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Deliberative Democracy in Canadian Watershed Governance

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ABSTRACT: Bottom-up watershed governance that features citizen engagement in decision-making is touted as a panacea for better social and environmental outcomes. However, there is limited agreement on how exactly this engagement occurs, and how it can be assessed. Water decision-making may result in better social outcomes when decision-making is deliberative and democratic. This article brings together a cross-disciplinary framework to assess deliberative democratic practices in local water councils (LWCs) in the Prairie Provinces, Canada. We apply this framework to assess and compare LWCS, using data from a review of secondary sources and semi-structured qualitative interviews with members of LWCs. Our framework was useful for identifying strengths and shortcomings of deliberative democracy within and across LWCs. The strengths of the Manitoba model are its significant mandate and stable tax funding. Alberta's strengths are in the areas of community representation and significant contested deliberation. Saskatchewan's strengths are its interconnectedness with other organisations, sectors, and governments. While LWCs have made important contributions to local watershed governance, a consideration and comparison of deliberative democratic practices offers options for policy change strengthening the deliberative democratic practices of LWCs.

KEYWORDS: Deliberative democracy, watershed, water governance, Alberta, Saskatchewan, Manitoba, Canada

INTRODUCTION

It has been over a decade since the United Nations World Water Development Report 2 claimed that water crises are crises of water governance (UNESCO, 2006).¹ Syntheses of theoretical and empirical literature related to water governance have argued that crises persist when centralised, top-down, hierarchical decision making has failed to account for the complexity inherent in linked systems of humans and nature (Brunner, 2010; Gupta et al., 2013). Scientific literature and many governments espouse the benefits of bottom-up governance, particularly when actors have significant capacity to self-govern. This form of governance both anticipates and navigates social-ecological change (Guerrero et al., 2015; Carabine and Wilkinson, 2016). However, there is no consensus in the literature on what forms bottom-up governance should take, and the processes they might employ (Adams et al., 2005; Hardy, 2010).

¹ Subsequently, reiterated by Biermann et al. (2012), Gupta et al. (2013), governance is the process through which decisions are made surrounding water, wherein citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences (Armitage et al., 2009).

In Canada, local watershed governance crises have been identified in incidents of hazardous water quality when agriculture and development negatively impacted drinking water (O'Connor, 2002; Laing, 2003) and contentious quantity decisions, for example in relation to regulating river flow regimes (Glenn, 1999; Gober and Wheeler, 2014). In the Prairie Provinces of Canada, the expected impacts of climate change on regional water resources is likely to exacerbate water governance issues (Diaz et al., 2016). In conjunction with literature on best practices of water governance (de Loë and Kreutzwiser, 2007), and as a result of recommendations from inquiries into the causes of various water crises (GWP, 2000; O'Connor, 2002; Laing, 2003; Gleick, 2006; Conference Board of Canada, 2008) the Prairie Provinces in Canada made efforts to improve water resources management by creating and integrating local water councils (LWCs).^{2,3} This is a form of 'bottom-up governance' that involves the 'opening up' of top-down, hierarchical decision-making and embracing a more deliberative, democratic alternative (de Loë and Kreutzwiser, 2007; Abdullaev et al., 2009; Susskind, 2013). This development in watershed governance reflects ideas of ecological democracy by engaging citizens in decision-making relating to the environment (Gilbert and Phillips, 2003; Mitchell, 2006; Adkin, 2009) thereby strengthening democracy and state institutions (Barber, 1984).

Given the novelty of the LWCs, similar arrangements around the world (e.g. Shen, 2003; Priscoli, 2009; Huitema and Meijerink, 2014) and their potential roles in steering social-ecological systems (Stiftel and Scholz, 2005; Young et al., 2006), it is necessary to assess the contribution of LWCs to more democratic, bottom-up governance. Ultimately, the LWCs provide a focal point upon which we can scrutinise how far these government initiatives have advanced the deliberative democratic engagement of citizens in water decisions. We first identify the form of bottom-up governance taking place in the LWCs based on the provincial context, and then assess the activities of the LWCs in relation to characteristics of deliberative democracy (Dryzek, 2000; Baber, 2004; Fischer, 2012). To these ends, we answer the question, has the addition of the LWCs increased democracy in watershed governance?

DEMOCRACY AND WATERSHED GOVERNANCE

According to the findings in literatures from a variety of disciplines it can be concluded that to appropriately address environmental risks, democratic scrutiny is required of previously centralised realms of decision-making, as exhibited for example, in conventional top-down governance (Dryzek, 2000). These literatures include deliberative democracy (Dryzek, 2000; Baber, 2004; Fischer, 2012), collaborative governance (Lane and McDonald, 2005), ecological democracy (Gilbert and Phillips, 2003; Mitchell, 2006; Adkin, 2009), environmental governance (Omohundro, 2004), and social reflexivity (Beck, 1999). Similarly, engagement of citizens in water decisions is recommended in local watershed governance that features integrated water resources management (IWRM), a recommendation by the United Nations made in 1977 (Ker Rault and Jeffrey, 2008).⁴

To account for complexity, uncertainty, and context, citizen engagement in local watershed governance must create space for new insights and debate regarding old and new knowledge (Folke et al., 2005; Biermann et al., 2012). Ideally, this decentralisation serves a dual purpose of more appropriately steering change (Singh, 2008) and reducing financial costs for governments (Lemos and

² Water governance is the societal process of making decisions and organising in relation to water that involves, organisations, for example NGOs, corporations, governments, laws, policies and procedures (Hurlbert and Diaz, 2013).

³ Terminology differs as these groups are called 'Watershed Planning and Advisory Councils' in Alberta, 'Watershed Advisory Committees' in Saskatchewan, and 'Conservation Districts' in Manitoba.

⁴ IWRM is a process that promotes the coordinated development and management of water, land and related resources with a view to maximizing social welfare and economic resources in an equitable and sustainable way (GWP, 2000; see Nikolic and Simonovic, 2015). The integrated management of all activities impacting water is a fundamental component of IWRM. This aspect is reflected in Table 1 in relation to the LWCs having a 'comprehensive' mandate.

Argawal, 2006). There is no widely adopted model of decentralised decision making (Adams et al., 2005); in fact, complexity must be embraced, not eliminated into simplistic universal solutions (Ostrom et al., 2007; Hardy, 2010). However, to be effective and resolve conflict, engagement of citizens must be collaborative, involve consensus-driven processes, and distribute power more evenly (Quirk, 2005), and make water decision-making more democratic (Adams et al., 2005; Hoogesteger, 2016). This is particularly relevant for bottom-up governance where the state can influence the resources and activities of civil-society groups (Dryzek and Pickering, 2017).

Democracy is stipulated in the water-governance literature through incorporation of deliberative democratic processes in the rules and practices of decision-making (de Loë and Kreutzwiser, 2007; Koehler and Koontz, 2008). Deliberative democracy has been defined as "a form of government in which free and equal citizens and their representatives justify decisions in a process in which they give one another reasons that are mutually acceptable and generally accessible, with the aim of reaching decisions that are binding on all at present but open to challenge in the future" (Gutman and Thompson, 2004: 3). Deliberative democratic processes involve recursive visiting of arguments and positions by a general and unrestricted audience so that all – including dissenters – are motivated to continue to engage in decision making (Baber, 2004). Within deliberative democracy, authentic deliberation must precede a democratic decision to be legitimate.⁵

Collective political, holistic, long-term, and evolutionary thinking results from deliberative democratic processes (Gunderson, 1995). Deliberation is an important part of deliberative democracy and involves dialogue "aimed at producing reasonable, well-informed opinions in which participants are willing to revise preferences in light of discussion, new information and claims made by fellow participants" (Chambers, 2003: 309).

The practice of deliberative democracy is more complicated. Often, engagement of citizens only involves participation without influence or accommodates a wide array of water-related stakeholders, allowing them to voice their concerns, without impacting ultimate decisions. Such a form of participation could result in only lip service to principles of democratic decision-making (Sze et al., 2009; Hoogesteger, 2016) by merely neutralising dissent (Swyngedouw, 2011). Moving from limited participation in water governance toward a more deliberative, democratic alternative is difficult (Hoogesteger, 2012).

Under conditions of social-ecological change, there is a need for a framework that can be used for ongoing democratic scrutiny of water governance. Change alters public interests, values, and access to decision-making, creating a dynamic reality for decision-makers in local water governance (Norton and Steinemann, 2001; Biermann et al., 2012). Improving the democratic benefits in decision making, proposed in the theory of deliberative democracy, requires benchmarks and indicators that are relevant across different watersheds and cases and that can be readily determined by scientists and practitioners (Manor, 2005; Koehler and Koontz, 2008). However, benchmarks and indicators for assessing deliberative democracy that are diffuse across literatures, have limited consideration of cross-disciplinary science, and are difficult to operationalise for use in the actual workings of democratic, bottom-up governance (Leach, 2006; Mitchell, 2006; Parkinson, 2012). We argue that this stalls progress toward deliberative democracy, and both propose and apply a potential framework to address these shortcomings.

A FRAMEWORK FOR DEMOCRATIC SCRUTINY OF BOTTOM-UP GOVERNANCE

Some frameworks include assessments of democracy, but have a limited fit with bottom-up water governance or usefulness for water-governance practitioners. For example, some studies (e.g.

⁵ Authentic means free from distortions of power (Bohman and Rehg, 1997).

Vanhanen, 2000; Leach, 2006) developed assessments for nation states using dimensions of democracy, such as freedom of expression, and free and fair elections, and indicators such as freedom of the press, freedom of assembly, and freedom of opinion and speech. Frameworks using these dimensions and indicators have been criticised for conceptual overload and less rigorous evaluation (Haerpfer et al., 2009). Mitchell (2006) utilised factors of 'open' versus 'closed' democracy and sustainable or unsustainable practices. Leach (2006) focused on democratic principles such as transparency, impartiality, empowerment, and lawfulness. Another literature uses indicators of good governance (Rathstein, 2013). However, these require normative assessments of 'good', and often involve subjective or 'empty' concepts such as accountability or transparency (Rathstein, 2013).

Good water governance has been operationalised into a set of institutional design principles (see Singh, 2008; Hill, 2013; Huitema and Meijerink, 2014), but few studies have focused solely on deliberative democratic principles (Connelly, 2011; Orr et al., 2016) that are necessary to address contemporary environmental issues (Finewood and Holfield, 2015; Ruiz-Villaverde and Garcia-Rubio, 2017). Parkins and Mitchell (2005) argue that contemporary deliberative democratic theory, as proposed by Habermas and others, has many similarities to citizen engagement in the natural resources literature.

Drawing from deliberative democratic and citizen engagement literatures, the following framework provides some indicators to assess the contribution of these LWCs to deliberative democracy (see Table 1). In Table 1, we name, explain, and provide a rationale for each indicator. In addition, we include some key references to each characteristic that represents the cross-disciplinary nature of our framework. As indicated in Table 1, ideally all pertinent watershed issues would be discussed and debated allowing for coordinated watershed management akin to IWRM. This first criterion, 'comprehensive mandate', reflects a best practice of IWRM that all processes and issues impacting water be included in water management (Ker Rault and Jeffrey, 2008), and a best practice of water management: decentralisation and subsidiarity (i.e. the delegation of responsibility and authority for water management to the lowest feasible level) (WWCWAU, 2003). The second and third criteria are that the LWCs have a 'significant mandate' and 'resources' to have a constructive impact. The fourth criterion, 'representativeness' refers to watershed planning involving the community, or at the very least a representative sampling of the community, and allowing voices of marginalised and indigenous people to be heard. And the last two criteria reflect a litmus test of deliberation including 'contestation' (i.e. involving mechanisms of conflict resolution) as well as 'reflexivity', demonstrated by "the ability of a structure, process, or set of ideas to reconfigure itself in response to reflection on its performance" (Dryzek and Pickering, 2017: 353). Power is an important cross-cutting consideration in deliberative democracy and it is operationalised in the criteria of 'resources' (e.g. who has access to decision-making), 'representativeness' (e.g. who is participating), and 'reflexivity' (e.g. by recognising political context and power relations). Following Table 1 and a brief outline of the study's method, a brief answer to these sub-questions will be followed by an analysis summarised in Table 2.

METHODS

LWCs were selected in each of the three Prairie Provinces.⁶ We attempted to select LWCs from diverse geographical areas, preferring longer-standing LWCs to those recently formed. We discovered that representatives of new LWCs were only able to speak to future intentions of how their group might function and might practise democratic processes. Established groups had a history of social processes that we could document and analyse.

⁶ The University of Regina Research Ethics Board approved this research and the consent form (provided to interviewees and executed in their individual and representative capacity) indicated that their identity would be held in confidence.

Table 1. A framework for assessing deliberative democracy.

Areas of concern	Key question(s)	Explanation	Rationale for LWCs
Mandate (Comprehensiveness)	Are all pertinent watershed issues discussed and debated?	Coordinated development and management of water, land and related resources to maximise benefit in an equitable manner without compromising sustainability (Integrated water resources management (IWRM) (GWP, 2000)	IWRM includes public participation (GWP, 2000; Kerr Rault and Jeffrey, 2008)
Mandate (Significance)	Do the LWC's have a significant mandate within the watershed governance system to make changes?	Mandates are an initial indication of the scope and scale of decision-processes, the extent to which these processes can directly involve the public, and the jurisdiction in which certain members of the public can be considered stakeholders or rights holders (Dryzek, 2000)	LWCs can be often developed for special purpose projects which undermine the capacity of LWCs to share information and knowledge from the public over time (Neef, 2009)
Resources	Do the LWCs have sufficient resources to achieve their mandate and/or make changes?	Resources (e.g. financial, human, assets) can structure who has access to decision-making processes (Armitage et al., 2009); Assessing resources is important for understanding some of the structural constraints on deliberation (Sultana, 2009; Venot, 2014)	Insufficient resources can act as barriers to engage in deliberation and debate, and to move forward to inform policy (Shrader-Frchette, 2010; Turnhout et al., 2010)
Representativeness	Are the LWCs representative of the community thereby allowing for all view points?	Assessing representativeness provides an indication of who can access decision-making processes, and whose voices have been included in particular decisions (Franks and Cleaver, 2002; Wester et al., 2003; Gutmann and Thompson, 2004; Leach, 2006; Koehler and Koontz, 2008; Dryzek and Niemeyer, 2012)	LWCs should represent the demographics of the people within the jurisdiction of the LWC (Sultana, 2009; McKinney et al., 2010)
Contestation	What is the level of contestation or deliberation?	Deliberation is performed through several modes of argumentation involving disagreement (Gammage, 2010); To test the veracity of the deliberation, there must be	For deliberation to be robust, LWCs need to engage in discussion and debate where issues are contested (Bebbington et al.,

		the existence of conflict and reasoned argument (Leach, 2006; Dryzek and Niemeyer, 2012). Mechanisms employed include discussion, consensus decision making, mediation. (Hurlbert and Greenberg, 2011)	2010; Hoogesteger, 2016)
Reflexivity	Do these groups have the ability to change decisions upon reflection and reconsideration?	Reflexivity involves processes - reviewing, reassessing and re-evaluating decisions – together with monitoring and evaluating these processes (Voß and Bornemann, 2011; Huntjens et al., 2012); In a governance context, reflexivity involves a recognition of the political context of decisions and of power relations (Gutman and Thompson, 2004; Voß and Bornemann, 2011; Dryzek and Niemeyer, 2012)	Under conditions of social and environmental change, LWCs require the capacity and ability to revisit and possibly change decisions based on new information (Baber, 2005; Armitage et al., 2009)

For each LWC, we performed both a review of secondary sources and semi-structured qualitative interviews with representatives. Our review of secondary sources compiled demographic, industrial, and agricultural characteristics of the area. In addition, we reviewed information on pertinent watershed issues, public rules of water governance contained in laws and policies, the LWC’s formation, and its planning activities including planning, protection of water sources and implementation. Following this review, we performed semi-structured qualitative interviews with LWC representatives that examined LWC characteristics and perceptions of LWC performance in the areas of concern within our framework. We conducted 90 key informant interviews (32 in Alberta; 43 in Saskatchewan; 15 in Manitoba). We identified informants through a purposive, snowball sampling technique whereby, information was sought "from key informants about details of other information rich cases in the field" (Benoot et al., 2016: 3). We transcribed, coded, and analysed the interview data based on the characteristics outlined in Table 1.

Although every effort has been made to operationalise characteristics in relation to deliberative democracy, a certain amount of subjectivity remains in the analysis and presentation of data by the researchers. The data are also reflective on the beliefs and opinions of the people interviewed.

THE LOCAL WATER COUNCILS AND FORMS OF BOTTOM-UP GOVERNANCE

The forms of 'bottom-up governance' are diverse across provincial structures of water governance in the Prairie Provinces. In Alberta, there are 11 Watershed Planning and Advisory Committees (WPACs) created as recommended in the Water for Life Strategy. The WPACs include a broad cross section of community stakeholders (Alberta Government, 2003, 2006, 2008). Another province-wide institution (the Alberta Water Council) operates as an advisory board, but it does not have membership reserved for municipal government and individuals, nor official link to the WPACs (AWC, 2007) but as discussed in 6.2 are funded partly by government. The WPAC planning activities are influenced by other land-use initiatives related to community planning and irrigation and have engaged in IWRM.

In Saskatchewan a water-quality incident in North Battleford resulted in a Safe Drinking Water Strategy to improve the safety of drinking water in Saskatchewan. This strategy catalysed the creation of 12 Watershed Advisory Councils (WACs) that engage in source water protection planning (WSA, 2012). These WACs are members of the Saskatchewan Association of Watersheds, which unites their interests and activities, and facilitates some coordination with other provincial and federal agencies. These WACs exist without specific legislated mandate but they are referred to in the *25-Year Saskatchewan Water Security Plan* (WSA, 2012).

In Manitoba, 18 Conservation Districts (CDs), established pursuant to the Conservation Districts Act (2006), are the main environmental planning regions in Manitoba. According to the Manitoba Conservation and Water Branch (2003) CDs are a "group of neighbouring rural municipalities (RMs) working in partnership with the Province of Manitoba to develop programmes to effectively manage the natural resources of their area". CD boundaries represent a mix of watershed and municipal boundaries (Barg and Osborne, 2006). Although boundaries pose a challenge, CDs have cooperated with one another, drafting source water protection plans jointly in relation to watersheds that cross CD boundaries. In this research, we will refer to all three groups of the provinces as LWCs. When referring to each individual group of the province, we will use the acronyms defined above (i.e. WPAC, WAC, CD).

LWCs are far from self-governing water bodies. In Saskatchewan and Alberta, they serve an advisory role. Even in Manitoba, where CDs have the broadest legislated mandate, the government legislates water priorities and regulates pollution and, for the most part, drainage. In Saskatchewan, there is evidence LWCs participate by providing information, advice, and creating a forum for difficult water issues to be discussed. In Manitoba, this interaction occurs because of a legislated mandate. Alberta interviewees were much more sceptical about the usefulness of interactions with other organisations. Their role is purely advisory and they have no regulatory mandate. A board member for a WPAC described this advisory role as a lack of authority for the LWC:

You see the group is an advisory group so we are only allowed to advise the provincial government on how they are going to manage the resource. So, we don't have any regulatory teeth and we can't make a rule so there is no authority associated with a WPAC (AW3: 6).

In Alberta, most interviewees found that their WPAC's role as a 'water expert' was an important contribution. Not only did WPACs act as a communications conduit among other WPACs, government, and environmental groups, but they also provided water advocacy to individuals trying to resolve a water issue. However, several interviewees thought the lack of regulatory power of the WPACs allowed development, including oil sands development, to proceed as business as usual without attention to source water protection impacts. One interviewee was sceptical that the Alberta government ever intended the shared water governance process to achieve anything of consequence and described WPAC participation as "mental masturbation" in an all-round waste of effort (AW7: 3-4).

In Saskatchewan, many of the WACs have taken on a coordinating role in relation to environmental farm planning under the federal government's Farm Stewardship Programme. This programme assists producers to adapt and respond to water shortages by helping them write environmental farm plans (Hurlbert and Pittman, 2014; Government of Saskatchewan, Agriculture, 2015).

In Manitoba, actions by the provincial government have sometimes constrained the engagement of citizens in key decisions. Initially in 2002-2003, one CD prepared an integrated watershed plan with the grassroots consultation of people in the CD. It ended up as a water management plan, as residents were concerned with consistent, continuous flooding issues. Several interviewees recounted how this plan was sent to the provincial government, but they would not approve it (M54). Instead the integrated watershed plan was to address water-quality issues. One interviewee stated:

The biggest issue is that the grassroots people are not getting their say. Even if they are getting their say it's fudged. This plan is going to be aimed at quality and it doesn't matter what is in there. That's what's supposed to be in it. And we are told that's what is supposed to be in it (M1: 27).

A DEMOCRATIC ASSESSMENT

Although there has been a significant increase in local water governance activities in Alberta and Saskatchewan since the 1980s, there has not been a 'hollowing out' of the nation state (Rhodes, 1997). Instead, the activities of the LWCs have coordinated with and supplemented their respective governments' water and environmental management, such as through source water protection and IWRM planning. Being relegated to providing information and performing only a few regulatory interactions suggests the LWCs have not achieved the benefits of engaging in wider resources management, especially within the parameters of participating in the top-down substantive water allocation function (see Abdullaev et al., 2009). Manitoba has granted these groups the largest mandate, in relation to drainage permits. However, Manitoba has not delegated jurisdiction to these groups to determine and allocate water-quantity licenses. Within the parameters permitted for the LWCs, deliberative democracy is still an important ideal (see Dryzek and Pickering, 2017). Next, we assess deliberative democracy by each characteristic in Table 1.

Mandate

The first characteristic to assess deliberative democracy relates to the mandates of the LWCs. Two questions are relevant: (1) Are all relevant watershed issues included in the mandate? (2) Do the LWCs have a significant mandate within the watershed governance system to implement changes?

Comprehensiveness

In the Prairie Provinces, LWC mandates include major planning activities. The Alberta government mandated its groups to develop IWRM plans. Saskatchewan and Manitoba governments tasked its groups with developing source water protection plans. These are key functions of LWCs and the functions around which practices of deliberative discussion are performed by all LWCs within their communities. The processes of all Prairie Provinces were similar. These involved extensively publicised town hall meetings over a period of two to four years gathering information on issues, drafting and revising plans.

Many water governance functions and issues are excluded from these groups' mandates making implementation of the plans difficult. Particularly in Alberta and Saskatchewan, water issues related to priorities, licensing, and land-use planning are absent from mandates (OWC 12, S18, S25). As a result, these activities are not formally discussed, despite their importance in several plans. While Alberta's mandates are the narrowest, Manitoba's ones are the most formalised (see above), Saskatchewan has the most breadth, crossing many geographical scales, borders and issues.

Expanding mandates

All LWC mandates seem to be expanding. Saskatchewan and Manitoba have further expanded into environmental issues, such as discussing flooding or drought issues with each other and neighbouring watersheds in other provinces and the USA. All three LWCs in the Prairie Provinces have expanded their own mandates to implement on-the-ground education and public engagement programmes related to water.

In Alberta, interviewees described how their roles have expanded into planning and programming related to education and citizen engagement. One interviewee described how the advisory role of WPACs influenced this expansion towards "education on all sorts of levels" from school programmes to

posters and television, which involved "recruiting people to participate in best [water] management practices", and then making "recommendations to government" (OW13: 4).

In Saskatchewan, many of the WACs have an expanded role that includes interfacing about water issues with the public and other organisations, government departments, and agencies. Saskatchewan WACs lead education programming, liaise on interprovincial and international water issues, handle drainage issues unofficially, and participate in integrated land use planning (S18).

Manitoba's CDs are the most formalised groups in the three Prairie Provinces with statutory authority in planning resources and integrated watershed management planning. One CD, White Mud, has existed since 1972 and can issue drainage licences within its district. Although other CDs also wanted this mandate, they had not successfully received it from the Manitoba government (M1). Four other CDs acquired responsibilities to look after water infrastructure over a decade ago, and have the ability to enforce drainage through licensing. They also have the powers to levy taxes. Mandates have expanded to soil and water conservation, wildlife and habitat preservation, and community education (Hurlbert et al., 2015).

Significance

In all three jurisdictions, the significance of the LWCs' mandate, which on the face appears quite broad, is limited. All LWCs face challenges in carrying out their mandates because of development-related decisions made by other municipal or provincial agencies such as oil and gas or hydroelectric expansion. Often, these development decisions limit the issues around which LWCs can deliberate and neutralise implementation of source water protection and IWRM plans and hence, detract from the comprehensiveness of core planning activities.

In Alberta, the WPACs' core activities are to assess the state of the watershed and develop an IWRM plan for which they have no regulatory authority to implement (Alberta Government, 2003, 2008).⁷ The integrated water plan is separate from integrated land use community planning and from environmental assessments and licensing of activities such as oil and gas mining. It is unclear the impact the WPACs have in relation to water and oil sands mining in the north. For instance, have the groups improved water quality or increased the efficient or sustainable use of water?

Saskatchewan's WACs are specifically tasked with developing source water protection plans (WSA, 2016). The WACs do not have regulatory powers and their source water protection plans are, in essence, suasive instruments for municipalities, businesses, residents, and government ministries to take actions to facilitate the plan (R2, S18, S25). Like Alberta, separate community planning and development processes occurred, and members of WACs often participated in these processes.

In Manitoba, the CDs have a mandate to contribute local water planning. They can be mandated to study and plan resources, build and operate infrastructure to conserve, maintain, develop, control, protect, or rehabilitate lands and waters, issue forest and water permits, and issue permits to alter surface watercourses (Conservation Districts Act, 2006: s. 21). In 2005, CDs were designated in the Water Protection Act to coordinate the functioning of 'local water planning authorities' and develop watershed plans. In 2009, CDs facilitate integrated development and stewardship of water and land resources within a watershed through engagement of local citizens (MCDP, 2016). However, interviewees cited an occasion when provincial and federal governments built water infrastructure without the participation of the CDs. Resource limitations experienced by LWCs also reduced the comprehensiveness of their mandate as outlined below.

⁷ Many interviewees also referred to integrated watershed management plans as a source of water protection plans (S36; M59)

Resources

The second characteristic to assess democracy relates to financial resources. The following question was examined: Do the LWCs have sufficient resources to achieve their mandate and/or make changes?

In Alberta and Saskatchewan, many interviewees viewed funding as a constraint on the capacity to implement mandates. Governments only provided financial resources every several years to undertake necessary consultations and IWRM or source water protection planning. This limited the effectiveness of the review, implementation and revision of these plans. The challenges discussed in the next section add clarification and expansion to this finding. In Alberta and Saskatchewan, interviewees viewed the added burden of competing for funding as detracting from the group's mandate, and potentially limiting participation of members without resources as well as increasing the influence of those with resources. In Manitoba, funding was not an issue to the same extent because the CDs received tax funding.

Alberta's WPACs are funded through a combination of annual provincial government grants, project-based grants available from foundations, and individual membership fees. Alberta's WPACs receive from US\$200,000 to 250,000 each in provincial grants to support their core operations, recognising their importance in achieving the Water for Life Strategy. This funding is not permanent as it is allocated annually and could be discontinued at any time. One interviewee describes how this has limitations as the groups, "cannot make plans for three years – or the long-term..." (AW1: 7). In addition, the WPACs ask irrigators and municipal governments to contribute USD30 per resident or per irrigated acre, respectively, but not all of them act accordingly (AW1).

Similarly, in Saskatchewan, a WAC receives funding from the WSA of approximately US\$90,000 per annum (S5). This generally allows for one staff person and office expenses. Additional funding is required to meet objectives in source water protection plans and is often secured through grants that condition the engagement of stakeholders in the creation of programmes and studies (S37). Document analysis reveals that membership rates vary with municipal governments paying varying amounts from USD500 to 10,000, and some groups more successfully secure these funds than others.

In Manitoba, CDs receive tax funding as they perform legislated functions pursuant to the Conservations Distracts Act, the Manitoba Water Resources Conservation Act, and Water Protection Act. Newer CDs without the same legislated mandates and that do not receive tax funding, as for example in West Souris River Conservation District, Seine Rat, and Little Sask, deliver programming in relation to improving water education and quality (M11).

In Alberta and Saskatchewan, LWCs spend a significant length of time fund-raising, which detracts from their capacity to advance their central mandate. Several interviewees questioned the use of staff resources for 'grant chasing' when grant-programme objectives and water stewardship did not align (OW17). Yet, the lack of funding reduced the capacity of board members to afford the expense of participating in meetings, especially lower-income individuals, environmental NGOs and First Nations. Travel within some watersheds is expensive because of their size (AW8: 13). For example, the Athabasca watershed covers approximately 20% of the province and is larger than Scotland by comparison. Representatives of government and industry are not similarly challenged as their employers pay their expenses (AW3). These circumstances call into question the inordinate influence of these organisations as well as of donors and sponsors, upon whose contribution the WPAC are dependent and have implications in relation to the voices and opinions that are informing decisions. Those people without government and industry backing have less power to participate, voice opinions, and reflect on decisions.

Similarly, interviewees expressed concerns that money from forestry or energy companies might "come with caveats" (AW3: 2). Another recounted that money had come from a company, but it was clearly associated with the meeting of the corporation's public-relations agenda. This had led to some conflict when Board members were all required to wear the corporate baseball hat for a picture, but

some of them refused to do so (AW3: 10.11). However, one group in Saskatchewan, the AWSA was very successful in obtaining projects and external funding. This helped solidify relationships with Yorkton, a large urban centre. A representative remarked about this mutually beneficial relationship:

They see the value in ourselves and we keep doing the projects. So, in the city we have done US\$175,000 worth of projects in five years. So, for their membership fees it is a good bang for a buck. They are bringing projects into our community; that is why they are very supportive (S44: 12).

Representation

The third characteristic to assess democracy relates to representation. The following question was examined: Are the LWCs representative of the community thereby allowing for all viewpoints? Representation referred to both the extent to which the LWCs' members were representative of the community within the LWC's jurisdiction, and whether those members and their viewpoints were represented in decision-making.

The socio-demographic characteristics of the provinces are characterised by strong Indigenous representation – 16% in Saskatchewan, 17% in Manitoba, and 6% in Alberta (Statistics Canada, 2011; Hall and Offert, 2015) – with an older generation living in rural areas, and most immigrant populations living in urban centres (Hall and Offert, 2015).⁸ Although the LWCs are representative of the older generations, LWCs are not representative of these statistics in relation to women, immigrants, or Indigenous peoples. The representation of Indigenous peoples varies, but is generally low and lowest in Manitoba.

In each provincial model, representation of the LWCs is structured differently. Alberta reserves seats in WPACs for government, industry and environmental NGOs. Manitoba has municipal seats. Saskatchewan has municipal and citizen seats. While Alberta has federal government participation on WPACs, in Saskatchewan and Manitoba, the federal government is absent in relation to funding, participation, and representation.

In Saskatchewan seats are held on WAC boards by a combination of municipal government members and individual citizens who might also be connected to a water or environment NGO or an Indigenous group or nation. The provincial government ministries are regarded as 'partners' that assist through the provision of information and resources, but not through direct participation in day-to-day activities (S44; S38).

In Manitoba, the CDs are 'quasi-municipal' entities (M1: 1). They are constituted by one provincial member and the remainder by municipal appointees (50%) or employees (50%). In Manitoba, a review of board memberships shows mostly representation by predominantly rural people, older men, and not as many women or immigrants, with usually no young people (Hurlbert et al., 2015), although northern CDs have attempted to build relationships in the hope of improving representation (M50). This finding is consistent with other studies of watershed groups and findings that members are not demographically representative of the broader community (Koehler and Koontz, 2008).

In relation to IWRM and source water protection planning only, town hall meetings were held and meetings with interested stakeholders attending them. All LWCs expressed a desire to include new Canadians and Indigenous people in the future after recounting limited success in their historic participation in these plans.

⁸ Although Manitoba's rural regions attract 30% of new immigrants (Ashton et al., 2015).

Contestation and deliberation

The fourth characteristic to assess democracy relates to how groups deliberate and negotiate conflict. We examined the following key question: what is the level of contestation or deliberation? Assessing contestation and deliberation provides insights into the role of consensus decision-making in LWCs operations when conflicting views emerge and mechanisms are employed for conflict resolution including discussion, consensus decision-making, and mediation (Hurlbert and Greenberg, 2011).

Each LWC operated as a non-profit corporation or association with a Board of Directors, bylaws and audited financial statements. Meeting of the Board, members of the committees or the association, generally ran by majority rule, except for issues such as bylaw amendment. No incidents of significant contestation were cited in these processes. The creations of the source water and IWRM plans were different.

Although interviewees were generally very hesitant to discuss conflict, across the three provinces, a few interviewees involved in IWRM or source water planning discussed a few conflicts that surrounded the planning process. This may be because, for the most part, the LWCs operate with a consensus decision rule. Within these discussions, conflict is often related to prioritising issues and timing recommendations. One interviewee discussed how their planning activities took more time because they were working through conflict and disagreement:

When we were working on the plan there definitely were times where there was conflict and, disagreement and I think basically that is the reason why the plan took two years to develop. Because you have to work a lot of these things out and take time to develop a consensus (M11: 7).

Instances of extreme conflict centred on other issues. Many Albertan interviewees discussed the mediating role played by the WPACs over the two segments of the population: the ones prioritising economic growth and employment opportunities, and those favouring more rigorous environmental protection (AW2, AW7). In Saskatchewan, drainage was one of the biggest issues of contestation and an area of ongoing conflict, although the disagreement was not described as "huge" or characterised as anything more than "discussion" (S36: 13). In Manitoba, the lack of drainage enforcement was also a contested matter. For instance, at one meeting a fistfight broke out (M1). This was not evidence of reasoned argument and the creation of spaces for contestation and debate as envisioned in this characteristic of deliberative democracy. However, this was the only incident which manifested in conflict; otherwise the LWCs operated utilising mechanisms to resolve conflict including discussion, consensus decision making, and mediation.

Reflexivity

The fifth characteristic to assess democracy relates to whether the LWCs are reflexive. We asked the following question: are decisions reflexive within the processes, or do these groups have the ability to change decisions upon reflection and reconsideration? This characteristic is significant as it connects to the discursive space of autonomous public spheres where diverse participants engage in democratic debates (Dryzek, 1992).

As no LWC had prepared a second IWRM or source water plan, no learning or reflexivity could be ascertained in relation to these plans or their planning process. Interviewees of all LWCs could cite examples of reflexivity when they described changing decisions and decision processes as a result of reflection, reconsideration, and changes in conditions in regard to other water issues.

In Alberta, the WPACs have illustrated reflexivity with respect to two issues. These included the effects of urban sewage effluent (OW17) as well as cooperative management of livestock waste through coordination with ranchers (Hurlbert et al., 2015). Considerable effort was made in Alberta to monitor and mitigate the impacts of urban effluent on ecosystems and its associated nutrient pollution. As a result of the information reporting and dialogue created by the WPAC, municipalities invested in a

number of expensive upgrades to municipal wastewater systems that improved the quality of surface water (AW6; OW14; OW20). Livestock waste management practices, such as limiting access for cattle to streams and riparian areas, changed through dialogue among WPACs, environmental groups and ranchers.

In Saskatchewan, reflexivity was illustrated in relation to environmental farm planning and assisting agricultural producers access to federal funding to implement best management practices, such as improving riparian areas for grazing, fencing to protect surface water, collecting and monitoring weather data, water flow and erosion control. The WACs employed agrologists who assist agricultural producers in the area with activities such as forage seeding, variable rate fertiliser technology, protection of high risk erodible and saline soils, riparian fencing, corral relocations and improved stream crossings. Individual farmers were assisted as well as groups of farmers living in proximity in order to leverage environmental benefits of such practices (WUQWATR, 2017). In addition, interview data revealed reflection and reconsideration within phases during the source water protection planning process where representatives tried to learn from the past and include such information in their activity reporting measurable indicators to support evaluation in the future (S2, S4). As an example, many WACs' goal was to increase awareness surrounding the watershed and watershed issues. Was this goal's success to be measured by the number of pamphlets distributed or by a survey of watershed residents? Revisiting source water protection plans will allow for reconsideration of goals, and the achievement and measurement of goals.

In Manitoba interviewees identified success in relation to capping of abandoned wells in Pembina Valley thereby protecting groundwater. As an example, the Pembina Valley CD sealed 276 abandoned wells in 2004 alone and completed 160 back flood stabilisation and water retention projects to prevent soil erosion and improve water quality. Another CD, the Little Saskatchewan River CD, also facilitated similar works and assisted local municipalities with regional planning to address flooding issues.

ANALYSIS

This next section has three parts. First, we discuss the role of the LWCs in relation to the three different forms of bottom-up governance across the Prairie Provincials. Then, we analyse the deliberative democratic characteristics of the LWCs. Last, we discuss the deliberative democratic framework.

The LWCs and forms of bottom-up governance

While the forms of bottom-up governance are diverse across the three Prairie Provinces, we identified two major themes across all LWCs. First, we confirmed in our secondary review that LWCs emerged from uncertainty and complexity in the local context, and that environmental risks, current and projected, were important drivers of greater involvement in bottom-up decision-making (see Folke et al., 2005; Biermann et al., 2012). Based on opinions of interviewees, we further discovered that different political drivers relating to these risks contributed to the creation of the LWCs. In Saskatchewan, for example, the cause was a significant water-quality incident. In Alberta, LWCs formed from a provincial Water for Life Strategy in responding to looming water shortage. In Manitoba, the driver was a policy to build upon local municipal environmental and resource planning to conserve and manage resources subject to increasing variability and instances of poor watershed health.

Second, while the LWCs contributed to bottom-up governance, they only complemented and supplemented state functions, rather than absorbing them (see Rhodes, 1996, 1997). This is because the LWCs have a limited, but varying capacity for self-governance. This was reflected in the provincial contexts for LWCs that informed the structure, mandate, and driving cause for LWC creation. In Saskatchewan, recommendations arising from the 2001 North Battleford drinking water incident inform the LWC advisory role in source water protection planning in a municipal context. This is reaffirmed in the *25-Year Saskatchewan Water Security Plan* (2012). As a result of the relatively comprehensive

Water for Life Strategy (Alberta Government, 2003,2008), Alberta’s WPACs negotiate their activities in bottom-up water governance with representation from all levels of government, industry, and NGOs. In Manitoba, the longstanding municipal CDs and their involvement in resources management, dictate the LWCs’ roles in source water planning and implementation, often across watershed boundaries.

These two themes are not surprising given literature on deliberative democracy (e.g. Klinke, 2011; Dryzek and Pickering, 2017) and natural resources governance (e.g. Brunner et al., 2005; Young, 2009) that suggests governance, in practice, typically involves complicated relationships between civil society and the state. This represents a more realistic setting for the engagement of citizens and, hence, for framing and assessing deliberative democracy.

Deliberative democracy assessment

LWC deliberative democratic characteristics are outlined in Table 2 with characteristics that were particularly exceptional in a case study in italics.

Table 2. Summary of deliberative democracy assessment.

Democratic area of concern	Alberta	Saskatchewan	Manitoba
Term for LWCs	Watershed Planning and Advisory Committees (WPACs); 11 WPACS	Watershed Advisory Councils (WACs); 12 WACs	Conservation Districts (CDs); 18 CDs
Mandate (comprehensiveness)	Not involved in integrated land use planning	Not involved in integrated land use planning; LWCs reject formal drainage responsibility	<i>CDs develop long-term sustainable management of land and water</i>
Water education and citizen engagement			
	Mandates do not include water priority setting or drainage issues		Mandates do not include setting water priorities and drainage licences (except Whitemud CD)
Mandate (significance)	Advisory only – develop State of the Watershed Report and Integrated Watershed Management Plans	Advisory only – develop Source Water Protection Plans	<i>Advisory and some regulatory – develop and operationalise resource conservation plans, source watershed plans</i>
Resources	Funding covers staffing; limits long-term planning; individual levies are inconsistent; problems with 'grant chasing'		<i>Sufficient funding through tax collection</i>
Representation	<i>Federal, provincial and municipal representation; NGOs and individual representation</i>	Municipal and individual representation; NGOs represented informally by individuals	Provincial, municipal representation

	Some Indigenous representation		Sparse Indigenous representation
Deliberation and contestation	<i>Conflict present relating to broader provincial 'contradictory' goals of economic development and rigorous environmental protection</i>	Conflict and deliberation present related to drainage and source water issues	Conflict and deliberation breakdown related to drainage
Reflexivity	Evidence of reflexivity through system wide changes of practice relating to urban sewage effluent, livestock waste, and forestry practices	<i>Significant reflexivity through valuing ecosystem services; experimentation with other instruments; reflection and reconsideration built into source water protection planning</i>	Evidence of reflexivity through novel approach to groundwater quality protection (e.g. capping wells)

Have the LWCs increased bottom-up deliberative democratic decision-making in water governance? In other words, have these groups achieved the deliberating, engaged, democratic processes described in the literature in relation to mandate, resources, representativeness, watershed governance, contestation of issues, and reflexivity (Gutman and Thompson, 2004; Ker Rault and Jeffrey, 2008; Koehler and Koontz, 2008; Dryzek and Niemeyer, 2012)? The answer is yes – to some extent, but no one province is excelling at all democratic practices and the three Prairie provinces do not embrace characteristics of deliberative democracy consistently: Alberta excels at community representation and contested deliberation, Manitoba at mandate and resources, while, Saskatchewan at what will be described as interconnected reflexivity.

When measured against a mandate defined by IWRM, the LWCs fall short. This does not mean that the LWCs have an insignificant mandate, just that the formal powers and responsibilities are less than they might otherwise be. Manitoba’s CDs have a significant legislated mandate. However, some CDs have a more limited mandate with respect to some drainage and regulatory functions and suffer similar mandate challenges as Alberta and Saskatchewan. The LWCs in Saskatchewan and Alberta have a limited advisory mandate, suffer from institutional fragmentation including competition with other land-use planning activities, and are highly dependent on attracting funding from other sources confirming the Alberta studies of Bruno (2014), Wenig (2010), and Unger (2009). Manitoba’s legislated mandate is not without challenges. It requires local governments to coordinate within the CDs boundaries for water planning and to share resources. In Saskatchewan and Alberta, many aspects of resource planning are geographically dispersed to communities in relation to land use. This community integrated planning occurs pursuant to legislation separate from water legislation and often with no connection to the water planning done by LWCs. The fact that all LWCs have only undertaken one IWRM or source water plan is a significant restriction on advancing a significant mandate.

Our study went further to link mandate issues to funding constraints. The finding that the LWCs have limited, but varying capacity for self-governance may be partly explained by LWCs with advisory mandates that are reliant on uncertain governments funding. Our results suggested 'grant chasing' and funding with 'caveats' hindered the implementation of mandates, a finding supported by Hardy (2010). Thus, determining the most pressing watershed issue is often not how the LWCs planned their activities. Instead, activities are planned around funding. This finding suggested that comprehensiveness of

mandate was linked to resources and consequently, democratic practices were dependent on funding. Without funding, many activities could not occur.

We identified representation as a separate, but equally important challenge shared among all LWCs. Member representation in groups in all three provinces is not reflective of the communities within their jurisdictions and the form of representation from the communities included seemed to shape the deliberative space for the LWCs (see Dryzek and Neimeyer, 2012). There is very limited representation of immigrants, women, and Indigenous people in both the LWCs and IWRM and source water planning. This lack of representation, and coinciding lack of participation of representatives of this group, reduces knowledge sharing and indicates power in decision-making could be improved through both better inclusionary practices (Woo et al., 2007) and understanding the differing realities of peoples' worldviews (Wambrauw and Morgan, 2015). Simply put, without a representative LWC, the LWC cannot be democratic and deliberation ultimately suffers when the LWC lacks a diverse range of voices.

While the representation on LWCs in Manitoba and Saskatchewan were municipal and local people, Alberta's groups had representatives from all levels of government, business, and NGOs. In this way, the deliberative space established by the WPACs represented the interests of these agencies and not solely of the residents. The wider representation of interests impacted the deliberative space created by the LWCs. For example, in Alberta, there was more space for contestation. It would appear beneficial in all three Prairie Provinces for attention to be paid in relation to the mandate of these groups and its relation to issues of contestation and deliberation and expansion of conflict-resolution mechanisms of discussion, consensus decision-making, and mediation. Assignment of source water protection to these groups without explicit tools, processes, and appeal procedures for conflict resolution potentially opens the door for complaints of procedural unfairness and perhaps lack of transparent decision-making processes (Pinto et al., 2014).

Taken together, the relationship among mandates, resources and representation represents a significant trade-off. How do LWCs achieve their mandates related to source water protection planning and IWRM with limited resources, and at the same time encourage representation, which has an effect on the capacity for contestation and deliberation? The LWCs seem to be avoiding this trade-off by expanding their mandates towards non-source water protection and IWRM activities. In other words, the limited comprehensiveness and significance of the mandate in Alberta and Saskatchewan in the context of source water protection planning and IWRM do not render these LWCs a failure. The expansion of mandates, sometimes due to fund-raising that encourages other programming related to education and public outreach, has led to different modes of citizen engagement.

Source water protection planning and IWRM are difficult to design and achieve and are often disputed in practice (Hurlbert, 2018). Measuring the LWCs' mandate against this standard may have built expectation that deliberative democratic water governance practices should attain IWRM. These findings show room for expansion of LWC mandates, but wholesale adoption of 'good governance' agendas related to source water protection planning and IWRM are unrealistic, and often incremental good enough governance improvements are more successful (Grindle, 2004, 2011). In the Prairie context, self-governance of water by LWCs without provincial and federal involvement in water management and planning may be ill-advised (Pearce and Quinn, 1996). LWCs offer government an ability to engage in democratic decision-making procedures that open up potential solutions to water issues. This is achieved through different types of planning activities, as illustrated by greater citizen engagement in education and public outreach programming. Their deliberative procedure allows for new additional alternatives to populate the water policy agenda and through multi-level and multi-scale deliberation, the alternatives to be winnowed out (Goodin, 2017). Although beyond the scope of this research, the contribution of the LWCs to this process of decision-making should not be discounted, but should be researched further.

Regardless of the challenges faced and the changes made by these groups, all LWCs could cite evidence of reflexivity. In all three Prairie Provinces, interviewees described how their LWCs changed practices of urban sewage effluent, livestock waste, and forestry practices based on deliberation. These interviews suggested that reflexivity improved watershed management. This raises the further research question of how effective these institutions are at improving water management? Achieving effective source water planning, given other government ministries tasked with integrated land planning in Saskatchewan and Alberta, appears challenging but worthy of further study. Manitoba's significant legislated mandate and stable tax source funding appear to offer advantages. Another iteration of source water and IWRM planning might significantly advance reflexivity.

Deliberative democracy framework

The literature reviewed earlier suggested that a framework for assessing deliberative democracy was needed, particularly in bottom-up governance models that involve complicated relationships between the state and civil society groups. This paper has made a theoretical contribution to the literature by creating a framework building on principles of deliberative democracy and citizen engaged decision-making in relation to water (Table 1). This research has demonstrated the utility of this framework in analysing the characteristics of local water planning in three Prairie Provinces and providing a basis for comparative analysis of differing models of local watershed governance and assessing their contribution to advancing democracy (Table 2).

The framework also allowed for comparative analysis identifying the strengths and weaknesses of each provincial model. The strengths of the Manitoba model are its significant historical resource planning mandate, involvement of municipalities, and stable funding received from tax revenue. In Manitoba, there is diversity amongst CDs as some have the ability to issue and manage drainage licences while others do not; even within jurisdictions a single size LWC does not fit all. Alberta's strengths are in the areas of community representation and significant contested deliberation. Alberta groups have created significant discursive space for the discussion and exploration of environmental issues. Saskatchewan's strengths are its interconnectedness with other organisations, sectors, and governments (supplementing its somewhat limited mandate). This coordination allows for integration of water and environmental planning at the local level. There still are weaknesses to address in relation to LWCs. While LWCs have made important contributions to local watershed governance, unclear strategies for representation and navigating contestation have impeded the achievement of democratic principles of true reflexivity.

Our framework allowed not only to compare analysis in Table 2, but also to see connections among aspects of deliberative democracy. The expanded mandate in Manitoba is accompanied by the most restrictive representation, wherein provincial and municipal designates populate CDs. While Alberta has the broadest representation, interviewees discussed many concerns on the sufficiency of their mandate, and the impact of this mandate of external fund-raising. From these two cases, it seems that an inverse relationship exists between representation and other related aspects of democratic practices. This confirms that the higher the representation, the lower the mandate and funding resources and vice versa. Our research did uncover opportunities for better funding of participants who were not from government or industry in order to improve the equitable distribution of power and diversity of voices included in deliberation and reflexivity. In addition, our framework illustrated an important trade-off among mandates and resources and representation and resources and showed a fundamental shift in how these groups are engaging citizens, such as through expanding their mandates to include programmes that foster greater citizen engagement.

This study identified historical contextual factors as contributing to the determination of the model and democratic characteristics of the LWCs. More research exploring the deliberative democratic characteristics of LWCs and bottom-up governance initiatives is required to explore and substantiate

this finding regarding the relationships between the characteristics of deliberative democracy. More research on the effectiveness of these groups, their democratic processes, and the impact on water quality and effective water quantity decisions is needed. As well, more research is required surrounding the LWCs' output legitimacy (2012), or the degree to which their decisions and recommendations make change, or the extent to which the LWCs contribute to solving real world water management problems. These questions were outside of the scope of this research.

CONCLUSIONS

This research has presented a framework and used it to assess bottom-up governance exemplified by LWCs in the Prairie Provinces of Canada. Although all LWCs have been tasked with source water protection and IWRM planning activities, their form and mandate reflect their local context and hence, are diverse. Our assessment revealed that some bottom-up democratic deliberation is happening as these groups have partially increased democracy in watershed governance.

While Manitoba best achieves the democratic practices of comprehensive mandate, resources, and level of participation, Alberta best achieves representation and deliberation. Saskatchewan excels at reflexivity and based on this reflexivity, increased coordination with other groups. There is a need for these provinces to further refine and expand participatory processes to address shortcomings and leverage the success of democratic watershed governance. This might unpack the links between science, institutions, knowledge and power (Stringer et al., 2006).

This comparative analysis has highlighted strengths and weaknesses of each province's LWC model. Each province should assess which democratic attribute it does not achieve sufficiently and implement or recommend regulatory or policy changes as necessary. Improving the mandate of LWCs in Saskatchewan and Alberta and integrating their institutional functions with land use planning would help address uncertainty in water and land planning as suggested by (Wenig, 2010). Unger (2009) suggests helpful reforms of LWCs including: integration of LWCs plans into the decision-making of government agencies, sustained transparent funding, and statutory reform, establishing regulatory backstops to both implement plans and respond to any failures in relation to water planning. Reforms such as these would all be helpful for LWCs, but changes should be contextually appropriate to the province given financial, time, and knowledge resources available (Grindle, 2011) and recognising that behavioural change is often as important as institutional design changes (Evans, 2012).

This research raised questions in relation to mandate, activities, representation, and funding of LWCs that warrant further exploration and consideration by policy makers. While these institutions have made important contributions to local watershed governance, limited resources and mandates, together with unclear strategies of representation and contestation have impeded attainment of greater reflexivity. More attention to issues of representation and contestation could contribute to enhanced mandate for LWCs and more significant bottom-up governance. Findings from this research highlight the importance of assessing democracy in governance structures to more comprehensively understand how bottom-up governance should be altered to best address the uncertainty and complexity of local water issues.

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