Building consensus through place: Place-making as a driver for place-based collaboration

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Abstract: Place-based collaboration is of increasing interest as a means to involve scientists, managers and local stakeholders in resource management. Although place attachment, place identity and place meanings often have been used to investigate place-based collaboration, the processes facilitating cooperation are not yet clearly defined. Through a case study of a long-term voluntary collaboration, the Beaver Hills Initiative, we investigated the role of these factors in initiating and sustaining cooperation through interviews with members of the collaboration, photelicitation, and content analysis of past presentations about the collaboration. We found the collaboration was supported by place-based mechanisms operating at both the group and individual level. Place-making by the leaders of the collaboration in motivational, diagnostic and collective action frames led to development of shared place identity and personal place meanings, which merged with social norms for conservation of “special places”. The resulting motivations, at the group and personal level, explained the long-term, voluntary cooperation by study participants. Findings suggest socially-mediated and experiential aspects of place attachment and place-making can influence place-based collaborative action.

ABOUT THE AUTHORS

Dr D.L. (Dee) Patriquin is an interdisciplinary scientist trained in wildlife ecology and environmental policy. Over her career, she has contributed to environmental impact assessment and conservation policy, working across a variety of industry and government sectors. Her PhD research focused on the development of collaborative environmental policy for sustainable development, a research area she continues to be involved in through her environmental consulting practice and as an adjunct professor with the University of Alberta's Augustana Campus. Dr Elizabeth Halpenny is an Associate Professor at the University of Alberta's Faculty of Physical Education and Recreation, with a research focus in tourism, marketing, environmental psychology and protected areas management. Her current projects include exploration of individual attitudes toward natural areas, investigations of World Heritage designation and other park-related branding. This case study explored aspects of place-making applicable to both of our areas of expertise, as part of Dr Patriquin's PhD research.

PUBLIC INTEREST STATEMENT

Place has been reported to facilitate collaborative approaches to land management, though mechanisms are not yet well understood. In this case study of a long-term collaboration, we examined how place attachment, place identity and place meanings contributed to voluntary cooperative management of a regionally important natural area. Key actors redefined this place in terms designed to inspire concern and cooperative action, which merged with social norms about conservation of “special areas”. The resulting group definition was reinterpreted by supportive participants based on their experiences in this place, and their perceived ability to make change. Subtly different types of individual motivations emerged, but each explained the individual's sustained participation in the collaboration. Our findings suggest that such “place-making” activities can help facilitate cooperative action, by allowing individuals to rationalize contribution to a shared goal in ways most suitable and meaningful to themselves.
1. Introduction

Place-based resource management has received increasing attention due to demand for more context-driven, localized approaches (Williams, Stewart, & Kruger, 2013). Place-based management requires “a fundamental repositioning between the scientific/technical view from nowhere and a more appreciated and enriched view from somewhere” (Williams et al., 2013, p. 11). This is a science-based management approach designed for an area infused with meaning for its residents—collaboration between local stakeholders and managers is essential. Place-based collaboration offers means for local involvement, but effective collaboration is not yet well understood. Past research has focused on the individual’s interaction with place, but the processes by which place attachment and meanings might motivate coordinated action are as yet unclear. Our work explored how these aspects of place might facilitate place-based collaboration.

The complexity of place has been a challenge in place research, an issue reflected in the various terms describing relationships with place (Trentelman, 2009). Sense of place describes “how people perceive, experience, express and give meaning to place” (Axford & Hockings, 2005, p. 3). The implicit dynamic bond with place has been expressed as place attachment, place identity and place-dependence (Lewicka, 2011; Scannell & Gifford, 2010). Several of these constructs have been used to examine pro-environmental behavior and civic action, most often place attachment (Halpenny, 2010; Lewicka, 2005; Payton, Fulton, & Anderson, 2005) and place meanings (Devine-Wright, 2009; Stedman, 2002; Williams, 2002).

Collaboration requires a shared problem to initiate a collective solution (Callon, 1986; Diekert, 2012). The literature suggests place-based collaboration can be motivated by place attachment, to defend a valued place from change (Cheng, Kruger, & Daniels, 2003; Lewicka, 2005; Pollack, 2004). A perceived threat to a valued place can also motivate coordinated action, but depends on shared understandings of that place (Devine-Wright, 2009; Williams, 2002). Understandings of place can vary among individuals, and thus perceptions of threat may also differ. Place-making can ascribe new meanings to place (Martin, 2003; Tobias & Müller Wahl, 2013) that create a shared place identity (Cheng et al., 2003), and understandings of threats. Thus place-making can be used to assert authority over place for broader social interests (Williams et al., 2013).

Successful place-making depends in part on the “fit” of the new characterization with the individual’s sense of place. Meanings that challenge people’s existing relationship with place require negotiation (Grieder & Garkovich, 1994; Williams, 2002). A version of place too different from existing understandings might not be adopted, particularly if it conflicts with existing place-identities (Grieder & Garkovich, 1994; Williams, 2002) or feels imposed from “outside” (Williams, 2002). New definitions of place can create opportunity for adaptation to change (Vaccaro & Beltran, 2007; Williams, 2002) and foster awareness of threats that can motivate action, particularly if the threat challenges self-identity (Devine-Wright, 2009; Kottak & Costa, 1993; Williams, 2002).

This paper relates how strategic place-making efforts can motivate collaboration, in a case study of a long-term voluntary collaboration, the Beaver Hills Initiative (BHI). In this case study, we examined the role of place in helping to sustain this collaboration, which has promoted sustainable development within a regionally significant natural area for over a decade. We investigated (1) how place-making helped create a shared place identity, (2) how participants incorporated place meanings generated by place-making into their existing personal place meanings and attachments, and (3) the assimilation of shared place identity into a new personal place meaning that motivated collaboration.
2. Theoretical framework
Scannell and Gifford’s (2010) tripartite framework provides means to assess the role of place attachment in place-based behaviour, through its organization of place attachment into three dimensions: person, place and process. The framework captures the complexity of place attachment in terms comparable with the existing literature, allowing comparison to past work. For example, the person dimension includes aspects of place attachment (including place meanings). The place aspect can be a social place or a physical environment (natural or built). The psychological process of attachment involves affect, cognition and behaviours within and about the space. The framework offers its best advantage in its description of the psychological process of attachment. This characterization of process allows specific aspects of attachment to be examined and linked to behavioural outcomes, including place-based collaboration.

Describing the construction and adoption of new place meanings required careful operationalization of appropriate variables. Various constructs have been used to link individuals’ place relationships to pro-environmental behavior and civic action. In this study, we used three common parameters: place attachment, place identity and place meanings (Devine-Wright, 2009; Stedman, 2002; Williams, 2002). Place attachment is a multifaceted concept that describes the bonding between individuals and their important places (Giuliani, 2003; Low & Altman, 1992), characterized by affective, cognitive and behavioural components (Scannell & Gifford, 2010). Place identity is a perception of self within a place, which influences one’s actions (Devine-Wright, 2009; Proshansky, Fabian, & Kaminoff, 1983). Place meanings are cognitive understandings that develop from experience in place, or through interactions with others in places (Stedman, 2002; Williams, 2002).

3. The Beaver Hills Initiative
The BHI formed in 2002 to promote cooperative management of the Beaver Hills Moraine. A pastoral landscape supporting high biodiversity and surrounded by agricultural and other development, the 1,600 km² moraine is in one of Canada’s fastest growing metropolitan areas, Edmonton’s Capital Region (Statistics Canada, 2002). Land development is managed by five different rural municipalities. About 25% of the moraine is protected as federal, provincial and municipal parks or under conservation easements with environmental non-governmental organizations (ENGOs), a result of sustained conservation interest over the past century. The BHI now comprises over 30 partner organizations with interest in the moraine, representing federal, provincial and municipal governments, ENGOs, industry and research institutions.

Parks Canada, manager of a key federal park, and Strathcona County, the municipality managing most of the moraine, initiated formation of the BHI. By 2004, the group had established a Terms of Reference for voluntary cooperation, which led to adoption of shared Land Management Principles for sustainable development in 2006. Since then, the group has initiated several large, cooperative sustainable development projects, including the Land Management Framework published in 2007. Several successful incidents of place-based voluntary collaboration made it ideal for a case study.

4. Methods

4.1. Participants
Past involvement of one of the authors as a consultant to the BHI facilitated access to Board members and archived materials. The BHI’s Executive Director and founding members also facilitated introduction to past Board members. Candidates involved over the BHI’s early history (2002–2010) were requested to participate by email or telephone and participants provided informed consent, per our ethics approval.

Participants included current and past members of the BHI, and several original (“charter”) members (17 total). A stratified sample represented each organizational sector involved in the BHI (municipality (9), federal/provincial parks (4), agricultural agency (2), ENGO (1), university (1)) and occupations within home organizations (academic (1), ENGO biologist (1), environmental planner...
(2), government scientist (3), park manager (3), politician (3) and land use planner (4)). One participant represented both municipal and industry sectors. All members were supportive within the collaboration; despite contact, dissenting members declined to participate in the study.

4.2. BHI presentations
We assessed use of place-making to create shared place identity and motivate cooperation through content analysis (Marshall & Rossman, 2010) of PowerPoint presentations used by the BHI to promote support. The BHI’s Executive Director provided 28 presentations developed by the Executive Team (and consultants) for internal (Board) and external (professional conferences and potential partners) audiences. Presentations extended from 2004 to 2010, with up to eight presentations per year. None were available for 2002 to 2004 and presentations from 2008 to 2010 were for external audiences only. We selected two presentations per year (when available, 12 samples total). The internal (4, average 22 slides) and external (8, average 45 slides) presentations were analyzed separately to control for audience.

4.3. Interviews
We used open-ended interviews (1) to explore the contribution of place attachment to the collaboration and (2) to identify place-making tactics used to promote participation. A qualitative approach provided the contextual description necessary to understand choices made by participants and to cross-reference their recollections for comprehensive description of the case (Yin, 2009). Open-ended interviews also helped avoid potential interviewer bias with known participants (Amis, 2005). Interview questions systematically examined key turning points in the BHI’s development, tactics facilitating collaboration, participants’ feelings about the moraine and their motivations for participation. Interviews were conducted in person with all but one participant, who was interviewed by telephone. Discussion was recorded, with permission, and transcribed for analysis. Interviews averaged 1.6 h, and ranged from 1.2 to 2.5 h.

4.4. Photo-elicitation
To explore the meanings and motivations derived from attachment to the moraine, we used participant-employed photography, a type of photo-elicitation narrative inquiry (Harper, 2002). Photo-elicitation can help participants articulate abstract understandings of place and attachment (Beckley, Stedman, Wallace, & Ambard, 2007), and thus enhanced interview data. Participants were asked to take 10 photographs illustrating features of the moraine that they felt were important or personally relevant and explain what those features represented to them. The request indirectly explored place-based values for participation in the initiative. How people view potential use of an area (e.g. utilitarian vs. conservationist) and their ethical responsibility toward environment (e.g. domination vs. nurturing) has significant influence on their approach to land management (Bell, 2009).

Although offered disposable cameras, most chose to use their own digital equipment and to email their photos. Participants could also use personal photographs taken previously, which allowed them to show remote or seasonally available areas (Stedman, Beckley, & Ambard, 2004). The response rate was low (10 of 17 respondents, 58%), despite several follow-up attempts by telephone and email. Three participants had moved away from the area and could not complete the request. One former moraine resident initially offered to write paragraphs, but found he could not, because the “old place” had been overshadowed by the “new place”. Another long-time resident gathered photographs, but could not capture his feelings on paper. Most respondents were non-residents or near-residents of the moraine. They responded quickly and often with more than ten photographs (average of 12.8 photographs). All photographs were included in analysis because participants could not reduce submissions to the requested number.

4.5. Data analysis
Qualitative analysis techniques were used to identify key themes in the interviews, photo-elicitation and BHI presentations. Coding and analysis of interviews and photo-elicitation narratives followed
the deductive-inductive sequence recommended for case studies (Amis, 2005; Marshall & Rossman, 2010). Initial coding review identified key themes based on codes developed from our research questions (deductive phase), and new codes were added for emerging themes (inductive phase). Themes and patterns among these messages were identified using the constant comparative approach, which helped ensure that analysis included perspectives of all participants (Marshall & Rossman, 2010). In the content analysis, we analyzed presentations for terms describing the moraine’s physical character (Cheng et al., 2003), threats to place (Devine-Wright, 2009) and solicitation to protect a special place (Wheaton, 2007). Terms were grouped into descriptive themes (e.g. ecology, threats to place) to facilitate comparison to other data. Value positions were inferred by the presence, meanings and relationships of words and concepts depicted in the presentations (Marshall & Rossman, 2010), and helped identify links between participant’s values and the BHI’s goals and thus, motivations for collaboration. Coded data were managed using NVivo 10.

Deductive-inductive coding analysis of the interviews allowed new analytic questions to refine data collection and explore unforeseen aspects. Analysis of the photographs and narratives identified place meanings, often characterized by participants in key phrases. Constant comparative analysis (Marshall & Rossman, 2010) of interview, photo-elicitation and presentation content data helped detect similarities between the place constructed by the BHI and the place identity and meanings of participants, and their potential role in fostering volunteers’ engagement in the collaborative process.

**5. Results**

Content analysis of BHI presentations confirmed the strategic use of place-making to create a shared place identity and place meanings. Interview and photo-elicitation data showed how participants had merged this constructed definition with their own attachments to the moraine, and created social and moral norms that motivated their participation in the BHI. Some participants had also developed new meanings that imbued the moraine with potential they saw in the BHI. This symbolic image of the moraine was a powerful motivator to these participants, and helped sustain the collaboration. The observations arising from the content analysis of the BHI presentations are reported below, followed by insights gained from examination of participant interviews and the photo-elicitation exercise.

**5.1. BHI presentations—Creating place**

Gieryn (2000) observed that place-making is an exercise of power: redefining place gives an element of control over its future. Place-making can create a shared image of place that facilitates broader social objectives, provided the image can overcome other political barriers and interests, including constructed meanings that conflict with the self-identity of other stakeholders (Williams, 2002). Content analysis of the BHI’s presentations and subsequent interviews with BHI committee members revealed deliberate construction of “the Beaver Hills Moraine”, as part of a broader strategy to motivate cooperation. The BHI’s presentations consistently described the moraine as a special, threatened place, deserving of protection best provided through cooperation. Messages were adjusted only subtly for internal and external audiences and as new information and familiarity developed over time. Each presentation included four consistent themes: (1) the unique moraine ecosystem, (2) a general landscape description, (3) moraine aspects valued by regional residents, and (4) threats to the moraine.

Ecologically, presentations characterized the moraine as an island of boreal forest surrounded by prairie-parkland, a unique place, lived-in yet extensively treed with rich diversity of species and habitats. The description was consistent in most external and internal presentations, but later external presentations (2006–2010) also highlighted the large area and the rugged “knob and kettle” morainal terrain, details rarely noted in internal presentations. Maps were often used to show ecological values and scale of the landscape: later presentations included a map of environmental sensitivities (rare species, sensitive groundwater locations, native vegetation) from the Land Management
Principles project and “Ecological Function Zone” maps (e.g. water contamination risk, wildlife connectivity) from the Land Management Framework project.

Human value descriptions emphasized the quality of life in the moraine. Early presentations (2004–2006) included more abstract or emotive statements (e.g. “sense of place”, “essential character”) and politically astute statements (“conservation history”, “respect for property rights”). Later external presentations (2010) replaced these abstract terms with more tangible statements that recognized a role for people in the moraine (e.g. “stakeholders in stewardship”, “cultural history”, “tourism value”). Recognition of the moraine as a special place by other agencies (e.g. a Masterpiece Landscape designation by Nature Conservancy of Canada) also appeared then, but “Biosphere Reserve”, a designation long envisioned by the BHI, did not appear until 2008, and then only in external presentations. Several participants noted the politically sensitivity of this term in some municipalities, due to misperception of UNESCO control over land management.

Threats focused solely on land development. Messaging was often visual (e.g. aerial photography showing extent of urban growth). An inventory of competing land uses in the moraine defined the threat in most external presentations, but in only two internal (open house) presentations. Generally, threats were framed as manageable through land use planning, and explicitly linked to municipal control in later external presentations (2009–2010) by highlighting the extent of private land in the moraine.

The consistent description of the moraine in presentations over this period suggests deliberate effort to create a shared place identity (Cheng et al., 2003) and place branding (Tobias & Müller Wahl, 2013). Place branding aims to increase place attachment of residents familiar with a landscape (Tobias & Müller Wahl, 2013). Here, branding included the moraine name. The BHI consistently used the “Beaver Hills Moraine”, a name established by Parks Canada in 1996, rather than the local reference (Cooking Lake/Blackfoot Moraine). Participants did not specifically mention the intent of this name change in their interviews, but such branding is consistent with effort to bring new meaning to a landscape. Today, most partners use the new term, in discussion and in policy (e.g. the “Beaver Hills Policy Area” in Strathcona’s 2007 Municipal Development Plan).

After completion of the Land Management Principles and Framework (2007), place-branding became more nuanced, with acknowledgement of more specific ecological functions and human values provided by the moraine. But the initial emphasis was evocative: the moraine was a special place under a threat that could be controlled through cooperation of all stakeholders. Place-making established the moraine as a “special place”, a category of protected area that carries broader social expectations of protective management.

5.2. Place-making strategy

Interview data highlighted key aspects of the place-making approach developed by the BHI and means by which those elements stimulated adoption of a shared place identity. Most participants (12 of 17) recognized the BHI’s efforts to establish the moraine as a distinct place with regional value. The BHI’s message resonated with participants and their home organizations. One land use planner considered the message “an easy sell”, because “council gets the idea that there’s something in the west end we’re trying to protect.”

Charter members were very open about the construction of a new shared place identity. The academic participant confirmed the deliberate messaging identified in the content analysis, and the emphasis on the “vulnerability” of this “unique” and “distinctive” landscape. The goal was to develop awareness of the value of lived-in natural landscapes. As one charter member observed, the perception of landscape value in North America “has been very much historically focused on the pristine … so that if there is any tarnishing of the landscape done by what people have done on it, then you dismiss it” [academic participant]. The emphasis on quality of life was based on understanding the interests of municipal politicians. Quality of life would better justify the hard decisions required of
regional land managers: “if you want to live with your family in an area that has attributes like that, well they come at a social decision-making cost” [park manager].

The BHI also used direct experience, facilitated by knowledgeable peers, to foster appreciation of the moraine. Direct experience with place can foster new place meanings, particularly when guided by respected others (Chawla, 1999; Grieder & Garkovich, 1994). Several participants recalled a full-day bus tour through the moraine, held in 2004. Stops at protected areas and sustainability demonstration projects allowed the BHI members to experience the landscape directly and from other perspectives. Even those familiar with the moraine found the trip eye-opening: “I guess I ski-dooed through Islet [Lake] … but otherwise I had never driven into Islet before. Like, wow, this is really nice” [park manager]. The bus tour helped demonstrate the moraine’s value and reinforce need for management.

The bus tour also allowed participants to conceptualize the scale of the moraine landscape, and thus need for regional cooperation. Tuan (1974) observed that the physical world is defined within the scale of human perception. As one participant noted, the moraine fit “the limits of human perception … you need to be able to really grasp it in your head” [park manager]. The moraine also had a detectable physical boundary, which supported the unique landscape imagery promoted by the BHI, and differentiation as a distinct ecological space.

Lastly, framing regional cooperation as a unique opportunity “to showcase how you can deal with a planning problem of an environmentally significant area” [academic participant] issued a clear challenge to the partnering organizations to act. Although the academic participant wondered if the tactic had been successful, this observation from a municipal land use planner suggested it had the desired effect:

I think the first thing you need is a common goal, a mandate, a reason to exist. You know, what would be the issue? In our case it was the Beaver Hills moraine and a desire to keep development from encroaching too close to Elk Island National Park, which got the whole ball of wax rolling. Then it kind of went from there. [municipal land use planner]

5.3. Place attachment
Place attachment can form at the individual or group level, based on physical qualities and social associations with that place (e.g. symbolic links to culture), and through affective (emotional), cognitive (meanings, beliefs and knowledge) and behavioral (demonstrative actions) processes (Scannell & Gifford, 2010). During their interviews, participants were asked to explain what the moraine meant to them. Most participants responded with a description of their relationship to the moraine in affective or cognitive terms. Often, this led to a spontaneous discussion of its motivational influence for them with respect to the BHI. Most of these participants had previous experience in the moraine, including professional work, occasional recreational use and long-term residency. The attachment that past experience evoked varied in intensity and focus, as reflected in participants’ attitudes and actions. Three types of place attachment emerged from their descriptions, differing affectively, cognitively, and behaviourally (Scannell & Gifford, 2010). These attachments appeared to motivate engagement in and support of collaborative efforts.

5.4. Professional attachment
Four participants expressed high levels of “professional attachment” to the moraine, characterized by a cognitive relationship with the moraine described in more objective, professional terms. In the moraine they saw opportunity to apply their professional knowledge to conserve a unique place (normative motivation), but they were not necessarily motivated by deeper, personal feeling toward it. These participants had past recreational or work experience in the moraine, but described it in terms of the shared identity described above (e.g. “an interesting landscape” [academic participant], “visually dramatic” [park manager] or “special and unique place” [municipal land use planner]), and envisioned its future relative to their training and experience. Having the opportunity to ensure “that
the essential qualities of the moraine are protected" gave the academic participant satisfaction. A land use planner wished to see recreational, residential and agricultural uses in balance with protection of certain landscapes. An agricultural agency scientist appreciated the opportunity to apply a regional planning approach with others of similar mind on a valued landscape. Their personal experiences with the moraine merged with the new shared version of place and motivated them to protect the potential in the landscape, viewed through a professional lens.

5.5. Functional attachment
Five participants had developed a cognitive and emotional connection based on their experiences in the moraine or in similar landscapes. They were motivated by both a moral (professional) norm and need to protect an aspect of self-identity reflected in the moraine (Stedman, 2002; Williams, 2002). Sometimes their experience was from another place, and living and working in the moraine kept that link alive, as illustrated by a land use planner and resident of the moraine:

It’s a really special place to live because it reminds me a lot of eastern Canada where I’m from. In fact it reminds me of all the places I’ve lived in Alberta ... It reminds me the most of where I’m from, so that was part of the initial attraction. [resident]

Others recalled experiences within the moraine that reinforced appreciation of its value. Those experiences, whether personally relevant or shared with significant others, had been an important part of their lives. For a park manager, the moraine provided escape: “for me, 20 min to Blackfoot and I’m hiking and may not see another person. Wonderful” [park manager]. For a land use planner, it offered an unusually close encounter with nature:

We had some friends visit from out east, who had some kids. We took them to Elk Island and had a picnic and there’s the playground up at Aostin Lake there, and a couple of buffalo just roamed right in and crossed and scared the crap out of the kids, and we just thought, holy moley, that’s unbelievable. [municipal land use planner]

Regardless of the source of connection, that personal experience motivated them to protect this particular place. A park manager linked his understanding of the moraine’s value and his professional understanding of the need to conserve such lands, “So, I think it’s an incredibly valuable resource ... it’s impossible to restore something. It’s only possible to preserve it, while you have the chance” [park manager]. For a subset of these participants, their work with the BHI helped to preserve something they felt was important to society, as well as themselves. A park biologist felt “this moraine is the escape. It is for me and lots of people a remnant of the nature that we need to keep” [park biologist]. A municipal politician and near-moraine resident felt, “if you take all that away, you’ll have no idea how the environment should look. How things should be”.

5.6. Attachment to home
Three participants expressed a deep emotional attachment to the moraine as “home”, examples of place identity. They acknowledged their highly individualized attachment as a strong motivator. The moraine was integral to their definition of self, and they were motivated to protect it as an extension of themselves (Stedman, 2002; Williams, 2002). Two had grown up in the moraine; the third was a newer resident. Like other participants, they appreciated the moraine as a special place, but they also had a deeper connection. The long-time residents had childhood memories that highlighted the connection to self:

I knew it was special, but as a kid I didn’t know why it was special. I just loved it. It was just so neat to live here, because you could do everything and it was just, and it was wild you know ... It was, yeah, it was the home place and I just couldn’t think of living anywhere else. It had everything. [municipal politician]
All three participants characterized their relationship with the moraine as a love for the land, which motivated their commitment to the BHI. A politician and long-time moraine resident explained his motivation in protective terms:

Yeah, just, you love the place and you want to see that it’s protected and safe and that it’s going to be there and then other people can love it too and appreciate it. That’s I guess what I meant by love. [municipal politician]

One of the long-term residents had recently moved away from the moraine, which brought new perspective on the BHI and the intense motivation inspired by his relationship with the moraine. He described a sense of “the possessiveness of you know, of that home place, that you don’t want to see what makes it then change” and a need “to step back, because I’d gone too far, where it had become too personal” [municipal environmental planner].

Now in a new place, he had had begun to feel more attached to it, rather than the moraine, a switch that struck him as strange, considering his previous passion for the moraine. The need to reside in place to sustain his motivation was intriguing, and suggested a process of ‘detachment’ or transferred place attachment.

5.7. Place meanings
Both shared place identity (Cheng et al., 2003), and personal meanings related to self-identity can motivate place-based collaborative action (Cheng et al., 2003; Devine-Wright, 2009). Effective collaboration depended in part on the integration of socially constructed meanings about the moraine with the personal place meanings held by its members (Williams, 2002). Place meanings of participants helped assess the “alignment” achieved by the BHI.

Place meanings have been used to document sense of place, typically in qualitative terms that describe cognitive and/or affective aspects of place (Trentelman, 2011; Williams, 2002). The photo-elicitation exercise revealed multiple place meanings within any given photograph and narrative. Yet despite this complexity, a relatively narrow set of five qualitative themes emerged. Often blending the BHI’s constructed moraine and personal meanings, indication of adoption of a shared place identity.

5.8. Demonstration landscape
Most participants (seven of ten) who completed the photo-elicitation exercise recognized the moraine as a place in which nature and people co-existed in a more or less sustainable manner. Interestingly, these participants were mainly non-residents. The changes they wished to see in land management through the BHI protected the existing quality of life, rather than restoring some former, better state. Further, they saw the BHI, and people more generally, as an integral part of the moraine: in them lay the potential to demonstrate the balance possible through sustainable land management. This faith was based both in past conservation successes (e.g. species reintroductions, human-wildlife conflict management) and current examples of ecological resilience. Development of community identity can form as a coping mechanism to deal with external threats (Devine-Wright, 2009; Stedman, 2006), but in this case appeared to be a response to past cooperative action. Satisfactory experience in conservation activities has produced similar reinforcement of pro-environmental attitudes in other work (Lee & Moscardo, 2005).

5.9. Nature appreciation
All ten participants appreciated the natural world available to them in the moraine, indicating place dependence, but with slight variations. Residents of the moraine highlighted very specific natural elements representative of “their” moraine, features that brought them satisfaction, such as wildflowers, woodland trails, local scenery and sunsets. The shifting mood of familiar places with changes in season and time of day featured prominently in their submissions, reflecting an intimate relationship with landscape.
Non-residents appreciated the opportunity to interact with nature, emphasizing rich biodiversity. A few participants valued the opportunity to share with others discovery of the moraine’s “hidden treasures”, because “they bring our families together” [park biologist]. Such positive associations from shared social experience in place have been identified among recreational users of natural areas (e.g. Eisenhauer, Krannich, & Blahna, 2000; Farber & Hall, 2007).

Lastly, a few participants described closeness to the land gained from unique personal experiences in the moraine (e.g. sounds of geese and cranes in fall, evidence of large predators). One participant found particular inspiration in the moraine’s varied landscapes and its plants, wildlife and naturalness; his photographs represented “the limitlessness of our thinking and our ability”, our “uniqueness and individuality” and our connection to “the bigger picture” [agricultural agency scientist].

5.10. History
Six non-residents, a near-moraine resident and a moraine resident provided examples of past human use in the moraine landscape, highlighting its cultural value. Such cultural elements can be linked to self- or community-identity (Vaccaro & Beltran, 2007; Williams, 2002). Examples included early parks, historical sites and old structures marking early settlement in the moraine. For one participant, these sites represented a lighter ecological footprint and a different (and perhaps better) relationship with the land. For others, the history of the area documented a long tradition of respect for the landscape and a connection to the past.

5.11. Community
The same seven participants who noted the demonstration potential of the moraine also reflected on the communities in the moraine, past and present, as examples of grass-roots cooperation. As an agricultural agency scientist noted, these communities showed that sustainability is “up to people and the values, partners, it’s a partnership”. Participants’ photographs included landowners that had adopted sustainable practices, past and present rural communities in the moraine and researchers active in the moraine. Community connected through science, culture and nature represented future potential for these participants, because “continuity with the land and its past ... shows a desire to move along without losing or destroying pieces of the natural world with which we co-evolved” [park manager]. They felt the BHI could foster that integrative relationship with the natural landscape.

5.12. Place for experiences
Lastly, all ten participants described the moraine as a place for experiences, emphasizing its accessibility, the opportunity for discovery or refuge, and memories of shared experiences with friends and family. The proximity of the moraine to urban areas and the mix of private and public lands contributed to accessibility, as did the integration of people and nature in a lived-in landscape. Participants had developed a better understanding of themselves, nature, or connection to the land through their experiences of living, working, or recreating in the moraine. Five participants (two residents, one near-moraine resident, two non-residents) included photographs and descriptions of outdoor experiences shared with friends and family (e.g. stargazing by campfires, dog walks, bird-watching).

The moraine offered space for relaxation, reflection and revitalization, meanings similar to those expressed by second home owners (Stedman, 2002; Van Patten & Williams, 2008). Natural and pastoral landscapes contributed to these experiences. Both residents and non-residents described the natural parts of the moraine as a refuge from a busy life or from urban distractions. The pastoral landscapes reminded some of their own family background, or could be relaxing in their own way, as examples of less intensive use of the land. These descriptions differed from the other themes in that they expressed a current, personal benefit derived from the experience of being in the moraine, rather than a future societal benefit.
6. Discussion
The BHI collaboration appears to have been supported strongly by place-based mechanisms acting at group and individual levels. The BHI used place-making to create a shared identity among individual members, constructing the moraine in motivational, diagnostic and collective action frames (Martin, 2003). The shared identity became associated with norms for conservation of special natural areas, which merged with existing place attachments of participants to create new place meanings. Both held strong motivational power. Such mechanisms strengthened rational arguments for cooperation by triggering positive emotional responses to the problem, thus “winning the hearts and minds” of participants [park manager].

The BHI constructed an image designed to inspire action. Motivational frames (Martin, 2003) emphasized the moraine’s ecological values, and its contribution to local quality of life (Tobias & Müller Wahl, 2013). This focus established the moraine as a special natural area and linked it with existing conservation norms, thus tapping into two strong motivational forces: place identity and social and moral norms (Bamberg & Möser, 2007; Devine-Wright, 2009). Including threats in messaging provided diagnostic framing (Martin, 2003) that exploited sensitivity about risk to a valued place (Devine-Wright, 2009; Kottak & Costa, 1993), and justified the BHI’s solution of regional collaboration (collective action framing, Martin, 2003). Consistent messaging strengthened this understanding across partner organizations, reinforcing norms and justifying sustained collaboration.

This process suggests embedding, transfer of meanings and values about place from a social group to individuals (Eisenhauer et al., 2000). As shared place identity forms about a socially constructed place, expectations of appropriate behaviors in that place (social norms) are also shared (Cheng et al., 2003). Awareness of a problem, social norms and personal responsibility form moral norms that provide additional motivation (Bamberg & Möser, 2007). The responsibility to protect the moraine described by most participants suggested a moral obligation derived from social norms for “special natural places”, rather than the protective response for a personally relevant place found by others (Devine-Wright, 2009; Kottak & Costa, 1993). Shared understanding of the problem and solution also established a thin trust, a weaker tie between individuals based on perceived similarities (Payton et al., 2005) and a basis for cooperative management (Ostrom, 1998). Thin trust was leveraged through social capital strategies to grow trust, reciprocity, resources and networks (Patriquin & Halpenny, 2017), which solidified the BHI, demonstrating place-based mediation of social capital development.

Like other cases, place-making attempted to gain support by enhancing existing place meanings (Bell, 2007; Vaccaro & Beltran, 2007; Whitelaw, Eagles, Gibson, & Seasons, 2008). Here though, the combination of shared place identity with participants’ existing understandings of the moraine resulted in different intensities of place attachments, which corresponded to the three phases of attachment identified by Shamai (1991): belonging to place, attachment to place and commitment to place. The intensity of place attachment also corresponded to the individual’s engagement in place-based activity (Shamai, 1991). For example, the more objective, professional motivations of “professionally attached” participants contrasted dramatically with the sometimes territorial motivations of the “attachment to home” residents.

Discourse involving place can be conflictual or unifying, depending on the understandings of place by stakeholders (Williams, 2002; Williams et al., 2013). Successful negotiation of a shared moraine identity through place-making was based on aligning the new identity with those of participants (Vaccaro & Beltran, 2007; Williams, 2002). Creation of a shared place identity that accommodated different self-identities helped to minimize conflict and facilitate collaboration (Cheng et al., 2003). A shared view of the moraine also helped reinforce commitment to shared goals for this place (“in-group effect”, Cheng et al., 2003). Despite varying levels of attachment to the moraine, all participants were committed to the goal of sustainable land management. This commitment suggests that the shared identity was similar enough to each participant’s self-identity to avoid conflict and formation of an “out-group” (Cheng et al., 2003), at least among study participants. Dissenting actors did exist within the BHI, but none consented to participate in the study, leaving a gap in analysis.
A community identity formed among individuals who linked the moraine with the potential of the BHI to demonstrate sustainable development. The confidence this collective identity inspired fostered an open attitude toward new challenges, and created an empowering feedback loop (Patricia & Halpenny, 2017). Brehm, Eisenhauer, and Krannich (2006) found similar development of community identity from natural and social aspects of place, but did not observe the positive feedback loop, perhaps due to a shorter timeframe.

7. Conclusions
Lewicka (2011) noted that the “process” aspect of the person-place-process framework for assessment of place attachment (Scannell & Gifford, 2010) remains least well-understood. This case study identified several processes that expand our current understanding of place attachment. First, the collaborative outcome resulting from shared place meanings and identity supports past empirical work (Bell, 2007; Whitelaw et al., 2008), and describes a socially mediated mechanism for place-based collaboration (Lewicka, 2005; Pollack, 2004). Creation of new place meanings through discourse and by direct experience with place (Chawla, 1999; Grieder & Garkovich, 1994) suggests both socially-mediated and experiential aspects of place attachment and place-making that could be explored further. Lastly, the place “detachment” by one long-term resident who had moved away from the moraine has not previously been described, and suggests another aspect of place attachment. His experience contrasts with the strong connections retained by displaced peoples (e.g. Bell, 2007; Lewicka, 2011), but is consistent with lesser place bonding in second home owners (Stedman, 2002).

These outcomes of place-making suggest complex psychological processes associated with place attachment and self-identity that were beyond the scope of this exploratory study. The lack of participation by dissenting BHI members is another limitation. Additional case studies of similar collaborations could further examine these dynamics. Controlled experiments that assess the role of self and place-identity, place attachment and place meaning in facilitating collaboration, similar to those investigating pro-environmental behavior (e.g. Lee & Moscardo, 2005) would also be useful.

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