



UNIVERSITY OF ALBERTA

RANGELAND RESEARCH INSTITUTE (RRI)

2012-13

Annual Report

Prepared by Dr. Edward Bork
Director - RRI & Mattheis Chair in
Rangeland Ecology and Management

Table of Contents

1. Introduction	1
2. RRI Strategic Advisory Council.....	2
3. Staffing	3
<i>a. Range Science Position</i>	3
<i>b. Program Coordinator</i>	4
4. RRI Competitive Grants Program	4
5. Summary of 2012-13 Research Activity	5
6. Program Development & Communications	6
7. Financial Overview for 2012-13.....	7
8. Opportunities & Challenges Moving Forward	7
Appendix I: Call for proposals and application template for the 2013 RRI Competitive Grants...	9
Appendix II: Summary financial statement for the RRI from 2010-11 to 2012-1316

1. Introduction

The Rangeland Research Institute (RRI) was established in the fall of 2011, following the historic donation of a 12,300 acre ranch to the University of Alberta by Edwin and Ruth Mattheis. Administered by the Faculty of Agricultural, Life & Environmental Sciences (ALES), the RRI promotes activities supporting the long-term environmental and economic sustainability of rangelands in western Canada and across the globe. The Institute’s research and teaching activities are currently concentrated at the Mattheis Research Ranch, located approximately 40 kilometers north of Brooks, Alberta, and the 12,000 acre Kinsella Research Ranch, located approximately 150 kilometers southeast of Edmonton, Alberta. In addition to promoting long-term research programs at these core facilities, the RRI has the opportunity to lead and collaborate on research efforts related to rangelands at other ALES, provincial and federal facilities throughout the province. The institutional relationships between the RRI (i.e. scientific and academic expertise) and various research facilities (i.e. supporting infrastructure) are illustrated in Figure 1.

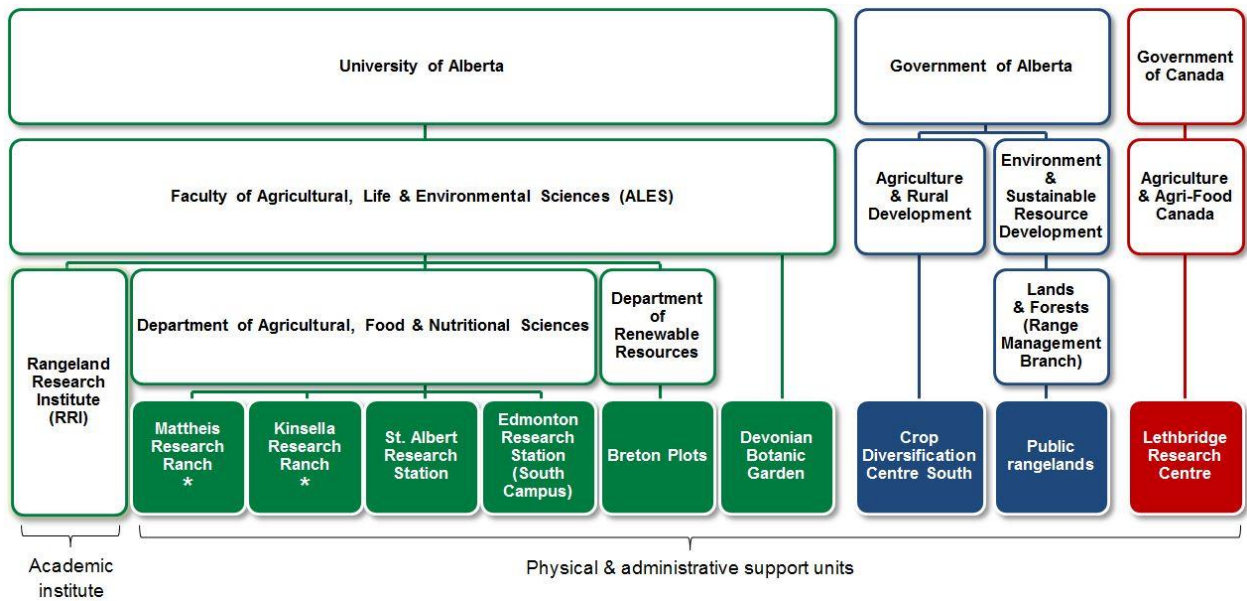


Figure 1. Relationship between the Rangeland Research Institute (RRI) and supporting physical and administrative units. Resources flow from the top to the bottom of the chart, with substantial in-kind support provided from ALES support units to the RRI. As of 2012-13, research and teaching efforts associated with the RRI are concentrated at the support units indicated with asterisks.

Range and pasture ecosystems are a widespread feature around the globe, and in Canada, comprise both public and private lands. In addition to being a key source of forage for livestock, these agro-ecosystems provide a wide array of environmental goods and services, including habitat for wildlife, biodiversity, recreational opportunities, water storage and filtration, and carbon sequestration and storage, among others. Despite the abundance, socio-economic importance, and ecological diversity associated with rangelands, significant challenges remain in developing sustainable management systems for these areas. Rangelands remain under threat from many sources, including excessive or improper grazing, invasive species, climate change, escalating multiple use, and fragmentation associated with urban-industrial development, to name a few. The RRI provides a focused mechanism through which the profile of rangelands can be enhanced, including the need for relevant and efficient research in support of sustainable rangeland management. A more detailed description of the mandate, structure and function of the RRI can be found in the document, “Steering Document for the Rangeland Research Institute” (revised August 2012).

This report provides an overview summary of key activities associated with the RRI during the period April 1, 2012 through March 31, 2013. This includes the establishment and initial meeting of the RRI Strategic Advisory Council, the hiring of new staff in support of RRI activities, various communications during this time, and an overview of the RRI Competitive Grants Program in both 2012 and 2013.

2. RRI Strategic Advisory Council

During 2012 the Strategic Advisory Council (SAC) was formed. The SAC is an important mechanism through which the Rangeland Research Institute can obtain input on the strategic direction of the RRI, specifically with respect to 1) identifying research needs and priorities, as well as 2) formulating means to achieve these research objectives. Membership in the SAC in 2012 included a total of 18 individuals comprised of a diverse set of backgrounds and interests in the sustainable management of rangelands, including livestock producers, government administrators, other academic institutions and research organizations, as well as various non-government organizations. Appointment periods are for duration of 2-4 years. A list of individuals associated with the SAC during 2012-13 and their affiliations is provided in Table 1.

The first meeting of the SAC was held over a 2-day period from August 23-24, 2012, at Gem, Alberta. The inaugural meeting was used primarily to familiarize council members with the mandate and scope of the RRI, including providing an introduction to the Mattheis Research Ranch. Significant discussions were held around the future direction of the RRI, and this information is being used to aid in the development of the RRI’s Strategic Plan. The second SAC meeting has been set for April 16, 2013.

Table 1. Members of the RRI Strategic Advisory Council during 2012-13.

Name	Agency	Position	Location
Barry Adams*	AB Environment & Sustainable Resource Development	Head, Range Management Branch	Lethbridge, Alberta
Brian Berg	--	Producer	Duchess, Alberta
Dr. Edward Bork	University of Alberta	Mattheis Chair in REM & RRI Director	Edmonton, Alberta
Jordon Christianson	Special Areas	Range Management Specialist	Oyen, Alberta
Cameron Cline	Cenovus Energy		Calgary, Alberta
Cherie Copithorne	CL Ranches	Producer	Calgary, Alberta
Floyd George	Eastern Irrigation District	BOD & Producer	Gem, Alberta
Joyce Gould	Land Management Branch, AB Parks	Science Coordinator	Edmonton, Alberta
Eddy Isaacs	Alberta Innovates, Energy & Env.	Chief Executive Officer	Calgary, Alberta
Dr. John Kennelly	University of Alberta	Dean, ALES Faculty	Edmonton, Alberta
Edwin Mattheis	--	Producer (Retired)	Calgary, Alberta
Ruth Mattheis	--	Producer (Retired)	Calgary, Alberta
Dr. Ross McKenzie	Alberta Agriculture & Rural Development	Agronomy Res. Scientist	Lethbridge, Alberta
Dr. Bill Shotyk	University of Alberta	Bocock Chair in Sustainable Agriculture	Edmonton, Alberta
Rich Smith	Alberta Beef Producers	General Manager	Calgary, Alberta
Dr. Brad Stelfox	Alces Research Group		Bragg Creek, Alberta
Dr. Walter Willms	AAFC – Lethbridge Research Centre	Researcher (Emeritus)	Lethbridge, Alberta
Josie Van Lent	Lakeland College	Dean, Agricultural Sciences Department & Producer	Vermillion, Alberta
Dave Zehnder	--	Farm Plan Advisory & Producer	Invermere, BC

* Indicates Chair of RRI – Strategic Advisory Council

3. Staffing

a. Range Science Position

A critical aspect of building research capacity in support of sustainable rangeland management is having researchers to conduct relevant research on rangelands. In western Canada, a very small number of researchers fall into the specialization of ‘range scientists’ (less than 5), and are spread out among Agriculture and Agri-Food Canada, as well as academic institutions (primarily the University of Alberta and University of Saskatchewan). Consequently, building research capacity is an important goal of the University of Alberta, the faculty of Agricultural, Life and Environmental Sciences, and the Rangeland Research Institute. During the fall of 2012, the ALES faculty advertised for applications to fill a new range science position that essentially backfilled for the current Director of the RRI. This position was filled in January 2013 by Dr. Cameron Carlyle. Dr. Carlyle’s previous research examined the impact of climate change and defoliation on the productivity, structure and function of grasslands in the interior of British Columbia. In addition to conducting research, Dr. Carlyle will be contributing to

undergraduate teaching, particularly courses that are a core component of several undergraduate programs, including the Wildlife & Rangeland Resources Management Major.

b. Program Coordinator

The RRI has also been engaged in recruiting a Program Coordinator (PC) over the last year. The PC will conduct a wide range of essential activities in the RRI, including administering research activities, facilitating communications with Advisory Council members, Research Affiliates and other stakeholders, as well as serving as the data manager for spatial and other biophysical information generated by members of the RRI. This position was advertised in the late fall of 2012, and following interviews with 3 excellent candidates, is in the process of being filled. Ms. Adrienne Tastad, a graduate student at the University of Manitoba, has accepted the position and will be filling the role of PC effective April 8, 2013.

4. RRI Competitive Grants Program

The RRI established a Competitive Grants Program (CGP) in January of 2012. The intent of the CGP was to 1) directly facilitate relevant and important research activities at the Mattheis Research Ranch, 2) encourage researchers to diversify their existing research programs to include activities at the Mattheis facility, and 3) provide a mechanism to allow researchers to be introduced to and familiarize themselves with the land base and the full extent of its research opportunities. A formal call for proposals was issued, complete with a detailed application protocol, with a maximum of \$20,000 per successful grant. Preference for funding was given to applications involving field research, those with support from other sources, and those involving research activities over multiple years. A total of 5 applications were funded in 2012 for a total of \$100,000. A summary of the proposals funded in 2012 is provided in Table 2. These research activities also led to significant cash and in-kind contributions (\$167,000) from other sources (e.g. NSERC, scholarships, iCORE/AITF, CFI, Helmholtz-Alberta Initiative, etc.).

Table 2. Summary of proposals funded in 2012-13 by the RRI – Competitive Grants program.

Project Title	Principle Investigator	Duration	Award
Spatial patterns of and management effects on soil carbon in the Mattheis Ranch	Dr. Scott Chang	2 years	\$20,000
Baseline carbon monitoring for rangeland carbon sequestration	Dr. John Gamon	2 years	\$20,000
Hay mulching for revegetation of Alberta native grasslands	Dr. Anne Naeth	2 years	\$20,000
Impact of microsites on reclamation of Alberta native grasslands	Dr. Anne Naeth	2 years	\$20,000
Mapping upland songbird distribution and abundance on the Mattheis Ranch	Dr. Scott Nielsen	2 years	\$20,000

To sustain the research momentum achieved during 2012, another call for proposals was issued in January of 2013. Two priority areas for research were identified in this call for proposals, including 1) proposals related to water resource management, and 2) proposals related to landscape level processes, including land use activities. A copy of the revised call for proposals and application template are provided in Appendix I. A total of 10 proposals were received in early February as a result of this call, requesting a total of \$180,808. A review panel of 4 individuals assessed these proposals for feasibility, importance of the objectives, quality of the research plan, and budgetary need. As a result of this review, a total of 7 projects were approved for funding, for a total amount of \$120,808. Additionally, funding for these projects will be staggered through each of 2013 and 2014 to ensure annual costs do not exceed \$100,000. Where deemed appropriate, suggestions for improvements were made to some of the proposals to enhance the quality and/or relevance of the research activities. A summary of the most recently approved proposals is provided in Table 3.

Table 3. Summary of projects approved for funding from the RRI Competitive Grants Program for 2013-15.

Project Title	Principle Investigator	Year 1 Funding	Year 2 Funding
Mechanisms for smooth brome invasion and the possibility of an invasional meltdown	James Cahill	\$10,000	\$6,708
Ecological and agronomic consequences of Cicer milkvetch introduction into mixed prairie grasslands	Cameron Carlyle	\$5,400	--
Long term monitoring of rangeland ecosystem functions on the Mattheis Research Ranch	Cameron Carlyle	\$10,000	\$8,700
Effects of grazing on methane production and oxidation in soils of the Mattheis Ranch	Scott Chang	\$10,000	\$10,000
Oasis on the prairie: quantifying and characterizing water resources on the Mattheis Ranch - preliminary groundwater assessment	Miles Dyck	\$20,000	
A proposal to conduct baseline archaeological research on the Kinsella and Mattheis Ranches	Jacks Ives	\$10,000	\$10,000
Tools to guide management of invasive species in rangeland ecosystems	Ellen Macdonald	\$12,000	\$8,000
TOTAL		\$77,400	\$43,408

5. Summary of 2012-13 Research Activity

A total of 9 different research and/or demonstration projects took place on the Mattheis Research Ranch during 2012-13, addressing a wide range of topics, including forage production and grazing management, grassland ecology, ecosystem function (including carbon dynamics), prairie reclamation, and wildlife monitoring and conservation. This includes the 5 projects funded by the Competitive Grants Program (see list in Table 3), and at least 4 others. These 9

projects involved 2 different academic institutions (Universities of Calgary and Alberta) and researchers from at least 2 countries (Canada and China), with many being of a collaborative nature. The Mattheis Research Ranch was used by a total of 6 principle investigators, 1 visiting scientist, 3 post-doctoral fellows, 1 PhD student, and a large number of undergraduate research assistants (>20 in total). Thus, the facility was used for a large amount of training of highly qualified personnel (HQP).

Researchers directly supported by the 2012-13 Competitive Grants Program were required to submit an interim report by March 1, 2013, providing an update on research activities completed to date, including preliminary results and a summary of any problems, as well as communications arising from the research.

A number of other research projects and activities occurred on the Mattheis Research Ranch during 2012-13. These activities included undergraduate education and teaching (field school in Archaeology), as well as research projects and demonstrations not directly supported by the RRI Competitive Grants Program. A summary of the latter are provided in Table 4.

Table 4. Summary of additional activities undertaken on the Mattheis Research Ranch during 2012-13.

Project Title	Investigator(s)	Details
Linking diversity and production in grasslands: contributions to a global meta-analysis	Bork/Carlyle	Project links to a large number of other study sites
Grassland biomass and growth responses to variation in moisture and defoliation	Bork/Broadbent	Last year of 3-yr PhD program
Tracking plant phenology using remote sensing	Nielsen/McDermid	Collaboration between U of A and U of Calgary
Small mammal diversity assessment at the Mattheis Research Ranch	Burton	Alberta Biodiversity Monitoring Institute

6. Program Development & Communications

During 2012-13, a number of different communications occurred regarding the Rangeland Research Institute and external stakeholders. These communications were intended to increase the profile of the RRI with various non-government organizations as well as members of the general public, and garner additional focus of research priorities for the institute. A summary of these activities is provided in Table 5.

Table 5. Summary of outreach undertaken in support of the RRI during 2012-13.

Presentation/Article Title	Presenter/Authors	Audience	Location
Rangeland research institute: Promoting economic and environmental sustainability in Alberta's cow/calf industry	Bork	Alberta Beef Producers annual general meeting	June 12, Edmonton, AB
Rangeland research institute: An introduction	Bork	RRI – Strategic Advisory Council	Aug. 23, Gem, AB
State of rangeland research in Canada: Promoting economic and environmental sustainability in Alberta's cow/calf industry	Bork	RRI – Strategic Advisory Council	Aug. 23, Gem, AB
Summary of current studies underway at the Mattheis and Kinsella Research Ranches	Bork	RRI – Strategic Advisory Council	Aug. 23, Gem, AB
Rangeland research opportunities: Strategies to increase rural sustainability	Bork	Eastern Irrigation District, BOD	Oct. 23, Mattheis Research Ranch
New rangeland research institute game changer for province's researchers	Kienlan/Bork	Article in "Alberta Farmer" Magazine	Western Canada
Introducing Alberta's rangeland research institute	Bork	Society for Range Management Annual Meeting	Feb. 4, Oklahoma City, OK, USA

7. Financial Overview for 2012-13

A summary of the financial statement associated with the RRI over the last 3 years is provided in Appendix II. This statement includes a review of income, primarily surface lease revenue from oil and gas activity and new utility development, as well as expenses. Expenses include primarily costs associated with the administrative operation of the RRI, limited expenses for research support, as well as the cost associated with the RRI Competitive Grants Program.

8. Opportunities & Challenges Moving Forward

Over the last 12 months, research activity at the Mattheis Research Ranch and supported by the RRI has greatly increased, in large part due to the RRI Competitive Grants Program. Future research should work closely with potential partners such as Alberta Agriculture and Rural Development, Agriculture and Agri-Food Canada, Special Areas, Alberta Beef Producers and the Eastern Irrigation District. The greatest challenge in the years ahead will be sustaining this level of activity, including ensuring that a greater proportion of the research activity at the ranch is

supported by funding sources outside of the RRI. In addition, an important aspect of research activities supported by the RRI is to increase the number of international visitors to the Mattheis Ranch. Strategies will be developed to promote international travel to the University of Alberta and the Mattheis Research Ranch.

Minor challenges during 2012-13 included the high number of staff using the Mattheis Ranch at peak use times, which occasionally led to insufficient accommodation space at the facility. While increased housing opportunities have been developed, it remains to be seen if this problem has been alleviated.

Appendix I:
Call for proposals and application template for the 2013 RRI
Competitive Grants

Faculty of Agricultural, Life & Environmental Sciences

RANGELAND RESEARCH INSTITUTE COMPETITIVE RESEARCH GRANT PROGRAM

The RRI is pleased to announce its second call for proposals to conduct new and innovative research addressing questions related to the sustainable management of rangelands at the Mattheis Research Ranch in southeastern Alberta. The vision of the RRI is to conduct leading edge research in a wide variety of issues pertinent to rangeland ecology and management, including (but not limited to): grassland ecology, wildlife conservation and management, land reclamation, adaptive grazing systems to mitigate environmental stress, forage production and management, as well as the provision of environmental goods and services such as carbon sequestration and storage, and protection of water quantity and quality. Proposals on production, environmental, and socio-economic aspects of rangeland management are welcome, although priority in 2013 will be given to projects addressing the following:

- 1) Research addressing water issues on the ranch, including surface and ground water quantity or quality, including its relation to environmental goods and services.
- 2) Research addressing the mechanisms or impacts underlying landscape scale disturbances such as grazing, oil & gas development, etc.

The Mattheis Ranch was generously donated to the University of Alberta in the fall of 2010 from Edwin and Ruth Mattheis, and provides important infrastructure necessary to explore a wide variety of questions related to land use (such as grazing, water use, wildlife habitat management, and oil and gas extraction). The 12,300 acre ranch contains a diverse mix of vegetation, including loamy mixedgrass and sandgrass-dominated prairie, tame forages, coulee river breaks, and a host of riparian environments. The latter include river floodplain communities, natural and overflow wetlands, as well as created wetlands maintained by Ducks Unlimited. The Mattheis Ranch offers a functional field lab with internet communications, together with facilities for accommodating research field staff.

The RRI will provide up to a total of \$20,000 in funding per project for work conducted between May 1, 2013 and April 30, 2015. Preference will be given to applications that begin May 1, 2013, include a field component for two consecutive years, involve graduate students, and have matching funding from other sources.

ELIGIBILITY, DEADLINES AND FUND ADMINISTRATION

Eligibility

All continuing faculty members at the University of Alberta are eligible to apply. The project may include collaborators from other academic institutions or government agencies.

Deadlines

Applications must be received by 3 pm, Tuesday, February 12, 2013, and must include the required signatures (Principal Investigator, Department, Faculty).

How to Apply

Submit one original and one electronic copy of the application to:

Dr. Edward Bork, Director, Rangeland Research Institute
410 Agriculture/Forestry Center
University of Alberta
Edmonton, Alberta, T6G 2P5
E-mail: Edward.bork@ualberta.ca

Adjudication

Applications will be adjudicated by a review committee, comprised of the Director of the Rangeland Research Institute, the Associate Dean (Research) in the Faculty of Agricultural, Life & Environmental Sciences, and two additional arms-length members appointed by the Dean of the Faculty of Agricultural, Life and Environmental Sciences.

Funding

The maximum award amount will be \$20,000 in total for research projects conducted between May 1, 2013 and April 30, 2015.

ADJUDICATION CRITERIA

- Scientific merit and innovation of the proposed research
- Relationship to priority research areas
- Excellence of the applicant(s)
- Fit of the research to the vision of the Rangeland Research Institute
- Opportunities for training of graduate students or other highly qualified personnel

Applicants should be sure to:

- Ensure appropriate ethics clearance has been received (any projects involving human or animal subjects will require ethics approval before any grant awarded will be released).

BUDGET

The applicant must specify and justify all costs associated with the proposed project. For Graduate student stipends and travel costs, please follow University guidelines. The grant will not cover the cost of major equipment purchases (over \$2,000). Minor equipment may be requested in the budget.

Grant awards are provided for the specific expenditures identified in an applicant's proposal and may not be used for other purposes. In the case of a substantial change in the expenditure plans, a written request explaining the need for the change must be submitted by the grant holder to the Director of the Rangeland Research Institute.

REPORTING

Applicants must submit a final research report within three months of the end date of the award, to the Director of the Rangeland Research Institute. The report should describe detailed progress of the research towards the proposed milestones, summarize key findings of the investigation, and review any implications of the study outcomes. This report will include:

- Relevant literature, study problem and research objectives
- Research methodology
- Key research findings
- Implications for researchers and practitioners
- Listing of extension materials (posters, presentations, technical/popular press and scientific papers) arising from the research
- Summary of expenses

Two year projects will be required to submit an abbreviated report by April 30th at the end of the first year of funding briefly outlining the following:

- Research progress to date
- Any problems or significant departures from the initial research objectives
- Specific research plans (including fieldwork) for the second year of the project
- Any publications or technology transfer activities arising from the research

Finally, please note that researchers supported by funding from the Rangeland Research Institute are expected to share data associated with their projects with the RRI following its conclusion.

ADDITIONAL INFORMATION

Please contact Edward Bork (Edward.bork@ualberta.ca), Director of the Rangeland Research Institute, with any questions or concerns regarding eligibility or the application process.

FACULTY OF AGRICULTURAL, LIFE & ENVIRONMENTAL SCIENCES

RANGELAND RESEARCH INSTITUTE

COMPETITIVE RESEARCH GRANT APPLICATION

Submit (1) original and an electronic copy of this application to:

Dr. Edward Bork, Director, Rangeland Research Institute

410 Agriculture/Forestry Center

University of Alberta

Edmonton, Alberta, T6G 2P5

E-mail: Edward.bork@ualberta.ca

Application deadline: 3 pm, Tuesday, February 12th, 2013

1. PERSONAL INFORMATION

Applicant Name:	Email:
Department:	Phone:
Position:	

2. GRANT INFORMATION

Name(s), Position(s), Department and Institution of Co-investigator(s)	
Project Title:	
Start date (May 1, 2013 or later):	Completion date (April 30, 2015 or earlier):
Grant amount requested (maximum \$20,000):	

3. SIGNATURES

The applicant agrees that the general conditions governing awards made by the Rangeland Research Institute pursuant to this application and hereby accepts those conditions. (Add lines as necessary for co-applicants).

Applicant Signature

Department Chair Signature

Dean Signature

4. HUMAN ETHICS OR ANIMAL CARE REVIEW

Ensure appropriate ethics clearance has been received (any projects involving animal, biohazards, or human subjects will require ethics approval before any grant awarded will be released). Applications may be submitted prior to ethics approval, but a copy of the approval must be received in the ALES Office of the Associate Dean (Research) prior to the release of funds for projects requiring ethics review.

Is ethics certification required for this project?

[] Yes [] No

5. PROJECT DESCRIPTION

Provide a description of the proposed research using the following headings (maximum 4 pages single spaced, minimum size 10 pt font):

- A) Background and justification
- B) Research objectives
- C) Study design, experimental methods, and proposed analysis
- D) Expected deliverables and potential implications of the research outcome for land use management
- E) Technology transfer plan
- F) References cited

6. MILESTONES List the major milestones in the project and the timeline for each of them

MILESTONE	Start date	Completion date

7. BUDGET

	Proposed Budget Amount
Graduate students or Postdocs	
Other Personnel	
Travel	
Materials and Supplies	
Minor equipment	
Other	
Total	

Budget Justification: itemize and provide justification for budgeted items

8. OTHER SUPPORT

Have you applied to or do you hold any other sources of funding for this project?

Yes No

Funding Agency	Amount Requested	Amount Received

9. REPORTING

Successful applications will be required to submit a final report no later than three months after the end date of their award. This report will include:

- Relevant literature, study problem and research objectives
- Research methodology
- Key research findings
- Implications for researchers and practitioners
- Listing of extension materials (posters, presentations, technical/popular press and scientific papers) arising from the research
- Summary of expenses

Two year projects will be required to submit an abbreviated report by April 30th at the end of the first year of funding briefly outlining the following:

- Research progress to date
- Any problems or significant departures from the initial research objectives
- Specific research plans (including fieldwork) for the second year of the project
- Any publications or technology transfer activities arising from the research

10. DATA SHARING

It is expected that researchers be willing to share data with the Rangeland Research Institute at the conclusion of the study so that this information can be made available in later years. Please indicate your willingness to share data derived from this award with the RRI following the projects conclusion.

Yes No

11. APPLICANT QUALIFICATIONS

Please attach an up to date CV for the Principal Investigator. NSERC Form 100 is preferred.

Appendix II:
Summary financial statement for the Rangeland Research Institute from
2010/11 - 2012/13

RRI Financial Statement of Actuals 2010/11 – 12/13

Fiscal year Apr 1 - Mar 31	2010/11	2011/12	2012/13
	Actual	Actual	Actual
Opening Balance		-\$ 164,275	-\$ 35,480
Revenue			
Internal Loan ¹	\$ 2,685,600		
Lease Revenue/Other	\$ 62,089	\$ 428,745	\$ 414,331
Utility Right of Way			\$ 1,080,564
Total Revenue	\$ 2,747,689	\$ 428,745	\$ 1,494,895
Expense			
Acquisition			
Equipment (purchase)	\$ 120,703		
Building (purchase)	\$ 239,230		
Land (purchase)	\$ 2,240,066		
Survey/Assessment	\$ 211,062		
Closing Costs	\$ 85,600		
Loan Payments			
Interest ²		\$ 70,593	\$ 66,628
Principal		\$ 147,785	\$ 151,750
Property taxes		\$ 2,996	\$ 1,218
RRI			
Academic Assistant	\$ 8,048		\$ 29,333
Temp Support Staff	\$ 308	\$ 11,618	\$ 13,992
Benefits ³	\$ 601	\$ 856	\$ 1,403
Lease Consultant			\$ 5,695
Supplies	\$ 646	\$ 22,200	\$ 589
Hospitality			\$ 1,264
Travel/Hosting	\$ 252		\$ 4,934
Rentals and Leases	\$ 6,049		\$ 11,547
Repairs & Maint Facilities		\$ 25,145	
Equipment		\$ 19,613	
Research Projects			\$ 100,000
Total Expenditure	\$ 2,912,565	\$ 300,806	\$ 388,353
Net	-\$ 164,876	-\$ 36,336	\$ 1,071,062
Net Adjusted Ben	-\$ 164,275	-\$ 35,480	\$ 1,072,465

¹Total internal loan payment is \$218,378 for 15 years; ²Interest: 2.665% for 5 years, then reset;

³University adjusts for benefit variance at year end

Note: This summary excludes U of A (in-kind) support to the RRI through academic staffing, which is currently valued at over \$250,000 annually.