



UNIVERSITY OF ALBERTA
ALBERTA CENTRE FOR SUSTAINABLE
RURAL COMMUNITIES

Research Priorities for Alberta WPACs



Lars K. Hallstrom and Shay Barker

ACSRC Report Series #06-11

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Abstract

Water is a critical resource in Canada, and particularly in Alberta. Pressures from demographic change, industry, wetland loss, policy and licensing reform all create significant challenges for the supply, quality and functionality of both surface and groundwater in Alberta. On May 5th, the Alberta Centre for Sustainable Rural Communities hosted academic representatives and Watershed Planning and Advisory Council (WPACs) members from across Alberta to discuss: (1) the ways in which the post-secondary sector and WPACs might continue to work together; (2) the needs, gaps and opportunities that might be bridged by collaboration between WPACs and researchers/teachers in post-secondary institutions; and (3) specific opportunities, projects or initiatives that might better link the WPACs to the research/brokerage capacity of post-secondary institutions in the province.

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Summary of Findings

Over the past several years there has been several million dollars dedicated to manage water in partnership with the private sector. Most of the research that has been conducted by governments or by WPACs has been done by consultants, and the dissemination of this work amongst the WPAC community is fragmented at best and often non-existent due to capacity and lack of integration. This results in an overall lack of public awareness about watershed management issues, and an overall lack of coordination with regards to the advancing of watershed management tools and knowledge.

As a primary partnership in the Water for Life Strategy for Sustainability, Watershed Planning and Advisory Councils (WPACs) are under-funded, under-supported, and poorly resourced with regards to their ability to source or contribute to the identification of research priorities. While there has been some interaction with the academic community and the natural sciences pertaining to understanding the state of the watershed (SOW), management planning at the watershed level also requires an understanding of the socio-political forces that contribute to creating a process for management planning that leads to implementation.

Opportunities can be realized by governments, research institutions, and WPACs through the development of a knowledge broker and system of ongoing engagement between WPACs and the research community. The collaboration between the research community and WPACs can result in critical funding for research priorities that can benefit both the research community and WPACs. There is a need to enable the prioritization and dissemination of research needs for:

- a.) The advancement of watershed management planning & implementation - topics such as sociology of societal behavior change, the planning process of WPACs, ecological economics, meaningful place-based consultation with communities and First Nations, and public policy development;
- b.) Best management practices for watershed management (actions on the ground); and
- c.) Natural sciences (water and watershed science).

Exercise Results- From Participant Comments

Icebreaker & Participant Introduction: What are your priorities coming into this workshop – for today and for Alberta?

It is important for us to understand the role that we can play in acquiring cleaner water. Water is a part of a system – we need to coordinate efforts with an elevated understanding of what we are doing and how it affects our water systems. It is essential that we reconnect where water comes from and where it goes to better understand how our systems are linked, and how each affects the other. We must treat water like *we* are here to stay (we must have seven generation thinking) and we must understand current behaviors in regards to the treatment of water resources, and begin to change them. In other words, Albertans must understand the interconnectivity between surface water and ground water and the value of our riparian landscapes, as well as how their actions can affect the value of these systems.

In order to accomplish goals and priorities, it is necessary to take action, and incorporate our energy, enthusiasm and ideas to realize these priorities. There is only so much talking to be done before it is vital that action is taken and that we recognize value and integrate this into action.

By connecting with one another, we can identify potential for partnerships and we can fill the information gaps. We can identify opportunities, collaborate and share information amongst the WPACs in order to establish a well-rounded, informed group. To help this we need more applied research and we need a knowledge broker.

Understanding the gaps between NGO/Academia and the watershed community is a crucial step in making changes and developing a better-received relationship between the two groups. Relationships between NGO and Academia should stimulate new ideas for watershed management while still including watersheds in the development of these ideas. In addition, we need to include local peoples, skills and knowledge into planning and this requires a while coordinated process.

Another important set of priorities for some WPACs is to understand the provincial water research needs and get more people involved in meeting those needs. Many understand that the balance between water allocation and in-stream flows requires this research. A priority for some WPACs is the maintenance of intact headwaters, which requires knowledge and research on how to alleviate pressures, and make informed decisions for the future of the headwaters.

In addition to these priorities discussed, some felt that it is necessary for WPACs to work with the trust of Aboriginal Communities, and the need to resolve the issue of consultation with First Nations. Some think that conclusions should be derived from interaction with science AND local traditional knowledge.

Session #1 – What is the scope and utility of water and watershed research in Alberta?

The biggest job of a WPAC is to provide information so that stakeholders can make informed decisions regarding watersheds. However, the WPACs are lacking a provincial research directory that would undoubtedly provide a useful, well-rounded source of information to use to inform stakeholders. It seems that the dissemination of research is haphazard, and there is a clear need for more social science research connected to water management. In some ways it seems that WPACs operate in a vacuum without being aware of other WPACs research, university work and ENGO work.

Another problem that currently faces the WPACs is that there is little uptake of knowledge. We must make the education “relative” and the knowledge relevant. It is important to disseminate knowledge about watersheds through the public education system – that way we develop a potentially large group of watershed stewards.

Alberta Environment and WPACs have partnerships with Cumulative Effects Management Systems (CEMS) – *Within this system, various tools, resources and relationships will work together to comprehensively manage activities that affect the environment, economy and society in a particular place. It is an adaptive management system that follows a “plan-do-check” approach to setting, meeting and evaluating place-based outcomes* – however, there is a total lack of coherence and direction in this partnership causing many problems, and a lack of clarified knowledge. This causes gaps and barriers in a would-be useful partnership.

It is difficult to define ‘good research’, but it is imperative that we understand whether the current research being done for and by WPACs is relevant and useful. Does the current research address the needs of WPACs and help the organization report on the state of the watershed, improve management planning, and develop public engagement strategies? If this is not the case, there are changes that ought to be made.

We need “big picture research” that is beneficial to the larger WPAC body. Unfortunately, research priorities are currently established in an “ad hoc” way by “economic needs, legislative demands, social demands, and academic interests.” In other words, our research priorities are controlled by political necessity. Another issue with the current research system is that *consultants* are conducting the research for WPACs, which may not be the most efficient source of information. Alberta Environment has stated that First Nations participation in a WPAC can be in lieu of other “consultations”, which may prove to be a beneficial alternative.

WPACs are seeking a clear methodology for engagement through to a completed and valid IWMP that has significant political strength.

WPACs need resources – perhaps a Research Knowledge Broker. What is the role of the AWRI? What is the role of the AWC? The WPACs are not really linked to AWRI, as there seems to be no coordination between AWRI and research priorities for WPACs. Furthermore, WPACs may not have articulated and synthesized their current research needs and conveyed that to academics. Academics are often looking for partners/advocates/alliances in their research and there may be ways to fund research, through academics, that are underdeveloped because of the poor communication between academics and Universities. WPACs should move beyond that ‘natural science’ questions they have focused on and try to work with social scientists to develop questions of greatest interest to them.

WPACs need “research knowledge brokers,” those in-between people who understand the research design and findings, but can convey simply and effectively to different audiences in the watershed, and bring back elicited concerns/priorities to the WPAC from those same audiences/watershed interested parties. Currently WPACs need help, funding, and expertise to be able to do this, and AENV seems quite ignorant about the inadequacy of their funding to develop this nexus between knowledge that is available and watershed citizens.

Session #2 – What are some of the gaps and barriers to advancing watershed management & research?

There are several gaps and barriers to advancing watershed management and research. The most prominent gaps and barriers that were identified during the workshop can be divided into four categories: Funding, Research, Policy, and Other Concerns.

Funding

There are problems with the contract timeline of Alberta Environment funding. Because of the short-term contracts (usually 1-year long), short and long-term projects are generally unable to be completed in that timeline. In addition, there is no funding security, which impedes planning, and fiscal year-end deadlines are unreasonable. Other problems include the lack of awareness of funding sources for research and a lack of interest by the Government in helping WPACs develop or find other funding sources. Industry has money for research, but then there are “controls of outcomes” to be considered. There is also a need to expand “in-kind” contributions of partners in WPACs.

Research

First, the research contracted out is useful for the state of the watershed reports and IWMPs, but it is not used much beyond that, in terms of it informing the land use choices/activities done in the watershed *now*. It has also been noticed that there is a gap in the access that WPACs have to researchers and access to University resources in Alberta (and especially Northern Alberta). Many see the distance to academic institutions as a direct barrier to some WPACs. There is no knowledge broker for, and too few connections with, people in the social science research area.

Research is on the wish list for WPACs – WPACs and Research Institutes need to work together more to identify issues and projects, but there are many gaps and barriers to accomplish this task. There is no method for WPACs to communicate their research needs, and no way for WPACs to collaborate on research projects and get those out to research communities. WPACs lack capacity to do research and enable research. A gap also arise due to a lack in research questions; who determines/identifies them? And how are the questions formulated? Surrounding this issue, WPACs also face the issue of having needs that are not aligned with the metrics of funding and priorities of researchers. They also have no connection with AWRI to input ideas into the AWRI Research Program.

Individuals on the WPAC Boards come up with research priorities, but this is often done in a vacuum from other WPACs. Board members who represent an organization or special interest could more actively bring forward research they know about and think is important. WPACs need to cultivate the sense of responsibility in their board members. Also, it is necessary to have a member of a research body as a board member to ensure that the gaps are filled in regards to Universities and WPACs.

Policy

The main issue that is seen in this area is that municipalities are not encouraged by the province to see water management as part of their responsibility (but have power under the MGA). In addition, there has been poor timing of guidance on the Water Management Plan, Terms of Reference, etc. for WPACs. A lack of policy research to support policy development is another issue, along with a lack of political gumption to follow through with developed policy (wetland policy, as an example).

Other Concerns

There is a limited understanding of the social dimensions of watershed management and planning as well as of social implementation realities. WPACs and other also lack a common understanding of definitions. It seems that WPACs are lacking in capacity, staff and knowledge of sociological factors to be able to integrate into the development of an IWMP (to ensure implementation).

We live in a world of consensus culture so there is a sense of interdependence and a degree of engagement time. This often makes it hard to stimulate interest in big industry, and creates a push for controversial stimulus to get industry commitment to cooperate. Furthermore, the system is being driven by the wrong people; usually absent corporations.

The cumulative effects monitoring and findings do not seem to be linked back to WPAC place-based concerns and priorities. We also see a lack of access to up-to-date data projections.

Other issues include the belief that we have to put up with pollution (pace and scale of development) to have prosperity – the ‘either/or’ equation is perpetuated by NGO and politicians. It is also necessary that WPACs create a “safe place” for First Nations and WPACs to work on water issues together. Finally, there must be recognition of problems in the watershed. The problem is that there is not enough access to up-to-date info and cumulative long-term trends.

Session #3 – Recommendations for the future of WPAC engagement with research

Many ideas arose during this discussion that showed great potential for the future of WPAC engagement with research. The most defined thoughts surrounded the idea that we must interact and collaborate with post-secondary institutions and students.

WPACs must bring more colleges and universities into the dialogue. Perhaps collaborating with colleges such as Olds, Lakeland, NAIT, MacEwan, SAIT, Athabasca, Lethbridge and Medicine Hat would allow for a well-rounded perspective in the dialogue. WPACs hope to invite and actively engage the academic community in WPAC work, planning and outreach. One such idea they should share is Traditional Ecological Knowledge (TEK) & TLUS and source water protection.

There are many reasons that WPACs should connect with post-secondary institutions, one such reason being that the institutions can help WPACS to frame research questions. In addition, post-secondary schools can be advocates for WPACs and WSG – they can help us gain credibility with the public (and perhaps Governments). The WPACS need help from academic institutions to help create the very best IWMP Process that has credibility, social science, and natural science rigor. Also, WPACs would like to see the academic community coming to the collective WPAC community to answer priority issues and identify research work. The post-secondary institutions should communicate with WPACs and show how information needs can be addressed.

Student engagement and opportunity is another important recommendation for the future of WPACs and research. There must be a post-secondary plan: interns, undergraduate and graduate researchers, co-op programs (i.e. paid and for credits). As well, educational resources can be supplied to WPACs for curriculum development and social marketing. Finally, it is essential that academic interns should come into WPACs to help bring new ideas and processes to watershed management.

In addition to engaging the post-secondary institutions and students, the WPACs should also focus on research itself. A knowledge broker and research agent should be hired for WPACs and should help the organizations understand their research needs and secure realistic projects. Global research is needed for market based, implementation tools for watershed management. The Freshwater Research Institute may be an example of a type of think tank/research consortium that could support WPACs needs. Research needs were discussed openly in this institute along with open sharing of research findings with the various stakeholders and graduate students (who were expected to attend all seminars).

There are potential sources of funding for research available through a variety of organizations including: *Alberta Education, Corporate, Federal Agriculture Department, Department of Fisheries, and Municipalities*. Another potential for long-term funding is through partnerships with Academia, which can help to realize funds for research needs. It is also possible to work together with Centerpoint (Calgary) to create a research fund for all WPACs. Finally, once we have defined the BMPs for each sector, they must be tied to an economic incentive or measure to facilitate action. This can be accrued through the above funding options.

Provided that funding options are found and acquired, there are many projects that could come from this. One project is the need for a WPAC person to coordinate research priorities and communicate best management practices surrounding private wood lots – linked to the Webberville model forests Boreal Research Institute partner with model forests. A database of water and watershed integrity would create a better monitoring system for WPACs. Another individual brought of the question of where or not there is a possibility for an environmentally certified oil and gas company (or other sector). Other potential projects include a “designer carrot” – based on an Australian website for the environment. As well, the “Big Splash” Alberta WPAC Conference needs to bring in

social sciences from academic communities to showcase unique research applications on the ground. Another potential project is the opportunity for a CURA project to be done in partnership with WPACs and Academic (U of A – ILUI). The potential for this project is high as there is a good platform to use through the U of A to apply for a CURA project. Lastly, there needs to be coordinated central place or regional place where regional studies could be made readily available.

Many ideas and goals have come out of **Session #3** but there are still some concerns. There needs to be a clearer identification of issues in order to find answers before solutions are articulated. We must stop doing piecemeal work with WPACs; we get dismissed when we are fragmented so we should bring this work to a provincial scale, while still recognizing place-based sociology.

There is a concern about duplication of research across agencies and the lack of support from AENV in assisting the exchange of information among WPACs and researchers doing relevant work in their watersheds (as AENV contracts some work out to researchers in universities and in consulting firms). AENV does little to engage the interested public in the WPACs even though they demand that WPACs reflect the interests of the public in their watersheds.

We must also have help and ongoing technical advice by faculty, as well as advice on data collection methodology and integration. It is also vital that board members of WPACs look at networking possibilities. Conclusively, we must help to understand that we are all in this together – there are no them and us – it is all us.

Potential Research Questions

- How do we get BMP adoption and data collection on who has or has not adopted BMPs, and why (by watershed scale)?
- What policy mechanisms should we use to increase BMP adoption?
- How do we switch the capitalism mode to one that acknowledges the role of ecological economics & market-based instruments?
- Public Engagements/Behaviors – changing perceptions- what are some of the emerging tools for engaging deliberative decision-making by key watershed stakeholders?
- WPAC engagement – meaningful with First Nation & Metis. How can this be done respectfully and effectively?

Other Points Raised

The workshop group asked how research and IWMPs link to ACTION. We need research to track behavioral change, ecosystem management difference, adoption of best management practices, and so on to see if all this WPAC is linked to any change on the ground.

WPACs are given a great deal of responsibility for integrated research and watershed plans, and consultation with sectors in their watershed (that the Alberta Government has been unsuccessful in doing so far), yet the WPACs are marginalized at best, and ignored at worst in provincial land use planning activities. For example, many of the WPACs are not included by even one representative on the regional planning committees (planning under the Land Use Framework), for the *very* watersheds the WPACs have developed a watershed management plan for. The WPACs are told by AENV that their plans will weigh in, but given no guarantees or opportunity to shape the way their plans might actually address cumulative effects of current activities in the watershed. This is viewed by the WPACs as disrespectful of the good faith efforts of the WPACs, inefficient, and worrisome given that regional plans are suspected to reflect more business development priorities than the investment in ecosystem goods and services in the watershed.

This particular group asked: Why are the WPACs treated like “just another stakeholder” by AENV yet given the responsibility to synthesize stakeholder views in the watershed regarding watershed management, (which most will agree is an essential activity of RACs given the increased land uses effecting water quality and quantity in Alberta, and the trends of climate change expected in the next one hundred years)? The WPACs have taken a look at the “big picture” of the watershed but are not treated as important players in GOA decisions about future land uses.

APPENDICES

Appendix A. Workshop Promotion



Watershed Research Priorities

● Alberta Centre for Sustainable Rural Communities
<http://www.augustana.ualberta.ca/centres/acsrc/>

Watershed Planning and Advisory Councils & Academia

9:30am – 3:30pm May 5th
Quality Inn – Red Deer, Alberta

This full day workshop is intended to bring together representatives from all of Alberta's Watershed Planning and Advisory Councils, along with key researchers from the University of Alberta, University of Calgary and the University of Lethbridge to discuss and develop the role and needs for social science in watershed management.

Specifically, this workshop will seek to better develop collaborative relationships between the large universities in the province and the analytic needs of the WPACs. In doing so, we hope to raise awareness of both the benefits and opportunities that social science research (such as policy analysis, rural and environmental sociology, adaptive and integrative watershed research, law and economics, to name only a few) can bring to this increasingly critical area of natural resource management, but also improve and foster the linkages and opportunities both between universities and WPACs, as well as between the WPACs themselves.

Please RSVP your intent to attend: lisafox@telus.net prior to April 22nd 2011.

**This project is funded by the Alberta Center for Sustainable Rural Communities*

**For more information please contact: Lisa M. Fox
403-975-2973 or email: lisafox@telus.net**

Appendix B. Workshop Outline

Session Overview

Background – Why are we here?

- Water is a critical resource
- Challenges: demographic change, industry impacts, wetland loss, policy & licensing reform

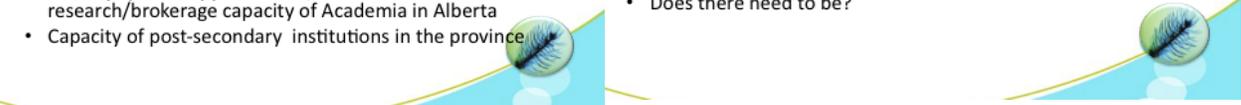
Draft Goals for Today:

- Discuss today: how WPACS & Academia can work together
- Identify gaps/opportunities that can be bridged through collaboration
- Identify specific opportunities/initiatives to advance research/brokerage capacity of Academia in Alberta
- Capacity of post-secondary institutions in the province

Session # 1 – What is the scope/utility of water and watershed research in Alberta?

Discuss from a WPAC Perspective:

- How are research priorities generated around water?
- How is it disseminated?
- What is the uptake (decision making)?
- Who is conducting this research?
- Is there a link to the AWRI?
- Is there a watershed research knowledge broker?
- Does there need to be?



Session # 2: What's working now in terms of watershed & wetland research in the province?

•What are the challenges and opportunities?

•What would be an ideal collaboration between a research institute or university and a WPAC?

•What does this look like?

Constraints
Barriers to research



Opportunities
Pathways forward

Session # 3 – What are the gaps, issues, barriers, and realities for watershed management and research in your region?

List: Gaps/Barriers/Realities



Session # 4 – How can post-secondary institutions contribute to enhancing watershed management?

•What research or other innovative initiatives could support developing best management practices in Alberta?

•What should be some go forward action items?



Summarize & Confirm!

What did we learn today about how to advance research for watersheds?

Next steps?



Appendix C. Scope of the Project – Introduction by Lars Hallström

Dear colleagues, researchers, and WPAC representatives:

I am very pleased to welcome you to Red Deer, and to this ARDN-funded event. Unfortunately, I am unable to attend, since the timing of the WPAC meeting tomorrow conflicted with my attendance at the Rural Research Workshop in Ottawa, of which I am an organizing member and funder. I had hoped that ACSRC staff would be able to attend, but the timing of this meeting has proven more problematic than originally anticipated. However, I am very pleased that Lisa Fox has been able to provide her services in terms of organization and facilitation, and I sincerely look forward to seeing the results of this meeting.

As you know, water is a critical resource in Canada, and particularly in Alberta. Pressures from demographic change, industry, wetland loss, policy and licensing reform all create significant challenges for the supply, quality and functionality of both surface and groundwater in Alberta. As a result, I hope that you will take advantage of this meeting to discuss: (1) the ways in which the post-secondary sector and WPACS might continue to work together; (2) the needs, gaps and opportunities that might be bridged by collaboration between WPACS and researchers/teachers in post-secondary institutions; and (3) specific opportunities, projects or initiatives that might better link the WPACS to the research/brokerage capacity of post-secondary institutions in the province.

As you will see, the agenda that was developed for today's meeting has some broad goals, and most generally the hope that this meeting can identify areas of collaboration, research/data collection/evaluation and planning needs, and specific areas of interest. I encourage you to take advantage of this opportunity to openly and frankly discuss the needs, resources and capacity that might be brought into play, and to consider how the WPACS and research community might build upon the already existing institutions, programs and initiatives as we move forward in the management of one of Alberta's most important natural resources.

Sincerely yours,

Lars

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Appendix D. Draft Agenda for Guiding the Discussion of the Day

Round ONE:

- a. What is the scope/usage and utility of water and watershed research in the province? Discussion should be both general and WPAC specific.
 - How is it generated?
 - How is it disseminated?
 - How is uptake?
 - Is their decision-making or evaluation as a result of research?
- b. What people, departments and faculties are conducting research? Is it being used? Why/why not? Is there something missing?
- c. Who is linking to the AWRI? Is there a “watershed research” knowledge broker? Does there need to be?

Round TWO

- a. What’s working now in terms of watershed and wetland research in the province? Where are the challenges/opportunities?
- b. What isn’t working? What is the “ideal type” for research/university/WPAC collaboration?
 - Content?
 - Scope?
 - Method?
 - Geography?

Lunch

Round THREE

- a. What are the gaps, issues, barriers and realities for watershed management and research in (y)our region?

Round FOUR

- a. How can the post-secondary institutions contribute to enhancing watershed management?
 - Research
 - Knowledge transfer
 - Education
 - Other?
- b. What research or other innovative initiatives could support developing best practices in Albertan watershed management?
- c. What are/should there be:
 - Go forward/action items?
 - Strategy?
 - Projects?
 - Financial support?
 - Other?

Wrap up – summarize, confirm and conclude

Appendix E. Workshop Participants

Attendees	WPAC/University
Allen Good	University of Alberta – Institute for Land Use Innovation
Bob Cameron	Mighty Peace Watershed Alliance
Bob Phillips	South East Alberta Watershed Alliance
Connie Simmons	Athabasca Watershed Alliance
David Chanasyk	University of Alberta
David Samm	Battle River Watershed Alliance
Dale Christian	Red Deer River Watershed Alliance
Doug Badger	Athabasca Watershed Alliance
Gaylene Halter	University of Alberta
Gerard Aldridge	Red Deer River Watershed Alliance
Janice Pitman	Athabasca Watershed Alliance
Jean-Marie Sobze	Mighty Peace Watershed Alliance
John Parkins	University of Alberta
Marilou Montemayor	Red Deer River Watershed Alliance
Mark Bennett	Bow River Basin Council
Meaghan Payne	Lesser Slave Water Council
Naomi Krogman	University of Alberta
Peter Boxall	University of Alberta
Phil Hazelton	Pincher Creek (Guest of Athabasca WA)
Phil Boehme	Red Deer River Watershed Alliance (Alberta Environment)
Stephanie Palechek	Old Man River Basin Council
Terry Sly	Alberta Water Council
Tegan Adams	University of Alberta – Institute for Land Use Innovation
Tom Cottrell	North Saskatchewan
Tracy Scott	Ducks Unlimited
Will Lindeman	Milk River Watershed Council
Lisa Maria Fox	Facilitator
Beth Anthony	Facilitator

Appendix F. Acronyms List

AENV – Alberta Environment
AWC – Alberta Water Council
AWRI – Alberta Water Research Institute
BMP – Best (or Better) Management Practices
CEMS – Cumulative Effects Management Systems
ENGO – Environmental Non Government Organizations
FN – First Nation
ILUI – Institute for Land Use Innovation
IWMP – Integrated Watershed Management Plan
SOW - State of the Watershed
RAC – Regional Advisory Councils
TEK – Traditional Ecological Knowledge
TOR – Terms of Reference
WMP – Watershed Management Plan
WPACs – Watershed Planning and Advisory Council