of ecosystems, air quality, and wildlife and their habitat.[116] This legislation could be used to promote and incentivize the shift to plant-based agriculture in the State.

California Assembly Bill 2764 (Not in Force)

On February 18, 2022, California Assembly Bill 2764 was introduced in the California State Legislature.[117] If passed, the bill would place a moratorium on the construction and expansion of CAFOs in California, which would apply to any sort of commercial animal farm that makes over \$100,000 in revenue.[118] The original version of the bill also included a moratorium on the expansion and construction of slaughterhouses, however, the bill was amended in March 2022 to exclude this provision.[119]

California Assembly Bill 1289 (Not in Force)

On February 19, 2021, California Assembly Bill 1289—the "Smart Climate Agriculture Program: Plant-Based Agriculture"—was introduced.[120] If passed, the bill would establish the Smart Climate Agriculture Program, which would require the Department of Food and Agriculture to provide grants to persons farming on small to midsize farms to transition the use of the land from raising livestock or growing feed crops to plant-based agriculture and to provide technical assistance to those persons with regard to the program.[121]

CALIFORNIA'S DAIRY AND LIVESTOCK GREENHOUSE GAS EMISSIONS WORKING GROUP

In 2016, California passed Senate Bill 1383, which set statewide emissions reduction targets with specific direction for methane emissions reductions from dairy and livestock operations.[\[122\]](#)

The legislation directed the California Air Resource Board ("CARB") to adopt regulations no earlier than January 1, 2024, to achieve the dairy and livestock reduction goals.[\[123\]](#) In order to develop the regulations, CARB convened a Dairy and Livestock GHG Emissions Working Group, and in 2018, the Working Group released its' final policy recommendations on the following topics:

- Fostering markets for non-digester projects;
- Fostering markets for digester projects; and
- Research needs, including enteric fermentation.[\[124\]](#)

These recommendations are meant to inform actions to reduce methane emissions from dairy and livestock operations, help prioritize incentive funding and research, and provide guidance for future policies in California.[\[125\]](#)

II. QUEENSLAND, AUSTRALIA



Overview

Queensland sets our environmental protection measures related to the animal agriculture industry including considering land clearing proposals to conserve biodiversity and aiming to protect the Great Barrier Reefs. However, this jurisdiction lacks laws in relation to the animal agriculture's affects on air pollution.

Legislation

Environment Protection and Biodiversity Conservation Act, 1999

Some agricultural activities may need federal government approval under Australia's national environment law, the *Environment Protection and Biodiversity Conservation Act, 1999* ("EPBCA"), which protects matters that are of national environmental significance. Those most relevant to farmers are:

- Nationally threatened and migratory species;
- Nationally threatened ecological communities;
- Wetlands of international importance;
- World and national heritage properties; and
- The Great Barrier Reef.[\[126\]](#)

Under the EPBCA, new farm activities, such as land clearing, likely require approval from the federal environment minister.[\[127\]](#)

Environment Protection Act, 1994

Generally, agricultural practices also need approval under the Queensland *Environmental Protection Act, 1994*.[\[128\]](#)

Great Barrier Reef Protection Regulations

The *Great Barrier Reef Protection Regulations* have been strengthened to address land-based sources of water pollution flowing to the Great Barrier Reef. This includes agricultural and industrial sources of nutrient and sediment pollution from all six Reef regions—Cape York, Wet Tropics, Burdekin, Mackay Whitsunday, Fitzroy, and Burnett Mary.[\[129\]](#)

The Regulations include nitrogen and phosphorus budgets.[\[130\]](#)

III. UNITED KINGDOM



Overview

The legal regime in the United Kingdom (“UK”) sets out a patchwork of relevant statutes and regulations related to animal agriculture such as governing agricultural financial assistance, monitoring GHG emissions, and setting Codes to guide good agricultural processes. Regulations from the developed nations further restrict fertilizer and manure application.

Legislation

Agriculture Act 2020, c 21

The *Agriculture Act* provides financial assistance for a number of purposes, including to anyone who manages “land or water in a way that protects or improves the environment”, and “managing water or livestock in a way that mitigates or adapts to climate change”.^[131] In considering these financial assistance schemes, there must be regard to encouraging the production of food in an environmentally sustainable manner.^[132] As such, the financial assistance regime may act as an incentive for factory farming facilities to find ways to reduce their emissions of carbon dioxide into the atmosphere.

Climate Change Act, 2008, c 27

The *Climate Change Act* (“CCA”) sets out greenhouse gas emissions reduction targets for 2050.^[133] It is the first piece of legislation in the world to set out legally binding targets. Greenhouse gas is specifically defined to include: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride.^[134] This target is to ensure that the net UK carbon account in 2050 is at least 100% lower than the 1990 baseline (*i.e.*, the UK emissions of carbon dioxide for that year).^[135]

The CCA sets out the requirement for a Committee on Climate Change and a duty to prepare proposals and policies to meet the carbon budgets. Notably, in the “[Policies for the Sixth Carbon Budget and Net Zero](#)” (Dec 2020), the Committee recommended policies to encourage dietary shifts, including “low-cost, low-regret actions to encourage a 20% shift away from all meat by 2030 rising to 35% by 2050, and 20% shift from dairy products by 2030.”^[136] The report noted that reducing emissions in agriculture and land-use has been slow, with emissions barely changing over the past decade.^[137] In terms of implementation, the policies state that “[a]n evidence-based strategy is required to establish ... robust metrics and mandatory reporting” and “[i]f these measures are not enough to change consumption patterns, a second stage will need to look at stronger options, whether regulatory or pricing”.^[138] An evidence-based strategy has not been published. Moreover, Friends of Earth, an environmental organization, has taken legal action to expose that the Net Zero Strategy does not add up to the emission reductions needed to meet the sixth carbon budget.^[139] That is, even if implemented correctly, the policies only account for approximately 95% of the required carbon emission reduction.^[140]

Control of Pollution Act, 1974 c 40

The *Control of Pollution Act* (“CPA”) used to prohibit unlicensed disposal of waste on any land, and set out corresponding financial penalties. However, these sections of the CPA have since been repealed.^[141]

The CPA also used to give the Secretary of State the means to approve codes of good agricultural practices for the purpose of “giving practical guidance to persons engaged in agriculture with respect to activities that may affect controlled waters” and “promoting what appear to him to be desirable practices by such persons for avoiding or minimizing the pollution of any such waters.”^[142] For example, the Department for Environment Food & Rural Affairs published the *Code of Good Agricultural Practice for Reducing Ammonia Emissions*.^[143]

Breaching the codes of practice did not give rise to criminal or civil liability. In other words, there was no legal consequence to failure to abide by the codes. While this section of the CPA is also no longer enforced, the published codes can still serve as a good reference for agricultural practices.

Environment Act, 2021 c 30

The purpose of the *Environment Act* (“EA”) is to set out targets, plans, and policies to improve the natural environment.^[144] In setting environmental targets, the priority areas are air quality, water, biodiversity, and resource efficiency and waste reduction. The EA establishes a new Office for Environmental Protection, responsible for monitoring the implementation of environmental laws. The EA requires environmental improvement plans meant to significantly improve the natural environment within the period it applies to (a period that must not be less than 15 years).^[145] The EA sets out the consequences of public authorities failing to comply with environmental laws, including a complaints system and an investigation system which will require a report that sets out recommendations.^[146] The reports may be made public.

Environment Protection Act, 1990 c 43

The purpose of the *Environment Protection Act* (“EPA”) is to set out a structure for waste management and emission release into the environment, such as setting out the requirements and process of granting environmental permits. Section 33(1)(a) of the EPA sets out a general prohibition of disposing of controlled wastes in or on any land unless authorized by a licence.^[147]

However, under the *Environmental Permitting (England and Wales) Regulations 2016*, Schedule 3 of the Regulation sets out exempt facilities and waste operations to which s 33(1)(a) of the EPA does not apply. Agricultural land, which includes “dairy farming and livestock breeding and keeping”, falls under this exemption.^[148]

Similarly, the “exempt facilities” need not abide by the requirement that a person must not “cause or knowingly permit a water discharge activity or groundwater activity” without the authorization of an environmental permit.
[149]

Part 6 of the EPA sets out that a regulator has the authority to prevent or remedy pollution by taking steps to review “a risk of serious pollution”, if it is determined that such a risk exists from the operation of a regulated or an exempt facility. There is no definition for “a risk of serious pollution”, thereby giving the regulator discretion to determine what constitutes such a risk.[150]

Pollution Prevention and Control Act, 1999 c 24

The purpose of the *Pollution Prevention and Control Act* (“PPCA”) is to regulate activities which are capable of environmental pollution. “Activities” include industrial, commercial, or other activities.[151] The PPCA grants the Secretary of State the power to make regulations of any of the purposes listed in Schedule 1, among which includes:

- Authority to set overall limits related to emissions;
- Determining the authorities of the regulations’ functions in relation to permits; and
- Specifying restrictions and requirements for granting permits.[152]

Developed Nations Regulations

In addition to the overarching laws of the United Kingdom, the developed nations (*i.e.*, England and Wales, Northern Ireland and Scotland) have specific regulations that further affect agricultural practices. Select examples are set out below.

Phosphorus (Use in Agriculture) Regulations (Northern Ireland), 2006 No. 488

This Regulation limits the amount of phosphorus applied to land in order to prevent water pollution in Northern Ireland.^[153] The Regulation considers the amount of phosphorus within soil and manure and accordingly restricts the amount of chemical fertilizer that can be applied to land. Similarly, chemical fertilizers cannot be used where runoff into water sources are likely to occur (specifically, the application must be 1.5m away from a waterway).^[154]

The Water Resources (Control of Agricultural Pollution) (Wales) Regulations, 2021 No. 77

This Regulation limits the application of livestock manure as well as nitrogen fertilizer within Wales. For example, an occupier of a holding must ensure that the total amount of nitrogen in livestock manure does not exceed 170 kg multiplied by the area of the holding in hectares, per year.^[155] This includes both manure produced directly by an animal, or spreading manure. Schedule 1 sets out the amount of manure, nitrogen, and phosphate produced by each type of livestock. For example, three to 13-month old dairy cows produce 20L of manure a day, which contains 95 grams of nitrogen and 34 grams of phosphate.^[156] The Regulation also sets out requirements for storing manure and silage, such as prescribing where manure can be stored (that is, in a vessel, covered building, impermeable surface or, in the case of solid manure that does not drain liquid, on a temporary field site).^[157]

PART III. Comparative Analysis

Overview

This section compares how effectively the legislative and policy requirements of each jurisdiction address the three main environmental impacts of animal agriculture operations (air pollution, water pollution, and land degradation/biodiversity loss).

The section first explains the classification system used, then presents the information in a concise but comprehensive comparative chart so that readers can quickly identify the strengths and weaknesses of each jurisdiction.

Finally, the section identifies which jurisdictions are leading in terms of their legislative and policy approach to each of the three main environmental impacts of animal agriculture.

Classification System

GREEN: This law/policy requirement has a **positive impact** on animals and/or the environment.

PURPLE: This law/policy requirement is a **stepping stone towards a positive impact** on animals and/or the environment. For example, the requirement may be positive, but unenforceable or difficult to enforce.

RED: This law/policy requirement has a **negative impact** on animals and/or the environment.

	Air Pollution	Water Pollution	Land Degradation & Biodiversity Loss	Other
British Columbia	<ul style="list-style-type: none"> • Specific GHG emission targets set out for agriculture and agricultural expansion • Requires emission reports from animal agriculture operations 	<ul style="list-style-type: none"> • Prohibits contaminating drinking water • Agricultural projects and expansions not directly subject to environmental assessments • Exemption for agriculture from the general prohibition against introducing waste into the environment 	<ul style="list-style-type: none"> • Laws/policies fail to address land degradation & biodiversity loss in relation to animal agriculture 	<p>Sets out Codes of Practice for:</p> <ul style="list-style-type: none"> • Agriculture Environmental Management; • Slaughter and Poultry Processing Industries
Manitoba	<ul style="list-style-type: none"> • Requires GHG emission reduction goals set out for five-year periods and annual reporting • Must consider GHG emissions when considering issuing a licence to construct, alter, or operate dairy plants, meat processing, and slaughter plants 	<ul style="list-style-type: none"> • Regulations set out the maximum acceptable concentration of certain chemicals in the drinking water • Before issuing a licence to construct, alter or operate dairy plants, meat processing and slaughter plants, the wastewater effluent discharged cannot exceed 1.0 milligrams per litre of total phosphorus • Prescribes limits for the application of nitrogen and phosphorus • Specific regulation governing the storage and disposal of manure to ensure it will not cause pollution to surface water, groundwater, or soil 	<ul style="list-style-type: none"> • Licence required before constructing new dairy plants, meat processing, and slaughter plants 	<ul style="list-style-type: none"> • Recent climate change report fails to address GHG emissions from animal agriculture

	Air Pollution	Water Pollution	Land Degradation & Biodiversity Loss	Other
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New Brunswick

- Prohibition against releasing a contaminant into the air without Air Quality Approval

- Restricts anyone from releasing designated contaminants into water without authorization
- Provides the Minister the power to designate the levels or concentrations of pesticides released into the environment
- When considering whether to grant/renew a licence to carry on livestock operations, the Minister may impose conditions for the method of handling manure and wastewater

- When considering whether to grant/renew a licence to carry on livestock operations, the Minister may impose conditions for measures to be taken to minimize the risk of environmental degradation

Nova Scotia

- Prohibition against releasing substances into the environment in excess of authorization
- GHG emission targets are set out for 2030 and 2050, with climate change risk assessments conducted every five years
- Agricultural operations are exempt from the Environmental Assessment Regulations and Respecting Greenhouse Gas Emissions

- Prohibition against releasing substances into the environment in excess of authorization

- Laws/policies fail to address land degradation and biodiversity loss in relation to animal agriculture

- Government food goals include supporting low-impact sustainable aquaculture through considering environmental impact

	Air Pollution	Water Pollution	Land Degradation & Biodiversity Loss	Other
Ontario	<ul style="list-style-type: none"> Prohibitions against discharging a contaminant into the natural environment if it may cause adverse effects does not apply to “normal farming practices” 	<ul style="list-style-type: none"> Nutrient management requirements set out to reduce risk of water contamination by agricultural sources Prohibitions against discharging a contaminant into the natural environment if it may cause adverse effects does not apply to “normal farming practices” May require a Risk Management Plan for significant drinking water threats depending on the Source Protection Plan 	<ul style="list-style-type: none"> Laws/policies fail to address land degradation and biodiversity loss in relation to animal agriculture 	<ul style="list-style-type: none"> Right to a healthy environment allows public consultation for proposals (such as a proposal to construct a new animal agricultural facility)
Quebec	<ul style="list-style-type: none"> Laws/policies fail to address air pollution in relation to animal agriculture 	<ul style="list-style-type: none"> Standards established to limit the flow of animal manure into watercourses (such as storage and spreading parameters) Requires an Agro-environmental fertilization plan to ensure waste is spread in a way that minimizes water pollution Two exemptions from the requirement to store animal manure in airtight structures 	<ul style="list-style-type: none"> Laws/policies fail to address land degradation & biodiversity loss in relation to animal agriculture 	

	Air Pollution	Water Pollution	Land Degradation & Biodiversity Loss	Other
California (US)	<ul style="list-style-type: none"> Laws/policies fail to address air pollution in relation to animal agriculture 	<ul style="list-style-type: none"> Agricultural discharges may be regulated through general or site-specific permits Private agricultural land owners must monitor surface water for pollutants and have management plans for nitrogen management No requirements for the application of nutrients or pesticides to agricultural fields 	<ul style="list-style-type: none"> Laws/policies fail to address land degradation & biodiversity loss in relation to animal agriculture 	<ul style="list-style-type: none"> Bill introduced that would place a moratorium on constructing and expanding factory farms and slaughterhouses
Queensland, Australia	<ul style="list-style-type: none"> Laws/policies fail to address air pollution in relation to animal agriculture 	<ul style="list-style-type: none"> Regulations set out nitrogen and phosphorus budgets to address land-based sources of water pollution 	<ul style="list-style-type: none"> New farm activities, such as land clearing, may require approval from the federal environment minister 	<ul style="list-style-type: none"> Agricultural practices generally need approval under the Environmental Protection Act

	Air Pollution	Water Pollution	Land Degradation & Biodiversity Loss	Other
United Kingdom	<ul style="list-style-type: none"> • Sets out legally-binding GHG emission reduction targets for 2050 • In England and Wales, agricultural land used for dairy farming and livestock breeding/keeping are exempt from needing environmental permits for emission release 	<ul style="list-style-type: none"> • Published the Code of Good Agricultural Practice for Reducing Ammonia Emissions to promote desirable practices (though not legally binding) • In England and Wales, agricultural land used for dairy farming and livestock breeding/keeping are exempt from needing environmental permits for waste management and water discharge • Northern Ireland limits the amounts of phosphorus applied to land • Wales limits the application of livestock manure 	<ul style="list-style-type: none"> • Biodiversity is an area of priority for setting out targets, plans, and policies under the Environmental Act 	<ul style="list-style-type: none"> • Financial assistance offered for managing land or water in a way that protects or improves the environment or managing livestock in a way that mitigates or adapts to climate change • Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations withdrawn in March 2022

AIR POLLUTION

The below graph illustrates how many positive, negative, or "stepping-stone" points were observed in each jurisdiction in relation to air pollution.

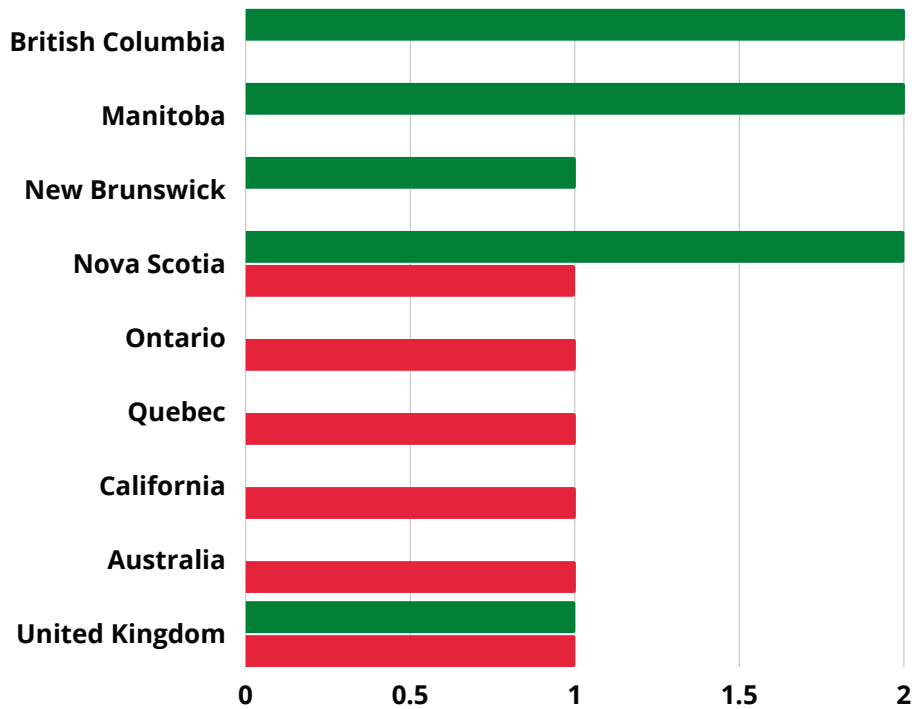


Figure 1: Air Pollution

Manitoba has the strongest air pollution laws among the selected jurisdictions. Manitoba requires GHG emission reduction goals to be set out for five-year periods and requires annual reporting.^[158] Notably, prior to issuing a licence for constructing or operating dairy plants or meat processing/slaughter plants, the GHG emission impact must be considered.^[159]

In Canada, Ontario and Quebec have the most room for improvement in relation to air pollution. For example, Ontario's laws specifically provide an exemption from the general prohibition against discharging contaminants (solid, liquid, gas, odour, or heat that may cause an adverse effect) for "normal farming practices".^[160] Nova Scotia similarly provides an exemption, whereby agricultural operations need not abide by the *Respecting Greenhouse Gas Emissions Regulation*, which sets out emission caps for all facilities of the province.^[161]

California and Queensland's laws and policies do not address air pollution and GHG emissions in the context of animal agriculture. However, the United Kingdom set out the first legally-binding GHG emission reduction target for 2050.^[162] This means, if targets are not met by 2050, citizens can bring lawsuits against the government. As a result, UK has been successful in reducing its emission since its implementation in 2008, particularly in the power sector.

WATER POLLUTION

The below graph illustrates how many positive, negative, or "stepping-stone" points were observed in each jurisdiction in relation to water pollution.

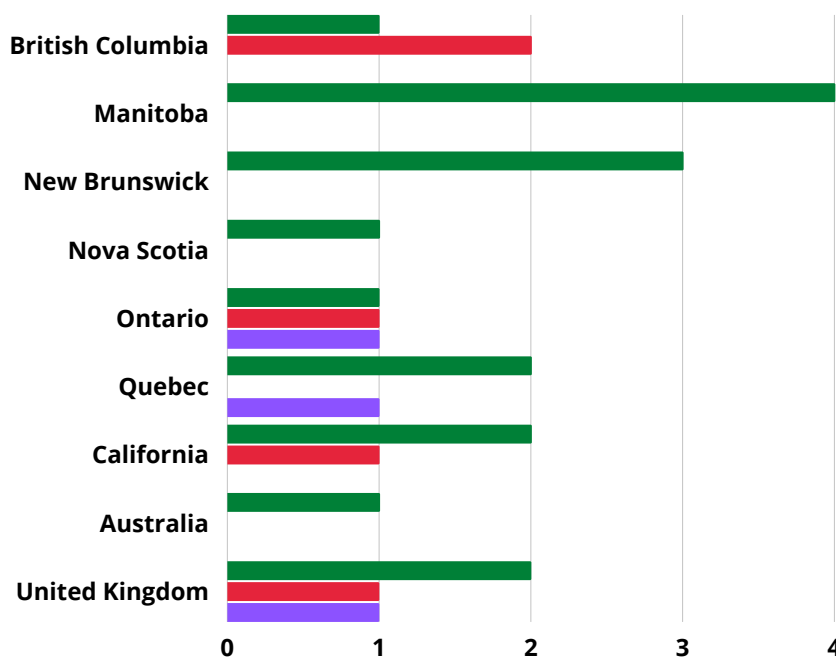


Figure 2: Water Pollution

Within the selected Canadian provinces, Manitoba has the most beneficial laws and policies for protecting water. Manitoba sets out concrete requirements that allow for objective and measurable enforcement. These include setting maximum acceptable chemical concentrations in drinking water and ensuring that wastewater effluence does not exceed maximum phosphorus levels. In addition, regulations govern the storage and

disposal of manure to eliminate contributing to pollution of surface and/or ground water.^[163] Manitoba's laws and regulations do not provide the animal agriculture industry any special treatment. However, see page 60 for concerns about enforcement in Manitoba.

In contrast, British Columbia's and Ontario's laws exempt the agriculture industry from their respective general prohibitions against introducing waste or contaminants into the environment.^[164]

New Brunswick also exhibits multiple positive points, however many of the requirements are discretionary in nature. For example, the Minister is prescribed possible considerations such as imposing conditions under a livestock operations licence on how to handle manure and wastewater, but this is not compulsory.^[165]

Certain developed nations of the UK also exhibit positive laws to protect against water pollution. However, the general regulations are modified through different pieces of legislation within the different developed nations, creating both positive and negative impacts. For example, while there is a general prohibition against disposing of waste on any land without the proper licence, in England and Wales, dairy farming and livestock breeding/keeping industries are exempt from requiring such waste management and water discharge licences.^[166] On the other hand, certain regulations enforce stricter requirements through limiting the application of certain nutrients in both Northern Ireland and Wales.^[167]

Notably, Quebec has an entire statute (*Agricultural Operations Regulation under the Environment Quality Act*), entirely prescribing requirements to protect water and soil from pollution caused by certain agricultural activities. The Act sets out requirements such as establishing limits for storing and spreading manure as well as making Agro-environmental fertilization plans mandatory for the industry to minimize water pollution.^[168]

LAND DEGRADATION & BIODIVERSITY LOSS

The below graph illustrates how many positive, negative, or "stepping-stone" points were observed in each jurisdiction in relation to land degradation and biodiversity loss.

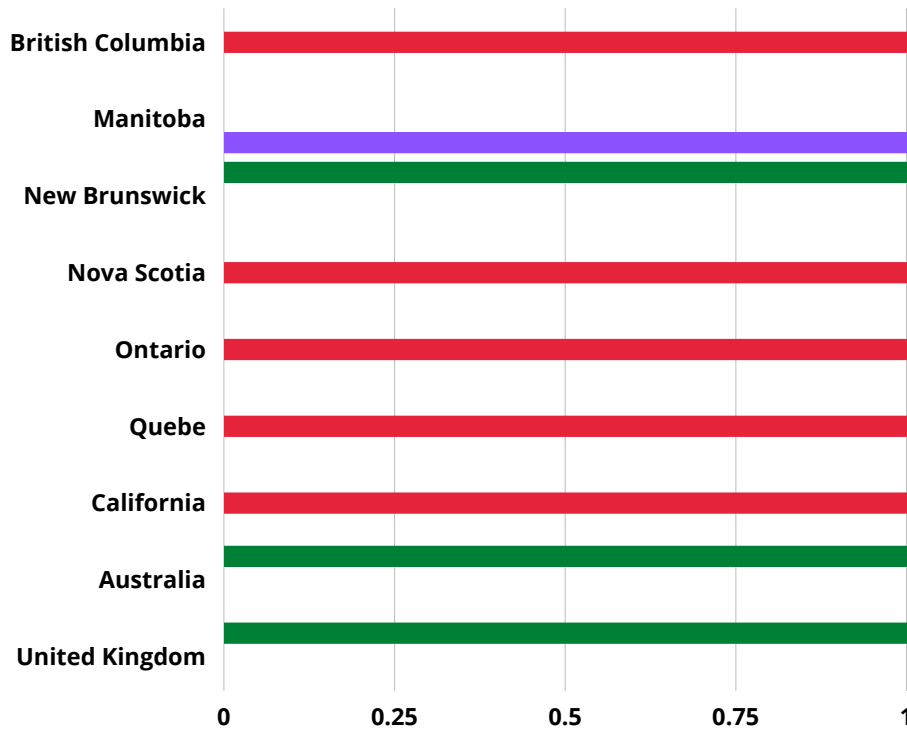


Figure 3: Land Degradation & Biodiversity Loss

The majority of the selected Canadian provinces are failing to address land degradation & biodiversity loss in relation to animal agriculture. This category holds the most room for improvement in Canada. New Brunswick's is the furthest ahead on this front due to its licencing requirement to carry on livestock operations. In this process, the Minister may impose conditions for measures to be taken to minimize the right of environmental degradation.^[69] While this is a good starting point, the discretionary language that the Minister "may" impose such conditions leaves the possibility that such conditions could fall to the wayside. Similarly, Manitoba's licencing requirement to construct new dairy plants or meat processing/slaughter plants acts as a barrier to new facilities causing land degradation and biodiversity loss.^[70] However, Manitoba's requirements do not specifically set out the need to consider land degradation or biodiversity loss.

Queensland, Australia and the United Kingdom set out slightly better requirements to address land degradation and biodiversity loss. That is, Queensland sets out a requirement that new farm land clearing activities may require approval from the federal environment minister.^[171] Here, the legislation recognizes the connection that land clearing initiatives may have negative environmental effects. The United Kingdom takes the approach of recognizing conserving biodiversity as an area of priority under its Environmental Act.^[172]

OTHER FACTORS

Throughout the analysis, certain relevant factors were flagged as having a positive, negative, or "stepping-stone" impact on the environmental impact of animal agriculture, but do not fall entirely in one of the three designated categories. In this regard, it is difficult to compare which jurisdictions are excelling or falling behind. However, it is worth noting the positive impacts from which other jurisdictions should follow. These include:

- Nova Scotia government's prescribed food goals supporting low-impact sustainability aquaculture through considering environmental impact;^[173]
- Ontario's right to a healthy environment (as set out in the Environmental Bill of Rights) requires public consultation for proposals including the construction of new animal agriculture facilities;^[174] and
- Queensland generally requiring approval of agricultural practices under the *Environmental Protection Act*.^[175]

Of particular interest, California has introduced a bill that, if passed, will place a moratorium on constructing and expanding existing factory farms and slaughterhouses.^[176] This would set a strong precedent for other jurisdictions to follow suit, thereby reducing additional contributors to the negative environmental impacts of animal agriculture.

SUMMARY OF FINDINGS

Through our comparative analysis we have identified the key leading jurisdiction(s) in each category:

- **Air Pollution:** Manitoba
- **Water Pollution:** Manitoba
- **Degradation & Biodiversity Loss:** Queensland, Australia & United Kingdom

Based on these findings and our insight on where the laws are lacking overall, we make the policy and law reform recommendations set out in Part IV of this Report.

However, it is important to note that these leading jurisdictions are merely a starting point, as no jurisdiction is currently stringent enough to protect the environment from animal agriculture's impacts.

THE ENFORCEMENT PROBLEM

The results of our comparative analysis are limited and may not reflect the real effect of certain laws and policies on the ground. For example, our analysis suggests that Manitoba has some of the best nutrient management laws and policies in place to protect the environment from the impacts of animal agriculture. However, these laws and policies are only as good as their enforcement and we know that nutrient management laws are often chronically under-enforced across the country.

In Ontario, for example, phosphorous and nitrogen contamination continues to grow in the province's agricultural watersheds despite the introduction of the Nutrient Management Act in 2002. The 2014 Annual Report of the Office of the Auditor General of Ontario ("AGO") concluded this was due in part to poor enforcement, noting that "neither the Ministry nor the Ministry of Agriculture, Food and Rural Affairs have information on the total number of farms that produce manure and need to manage it in accordance with the Act and regulations." The AGO further remarked that "in 2013/14, the Ministry inspected only 3% of the farms known to have to adhere to the Act's regulations for the proper storage and application of manure" and "often did not follow up on issues of non-compliance, and rarely used punitive measures, such as issuing offence notices that may result in fines set by provincial courts." [177]

While there is no similar data available on inspections and enforcement of Manitoba's laws and policies aimed at curbing the environmental impacts of animal agriculture, we know that the province's watersheds continue to be at serious risk of phosphorous and nitrogen pollution despite more "stringent" regulations. Algae blooms in Lake Winnipeg, for instance, have been increasing in size and frequency over the past several decades. [178]

PART IV. Conclusion and Recommendations

Intensification of the animal agriculture sector is taking place with little consideration for its environmental impact or the future sustainability of our food system.

Our review shows that in Ontario and across Canada environmental protection and nutrient management laws have failed to meaningfully account for the devastating effects of animal agriculture on our environment. These legal regimes are often altogether exclusionary of the animal agriculture sector and focus on a particular type of pollutant (namely air or water) instead of taking a holistic approach to solving the problem.

Given the abundance of knowledge on the negative environmental effects of animal agriculture, we recommend the Government of Ontario undertake the following legislative and policy initiatives (each detailed below):

1. Restructure government subsidies for the agriculture sector;
2. Remove exemptions for the animal agriculture sector from environmental laws and policies;
3. Expand the application and enforcement of the *Nutrient Management Act, 2002*;
4. Introduce mandatory best management practices; and
5. Impose a moratorium on the construction and expansion of ILOs.

Such initiatives may help ensure greater consistency between environmental protection and nutrient management laws and policies; promote greater enforceability; and support the transition to a more sustainable, plant-based food system.

AEL Advocacy further recommends that Ontario apply a precautionary approach when developing laws/policies to deal with pollution from animal agriculture in order to avoid serious environmental harm and ensure the sustainability of our food system.



Photo Credit: We Animals Media

Recommendation 01:

Restructure government subsidies for the agriculture sector

It is estimated that federal and provincial governments provide billions of dollars in subsidies annually to the agriculture sector, with most going to the dairy, egg, and chicken industries.^[179] This works to encourage the intensification of the animal agriculture sector and contributes to its environmental impact. Further, it does not align with current evidence that a shift towards more plant-based food production is more sustainable and could help Canada achieve its climate goals.^[180]

Since agricultural subsidies are an important factor influencing production and consumption choices, reducing and restructuring government subsidies would likely have a profoundly positive impact on the environment. For example, making funds conditional on farmers demonstrating that they have taken measures to reduce their ecological footprints, including nutrient run-off and GHG emissions, might encourage farmers to shift away from intensive animal use.

EXAMPLE 1: UK AGRICULTURE ACT

In 2020, the UK introduced the *Agriculture Act*, which incentivizes a shift away from intensive animal agriculture by offering payments that reward farmers for managing “land or water in a way that protects or improves the environment”, “managing water or livestock in a way that mitigates or adapts to climate change”, and promoting animal welfare.^[181]

EXAMPLE 2: EU FARM TO FORK STRATEGY

In 2020, the European Commission published the “Farm to Fork Strategy”, which commits the EU to the development of a new legislative framework for sustainable food systems and supports a shift toward a “more plant-based diet”.^[182] The Strategy is part of the European Green New Deal, which will dedicate €100 trillion from 2021 to 2027 in an effort to make the EU carbon neutral by 2050.^[183]

While the Strategy does not suggest putting an end to the subsidies that sustain intensive animal agriculture in the EU, it promises a review on how the EU can use its promotion programme to “support the most sustainable, carbon-efficient methods of livestock production” and promote research into increasing the availability of meat substitutes and other plant-based proteins.^[184]

By way of comparison, Canada has devoted significantly less funding to research and innovation of plant-based proteins. That is, Canada's Protein Industries Super Cluster invests \$150 million into vegan protein development.^[185] As such, the “Farm to Fork” strategy will likely have a much greater impact, due to its significant funding backing.

Recommendation 02:

Remove exemptions for animal agriculture from environmental laws and policies

Despite being a significant source of pollution and a leading contributor of GHG emissions, Ontario's key environmental protection statutes create exemptions for “normal farming practices” or do not apply to the animal agriculture sector altogether. For example:

- The general prohibition against contamination under Ontario's *Environmental Protection Act* does not apply to animal wastes disposed of in accordance with "normal farming practices"; and
- Ontario's *Environmental Assessment Act* does not generally apply to new or expanding animal agriculture projects

This is compounded by the fact that Canada's federal climate change legislation—the *Greenhouse Gas Pollution Pricing Act*—similarly exempts animal agriculture. Under section 36 of that Act, farmers may use an exemption certificate and benefit from relief of the fuel charge if the location at which the fuel is delivered is a farm, the fuel is for use exclusively in the operation of eligible farming machinery, and all or substantially all of the fuel is for use in the course of eligible farming activities.^[186]

By exempting animal agriculture from Ontario and Canada's environmental laws and policies, governments encourage intensification of the sector and fail to address the substantial environmental impacts of the sector on air quality, water quality and quantity, habitats, and biodiversity. By removing these exemptions, the Government of Ontario can better assess the environmental impacts of animal agriculture, motivate farmers to implement best management practices for the environment, and support a shift away from intensive animal use.

For example, by requiring new and expanding animal agriculture facilities to undergo an environmental assessment process, we may discover that such a project will drastically affect the province's ability to meet their existing GHG emission targets or will otherwise have a substantial negative effect on the environment that cannot be adequately addressed through mitigation measures or Best Management Practices.

Alternatively, the Government of Ontario might consider introducing comprehensive environmental legislation dealing with all sources of pollution from the animal agriculture sector (e.g. nutrient management, nonpoint and point source air and water pollution, land degradation, biodiversity loss, and GHG emissions, etc.). By taking a more holistic approach to pollution from the sector, the Government will better be able to assess and minimize its impact.

Recommendation 03:

Expand the application and enforcement of the *Nutrient Management Act, 2002*

Despite agriculture being one of the main sources of NPS pollutants reaching our waterways, the mandatory standards for nutrient management from manure and fertilizer under the *Nutrient Management Act, 2002* ("NMA") only apply to a minority of farms in the province.^[187] To date, this has proven insufficient to deal with NPS pollution from animal agriculture in the province.

Therefore, to better address these environmental impacts, we recommend that the Government of Ontario expand the application of the NMA to all farms in Ontario. At the very least, application of the NMA should be expanded to cover all farms in Ontario's most vulnerable and at-risk watersheds.

In addition to its limited application, Ontario lacks meaningful methods for enforcing and evaluating the effectiveness of nutrient management practices under the Act. This is primarily because inspections under the Act are either random or complaint driven. Further, for the small number of farms where inspections are performed, non-compliance is pervasive and rarely penalized. In 2016/2017, for example, only an estimated 3% of regulated farms were inspected and 62% of those inspected were found to be non-compliant with the requirements of the Act.^[188] According to a report by the Auditor General of Ontario, where non-compliance was identified, the Ministry often did not follow up and it rarely imposed punitive measures.^[189]

We strongly recommend the Government of Ontario incorporate regular, outcome-based evaluations into its nutrient management framework. This should include mandatory soil testing, quantitative targets, regular monitoring and inspections, and regular reporting from farms.

EXAMPLE: EU NITRATES DIRECTIVE

At present in the EU, the main legal measure related to nutrient management is the Nitrates Directive, which mandates designation of nitrate vulnerable zones ("NVZ") in each member state.^[190]

Within NVZ, mandatory measures limit when and at what rate nitrogen can be applied. For example, the maximum amount of manure nitrogen that can be applied or deposited by livestock in NVZ is 170 kg of nitrogen per hectare per year.^[191] Some Member States—such as Austria, Denmark, Finland, Germany, Ireland, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Romania, Slovenia, and Belgium—have designated their entire territory as NVZ.^[192]

A 2021 report on the implementation of the Nitrates Directive shows that it has been successful in reducing water pollution caused by nitrates in both surface and groundwater over the last 30 years.^[193]

Recommendation 04:

Introduce mandatory best management practices

Ontario farmers are encouraged to adopt environmental Best Management Practices ("BMPs") through the voluntary Environmental Farm Plan process. Through this program, farmers highlight their farm's environmental strengths, identify areas of environmental concern and set action plans to improve environmental conditions.^[194] The program also offers federal-provincial cost-sharing incentives to help farmers implement projects.^[195]

Unfortunately, there has been no measurement of how effective the Environmental Farm Plan process is at reducing, or even targeting, NPS pollution from animal agriculture—a gap noted by the Environmental Commissioner of Ontario in their 2018 report.^[196] Further, available metrics suggest program uptake in Ontario remains low. According to a 2017 survey by Statistics Canada, only 46% of Ontario farmers had an Environmental Farm Plan.^[197]

By instituting mandatory BMPs, the Government of Ontario can encourage the industry to shift towards more environmentally sustainable practices that may also enhance animal health and welfare and discourage intensive animal agriculture.

WHY DOES ANIMAL WELFARE MATTER?

Animal health is a key component of environmental sustainability. For example, it is well known that poor animal welfare results in susceptibility to diseases and a decrease in the overall productivity, which directly contributes to the GHG emissions intensity of livestock.

Therefore, ensuring proper animal welfare standards are maintained is critical to achieving GHG emissions reductions in the livestock sector. A recent report by the Food and Agriculture Organization ("FAO") of the United Nations showed that animal health interventions, such as mastitis prevention and dietary improvements for example, were estimated to have significant emission reduction potentials from 10 percent in mixed dairy systems and up to 41 percent in small ruminants.^[198] Similarly, in its report on Tackling Climate Change Through Livestock, the FAO concluded that part of the mitigation potential of the livestock sector can be achieved through practices related to better feeding (e.g. improving feed

quality/digestibility) and animal health.[199]

In its policy recommendations on sustainable agricultural development, the UN Committee on World Food Security proposed that governments should: "improve animal welfare delivering on the five freedoms and related OIE standards and principles, including through capacity building programs, and supporting voluntary actions in the livestock sector to improve animal welfare." [200]

Recommendation 05:

Impose a moratorium on the construction and expansion of ILOs

Intensive livestock operations have a substantial environmental footprint because of their sheer size—as noted throughout this Report, they consume large amounts of water and fossil fuels, contribute to land degradation and biodiversity loss, and generate significant GHG emissions and other pollutants.

In February 2022, California (US) made a tremendous stride in introducing Bill AB-2764: "Animals: commercial animal feeding operations: prohibition on new operations". If passed into law, this bill will effectively prohibit the expansion of any existing animal feeding operation or the construction of any new animal feeding operations that produce annual revenues of \$100,000 or more.[201]

AEL Advocacy strongly recommends the Government of Ontario place a similar moratorium on the construction and expansion of intensive livestock operations throughout the province.

EXAMPLE: UNITED STATES FEDERAL BILL TO REFORM FARM SYSTEMS

In the United States, the Bill to Reform Farm System With Expanded Support From Farm, Labor, Environment, Public Health, Faith Based and Animal Welfare Groups was reintroduced in the House of Representatives in July 2021.^[202] This Bill proposes the implementation of the *Farm System Reform Act of 2021*.^[203] If passed, this Bill would prohibit the construction and expansion of ILOs (or, in the text of the bill "concentrated animal feeding operations" ["CAFOs"]), and require large CAFOs to cease operating as large CAFOs by 2040.^[204] "Large CAFOs" are extensively defined in the Act, but a *select* example of those that qualify as a large CAFO is a farm that raises not less than 700 mature dairy cows, 2,500-10,000 swine (depending on weight), or 500 horses.^[205] Moreover, the Bill will support farmers in the transition away from the CAFO industry through offering debt forgiveness and a transition assistance program to aid in transition to growing crops or organic commodities and shifting to raising pasture-based livestock.^[206]

The Bill is sponsored by Senator Cory Booker and supported by over 200 organizations, many of which are animal welfare and/or environmental organizations.^[207]

In addition to recommending the provinces impose moratoriums on the constructions and expansion of ILOs, Canada should go one step further and impose a national moratorium, similar to the proposed US federal bill.

Appendix A: Endnotes

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