

# Department of Resource Economics and Environmental Sociology



## 2016-17 Annual Report



**UNIVERSITY OF ALBERTA**  
FACULTY OF AGRICULTURAL,  
LIFE & ENVIRONMENTAL SCIENCES  
Department of Resource Economics and Environmental Sociology

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## CHAIR'S MESSAGE

This report, the second such one prepared, continues to be a cornerstone piece in the communication and outreach efforts of the department to our stakeholders beyond the faculty and our students. The department continues to prosper and perform well in terms of contributions to the application of economic and sociological theory and methods to many resource and environmental issues. Have a look through the document to see for yourself.

First, I am happy to report the addition of three new faculty members to the department. Drs Maik Kecinski, Xiaoli Fan and Mohammad Torshizi bring new skills and interests in terms of experimental economics, operations research, agribusiness and innovation. I think you will see these skills being applied to pest and water management issues in forestry and agriculture as well as various crops and transportation problems. Torshizi, in particular, has brought excitement and enthusiasm to the undergraduate agribusiness-teaching portfolio. This included a major overhaul of the related capstone course that is now centred on the production of business plans for actual agribusiness enterprises in the province.

Department research output continues to be strong, with a total of \$4,502,194 in external funding from a variety of sources. These resources have funded about 30 graduate students over the last two years and have supported the publication of more than 66 journal articles. This maintained output has placed REES among the top 20 related academic units in the world and the top spot among similar departments in Canada. In addition, REES continues to have a strong MSc program, with a number of our students winning international and national awards for their research performance. Some of them have gone on to do innovative things such as Ryan Mason and Cathryn Sprague's Reclaim Urban Farm, which reclaims vacant urban land and uses the space to grow vegetables to supply the local food system. These former students were awarded an Alumni Innovation Award in 2016.

The Three Minute Thesis proposal competition continues every September and provides presentation experiences for our second-year cohort of MSc students and gets them thinking formally about their thesis research. The Hawkins Research Award continues to support this event by funding prizes for the top two presenters. These awards, as

well as scholarships graciously endowed by many alumni, are presented at the annual awards event following the competition.

The course set in 2016 to formally engage with our graduate student alumni was rolled out in 2017. This involved formal contact by me as well as fundraising activities by the Faculty of ALES and the university's Advancement units, as well as with assistance by alum Dale KalieI. I must say that so far these efforts have not garnered significant contributions to the REES scholarship portfolio. However, I am pleased to report the development of two new graduate scholarships in the department with donations from professors emeriti and former students. If any of you reading this report wish to become involved in supporting department and student activities, I invite you to contact me to see how you could assist future students.

One relatively new initiative I am happy to report is increased activity in the department seminar series. This includes formal department seminars as well as more informal brown bag seminars. Funding for hosting visiting speakers comes from the 50th Anniversary Endowment. REES would welcome additional contributions to this 50th anniversary fund from alumni and others. One of my goals is to garner sufficient ongoing financial support to fund a REES annual lecture. Currently, REES is the only department in the faculty to not have such an event. As with my plea above, I invite you to contact me if you are interested in providing support for seminars or lectures. Also, if you would like to be invited to the REES seminars, please contact me and I will ensure you are placed on the department's email contact list.

**Dr. Peter Boxall**  
Chair

# REES AT A GLANCE

22



ACADEMIC  
STAFF

66



PEER-REVIEWED  
PUBLICATIONS

30



STUDENTS  
CONVOCATED

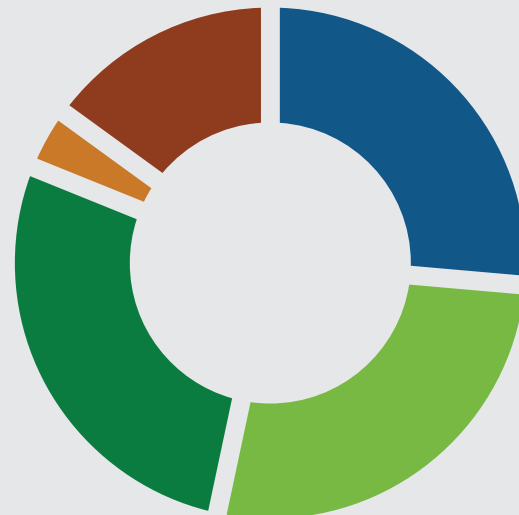
## Research Funding

### TOTAL VALUE OF RESEARCH FUNDING 2015-18

(financial fiscal year)

4,502,194

■ Alberta provincial government	\$1,188,673
■ Federal government	\$1,223,678
■ Other government	\$668,022
■ Industry	\$175,532
■ Other	\$1,246,289





100



**SCHOLARSHIPS & AWARDS**

(Staff and student awards blended)

12



**INTERNATIONAL ACADEMIC VISITORS**

54



**CURRENT GRADUATE STUDENTS**

(As of March 2018)

**GRADUATE STUDENTS FROM ACROSS THE GLOBE**



■ Asia	15
■ Africa	4
■ Europe	3
■ North America	29
■ South America	2
■ Caribbean	1

(As of July 2017)

**GRADUATE STUDENT ENROLMENT**



■ MSc Students	39
■ PhD Students	11
■ MAg Students	3
■ Visiting Students	1

(As of July 2017)

**PRESENTATIONS**



■ Canada	134
■ Europe	40
■ Asia	2
■ USA	53
■ Australia	4

(2016-2017 Academic Year)

The years 2016 and 2017 were a successful period, with new faces and exciting changes to the department. The department was pleased to welcome a number of academic staff joining the research and teaching team to forge responsible solutions. In August 2016, Dr. Mohammad Torshizi joined our teaching force as an assistant professor. Dr. Maik Kecinski joined shortly after, bringing his research interests in environmental risk, experimental economics of contamination, northern and Indigenous issues and land conservation. In August 2017, the department welcomed Dr. Xiaoli Fan, whose expertise lies in agricultural and food business management.

Aside from the addition of several staff members, there has also been a refreshment to our department spaces. To enhance learning and studying experiences for our graduate and undergraduate students, the department made extra efforts in restoring studying and working spaces. Throughout 2016 and 2017, we renovated and refurbished the department offices, conference rooms and several graduate student offices. The Eric Berg Reading Room was also renovated to create a more welcoming study space for students, with plenty of desk space and comfortable couches and chairs. The refreshed spaces have seen a dramatic increase in student use since their reopening in early 2018. The old graduate student computer lab has been relocated to the adjacent new Eric Berg Graduate Computing

Laboratory and is now equipped with new computers in a classroom setting for a better study and learning experience for our graduate students. A generous donation allowed renovations of our graduate student and staff kitchen and lounge. When you first walk into the room, you can see the beautiful artwork by our professor, Brenda Parlee, on the feature wall.

Since the start of 2017, the department's website has been updated to align with the faculty and university's digital strategy. With a refreshed design and updated public-facing content, we have raised our online presence. The website is also designed to be responsive to mobile devices. Visitors to our website will experience a more visually appealing and user-friendly interface on desktop and mobile devices.

In the summer of 2017, the department hosted a group of undergraduate students from several universities in China as part of the ALES summer program. The program included in-class teaching, an experimental lab and hands-on field trips to showcase Canadian Natural Resource Management to the international visitors. The program also provided an opportunity for our instructors to find new ways to keep a class of international students engaged.

The department hosted 28 brown bags and seminars and nine international visitors in 2016 and 2017. We received 12 faculty awards and 44 student awards for prestigious international teaching, research and graduate student success. We are proud to note that Dr. Henry An acquired tenure and was promoted to associate professor in October 2016.

As small a department as we are, we will continue to strive for building responsible solutions throughout the years, slowly but surely, for our community, stakeholders and the environment.



- 1 Professor Bruno Wichmann giving a brown bag talk in March 2017
- 2 Summer program students at the St. Albert Research Farm in June 2017
- 3 Professor John Parkins and PhD graduate Alemu Nenko at convocation in June 2017
- 4 William Pattison speaking in the Kingman crop tour in August 2017

# FACULTY AWARDS

## 2016

- An, Henry **Meritorious Teaching Award**  
National Association of Colleges and Teachers of Agriculture (NACTA)
- Anders, Sven **International Mobility Award**  
World University Network and University of Alberta
- Luckert, Martin **Teaching Wall of Fame**  
Faculty of Agricultural, Life & Environmental Sciences
- Mohapatra, Sandeep **Teaching Wall of Fame**  
Faculty of Agricultural, Life & Environmental Sciences
- Parkins, John **Teaching Wall of Fame**  
Faculty of Agricultural, Life & Environmental Sciences

## 2017

- Adamowicz, Vic **Outstanding Alumni Award**  
Department of Applied Economics, University of Minnesota
- Fan, Xiaoli **George F. Warren Award**  
Dyson School of Applied Economics and Management, Cornell University
- Swallow, Brent **International Engagement Award**  
Faculty of Agricultural, Life & Environmental Sciences
- Mentor of the Year**  
School of Business, Business Cooperative Education
- Goddard, Ellen **Distinguished Fellow**  
Australasian Agricultural and Resource Economics Society
- Teaching Wall of Fame**  
Faculty of Agricultural, Life & Environmental Sciences
- Luckert, Marty **Teaching Wall of Fame**  
Faculty of Agricultural, Life & Environmental Sciences



5 Professor Ellen Goddard presented at the ICABR Conference in June 2016.



6 Professor Brent Swallow received the International Engagement Award from Dean Stan Blade at the ALES Faculty Awards Ceremony, December 2017.

# ACADEMIC STAFF



**Dr. Vic L. Adamowicz**

Distinguished university professor; vice dean (Faculty of ALES); environmental economics, econometrics, forest economics; director, Alberta Land Institute



**Dr. Henry An**

Associate professor, economics of technical change, development economics, econometrics



**Dr. Sven Anders**

Professor; value-added meat marketing; member of the ARVI Council



**Dr. Ellen Biewlawski**

Professor; Arctic archaeology; Indigenous studies; negotiations between Indigenous groups and Canadian governments (joint with the Faculty of Native Studies)



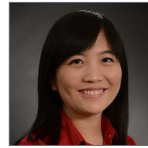
**Dr. Peter Boxall**

Professor; department chair; resource and environmental economics



**Dr. Debra Davidson**

Professor; natural resource politics and governance, environmental risk, state theory, rural sociology



**Dr. Xiaoli Fan**

Assistant professor; food and agribusiness management, consumer demand, bioeconomic models of invasive pests and diseases, mathematical programming



**Dr. Ellen Goddard**

Professor, co-operative chair; agricultural marketing and business program leader, Consumer and Market Demand Policy Research Network, Agriculture and Agri-Food Canada, leader of the Consumer and Market Demand Agricultural Policy Research Network



**Dr. Lars Hallstrom**

Professor; director of the Alberta Centre for Sustainable Rural Communities; public health and politics of environmental movements



**Dr. Scott Jeffrey**

Professor; associate dean (Academic); production economics, agricultural business management



**Dr. Maik Kecinski**

Assistant professor; environmental risk and climate change, water issues, land conservation, experimental and behavioral economics



**Dr. Naomi Krogman**

Professor; associate dean (Faculty of Research and Graduate Studies); sociology of natural resources, international development, gender

**Dr. Martin Luckert**

Professor; forest economics, natural resource economics

**Dr. Philippe Marcoul**

Associate professor; financial economics, industrial organization, contract theory

**Dr. Sandeep Mohapatra**

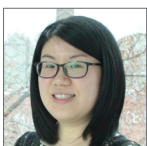
Associate professor; international development, applied econometrics, agricultural and trade policy

**Dr. John Parkins**

Professor; graduate co-ordinator; rural sociology, environmental sociology

**Dr. Brenda Parlee**

Associate professor; Canada Research Chair; social responses to ecological change

**Dr. Feng Qiu**

Associate professor; agricultural policy, price and market analysis, agricultural production and supply, risk and insurance modelling

**Dr. James Rude**

Associate professor; graduate co-ordinator; trade policy, agricultural marketing, price analysis

**Dr. Brent Swallow**

Professor; climate change, economic development, environmental economics, property rights

**Dr. Mohammad Torshizi**

Assistant professor; economics of research and development and innovation policy, food and agricultural policy, grain transportation and handling, agribusiness venture management

**Dr. Bruno Wichmann**

Associate professor; environmental and resource economics, industrial organization, social and economic networks, experimental economics

## Adjunct professors

Sean Cash

Elwin Smith

Shari Clare

Bodo Steiner

Grant Hauer

Bill White

Tomas Nilsson

Marian Weber

## Postdoctoral fellows

Jay Anderson

Violet Muringai

John Pattison-Williams

## Research associates

Kevin Jones

Curtis Rollins

Evan Miller-Tait

Hawley Campbell





# RURAL AND ENVIRONMENTAL SOCIOLOGY



# Rural and Environmental Sociology

# RESEARCH

## Areas of research

Environmental and resource sociology

Social impacts of natural resource development

Natural resource policy analysis

Alternative management frameworks for natural resources

Gender and generation issues in natural resource management

## Current Research

Energy transition in Canada and energy-society relationships

Energy and conservation in Alberta

Watershed management and public health

Alternative food systems, gender and agriculture

Sustainable transitions

Land use change and sustainability planning

Indigenous communities, resource management and conservation

Monitoring wildlife health in northern Canada

Gender and development

Community wellbeing

Sustainability of extractive industries



*Emilie Bassi*  
MSc, rural sociology

## Feature graduate student thesis

### Social practices of animal husbandry in the Alberta cattle industry

The domestication of animals holds a crucial role in the development of societies worldwide. The production-based handling practices of livestock agriculture are a main area of inquiry for those who seek to improve animal husbandry and the treatment of animals implicated in agriculture. This qualitative study explores production-based social practices among cow-calf producers and dairy producers in Alberta, Canada. More specifically, I explore how producers perceive of themselves as mitigating animal welfare issues that permeate the beef and dairy industries through their animal husbandry decisions. I engage with frameworks from social practice theory to explore what facilitates the social reproduction and the social transformation of branding, disbudding and dehorning, weaning, and the on-farm low-stress handling and moving of cattle. *Supervisor: J. Parkins*

# CARIBOU POPULATION DECLINE

## Sustainable hunting not at fault

**B**arren ground caribou in northern Canada are a well-studied species that are highly valued and harvested by First Nations and Inuit peoples. Their herds tend to dramatically cycle in size every 40 to 70 years, and harvest data and related research show that Indigenous people adapt to those cycles.

“There is little to no evidence that harvesting has had any negative effects on wildlife population dynamics in Canada,” said Brenda Parlee, lead researcher on a study that sought to unearth the facts around an issue she sees as poorly understood by governments and the public.

A paper published in the peer-reviewed journal, *Science Advances*, has attracted lots of media attention. As one of the authors, associate professor Brenda Parlee was interviewed by multiple media outlets to talk about her findings in this paper: the decline of caribou population in Canada is not caused by over-harvesting by Indigenous groups.

There are several reasons why barren ground caribou populations in Canada have declined more than 70 per cent

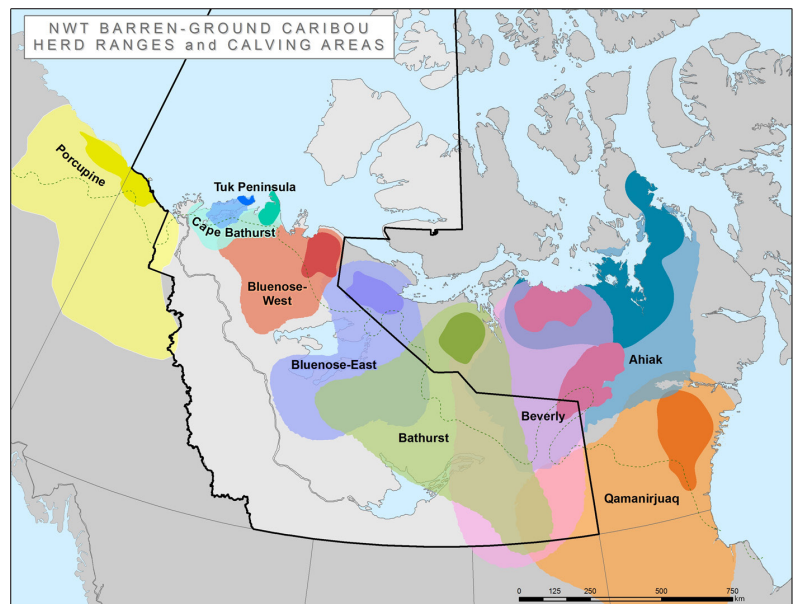
over the past two decades, but too much hunting by Indigenous people is not one of them, according to Parlee’s research.

Some people assume that Indigenous people will overhunt natural resources key to their cultures, economies and health unless central governments are involved, said Parlee.

“You can see this kind of storyline in newspaper headlines in various parts of the country; such assumptions have also

led to expensive and time-consuming processes of harvest management (restrictions to hunting) in northern Canada and elsewhere in the country.”

Based on figures from 1985 to 2000, Parlee’s research found that when the caribou population was more abundant, harvest levels are higher, and when there were fewer caribou, there were fewer animals harvested and other resources were used.



Caribou herds in Northwest Territories (NWT) and Yukon

Parlee's team analyzed 13 years of harvest data collected by governments in the Northwest Territories that showed strong parallels in caribou population and harvest numbers (as caribou populations dropped, communities harvested fewer caribou). As well, the research synthesized 30 years of human health studies, which show similar steep declines in traditional food consumption across Canada, including in the north. All evidence points to Indigenous people being good stewards of resources integral to their food security and economies, said Parlee.

"Most communities in the north are respectfully participating in harvest management planning with the aim of doing their part to protect caribou," said Parlee. "But time, attention and resources could be better spent."

Traditional knowledge and scientific research indicate there are a variety of other factors that drive changes in populations of barren ground caribou.

"There is a lot of evidence that human disturbance of habitat from mining and oil and gas activity is a critical problem," said Parlee.

"Indigenous communities living in the Bathurst caribou range will be the first to tell you the Bathurst caribou herd has

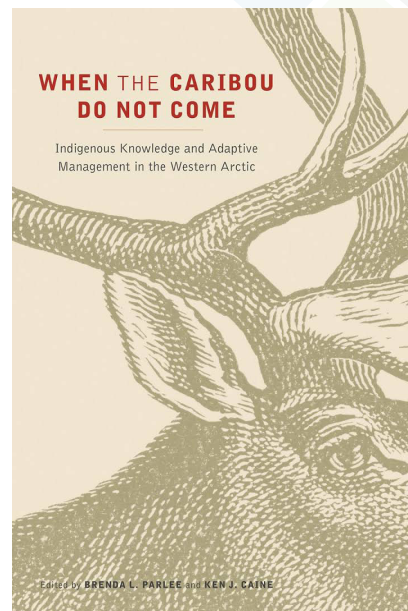
undergone a dramatic population crash that coincides with a dramatic increase in mining development."

Parlee suggests current government policies that restrict harvesting but allow for increasing mining, oil and gas activity are putting both caribou and northern communities at risk.

"It's a problem that compounds," she said. "Mining exploration and development is increasing stress on caribou and restricting subsistence harvesting of caribou creates problems of food insecurity.

The problem is not just limited to northern Canada, she said. "Wildlife conservation decisions need to be based on evidence, not anecdote. It is counter-productive to ignore valuable knowledge from Indigenous people who have sustainably managed their natural resources for thousands of years."

The study *Undermining Subsistence: Barren-Ground Caribou in a 'Tragedy of Open Access'* is published in the journal *Science Advances*.



Dr. Brenda Parlee also co-edited the book *When the Caribou Do Not Come: Indigenous Knowledge and Adaptive Management in the Western Arctic*, published by UBC Press, which ultimately drives home the important role that Indigenous knowledge must play in understanding, and coping with, our changing Arctic ecosystems and in building resilient, adaptive communities.

## PRINCIPAL INVESTIGATOR

Brenda Parlee

## CO-INVESTIGATOR

John Sandlos

David C. Natcher



# **ENVIRONMENTAL AND RESOURCE ECONOMICS**

# Environmental and Resource Economics

# RESEARCH

## Areas of research

**Environmental valuation**

**Market-based instruments and institutional arrangements for environmental protection**

**Socio-economic analysis for natural resources and agriculture in developed and developing countries**

## Current Research

Reverse auctions for wetland restoration in Rocky View County, Alta.

Household willingness to pay for environmentally favorable outcomes (e.g. wildlife conservation)

Understanding health risk perceptions and the economic valuation of risk reduction

Cost-effective ecosystem service provision in tropical ecosystems: hydrological services in Panama

Influence of networks on environmental decision-making (how does social structure impact environmental valuation?)

Public policies and biofuel production

## Feature graduate student thesis

### Land rights and women's empowerment in rural Peru: Insights from item response theory

Women's land rights are increasingly advocated as an empowerment tool to spur development outcomes. However, empirical evidence of this relationship is limited. In this study, we use data from peasant communities in rural Peru to explore the effect of the intra-household allocation of inherited land on women's empowerment. Empowerment is modelled as a latent variable measured by different influence indicators using a generalized structural equation approach. We draw on item response theory (IRT) to estimate difficulty and discrimination parameters which can inform policymakers about the impact of empowerment policies on women's types of influences within their households. The empirical approach is consistent with empowerment's latent and multidimensional nature and pays attention to endogeneity issues often present in other empirical studies. We find that although women's land rights increase empowerment, the intra-household allocation of land determines the magnitude of this impact. *Supervisors: S. Mohapatra/B. Swallow*



*María Montenegro*  
MSc, agricultural and  
resource economics

**W**hen asked about why he chose the Department of Resource Economics and Environmental Sociology (REES) in the Faculty of ALES, one of Dr. Maik Kecinski's responses is that REES gives him an incredible amount of freedom to work on issues and questions he is interested in and wants to explore. Looking at Kecinski's ongoing and previous research topics, it's easy to see why he would like that kind of freedom. His research methodology typically involves experimental and behavioural approaches, such as perceptions of "green" foods to behaviour in climate change games, the establishment and stability of social networks, public goods and common pool resources in northern Indigenous communities.

Before he took his position as assistant professor in REES, Kecinski was working in the Centre for Experimental & Applied Economics with Dr. Kent Messer at the University of Delaware. Their team has done research on oysters that has attracted some public attention, including that of U.S. governors and senators. They looked at attributes that will affect oyster consumers' purchasing choices. The study was done with real monetary incentives and oysters for participants to take home to understand several attributes that will affect consumer willingness to pay. Questions such as "Does brand name affect willingness to pay?" "Does the word 'local' specifically changes willingness to pay?" and "Does knowledge about environmental benefits of oysters increase willingness to pay?"

Currently, Kecinski is working on a series of field experiments on water contamination. One is on environmental justice, as recent discoveries of contaminated drinking water in

Michigan have raised important environmental justice questions. This research uses non-hypothetical economic experiments to study participants' willingness to accept monetary compensation in exchange for being subjected to water from locations that have previously been reported as containing different levels of arsenic and lead. Results suggest that people who live below the poverty line are significantly more likely to voluntarily expose themselves to such contaminants compared to other income groups. These results raise important ethical questions about the correct policy response to protect vulnerable communities.

Looking forward, Kecinski wants to continue to build his research program on climate change and risk, particularly focusing on northern Indigenous issues. Mostly, he says, he is interested in having his research positively contribute to society, the environment and science, and to continue his efforts to collaborate within REES and abroad, and more importantly building strong professional relationships and friendships.



**Disadvantaged  
communities  
are more  
susceptible  
to lead and  
arsenic  
contamination**



**Dr. Maik Kecinski**



# Update: Alberta's Living Laboratory wetlands project

**R**ocky View County sits on the Nose Creek Watershed, an important water basin that passes through agricultural land, urban areas and places of industrial development. This land area has over 400 restorable wetland basins available, including 250 landowners with restorable wetlands on their property.

Wetlands play a critical role in sustaining healthy watersheds by protecting water quality, providing water storage and infiltration, preventing floods, providing habitat for wildlife, fish and plants, and sustaining biodiversity. They are Earth's most productive ecosystems. According to the Alberta government's wetlands policy, wetlands are estimated to host some 400 species of plants, some of which are listed as rare, threatened or endangered in the province.

The Alberta's Living Laboratory wetlands project is a multi-year, interdisciplinary research project examining the science and economics of wetland restoration in Alberta. This is a timely subject because a new wetland policy has come into force in the province, changing the replacement requirements for wetlands lost to development.

The goals of this project were simple: discover the number of restorable and lost wetlands in Rocky View County and assess the value of restoring wetlands to all those living within the county. The work and lessons learned in nearly three years have been considerable.

To identify previously lost, restorable wetlands, the researchers used a technique called remote sensing, a process that identifies low-lying areas where wetlands tend to be. Restoring wetlands comes at a cost for landowners. It's why the research team used an innovative reverse auction process that was developed at the University of Alberta and provides an economic incentive for landowners to get involved in recovering wetlands.

Landholders were asked to name the amount they would require to restore the wetlands on their property. The researchers ranked those amounts as "bids" in an auction. Participants were paid equally the amount of the highest winning bidder's submission. In total, 13 basins covering 47.3 acres were accepted for restoration. Ten of these basins have now been restored – indicating the success of the process. The fact is, while wetlands cover 20 per

cent of Alberta's surface area, there has been steady erosion due to growing demands from industry and population growth. But conserving and restoring wetlands across the province does not need to come at the cost of economic development.

The engagement and support from landowners in Rocky View County in just a few years has been encouraging.

What has been learned from this research to date will be critical when it comes to maintaining engagement with landowners across Alberta and developing public policy solutions that work and can be effective for the benefit of all Albertans.



*(Left) Anna Kauffman and Anna Waz survey a property in Rocky View County, AB*

## PROJECT WEBSITE

[restoreourwetlands.ca](http://restoreourwetlands.ca)

### PRINCIPAL INVESTIGATORS

Dr. Peter Boxall

Dr. Irena Creed (Western University)

### CO-INVESTIGATOR

Dr. Shari Clare

### PROJECT STAFF

Project Managers: Stacey O'Malley, Hawley Campbell, Anna Kauffman

David Aldred, Technician (Western University)

Jacqueline Serran, Technician (Western University)



# **ECONOMICS of AGRICULTURE, FOOD AND AGRIBUSINESS**

# Economics of Agriculture, Food and Agribusiness

# RESEARCH

## Areas of Research

Food and consumers

Demand analysis

Regulation issues

International food trade  
and policy

Agribusiness implications

Agriculture and agribusiness  
finance

Production and marketing

Economic, policy and  
business analysis

## Current Research

Effects of fertilizer inputs and use of improved seed varieties on crop yields (barley and canola in Manitoba)

Effects of export restrictions on price volatility of grain and oilseed crops

Social consumption and price rigidity of quality differentiated private label goods

Public perception of genetically modified (GM) foods

Producer co-ordination and improved spatial efficiency of GM and non-GM crops

Willingness to pay for country-of-origin-labelled beef

Impact of education on wage distribution by gender in India's formal labour market

Consumer trust and buying behaviour – how does the public respond to new products, processes, technologies and regulations related to the food system?

## Feature graduate student thesis

### Estimating the Economic Value of Drinking Water Reliability in Alberta

There are growing concerns that the increased severity and frequency of summer droughts and forest fires in regions like Alberta will lead to drinking water reliability challenges for communities. The objective of this study was to provide an estimate of the monetary value of drinking water reliability in Alberta. The study employed the results of an Alberta-wide survey on drinking water reliability. The survey elicited respondents' experiences with, and risk perceptions of, three types of water outages. Respondents who expressed positive risk perceptions were presented with alternative programs that reduce their risk perceptions to specified percentages but increased their water bills. Using cost and other program attributes as explanatory variables we measured the probability of supporting the programs. We find that Alberta households are willing to pay additional amounts of money on their water bills to support programs that will increase the reliability of their sources of drinking water. *Supervisor: W. Adamowicz*



*Alfred Appiah*

MSc, agricultural and  
resource economics



Dr. Xiaoli Fan

**X**iaoli Fan joined the Department of Resource Economics and Environmental Sociology (REES) in August 2017. She received her PhD in applied economics and management from Cornell University.

Fan's research interests include food and agribusiness management, bioeconomic modelling of pest and diseases, and consumer demand analysis.

A significant part of her research involves developing and applying mathematical models, particularly optimization models, to inform agricultural stakeholders' decisions concerning food production, distribution, and marketing problems.

During her PhD studies, Fan worked on a USDA-funded project that studied how to optimally monitor and control an invasive species: spotted

wing drosophila (SWD). Fan and co-authors developed a dynamic bioeconomic model to evaluate the performance of alternative SWD management strategies.

Results from the project provided valuable help for fruit growers to choose the most economically and environmentally sustainable SWD management strategies that reduce reliance on insecticide applications.

Fan's work on SWD control has led to her general research interests in the bioeconomic modelling of pest and disease management. Her current work in this field includes: modelling the economic impact of the trade regulation of apple maggot, a bioeconomic model of mountain pine beetle control in Alberta, and optimal control of banana xanthomonas wilt disease in Uganda.

## Optimizing food bank operations

Fan is also conducting research related to agribusiness and food systems management. For example, she co-authored a paper published in the *American Journal of Agricultural Economics* that sheds light on how food banks can optimize their fresh produce gleaning operations to simultaneously reduce food waste and improve the nutritional quality of food available to food assistance recipients.

An extension of this work to a multi-crop setting was published in the journal *Food Policy*. In addition, she is also studying how different types of information affect consumer acceptance of genetically modified potatoes in Canada.

The applied nature of the department, the abundant collaboration opportunities with researchers in the department and across campus, and Alberta's strong and competitive agriculture sector make REES the best place for Fan to conduct her research.

Although she has only been with the department for less than a year, Fan is already leading two research projects, and her goal is to continue working with the university's talented researchers and students to improve stakeholders' decision-making and advance agriculture development in Alberta.

## Pest and disease management for fruit growers

# Alberta is losing the values of prime farmland

## Economic evaluation of farmland conversion and fragmentation in Alberta

Follow-up on the three-year research project focuses on the economics of fragmentation and conversion of agricultural land to non-agricultural uses in Alberta.

A new report from the Alberta Land Institute, conducted by Dr. Brent Swallow, Dr. Scott Jeffrey, Dr. Feng Qiu and graduate students, found that high-quality agricultural land in Alberta continues to be fragmented and lost and calls for greater discussion around land-use policies to preserve the quality agricultural land as Alberta grows. It found that most of the farmland converted for developed uses between 2000 and 2012 was of the highest levels of suitability, with 35 per cent of the highest suitability and 34 per cent of the second highest suitability found in Alberta.

"This conversion and fragmentation of agricultural land have led to concerns about rural landscape preservation, loss of food production capacity, high service costs, and conflicts between farmers and new rural residents," Swallow said. "Given the current legislative tools available to public officials under the Alberta Land Stewardship Act and the Modernized Municipal Government Act, it is important that all officials responsible for decisions about land use understand the magnitude and causes of the problem."

A survey conducted for the report shows that attitudes among residents in the Edmonton metropolitan region revealed concern about the rapid expansion of urban areas and the consequential loss of natural and agricultural land in the area. About 80 per cent of the respondents indicated they were willing to make a \$20 one-time contribution toward farmland conservation in the Alberta capital region.

"Alberta's landscape is undergoing substantial changes due to growth in its economy and population," Swallow said. "The agricultural industry, which uses approximately one-third of the provincial area, is significantly affected by these changes. Albertans are interested in discussing the best methods to develop and grow, while also conserving important land areas for farming."

While there has been an overall decrease in the high-quality farming soil in Alberta due to urban expansion, there has been a small increase in overall farmland due to the conversion of grasslands and forests into croplands and pasture.

Municipal councils are at the front line of decision-making regarding farmland preservation in Alberta.

Both the Alberta Land Stewardship Act and the Modernized Municipal Government Act make municipalities responsible for developing land-

use plans and designating allowable land uses.

While individual landowners and developers look for development opportunities, municipal councils need to consider the broad public interest, including the food production and environmental service values of farmlands.

Swallow and other researchers at the Alberta Land Institute are now investigating attitudes toward farmland conservation, development in other parts of Alberta and the effects of pro-development policies on real estate prices.

*Adapted from the Alberta Land Institute website*

## PRINCIPAL INVESTIGATORS

Dr. Scott Jeffrey  
Dr. Brent Swallow

## WEBSITE

[albertalandinstitute.ca](http://albertalandinstitute.ca)



**STUDENTS** and **ALUMNI**



The department has mentored some exceptional students throughout the past two years. Cathryn Sprague and Ryan Mason, two MSc graduates with specialization in rural sociology, were recognized by the University of Alberta with the Alumni Innovation Award in 2016. During their graduate programs, they decided to reclaim vacant city land and use the space for growing food in an effort to improve the local food system. Their shared passion for gardening and food security led to Reclaimed Urban Farm being born in 2014. The Reclaimed Urban Farm uses low-impact and organic practices to grow a variety of urban-friendly seasonal produce on plots of land borrowed from local landowners. The fresh produce is then provided to local restaurants and at farmers' markets.

MSc student María Montenegro demonstrated academic excellence in her graduate program under the supervision of Drs. Brent Swallow and Sandeep Mohapatra by winning both the Canadian Agricultural Economics Society's and American Agricultural and Applied Economics Association's Outstanding Masters' Thesis Awards in 2017. To conduct the research and collect data for her thesis, Montenegro had to build strong connections and relationships with

subjects from six Indigenous communities, government authorities and an international research organization. Currently, she is working as a research analyst measuring settlement, education, and employment outcomes of newcomers to Canada who participated in the educational program that teaches English and settlement at NorQuest College.

REES students were exceptionally successful at the annual Canadian Agri-Food Policy Conference by winning the research poster competition for three consecutive years. Hawley Campbell placed first in 2016 with her poster, "Gains from Trade but to Whom? Canola and the Trans-Pacific Partnership." Emilie Bassi placed third in 2017 with her poster "The Producers' Perspective: Constraints to Farm Animal Welfare Policy Implementation in Alberta." Anna Kauffman placed first in the 2018 competition with "Reverse Auctions for Restored Wetlands: Low Participation on the Prairies."

Under the co-supervision of professor Sven Anders and Matty Demont of the International Rice Research Institute in Los Baños, Philippines, undergraduate student Emilie Zentner placed first in both the research poster competition and the policy brief competition at the Canadian Agri-Food Policy Conference in 2017 with her poster "Does the River Flow Upstream? A Meta-Analysis of Benefit Distributions of Biotechnology Crops." Later in the year, Zentner, along with her teammates Ahmed Hussein and Ashley Saurer and the help of their coach Dr. Mohammad Torshizi, won the Canadian Agricultural Economics Society's David Sparling Business Case Competition. Then they outcompeted four other undergraduate teams from across the country in providing recommendations to Bonduelle, a large vegetable processor in Quebec, to further the development of their sustainability-angled competitive advantage in the vegetable processing industry.

PhD student Violet Muringai was awarded the 2016 Richardson-Applebaum Scholarship Award for Outstanding PhD Dissertation by the Food Distribution Research Society (FDRS) in the United States for her thesis "Trust, Perceptions, Intentions and Behaviour in Meat Consumption." Currently, she is working as a post-doctoral fellow



1

Jim Copeland and Chelsea Martin, recipient of the James Copeland Graduate Scholarship, 2017

2

AAEA-REESSA post-conference farm tour, April 2017

with Dr. Ellen Goddard, her supervisor during her PhD program.

Aside from students' success in academia, our graduate student association, REESSA, has organized several successful academic and social events during the past two years. From laser tag social night to heritage night at community halls, the cohorts were able to get together and have some fun throughout the busy days of study and research work. In March 2017, both professors and students went to the Saville Community Sports Centre to participate in the curling bonspiel. With the reopening of our kitchen and lounge the following month, the entire department, students and staff, were joined by REESSA to have the chili cook-off and some fun social time. After the initial collaboration in 2015, REESSA continued to host their joint Visions conference with the Alberta Agricultural Economics Association (AAEA) in Red Deer in 2016 and 2017, with a broad spectrum of presentations and a variety of speakers from industries, government and academia.



*2017 Kingman crop tour*



*2017 chili cook-off*



*2017 Kingman crop tour*



*2017 curling bonspiel*

# STUDENT AWARDS 2016

Afanasyeva, Aleksandra	QE II Graduate Scholarship (master's)	Doll, Claire	Brett G. Cortus Memorial Graduate Scholarship Three Minute Thesis competition (M. M. Hawkins Graduate Research Award) Travis W. Manning Book Prize
Andrews, Jeffrey	QE II Graduate Scholarship (doctoral level)	Durocher, Geoffrey	B.J. McBain Graduate Scholarship John Proskie Memorial Scholarship
Arenna	Three Minute Thesis competition (M. M. Hawkins Graduate Research Award)	Le, Stephanie	James Unterschultz Memorial Graduate Scholarship Travis W. Manning Book Prize
Awatta, Sara	Roger S. Smith Award	Luna, Alexandra Frias	QE II Graduate Scholarship (master's)
Baydack, Micki	QE II Graduate Scholarship (master's)	Martin, Chelsea	FGSR Indigenous Graduate Award James Copeland Graduate Scholarship QE II Graduate Scholarship (master's)
Bassi, Emilie	James Copeland Graduate Scholarship Joseph-Armand Bombardier CGS Master's Scholarship – SSHRC Walter H. Johns Graduate Fellowship	Muringai, Violet	Richardson-Applebaum Scholarship Award for Outstanding PhD Dissertation
Bennet, Arlana	FGSR Indigenous Graduate Award	Novak, Lucas	Western Agricultural Economics Association's graduate student paper competition third place
Bergstrom, Apryl	Travis W. Manning Book Prize	Sarauer, Ashley	Canadian Agricultural Economics Society Undergraduate Book Prize
Bruno, Grant	FGSR Indigenous Graduate Award	Shandal, Monica	Roger S. Smith Award QE II Graduate Scholarship (master's)
Campbell, Hawley	Canadian Agri-Food Policy Conference poster competition first place	Schmidt, Alix	B.J. McBain Graduate Scholarship John Proskie Memorial Scholarship
Cyr, Kaitlyn	Best master's student paper at the International Symposium on Society and Resource Management (ISSRM)	Wray, Kristine	FGSR Indigenous Graduate Award QE II Graduate Scholarship (doctoral level)
		Yang, Meng	Brett G. Cortus Memorial Graduate Scholarship
		Zheng, Yanan	Alberta Agricultural Economics Association Master's Scholarship Three Minute Thesis competition (M. M. Hawkins Graduate Research Award) Livestock Gentec student poster competition third place



*(Left) Dr. Nicoleta Uzea, Ahmed Hussein, Emilie Zentner, Ashley Sarauer, Dr. Bandon Schaufele, and Dr. Mohammad Torshizi at the 2017 CAES Awards Banquet*

## STUDENT AWARDS 2017

Bassi, Emilie	AAFC research poster competition third place FGSR Graduate Student Travel Award Canadian Agricultural Economics Society Visions Conference best graduate student presentation second place	Montenegro, Maria	Agricultural & Applied Economics Association Outstanding Master's Thesis Award Canadian Agricultural Economics Society Outstanding Master's Thesis Award
Baydack, Micki	Environmental Sociology Graduate Scholarship Northern Scientific Training Program (NSTP) Grant and Northern Research Awards (UANRA) Grant 2017 Travis W. Manning Book Prize	Onyango, Irene	FGSR Doctoral Recruitment Scholarship
Bennett, Arlana	FGSR Indigenous Graduate Award	Sarauer, Ashley	B. J. McBain Graduate Scholarship David Sparling Business Case Competition John Proskie Memorial Scholarship
Bruno, Grant	FGSR Indigenous Graduate Award	Schmidt, Alix	Alberta Agricultural Economics Association Master's Scholarship FGSR Graduate Student Travel Award Joseph-Armand Bombardier, Canada Graduate Scholarship (Master's) Walter H Johns Graduate Fellowship Centre for Behavioral and Experimental Agri-Environmental Research (USDA & ERS) Travel Award
Brown, Bijon	QE II Graduate Scholarship (doctoral level)	Shandal, Monica	John Proskie Memorial Scholarship QE II Graduate Scholarship (master's)
Cao, Yangzhe	Government of Alberta Graduate Studies Scholarship James Unterschultz Memorial Graduate Scholarship Three Minute Thesis competition (M. M. Hawkins Graduate Research Award) Travis W. Manning Book Prize	Sharma, Muna	FGSR Doctoral Recruitment Scholarship
Fisher, Anthony	QE II Graduate Scholarship (master's)	Stenekes, Sydney	QE II Graduate Scholarship (master's)
Godfrey, Todd	Canadian Agricultural Economics Society Visions Conference best graduate student presentation first place Northern Scientific Training Program (NSTP) Grant and Northern Research Awards (UANRA) Grant 2017	Wang, Shuo	Travis W. Manning Book Prize Brett G. Cortus Memorial Graduate Scholarship Al Brennan Memorial Graduate Scholarship in Forestry Livestock Gentec graduate student poster competition
Gray, Brendan	Canadian Agricultural Economics Society Undergraduate Book Prize	Wang, Yichuang	Northern Scientific Training Program (NSTP) Grant and Northern Research Awards (UANRA) Grant 2017
Hussein, Ahmed	David Sparling Business Case Competition	Wray, Kristine	FGSR Indigenous Graduate Award QE II Graduate Scholarship (doctoral level)
Hollowach, Monique	QE II Graduate Scholarship (master's)	Yang, Meng	Agricultural & Applied Economics Association Annual Meeting graduate paper competition third place
Kauffman, Anna	FGSR Graduate Student Travel Award	Zentner, Emilie	AAFC policy brief competition first place AAFC research poster competition first place David Sparling Business Case Competition
Martin, Chelsea	FGSR Indigenous Graduate Award James Copeland Graduate Scholarship Northern Scientific Training Program (NSTP) Grant and Northern Research Awards (UANRA) Grant 2017 QE II Graduate Scholarship (master's) Three Minute Thesis competition (M. M. Hawkins Graduate Research Award)		



# PARTNERSHIP WITH THE AAEA

The visions 2017 Conference was held in Red Deer, Alberta on April 27. It was the third collaboration between the Alberta Agricultural Economics Association (AAEA) and the Resource Economics and Environmental Sociology Graduate Students Association (REESSA). Expert speakers from the government, industry and academia attended the session and gave a wide range of presentations addressing current issues affecting Alberta and Canada's agricultural sector, including disruption from emerging new technologies, changes in trade, agricultural consumptions, and GMO product marketing.

Two graduate students from the Department of Resource Economics and Environmental Sociology stood out from the 16 students who participated in the competition, winning the first and second prize of the best graduate student presentation awards sponsored by Canadian Agricultural Economics Society (CAES) at the Conference.

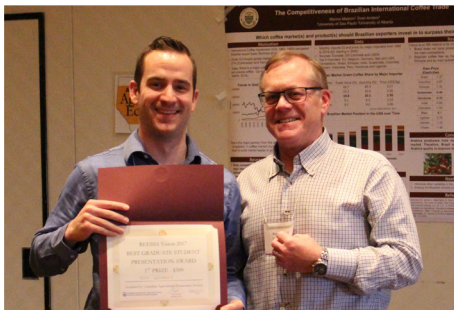
Todd Godfrey won first prize with his presentation, "Mining and alcohol consumption: New evidence from northern Canada." His presentation showed how the distance between mines and where individuals live in northern Canada is related to the number of alcoholic drinks individuals consume, with the number of additional drinks decreasing as mines get farther away. Godfrey has worked on this project with his thesis committee members, Drs. Bruno Wichmann and Brenda Parlee, and the project is funded by Resources and Sustainable Development in the Arctic (ReSDA). Confidential Statistics Canada microdata have been accessed through the university's Research Data Centre for regression analysis. The distances between individuals and mines in northern Canada were calculated using

GPS co-ordinates from Statistics Canada's Postal Code Conversion File and ReSDA's online atlas. In addition to the number of mines within a specified distance from where the individuals live, socioeconomic respondent level control variables, and Forward Sortation Area control variables and fixed effects were used in the model.

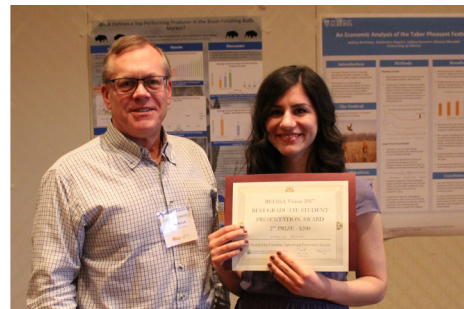
Emilie Bassi gave the presentation, "Exploring the role of emotions in negotiating animal welfare practices and industrial production in Alberta's cattle industry." Under the supervision of professor John Parkins, Bassi conducted 30 in-depth interviews with beef and dairy producers in Alberta to explore their perceptions and practices of farm animal welfare. In her presentation, Bassi shared excerpts from these interviews to outline how producer emotions are reflected in narratives of reflexivity, agency and within the transformation of their farm animal welfare practices.

The winners were selected based on content, engagement and communication performance graded by five judges for each session. The two winners scored the highest, nearly full marks for their presentation performance.

This year, a post-conference farm and agri-foods tour of a bison and elk retail store and a dairy farm were offered to participants for the first time. Student participants had a chance to talk to one of Canada's largest bison producers and learn about the entire farm-to-shelf process of a dairy product.



Todd Godfrey (left) and Dr. Peter Boxall, president of the Canadian Agricultural Economics Society (CAES)



Emilie Bassi (right) and Dr. Peter Boxall

# 2016-17 THESES

## Masters and doctoral

Amsalu, Dareskedar W., 2017, "Expanding irrigated agriculture in Alberta: an economic impact assessment," MSc, agricultural and resource economics

Andrews, Jeffrey, 2016, "Essays on evolution, social behavior and climate change," PhD, rural sociology

Appiah, Alfred, 2016, "Estimating the Economic Value of Drinking Water Reliability in Alberta," MSc, agricultural and resource economics

Arenna, 2017, "Consumer Purchase Preferences for Carnosine Enhanced Pork in Canada - A Functional Food," MSc, agricultural and resource economics

Bassi, Emilie, 2017, "Social Practices of Animal Husbandry in the Alberta Cattle Industry," MSc, rural sociology

Becker, Marcus, 2016, "Tradeoffs Between Environmental Quality and Economic Returns from Agriculture: A Case Study of the Lower Little Bow Watershed, Alberta," MSc, agricultural and resource economics

Bentley, Angela G., 2016, "An Investigation of the Effects Of Conversion Pressure And Fragmentation On Farmland Values In Alberta, Canada," MSc, agricultural and resource economics

Boaitey, Albert, 2017, "Three Essays on Beef Genomics: Economic and Environmental Impacts," PhD, agricultural and resource economics

Bozan, Ozgur, 2017, "Framing Climate Change Discourse in Turkish Media," MSc, rural sociology

Bruce, Stephen N., 2017, "Economics of Beneficial Management Practices Adoption by Beef Producers in Southern Alberta," MSc, agricultural and resource economics

Cyr, Kaitlyn J., 2016, "Social variables in wetland restoration: the role of values, beliefs, and norms in conservation behaviour," MSc, risk and community resilience

Doll, Claire, 2017, "Potential Development of a Second-Generation Ethanol Industry in Alberta: Product Prices, Land Use Change, and Co-production Opportunities," MSc, agricultural and resource economics

Godfrey, Todd, 2017, "Mining and Alcohol Consumption: New Evidence from Northern Canada," MSc, agricultural and resource economics

Kanjilal, Manikarnika, 2016, "Agricultural Producers' Costs of Adoption of Wetland Restoration Beneficial Management Practice: Estimation and Spatial Transferability," PhD, agricultural and resource economics

Dairon, Matthew Ryan, 2016, "Exploring southern Alberta energy discourses and web-based survey data quality issues: An application of Q-methodology," MSc, rural sociology

Laryea, Anita A., 2017, "Farm Animal Welfare in Canada: Role of Values, Attitudes and Knowledge on the Consumer Choice of Farm Animal Welfare Labelled Meat," MSc, agricultural and resource economics

Lopez, Fabiola, 2017, "Community's Perspective and Regulations of Cruise Ship Tourism in the Canadian Arctic: Pond Inlet Case Study," MSc, risk and community resilience

Maruta, Admasu A., 2016, "Heterogeneity in Attitudes Underlying Preferences for Genomic Technology Producing Hybrid Poplars on Public Land," MSc, agricultural and resource economics

Montenegro Guerra, María, 2016, "Land Rights and Women's Empowerment in Rural Peru: Insights from Item Response Theory," MSc, agricultural and resource economics

Muringai, Violet, 2016, "Trust, Perceptions, Intentions and Behaviour in Meat Consumption," PhD, agricultural and resource economics

Ngo, Sandra, 2016, "Consumer preferences for different sources of vitamin A in Odisha, India and Alberta, Canada," MSc, agricultural and resource economics



# PUBLICATIONS 2016-17

## Thesis (con't)

Novak, Lucas L. 2017. "A Reverse Auction for Wetland Restoration in Southern Alberta." MSc. Agricultural & Resource Economics.

Nyamekye, Isaac. 2016. "Area Yield Crop Insurance and Diversification in Ghana: An Agricultural Household Programming Model." MSc. Agricultural and Resource Economics.

Prescott, Sarah G. 2017. "Analysis and Economic Valuation of Off Highway Vehicle Use in Southwestern Alberta, Canada." MSc. Agricultural and Resource Economics.

Salat, Mohamud S. 2017. "Resource Use Efficiency as a Climate Smart Approach: Case of Smallholder Farmers in Nyando, Kenya." MSc. Agricultural and Resource Economics.

Wang, Qi. 2016. "Calculating the Costs of Farmland Conservation: Case Study of Alberta, Canada." MSc. Agricultural and Resource Economics.

Yang, Meng. 2017. "Gift Giving with Coercion in Rural Communities of Tanzania." MSc. Agricultural and Resource Economics.

Zeppa, Victoria S. 2016. "Institutional Innovation in Farmer-Trader Exchange Practices in the Indonesian Shallot Market." MSc. Agricultural and Resource Economics.

Zhang, Daiwei. 2016. "Information Networks and Conservation Auctions: Evidence from Laboratory Experiments." MSc. Agricultural and Resource Economics.

## Journal articles

Adkin, L., L. Hanson, D. Kahane, J.R. Parkins and S. Patten. 2017. Democratizing Environmental Policy-Making through Public Engagement: Comparative Case Studies from Alberta, Canada. *Environmental Politics*, 26(2): 301-321.

An, H., F. Qiu and Y. Zheng. 2016. "How do export controls affect price transmission and volatility spillovers in the Ukrainian wheat and flour markets." *Food Policy*. 62: 142-150.

Anders, S. and C. Schroeter. 2017. Effects of Nutrition Label Use on Consumer Diet-Health Concerns. *International Journal of Consumer Studies*, 41(5): 534-544.

Anders, S. and C. Schroeter. 2017. The Impact of Nutritional Supplement Intake on Diet Behavior and Obesity Outcomes. *PLoS ONE*, 12(10): e0185258.

Anders, S. and S. Fedoseeva. 2017. Quality, Sourcing, and Asymmetric Exchange Rate Pass-Through into U.S. Coffee Imports. *Journal of Agricultural and Resource Economics*, 42(3): 372-385.

Anderson, J., Luckert, M.K. and Campbell H. 2015.\* Policy reforms for a "more exotic" forestry sector: Comparing Canada's plantation policies with those in Australia, New Zealand, and the United States. *The Forestry Chronicle*. 91(05): 560-572.

Bittmann, T., and S. Anders. 2016. Seasonal asymmetries in wholesale-retail cost pass-through. *Applied Economics Letters*, 23(15): 1065-1068.

Bittmann, T., J.P. Loy, and S. Anders. 2017. Cost Pass-Through and Product Differentiation. *European Association of Agricultural Economists (EAAE) 2017 International Congress*, Aug 28 - Sept 1, Parma, Italy.

Boaitey, A., E. Goddard, S. Mohapatra, and J. Crowley. 2017. Feed Efficiency Estimates in Cattle: The Economic and Environmental Impacts of Reranking. *Sustainable Agriculture Research*, Vol 6 No 2, pp 35-47.

## Journal articles (con't)

Boxall, P.C., O. Perger, K. Packman and M. Weber, 2017, *An experimental examination of target-based conservation auctions*, *Land Use Policy*, 63:592-600

Breitkreuz, R., C. J. Stanton, N. Brady, J. Pattison Williams, E. D. King, C. Mishra and B. Swallow, 2017, *The Mahatma Gandhi National Rural Employment Guarantee Scheme: A Policy Solution to Rural Poverty in India?*, *Development Policy Review*, 35(3), 397-417

Cagdas, A., Jeffrey, S., E. Smith and P.C. Boxall, 2016, *Environmental stewardship and technical efficiency in Canadian Prairie canola production*, *Canadian Journal of Agricultural Economics*, 64(3):455-477

Campbell, H. and H. An. 2016. *Gains from trade but to whom? Canola and the Trans-Pacific Partnership*, *Western Economic Forum*, Fall 2016

Campbell, H., Anderson, J. and M.K. Luckert, 2016, *Public Policies and Canadian Ethanol Production: History and Future Prospects for an Emerging Industry Biofuels*, *Biofuels January*, 1-20

Chen, Y., J.R. Parkins and K. Sherren, 2017, *Using geo-tagged Instagram posts to reveal landscape values around current and proposed hydroelectric dams and their reservoirs*, *Landscape and Urban Planning*, 170 (2018) 283-292

Chiu, A., Goddard, E. and Parlee, B, 2016, *Caribou consumption in northern Canadian communities*, *Journal of Toxicology and Environmental Health, Part A* 79(16-17): 762-797

Davidson, D. J., 2016, *Gaps in agricultural climate adaptation research*, *Nature Climate Change* 6: 433-435

Davidson, D. J., 2017, *Is urban agriculture and game changer or window dressing? A critical analysis of its potential to disrupt conventional agri-food systems*, *International Journal of the Sociology of Agriculture and Food* 23(2): 63-76

Deishin L., E. Sonmez, M. I. Gomez, and X. Fan, 2017, *Combining two wrongs to make two rights: Mitigating food insecurity and food waste through gleaning operations*, *Food Policy*, 68, 40-52

Eagle, A., J. Rude, and P.C. Boxall, 2016, *Agricultural support policy in Canada: What are the environmental consequences?* *Environmental Reviews* 24(1):13-24

Faramarzi, M., K.C. Abbaspour, W.L. Adamowicz, W. Lu, J. Fennell, A.J.B. Zehnder, and G.G. Goss, 2017, *Uncertainty based assessment of dynamic freshwater scarcity in semi-arid watersheds of Alberta, Canada*, *Journal of Hydrology: Regional Studies*, 9:48-68

Goddard, E., A. Boaitay, K. Poon and Hailu, G, 2016, *Improving Sustainability of Beef Industry Supply Chains*, *British Food Journal*, Vol. 118 Iss 6 pp. 1533 – 1552

Götz, L., F. Qiu, J.P., Gervais and T. Glauben, 2016, *Export Restrictions and Smooth Transition Cointegration: Export Quotas for Wheat in Ukraine*, *Journal of Agricultural Economics*, 67(2): 398-419

Haarsma, D. and F. Qiu, 2017, *Assessing Neighbor and Population Growth Influences on Agricultural Land Conversion*, *Applied Spatial Analysis and Policy*, 10 (1): 21-41

Hauer, G., Luckert, M.K., Yemshanov, D. and J. Unterschultz, 2017, *A Spatial Real Options Approach for Modeling Land Use Change: Assessing the Potential for Poplar Energy Plantations in Alberta*, *Canadian Journal of Agricultural Economics*, 65 (2): 271-292

Huddart-Kennedy, E., J. Johnston and J.R. Parkins, 2016, *Food activists, consumer strategies, and the democratic imagination: Insights from eat-local movements*, *Journal of Consumer Culture*, 1-20

Hudson, S., N. Krogman, and M. Beckie, 2016, *Social Practices of Knowledge Mobilization for Sustainable Food Production: Nutrition Gardening and Fish Farming in the Kolli Hills of India*, *International Journal of Food Security*

Hunter, J., S. Anders, T. Crowe, D. Korver & C. Bench, 2017, *Practical assessment and management of foot pad dermatitis in commercial broiler chickens: a field study*, *Journal of Applied Poultry Research*, 26(4): 593-604

Johnston, R., K. Boyle, W. L. Adamowicz, J Bennett, R. Brouwer, T.A. Cameron, W.M. Hanemann, N. Hanley, M. Ryan, R. Scarpa, R. Tourangeau, C. Vossler, 2017, *Contemporary Guidance for Stated Preference Studies*, *Journal of the Association of Environmental and Resource Economists*, 4(2): 319-405

Johnny, J., B. Wichmann and B. Swallow, 2017, *Characterizing Social Networks and their Effects on Income Diversification in Rural Kerala, India*, *World Development*, 94: 375-392

Kecinski, M., D. Kerley-Keisner, K.D. Messer, W.D. Schulze, 2016, *Stigma Mitigation and the Importance of Redundant Treatments*, *Journal of Economic Psychology*, 54: 44-52

Kecinski, M., K. Messer, L. Knapp, Y. Shirazi, 2017, *Consumer Preferences for Oyster Attributes: Field Experiments on Brand, Locality, and Growing Method*, *Agricultural and Resource Economics Review*, 46(2): 315-337

Kessler, A., J.R. Parkins, and E. Huddart-Kennedy, 2016, *Contested discourses of sustainability in the beef industry: Understanding narratives of environmental stewardship in the face of climate change*, *Rural Sociology*, 81 (2), 172-193

Kim, H., P.C. Boxall and W.L. Adamowicz, 2016, *The demonstration and capture of the value of an ecosystem service: A quasi-experimental hedonic property analysis*, *American Journal of Agricultural Economics*, 98(3):819-837

Kim, H., P.C. Boxall, and W.L. Adamowicz, 2016, *Analysis of the impact of water quality changes on residential property prices*, *Water Resources and Economics*, 16:1-14

Krogman, N. and E. H. Kennedy, 2016, *The Potential of Emotional Energy and Mindfulness to Expand Sustainable Consumption Practices*, *Tvergastein: Interdisciplinary Journal of the Environment*, 7(8):74-84

Krogman, N. and G. Machlis, 2016, *Sustainability Science and Education in Puerto Rico. A Workshop, Report to the American Association for the Advancement of Science and the Caribbean Division of the American Association for the Advancement of Science*, 7 pp

Langinier, C. and P. Marcoul, *The Search of Prior Art and The Revelation of Information by Patent Applicants*, *Review of Industrial Organization*, 49(3):399-427, 2016

Lankao, P. Romero, T. McPhearson, and D. J. Davidson, 2017, *The Food, Energy and Water Nexus and Urban Complexity*, *Nature Climate*

*Change*, 7(4): 233-235

Leiss, W., M. Westphal, M.G. Tyshenko, M.C. Croteau, T. Oraby, W. L. Adamowicz, E. Goddard, N.R. Cashman, S. Darshan, and D. Krewski, 2017, *Challenges in managing the risks of chronic wasting disease*, *International Journal of Global Environmental Issues*, 16(4): 277-302

Li, T., M. Kecinski and K.D. Messer, 2017, *Heterogeneous Responses and Demographic Differences for Oysters: Evidence from Field Experiments*, *Agricultural and Resource Economics Review*, 46(2): 296- 314

Loch, A., P.C. Boxall and S. Wheeler, 2016, *Using proportional modelling to evaluate farmer preferences for market-based water reallocation*, *Agricultural Economics* 47(4):387-398

Mason, R., J.R. Parkins and A. Kaler, 2017, *Gendered mobilities and food security: Exploring possibilities for human movement within hunger prone rural Tanzania*, *Agriculture and Human Values*, 34: 423-434

McFarlane, B.L., J.R. Parkins and S. Romanowski, 2016, *Expert perceptions of media reporting on a large-scale environmental risk issue: insights from mountain pine beetle management in Alberta, Canada*, *Canadian Journal of Forest Research*, 46, 1-9

Messer, K.D., M. Kecinski, X. Tang, and R. Hirsch, 2016, *Multiple-knapsack Optimization in Land Conservation: Results from the first cost-effective conservation program in the U.S.*, *Land Economics*, 92(1): 117-130

Messer, K.D., M. Kecinski, Z. Liu, M.A. Korch, T. Bounds, 2016, *Military Readiness and Environmental Protection Through Cost-effective Land Conservation*, *Land Economics*, 92(3): 433-449

Messer, K.D., W. Allen, M. Kecinski and Y. Chen, 2016, *Agricultural Preservation Professionals' Attitudes about Cost-Effectiveness*, *Journal of Soil and Water Conservation*, 71(2): 148-155

Mohapatra, S. and L. Simon, *Intra-household bargaining over household technology adoption*, *Review of Economics of the Household*, 15.4 (2017): 1263-1290

Mohapatra, S., W.L. Adamowicz and P.C. Boxall, 2016, *Dynamic technique and scale effects of economic growth on the environment*, *Energy Economics*, 57: 256-264

## Journal articles (con't)

Muringai, V. and E. Goddard, 2016, *Long Term Impacts of Bovine Spongiform Encephalopathy on Beef Risk Perceptions and Risk Attitudes in Canada*, *Journal Of Toxicology And Environmental Health, Part A* Vol. 79, Iss. 16-17, pp 746-761

Muringai, V., E. Goddard, H. Bruce, G. Plastow, and L. Ma, 2017, *Trust and Consumer Preferences for Pig Production Attributes in Canada*, *Canadian Journal of Agricultural Economics*, Volume 65, Issue 3, pp 477-514

Ncube, K., Shackleton, C.M., Swallow, B.M. and Dasanayake, D., 2016, *Impacts of HIV / AIDS on food consumption and wild food use in rural South Africa*, *Food Security* 8(6): 1131-1151

Nelson, P., M. Beckie and N. Krogman, 2017, *The "Locavore" Chef in Alberta: A Situated Social Practice Analysis*, *Food, Culture and Society*, 20(3):503-524

Parkins, J.R., 2017, Book review, *Rural Sociologists at Work: Candid Accounts of Theory, Method, and Practice*, New York, NY: Routledge, 2016. *Contemporary Sociology*, 46(2): 158-159

Parkins, J.R., M. Dunn, M.G. Reed and A.J. Sinclair, 2016, *Forest governance as neoliberal strategy: A comparative case study of the Model Forest Program in Canada*, *Journal of Rural Studies*, 45: 270-278

Parkins, J.R., T.M. Beckley, L. Comeau, R.C. Stedman, C. Rollins and A. Kessler, 2017, *Can distrust enhance public engagement? Insights from a national survey on energy issues in Canada*, *Society & Natural Resources*, 30(8): 934-948

Perger, O., C. Rollins, M. Weber, W. Adamowicz and P. Boxall, 2017, *Tradable Disturbance Permits for Old-growth Forest Conservation: Experimental Evaluation of Implementation Options*, *Strategic Behavior and the Environment*, 7(1-2): 73-107

Price, J. I., S. Renzetti, D. Dupont, W. Adamowicz and M. Emelko, 2017, *Production costs, inefficiency, and source water quality: A stochastic cost frontier analysis of Canadian water utilities*, *Land Economics*, 93(1):1-11

Price, J., D. Dupont and W. Adamowicz, 2016, *As Time Goes By: Examination of Temporal Stability Across Stated Preference Question Formats*, *Environmental and Resource Economics*, 68(3), 643-662

Qiu, F. and J. Rude, 2016, *Extreme Dependence in Price Transmission*

*Analysis, Applied Economics*, 48 (46):4379-4392

Qiu, F., 2016, *Deserts, Swamps, or Tundras? A Comprehensive Investigation of Neighborhood Food Environments*, *SM Journal of Nutrition and Metabolism*, 2(1): 1014

Rieger, J., D. Weible and S. Anders, 2017, *Why some consumers don't care" Heterogeneity in household responses to a food safety shock*, *Appetite*, 113: 200-214

Rieger, J., C. Kuhlartz and S. Anders, 2016, *Food Scandals, Media Attention and Habit Persistence among Desensitized Meat Consumers*, *Food Policy*, (64): 82-92

Ruan, X., F. Qiu and M. Dyck, 2016, *The Effects of Environmental and Socio-Economic Factors on Land-Use Changes*, *Environmental Monitoring and Assessment*, 188 (8): 1-31

Rude J., E. Twine and M-H. Felt, *Detecting COOL Impacts on U.S.-Canada Bilateral Hog and Pork Trade Flows*, *Agribusiness: an International Journal*, (2016) 272-288

Schroeter, C. and S. Anders, 2017, *What It Takes to Get Tenure – Perceptions and Experiences of AAEA Members*, *AAEA Choices* magazine

Shackleton, S. and M.K. Luckert, 2015, *Changing livelihoods and landscapes in the rural Eastern Cape, South Africa: Past influences and future trajectories*, *Land* 4(4): 1060-1089

Shams, R., J.R. Parkins and B.M. Swallow, 2015, *Socio-cultural dimensions of a Jackfruit - Burmese grape dominated agroforestry system in Bangladesh*, *International Journal of Development and Sustainability*, 4(6), 721-743

Sherren, K., J.R. Parkins, M. Smit, M. Holmlund and Y. Chen, 2017, *Digital archives, big data and image-based culturomics for social impact assessment: Opportunities and challenges*, *Environmental Impact Assessment Review*, 67: 23-30

Sherren, K., M. Smit, M. Holmlund, J.R. Parkins and Y. Chen, 2017, *Conservation culturomics should include images and a wider range of scholars*, *Frontiers in Ecology and the Environment*, 15(6): 289-290

Sherren, K., T.M. Beckley, J.R. Parkins, R.C. Stedman, K. Keilty and I. Morin, 2016, *Learning (or living) to love the landscapes of hydroelectricity*, *Energy Research and Social Science*, 14, 102-110

Staudigel, M. and S. Anders, 2016, *Does taste trump health? Effects of nutritional characteristics on brand-level demand for chips in the*

U.S. Agricultural and Applied Economics Association, 2016 Annual Meeting, July 31-Aug. 2, Boston, Massachusetts

Staudigel, M. and S. Anders, 2016, *Geschmack vs. Gesundheit: Einflüsse von Nährstoffprofilen auf die Markennachfrage nach Chips in den USA*, German Association of Agricultural Economists (GEWISOLA) 56th Annual Conference, Bonn, Germany, Sept. 28-30

Staudigel, M. and S. Anders, 2017, Does taste trump health? Effects of nutritional characteristics on brand-level demand for chips in the U.S. *Schriften der Gesellschaft für Wirtschafts- und Sozialwissenschaften des Landbaues e. V. (GEWISOLA)*, Issue 52, 101-113.

Steiner, B., K. Lam, J. Unterschultz and P.C. Boxall. 2017, *Applying the resource-based view to alliance formation in specialized supply chains*, *Journal of Strategy and Management*, 10(3):262-292

Swallow, B.M. and T.W. Goddard, 2016, *Developing Alberta's greenhouse gas offset system within Canadian and international policy contexts*, *International Journal of Climate Change Strategies and Management*, 8(3): 318-337

Thompson, Y., Swallow B. and M.K. Luckert, 2017, *Costs of lost opportunities: Applying non-market valuation techniques to potential REDD+ participants in Cameroon*, *Forests*, 69(8): 1-15

Huang, T., Farmer A. P., E. Goddard, N. Willows and F. Subhan, 2017, *An ethnographic exploration of perceptions of changes in dietary variety in the Kollu Hills, India*, *Food Security*, Volume 9, Issue 4, pp 759-771

Truong, T.D., W.L. Adamowicz and P.C. Boxall, 2017, *Modelling the effect of risk perception on preferences and choice set formation over time: Recreational hunting site choice and Chronic Wasting Disease*, *Environmental and Resource Economics*

Twine, E., J. Rude and J. Unterschultz, *Country of Origin Labeling and Structural Change in U.S. Imports of Canadian Cattle and Beef*, *Canadian Journal of Agricultural Economics* (2016), 545-563

Twine E., J. Unterschultz and J. Rude, *Evaluating Alberta cattle feeders' loan guarantee program*, *Agricultural Finance Review* (2016), 190-210

Twine, E., J. Rude, and J. Unterschultz, *Canadian Cattle Cycles and Market Shocks*, *Canadian Journal of Agricultural Economics* (2016), 119-146

Umberger, W., J. Windle, J. Rolfe, L. Malek and S. Anders, 2016, *The Economics of Farm Animal Welfare and Consumer Choice – Evidence from Australia*, Australian Agricultural and Resource Economics Society, 2016 Conference, Feb. 2-5, 2016, Canberra, Australia

Wang, H. and F. Qiu, 2016, *Fresh Food Access Revisited, Cities: The International Journal of Urban Policy and Planning*, 51: 65-73

Wang, H. and F. Qiu, 2017, *Investigating the Impact of Agricultural Land Losses on Deforestation: Evidence from a Peri-urban Area in Canada*, *Ecological Economics*, 139: 9-18

Wang, H., F. Qiu and X. Ruan, 2016, *Loss or Gain: A Spatial Regression Analysis of Switching Land Conversion between Agriculture and Natural Land, Agriculture, Ecosystems and Environment*, 221: 222-234

Wang, H., L. Tao, F. Qiu and W. Lu, 2016, *The Role of Socio-economic Status and Spatial Effects on Fresh Food Access: Two Case Studies in Canada*, *Applied Geography*, 67: 27-38

Wang, H. and Swallow, B., 2016, *Optimizing expenditures for agricultural land conservation: spatially-explicit estimation of benefits, budgets, costs and targets*, *Land Use Policy*, 59: 272-283

Weber, M., N. Krogman, L. Foote and R. Rooney, 2017, *Natural Capital and the Political Economy of Wetland Governance in Alberta*, *Journal of Environmental Policy and Planning*, 19(3):279-292

Wheeler, H. C., Berteaux, D., Furgal, C., Parlee, B., Yoccoz, N. G., and Gremillet, D., 2016, *Stakeholder perspectives on triage in wildlife monitoring in a rapidly changing Arctic*, *Frontiers in Ecology and Evolution*, 4, 128

Wheeler, S., D. Hatton MacDonald and P.C. Boxall, 2017, *Water policy debate in Australia: Understanding the tenets of stakeholders' social trust*, *Land Use Policy*, 63:246-254

Whittington, D., W. Adamowicz and P. Lloyd-Smith, 2017, *Asking Willingness-to-Accept Questions in Stated Preference Surveys: A Review and Research Agenda*, *Annual Review of Resource Economics*, 9: 317-336

Wichmann, B., Chen M., and W. Adamowicz, *Social Networks and Choice Set Formation in Discrete Choice Models*, *Econometrics*, 4(4), 42. 2016



Wichmann, B., and Yang, M., 2017, *Blue Beijing: Estimating the Effects of Temporary Emissions Restrictions on Air Quality*, *Applied Economics Letters*, 24(21): 1504-1510

Wichmann, B., Boxall, P.C., Wilson, S., and Perger, O., 2017, *Auctioning Risky Conservation Contracts*, *Environmental and Resource Economics*, 68: 1111-1144

Wichmann, B., Luckert, M.K., Bissonnette, K., Cumberland, A. Doll, C., Gupta, T., and Shi, Y., 2017, *Using Pro-Environmental Information to Modify Conservation Behavior: Paper Recycling and Reuse*, *Recycling*, Feb. pgs, 1-10

Work, J., Qiu, F., and M.K. Luckert, 2016, *Examining hardwood pulp and ethanol prices for improved poplar plantations in Canada*, *Forest Policy and Economics*, 70: 9-15

Yang, W. Y. Lui, P.C. Boxall, K. Packman, M. Weber, 2016, *Integrated economic-hydrologic modeling for examining cost effectiveness of wetland restoration scenarios in a Canadian prairie watershed*, *Wetlands*, 36:577-589

Zou, A., S. A. Wheeler, W.L. Adamowicz, P.C. Boxall and D. Hatton MacDonald, 2016, *Measuring price elasticities of demand and supply of water rights based on stated and revealed preference data*, *American Journal of Agricultural Economics*, 98(1):314-332

## Books and book chapters

Crow, B. and Swallow, B.M. (in press), *Water and Poverty: Pathways of Escape and Descent*, In K. Conca and E. Weinthal (eds), *Oxford Handbook of Water Politics and Policy*, Oxford University Press

Huddart-Kennedy, Emily, Maurie Cohen, and Naomi Krogman (Eds), 2016, *Putting Sustainability into Practice: Applications and Advances in Research in Sustainable Consumption*, Edward Elgar Press, 253 pps

Krogman, N., E. H. Kennedy, and M. Cohen. "Forging Further into Putting Sustainability into Practice." Pps. 231-238, *Putting Sustainability into Practice: Applications and Advances in Research in Sustainable Consumption*, Eds. Huddart-Kennedy, E., M. Cohen and N. Krogman (Eds), 2016, Edward Elgar Press. 253 pps

Njuki, J., J. Parkins, A. Kaler, S. Ahmed, 2016, Introduction. In Njuki, J., J.R. Parkins and A. Kaler (eds), 2016, *Transforming gender*

*and food security in the Global South*, Routledge

Njuki, J., J. Parkins and A. Kaler, 2016, Conclusion: Enhancing Analysis and Action in Transforming Agriculture and Food Systems. In Njuki, J., J.R. Parkins and A. Kaler (eds), 2016, *Transforming gender and food security in the Global South*, Routledge

Njuki, J., J.R. Parkins and A. Kaler (eds), 2016, *Transforming gender and food security in the Global South*, New York: Routledge (11 chapters, 301 pages)

Parkins, J.R., R. Bullock, B. Noble, M.G. Reed, 2016, *Forests and Communities on the Fringe: An Overview of Community Forestry in Alberta, Saskatchewan and Manitoba*, In S. Teitelbaum (Ed). *Community Forestry in Canada*, Vancouver: UBC Press, pp. 136-154

Parlee, B. and Caine, K. (eds), 2017, *When the Caribou do not Come: Indigenous Knowledge and Adaptive Management in the Western Arctic*, Vancouver: UBC Press, 248 pages

Parlee, B., 2016, *Mobilizing to Address the Impacts of Oil Sands Development: First Nations in Environmental Governance in First World Petro-Politics: The Political Ecology and Governance of Alberta*, (Adkin, L. ed.) Toronto: University of Toronto Press

Parlee, B., 2017, *Recounting Caribou. When the Caribou do not Come: Indigenous Knowledge and Adaptive Management in the Western Arctic*. (Parlee, B. and Caine, K. eds), Vancouver: UBC Press. pp. 58.74

Parlee, B. and Wray, K., 2016, *Gender and the Social Dimensions of Changing Caribou Populations in the Western Arctic*. in *Living on the Land* (Kermoal, N. and Altamirano-Jiminez, I. eds), Edmonton: University of Athabasca Press

Parlee, B., Wray, K. and Todd, Z., 2017, *Linking the Kitchen Table and Boardroom Table: Women in Caribou Management, When the Caribou do not Come: Indigenous Knowledge and Adaptive Management in the Western Arctic*, (Parlee, B. and Caine, K. eds) Vancouver: UBC Press, pp. 228-242

Parlee, B., Zimmer, N. and Boxall, P., 2017, *Beyond the Harvest Study, When the Caribou do not Come: Indigenous Knowledge and Adaptive Management in the Western Arctic*, (Parlee, B. and Caine, K. eds) Vancouver: UBC Press. pp. 75-93

Rude J., 2017, *Export Competition and Trade*, *Handbook of International Food and Agricultural Policies, Volume 3: International Trade Rules for Food and Agricultural Products*, World Scientific,

(ISBN: 978-981-3226-28-9) p.p. 219-243.

Todd, Z. and Parlee, B., 2017, The Wage Economy and Caribou Harvesting, *When the Caribou do not Come: Indigenous Knowledge and Adaptive Management in the Western Arctic*, (Parlee, B. and Caine, K. eds), Vancouver: UBC Press. pp. 134-152

Van Asscke, K., L. Deacon, M. Gruezmacher, R. J. Summers, S. Lavoie, K.E. Jones, M. Granzow, L. Hallstrom, J. Parkins, 2016, *Boom & Bust: Managing ups and downs in communities*, Faculty of Extension, University of Alberta

Wray, K. and Parlee, B., 2017, *Ways we Respect Caribou. Indigenous Peoples and Resource Development* (Bone, R. and Anderson, R. eds), Washington, Captus Press

Vermeulen, S. Richards, M. De Pinto, A., Ferrarese, D., Läderach, P. Lan, L., Luckert, M. Mazzoli, E. Plant, L., Rinaldi, R., Stephenson J., Watkiss, P., 2016, "The Economic Advantage Assessing the value of climate-change actions in agriculture," International Fund for Agricultural Development (IFAD), 74p

Vermeulen, S. Richards, M. De Pinto, A., Ferrarese, D., Läderach, P. Lan, L., Luckert, M. Mazzoli, E. Plant, L., Rinaldi, R., Stephenson J., Watkiss, P., 2016, "The Economic Advantage Assessing the value of climate-change actions in agriculture," Climate Change, Agriculture and Food Security Infonote, 8p

Wichmann, B. and Luckert, M., 2017, "Estimating the Impact of Smallholder Agricultural Adaptation on Food Security: Evidence from Africa, Asia, and Central America," report submitted to the CIAT (International Centre for Tropical Agriculture), 19p

## Reports

Hanna, K, E. McGuigan, B. Noble and J.R. Parkins, 2016, "What is known about the Impacts of Alternative Energy Development? A Gap Analysis of Impact and Assessment Research for Alternative Energy Development," prepared for the Social Sciences and Humanities Research Council, Knowledge Synthesis Grant program CEAR Project Report SC-16-1

Machlis, G. and N. Krogman, 2016, "Sustainability Science and Education in Haiti," A Workshop Report to the American Association for the Advancement of Science and the Haitian Association for the Advancement of Science and Technology, 16 pp

Rude, J. and E. Goddard, "Evaluating the Economic Benefits From the Canadian Beef Check-Off," prepared for the Canadian Cattleman's Association, April 2016

Rude, J., H. Campbell and M. Luckert, "What role for advanced biofuels in Canada; a Q&A of policy options and impacts: Macroeconomic Impacts," submitted to BioFuelNet Canada and made available at the December First Minister's Conference

Sherren, K., Greenland-Smith, S. Chen, Y., Comeau, L., Beckley, T., and Parkins J., 2016, "Mactaquac and Beyond: Citizen Perspectives on Energy Issues in New Brunswick. School for Resource and Environmental Studies," Dalhousie University, report for Energy Transitions in Canada, available at energytransitions. ca. 39 pp



**UNIVERSITY OF ALBERTA**  
DEPARTMENT OF RESOURCE ECONOMICS  
AND ENVIRONMENTAL SOCIOLOGY

Faculty of Agricultural, Life & Environmental Sciences  
515 General Services Building  
Edmonton, Alberta, Canada  
T6G 2H1  
Tel: 780-492-4225