



**MASTER OF PUBLIC POLICY
CAPSTONE PROJECT**

Revisiting the 2003 BSE Crisis: An Analysis of Current BSE Policy in Canada

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Submitted in fulfillment of the requirements of PPOL 623 and completion of the requirements for the Master of Public Policy degree

Acknowledgements

I would like to express my sincere gratitude to my supervisor Dr. Ian Brodie. His continuous guidance, patience and knowledge were vital in the Capstone writing process. He was consistently supportive and I could not imagine a better advisor for my project.

Besides my supervisor, I would like to thank my family for their ongoing support and encouragement to pursue my studies. This project is dedicated to you.

Finally, I would like to thank the entire group of staff and students in the MPP program. I am blessed to have met so many inspiring and driven people.

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Capstone Executive Summary

The Canadian BSE crisis in 2003 had a devastating impact on the country's cattle industry. The Canadian cattle industry relies heavily on exports and the loss of market access caused significant financial losses for Canadian cattle producers and agricultural businesses. In order to restore Canada's presence in global cattle and beef markets, the government and industry collaborated to develop policy initiatives designed to eliminate BSE from Canadian cattle and assist the producers who incurred financial losses. Immediately after the BSE crisis, academics in agriculture, economics and international policy contributed an extensive amount of literature on the incident's initial impact, but did not follow up on its long-term developments.

After being disease free from 2012-2014, the Canadian Food Inspection Agency confirmed the country's most recent case of BSE this past February. Furthermore, the cow was born developed in a cow born after its Enhanced Feed Ban policy, which was believed to be a safeguard against future disease development. Recognizing the need for more current analysis, this paper examines how effective Canada's BSE policies have been in terms of disease eradication, industry development and producer risk management. The paper uses metrics such as BSE testing data, changes in market access and government agriculture policy frameworks to judge the effectiveness of Canada's BSE policies.

Although many of Canada's BSE policies are only recently established, they have generally performed well. Even though it hasn't completely eradicated BSE, the Enhanced Feed Ban is creating a trend of lower disease prevalence and BSE Surveillance programs are identifying positive cases before entering the food chain. Livestock price insurance programs are providing most producers with better risk coverage and the cattle industry is able to secure increased market access for its product.

Government and the cattle industry still need to create stronger communication and management strategies around BSE. This paper recommends the government to adopt a BSE Roadmap policy and the nationalization of price insurance. Additionally, the cattle industry should continue its Verified Beef Production initiative to enhance operational safeguards and the social license for beef. Overall, Canada has rebounded strongly from the 2003 BSE crisis but must commit to a long term BSE policy approach in order to achieve sustainability over the disease.

Introduction:

A significant amount of research has been conducted on the Canadian BSE crisis of 2003. However, once international borders reopened, and Canadian cattle markets recovered, there was less attention given to BSE policy in Canada. As a result, there is a gap of literature in this area. BSE in Canadian cattle once again gained international attention, as a confirmed case was found in Alberta on February 13th, 2015. This case is particularly upsetting because the infected cow was born after the latest feed ban policy in Canada. Additionally, this case has led to Canadian beef bans in some countries, such as South Korea and China, and could delay the World Organization of Animal Health's decision to shift Canada's status from a "controlled BSE risk" country to a "negligible BSE risk" country. Because of Canada's most recent BSE case, one may ask, *how effective has BSE policy been in Canada, and can improvements be made?* In order to avoid another BSE crisis, a more current evaluation of BSE policy is crucial.

Canada's international trade of live cattle and beef products is a significant source of revenue for the country. In 2012, Canadian exports of cattle and beef were valued at \$2.3 billion. Currently, over 70 countries import Canadian beef. Although the United States is the industry's largest trading partner, increased access to global markets is imperative for the Canadian cattle industry. When Canada's first domestic BSE case was discovered in 2003, the resulting border closures created many challenges for industry and government. Since 2003, the Canadian government and cattle industry have collaborated to establish a number of policy initiatives designed to eliminate BSE from Canadian cattle. These policies were

designed to ensure a strong share in the global market and ensuring the highest confidence in Canadian beef.

This paper will evaluate how effective Canada's BSE policies are in terms of 1) eliminating the disease from our national herd; 2) restoring an environment for Canadian cattle producers to prosper and 3) making sure that producers have improved risk management tools to help offset losses if another BSE disaster occurred again. Before this paper attempts to answer these questions, it will provide a literature review to describe the disease and its connection to Canada. In addition, this paper will provide an overview of Canada's BSE Management program, which includes a number of policies that will be analyzed in depth.

Literature Review:

Bovine Spongiform Encephalopathy (BSE) literature and research is a relatively new area in the world of academia. It was first recognized in the United Kingdom's cattle herd in 1986 and has since gained the attention of scholars in the fields of animal science, veterinary medicine and agriculture. Governments and policy-makers, who are obligated to protect public health and industry sustainability, have also contributed to the literature in this field. The literature reviewed for this project will help develop a background for the policy issues related to BSE. In specific, the project will provide an overview of the disease, the applicable Canadian BSE history and the most relevant BSE policies in Canada.

The Disease and its Connection to Canada

What is Bovine Spongiform Encephalopathy?

Bovine Spongiform Encephalopathy (BSE) is a degenerative and fatal disease that affects the central nervous system of cattle. BSE is a member of the transmissible spongiform encephalopathies (TSE) family. Other TSE diseases include Scrapie in sheep and goats, Chronic Wasting Disease (CWD) in moose, elk, and deer and Creutzfeldt-Jakob Disease (CJD) in humans.¹ Although its exact cause is unknown, most scientists contend that abnormal proteins called prions cause BSE. These irregular proteins kill infected brain cells in cattle and create sponge-like holes in the brain tissue. The visible symptoms of BSE infected cattle usually include an inability to move and stand upright, along with aggressive behavior. As a result, the stricken cow usually appears “mad” and often staggers to the ground until their time of death.

BSE cannot be spread from a living animal to another living animal through contact. Research up until now suggests that the only risk factor for the spread of BSE is through feeding cattle meat and bone meal (MBM) derived from BSE-infected cattle.² In plain language, MBM consists of portions of the animal carcass that is unfit for human consumption, and was traditionally used for animal foods and fertilizers. The MBM is subject to a rendering, or heating process before its inclusion into agriculture or food products. However, BSE prions are resistant to normal disinfectants and heat, and are not completely destroyed by the rendering

¹ Government of Alberta: Agriculture and Forestry. *Bovine Spongiform Encephalopathy (BSE) Fact Sheet*. (Edmonton: Ministry of Agriculture and Forestry, 2015.) [http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/cpv8104](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/cpv8104)

² Al Mussell et al. “A Cost-Benefit Analysis of Voluntary BSE Testing of Cattle.” *George Morris Centre*. (2011) P. 13.

process.³ Thus, the disease causing agents were immune to old safeguards and re-entered the animal food chain.

The most unique characteristic about BSE is that the disease has a long incubation period ranging from 4 to 10 years based on the intensity of prion exposure.⁴ The incubation period is described as the time frame from when the bovine is exposed to the disease to when it shows visible symptoms. The OIE (Organisation Internationale Des Epizooties, or World Organization of Animal Health) is the leading global body dedicated to disease eradication and trade policy regarding the disease.⁵ Every confirmed BSE case across the world is reported to the OIE. Furthermore, the organization sets risk and trade guidelines for countries based on its BSE surveillance and education programs, as well as the disease prevalence within the national inventory. According to OIE guidelines, a nation will not be able to change its BSE risk status until 11 years after the birth of its most recent BSE confirmation.⁶

³ Government of Alberta: Agriculture and Forestry. *Bovine Spongiform Encephalopathy (BSE) Fact Sheet*. (Edmonton: Ministry of Agriculture and Forestry, 2015.) [http://www1.agric.gov.ab.ca/\\$Department/deptdocs.nsf/all/cpv8104](http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/cpv8104)

⁴ Al Mussell et al. "A Cost-Benefit Analysis of Voluntary BSE Testing of Cattle." *George Morris Centre*. (2011.) P. 13.

⁵ Ibid. 14.

⁶ National Beef Cattlemen's Association. *BSE-Info – BSE Country Risk Status* (2015.) <http://www.bseinfo.org/bsecountryriskstatus.aspx>

The Canadian BSE Crisis of 2003:

BSE was first recognized in the United Kingdom's cattle herd in 1986 and since this time the disease has been confirmed in 186,000 cattle.⁷ Consequently, many beef importing countries restricted imports from Britain, including Canada. In 1993 Canada had confirmed its first case of BSE, but concluded that the animal was imported from Britain before the trade restriction. The Canadian government initiated some agriculture policies as a result of the confirmed case, such as an initial ruminant-to-ruminant feed ban and cattle identification system.⁸ However, this BSE case did not affect Canada's ability to trade cattle and beef internationally, and the industry was generally unaffected. Unfortunately, Canada's next interaction with BSE would be a much more difficult experience.

On May 20, 2003 Canada had confirmed its first case of homegrown BSE. The United States and Mexico, who were Canada's largest trading partners for beef cattle, had closed their borders along with 32 other countries.⁹ The United States, who received over 70 percent of Canada's beef cattle exports pre-2003, did not reopen the border to live cattle (under 30 months old) until July 2005. This was partly because of legal resistance from Ranchers-Cattlemen Action Legal Fund, United Stockgrowers of America (R-CALF USA.) R-CALF USA is a well-funded

⁷ Peter G. Smith and Ray Bradley. "Bovine Spongiform Encephalopathy and its Epidemiology." *Oxford Journals, British Medicine Bulletin*. (2003.) Vol. 66, 1. P.185. <http://bmb.oxfordjournals.org/content/66/1/185.full>

⁸ Alexander Moens. "A Case Study in Canadian-American Relations." *Fraser Institute Digital Publication*. March 2006. P.13-14.

⁹ Ibid. 23.

American lobby group that petitioned to prolong restrictions on Canadian cattle, as American producers had benefitted from the increased demand of their cattle.

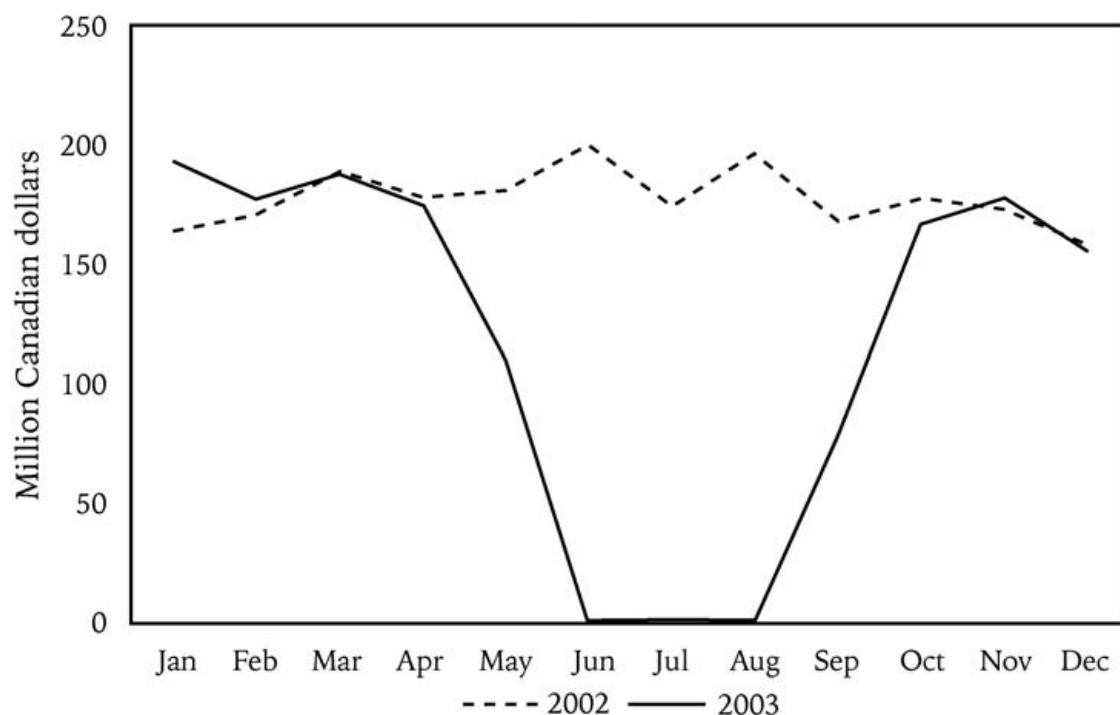
Between 2003-2005 when borders were closed to live cattle, the Canadian industry faced significant economic hardship. Producers were unable to export, the Canadian cattle inventory had built up and prices fell precipitously because feedlots and packing plants did not have the capacity to process the nation's cattle.¹⁰

Between 2002 and 2004, according to Alexander Moen's, "the Mad Cow crisis essentially cut the total value of all Canadian beef and cattle exports in half. In 2002, these exports had a total value of Can \$3.9 billion. In 2003, this fell to \$2 billion (Canadian dollars,) and in 2004, it dropped a little more to \$1.9 billion (Can.) Total farm cash receipts from cattle and calves were Can \$7.707 billion in 2002. In 2003, it fell to (Can) \$5.144 billion and dropped again slightly in 2004 to (Can) \$5.138."¹¹ It should be noted that investment did heavily increase into Canadian processing and packing plants, in order to ease the build up of domestic cattle. Overall, the BSE crisis had devastating impacts on a large portion of the Canadian cattle industry. In response, numerous government support programs were established to stabilize producers.

¹⁰ Kevin Grier. "Analysis of the Cattle and Beef Markets Pre and Post BSE: Final Report to the Competition Bureau." *George Morris Centre*. (2005.) P. 4-5.

¹¹ Alexander Moens. "A Case Study in Canadian-American Relations." *Fraser Institute Digital Publication*. March 2006. P.13-14.

¹¹ Ibid. 43.



Canadian Beef exports, 2003-2004.¹²

¹² Julie A. Caswell and David Sparling. "Risk Management in the Integrated NAFTA Market: Lessons from the Case of BSE." North American Agrifood Market Integration: Situation and Perspectives. (2004.) P. 156. Paper presented at the North American Agrifood Market Integration Workshop [NAAMIC] II: Agrifood Regulatory and Policy Integration under Stress (May 4-6.) Illinois: Farm Foundation.
<http://www.farmfoundation.org/naamic/documents/caswell11-28-05.pdf>

Government Programs assisting Canadian Cattle Producers:

To help Canadian producers with the financial losses created by border closers, the federal and provincial governments established assistance programs. Generally these programs were cost-shared on a 60-40 federal-provincial basis, but some programs completely federal while others are wholly provincial.¹³ The 2003 Federal/Provincial BSE Recovery Program offered Canadian producers a price subsidy to help cover the difference in price that arose between market values in the United States and Canadian prices.¹⁴ Jared Carlberg, a professor at the University of Manitoba's Agriculture Economics department, described that the program had 2 main elements:

First, it established a reference price for cattle owned at the time of the border closure and subsequently sold for slaughter in Canada.

Government would pay the difference between the reference price and the actual sale price on a "sliding scale" that provided a greater top-up for higher slaughter prices, ensuring an incentive for producers to seek the best price possible when selling their animals. Second, incentives were offered to meat processors to move out of inventory surplus meat cuts produced after the border closures. This was intended to free up the maximum of processor storage. A funding extension in August bumped

¹³ Derek G. Brewin and Jared G. Carlberg. "Managing an Industry in Crisis: BSE in Canada." Selected Paper prepared for presentation at the Southern Agricultural Economics Association Annual Meetings, Little Rock, Arkansas. February 2005. P. 5. <http://ageconsearch.umn.edu/bitstream/35529/1/sp05ca03.pdf>

¹⁴ Alexander Moens. "A Case Study in Canadian-American Relations." *Fraser Institute Digital Publication*. March 2006. P.45.

the total assistance provided under the BSE Recovery Program to \$520 million.¹⁵

In 2004, cattle producers were also paid up to \$80 per bovine (based on their December 2003 livestock numbers) under the federal government's Canadian Farm Income Program and the Transitional Industry Support Program. The total sum paid out was estimated at nearly \$1 billion.¹⁶

Cattle feeding programs also provided subsidies to cow-calf producers and feedlots, which gave producers financial support to feed their animals for longer periods of time than they would in regular years. This helped give processing and packer plants more time to make room for increased domestic cattle capacity. In addition, the Cull Animal Program helped offset losses in cull cattle by paying producers \$320 per cow on an 8% cull basis. The total cost of the program was estimated at \$200 million.¹⁷ When the American border reopened to cattle less than 30 months of age, most price support programs for cattle producers were terminated. According to a *Fraser Institute* report, "by 2005, the total of government

¹⁵ Derek G. Brewin and Jared G. Carlberg. "Managing an Industry in Crisis: BSE in Canada." Selected Paper prepared for presentation at the Southern Agricultural Economics Association Annual Meetings, Little Rock, Arkansas. (February 2005.) P. 5-6. <http://ageconsearch.umn.edu/bitstream/35529/1/sp05ca03.pdf>

¹⁶ Alexander Moens. "A Case Study in Canadian-American Relations." *Fraser Institute Digital Publication*. (March 2006.) P.45.

¹⁷ Derek G. Brewin and Jared G. Carlberg. "Managing an Industry in Crisis: BSE in Canada." Selected Paper prepared for presentation at the Southern Agricultural Economics Association Annual Meetings, Little Rock, Arkansas. (February 2005.) P. 7. <http://ageconsearch.umn.edu/bitstream/35529/1/sp05ca03.pdf>

subsidies, loan guarantees, and other producer assistance targeted to the BSE crisis amounted to more than \$1.5 billion.”¹⁸

Literature on Current BSE Policy in Canada

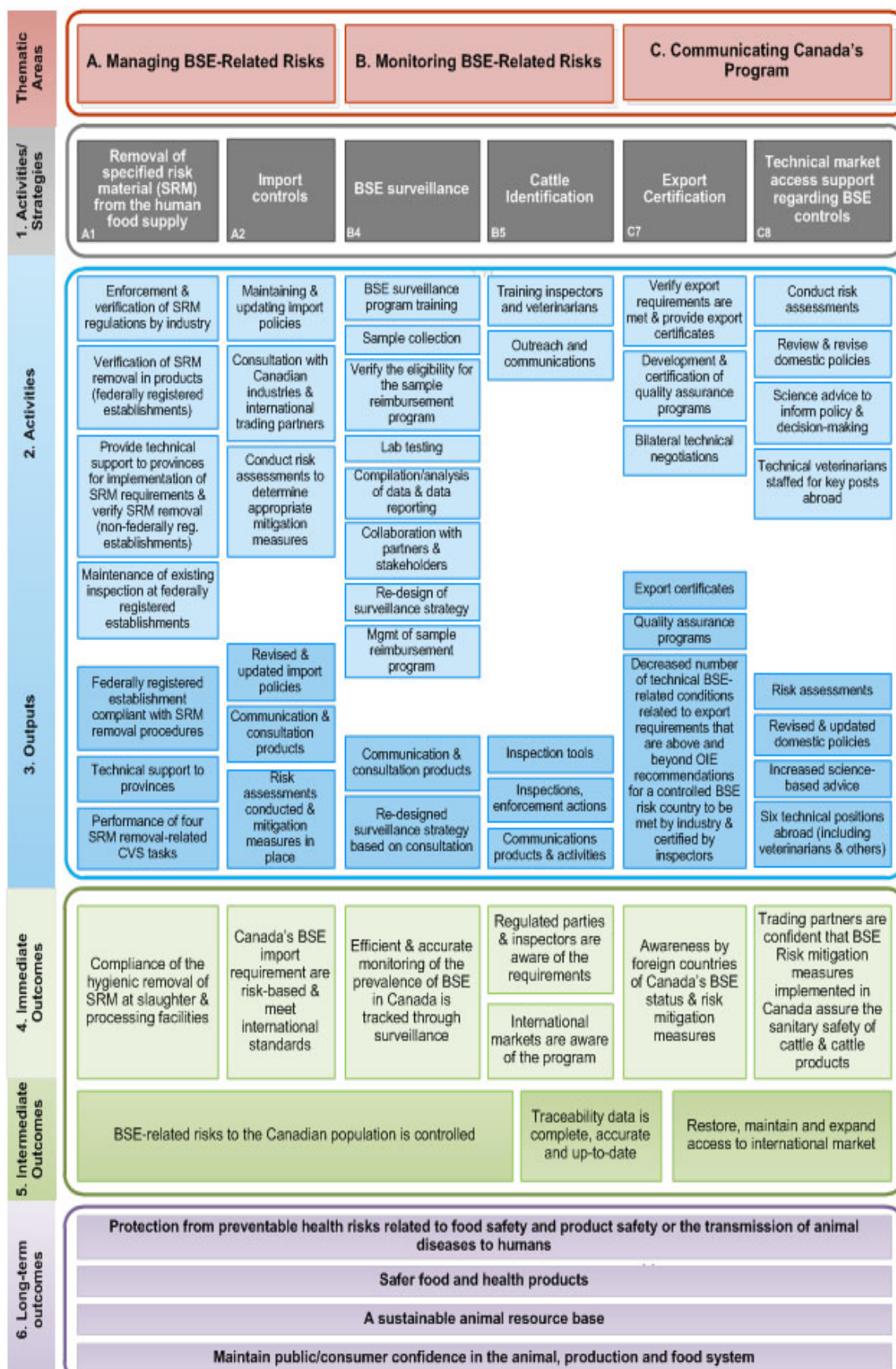
BSE Management Program

The CFIA is the leading agency for the BSE Management Program in Canada. The CFIA’s responsibilities under the program are to manage and mitigate BSE risks as well as communicating the program to stakeholders and international trading partners. Specific tasks assigned to the CFIA include enforcing feed bans, import controls, surveillance, cattle identification and technical market access.¹⁹ Significant stakeholders in the program include Canadian beef cattle ranchers, provincial governments, international trading partners, the World Organisation of Animal Health (OIE) and the Canadian public.²⁰ Furthermore, the program partners with other federal agencies including Health Canada and the Public Health Agency of Canada. A comprehensive list of responsibilities held by each agency is outlined in the following logic model (figure 2.) The Enhanced Feed Ban policy and BSE Surveillance program are most relevant to the project’s research question and will be described in greater detail.

¹⁸ Alexander Moens. “A Case Study in Canadian–American Relations.” *Fraser Institute Digital Publication*. March 2006. P.45.

¹⁹ Government of Canada. Canadian Food Inspection Agency. *Evaluation of the BSE Management Program*. (2014) <http://www.inspection.gc.ca/about-the-cfia/accountability/other-activities/audits-reviews-and-evaluations/evaluation-of-the-bse-management-program/evaluation/eng/1419265462091/1419265463216#a10>

²⁰ Ibid.



Canadian Food Inspection Agency's Enhanced Feed Ban

Since 1997, the CFIA imposed a feed ban that prohibited the use of meat and bone meal (MBM) from any ruminant to any other ruminant. However, the 1997 regulations did not prevent MBM to be used in the feed for non-ruminants. This created the possibility for cross-contamination accidents for farms that raised multiple types of livestock and the feed mills that produced the feed. Furthermore, this gap in the feed ban was likely the cause of Canada's indigenous BSE cases after 2003. In 2007, the CFIA tried to rectify this gap in the feed ban and officially implemented new regulations under the Enhanced Feed Ban (EFB.) According to the CFIA,

The Enhanced Feed Ban (EFB) is a part of the Government of Canada's Bovine Spongiform Encephalopathy (BSE) Program which is a horizontal initiative led by the Canadian Food Inspection Agency (CFIA). The main objective of the EFB is to accelerate Canada's progress in BSE management by preventing more than 99% of potential infectivity from entering the feed system as well as to enhance risk management of transmission of BSE in the cattle herd.²¹

The biggest regulation change created by the 2007 EFB is the complete removal of "specified risk material (SRM), which includes the skull, brain, trigeminal ganglia, eyes, tonsils, spinal cord and dorsal root ganglia of cattle 30 months or older, and the distal ileum (portion of the small intestine) of cattle of all ages, from

²¹ Government of Canada. Canadian Food Inspection Agency. *Evaluation of the Canadian Food Inspection Agency's Enhanced Feed Ban*. (2013.) <http://www.inspection.gc.ca/about-the-cfia/accountability/other-activities/audits-reviews-and-evaluations/enhanced-feed-ban-program/report/eng/1373917327288/1373917408136#tab3>

animal feed, pet food and fertilizer.”²² In addition, the 2007 EFB banned all SRM and MBM from fertilizers, along with the entire terrestrial and aquatic animal feed chain.²³

Canadian Food Inspection Agency's BSE Surveillance Program

A surveillance program is another significant BSE-related policy that Canada has implemented to manage the disease. In 1992, the Canadian government first implemented BSE surveillance, and announced in 2003 that it would increase the number of samples tested on an annual basis. Specifically, the federal government (and CFIA) stated that it would test at least 8000 head of cattle in 2004 and increase testing to 30,000 cattle per year from 2005 onward.²⁴ According to the CFIA, “the level and design of BSE testing in Canada has always been, and continues to be, in full accordance with the guidelines recommended by the World Organisation for Animal Health (OIE).”²⁵ Cattle from all producing provinces are used for testing samples and the CFIA focuses on higher-risk animals (animals over 24 months old) that are most likely to be affected by the disease. Again, this is due to the long incubation period of BSE, where it is highly likely cattle under 24 months have not developed the disease. The surveillance program's objectives, according to the CFIA, are to “determine and monitor the level of BSE present in Canada and to

²² Ibid.

²³ Ibid.

²⁴ Government of Canada. Canadian Food Inspection Agency. *BSE Enhanced Surveillance Program*. (2015) <http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/enhanced-surveillance/eng/1323992647051/1323992718670#num>

²⁵ Government of Canada. Canadian Food Inspection Agency. *BSE Enhanced Surveillance Program*. (2015) <http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/enhanced-surveillance/eng/1323992647051/1323992718670#num>

confirm the effectiveness of the suite of measures Canada has implemented to protect human and animal health from the disease.”²⁶ The CFIA states “BSE surveillance samples come from a variety of sources, including the farm, federal, provincial and territorial abattoirs, rendering and dead-stock operations, veterinary practitioners, and university and provincial veterinary diagnostic laboratories.”²⁷ Under this surveillance policy, the producer/owner is reimbursed \$75 for each sample submitted, which covers the costs for holding the carcass until the results have been verified.

Methodology:

As outlined earlier, the goal of this paper is to evaluate the performance of current BSE policies in Canada. Specifically, this paper will set out to find whether current BSE policies in Canada have been effective in terms of 1) eliminating the disease from the national herd; 2) restoring an environment for the cattle industry to prosper and 3) making sure that producers have improved risk management tools to help offset losses if another BSE disaster occurred again. In order to answer these different, yet related questions, a number of policies and data sets will be evaluated.

²⁶ Government of Canada. Canadian Food Inspection Agency. *BSE Enhanced Surveillance Program*. (2015.) <http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/enhanced-surveillance/eng/1323992647051/1323992718670#num>

²⁷ Government of Canada. Canadian Food Inspection Agency. *BSE Enhanced Surveillance Program*. (2015.) <http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/enhanced-surveillance/eng/1323992647051/1323992718670#num>

To find out how effective current BSE policies have been in eliminating the disease, a basic data analysis will be performed. This project will analyze the BSE testing results data under the Enhanced Surveillance Program since the 2007, which was when the Enhanced Feed Ban (EFB) was implemented. The number of confirmed BSE cases per year since 2007 will help indicate whether or not the policy has reduced BSE prevalence in Canada. One shortcoming with this method is the sample size. Cattle, which tested BSE positive after 2007, could have developed the disease months or years before the EFB was implemented. This could make the EFB look unsuccessful at first. However, if the EFB has been effective for reducing BSE prevalence, there should be a trend of fewer confirmed cases after 2007. The data of cattle tested in Canada and confirmed BSE cases will be collected from the CFIA and OIE databases published on their websites.

The project will also analyze the final 2 parts of the research question through a qualitative document analysis. The method for determining whether or not current BSE policy has created a prosperous environment for cattle producers is difficult. The reason for this is because cattle markets can be affected by a number of market factors unrelated to policy, such as weather patterns and currency. As a result, the method this project will use to determine if BSE policy in Canada has benefitted the beef cattle industry is by looking at the change in its market access. The assumption is that if Canada has effective BSE policy, international trading partners and global marketplaces will have a demand for Canada's beef and recognize it as a safe product.

Finally, this project will evaluate the Government of Canada's *Growing Forward 2* agricultural policy framework to determine whether cattle producers have improved risk management tools to help offset losses if another BSE disaster occurred again. Specifically, this project will examine the business risk management tools under the national agriculture policy framework and evaluate how they shield producers from potential risks in the marketplace, such as a BSE crisis.

Findings:

Testing Results:

From the years 2007-2015, there have been 11 confirmed cases of BSE in Canada. The most recent confirmation was in February of 2015. Unlike any other case of domestic BSE, the infected cow in the February 2015 case was born after 2007, which was when the Enhanced Feed Ban was implemented. This is a slightly concerning finding because it may point out further gaps in the country's feed ban policies. Furthermore, it could indicate new information about the pathology of BSE itself. The CFIA is currently investigating the positive BSE case and will release a full report in the fall of 2015, which will provide more information on the situation. It is also very possible that old, contaminated feed was still present on the producer's farm, which accidentally entered the herd's food chain. Additionally, there could have been an accidental contamination at the feed mill where the producer purchased

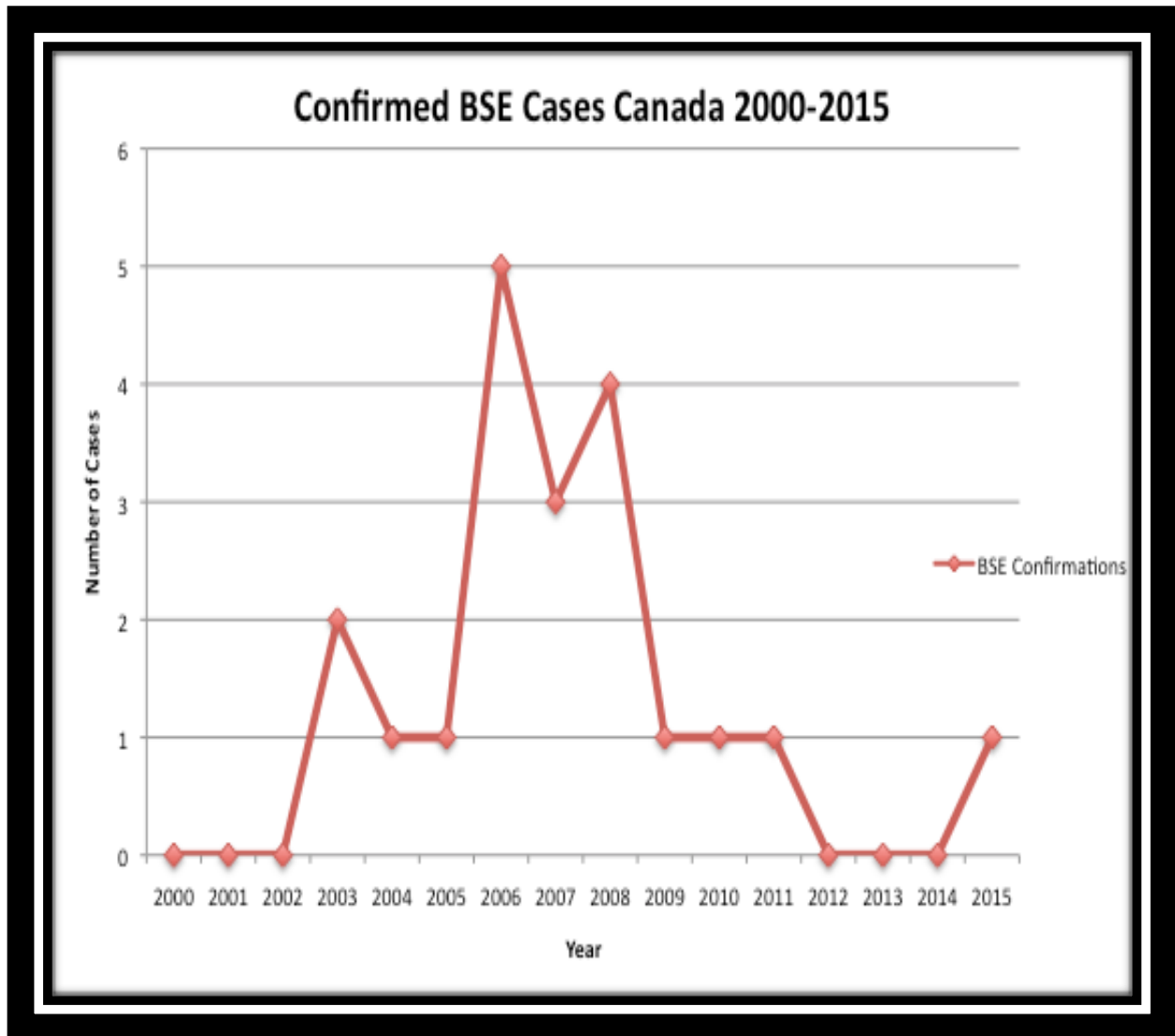
feed. Fortunately, according to the CFIA's initial report, no part of the cow entered the food chain for consumption.²⁸

In regards to the project's specific research question, *has current BSE policy in Canada been effective in terms of eliminating the disease from the national herd*, one can conclude that even though a BSE case was confirmed after a 3-year absence in Canada, the surveillance system is robust and working properly. The program has been successful in identifying BSE in Canada's cattle inventory before animals enter the food chain. It is also encouraging that BSE prevalence in high-risk cattle (over 30 months) has dropped after the 2007 Enhanced Fed Ban. The sample size for cattle born after the 2007 EFB is also quite small (less than 10 years.) Admittedly, it may take another 5-10 years of testing data before a legitimate claim can be made on whether the EFB policy has been legitimately effective for eliminating BSE in Canada.

Finally, it should be noted that in the years 2011 and 2013, Canada did not reach the 30,000-sample commitment promised by the Canadian government. Not reaching the testing thresholds could make our trading partners concerned that Canada has become more complacent on the OIE's BSE testing guidelines. Unless testing increases in the remaining months of 2015, it seems as if Canada will fall short on its testing threshold for a 3rd year. In order to ensure testing thresholds are met, increased collaboration between government, industry organizations and producers is needed, as each of these stakeholders would be adversely affected from

²⁸ Government of Canada. Canadian Food Inspection Agency. *Questions and Answers: BSE in Alberta*. (2015.) <http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/questions-and-answers/eng/1423857862496/1423857863637>

trade restrictions resulting from missed testing targets. Below, are the BSE testing results in Canada from 2007-2015.



Data Source: World Organisation of Animal Health (OIE)

| Month (2015) | <u>Samples Tested</u> | <u>Negative</u> | <u>Positive</u> |
|---------------------|------------------------------|------------------------|------------------------|
| June | 2041 | 2041 | 0 |
| May | 1915 | 1915 | 0 |
| April | 3008 | 3008 | 0 |
| March | 2763 | 2763 | 0 |
| February | 2242 | 2241 | 1 |
| January | 2902 | 2902 | 0 |
| Year to date | 10915 | 10915 | 1 |

Table 1: 2015 BSE Testing Results (CFIA 2015)

| Year | <u>Samples Tested</u> | <u>Negative</u> | <u>Positive</u> |
|-------------|------------------------------|------------------------|------------------------|
| 2014 | 27604 | 27604 | 0 |
| 2013 | 31021 | 31021 | 0 |
| 2011 | 27371 | 27371 | 0 |
| 2011 | 33458 | 33457 | 1 |
| 2010 | 35655 | 35654 | 1 |
| 2009 | 34618 | 34617 | 1 |
| 2008 | 48808 | 48804 | 4 |
| 2007 | 58177 | 58174 | 3 |
| | | | |

Table 2: BSE Testing Results 2007-2014 (CFIA 2015)

State of the Cattle Industry more than a decade after the 2003 BSE Crisis:

This section is related to the project's research question, *has current BSE policy in Canada has helped create an environment for cattle producers to prosper?*

If it hasn't already been established, a large takeaway from this project is how much Canadian beef cattle producers depend on trade and export market access for their product. As previously discussed, when the United States closed their border in 2003, Canada did not have the processing capacity to handle their entire domestic supply of cattle. As a result, prices for Canadian cattle dropped significantly, producer's incurred economic losses, and government financial assistance was needed. Fast-forwarding over 10 years to the present environment, it is apparent that the Canadian cattle industry is prosperous and not in a crisis. The market for live cattle is at record highs, and demand for Canadian beef is expected to grow worldwide.²⁹ However, it must be pointed out that a prosperous environment for cattle producers is dependant on much more than strong BSE legislation and policy. Conditions such as the strength of the Canadian dollar, market prices for feed and American demand for cattle all have a large effect on the strength of the Canadian cattle market.

Keeping this is mind, one measure that does evaluate the effectiveness of BSE policies is a nation's ability to have strong trading partnerships to export its cattle and beef. If a country has well-recognized BSE policies, the OIE labels the nation with a lower BSE risk. This enables a nation to increase the market access for its

²⁹ Farm Credit Canada. *Ag Economics: The 2015 Beef Sector Report*. (2015.) <https://www.fcc-fac.ca/fcc/about-fcc/corporate-profile/reports/beef-sector/beef-sector-report-2015.pdf>

cattle and beef products. Since 2007, the Canadian beef industry has been involved in multiple trade agreements and negotiations. The Canada – Korea Free Trade Agreement and the Canada – Honduras Free Trade Agreement, which are now in effect, will give Canadian producers increased market access and demand for their product. Specifically, the deal with Korea helps Canadian beef producers become more competitive with American exporters.³⁰ The Canada –European Union Comprehensive and Economic Trade Agreement (CETA) also has the potential to benefit Canadian producers in years to come. The Canadian Cattlemen’s Association suggests the agreement will promote Canada’s hormone-free beef industry, and estimates that the deal could create \$600 million in increased exports.³¹ Similarly, the recent Trans-Pacific Partnership (TPP) negotiations have included proposals for increased Canadian beef exports to the emerging Asian marketplace.

If one accepts the connection between strong BSE legislation and increased market access, it would be reasonable to argue that Canada’s current BSE policies, which are recognized and approved by the OIE, have created a prosperous environment for cattle producers. The Canadian beef industry has diversified their marketplace, and many high value nations are expressing demand in their product.

The February 2015 BSE confirmation in Canada did cause a small number of countries to close their borders to Canadian beef. The list includes South Korea, Peru, Taiwan, Belarus and China. Even though this list of countries only accounted

³⁰ Canadian Cattlemen’s Association. *CCA Annual Report 2014*. (2014.) P. 7.

<http://www.cattle.ca/assets/annual-report/CCAMar6WEB.pdf>

³¹ Ibid. P.7.

for less than 5% of total beef exports in 2014,³² the temporary loss of these markets is not insignificant. It can be argued that the prolonged bans on Canadian beef imposed by these countries are not in accordance with OIE recommendations and may result in potential trade disputes. After the CFIA releases its full report on the 2015 BSE confirmation, it is more likely that the bans on Canadian beef will be lifted, but this remains unknown.

Producer Protection and Business Risk Management Tools:

This section is related to the project's research question, *has current BSE policies improved risk management tools to help offset losses if another BSE disaster occurred again?*

Under the Government of Canada's *Growing Forward 2 (GF2)* Agriculture Policy Framework, there are a few business risk management tools available to cattle producers in case another BSE crisis were to occur. The three core tools are as follows:

Agri-Insurance: is an insurance-based program designed to assist producers experiencing production losses due to eligible perils, including severe losses resulting from disaster events;

Agri-Stability: is a whole-farm, margin-based program that assists producers when they are facing severe margin (income) declines caused by circumstances such as low prices, rising input costs, and production

³² CBC News. *Latest BSE case in Alberta a setback for beef export strategy*. (March 9, 2015.) <http://www.cbc.ca/news/politics/latest-bse-case-in-alberta-a-setback-for-beef-export-strategy-1.2982649>

losses; advances (interim payments) are available under the program to help with cash flow; and

Agri-Invest: is a savings account-based program where producer deposits are matched by governments; the funds in accounts are available to offset losses, help with cash flow needs, or support investments to help with managing business risks.³³

These tools would all appear to potentially mitigate financial losses to producers if a trade-disturbing event, such as a large border closure caused by BSE, occurred in the future. Agri-Stability seems to build off of the Canadian Agriculture Income Stabilization program that was offered to cattle producers post-2003. The GF2 policy framework also has a disaster relief framework called Agri-Recovery, but it does not specify whether or not BSE would qualify under its qualifications. \$3 billion in funding has been allotted to the cost shared programs under GF2 policy framework (between 2013-2018.)³⁴

The Agri-Risk Initiative under GF2 contains the most recent business risk management tool for cattle producers, called the Western Livestock Price Insurance Program (WLPIP.) The pilot program originated in Alberta, and has expanded as a pilot program available in Saskatchewan, Manitoba and British Columbia. So far the WLPIP has proved to be a very efficient and cost-effective for producers in the west.

³³ Government of Canada. Agriculture and Agri-Food Canada. *A Guide to Agri-Recovery*. (2014.) <http://www.agr.gc.ca/eng/?id=1398968999929>

³⁴ Government of Canada. Agriculture and Agri-Food Canada. *Growing Forward 2*. (2014.) <http://www.agr.gc.ca/eng/about-us/key-departmental-initiatives/growing-forward-2/?id=1294780620963>

The program is cost shared between the federal government and the provinces of Alberta, British Columbia, Saskatchewan and Manitoba. The WLPIP is beneficial because Canadian livestock producers are “price takers” and are subject to great market volatility every year. Furthermore, they are unable to predict if another crisis, such as BSE related trade restriction could happen in the future, which would affect the price of cattle immensely. The WLPIP is designed to help protect against the unforeseeable events in the marketplace. The steps of the WLPIP are as follows:

- 1) The producer will purchase insurance based on the expected sale weight.
- 2) The producer will match the policy length to the time period they expect to sell.
- 3) The producer will choose their coverage and pay the premium.
- 4) The producer now has a protected floor price.
- 5) In the Calf, Feeder and Fed programs, if the cash market is below the selected coverage during the last four weeks of a policy, the producer can make a claim. The amount paid to the producer is the difference between their price floor and the market price.³⁵

By participating in this program, the cattle producer is better protected from price risk, currency risk and basis risk.³⁶ Furthermore, the program states that claims will be acknowledged in the case of border closers.

³⁵ Western Livestock Price Insurance Program. *About WLPIP*.

<https://www.wlpip.ca/about>

³⁶ Ibid.

After evaluating the most recent protection measures under GF2, one can argue that there are an increased number of permanent risk management tools available to protect Canadian cattle producers from BSE related financial losses. It is possible that governments may still need to issue ad-hoc assistance programs in the future depending on how severe the crisis is. The WLPIP is certainly a strategy that helps cattle producers manage their risk, and should be viewed as a strong improvement in current BSE related policies.

Policy Implications, Consultation, Communication and Implementation:

Conclusions and Recommendations for Canadian Food Inspection Agency Policy Development:

The findings in this project demonstrate that Canadian BSE Management Program, which includes enhanced feed ban and surveillance policies, has been effective and improved the country's BSE reputation since 2003. BSE has not been completely eradicated under this policy, but it seems as if the disease is under control and there are fewer confirmed cases since the policy was implemented. However, the disease's long incubation period makes BSE management difficult because it can resurface years after the problem is assumed to be under control. Because of this, the CFIA needs to address the issue of succession. Specifically, the CFIA must plan to educate younger staff on BSE management strategies created by the senior management who are now approaching retirement. If succession planning is executed properly, it will be less likely that CFIA officials become

complacent on the importance of effective BSE management. In their program evaluation, the CFIA also raised this concern:

Given the growing HR-related issues noted with regard to BSE expertise, training and succession planning within the Agency: The CFIA should implement a succession strategy to ensure it maintains sufficient BSE expertise within the Agency for the management and delivery of BSE-related activities. The CFIA should also ensure that employees responsible for implementing BSE activities have adequate training to fulfill their roles and responsibilities.³⁷

Building off of this recommendation, there continues to be a great need for engagement with all stakeholders about BSE management and mitigation. As the number of BSE cases drop, the communication between domestic and international governments, the cattle industry and consumers remains vital. This engagement will help ensure that Canadian cattle and beef markets stay open and consumers have confidence in the safety of the product. The CFIA has suggested using a BSE Roadmap process tool “to engage and communicate to the public and domestic and international stakeholders the Canadian long-term approach to BSE disease control.”³⁸ Other than the CFIA, governmental departments like Agriculture and Agri-Food Canada and Health Canada could be involved in this process to represent

³⁷ Government of Canada. Canadian Food Inspection Agency. *Evaluation of the BSE Management Program*. (2014.) <http://www.inspection.gc.ca/about-the-cfia/accountability/other-activities/audits-reviews-and-evaluations/evaluation-of-the-bse-management-program/evaluation/eng/1419265462091/1419265463216#a10>

³⁸ Ibid.

issues such as market access and public health. If Canadian government agencies can collaborate with the industry to increase the level of communication on how BSE is being dealt with, the management program will definitely benefit.

Finally, the CFIA should continue to allocate funding into the Canadian Cattle Identification Agency (CCIA.) This agency administers a tracing system for cattle that works towards the containment and eradication of animal disease.³⁹ Using Radio Frequency Identification ear tags that are recorded in a database, the CCIA can verify an animal's age, birthplace and movements until slaughter. These details are essential for sound BSE management in Canada because it allows the CFIA to determine where an infected animal may have developed the disease and identify animals of the same cohort. Furthermore, the CCIA program provides the tools to pinpoint the location where the feeding problem took place and quickly rectify the issue. Currently, the program has a 97 percent compliance record, suggesting that Canadian cattle producers are willing to pay the cost of ear tags in order to receive the benefit of better market access for their product.⁴⁰ Continued funding for this program is essential and increased research on traceability could support the eradication of BSE and a number of other animal diseases.

Conclusions and Recommendations for Improved Business Risk Management Policy Development:

Business risk management tools used by Canadian cattle producers have improved since the BSE crisis of 2003. Perhaps the biggest improvement has come in the form of a livestock price insurance pilot program. The Western Livestock

³⁹ Canadian Cattle Identification Agency. (2009.)

<http://www.canadaid.com/index.html>

⁴⁰ Ibid.

Price Insurance Program (WLPPI) has proven to be a very effective tool for cattle producers, and provides them with a level of protection against multiple “unknowns” in the marketplace. Specifically, the livestock price insurance tool used in western Canada has benefitted producers by giving them better coverage over price, currency and basis risk.⁴¹ The problem is that this type of insurance is only available to one region of the country. The next step of this pilot program should involve nationalizing this insurance to beef farmers in Ontario, Quebec and the Atlantic provinces. Although on average these provinces have fewer cattle per producer,⁴² they still face similar market risks as western producers. Critics of nationalization argue that because the number cattle sold in Canada’s maritime provinces is fewer than in the west, premiums and payouts will be distorted based on a lack of price discovery. However, the program could be based off of cattle prices in Ontario, where large numbers of cattle are marketed weekly, and then slightly adjusted for regional cattle differences. Admittedly, this design may not be perfect. But if another crisis in the cattle market such as BSE occurred, it would offer a level of security to eastern producers that they currently do not possess. As *Growing Forward 2* comes to an end in 2018, this is an issue that the Canadian cattle industry could lobby to have included in the next agricultural policy framework.

⁴¹ Western Livestock Price Insurance Program. <https://www.wlpi.ca>

⁴² Canada Beef. *Canada’s Beef Industry Fast Facts*. (June 2013.)
<http://www.canadabeef.ca/pdf/producer/bic.pdf>

Conclusions and Recommendations for Industry Policy Development:

The final conclusion drawn from this project is that successful BSE management involves more than government policy, programs and regulations. BSE is an issue where much of the responsibility lies with cattle producers and industry organizations that work outside of the public sector. As discussed earlier in this report, the most recent confirmed case of BSE came from a cow born after the 2007 EFB.⁴³ This case very well could have been caused by a feed contamination accident on the producer's farm (although this can't be confirmed until CFIA releases their report later this fall) and not the result of poor BSE management practices from the CFIA.

As a result, the cattle industry and its grassroots producers need to develop strategies that protects against a future BSE crisis and works toward disease elimination. One initiative in its beginning stages is the Verified Beef Production program (VBP.) VBP is an industry driven strategy that emphasizes the development of farm safety methods, including animal health measures and feed labeling.⁴⁴ The Program would cost producers very little, as they would have to attend a few courses and implement small changes on their operations. After being audited and certified, producers could use the program membership as a marketing tool when selling their cattle.⁴⁵ Because one of the program's main pillars is feed labeling and safety, the VBP could eliminate the human error of providing animals

⁴³ Government of Canada. Canadian Food Inspection Agency. *Timeline of Events: BSE – Alberta – 2015*. (2015.) <http://www.inspection.gc.ca/animals/terrestrial-animals/diseases/reportable/bse/timeline/eng/1423937283891/1423937285813>

⁴⁴ Canadian Cattlemen's Association. *Verified Beef Production*. (2013.) <http://www.cattle.ca/resources/production-practices/verified-beef-production/>

⁴⁵ Verified Beef Production. (2015.) http://www.verifiedbeef.org/about_us.htm#1

old or wrong feed, and in turn, could lower BSE risk at the ground level. On a larger scale, the VBP could help create a global social license and acceptance of Canadian beef in terms of animal welfare, nutrition and disease.⁴⁶

⁴⁶ Ibid.

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