

“Pipeline Approval in Canada: A Tragedy of the Commons”

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This major research paper will focus on the current fragmentation that result from bundled property rights in British Columbia, in the context of Aboriginal land rights. This fragmentation leads to increased transaction costs, when considering pipeline approvals in the province, and leads to a tragedy of the anti-commons, as these transaction costs make it difficult to approve pipelines in British Columbia.

Annotated Bibliography:

Alberta, Energy Ministry, Alberta at a Crossroads: Royalty Review Advisory Panel Report (Government of Alberta, 2016)

The report provided by the Alberta Energy Ministry details the findings of the Royalty Review that the province conducted, and the recommendations for changes to the current royalty program. While the royalty review is not going to be greatly discussed in my major research paper, I am relying on this report for statistics about current production levels in Alberta, so that I can show how production levels would increase with the approval of the Northern Gateway Pipeline Project, having a direct impact on the economic development of Alberta.

Alberta, Energy Ministry, Launching Alberta’s Energy Future: Provincial Energy Strategy (Government of Alberta, 2008)

The report provided by the Alberta Energy Ministry, discusses current energy markets and the issues that Alberta is having as the province is trying to become an energy

superpower. The report shows that energy exports have fallen due to increased transaction costs, and other markets such as the United States increasing local production of conventional and non-conventional oil products. This report can be used for the statistics it provides in terms of production capacity in Alberta. This report will be used as preliminary research, and a starting point for research into current capacity of pipelines, and the increase that would be seen as a result of the Northern Gateway Pipeline Project.

Blomley, Nicholas. "Making Space for Property" (2014) 104:6 *Annals of the Association of American Geographers* 1291

This article discusses the modern-day treaty process in British Columbia involving First Nations groups, the federal government, and the provincial government of British Columbia. The article considers modern treaties, and how the creation of these treaties is attempting to redefine the relationship between First Nations communities and their traditional territory. This article will be useful for my background research into Aboriginal property rights that play such an important role in the fragmentation of land rights in British Columbia, thereby increasing transaction costs, and making pipeline development through the province difficult.

Banks, Nigel. "The Implications of the *Tsilhqot'in* (William) and *Grassy Narrows* (Keewatin) decisions of the Supreme Court of Canada for the natural resources industries" (2015) 33:3 *Journal of Energy & Natural Resources Law* 188

This article discusses the implications for the natural resources industries as a result of the Supreme Court of Canada decisions of *Tsilhqot'in Nation v British Columbia* [2014]

SCC 44, and *Grassy Narrows First Nation v Ontario (Natural Resources)* [2014] SCC 48. *Tsilhqot'in* is a momentous court decision, where the Supreme Court issued a declaration of Aboriginal title to an Aboriginal community for the first time in Canadian legal history. In *Grassy Narrows*, the Supreme Court held that the federal government, after surrendering specific lands under Treaty 3, had no continuing role in respect to those lands. On the basis of these court decisions, Nigel Bankes is the Chair of Natural Resources Law at the University of Calgary, and is known as an important academic authority in the area of natural resource law. In his article, Bankes is able to show the implications on the resource sector, as well as Aboriginal communities. This article will be very important in my research as it delves deeper into the notion of Aboriginal title, and what changes have been seen as a result of the Supreme Court decisions. This directly ties in to my major research paper, as the notion of Aboriginal title is central to my thesis on the tragedy of the anti-commons.

Forrester, Peter; Kent Howie & Alan Ross. "Energy Superpower in Waiting: New Pipeline Development in Canada, Social Licence, and Recent Federal Energy Reforms" (2015) 53:2 *Alberta L Rev* 419

This article discusses pipeline development in Canada has an important way of obtaining international energy market access. However, the current limitations on Canadian pipelines' ability of reaching these markets in hampering economic growth. The article goes in depth about the need for social licence that must be obtained from a "broader stakeholder group" (ie Aboriginal communities) in order for a new pipeline to be built. The article discusses current pipeline projects and provides details on current pipeline infrastructure, as well as the resulting increase in transportation of barrels of oil if these

new pipelines are created and approved. The article also discusses recent amendments to the National Energy Board Act, the Canada Oil and Gas Operations Act that can assist pipeline developers in the search for social licence. The article looks to answer whether these amendments will be enough. This will be an important article to consider in my research as it deals with social licence, which is a result of fragmented property rights seen in British Columbia, as well as descriptions of the proposed Northern Gateway Pipeline Project.

Heller, Michael A. "The Tragedy of the Anticommons: Property in the Transition from Marx to Markets" (1998) 111:3 Harvard L Rev 621

This article looks to define the theory of the anti-commons, a property theory that arises when multiple owners of property have the right to exclude other people from a scarce resource, leading to underuse of the resource in question. Michael Heller is the author that has coined the notion of the anti-commons, and the remaining articles on this topic cite Heller's work. This article will be central to my research on the anti-commons theory. Heller uses the example of Russian storefronts in Moscow; however, he does also discuss the anticommons notion in relation to Native American law.

McCreary, Tyler A. & Richard A. Milligan. "Pipelines, permits, and protests: Carrier Sekani encounters with the Enbridge Northern Gateway Project" (2014) 21:1 *Cultural Geographies* 115

This article provides information on the political issues between territorial claims of Aboriginal communities and the development of energy distribution in Canada, particularly, the Northern Gateway Project. The article will merely be used for preliminary research regarding the current tension between Aboriginal communities, the

federal government, and energy companies. The writers of the article focus on how Aboriginal rights are being considered within the regulatory process and the challenges that are occurring with this resistance.

Newman, Dwight G. & Danielle Schweitzer. "Between Reconciliation and the Rule(s) of Law: *Tsilhqot'in Nation v. British Columbia*" (2008) 41:2 *U.B.C. L Rev* 249

This article discusses the significance of the *Tsilhqot'in Nation* decision of the Supreme Court of Canada. Dwight G. Newman, Canada Chair in Indigenous Rights in Constitutional and International Law at the University of Saskatchewan School of Law, and is an expert on Aboriginal rights in Canada. According to Newman, the *Tsilhqot'in* decision represents the closest a Canadian Court has been to a declaration of Aboriginal title. This decision is considered the most important Aboriginal title case since *Delgamuukw*. The article seeks to examine major parts of the judgment, and how they deal with the competing norms of reconciliation and the rule of law. This article will be paramount to the research for my major paper, as a starting point for research into the decision and how it has impact Aboriginal title.

Newman, Dwight G. "The Economic Characteristics of Indigenous Property Rights: A Canadian Case Study" (2016) 95:2 *Nebraska L Rev*

This article discusses Aboriginal title rights that are currently held by Canadian Aboriginal communities. Newman discusses the impact that Aboriginal property rights have on economic prosperity for the communities in question. The current way that Aboriginal property rights are confirmed has led to fragmentation and increased transaction costs, preventing Aboriginal communities from making economic decisions

that would benefit them. In terms of preliminary research, this article is extremely important as it forms the basis of the background research on Aboriginal title and how this directly impacts decisions concerning the use of Aboriginal land for resource development.

Rossiter, David A. & Patricia Burke Wood. "Neoliberalism as Shape-Shifter: The Case of Aboriginal Title and the Northern Gateway Pipeline" (2015) 29:8 *Society & Natural Resources* 900

This article discusses the current issues with the unstable property regime that is seen in British Columbia as a result of Aboriginal title and rights. The article determines that this unresolved question of Aboriginal title has made for extremely uncertain conditions that do not help resource development in the province. This uncertainty provides a challenge to the development of private oil transportation vehicles, like that of Northern Gateway. This article will be used to understand the current uncertainty that exists due to current Aboriginal land rights in British Columbia.

Van Hinte, Tim; Thomas I. Gunton & J.C. Day. "Evaluation of the assessment process for major projects: a case study for oil and gas pipelines in Canada" (2007) 25:2 *Impact Assessment and Project Appraisal* 123

This article evaluates the current regime for assessing and managing pipeline project impacts. The paper provides an overview of proposed pipeline projects. Based on the best practices criteria provided, the authors develop a methodology that can be used to evaluate impact assessment regimes. This paper will help determine what is currently

being done in the pipeline approval system, and how this relates to Aboriginal issues of property rights.

Weir, Lorraine. “ ‘Time Immemorial’ and Indigenous Rights: A Genealogy and Three Case Studies (*Calder, Van der Peet, Tsilhqot’in*) from British Columbia” (2013) 26:3 *Journal of Historical Sociology* 383

This article explains the notion of property rights from an Aboriginal perspective in relation to “white law”, and how the three case studies have helped develop this area of the law. The paper analyzes the notion of “time immemorial” in three important Supreme Court decisions, and provides information on how this is contrasted by First Nations teachings regarding property and rights. This article will be used as preliminary research in the hope of understanding the starting point of Aboriginal land rights.

UNIVERSITY OF CALGARY FACULTY OF LAW

LAW 703: LEGAL RESEARCH & METHODOLOGY

**REGULATING HUMAN CONSUMPTION OF NATURAL RESOURCES IN CANADA:
AN EARTH JURISPRUDENCE ANALYSIS**

ANNOTATED BIBLIOGRAPHY (IN PROGRESS)

MELISSA GORRIE

December 16, 2016

BRIEF DESCRIPTION OF RESEARCH PROJECT

This annotated bibliography was prepared as an accompaniment to my research proposal for Law 703: Legal Research and Methodology. It lists some of the sources of information relevant to my LL.M. thesis research. The topic of my research is the use of state-centered regulation to reduce human consumption of natural resources. More specifically, I plan to determine the extent to which regulation has been used to reduce consumption in Canada, and whether such regulation reflects an Earth Jurisprudence approach. My main research question is whether the Earth Jurisprudence approach provides a framework that it is effective in regulating the reduction of consumption in Canada.

I plan to use the following methods to answer my research questions: doctrinal research, literature reviews, and case studies. My doctrinal research and literature reviews will provide background context for my thesis and help me identify examples of consumption laws in Canada that I can use as case studies. The case study approach will help me determine whether the selected examples of consumption laws reflect the Earth Jurisprudence approach and whether those laws suggest that there are benefits in using that approach to regulate consumption. The research methods selected are appropriate for the reasons outlined in the restatement of my research proposal.

This bibliography reflects the progress of my literature review to-date. It focuses primarily on the relevant literature on the topic of Earth Jurisprudence. It is not meant to be an exhaustive list of relevant research. It will continue to be modified as I perform more research.

SECONDARY MATERIAL: MONOGRAPHS

Cullinan, Cormac. *Wild Law: A Manifesto for Earth Justice* (Dartington: Green Books, 2003).

The author has been a practicing lawyer since 1992 and is a leading Earth Jurisprudence scholar who is often cited by other academics in this area of law. The forward to this book was written by the creator of Earth Jurisprudence theory, Thomas Berry.

In this book, Cullinan argues that we need to shift our legal and governance systems toward a new Earth Jurisprudence that respects and follows the laws of nature. He uses the concept of “Wild Law” to describe laws that reflect the Earth Jurisprudence approach. He proposes that there are already flashes of Wild Law in our current legal and political systems that can be located and built on to transition those systems from within towards Earth Jurisprudence. The focus of the book is on setting out logical and philosophical arguments – supported by real world examples – to support his proposition that a shift towards Earth Jurisprudence is necessary.

This book advances the theory of Earth Jurisprudence by conceptualizing what law based on an Earth Jurisprudence theory would look like. It is an important contribution to the literature as it helps flesh out this relatively new area of legal scholarship. At the same

time, the book is still highly philosophical and theoretical. It does not provide much practical guidance on how the Earth Jurisprudence approach can be used to transform existing legal and governance structures or how to recognize Wild Laws. The work undertaken by Filgueira & Mason and Maloney 2014 help to operationalize the theoretical propositions expounded in this book by developing methodologies to determine whether a law is wild and by analyzing the extent to which Wild Law exists in practice.

The author's concept of Wild Law is central to my thesis, as I will be determining whether Canadian examples of consumption regulations represent flashes of Wild Law. I will also be considering whether those examples provide lessons that assist the development of Earth Jurisprudence within our existing systems.

Filgueira, Begonia & Ian Mason. "Wild law: Is There Any Evidence of Earth Jurisprudence in Existing Law?" in Burdon, Peter, ed, *Exploring Wild Law: The Philosophy of Earth Jurisprudence* (Adelaide: Wakefield Press, 2011).

The authors published a report that analyzes whether there is existing law consistent with Earth Jurisprudence principles. The purpose of this article is to describe the methodology and results contained in that report. The authors describe the criteria they developed to test if a law reflects Earth Jurisprudence principles and the methodologies used in selecting and analyzing the laws. They conclude that there were many elements of wild law in the laws reviewed, but there was no coherent wild law approach in the exiting legislation. Positive elements of wild law were found in 17 of the 24 laws reviewed. The article concludes with recommended practical suggestions that would make laws wilder.

This article successfully operationalizes what is thus far primarily a theoretical concept by proposing a methodology for identifying flashes of Wild Law. It is a significant milestone in the development of the Earth Jurisprudence theory and the development of practical applications of the Wild Law concept.

This article is highly relevant to my thesis as it is one of the only analyses that has been conducted to determine whether a law reflects an Earth Jurisprudence approach. Maloney 2014 relied upon the criteria developed by these authors in her PhD thesis with some modifications to better fit the topic of regulating consumption. Although I intend to develop my methodology based primarily on Maloney's approach, this work still provides a useful example of how to analyze laws in light of Earth Jurisprudence. Its discussion of how Earth Jurisprudence can be applied in practice is also relevant to my thesis.

Mason, Ian. "All in one: Principles and Characteristics of Earth Jurisprudence" in Burdon, Peter, ed, *Exploring Wild Law: The Philosophy of Earth Jurisprudence* (Adelaide: Wakefield Press, 2011).

The author is a practicing lawyer and the former Director of the Gaia Foundation's Earth Jurisprudence Resource Centre. He is one of the leading voices developing Earth

Jurisprudence. This article is published in a book dedicated to exploring the concept of Wild Law. This article describe the principles and philosophical foundations of Earth Jurisprudence and the four characteristics of Wild Law. The author argues that the philosophical foundations for Earth Jurisprudence principles are not new, citing the work of past philosophers and ancient cultural practice and beliefs as examples to support his argument. He concludes that Earth Jurisprudence offers an “intellectual and jurisprudential framework” for humans to create a healthier relationship with the earth.

This author describes the philosophical underpinnings of Earth Jurisprudence in a manner that helps the reader expand its understanding of the concept and its origins. By framing Earth Jurisprudence as a modern articulation of ancient ideas and principles inherent in the natural world, the author successfully persuades the reader of the value and utility of the Earth Jurisprudence approach.

The background context and descriptions of Earth Jurisprudence and Wild Law are relevant to my thesis. In particular, the discussion of the four characteristics of Wild Law will be relevant when developing and applying my methodology given that I plan on analyzing the extent to which Canadian consumptions laws represent flashes of Wild Law.

SECONDARY MATERIAL: ARTICLES

Alexander, Samuel. “Earth Jurisprudence and the Ecological Case for Degrowth” (2010) 6 J Jurisprudence 131.

The author is a Research Fellow with the Melbourne Sustainable Society Institute and a lecturer with the Office for Environmental Programs at the University of Melbourne. He teaches a course on consumerism and growth. In this article, he explores the ecological consequences of the current pro-growth economic model and argues that when an economy begins to exceed ecological limits, lawmakers ought to initiate a ‘degrowth’ process of planned economic contraction, which includes a reconceptualization of our property systems. He suggest that Earth Jurisprudence has a very important role to play in using the law to initiate the degrowth process because it is situated outside the current growth model and provides an alternative legal conceptualization of nature as something other than property.

The author does not provide sufficient evidence or analysis to support his argument that Earth Jurisprudence provides an appropriate post-growth framework to enable the degrowth process. He only addresses the role of Earth Jurisprudence in a summary fashion, choosing instead to focus on making recommendations for how the property system could be revised. He does not relate those recommendations back to Earth Jurisprudence, which would seem to be an important analytical step required to support his main argument.

The author gathers and analyzes literature that is relevant to my thesis. This includes a review of the research demonstrating that the expanding global economy is ecologically unsustainable and the role of consumption in that regard. It is also one of the only academic articles I could find that considers the role of Earth Jurisprudence in addressing economic growth and consumption, even if only in a summary fashion.

Baxter, Pamela & Susan Jack. “Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers” (2008) 13:4 *Qualitative Report* 544.

Maloney, Michelle. “Earth Jurisprudence and Sustainable Consumption” (2011) 14:14 *Southern Cross ULR* 119.

The author wrote this article while in graduate school, several years before her PhD thesis was completed. As such, the author did not have authority in legal academia or on this particular topic at the time of writing. However, the creator of Earth Jurisprudence theory, Thomas Berry, reviewed and provided input during the drafting of this article.

This article contributes to the development of Earth jurisprudence by exploring how the concept could be applied to the problem of unsustainable consumption. It argues that due to the pro-growth belief system underpinning the industrialised world, our legal system is reluctant to set limits on many human activities. The author proposes that Earth jurisprudence, with its emphasis on creating human laws that fit within the laws of the natural world, can provide a framework for filling the gaps in our laws and governance systems so that we can manage demand and achieve sustainable consumption. In sum, we can change our legal system to address consumption by taking an Earth Jurisprudence approach. The author supports her argument by analyzing how an Earth Jurisprudence approach could address the gaps and barriers to regulating consumption that exist within the current systems.

This article is a significant step in the Earth Jurisprudence literature as it explore how it could be implemented in practice to address consumption. It also provides an excellent summary of literature relevant to my thesis, including the response of government to-date to address consumption, the barriers to addressing consumption, and the limitations of our current legal system in managing demand. It also provides practical ways in which the law can be used to address consumption that will be relevant to my analysis.

— & Sister Pat Siemen. “Responding to the Great Work: The Role of Earth Jurisprudence and Wild Law in the 21st Century” (2015) 5:1 *Environment and Earth LJ* 6.

Dr. Maloney recently completed her PhD (2014) but has written several articles on the topic of Earth Jurisprudence. Sister Siemen has a JD and is the Director of the Center for Earth Jurisprudence at Barry University School of Law. The authors argue that Earth jurisprudence provide the philosophical and practical underpinnings necessary to reform the current legal system to better support the natural world and human societies. To support their argument the authors first discuss the origins and key elements of the Earth jurisprudence movement before providing examples of the ways it can provide a cohesive

framework for earth governance. They also provide an overview of the ways various organizations and communities are working to implement Earth Jurisprudence.

This article contributes to the Earth Jurisprudence literature by examining the potential ways that Earth Jurisprudence can be implemented in practice. However, I don't find that the broad conclusion contained in this paper is adequately supported. The authors demonstrate how the Earth Jurisprudence approach differs from our current legal system and outlines the benefits of taking such an approach, but it falls short of demonstrating that it is required to reform the legal system.

The discussion of the origins and elements of Earth Jurisprudence are relevant to my thesis. The numerous examples of Earth Jurisprudence organizations and initiatives are also useful resource for locating new areas of research, particularly with respect to finding practical examples of Wild Law.

Moore, David *et al.* "Projecting Future Human Demand on the Earth's Regenerative Capacity" (2012) 16 *Ecological Indicators* 3.

The authors consists of members of the Global Footprint Network (an independent international not-for-profit think tank) and members of the Department of Mechanical Engineering at the University of Bath. The purpose of this study is to determine the projected global Ecological Footprint for 2050. The Ecological Footprint measures the amount of resources needed to meet human demand and the ability of the earth to meet those needs. In order to determine the Ecological Footprint for 2050 the authors used a Footprint Scenario Calculator to convert projected consumption and emission quantities into Ecological Footprint trends. Based on their analysis, the authors conclude that under "widely accepted consumption projections" humanity will be using resources and producing waste at 2.6 times the rate at which they can be renewed or sequestered by 2050.

Although I do not have the technical expertise to critically evaluate the validity of the methodologies chosen by the authors in conducting their analysis, they clearly explain and justify their methods, such that their conclusions seem defensible.

This paper is relevant to my thesis because it provides background context for my research problem, namely that human need is exceeding earth's capacity. For example, in my draft research proposal problem statement I reference the conclusion that we will need 2.6 earths by 2050.

Murray, Jamie. "Earth Jurisprudence, Wild Law, Emergent Law: The Emerging Field of Ecology and Law - Part 2" (2015) 36:2 *Liverpool LR* 105.

The author is a lecturer at Lancaster University Law School. He has written two articles on Earth Jurisprudence, but does not have any other publications on this topic. This is the second article in a two-part series. The purpose of this article is to complete the author's

examination of Earth Jurisprudence and Wild Law. The author describes and summarizes the main elements of Earth Jurisprudence and Wild law. He also argues that there are striking commonalities and convergences between Earth Jurisprudence and the philosophical work of Deleuze and Guattari which could provide a key resource for the development of Earth Jurisprudence. To support this argument he compares the features of Earth Jurisprudence and Wild Law with those contained in Deleuze and Guattari's theory of emergent law. I find that the author's comparative analysis effectively supports his conclusions.

This article is relevant to my research because it provides a concise summary of the some of the key elements of Earth Jurisprudence and Wild Law that I intend to describe and critically analyze in my thesis. It also provides a different (philosophical) perspective on these concepts that may help inform my analysis.

Randolph, Justus J. "A Guide to Writing the Dissertation Literature Review" (2009) 14:13 *Practical Assessment, Research & Evaluation* 1.

The author is an Associate Professor at the Tift College of Education. He teaches quantitative research methods courses and has been a member on over 20 dissertation committees. The purpose of this article is to collect and summarize the most relevant information on how to write a dissertation literature review. The author begins by highlighting the importance of conducting an effective literature review to ensure a high-quality dissertation. He then goes on to discuss the purposes of conducting a literature review, presents a taxonomy of literature reviews, as well as outlining the steps that should be taken in a review. The article concludes with a discussion of common mistakes in conducting literature reviews and provides a rubric for self-evaluation.

This article provides a clear and concise summary of how to write a literature review. It is relevant to my research because I intend to conduct several literature reviews. I have already considered and applied the purposes and taxonomy characteristics summarized in this article when describing my literature review plans in my draft research proposal.

Salzman, James. "Sustainable Consumption and the Law" (1997) 27 *Environmental L* 1243.

Jim Salzman has a joint law and engineering degree from Harvard. He holds joint appointments at the UCLA School of Law and the UC Santa Barbara Bren School of the Environment. He has published more than eight books and seventy articles and book chapters, primarily on environmental law and policy.

In this article, the author posits that the law has generally ignored a major source of environmental pollution and waste: the consumption of goods and resources. To support his argument the author analyzes the extent to which laws in the United States address consumption. He also includes a discussion of the problems associated with trying to ensure "sustainable consumption" of goods and resources. Based on this analysis, the author concludes that the efforts to regulate consumption are insufficient. He then goes on to suggest ways that the role of law can be expanded to address consumption, with a

focus on developing extended producer responsibility laws and what the legal implications would be of doing so. To my knowledge, it is one of the earliest academic articles to discuss the link between the law and consumption.

This article appears to confuse consumption laws with production laws in some instances. For example, my understanding is the extended producer responsibility laws and packaging laws are actually laws of production, not consumption. Otherwise, it provides a helpful summary of the state of thinking (as of 1997) on sustainable consumption and the role of law in regulating consumption. His methodology of analyzing specific legislative examples is also effective and provides for a defensible conclusion that is supported by evidence.

Although dated, this article is relevant to my thesis because it provides a summary of the role that law has played in regulating consumption and the development of the concept of sustainable consumption. The methodology of analyzing existing laws is also relevant to my research. The discussion of end product responsibility is outside the scope of my research.

Turner, Graham M. "A Comparison of the Limits to Growth with Thirty Years of Reality" (2008) 18:3 *Global Environmental Change* 397.

The author is a Principal Research Fellow at the Melbourne Sustainability Society Institute at the University of Melbourne. The purpose of this paper is to assess whether the predictions made by a team of analysts from MIT in the 1972 report entitled "The Limits to Growth" have come to fruition. In the Limits to Growth, various scenarios were modelled suggesting that continued growth in the global economy would result in planetary limits being exceeded sometime in the 21st century. This paper compares historical data from 1970-2000 to those modelling predictions. The author concludes that the historical data aligns closely with the "business as usual" scenario run in the Limits to Growth, which results in the collapse of the global system before the mid-21st century.

The scope of the data collected appears to be comprehensive and justification is provided for any exclusions. Overall, the methods used to compare the 1972 predictions with historical data seem defensible and able to support the conclusions reached in this paper.

This paper is relevant to my thesis because it provides background context regarding my research problem. I have cited this work in my draft research proposal problem statement when discussing the limits to growth and its impacts on our ecosystem.

SECONDARY MATERIAL: OTHER

Maloney, Michelle, *The role of regulation in reducing consumption by individuals and households in industrialized nations* (Doctor of Philosophy, Griffith University, 2014) [unpublished].

This is not a published work that has been vetted by the academic community outside of the author's university. However, the author has written several other articles on the issue of consumption and Earth Jurisprudence. In fact, to my knowledge she is the only one writing on this topic. So, in that respect she speaks on this particular issue with authority.

The author argues that the law should be used to regulate human consumption of natural resources and to ensure we live within ecological limits. She explores the barriers and gaps that exist in our current legal and governance systems that make regulating consumption difficult. She proposes Earth Jurisprudence as a new framework that can be used to overcome those barriers and address the gaps. She uses the case study approach to assess three regulatory regimes that have been used to regulate consumption in Australia. She applies Earth Jurisprudence criteria to the case studies to determine their relevance to the development of an Earth Jurisprudence framework for consumption. She concludes that those examples demonstrate that consumption can be regulated under the current legal regime. However, she also argues that to move beyond those stand-alone examples and more fully address the problem of consumption, an Earth Jurisprudence approach must be incorporated into our existing legal system. Finally, her analysis of those case studies leads her to propose a new normative framework, based on the Earth Jurisprudence approach that can be used to regulate consumption.

Although the author states that she has demonstrated that an Earth Jurisprudence approach is required to fully address the problem of consumption, I think she has made too broad a claim that is not supported by her research. Perhaps she has demonstrated that it is one approach that can be taken, but has she proven that it is required to address the problem of consumption?

The intended audience is likely the author's thesis supervisor and other faculty members. She may also have intended to publish a version of her thesis, so the audience could also be editors of law journals. I also think the audience is the general Earth Jurisprudence community, as she is attempting to contribute to an expansion of the Earth Jurisprudence approach.

This work will contribute greatly to my research project. It has already guided the development of my research problem, research question(s) and research methodology. For example, I will be conducting a similar case study analysis, only using Canadian examples. The author also gathers and analyzes literature that is relevant to my research (e.g. use of environmental regulation, barriers and gaps in addressing consumption, the use of the Earth Jurisprudence approach).

**The Liability Paradigm: A Comparative Analysis of the Effectiveness of Orphan Well
Remediation in the Oil and Gas Industries of Alberta and Texas**

Annotated Bibliography

Law 703

Elise Calvert

December 16, 2016

My proposed research will focus on the issue of orphan wells in Alberta. An Orphan well is a well, pipeline, or production facility which has been confirmed to no longer have any legally or financially responsible party to perform abandonment and reclamation. In Alberta, orphan wells fall under the care of the Orphan Well Association, a non-profit organization funded by the oil and gas industry through annual orphan levy fees. Currently in Alberta the Orphan Well Association is using the money from the orphan levy fees to abandon and reclaim dozens of orphan wells per year, while thousands of orphan wells remain untouched and more orphan wells continue to be created.

My research intends to identify the reasons why the current liability regime for orphan wells is not effectively reducing the number of orphan wells in Alberta, and provide suggested regulatory changes to enable more effective reduction in the number of orphan wells. A comparative analysis with the jurisdiction of Texas will be performed to analyze successful strategies utilized in Texas to deal with orphan wells, and evaluate the possible application of such strategies in Alberta.

Cases and Legislation

Dalhousie Oil Co. (Re), 2010 LNAERCB 20, [2010] A.E.U.B.D. No. 187

Environmental Protection and Enhancement Act, RSA 2000, c E-12

Oil and Gas Conservation Act, RSA 2000, c C O-6

Oil and Gas Conservation Regulations, Alta Reg 151/71

Responsible Energy Development Act, RSA 2012, C r-17.3

Redwater Energy Corporation (Re), 2016 ABQB 278

Sarg Oils Ltd (Re), 2011 LNAERCB 31, [2011] A.E.U.B.D. No. 642

Secondary Sources

Alberta Energy Regulator, Inactive Well Compliance Program, Well Abandonment Group (Calgary: AER, 14 July 2014)

Alberta Environment and Sustainable Resource Development, *Oil and Gas Wells Reclamation*, (March 2012), online: Alberta Environment, <http://environment.alberta.ca/02862.html>.

First 2016/17 Orphan Fund Levy, Bulletin 2016-05 (March 18, 2016)

Alberta Energy Regulator, Licensee Liability Rating (LLR) Program and License Transfer Process, Directive 0006 (Calgary: AER, 31 March 2015)

Alberta Oil and Gas Orphan Abandonment and Reclamation Association, *Orphan Well Association, 2015/16 Annual Report* (June 2016), online: <http://www.orphanwell.ca/OWA%202015-16%20Ann%20Rpt%20Final.pdf>

The OWA Annual Report sets out all of the actions taken in the past year to abandon and reclaim orphan wells, and describe the orphan levy and its calculations. This source will provide me with vital data about how many orphan wells there are in Alberta, how quickly they are being abandoned and reclaimed, and generally how the resources held by the OWA are being used.

The Annual Report summarised that the orphan well levy was doubled this year, requiring industry to pay almost \$30 million in fees to the orphan well fund. The Annual Report also summarized the history of the OWA and provided analysis on the use of funding over the years (i.e. on abandonment, reclamation, decommission, or administration). The report is also useful in explaining the environmental benefits of abandoning and reclaiming orphan wells.

The intended audience of this Annual Report is anyone who is interested in learning how the OWA is spending the money from the Orphan levy fund. I have evaluated that this source is highly trustworthy as it comes directly from the OWA itself, and is located on their website.

Brenzina, Danielle; Gilmour, Bradley. "Protecting and Supporting the Orphan Fund: Recent Legislative and AEUB Policy Amendments Designed to Address Unfunded Liabilities of Oil and Gas Facilities in Alberta." 41.1 - Petroleum Law Edition Alta. L. Rev. 29, 48 (2003).

This article is similar to an article authored by Nickie Vlavianos in 2002, ("Liability for Suspension/Discontinuation, Abandonment and Reclamation in Alberta: An Update") in that this article also evaluates recent changes to legislation and regulations which expanded the powers of the OWA and the orphan well fund. This article deals primarily with the orphan well fund (as it was called then) and seeks to evaluate whether providing the orphan well fund with more responsibility and funding will be effective in assisting Alberta meet its suspension, abandonment and reclamation obligations. Therefore, the article is very useful to my research as it contemplates the effectiveness of the orphan well fund, and how liability within the industry should be structured to ensure orphan wells are minimized.

At the time of the publication of this article the author Danielle Brezina was counsel for the Alberta Energy and Utilities Board, and Bradley Gilmour was an associate at Bennett Jones LLP in Calgary. The perspective of Danielle Brezina at the AEUB is very interesting, as it represents a change from many of the authors publishing in this area who

come from either private practice or academia. The AEUB certainly deals with the issue of orphan wells and liability on a regular basis, and as such I find Danielle Brezina as an author on this subject to be very credible and knowledgeable.

The analysis performed on the liability regime at the time was also very comprehensive, and the authors spent significant time explaining the mentality behind the way the LLR program was structured. Although there have been updates to the regulations and the OWA since this article was published, there is still significant value for me in understanding the historical purpose of the OWA and how the issue of orphan wells have been dealt with over time. As the issue with orphan wells is getting worse (i.e. more orphan wells being created than can be effectively dealt with by the OWA), it is vital to understand how so many orphan wells were created historically without being properly abandoned and reclaimed in a reasonable time frame.

Castrilli, Joseph F. "Wanted: A Legal Regime to Clean up Orphaned/Abandoned Mines in Canada." 6.2 McGill Int'l J. Sust. Dev. L. & Pol'y 109, 142 (2010).

This article deals with abandoned or orphaned mines instead of wells, and seeks to advocate for broad sweeping legislative reform that would impose fees on mining companies to allow the provincial and federal government to establish an orphan mine fund (similar to that of the OWA in Alberta). The author also advocated for legislation to permit "Good Samaritan" volunteers who wish to volunteer their time to abandon and clean up mine sites for no compensation and at no risk of liability. At the time of the article in 2010 there was no program to fund the abandonment and reclamation of orphan mines, and the only legislative action was to attempt to seek compensation from the government. The article estimated that there were over 10,000 orphan mining sites across Canada.

While the article outlines the issues associated with orphan mines (which are identical to orphan wells in that they have no financial owner) the article is also helpful to shed light on the fact that the oil and gas industry is not alone in dealing with the concept of orphaned equipment that incidentally have environmental risks. In fact, it is helpful to understand that other industries have experienced a similar issue, as perhaps in the future I could do further research on how other industries have dealt with such similar issues.

The author is counsel for the Canadian Environmental Law Association in Toronto, and prepared the article for the National Orphaned/Abandoned Mines Initiative, which was headed from a Legislative Review Task Force. The fact that the article was prepared for a Legislative review task force gives it credibility and trustworthiness as it was ultimately drafted to aid in legislative changes, instead of just for the author's own publishing. The review of the legislative and regulatory framework for mining and environmental liability in Canada was comprehensive.

Kelly Cryderman, "Orphan wells left behind in oil slump, (March 18, 2016), The Globe and Mail, located at <http://www.theglobeandmail.com/news/alberta/orphan-wells-left-behind-in-alberta-oilslump/article29301010/>

This newspaper article covers the more recent issue of how barely solvent oil and gas companies in the recession are struggling to pay their orphan fund levy fees in light of the recent doubling in fees payable to the OWA in 2016. The author interviewed several oil and gas professionals about how the increase in the orphan fund levy fees have affected their companies, especially during an economic downturn. As such, the article is helpful in providing an industry perspective that is largely missed in the other articles I found, and will be helpful for me in preparing to interview an oil and gas industry professional for my research.

The article covers a lot of recent statistics in terms of the amount of orphan wells in Alberta. Specifically, the article has a graph that shows an enormous jump in orphan wells in 2014-2015, as compared to prior years. The article makes the point that this extreme increase in orphan wells is largely due in part to the economic downturn and many oil and gas companies going out of business.

The article was published in the Globe and Mail, a large and reputable newspaper. As such, a certain level of credibility and knowledge is owed to the author, and it can be reasonably assumed that proper research was performed in pursuit of the article. The audience for this article is different than that of an academic article, as it was intended to be read by interested citizens.

Globerman, Steven; Schwindt, Richard. "Economics of Retroactive Liability for Contaminated Sites." 29.1 U. Brit. Colum. L. Rev. 27, 62 (1995).

In this article the authors concluded that with respect to the costs of past contamination (i.e. that which occurred prior to the enactment of environmental legislation), liability should be shared by broad segments of society through the use of broad-based taxes. Therefore, liability should not be forced onto a more narrow section of stakeholders, even if they were participants in the events creating the contamination.

This article is useful in that it provided a helpful commentary on the "polluter pays" principle and weighed the benefits of spreading liability for past contamination over a wider section of society. However, the article is over 20 years old and much of the regulations cited and analysis within the article are out-dated. Although this article was useful, it is not fully applicable to orphan wells as orphan wells do not fall within the same described scope of "contamination" as is outlined in the article – the authors were more describing environmental contamination arising from negligent dumping and leaching of chemicals, which is widely different than orphan wells. Ultimately this article is semi-helpful, primarily in the way that the authors explain different economic principles of dealing with environmental contamination.

Janice Buckingham, *et al.*, “Implications of the Redwater Decision--Where Does the Buck Stop?” 32 B.F.L.R. 183 (2016).

This article is useful in that it summarizes the *Redwater* decision that is very relevant to my analysis on orphan wells, and the priority the court has set in favour of secured creditors over the abandonment and reclamation of orphan wells. The primary theme of the article focused on how the *Redwater* decision will affect public policy decision-making in relation to the value of the environment as compared with the Canadian bankruptcy framework and economic sustainability of oil and gas companies.

The primary author, Janice Buckingham, is the Co-Chair of the Osler, Hoskin & Harcourt LLPs Energy Practice Group, while the other two authors are litigation partners in the oil and gas sector. From a case comment perspective this article is very trustworthy and useful based on the extensive expertise the authors have on this topic and on interpreting judicial decisions. As these authors are practitioners they likely have only written on this area if it is in a blog format or similar case comment. As such, the utility of this article is primarily on the extensive analysis it provided on why the Court came to its ruling in the *Redwater* decision, while providing a helpful summary of the legislative provisions at issue.

Joseph F. Castrilli; Scandlan Gary D. “Creating A Legal Regime to Fund Cleanup of Orphaned and Abandoned Mines in Canada: A Task Past Due.” 23 C.E.L.R. (3d) 72

This article is the most comprehensive article I have found in terms of offering solutions or evaluating strategies to increase funding to the OWA to help reduce the number of orphan wells. For instance, the article summarizes possibilities for Federal-Provincial Government funded cost sharing, or implementing a levy on industry production instead of having a flat fee per company annually. The article argues that while the OWA can be effective for newly created orphan wells, the association does not have any kind of mandate or protocol in place to begin abandoning and reclaiming historic orphan wells (some of which have been around for decades and are either no longer captured by OWA statistics or are no longer a priority).

The methodology of the article is interesting in that it introduces a new section and then analyses the advantages and disadvantages of that idea before offering a conclusion and moving on to a new section. The article evaluates many different possible solutions in a succinct way, without providing very much in depth analysis on each issue. As such, the article can be used for ideas as to possible solutions, but without much literature review and analysis on each possible solution, further research should follow up any of the possible solutions I choose to analyze. However, the article does provide a summary table of different funding approaches to abandon and reclaim orphan wells, and evaluates whether the funding approach is consistent with different liability principles (i.e. polluter pays, beneficiary pays, fairness ect.)

Marion, Michael A.; Massicotte, Michael G.; Duhn, Jessica L. "Canada's Aging Oil and Gas Infrastructure: Who Will Pay: The Public and Private Cost Recovery Frameworks." 52.2 Alta. L. Rev. 331, 364 (2014).

This article is very useful to my analysis as it provides an in-depth analysis of the cost of reclaiming, remediating and abandoning wells and pipelines across Canada. The primary theme of the article is not on orphan wells (which may very well be newly drilled wells who have no financial owner) but instead with aging wells, pipelines and facilities who have reached the end of their functional life. The article will be useful to me in providing a background understanding of how liability has traditionally been apportioned for the costs related to reclaiming, remediating and abandoning wells and pipelines across Canada, between the government, tax-payers, orphan funds and industry. The article evaluates the practice of leaving environmental liability with the public, and also evaluates the option of placing environmental liability squarely on the industry that creates it.

The authors are both partners in the Calgary office of Borden Ladner Gervais LLP, and have extensive experience in oil and gas and environmental law. As such, the author's perspectives come from a practitioner viewpoint. There are some areas in the article that identifies areas of personal experience for the authors, which is helpful in that it shows how the regulatory regime actually operates in reality. Insofar as the two authors have substantial private practice experience with the regulations and the Alberta Energy landscape (and related issues) I would consider the authors experts. However, given that both authors practice in Alberta, their commentary on other provinces is likely not from personal experience or expertise. As I am only concerned with the Canadian province of Alberta in my analysis, this lack of expertise by the authors in terms of other Canadian provinces does not concern me.

Robinson, Barry, "Well Abandonment and Reclamation in Alberta: The Failure of the Liability Rating Program", (February 2010) *EcoJustice*, online: <https://www.ecojustice.ca/wp-content/uploads/2014/12/IWCP-Paper-FINAL-20-Nov-2014.pdf>

This article usefully outlines a history of the key issues on the topic of orphan wells. The article outlines the applicable AER Directives and applicable legislation, and summarizes a history of the actions taken in Alberta to reduce the number of orphan wells.

The analysis spends a lot of time on the issue of inactive wells being non-compliant, which is a similar regulation issue to orphan wells, but ultimately different. The sections of the article dealing with inactive wells is not very helpful, but there is still good analysis of the orphan well issue, particularly on pages 3-9. The author is a staff lawyer at EcoJustice, and so I believe him to be reliable and comprehensive in his citations and presentation of the facts. The author is likely not an expert on orphan wells, but finds this issue to be troubling environmentally, and therefore has pursued an interest.

A helpful section of the article was a comparative section with Colorado. The author looked at the jurisdiction of Colorado that has implemented a specific time frame for the

abandonment of inactive or orphan wells. The author suggested this strategy could be implemented in Alberta.

Vlavianos, Nickie. "Liability for Suspension/Discontinuation, Abandonment and Reclamation in Alberta: An Update." 39.4 *Alta. L. Rev.* 864, 890 (2002).

This article is very useful as it is squarely on point with my topic of orphan well issues in Alberta. The article provides an outline of the regulatory framework for abandonment and reclamation liability in Alberta, and deals with the applicable liability regime applicable to the reclamation of wells, facilities and pipelines. The primary theme of the analysis is dealing with Bill 13, the *Energy Statutes Amendment Act, 2000*, which introduced more expansive reclamation provisions required by oil and gas companies, and covered by the OWA. At the time the article was authored, the OWA and the orphan levy fund had just come into existence, so the article is useful in that it provides a snapshot of how the OWA functioned when it was first rolled out. However, as there have obviously been changes and updates to the regulatory regime since this article came out there are sections that are no longer useful.

The author is credible and reliable as she was a Sessional Instructor at the University of Calgary Faculty of Law, and has expertise on resource development issues. I have reviewed additional articles authored by Ms. Vlavianos, and she appears to have a significant degree of knowledge in this area.

Vlavianos, Nickie; Thompson, Chidinma. "Alberta's Approach to Local Governance in Oil and Gas Development." 48.1 *Alta. L. Rev.* 55, 92 (2010).

This is the second article reviewed by Nickie Vlavianos, and is much more recent than her article in the *Alberta Law Review* in 2002. This article is different than previous works as its main theme surrounds the role of Alberta municipalities in local oil and gas development and how such municipalities can be included in the effort to regulate and management development. The authors argued that local/municipal involvement is important as rural stakeholders are often left out of participation or consultation in terms of energy development, even though it is often in their back yard.

This article is helpful to me as thus far I have been focusing on Alberta legislation and regulations as a whole, and the obligation primarily of the OWA and the AER to deal with orphan wells; I had not put much thought into the role a municipality could play in assisting to reduce orphan wells locally. This is an important perspective and is useful moving forward, especially as orphan wells can have large impact on rural farmers who have wells left untouched on their land.

At the time of the article Nickie Vlavianos was an Assistant Professor at the University of Calgary, and Chidinma Thompson was a Ph.D. Candidate at the University of Calgary Faculty of Law. As such, both authors have considerable expertise in natural resources law, and have published a reliable and comprehensive article.

Vlavianos, Nickie. "Creating Liability Regimes for the Clean-up of Environmental Damage: The Literature." J. Env. L. & Prac. 145 (1999).

This is the third article reviewed by author Nickie Vlavianos, although it is the oldest article authored. The article focuses on which parties should pay to clean up the resulting environmental damage from oil and gas activities in Alberta. The article is different than the Alberta Law Review article authored by Ms. Vlavianos in 2002, as it focuses less on orphan wells and more on the general liability scheme that has been set up in Alberta to deal with the oil and gas industry. Thus the article provides a solid framework for how Alberta has regulated liability in the industry as a whole. The article generally advocates for placing liability on industry, instead of on society generally. This viewpoint is in line with the current orphan well set-up.

The literature review in this article is very comprehensive on issues of "polluter pays" and provides detailed review of authority on issues of liability. As mentioned before, Ms. Vlavianos has been published numerous times on the issue of liability and regulation within the Alberta oil and gas sector, and is a credible and expert author on the issue.