



Article Perceptions of, and Motivations for, Land Trust Conservation in Northern Michigan: An Analysis of Key Informant Interviews

Kathryn N. Braddock * and Joel T. Heinen D

Department of Earth and Environment, Florida International University, Miami, FL 33174, USA; heinenj@fiu.edu * Correspondence: Kathryn.braddock@gmail.com

Abstract: Land trusts are common and expanding mechanisms for conservation, although their impacts have been little-studied. The objective of this paper is to understand the perceptions and motivations of stakeholders of small-scale land trust conservation. We used 33 key informant interviews to learn the motivations and opinions of stakeholders regarding the Little Traverse Conservancy (LTC) of northern Michigan, USA. The interviews were coded for relevant themes and interpreted alongside a literature review. The highest reported motivation for stakeholder involvement with LTC was the protection of nature and scenic beauty. Economic and social factors were also considered motivators; however, were not the key facilitators for conservation action for LTC stakeholders. Interviews emphasized that relationship and partnership formations are critical for facilitating successful land conservation. We conclude that land trust organizations can captivate the long-term support and participation of stakeholders through the consideration of local dynamics and building upon existing community relationships.

Keywords: conservation; land trust; key-informant surveys; easements; Michigan



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1. Introduction

Biodiversity plays a significant role in preserving healthy ecosystems, maintaining the fundamental needs of plant and animal life, and sustaining the aesthetic appeal of an area. Conservation of biodiversity is; therefore, essential in supporting these factors and is important for a variety of cultural and socio-economic reasons that facilitate human well-being. The conservation of biodiversity is challenged by developmental pressures, climate change, habitat loss, resource exploitation, and pollution, among other factors [1,2].

Protected areas are an approach commonly used in the conservation of biodiversity. However, the establishment of protected areas can cause conflict depending on geographic, socio-economic, and cultural aspects of an area [3]. As a means of promoting biodiversity, large and connected pathways across quality habitat are typically the most sought out protected areas. However, size, fragmentation, location, and land-use can be barriers to the success and efficacy of protected area conservation [4]. Private protected areas (parcels "owned or secured by non-profits, individuals, communities, or corporations") [5] can be a useful method for sustaining socio-ecological systems and conserving biodiversity [4]. While this approach to conservation also comes with its challenges, it has been found that the participation of landowners and stakeholders can aid in the success and sustainability of these types of conservation initiatives in a particular area [6].

A popular and growing method for the establishment of private protected areas in the United States (U.S.), Great Britain, and several other countries is through land trust initiatives (e.g., see www.communitylandtrusts.org.uk; www.landtrustalliance.org). Land trusts are non-governmental organizations (NGOs) that work to conserve land by owning it outright [7]. They use a variety of mechanisms to accomplish this goal including land or monetary donations, conservation easements, and direct purchase [8–10]. Conservation easements (also referred to as easements) are legal documents permitted by U.S. national

legislation that accompany the land title and transfer with land sales (e.g., [11]), they are used to form binding agreements between landowners and land trust organizations in order to mitigate development, preserve land, and restrict land use [5]. The expansion of land trust organizations in the U.S. can be attributed to the effective publicity of many existing land trusts because of their acquisition of ecologically and historically important lands [12]. The tools used by land trusts are dependent on the actions of their member-base and the citizens in the regions in which trusts are located, in collaboration with local and state governments. This dependence on local stakeholders makes community-based research imperative in the study and the perpetuity of these conservation organizations [13], and both social and economic incentives can play important roles in the popularity and sustainability of myriad conservation efforts [14].

Both large and small-scaled community land trust organizations frequently work in concert with government at local, state, or national levels to achieve their goals [8,15]. They rely on multiple economic and social mechanisms and the support of volunteer networks for some maintenance activities (e.g., [16,17]). Often, substantial land and monetary donations are incentivized socially through programs that, for example, name property, buildings, or public outreach initiatives after large donors, as well as economically through tax breaks of donated wealth or property. The importance of incentive structures and the meaningful participation of stakeholders in promoting conservation at small-scales is emphasized throughout literature (e.g., [18–21]). People are frequently motivated to maintain social standing among peers by advertising some measure of social investment and these types of incentives can be very powerful in relatively small-scaled societies in which people interact frequently (e.g., [18]). Conservation easement programs used by land trusts commonly work by motivating donors through a combination of social (e.g., named signage) and economic (e.g., income, inheritance, or property tax deductions) incentives [9].

While lands kept through such mechanisms are generally motivators for community involvement within conservation related-programs, such units are generally small and do not correspond to any category of protected area as recognized by the International Union for the Conservation of Nature (IUCN) [22]. However, much work has shown that small reserves can be important for the conservation of herbaceous plant species [23–25], invertebrates, and smaller-sized vertebrates [26], and they can also act as corridors, stepping stones, and partial or full buffers around larger tracts of protected land [27,28], thus enhancing the conservation prospects for larger vertebrates and migratory species [29]. In addition, conserved land (privately owned and otherwise) can serve as protection for ecosystem biodiversity and can be a component of climate change adaptation strategies, for example, providing space for coastal land migration due to sea-level rise [30,31]. Aesthetically, such areas are important for a sense of place in living landscapes [32,33], and can provide important psychological benefits [34,35]. Additionally, small preserves interspersed among housing units tend to increase local property values [36].

The Little Traverse Conservancy (LTC) is an example of a land trust organization in northern Michigan, USA [37]. The LTC was founded in 1972 and currently has over 4200 dues-paying individual and family members. It was established on the principles of stewardship and the voluntary actions of citizens within its surrounding communities. The LTC maintains educational and outreach programs in addition to its land acquisition efforts. The organization has taken part in protecting over 25,596 hectares (63,250 acres) of land through its initiatives and partner projects. LTC manages 30 working forest reserves and a total of over 356 preserves over which it has control. It is also responsible for the protection of almost 9034 hectares (22,325 acres) of land through easement agreements on private property that include property tax reductions for private landowners who take part and agree to maintain the land in a natural state [38]. The mission of the LTC is "to protect the natural diversity and beauty of northern Michigan by preserving significant land and scenic areas, and fostering appreciation and understanding of the environment" [38].

Local communities are drivers of social constructs, and through understanding community dynamics, interests, and motivations, effective conservation tools can be created and enforced [39,40]. There exists a decent amount of literature on the protection of private lands through land trust initiatives (e.g., [5,41–45]); however, there remains a need to recognize the specific characteristics and motivations of stakeholders that lead to participation in such initiatives [46,47]. Understanding motivations for involvement by current stakeholders can provide insight for identifying similar groups may have interest in conservation [47], thus potentially expanding the use of this conservation approach and its expected benefits. In this study we aim to better understand the drivers behind the involvement of stakeholders in, as well as their perceptions of, private protected area conservation initiatives used by land trusts. To do this we use the Little Traverse Conservancy as a case study to examine the motivations of small-scale land trust stakeholders in taking part in conservation initiatives and assess the perceptions of such stakeholders regarding the work of LTC as a land trust. Specifically, we aim to answer the following questions: (1) How is LTC successful?; (2) What elements have contributed to LTC's success?; and (3) What motivates local stakeholder involvement with LTC?

2. Materials and Methods

2.1. Background and Study Area

For this study, we collected and reviewed background literature and completed a number of informal surveys regarding LTC operations and programs [13], data on northern Michigan demography [48], and relevant information concerning land trust conservation techniques (i.e., [8–10,49,50]). We also conducted numerous semi-structured interviews with multiple stakeholders (also referred to as informants in this article).

LTC preserves land within five counties (Charlevoix, Cheboygan, Chippewa, Emmet and Mackinac) of northern Michigan, USA (Figure 1). These five counties have the following permanent human population estimates: Charlevoix $\approx 26,143$, Cheboygan $\approx 25,276$, Chippewa $\approx 37,349$, Emmet $\approx 33,415$ and Mackinac $\approx 10,799$ and are fairly homogenous with regards to socio-economic factors (Table 1) [48]. Each county also has many summer homes and cabins and their populations increase greatly over the summer months, especially during holiday periods. LTC preserves contain a variety of ecosystem types (e.g., marshes, conifer swamps, forests, and dunes/beaches) and endangered species (e.g., grey wolf, *Canis lupus* and piping plover, *Charadrius melodus*) [13]. A notable LTC project is its recent efforts to protect land in the Maple River Watershed, located across Emmet County. The watershed covers over 40,450 hectares (100,000 acres) and LTC is responsible for protecting over 890 hectares (2200 acres) of land and about 6.5 km (4 miles) of shoreline directly along the Maple River [51].



Figure 1. The Little Traverse Conservancy (LTC) preserves (n = 172) located in Charlevoix, Cheboygan, Chippewa, Emmet and Mackinac Counties, Michigan, U.S.A. at the time interviews were conducted in 2016 [37,38].

	Charlevoix County	Cheboygan County	Chippewa County	Emmet County	Mackinac County
High School Diploma or Greater	91.3%	88.4%	89.4%	94.2%	87.2%
Bachelor's or Higher	27.1%	16.8%	19.4%	33.3%	17.9%
Under 18 Years	20%	17.2%	18.7%	20.1%	16.6%
Over 18 and Under 65 Years	57.9%	57.2%	64.7%	59.5%	56.9%
Over 65 Years	22.1%	25.6%	16.6%	20.4%	26.4%
White/Caucasian	95.5%	93.1%	71.4%	92.7%	75.3%
Black/African American	0.5%	0.6%	6.9%	0.7%	1.9%
American Indian	1.6%	3.0%	15.7%	3.7%	17.3%
Asian	0.6%	0.4%	1.0%	0.5%	0.4%
Hispanic/Latino	1.8%	1.5%	1.8%	1.7%	1.6%
Median Household Income per Year	\$55,760	\$48,044	\$46,486	\$55,829	\$47,938

Table 1. Selected U.S. Census Bureau 2010–2015 vintage years demographic data for Charlevoix, Cheboygan, Chippewa, Emmet and Mackinac Counties in Michigan, U.S.A., (% indicates percent of total population count for each county) [48].

2.2. Data Collection

We employed a single case study design that included key informant interviews in order to capture information on the perceptions of, and motivations for, land trust conservation among LTC stakeholders. Key informant interviews, used in a wide variety of natural resource-related studies (i.e., [52,53]), were conducted with 33 LTC stakeholders. They have the advantage of allowing interviewees to express a wider variety of opinions than is possible with structured or semi-structured surveys, but they are qualitative in nature and not amenable to most statistical analyses. For that reason, we also completed a long quantitative structured survey with over 500 LTC members, for which a manuscript is now in preparation. For the purposes of the present study, open-ended semi-structured questions were asked to all informants regarding informant motivations for involvement with LTC, satisfaction with LTC's work, the successes of LTC's conservation approach, challenges to LTC's conservation approach, and recommendations for LTC. Specifically, informants were asked the following questions:

- 1. What is your relationship to LTC?
- 2. What motivates you to be involved with LTC?
- 3. How satisfied are you with the work of LTC?
- 4. How satisfied do you believe the communities are in your county of residence (Charlevoix, Cheboygan, Chippewa, Emmet and/or Mackinac) with the work of LTC?
- 5. Are there any advantages or disadvantages of LTC's presence in Northern Michigan?
- 6. In your opinion, what are the major successes of LTC?
- 7. Do you have any recommendations for improvement of LTC's work?

All interviewees were provided the same questions and topics of discussion but were not limited to topics included in the questions. All interviews were recorded and transcribed. We used qualitative research methods sensu [54] including phone and face-to-face interviews with identified stakeholders of eight different classifications or interest groups: LTC staff (n = 5), LTC board members (n = 6), LTC donors (n = 6), local politicians (n = 5), local educators (public school teachers that participate in LTC outreach events with students; n = 4), staff of Michigan's Department of Natural Resources (DNR; n = 5), a member of the

Little Traverse Bay Bands of Odawa Indians (LTBB; n = 1), and a representative of another local NGO, Tip of the Mitt Watershed Council (n = 1). Several individuals interviewed held multiple "stakes" within LTC and the communities in which LTC has a presence, thus had multiple perspectives outside of their main stakeholder classification.

Stakeholders of LTC were determined through non-random and purposeful sampling sensu [52,54,55]. Participant-driven selection of stakeholders for key informant interviews was also used. For example, if an interviewee mentioned a potential stakeholder who had not been considered, that stakeholder was contacted to gage interest and interviewed if they agreed. Stakeholder groups (LTC Staff, LTC Board, Donors, Politicians, Educators, and Other) were created following identification techniques described by Currie et al. [56] and Covin et al. [57]. Groups were determined by the authors based on their relative power, legitimacy, influence, institution, and urgency with regards to the work of LTC. All stakeholders were selected with the characteristics of being dominant, dependent, and definitive based on their community roles, occupations, and/or connections to LTC (e.g., [56,58,59]).

All interviews were conducted from May through September 2016. In total, there were approximately 20 h of taped interviews and each interview lasted between 15 and 50 min. Consent was obtained from all informants and all information collected from interviews was confidential. The research protocol was approved by Florida International University's Institutional Research Board and met all Federal standards for the use of human subjects.

2.3. Data Analysis

Computer assisted qualitative data analysis (CAQDAS) was used to discover and decipher social phenomena within the transcribed LTC stakeholder interviews [60]. Each informant interview was imported to, and coded by, QSR International NVivo qualitative analysis version 11 software. Data were analyzed by both intra-interviewee coding and inter-interviewee coding comparisons [61]. CAQDAS packages, such as Nvivo, are useful in social science research as a means of categorizing content (i.e., interviews), attributes, trends, and characteristics [62].

A code of themes was developed based on interview content to identify similarities, differences, and trends among the interviews [63,64]. Themes were then organized and put into a visual diagram (Figure 2). This aided greatly in the organization, management, interpretation of data gathered. Interviews were modified to identify responses and anecdotes that were given out of the context of the semi-structured questions and organized into a format that could be better analyzed [65].



Figure 2. Themes coded in the Little Traverse Conservancy (LTC) stakeholder interviews regarding, specifically, the workings of the LTC organization.

3. Results

A variety of themes emerged from interviews, including attitudes regarding LTC and land conservation, motivations to conserve, and recommendations for the future of LTC. The results detailed below report the major findings from five categories: (1) The motivations for involvement with LTC; (2) the satisfaction of informants with LTC's work; (3) the successes and advantages of LTC's conservation approach; (4) reported challenges of LTC's conservation approach; and (5) recommendations for LTC.

3.1. The Motivations for Involvement with LTC

We presented the "motivations for involvement" question in an open response format and responses were reviewed for common themes; such themes were then created after reviewing all interviews in their entirety. Five central reasons were identified by informants for their motivations for involvement with LTC: recreation, protection of nature, education, professional partnerships, and familial, historical or cultural reasons. Overall, the majority of informants were motivated to be involved with LTC and its land conservation initiatives for the protection of nature. The DNR and Other stakeholder groups said that their professional partnerships with LTC were their main motivation for involvement with the organization. Some informants mentioned multiple motivators for their involvement with LTC, including protecting land from development while benefiting of tax breaks. When asked about Donor motivations to be involved with LTC, an informant had this to say " ... people have a love of the land and of the area. There have been individuals who were looking to get tax benefits, but typically there are indications from the beginning that that is the goal... They have 50 feet of shoreline and they want to protect [it] so they are not paying shoreline taxes ... those [types of donors] get weeded out. I think the majority of donors definitely feel an emotional connection to the land."

3.2. The Satisfaction of Informants with LTC's Work

Overall, the majority of stakeholders from all groups reported that they were satisfied with the work of LTC. However, some stakeholders mentioned that LTC could improve its work in order to maintain sustainability into the future. While satisfied with LTC's work in general, LTC Board informant said that LTC "[has] to be very careful to not burden themselves down with trails and access points on the properties. They are going to be consumed with stewardship rather than protecting land. [This] can take an enormous amount of time and effort as well as hurt the environment with too many people on it ... We are here for land protection."

Regarding informant perceptions of community satisfaction with LTC, most believed that local communities are satisfied with LTC and that LTC is well-received in the communities in which it has a presence. There were no informants who reported that they believe local communities view LTC in a negative light. One DNR informant was quoted saying the following regarding the work of LTC: "To be honest, they're hands down the best conservancy I think I've worked with for many different reasons. They really serve as [a] kind of intermediary between two entities in helping things get accomplished. They do a really great job within their service area ... not only helping with some of the technical things that need to happen on transactions and doing a lot of the collaborations that they do with other entities, but serving as that person that will help to smooth that process out for the landowner and make them much more comfortable through the process, it's much more beneficial. In my opinion ... they are kind of the model that everyone should build themselves based-on ... because they handle things so well and they do kind of cover all of the things that are so critical."

3.3. The Successes and Advantages of LTC's Conservation Approach

Stakeholders were asked if there were any advantages or successes of LTC's conservation approach (i.e., small-scale and community-based land conservation). Informants from all categories, reported that the inner workings of LTC (i.e., the organization's staff, board, history, and mission) was a major component of the organization's success. LTC's ability to provide green spaces and preserve areas despite developmental pressures was also reported as a major success of the organization. Many stakeholders suggested multiple successes or advantages to the LTC organization (e.g., community organization, education, contributions to the local economy, fundraising ability, not being politically involved). In addition, informants mentioned the ethics and passion of LTC's staff and surrounding local communities as an important consideration in the success of the organization.

Among the other responses, the most highly reported successes and advantages of the LTC organization were: Partnerships and relationships with other organizations, institutions and communities, as well as the timing of LTC's start-up in the area and their location. The Board stakeholders believed that the top two reasons for LTC's successes as an organization were due to the inner workings of the organization as well as the many partnerships the organization has fostered over the years. This contrasts with local educator stakeholder opinions that point to the preservation of green spaces and myriad educational opportunities that have made LTC successful. Regarding general advantages and successes of LTC, two respondents had the following comments: "By conserving the natural beauty of this area [northern Michigan], LTC satisfies the needs of all groups: Landowners who want to protect and make natural areas available either though donation or conservation easement; business owners, developers and their employees who will benefit financially in the long term; members of the public who desire access to our area's natural areas; other non-profits which share the Conservancy's goals; and families, schools, and children who benefit from educational opportunities." Additionally, "I think they do an excellent job balancing the interests of all parties. They are very smart in that they have developers, real estate people, and contractors involved so they can see how the inside works. Where a developer normally wouldn't embrace a concept ... we see that they [developers] do once they see that it is to the communities' benefit and to their benefit ... if they want to develop some land ... having some open spaces nearby ... it is a real plus and I think it is really progressive and it is becoming more and more of a positive draw."

Many informants specifically mentioned the work of LTC's Executive Director (at the time), Tom Bailey, as a reason for the successes of the organization. One informant said the following concerning Tom Bailey and LTC staff: "Something that is really important is the people who work in the conservancy, not necessarily just how the organization is ... yes, the trust is a big thing ... but, that has been facilitated by the types of people and the kinds and the intelligence of the people who work within the organization ... Tom Bailey being a major factor in that. He is just so passionate in just such an honest way that it does motivate you."

3.4. Reported Challenges of LTC's Conservation Approach

The most reported challenge was that LTC has more land and responsibilities than they have the manpower (e.g., staff, stewards, and volunteers) to manage. Some respondents fear that LTC has taken on enough property and, if they do not focus on managing that property, they will have issues maintaining control, particularly regarding components of the organization that involve money (conservation easements, fundraising, and donations). Another challenge reported is that there are differing attachments to land and views of appropriate land use that could impact how LTC manages the land and how the public perceives LTC's work.

Other concerns brought up by stakeholders included the age of volunteers, staff, donors, and stewards. Some respondents believed that the organization was made up mostly by individuals who were near, at, or beyond the age of retirement and, once they became unable to engage in the organization, LTC would lose a great amount of community support. These respondents believed that LTC will be challenged in the future if they do not continue to be proactive in increasing youth participation in their programs. Respondents also believed a disadvantage of the LTC (to either the respondents themselves or the larger community LTC serves) is that the organization is taking money off public tax rolls by

acquiring taxable private lands. The remaining challenges mentioned were that not enough community members take advantage of LTC resources and that the organization is too small and needs to expand its reach within the state. With respect to the organization's size, one DNR informant said: "... a particular disadvantage is their small size. This might inhibit their parcels from being particularly ecologically significant or cause disadvantages with management issues."

3.5. Recommendations for LTC

The highest reported recommendation from all stakeholder groups was that LTC should not change anything about the organization. Other recommendations were that LTC should increase their capacity to publicize and advertise to local communities, expand outreach programs, and expand educational programs for adults and youth.

LTC Board stakeholders recommended that LTC keep their operations mostly the same. However, one Board informant did recommend that LTC should be more proactive in land acquisition: " ... they don't go after pieces of land. If they see something they want, they wait for that piece of land to become available or for the owners to approach them ... Sometimes I think that they should not wait and they should go to the owner and say 'would you think about selling this?', but that is not part of their philosophy." Staff informants reported that LTC should work more to expand their outreach operations and service areas: "While [they] are successful and work efficiently, there is always room for improvement. One area ... is getting the word out about [LTC's] work to more people in the community by speaking at more service clubs and community meetings." Donor stakeholders largely agreed that their main recommendation to the LTC organization should be that they include more restoration projects into their work. Local educators and politicians believed that LTC and their surrounding communities would benefit most if LTC could increase the publicizing and advertising of their programs and resources. DNR informants recommended that "because of their trusted position, [LTC] may be able to help resolve state-wide policy issues that affect land protection, such as local Payments in Lieu of Taxes" and that LTC should be "taking advantage of multiple land ownerships... more interactions with county, national, and other conservancies and land trusts." It is noteworthy that all of the above recommendations would require that LTC expand or increase their current staffing, making increasing the numbers of staff and working volunteers the most common recommendation overall for the organization.

4. Discussion

There is often a mix of factors that encourage community support or involvement in conservation [8]. Such factors are frequently met with challenges in long-term replicability and relevance, but their identification and modification are important for the success of environmental initiatives involving community support [66–68]. The evolution of community behaviors and identity in relation to conservation activities and land-use and landscape changes should be noted and adjustments should be made to identify such changes [40,69]. The highest reported motivation of stakeholders' involvement with LTC was for the protection of nature. This result suggests that, while both individual social and economic factors are important as motivators for stakeholder involvement, stakeholders report that they are interested, firstly, in the conservation of land and preservation of nature, which imply broader societal motivations.

This finding also supports, to some extent, our hypothesis that stakeholder involvement depends on self-serving motivators in addition to incentives, such as the maintenance of aesthetically pleasing natural areas and/or recreational opportunities. While the pure protection of land does not outrightly suggest self-serving motivations, interview responses concerning successes, advantages, and reasons for satisfaction did indicate that recreation, green space availability, and general enjoyment of nature were important components of land conservation and of living in the region. Most stakeholders said that they and local communities were satisfied with the work of LTC, providing support for our hypothesis that there would be generally positive opinions of the organization in the area. This satisfaction could be attributed to the message that LTC's dedication for land conservation (the protection of scenic beauty) resonates with the public in the area in general. It has been shown that the way in which conservation initiatives are presented to the public greatly influences resultant participation and efforts to engage with the organization, as well as overall satisfaction [39]. One area where LTC differs from other organizations is that they focus on the social benefits of their work in the natural realm. In fact, current recommendations for other land use, conservation, and planning organizations include broadening the anticipated benefits of the organization to include aspects within coupled natural and human systems [39]. The LTC has implemented this philosophy into their work since their inception, and it appears to have resonated through their outreach efforts to local communities.

As mentioned in stakeholder quotes about satisfaction, success, and advantages regarding LTC, partnerships have been vital in the creation of an organization that northern Michigan communities find satisfactory. These partnerships aid in the transfer of knowledge and resources as well as in trust building between NGOs and local, state, and federal entities. The LTC works to not only propel itself into a successful future, but also to empower, educate and create capacity building systems for their communities (e.g., state organizations, schools, community groups, and donors alike) [13].

The most frequently reported successes and advantages of LTC were related to inner operations and staffing and the amount of preserved areas acquired over time. Respondents also suggested that LTC was located in a "charmed" area and this had a lot to do with its success. This references the large communities of wealthy resort or seasonal residents who want to keep their vacation haven preserved and the support of year-round residents who own small tourist-driven businesses. Many families have been vacationing in northern Michigan for generations and respondents made clear the desire of communities to keep green spaces aesthetically beautiful and natural into future.

The responses of LTC stakeholders regarding organizational disadvantages or challenges were comparatively rare and varied and no single opinion was held by most respondents. However, the most informants suggested that the small size of LTC could be a current disadvantage and a future challenge for the organization. While the small size could lead to a more intimacy with the community, there may be concerns for LTC's potential for capacity building and influence as the landscape of the region changes.

The emphasis on local land use and landowner attachments to parcels of land presents a challenge. That is, land in this region is appreciated not only for its scenic beauty but also for its consumptive and non-consumptive recreational uses, conservation initiatives, resource extraction, as well as familial and social/cultural connections and identities. These differing attachments could challenge LTC's success in both acquiring parcels and providing managed lands that appeal to multiple land user groups. A better understanding of the reasons for differing land use activities will help to clarify the complexities of landowner and land conservation motivations to groups such as LTC [47]. Community-organization relationships are critical for land trusts and a better understanding of local community operations is important for sustaining an organization that promotes citizen involvement [70]. These kinds of relationships can also be an essential part of resolving geographic, socio-economic, and cultural conflicts that may occur due to conservation activities [3].

Several stakeholders mentioned the need for better management of LTC preserves. This need is likely to grow as LTC expands further. With about 6000 hectares (albeit, discontinuous; 14,800 acres) under their direct ownership, and that figure increasing regularly, general habitat and natural resource assessments would likely improve the management of those reserves and add to the growing database of the Nature Conservancy, Michigan Department of Natural Resources and Michigan State University partnership under the Michigan Natural Features Inventory (MNFI) (e.g., [71]). Along these lines,

many remote sensing and field survey techniques have been developed and tested to assess general habitat potential [72–74], and can be done cheaply in concert with modeling an area's future habitat potential for particular species after managerial actions or successional change (e.g., [75,76]) or based on natural physical attributes (e.g., slope, aspect) that may correlate with important habitat features (e.g., [77]). In addition, assessments that rely on volunteers using cameras to monitor animals trail use and/or conduct new trail feasibility studies to expand recreational possibilities, already used by LTC to some degree, are very useful and can be done in conjunction with citizen science programs and local schools (e.g., EcoStewards, Bioblitz, American Kestrel Partnership monitoring program) [37,38]. However, their continual growth and development will be critical for the organization in the future.

The LTC has in the past partnered with the University of Michigan Biological Station (UMBS) and this could be greatly expanded inexpensively by offering students internship and thesis research opportunities. Developing this partnership to increase UMBS's public outreach initiative with local landowners would also fulfill recommendations for the research station [78]. In fact, land trusts are consummate organizations for scientists to partner with to better understand, develop, and improve conservation management techniques [79]. While there exist numerous challenges for protected areas, small-interspersed parcels, such has those managed by LTC, may help to mitigate fragmentation by acting as corridors and buffer zones and they provide restrictions for land-use that could aid in the success of biodiversity conservation in larger tracks of land [23–25,27–29,46,80,81]. By collaborating with universities to research the ecological impacts of small-scale conservation, management techniques could be improved and the efficacy of LTC's conservation approach could be better evaluated. The LTC can also be effective in fostering citizen science activities at all levels, which has become a focal points for many researchers and institutions [79,82,83].

The local environmental ethic was a prominent theme that interviewees mentioned regarding the willingness of local communities to be involved with LTC. This also explains how LTC increased its memberships quickly and how it maintains such a large member base (4200+) for its size (11 full time and six part-time staff). This was an interesting finding, as personal communications with LTC staff brought about a deep connection with the ideals of Aldo Leopold's land ethic philosophy in conservation. This philosophy denotes a mutual respect for members of both natural and social community systems [84]. This sentiment is something that LTC promotes throughout their communities, particularly through their education and outreach initiatives [37].

These results could reflect the idea that this part of Michigan is, in fact, a "charmed area"; meaning most individuals potentially have a similar conservation ethic or motivation as fostered by the communities in which they have developed such an outlook. But the results also point out how education and outreach, building local social capital and the judicious use of social and economic incentives can, over time, greatly enhance conservation potential at local to regional scales.

5. Conclusions

The information presented here is useful in understanding the influence on and dynamics of LTC stakeholders and, more generally, the motivations of small-scale land trust stakeholders regarding preserving the scenic beauty of a region through land conservation.

Interviews provided the insight that, while the natural environment is central to land conservation initiatives, its manipulation, utilization, and appreciation by local communities cannot be overlooked in developing a successful conservation organization. These factors are key to how people interact with the world around them and their understanding allows land conservation organizations to focus their message on motivators that will capture their surrounding communities.

Much of the interview content focused on the sentiments of the LTC organization regarding passion and stakeholder/community satisfaction. This speaks to how invalu-

able personal relationships and partnership formations are for facilitating successful land conservation. This research is an instructive case study for the successful operation of land trust organizations as a means of socially- and ecologically-beneficial conservation. Understanding these operational strategies for operation could be beneficial looking into the future as conservation may aide in the adaptation of land to environmental stressors (e.g., sea-level rise) and the protection of ecological diversity.

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