

CHARACTERIZING THE INTEGRATION OF EQUITY INTO PENNSYLVANIA  
CONSERVATION LAND TRUST AND LAND CONSERVATION ORGANIZATION  
MISSIONS AND RELATED MATERIALS

## CAPSTONE ABSTRACT

Social equity is an important topic in public administration. Over the last 10 years, increased racial tensions in the United States have launched issues of social equity, social justice, and diversity, equity, and inclusion into the national discourse, resulting in increased expectations to integrate these principles into different disciplines. This includes the land conservation sector. In the United States, land trusts and land conservation organizations have played an increasingly important role in new land conservation. However, despite their power to make important decisions about who has access to, decision-making power over, and benefits from land, there is little to no research examining land conservation organizations' commitment to equity. Land conservation organizations make an interesting subject for equity-related because they potentially experience pressure to pursue equity-related work through their identities as conservation organizations, as provisioners of public services, and as organizations subject to public discourse around issues such as diversity, equity, and inclusion.

Drawing upon several bodies of literature, this study used content analysis to examine how 88 Pennsylvania land conservation organizations conceptualized and committed to equity in their mission statements and contemporary textual materials. We grounded the primary content analysis methodology in Agyeman's (2005) Just Sustainability Index, which we adapted slightly to the land conservation sector. Our research showed that ~46% of land conservation organizations studied had no expressed

commitments to equity. However, these organizations only managed ~17% of the total lands conserved by the sample selection. Organizations that expressed some commitment to equity were mostly categorized with low or medium-low commitments to equity. Nonetheless, their expressions of equity related to various issues such as public benefits, public land access, community engagement in land stewardship, environmental justice, and DEI. We also found that several organizational variables may positively correlate with a commitment to equity, though further research is warranted.

Overall, our research suggests that although many land trusts consider equity-related issues, there is room for improvement. We suggest that future studies examining this topic should integrate additional qualitative data sources (e.g., interviews) and construct an evaluative index that reflects expressions of equity unique to the land conservation sector.

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ORGANIZATION MISSIONS AND RELATED MATERIALS**

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## **Characterizing the Integration of Equity into Pennsylvania Conservation Land Trust and Land Conservation Organization Missions and Related Materials**

Over the last few decades, public sector institutions have experienced growing pressure and societal expectations to address equity-related issues in public service provision and operations. Within the field of public administration, equity is concerned with the “fair, just, and equitable management of [public institutions]...distribution of public services, [formation] and implementation of public policy...[and] prevent[ing] and reduc[ing] inequality, unfairness, and injustice based on important social characteristics” (Johnson & Svara, 2015, p.16; National Academy of Public Administration, 2000). In the last few years, palpable increases in racial tension in the United States have brought discussions about social equity to the forefront of public and private spheres, now in association with social justice and the growing diversity, equity, and inclusion (DEI) field. The elevation of these concepts into the public consciousness has led to waves of commitments across various public and private sectors to address institutional racism, embrace social justice and equity, and integrate DEI values into organizations. While a growing body of research demonstrates the importance of equity (see Berry-James et al., 2021; Gooden, 2015; Guy & McCandless, 2012; Riccucci, 2009) and the organizational benefits of DEI programming (see Bernstein & Salipante, 2023; McCandless et al., 2022; Sabharwal, 2014; Yang & Konrad, 2011), the application and exploration of equity-related concepts in different sectors remain quite varied.

In the environmental sector, equity-related issues have traditionally been associated with the environmental justice (EJ) field. The EJ field is concerned with correcting inequities in the distribution of environmental hazards and negative

environmental outcomes, which typically and disproportionately impact people of color and the poor (Brown, 1995; Evans & Kantrowitz, 2002). Over time, the growing influence of the EJ movement and other societal pressures have led to the application of equity and social justice principles to other environmental fields, such as conservation (see Reed & George, 2017 on just conservation). Applying equity and social justice concepts to different environmental fields is essential since humans are increasingly intertwined with our environment, and many environmental phenomena, such as climate change, will most significantly affect the most vulnerable and marginalized.

However, one environmental field for which there is relatively little research on equity is land conservation (Beckman et al., 2023; Friedman et al., 2018). Land is a critical natural resource that, when conserved in a natural or semi-natural state, can provide significant environmental benefits ranging from natural beauty and clean water to carbon capture and climate regulation (*Land Conservation Benefits* | *mass.gov*, n.d.). Land conservation also plays an important role in generating interest in nature, which may lead to more political engagement on important environmental issues such as climate change. In addition, land has played a central role in wealth generation, conquest, and development throughout the history of the world.

In the United States, federal and state government agencies have historically played a principal role in land conservation and the stewardship of public lands. For example, the National Parks Service (NPS) manages 429 parks covering more than 85 million acres that provide public access to areas of natural and/or historical significance (NPS, n.d.). As public institutions, these agencies are obliged to strive for equitable service provision. However, this is not necessarily the case for other agents of land

conservation in the United States, such as conservation land trusts (subsequently referred to just as land trusts) and land conservation organizations.

A land trust is a type of private non-profit organization that conserves land and promotes environmental stewardship in communities across the United States (Brewer, 2003). Over the last 20-30 years, land trusts and land conservation organizations have played an increasingly important role in new land conservation and park management relative to public agencies (Rigolon, 2019). According to the Land Trust Alliance, land trusts have conserved more than 61 million acres of private land across the country, which represents almost 75% of the total land managed by the NPS (LTA, n.d.-a). In Pennsylvania, land trusts manage more than 880,000 acres of private land, not all of which are made accessible to the public (LTA, n.d.-b). Accordingly, land trusts and land conservation organizations play an essential role in modern land conservation and governance, especially at local levels, with influence over who benefits from and has access to, ownership of, and decision-making power over land. However, little is known regarding how land trusts and land conservation organizations conceptualize their commitments to equity in land conservation or even whether they are committed to equity in the first place.

Land trusts and land conservation organizations make compelling candidates for equity-related research for several reasons. First, there are well-documented historical and modern land-related inequities related to institutionalized racism, land access, accrual of land-related benefits, and more (see Lang et al., 2023; Pahnke & Treacle, 2023; Sims, 2023; Van Sant et al., 2021). Therefore, there is an urgency to understand if and how all land conservation actors are committed to addressing these persistent challenges.



Second, land trusts and land conservation organizations make an interesting case study for equity due to their intersecting identities and roles. As conservation-focused organizations, land trusts are subject to equity-related influences from the environmental justice and just conservation fields. As organizations that often receive government funding, deliver public services, and collaborate with governments on land management, land conservation organizations fall within the realm of public administration and may experience pressure to address equity in relation to public service provision. Finally, land trusts have been subject to the same societal pressure to promote dialogue, commitments, and action related to equity, social justice, and DEI in the last five to ten years. Accordingly, land trusts and land conservation organizations may produce unique perspectives regarding equity that are worth studying.

### **Research Questions**

This study seeks to contribute to an emerging body of research by qualitatively examining how Pennsylvania-based land trusts and land conservation organizations conceptualize and commit to equity through their missions and related materials (e.g., values, histories, vision statements, etc.). In pursuit of this objective, the study seeks to address three interrelated research questions, the last of which is principally exploratory:

- Q1: How do Pennsylvania-based conservation land trusts and land conservation organizations incorporate equity into their organizational mission statements and contemporary textual materials?
- Q2: What patterns emerge regarding how Pennsylvania land trusts and land conservation organizations characterize and commit to equity?

- Q3: What additional themes from Pennsylvania land trust and land conservation organization mission statements and contemporary textual materials merit future research?

## **Literature Review**

As described in the introduction, many pressures potentially influence expressions of equity in the land conservation sector. However, there is a relatively small array of research directly examining land conservation and equity. Therefore, we cast a wide net to capture relevant literature on equity from public administration, environment, conservation, diversity, equity, and inclusion (DEI), and related fields. We used the following non-exhaustive list of keywords in various configurations to source articles for the literature review: equity, land trust, land conservation, conservation, park equity, land access, public recreation, environmental justice, just sustainability, just conservation, social equity, nonprofits, mission building, mission statements, diversity, equity, and inclusion (DEI), accreditation. After identifying an initial selection of research articles through these database searches, we sourced additional research articles by reviewing papers referenced by the initial selection.

In the following narrative, we review our findings, beginning first with a review of relevant equity theory and literature from the field of public administration. We then review equity in the environmental field, focusing on environmental justice, just conservation, and equity in land conservation. We conclude with a brief review of the status of land conservation in Pennsylvania, followed by our proposed theoretical framework. We integrate references to diversity, equity, and inclusion (DEI) research throughout the entire literature review rather than present it as a standalone section.

### **Equity Theory in Public Administration**

Social equity has appeared throughout the history of public administration, law, and governance in the United States and is now a pillar of public administration alongside

economy, efficiency, and effectiveness (Stokan et al., 2023). Many modern public administration scholars adopt the definition of equity developed by the National Academy of Public Administration's (2000) Standing Panel on Social Equity, which follows:

The fair, just and equitable management of all institutions serving the public directly or by contract, and the fair, just and equitable distribution of public services, and implementation of public policy, and the commitment to promote fairness, justice, and equity in the formation of public policy.

Johnson & Svara, (2015, p. 16) amend this definition, adding that social equity also requires public administrators “to prevent and reduce inequality, unfairness, and injustice based on important social characteristics.” This addition appears related to an emerging modern expectation that public institutions should accommodate diversity and inclusion (Riccucci & Van Ryzin, 2017; Sabharwal, 2014). Collectively, these definitions suggest a few different expressions or approaches to social equity. Svara & Brunet (2005) offer four facets of social equity that are frequently cited in public administration research: procedural fairness (concerned with due process, equal protection, and equal rights), distributional equity/access (concerned with how services or benefits are distributed and ensuring greater benefits to the disadvantaged), quality (concerned with the level of consistency of services), and outcomes (concerned with generating equitable positive outcomes for all groups).

Although equity-related discourse is increasingly common in the United States, equity remains understudied relative to the other pillars of public administration (Frederickson, 2010). For example, a recent study found that between 2009 and 2019,

only 127 articles from 22 public administration and public policy journals were published with the word equity appearing in the title, abstract, or keywords (Shen et al., 2023). Still, researchers have begun expanding the research base by applying social equity theory to issues of race, socioeconomic class, sexuality, education, public transportation, health care, environmental threats, intergenerational debt, human trafficking, social justice, and more (Gooden, 2015; Guy & McCandless, 2012). Despite this progress, some fields, such as land conservation, remain understudied regarding social equity (Beckman et al., 2023; Friedman et al., 2018).

The case for applying social equity theory to land conservation is strong since land is a critical resource with significant social, political, economic, environmental, and health implications. There are also many historical and current inequities regarding who benefits from and has access to, ownership of, and decision-making power over land. In addition, since private land conservation organizations frequently receive public funds (e.g., grants), provide public services (e.g., park management, educational programs), and partner directly with government institutions (e.g., comanage land), they reasonably fall within the sphere of public service and should be held accountable to addressing social equity-related issues. This is because the NAPA definition of social equity embraces a broad vision of public administration, shared by many scholars, that includes governments, businesses, nonprofits, community-based organizations, and other institutions involved in public services (see Johnson & Svara, 2015; Frederickson, 2010).

Although land trusts and land conservation organizations clearly fall within the public service sphere, it remains to be seen whether they view themselves as agents of public service. To the author's knowledge, no study has yet examined if and how land

trusts consider their role as public servants. Researching this further is essential since there can be key differences between government and nonprofit ethical frameworks (Malloy et al., 2010). Accordingly, land trusts and land conservation organizations may have different concepts of or commitments to equity than their government partners and counterparts.

While social equity theory from public administration serves as a useful foundation for this study, applications of social equity from the environmental sector may be a more appropriate framework for examining and understanding land conservation organizations' commitments to equity. In the next section, we explore the application of social equity to the environmental sector through the environmental justice and just conservation fields before narrowing our focus to equity in land conservation.

## **Equity in the Environmental Field**

### ***Environmental Justice***

In the environmental sector, equity is an essential component of the environmental justice (EJ) movement. The EJ movement emerged from community organizing and advocacy by the poor and people of color regarding the inequitable distribution of environmental hazards and negative health outcomes among different populations (related to distributional and outcome equity). Environmental inequality is a product of the market economy and institutionalized racism that creates class and race patterns that shift the burden of environmental risk largely onto the poor and people of color (Brulle & Pellow, 2006). For example, Brown (1995) conducted a meta-analysis of 54 different environmental health studies, finding that people of color (race) and the poor

(socioeconomic class) were consistently located near known environmental hazards and less likely to receive immediate remediation support.

Environmental justice, therefore, represents the actions, policies, and processes to correct existing environmental inequities. The Environmental Protection Agency defines EJ as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, concerning the development, implementation, and enforcement of environmental laws, regulations, and policies” (EPA, n.d.). Recent environmental justice literature also expands beyond the distribution of environmental risks, arguing that people should also not disproportionately benefit from environmental goods due to socioeconomic, racial, gender, or other characteristics (Fredericks, 2015). Therefore, environmental justice leverages procedural fairness and other strategies to address the inequitable distribution of environmental risks and benefits. These methods may be applicable to land trusts, regarding the distribution and management of ecosystem benefits.

### ***Just Conservation***

The growing prominence of environmental justice has led to the broader integration of equity and social justice considerations into the environment sector and its many sub-sectors (Finney, 2014). Relevant to land conservation organizations, environmental justice principles are shaping the conservation sector through the emerging field of just conservation. While the traditional Western view of conservation prioritizes the protection of nature in a pristine, wild state, just conservation seeks to balance the needs of both nature and society (Reed & George, 2017). Striking this balance is challenging since conservation and social justice priorities often conflict with each other

(Vucetich et al., 2018). While some practitioners reject this blending, the issues of procedural fairness and inequitable distribution of costs and benefits raised in the environmental justice field are as applicable to conservation as they are to environmental health (Reed & George, 2017).

A prime example relevant to land conservation organizations is the tension over conserving land for nature or for public access (e.g., recreation). Decisions regarding new land conservation most often prioritize conservation- or ecology-related factors (e.g., preserving ecosystem services and wildlife habitat) rather than social needs. However, due to documented disparities in land access along racial and socioeconomic lines, researchers argue that social justice and equity considerations should be integral to new land conservation decisions (Reed & George, 2017; Sims et al., 2022). The underlying tension between conservation and social equity priorities may be one of the reasons why there are still many gaps when it comes to integrating the environmental justice and conservation sectors in the United States (Gould et al., 2018).

Although the just conservation field is relatively young, it is growing quickly. Friedman et al. (2018) note that most studies examining social equity in conservation were published after 2009, with the majority focusing only on issues of distributional equity and, more limitedly, on procedural fairness. This includes studies examining the importance of the fair allocation of public land and environmental benefits and the role of community-based approaches in enhancing social equity and conservation outcomes (Montambault et al., 2018; Villamagna et al., 2017). These issues are directly relevant to land conservation organizations, which frequently engage with the public and make regular decisions over land acquisition and access. Other researchers have explored other



aspects of social justice, such as the need to racially diversify the conservation field, which has been (and continues to be) predominantly white (Morales et al., 2023). They argue that increasing the representation of people of color in the conservation field may lead to policies, practices, and programs that address historical inequities while equitably meeting the needs of current communities. Accordingly, this line of inquiry potentially links social equity with diversity and inclusion theories. While the just conservation field is small, the body of research exploring social justice and equity in the land conservation sector is even smaller.

### **Equity and Land Conservation**

There is a small but growing body of research examining equity-related issues in the land conservation sector. I could only find ~12 substantive studies (all published after 2009) that specifically address equity, land conservation, and land trusts. The existing literature can generally be broadly divided into two categories: studies examining inequities in the land conservation sector overall and studies examining how land trusts address or think about equity-related issues. Subsequently, we review both groups of research, offering ideas for how they may influence our study.

### ***Inequities in Land Conservation.***

There are many existing and historical inequities within the land conservation sector. Some researchers have explored inequities related to new land conservation. With the rise of land trusts, conservation easements have become an increasingly common land conservation strategy that typically results in non-public land conservation (Parker & Thurman, 2019). Under this model, landowners form an agreement with a land trust or government agency to conserve their land under limited, typically non-public use and

often in exchange for a tax break. However, the conservation easement model, which is grounded in racist ideologies, disproportionately benefits high-income, well-connected individuals and, generally, not people of color (Van Sant et al., 2021). Relatedly, Lang et al. (2023) found that new land conservation resulted in significant growth in new housing wealth equity for nearby properties, with the richest quartile of households examined receiving 43% of all home equity benefits from land conservation and with White households receiving 91% of benefits. These studies highlight a few examples of distributional equity challenges related to land conservation.

Related to the question of land acquisition is that of public access to land and natural areas. Access to nature is important for numerous reasons, such as individual health and well-being and building commitment to environmental causes. Some also consider access to land to be a fundamental right or public good (see Lieberknecht, 2009). Unfortunately, not everyone has equal access to nature and public lands for recreation and other purposes. For example, researchers note that there are historical, financial, and cultural obstacles limiting people of color in the United States from engaging with nature and conservation (Finney, 2014). This includes perpetuated social messaging that natural areas are white spaces (Powell, 2021). Apart from these issues, researchers have also documented inequities in the distribution of public lands.

Van Sant et al. (2021) find that the conservation easement model produces a fragmented distribution of natural lands that may replicate historical inequalities in land access. Relatedly, a study of land access in New England found that communities with lower socioeconomic status or with greater percentages of people of color had less access to protected natural lands (Sims et al., 2022). To address these inequities, they argue for

the importance of considering access to protected open areas for traditionally vulnerable or marginalized communities when prioritizing new land conservation. These studies support the observation that people of color and people of lower socioeconomic status experience fewer benefits from land conservation, supporting the case for integrating equity and environmental justice principles into the land conservation field.

Lieberknecht (2009) explored public land access from a different perspective, conducting a national survey of 400+ land trusts to measure their commitment to public access as a function of equity. She found that while most land trusts offer public access to their lands, public access was not a top organizational priority. In fact, she found that most land trust-managed properties were not open to the public. This difference could be related to the underlying tension between social equity or social justice and conservation priorities (see Beckman et al., 2023; Vucetich et al., 2018). While Lieberknecht's research suggests that a commitment to public access could be an expression of equity or public service, it may not address underlying inequities in the distribution of conserved lands, especially if established using conservation criteria. Her research also suggests that there may be a disconnect between land trusts' expressed values and their actions, which could have implications for our research.

### ***Land Conservation Organization Considerations of Equity***

There are few studies examining how land trusts and land conservation organizations conceptualize equity. This is not unexpected, as research on equity, in general, is very limited (Frederickson, 2010), and there is still a large gap in the integration of environmental justice into the conservation sector more broadly (Gould et al., 2018; Shen et al., 2023). However, there are a handful of studies examining how land

trusts and land conservation organizations conceptualize equity. Beckman et al. (2023) offer one of the most comprehensive studies to date, applying a mixed-methods approach leveraging LTA census data and interviews with land trusts to assess how US-based land trusts incorporate justice, equity, and access into their conservation efforts. They found that land trusts that protected land in urban areas, maintained a broad base of volunteers/visitors, and prioritized local community work (rather than just conservation) were more likely to report on progress related to justice, equity, and inclusion (Beckman et al., 2023). These could also represent factors that influence land trusts' conceptualization of and commitment to equity.

Keller et al. (2022) also examined land trusts and DEI but focused on how land trusts that conserve farmland engage with DEI values and ensure land access to underrepresented groups. Through a series of interviews, land trust staff raised DEI-related issues such as the presence or lack thereof of racial diversity in their regions, the disparity between local demographics and those who access the land, and the desire to support different types of diversity, including age, disability, and socioeconomic class. This affirms that some land trusts are actively discussing equity-related issues and often conceptualizing them in relation to a broad DEI framework.

Keller et al. (2022) also found that although most of their sample selection was actively pursuing DEI work, it was not reflected in mission statements and related materials. Other researchers have found similar inconsistencies between land trust mission statements and professed values. For example, Dayer et al. (2016) found that only 17% of land trusts referenced “wildlife” in their mission statements despite survey data indicating that protecting land for wildlife was a primary outcome of their land

protection efforts. These findings suggest that relying only on mission statements or written documents to assess land conservation organizations' commitment to equity may not paint a full picture of their efforts.

Both Beckman et al. (2023) and Keller et al. (2022) also identified common barriers for land trusts interested in pursuing DEI and equity-related work. This included financial and personnel-related resource constraints, board disinterest or hesitancy, and limited expertise were common barriers for land trusts to advance equity- and DEI-related work. These constraints align with common institutional and resource-based obstacles to diversity and inclusion programming identified by nonprofit association leaders (Mason, 2020). These same factors may also influence how the land conservation organizations in our study conceptualize, commit to, and actively support equity. One potential resource to overcome these barriers could be professional affiliation organizations.

### ***Equity and land conservation professional affiliation organizations***

Just like healthcare, education, and many other sectors, the land conservation sector has professional affiliation organizations that support member organizations with networking, learning resources, training, policy advocacy, and other services. Nationally, the Land Trust Alliance (LTA) fills this function, providing support to 923 land trust members and 144 affiliated organizations located throughout the United States to strengthen land conservation (LTA, n.d.-c). LTA plays an important role in setting professional standards, expectations, and ethics for land trusts in the United States. Within Pennsylvania, WeConservePA fulfills a similar role, supporting 75 active members (land trusts, trail groups, watershed associations, environmental advisory

councils, etc.) with advocacy, information sharing, technical assistance, resource libraries, and training and networking opportunities to enhance land conservation in the Commonwealth (WeConservePA, n.d.-a; WeConservePA, n.d.-c).

Through its national reach, the LTA established the Land Trust Standards and Practices (S&P) in 1989 (revised in 2016-2017), which define a series of guidelines for operating a land trust “legally, ethically and in the public interest, with a sound program of land transactions and land stewardship” (LTA, n.d.-d). All dues-paying LTA members must adopt and follow the S&Ps, which cover topics such as ethics, legal compliance, accountability, transparency, conservation stewardship, human resources, and other topics. Most relevant to this study is Standard 1: Ethics, Mission, and Community Engagement, which requires that a land trust “...maintain high ethical standards and have a mission to conservation, community service, and public benefit” (LTA, 2017, p. 3). This tripartite mission seemingly represents a vision of conservation integrated with environmental justice and even a public service perspective rather than a traditional Western conversation approach. We should expect, therefore, to find these themes among the mission, values, and vision statements of LTA-affiliated land trusts.

The community engagement subcomponent of Standard 1 provides more context, stating that land trusts should:

1. Develop an inclusive, welcoming organizational culture that respects diversity
2. Seek to engage people who are broadly representative of the community in which the land trust works and foster opportunities to connect them with the land
3. Develop an understanding of the land trust’s community, and communicate the land trust’s work, services and impact in a manner that resonates with and engages that community
4. Build relationships with community leaders and other stakeholders in the land trust’s community. (LTA, 2017, p. 3)

Although framed as community engagement, this Standard integrates concepts related to diversity, equity, and inclusion theory, representative bureaucracy, distributional equity, and procedural fairness. Accordingly, we should expect to find these themes among LTA-affiliated land trust mission statements and related materials.

Complementing this community engagement framework, the LTA also provides members with access to a large resource library of topics related to Diversity, Equity, Inclusion, and Justice (DEIJ). A dedicated webpage also provides guidance and resources to LTA members about the racist history of conservation, implementing organizational DEI practices, and on incorporating DEIJ principles into outreach and communications, programming, partnerships, and relationships (LTA, n.d.-e). WCPA provides similar resources to its member organizations. In June 2020, it organized a Diversity, Equity, Inclusion, and Justice (DEIJ) Community in response to social unrest over police brutality toward people of color and institutionalized racism (WeConservePA, n.d.-d). The Community developed an organizational DEIJ statement for WCPA and a resource library about incorporating DEIJ principles into the land conservation field.

The LTA also spearheaded the creation of a national land trust accreditation program in 2006 to recognize exceptional land trusts and enhance public confidence in the private land conservation sector (LTAC, n.d.). Accreditation programs are common in the healthcare and education sectors and are shown to have various benefits, such as enhanced organizational reputations, increased charitable giving, enhanced perception of quality of services, and even improved performance (Alkhenizan & Shaw, 2011; Becker, 2018; Peng et al., 2019). However, accreditation is usually a complex process that may not be viable for all organizations. For example, some research shows that nonprofits

with strong internal governance structures are more likely to obtain accreditation than those without (Feng et al., 2019). This may hold true for the Land Trust Accreditation Commission's (LTAC) accreditation process, which requires significant board support, adoption of LTA's Standards and Practice, compliance with several performance indicators, an exhaustive application package, and a lengthy review and audit process (LTAC, n.d.). Provided this rigorous process and the requirement to adopt the S&Ps, we may expect that LTAC-accredited land trusts will display greater commitments to equity.

In summary, the LTA and WCPA may play pivotal roles in advancing equity-related issues in land conservation among their constituent members.

### **Land Conservation in Pennsylvania**

Although land trusts and land conservation organizations operate nationally, we chose to focus this study on the Commonwealth of Pennsylvania, which has a favorable legal, social, and political environment for natural land conservation. Article I, Section 27 of the Commonwealth of Pennsylvania Constitution enshrines the right of all current and future generations of Pennsylvanians to a healthy environment and access to public natural resources. Aligned with this vision, Pennsylvania also protects nearly 4 million acres of state land between state forests (2.2 million acres), state parks (200,000 acres), and state game lands (1.5 million acres), in addition to the 514,000-acre Allegheny National Forest, which is managed by the U.S. Forest Service (Penn Future, n.d.; USFS, n.d.).

The government of Pennsylvania is also committed to integrating DEI considerations into its land conservation and recreation efforts. For example, the Commonwealth is investing millions of dollars to improve accessibility to public lands



for all people, particularly people of color (Parish, 2023). Initiatives include connecting schools and children to outdoor recreation opportunities, improving trail accessibility, and implementing advisory boards to inform recreation planning, among other items.

Pennsylvania's Department of Conservation & Natural Resources (DCNR), which is responsible for stewarding Pennsylvania's state forests, has also developed a public DEI commitment focused on recruiting and retaining a diverse workforce, ensuring equitable and inclusive programming, and ensuring everyone can access state-managed lands (PA DCNR, n.d.). Collectively, these laws, policies, and commitments create a robust enabling environment in Pennsylvania that may encourage organizations to address equity-related issues in land conservation.

The Commonwealth also relies heavily on partnerships with nonprofits, community-based organizations, and the private sector to implement their programs. This includes land trusts and related land conservation organizations. According to the Land Trust Alliance, there are 82 active conservation land trusts in Pennsylvania that protect at least 880,722 acres of land (LTA, n.d.-a). This represents nearly one-quarter of the total acres managed by the Commonwealth of Pennsylvania. Geographically, Pennsylvania's land trusts and land conservation organizations occur throughout the state but are generally clustered in the eastern and western sides of the state, with the largest cluster radiating outward from Philadelphia (WeConservePA, n.d.-c).

Table 1 presents additional statistics about Pennsylvania land trusts collected from the LTA website that demonstrate the scope and scale of land trusts' conservation efforts across the Commonwealth. Of note, 77% of land trusts provide some degree of public access, which could potentially represent a form of distributional equity. In addition,

according to the LTA, Pennsylvania land trusts are expanding relationships with more diverse beneficiaries (i.e., by race, age, sexuality, disability status, veterans, etc.) and helping to address community needs, including social and environmental justice, health and wellness, and community and economic development (LTA, n.d.-a). These data points indicate at least some land trusts are concerned with questions of diversity, equity, inclusion, and justice. However, it remains to be seen how Pennsylvania land trusts and land conservations conceptualize equity and express commitments to equity as a whole.

**Table 1**

*LTA Statistics about Pennsylvania Land Trusts*

880,722 acres protected
77% of land trusts provide public access to lands
426,400 people visit land trust land
157,621 people served
332 miles of trails but only 17 with universal access
91% increased community engagement efforts in the last 5 years
82 land trust active in PA; 54 are LTA members; 23 are accredited.

**Theoretical Framework**

Pennsylvania land trusts and land conservation organizations face an interesting mixture of pressures to address equity due to their multifaceted identities. As nonprofits that frequently deliver public services (access to nature, educational programs, etc.), they are subject to the social equity expectations from the public administration sector. As conservation organizations, land trusts are subject to the growing equity discourse from the environmental justice, just sustainability, and just conservation movements. As modern organizations, they are also subject to the recent wave of social justice, equity, and DEI discourse from the last five to ten years, which has largely focused on racial and socioeconomic inequality. In addition to these three factors, land trusts and land conservation organizations' perceptions of and commitments to equity may also be

influenced by professional membership organizations such as the Land Trust Alliance and WeConservePA or state partners like the DCNR. These organizations, in turn, are also subject to the same three sources of pressure regarding equity.

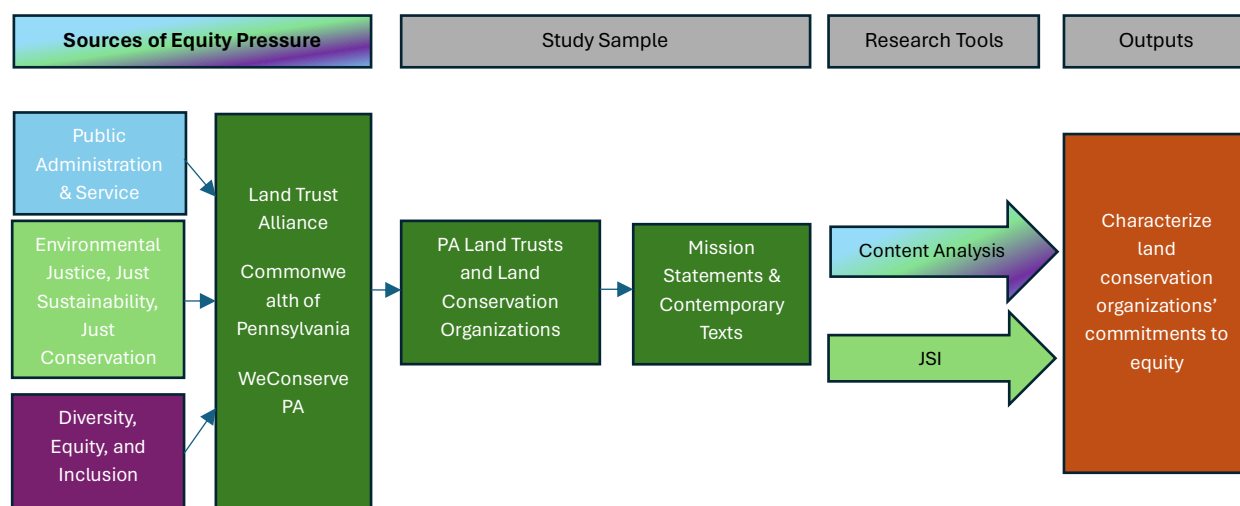
The confluence of these sources of equity pressures may lead land trusts and land conservation organizations to produce interesting conceptualizations of and commitments to equity. Since we found no appropriate framework from the conservation field for assessing expressions of equity from land conservation organizations, we decided to borrow an existing tool from the just sustainability sector, the Just Sustainability Index (JSI), to begin exploring this concept. Agyeman (2005) developed the JSI to assess the integration of equity, justice, and sustainability values into environmental organizations' mission statements and related materials.

We believe this theoretical borrowing is appropriate because the sustainability and conservation fields are closely related and share many challenges regarding the integration of environmental justice- and equity-related themes. For example, both fields traditionally conceptualize the environment independently of humanity, operate via top-down approaches, prioritize environmental conservation rather than human needs, are overrepresented by white practitioners, and experience tension regarding the integration of social equity concepts (Agyeman, 2005; Morales et al., 2023; Reed & George, 2017; Vucetich et al., 2018). In addition, the sustainability sector is relevant to land conservation organizations, which traditionally focus on conserving the environment and natural resources for the future. We describe in the Methods section how we slightly adapted the JSI in response to our literature review and the nuances of the land conservation sector. We pair the JSI with additional content and thematic analysis to

characterize additional sentiments in land conservation organization mission statements, with a focus on language relevant to public service and DEI that could inform future research. Figure 1 presents a visual representation of this theoretical framework, which relates relevant theory to our methodological design.

**Figure 1**

*Theoretical Framework for PA Land Conservation Organization Expressions of Equity*



## Hypotheses

Based on our literature review, we formulated several hypotheses related to our primary research questions. Related to Research Question 1, which states, “How do Pennsylvania-based land conservation organizations incorporate equity into their organizational mission statements and contemporary textual materials?”, we hypothesize the following:

- Hypothesis 1 (H1): Land conservation organizations will discuss equity in relation to public access to land (distributional equity), DEI, and/or community engagement in land stewardship (procedural fairness).

- Hypothesis 2 (H2): Land conservation organizations will incorporate equity more frequently into contemporary textual materials than mission statements.

Related to Research Question 2, which states, “What patterns emerge regarding how Pennsylvania land conservation organizations characterize and commit to equity?”, we hypothesize the following:

- Hypothesis 3 (H3): Most land conservation organizations will express low commitments to equity.
- Hypothesis 4 (H4): Land conservation organizations that are affiliated with the LTA, have adopted the LTA Standards & Practices, and/or are accredited by the Land Trust Accreditation Committee will be more likely to express some commitment to equity.
- Hypothesis 5 (H5): Larger, more mature land conservation organizations will be more likely to make commitments to equity.

Research Question 3 states, “What additional themes from Pennsylvania land trust and land conservation organization mission statements and related resources merit future research?”. Since this question is oriented toward exploration, we do not propose any corresponding hypotheses. However, we anticipate this research question may help us to understand if and how public service and DEI-related themes may appear in land conservation organizations’ mission statements and contemporary textual materials.

## **Design and Methods**

This study employed a qualitative research design to characterize how Pennsylvania land trusts and land conservation organizations incorporate equity into their mission statements and contemporary website resources. The following sections describe the research design, sample selection, and data collection and analysis process in greater detail.

### **Research Design**

The principal research method for this study was content analysis. Content analysis is a tool for identifying keywords, themes, and concepts from qualitative datasets (Columbia University, 2023). Accordingly, it is appropriate for analyzing data such as interviews, transcripts, websites, annual reports, and similar materials. For this study, we employed a hybrid deductive-inductive content analysis approach to analyze the mission statements and contemporary textual materials from 88 land trust and land conservation organizations operating in Pennsylvania (see Sample Selection section).

The deductive coding process was grounded in Agyeman's (2005) Just Sustainability Index, which he developed to identify and characterize environmental organizations' commitment to equity, justice, and sustainability in mission statements and related materials. To construct the JSI, Agyeman (2005) first coded qualitative data for specific terms and sentiments associated with equity, justice, and sustainability. He then created an index that assigned a ranked value (0, 1, 2, 3) to each organization for their commitment to equity/justice based on the presence and complexity of the coded language. In the following section, we describe how we adapted Agyeman's JSI to the land conservation sector.

Our inductive coding process was informed by our literature review and focused loosely on coding language related to DEI and public service. We structured the inductive coding exercise to complement our primary equity inquiry and identify potential avenues for future research. To facilitate a more detailed inquiry into our research questions, we also collected secondary data about each organization to determine if there are any correlations between expressions of equity and other factors.

### ***Adapting the Just Sustainability Index***

Following Agyeman (2005, p. 107-108), we analyzed organizational mission statements and contemporary textual materials for references to the terms “equity” and “justice”, their derivations (e.g., “equitable”), and associated sentiments (e.g., “the fundamental right of all people to have a voice in decisions”, “disproportionate environmental burdens”). Following Agyeman (2005), we also coded for expressions of intergenerational and intragenerational equity, which are used to distinguish between the different JSI rankings. Intergenerational equity considers whether decisions made today will produce equitable outcomes for future generations (e.g., preserving natural resources for future generations), while intragenerational equity is equivalent to social equity or social justice (Agyeman, 2005). Based on our initial literature review, we also expanded the types of sentiments associated with equity and justice to include references to providing benefits or land access “for all” and to racial or social justice. We did not code for “sustainability”, which was specific to Agyeman’s research questions but not ours.

While Agyeman’s (2005) JSI included a four-point ranking system (zero to three), we expanded the criteria to a six-point ranking (zero to five) to allow for more nuance in categorizing the expressions of equity (see Table 2). When constructing the new ranks,

we followed Agyeman’s implicit logic that expressions of equity and justice in mission statements represent a more significant commitment than those in contemporary textual or programmatic materials. Rankings 0, 1, and 5 in Table 2 correspond exactly to Agyeman’s 0, 1, and 3 rankings, with no changes. For our rankings 2 and 3, we allowed the expression of either equity *or* justice in mission statements (as opposed to and) and created a new “significant mention” level for references to equity or justice in contemporary textual materials (applied to our rankings 3 and 4).

**Table 2**

*Amended Just Sustainability Index*

Ranking	Level	Explanation
<b>0</b>	No commitment to equity	No mention of equity or justice (or associated sentiments) in core mission statement or in prominent contemporary textual material
<b>1</b>	Low commitment to equity	No mention of equity or justice (or associated sentiments) in core mission statement. Limited mention (once or twice) in prominent contemporary textual material.
<b>2</b>	Medium-low commitment to equity	Equity <b>or</b> justice (or associated sentiments) mentioned, but focused on intergenerational equity in core mission statement. Limited mention (once or twice) in prominent contemporary textual material.
<b>3</b>	Medium commitment to equity	Equity <b>or</b> justice (or associated sentiments) mentioned, but focused on intergenerational equity in core mission statement. Significant mention (three or more) of justice or equity in prominent contemporary textual material.
<b>4</b>	Medium-high commitment to equity	Equity <b>and</b> justice mentioned, but focused on intergenerational equity in core mission statement. Significant mention (three or more) of justice and equity.
<b>5</b>	High commitment to equity	Core mission statement relates to intra- and intergenerational equity <b>and</b> justice and/or justice and equity occur in same sentence in prominent contemporary textual material.

**Sample Selection**

The unit of analysis for this research is conservation land trusts and private/nonprofit land conservation organizations founded and/or operating in Pennsylvania. By focusing on a single state, we reduce the potential sample selection from several thousand organizations to fewer than 200 and, potentially, reduce the influence of inter-state variation related to state laws, economic conditions, or other



factors. We focus on Pennsylvania due to the Commonwealth's legal and political commitment to equitable access to nature, the author's experience working with a Pennsylvania land trust, and the lack of research on land conservation organizations and equity within the commonwealth.

Generating a comprehensive list of all land trusts and land conservation organizations operating in Pennsylvania was unfeasible due to data limitations and time constraints. Therefore, we relied on two primary sources of information for identifying potential land conservation organizations to include in the study. First, we created a list of all Pennsylvania-based conservation land trusts affiliated with the Land Trust Alliance (LTA). The LTA website also provides valuable secondary data about all affiliated land trusts, which it collects via its National Land Trust Census, issued every five years. Second, we identified additional land conservation organizations from the WeConservePA (WCPA) website. WCPA also provided basic secondary data about each affiliated land trust, which is described in further detail under the Data Collection section.

Between both websites, we generated a list of 99 potential conservation land trusts and land conservation organizations to include in the sample selection. We narrowed down this list to 88 organizations by removing those that lacked a website, publicly available mission statement, or other programmatic material; did not conserve any acres of land in Pennsylvania; and did not conserve land for conservation, public recreation, or environmental benefits purposes (i.e., historic preservation).

Our sample selection approach may limit the applicability of any findings from our study in meaningful ways. For example, by focusing only on Pennsylvania land trusts and land conservation organizations, our findings may not be generalizable to other

regions of the United States. In addition, by focusing only on LTA- and WCPA-affiliated land trusts and land conservation organizations, our findings may not apply to unaffiliated land conservation organizations in the state.

### **Data Collection**

Data collection began by generating an Excel list of 99 land trusts and land conservation organizations affiliated with the LTA and/or WCPA. For each organization, we copied all associated secondary data from the LTA and WCPA websites, which included fields such as office address, counties of operation, number of full-time staff, total acres conserved in Pennsylvania, accreditation status, and more (see Table 3 for a full list of all independent variables). We also created a new data field to document the political affiliation of the U.S. Representative serving the congressional district where each organization's headquarters was based. Political affiliations were determined by entering each organization's office address into the Congress.gov Find Your Members search (<https://www.congress.gov/members/find-your-member>).

The LTA and WCPA websites provided two overlapping variables that were occasionally inconsistent: whether the organization had adopted the 2017 LTA Standards and Practices (S&P) and the total acres conserved by the organization. Since we could not easily ascertain which values were more recent, we adopted the following solutions. For the 2017 S&P data field, we assumed the data on the LTA website was accurate since the LTA oversees the S&Ps. For total acreage, we retained the larger value based on the assumption that land trusts do not regularly divest land.

In addition to these inconsistencies, there were many incomplete data fields across the LTA and WCPA websites (e.g., year founded, counties of operation, number of full-

time staff, etc.). Data gaps were filled by reviewing each organization's website for the missing information. During the website review, we also updated existing values for several priority data fields (i.e., total acres conserved, number of full-time staff, number of board members, and counties of operation) to ensure we used the most up-to-date information for the analysis.

After completing the data set, we transformed several data fields and added a new column to facilitate analysis. We converted the year the organization was founded to the number of years in operation; counties of operation to the number of counties where they operate; the year the organization first joined the LTA to the number of years affiliated with the LTA; and converted all categorical variables from yes/no to 1:0. We also added a new column to document whether the organization was based outside of Pennsylvania and/or operated nationally/regionally (1) or operated only in Pennsylvania (0). Table 3 summarizes the secondary data fields we collected for each organization.

**Table 3**

*Description of Collected Land Conservation Organization Variables*

Variable	Variable Type	Description
<b>National/Regional Organization?</b>	Categorical	Whether the organization is based outside of PA and/or operates in multiple states (1) or is entirely based in PA (0).
<b>Democrat or Republican?</b>	Categorical	Whether the organization is based in a Congressional District represented by a Democrat (1) or Republican (0)
<b>LTA Affiliated?</b>	Categorical	Whether the organization is affiliated with the LTA (1) or not (0).
<b>Accredited?</b>	Categorical	Whether the organization is accredited by the Land Trust Accreditation Commission (1) or not (0).
<b>Adopted S&amp;Ps?</b>	Categorical	Whether the organization adopted the LTA Standards and Practices (1) or not (0)
<b># of board members</b>	Continuous	Total number of board members for the organization
<b>WCPA Affiliated?</b>	Categorical	Whether the organization is affiliated with WCPA (1) or not (0)
<b># of years in operation?</b>	Continuous	Number of years since the organization was founded.
<b># of counties of operation</b>	Continuous	Number of counties the organization operates in.
<b>Total acres conserved in PA</b>	Continuous	Total amount of land in acres that the organization conserves in Pennsylvania
<b># of years since first affiliated with LTA</b>	Continuous	Numbers of years since the organization was first affiliated with the LTA
<b># of full-time staff</b>	Continuous	Number of full-time staff working for the organization

In addition to this secondary data, we collected the organizational mission statement and contemporary textual materials from each organization's website. We defined contemporary textual materials as any prominent content found on or linked on the same webpage as the organizational mission statement. In most circumstances, this included text such as a vision, values, or goal statement, organizational history information, diversity, equity, and inclusion statements, and other related text. We narrowly defined contemporary textual materials to impose some artificial bounds on the scope of analysis since we lacked sufficient human resources and time to complete a thorough, detailed analysis of all relevant content on the organization's webpage. We acknowledge that this decision may limit the comprehensiveness of our findings. For example, we excluded at least two instances of DEI or values statements from the content analysis since they were presented on pages separate from the mission statement.

All mission statements and contemporary text were collected on March 17<sup>th</sup>. We copied each mission statement and the associated contemporary text into separate Word documents for each organization to facilitate independent content analysis of each in alignment with the JSI methodology. The following section summarizes our approach to data analysis, while the Results section discusses the actual products of our data analysis.

### **Data Analysis Approach**

We used NVivo, a qualitative data analysis software, to perform all content analysis for this study. To get started, we imported mission statements and contemporary textual materials as separate files and created a case for each organization in NVivo. This allowed us to analyze our data and codes by document type and organization to construct the JSI and permit additional analyses. In addition, we used NVivo's case classification

feature to import a spreadsheet that we used to link our secondary data for each organization with the resultant deductive and inductive codes from our analysis.

### ***Coding Process***

Following Agyeman (2005), we created codes in advance for equity (intragenerational equity as a child code), justice (environmental justice as a child code), and intergenerational equity to facilitate the creation of the JSI. We developed additional codes inductively throughout the coding process related to diversity and inclusion, anti-discrimination, anti-harassment, marginalized groups, person-related benefits, connecting people to nature, and public access. The inductive codes and corresponding themes suggest potential avenues for future research and were not included in the calculation of the JSI. Table 4 summarizes the deductive and inductive codes used for content analysis.

**Table 4**

### ***Summary of Content Analysis Codes and Definitions***

Code name	Parent code	Deductive or Inductive	Definition
<b>Equity</b>	-	Deductive	References equity, a derivative, or sentiments such as “the fundamental right of all people to have a voice in decisions” or benefits “for all”.
<b>Intragenerational equity</b>	Equity	Deductive	References a concept related to social equity or social justice
<b>Justice</b>	-	Deductive	References justice, a derivative, or sentiments related to racial/social justice.
<b>Environmental Justice</b>	Justice	Deductive	References environmental justice, a derivative, or sentiments such as “disproportionate environmental burdens” or “distribution of environmental benefits”
<b>Intergenerational Equity</b>	-	Deductive	References sentiments about conserving or preserving resources for future generations.
<b>Diversity &amp; Inclusion (D&amp;I)</b>	-	Inductive	References diversity, inclusion, and/or a related sentiment like accessibility or belonging.
<b>Anti-discrimination</b>	D&I	Inductive	References anti-discrimination statement, law, policy, etc.
<b>Anti-harassment</b>	D&I	Inductive	References anti-harassment statement, law, policy, etc.
<b>Marginalized Groups</b>	-	Inductive	References historically marginalized groups in the United States
<b>Person-related benefits (PRB)</b>	-	Inductive	References a goal, objective, or action that benefits people or the public as opposed to only nature (e.g., scenic beauty, ecosystem services, recreation)
<b>Connect people to nature</b>	PRB	Inductive	References a commitment to “connecting” people to nature, land, natural resources, etc.
<b>Public access</b>	PRB	Inductive	References commitment to public access to nature and land.

The initial coding for all 176 documents was conducted between April 7<sup>th</sup> and 8<sup>th</sup>, starting first with the mission statements and then all contemporary contextual materials. Content analysis best practices suggest having at least two individuals code each document to account for individual variation and biases. Since this was not possible, after the initial coding, we carefully reviewed the referenced text for each code (e.g., all text coded as “equity”) for consistency and made any required updates.

### ***Assigning the JSI Rankings***

Using the NVivo Matrix Coding Query tool, we produced two tables summarizing the total equity, justice, and intergenerational equity codes for each land trust mission statement and contemporary textual material. The tables were exported to Excel, combined, and manually reviewed to calculate the JSI score for each organization following the description in Table 4. For any organization assigned a JSI value of 2 or higher upon the first review, we conducted a second, in-depth review of the code counts and coded text to determine if they should be assigned a 3 or higher instead.

Nine organizations were coded with expressions of equity/justice in their mission statements and not their contemporary textual materials. Since this scenario fell outside the JSI rank descriptions, we assigned them each a JSI rank of 2. We made this decision because the JSI assumes that expressions of equity in mission statements are greater than those in contemporary textual materials and programmatic resources, which can be revised more regularly (Agyeman, 2005). Therefore, we assumed the lack of references in contemporary textual materials was due to sampling error based on our narrow definition of contemporary textual materials. Once finalized, we integrated the JSI scores for each organization into the master datasheet that contained all the secondary data about each

organization. We also uploaded the JSI values to the NVivo Case Classification sheet to facilitate the analysis of coded text by JSI ranking.

### ***Identifying Themes from Codes & Word Frequencies***

To complement the JSI values, we analyzed all coded language from the collected mission statements and contemporary textual materials to identify broader themes. We first identified themes by reviewing all text associated with each code to understand how our entire sample selection conceptualized equity, justice, and our inductive codes (i.e., diversity & inclusion, person-related benefits). We then analyzed the coded text by JSI ranking to determine if there were differences in how organizations at each JSI rank conceptualized equity and justice beyond the criteria used to create the JSI. In addition to this qualitative review, we used NVivo's word frequency tools to identify the 15 most common words in mission statements and contemporary textual materials. We calculated word frequencies for the overall dataset and disaggregated by JSI score (see Tables 9 and 10 in Results). We excluded the words "mission", "statement", "contemporary", and "materials" from the word frequency analysis since we included these terms as labels for all documents uploaded to NVivo. We also excluded the words "vision" and "value", which were frequently used as labels for portions of collected contemporary textual materials.

### ***Descriptive Statistics & Analyses***

In addition to the thematic analysis, we prepared descriptive statistics to understand our overall sample selection and the factors that may influence commitment to equity (i.e., JSI ranking). We calculated the average, sum, or count values for the continuous variables (e.g., # of board members) listed in Table 3. We also used pivot

tables to disaggregate our data by the categorical variables from Table 3 (e.g., LTA affiliated?), by expression of equity or not ( $JSI = 0$  v.  $JSI = 1, 2, 3$ ), and by final JSI rank to identify any potential trends to pursue in future research.



## **Results & Analysis**

Due to our methodological design, we generated both quantitative and qualitative observations to characterize how land trusts and land conservation organizations conceptualize equity. The following narrative presents our results organized by the type of analysis. We begin with a broad characterization of the overall dataset before examining findings specific to our research questions.

### **Characterizing the Sample Selection**

We calculated basic descriptive statistics for our overall dataset to identify any trends that may influence commitment to equity. We calculated average values for continuous variables and the sum for those that were categorical (1, 0). Table 5 displays the values for the overall dataset (“All” column) and disaggregated by each categorical variable of interest. The data indicates that most land conservation organizations in our sample selection were not accredited (n=60) but were affiliated with the LTA (n=61) and WCPA (n=81), had adopted the S&Ps (n=68), and were based in Pennsylvania (n=75). These breakdowns are unsurprising since we generated our sample selection from the LTA and WCPA websites and know that accreditation is a lengthy, resource-intensive process.

The data also shows that land conservation organizations that were accredited, affiliated with the LTA or WCPA, had adopted the LTA Standards & Practices, were based in congressional districts represented by democrats, or were based outside of PA or operated regionally tended to operate in more counties, conserve more land on average, conserve more total land (opposite trend for PA-based organizations), have more full-time

**Table 5***Descriptive Statistics for Continuous Variables Disaggregated by Categorical Variables*

	All (n=88)	Accredited?		LTA Affiliated?		Adopted S&Ps?		WCPA Affiliated?		Democrat or Republican U.S. Representative?		National/Regional Org?	
		Yes	No	Yes	No	Yes	No	Yes	No	Dem	Rep	Yes	No
# of organizations with characteristic	88	28	60	61	17	68	20	81	7	49	39	13	75
Average # of counties of operation	3.27	5.89	2.05	3.84	2.00	3.54	2.35	3.44	1.29	3.90	2.49	5.15	2.95
Sum of total acres conserved in PA	965,202	841,546	123,656	908,315	56,887	923,419	41,783	962,290	2,912	790,226	174,976	276,745	688,457
Average of total acres conserved in PA	10,968	30,055	2,060	14,890	2,106	13,579	2,089	1,188	416	16,127	4,486	21,288	9,179
Average of # of full-time staff	62	174.18	9.65	86.77	6.04	78.41	6.20	64.65	31.29	104.24	8.92	372.62	8.16
Average of # of board members	14.48	18.21	12.73	15.77	11.56	15.12	12.3	14.17	18	15.45	13.26	18.46	13.79
Average of # of years in operation	41.05	41.71	40.73	42.97	36.70	42.59	35.80	42.42	25.14	42.65	39.03	36.31	41.87
Avg # of years since first affiliated with LTA	19.33	22.39	17.90	19.23	19.56	19.71	18.05	19.71	14.22	18.63	20.21	22.15	18.84

staff, have larger boards (the opposite trend for WCPA-affiliated organizations), and have been in operation for more years (the opposite trend for PA-based organizations). This pattern could be the result of interactions between our variables (we know accreditation, LTA affiliation, and WCPA affiliation are likely correlated due to our sampling process) or, perhaps, indicative of an unmeasured variable like organizational maturity. However, further analysis would be required to determine any causality. There was no obvious trend between the categorical variables and the number of years since an organization was first affiliated with the LTA.

### **Descriptive Statistics by JSI Rank**

After assigning a JSI rank to each land trust, we calculated basic descriptive statistics (average, sum, etc.) for our continuous variables disaggregated by JSI ranking to identify any potential trends (see Table 6). The first column provides the overall total and average statistics for the entire sample selection, and the last column represents the values for organizations that made some commitment to equity (i.e., a combination of JSI rankings 1, 2, and 3).

Based on the JSI rankings, 41 of the 88 sampled organizations expressed no commitment to equity in their mission statements or contemporary textual materials (46% of the sample size). 47 organizations expressed at least some commitment to equity, with 43 qualifying as low to medium-low commitments to equity (48% of sample size). Only four organizations expressed medium commitments to equity (JSI = 3), and no organization within the sample selection was rated with medium-high to high commitments to equity (i.e., JSI values of 4 or 5).

In addition, Table 6 clearly shows a positive trend between increasing commitments to equity and the average number of counties an organization operates in, the average total acres they conserve in Pennsylvania, the average number of board members, and the average number of years since they were first affiliated with the LTA. The relationship between JSI ranking and the total acres conserved in Pennsylvania, the average number of full-time staff, and the average number of years in operation is less clear, though with a positive trend. The table also shows that organizations with any expressed commitment to equity, on average, operated in more counties, managed more land, maintained larger boards with more staff, and were in operation and affiliated with LTA for more years. In addition, organizations with expressed commitments to equity managed 83% of the total acres of land conserved in PA by the sample selection.

**Table 6**

*Descriptive Statistics for Continuous Variables Disaggregated by JSI Ranking*

Independent Variables	All (n=88)	No commitment to equity (JSI = 0)	Low commitment to equity (JSI = 1)	Medium-low commitment to equity (JSI = 2)	Medium commitment to equity (JSI = 3)	Any expression of equity (JSI = 1, 2, and 3)
# of organizations with characteristic	88	41	25	18	4	47
Average of number of counties of operation	3.27	2.34	3.32	3.61	11	4.09
Sum of total acres conserved in PA	965,202	167,609	287,098	240,536	269,959	797,593
Average of total acres conserved in PA	10,968.21	4,088.02	11,483.94	13,363.11	67,489.75	16,970.08
Average of number of full-time staff	62	6.15	23.72	224.83	141.00	110.72
Average of number of board members	14.48	13.24	13.60	16.61	23.00	15.55
Average of number of years in operation	41.05	36.22	47.16	39.67	58.50	45.26
Average number of years since first affiliated with LTA	19.33	18.29	18.80	21.61	23	20.23

We then ran a correlation analysis in Excel between JSI rank (dependent variable) and our continuous independent variables to determine any existing relationships (see Table 7). The analysis indicates several potential relationships that may merit further investigation. First, there is a strong positive correlation ( $r = 0.8884$ ) between the total acres conserved by an organization and the number of counties in which an organization operates. Several positive but weaker correlations ( $r = 0.28$  to  $0.38$ ) between other variables may support this theory. For example, the number of board members ( $r = 0.3820$ ) and the number of full-time staff ( $r = 0.3395$ ) are positively correlated with total acres conserved. JSI rank (our dependent variable) is not strongly correlated with any variables but has weak positive correlations with the number of board members ( $r = 0.3066$ ) and total acres conserved ( $r = 0.2819$ ).

**Table 7**

*Correlation Table for JSI Ranking and Continuous Variables*

	JSI	# of counties of operation	Total acres conserved in PA	# of full-time staff	# of board members	# of years in operation	# of years affiliated with LTA
<b>JSI</b>	1						
<b># of counties of operation</b>	0.2613	1					
<b>Total acres conserved in PA</b>	0.2819	0.8884	1				
<b># of full-time staff</b>	0.1799	0.3233	0.3395	1			
<b># of board members</b>	0.3066	0.2613	0.382	0.1678	1		
<b># of years in operation</b>	0.1859	0.2905	0.2889	0.1685	0.3005	1	
<b># of years affiliated with the LTA</b>	0.0982	0.2907	0.2984	0.1113	0.3226	0.0389	1

Finally, we compared our categorical variables with JSI rank (see Table 8). We broke down the categorical variables into their sub-parts (i.e., Accredited? became the # accredited and the # not accredited) and organized JSI rank by “no commitment to equity” (JSI = 0) and “some commitment to equity” (JSI = 1, 2, 3). The data indicates that more LTAC-accredited organizations (n=28) expressed some commitment to equity (n=21) rather than not (n=7). However, there were still 26 unaccredited organizations that expressed some commitment to equity. In addition, of the organizations that adopted some commitment to equity, more organizations (n=38) than not (n=9) had adopted the LTA Standards and Practices. However, there were still 30 organizations that had adopted the S&Ps that were coded with no expression of equity.

Table 8 also shows that most of the national/regional organizations in our sample size (n=13) expressed some commitment to equity (n=10) rather than not (n=3), while PA-based organizations were evenly split regarding commitments to equity. Finally, of the organizations based in congressional districts represented by Democrats, more organizations (n=30) than not (n=19) were coded with expressions of equity. This trend was reversed for organizations in congressional districts represented by Republicans. There were no obvious trends regarding LTA or WCPA affiliation and expressions of equity. It should be noted that these trends are merely observational and require statistical analysis to determine if there are any causal or correlational relationships between the categorical variables and expressions of equity.

**Table 8**

*Summary of Counts of Categorical Variables Disaggregated by Commitment to Equity*

Categorical Variables	No commitment to equity (JSI = 0; n=41)	Some commitment to equity (JSI = 1, 2, 3; n = 47)	All
# accredited	7	21	28
# not accredited	34	26	50
# LTA affiliated	28	33	61
# not LTA affiliated	13	14	27
# adopted S&Ps	30	38	68
# did not adopt S&Ps	11	9	20
# WCPA affiliated	38	43	81
# not WCPA affiliated	3	4	7
# of National/Regional organizations	3	10	13
# of PA-based organizations	37	38	75
# of organizations in Congressional Districts represented by Democrats	19	30	49
# of organizations in Congressional Districts represented by Republicans	22	17	39

### Word Frequency Findings

Table 9 presents a summary of word frequencies in mission statements organized by JSI Rank (i.e., commitment to equity). The most common words across mission statements and contemporary texts were related to conservation, land, nature, preservation, and protection. This is unsurprising since the general mission of land conservation organizations is to conserve, preserve, and protect land and nature. Within mission statements, we see no direct references to equity or justice. However, we see references to “future” and “generations”, which are associated with the intergenerational equity code, among organizations with a JSI of 2 and 3. We also observe several references to “communities” and “people” across the mission statements, which indicates land trusts are considering human dimensions of the environment.

**Table 9**

*Summary of Mission Statements' 15 Most Common Words Organized by JSI Ranking*

All Orgs (n = 88)		No commitment to equity (JSI = 0, n = 41)		Low commitment to equity (JSI = 1, n = 25)		Medium-low commitment to equity (JSI = 2, n = 18)		Medium commitment to equity (JSI = 3, n = 4)	
Word	#	Word	#	Word	#	Word	#	Word	#
Conservancy	85	Conservancy	48	Conservancy	23	Natural	17	Conservancy	5
Lands	82	Lands	43	Lands	22	Land	16	Natural	4
Nature	55	Preservation	28	Natural	13	Preservation	12	Protect	4
Preservation	51	Protect	22	Protect	11	Community	10	Advocacy	3
Protects	46	Natural	21	Preservation	9	Conserve	9	Education	3
Communities	32	Resources	17	County	8	Future	9	Healthy	3
Resources	29	Watershed	17	People	8	Generations	9	Organization	3
Watershed	29	Communities	14	Communities	6	Protect	9	People	3
Educational	25	County	14	Connects	6	Creek	7	Restoration	3
County	24	Open	13	Pennsylvania	6	Life	6	Watershed	3
Space	23	Education	12	Region	6	Parks	6	Communities	2
Open	22	Space	12	Resources	6	Resources	6	Create	2
Organization	22	Organization	11	Space	6	Trust	6	Development	2
Pennsylvania	21	Environmental	10	Township	6	Watershed	6	Environment	2
Creek	17	Stewardship	10	Open	5	Education	5	Generations	2

Table 10 presents a summary of word frequencies in contemporary textual materials organized by JSI Rank (i.e., commitment to equity). Although contemporary textual materials were quite diverse (e.g., vision statements, values, goals, organizational history, DEI statements, etc.), the most common words were relatively consistent. Notably, there were 50 references to diversity across all organizations and direct references to diversity, equity, and access among organizations with JSI values of 1, 2, and 3. Interestingly, although “equity” was among the top 15 words for organizations assigned a JSI rank of 1 or 3, the word is absent from the list for organizations with a JSI rank of 2. This may be because nine organizations that only had expressions of equity and justice in their mission statements were assigned a JSI value of 2.

For organizations with a medium commitment to equity (JSI = 3), we observe a greater variety of most frequent words, including more associated with equity, DEI, and person-related benefits. In addition, this column is the only one across both tables for



which some combination of the words “land”, “conservation”, “nature”, and “preservation” or “protection” did not comprise the top three most common words. As with mission statements, we see references to “people” and “communities” throughout the table, which indicates that land conservation organizations are considering human dimensions of the environment. Comparing Tables 9 and 10, we can also observe that direct references to equity and related themes occur more frequently in contemporary textual materials than mission statements.

**Table 10**

*Summary of Contemporary Textual Materials’ 15 Most Common Words, Organized by JSI Ranking*

All Orgs (n = 88)		No commitment to equity (JSI = 0, n = 41)		Low commitment to equity (JSI = 1, n = 25)		Medium-low commitment to equity (JSI = 2, n = 18)		Medium commitment to equity (JSI = 3, n = 4)	
Word	#	Word	#	Word	#	Word	#	Word	#
Conserving	196	Conserved	84	Conservation	70	Lands	45	Communities	17
Lands	175	Lands	66	Lands	59	Conservation	37	Work	15
Nature	131	Protect	36	Nature	54	Nature	33	Nature	10
Works	109	Natural	34	Works	46	Community	24	Access	8
Community	102	Preservation	33	Communities	40	Protect	21	Educational	7
Protect	92	Organized	30	Diversity	34	Preserves	20	People	7
Organizations	74	Public	30	Inclusion	29	Works	19	Protect	7
Preserve	69	Work	29	Organizations	29	People	16	Diversity	6
People	54	Open	24	Committed	28	Resources	15	Preserve	6
Resources	52	Resources	24	Protect	28	Local	14	Believe	5
Waters	52	Members	23	Water	24	Organizations	13	Conservancy	5
Public	51	Volunteers	22	People	23	Area	12	Environmental	5
Diversity	50	Acres	21	Equity	20	Development	12	Equitable	5
Committed	46	Community	21	Region	20	Trail	12	Health	5
Educational	44	Space	21	Programs	19	Waters	12	Help	5

## Thematic Analysis

We analyzed all coded text to identify broader themes and concepts relevant to our study. We developed themes for our overall dataset reviewing code by code. We then reviewed coded language by JSI ranking to identify any differences with how each ranking conceptualized equity.

### ***Thematic Analysis of JSI-related Codes***

**Equity.** 35 organizations were coded with references to equity or intragenerational equity in their mission statements (eight organizations), contemporary textual materials (21 organizations), or both (six organizations). Of these 35, only 16 directly referenced equity or a derivation thereof (i.e., equitable) in mission statements (one organization) or contemporary materials (15 organizations). All other references came from coding sentiments associated with equity. In addition, 13 of the 35 organizations referenced equity in association with diversity, equity, and inclusion. Expressions of equity were associated with concepts such as generating benefits “for all” (e.g., healthy environment, access to nature); providing equal opportunity to participate in environmental stewardship; implementing equitable policies; social, racial, and historical inequities; and diversity, equity, inclusion, and justice (DEIJ) initiatives.

**Justice.** 11 organizations were coded with references to justice or environmental justice in their mission statements (one organization) or contemporary textual materials (10 organizations). Of these 11, nine organizations directly mentioned “justice” or a derivation thereof (i.e., just) in their contemporary textual materials, and no organization referenced “justice” in its mission statement. Four organizations referenced justice in the context of a Diversity, Equity, Inclusion, and Justice statement, and two referenced justice in association with race. Expressions of justice were related to acknowledging historical social and racial injustices, defining actions to address current and historical injustices, environmental justice, and land acknowledgments. References to environmental justice were characterized by references to environmental risk, disproportionate harm to marginalized groups, and ensuring equitable access to healthy food, water, land, and air.

**Intergenerational Equity.** 29 organizations were coded with references to intergenerational equity in their mission statements (10 organizations), contemporary textual materials (16 organizations), or both (three organizations). Expressions of intergenerational equity focused on conserving land and resources for the benefit and enjoyment of future generations. The stated resources or benefits to be conserved included a healthy environment, agricultural resources, natural or cultural heritage, open space, health, environmental benefits, landscapes, recreation, and wildlife.

***Thematic Analysis by JSI Rank***

**No commitment to equity (JSI = 0).** By design, the 41 organizations with a JSI of 0 did not reference equity, justice, or intragenerational equity in their mission statements or contemporary textual materials.

**Low commitment to equity (JSI = 1).** 25 organizations were designated as expressing low commitment to equity based on their contemporary textual materials (JSI rank 1 requires no references to equity in the mission statement). Within contemporary textual materials, expressions of equity generally addressed providing benefits for all and for future generations (intergenerational equity), incorporating more diverse voices into environmental stewardship (“...all people have access to nature and a voice in environmental stewardship”), and securing equitable access to nature and programmatic opportunities (“...promoting equitable access to our facilities, programs, jobs...”). Seven of the 25 organizations also included a DEI statement. Expressions of justice focused on land acknowledgment and environmental justice (“...the conservation community has not been effective at involving certain cultures and ethnicities in conservation conversations,

especially communities of color who face a disproportionate risk of harm from environmental hazards”).

One organization in this rank had one of the longest, most complex, and most detailed DEIJ commitments of any organization in the study. The statement addressed different marginalized groups, commented on current and historical injustices and inequities, linked these challenges to the organization’s mission, and reiterated how DEIJ values shaped the organization’s internal policies and external programming. Despite this complexity, the lack of reference to equity or justice in the mission statement limited the JSI ranking that could be assigned. This example indicates that perhaps the JSI is insufficient for characterizing an organization’s commitment to equity.

**Medium-low commitment to equity (JSI = 2).** 18 organizations were assigned a JSI of 2, including nine that only referenced equity, justice, or intergenerational equity in their mission statements. Expressions of equity in mission statements focused on provisioning benefits for all (e.g., “recreational opportunities for all”, “for all ages and backgrounds”) and preserving environmental benefits for future generations. In addition, one organization directly referenced equity (“...an equitable and sustainable city is one in which all neighborhoods have vibrant green spaces...”) in its mission statement – the only one out of the 88 organizations.

References to equity in contemporary textual materials generally addressed involving diverse stakeholders in land management, committing to equitable access to resources and benefits (“...committed to collaborating with the community to ensure equitable access to all these resources...”), and benefiting current and future generations.

In addition, only two organizations at JSI rank 2 addressed DEI in their contemporary textual materials compared to seven at JSI rank 1.

Overall, we found that expressions of equity in contemporary textual materials from JSI rank 1 were often more detailed than those for JSI rank 2. This could be influenced, in part, by our decision to assign nine organizations to Rank 2 that only had references to equity and justice in their mission statements, which tended to have less comprehensive expressions of equity compared to contemporary textual materials. This again suggests that the JSI may be an inadequate tool for classifying expressions of equity.

**Medium commitment to equity (JSI = 3).** Only four organizations were coded with a medium commitment to equity (JSI = 3). Expressions of equity in mission statements related to providing benefits for current and future generations (e.g., “healthy, livable communities for generations to come”) and ensuring access for all (“everyone should have access to the outdoors”). One organization also referenced a strong environmental justice sentiment in its mission statement (“restoration of past environmental damages while we advocate to protect the watershed from new sources of pollution”). However, overall, the expressions of equity were not discernably contextually different from those from organizations assigned as a medium-low commitment to equity (JSI = 2).

Expressions of equity and justice in contemporary textual materials referenced partnering with diverse local organizations and people to steward land (“...have their voices and concerns valued equally”); environmental and social justice (“environmental justice: we believe that every member of our community deserves equitable

environmental protections and access to clean water”, “...supports the pivotal movement calling for racial and social justice”); fundamental rights to a healthy environment for all (“access to nature and the outdoors...is a matter of health, equity, and justice”); and promoting equitable economies with mutual support. Overall, contemporary textual materials for these organizations tended to be more specific than organizations classified with low or medium-low commitment to equity. In addition, none of the examined texts included a DEI statement. Instead, references to diversity, equity, inclusion, accessibility, and related themes were interwoven throughout the narrative.

### ***Thematic Analysis of Inductive Codes***

In tandem with the preceding work, we also developed themes from our inductive codes (see Table 4). We organize this section by the two main parent codes: diversity and inclusion (we also group the discussion of the themes for marginalized people for convenience) and person-related benefits.

**Diversity & Inclusion.** 28 organizations (~32%) were coded with references to diversity and inclusion in their mission statements (six organizations), contemporary textual materials (22 organizations), or both (two organizations). 10 of these organizations explicitly referred to diversity and inclusion in the context of DEI or DEIJ. Expressions of diversity and inclusion were connected to internal organizational processes (e.g., hiring) and programmatic commitments (e.g., engaging diverse stakeholders). Coded references included hiring diverse staff and board members, working with diverse partners, serving diverse groups of beneficiaries, encouraging a culture of respect, belonging, and inclusion in the workplace, respecting local knowledge;

increasing the physical accessibility of natural lands; and leveraging diversity to advance organizational missions.

Two organizations also linked their staff and volunteer diversification efforts with a desire to better reflect the local community's diversity. This sentiment aligns with the concept of representative bureaucracy. In addition, seven organizations referenced marginalized groups or underserved communities (BIPOC, immigrants, Native Americans, LGBTQIA+ people, etc.), three included anti-discrimination language, and two included anti-harassment language, all in contemporary textual materials. These findings affirm that land conservation organizations are considering DEI-related issues in their work.

**Person-related benefits.** 85 organizations (96.6%) were coded with references to people-related benefits in their mission statement or contemporary textual materials (66 organizations in both locations). This total reflects the aggregate of the person-related benefits code and its child codes for “public access” and “connect people to nature”. Sentiments associated with person-related benefits included conserving land for scenic beauty, historical significance, economic development, quality of life improvements, recreation, tourism, heritage or character, farmland, and gardening; providing educational programs and gathering spaces for the public; and supporting environmental health, gardening, and environmental services.

35 organizations directly referenced “connecting people to nature” in their mission statements and contemporary textual materials. These references were typically associated with concepts like public programming, education, trails, and recreation. Finally, 55 organizations directly expressed commitments to public access and open

space. Common themes associated with public access included preserving open spaces, parks, and green spaces, and facilitating public access for hunting, recreation (biking, skiing, hiking, horseback riding, etc.), nature study, research, and birdwatching. These findings show that most land conservation organizations in this study consider how their work intersects with people in addition to nature.



## **Discussion**

This study examined how land trusts and land conservation organizations conceptualize and commit to equity through their mission statements and contemporary textual materials (e.g., values, histories, vision statements, etc.). In the following narrative, we interpret the results of this study organized by our three research questions and their corresponding hypotheses.

### **Research Question 1: How do Pennsylvania-based land conservation organizations incorporate equity into their organizational mission statements and contemporary textual materials?**

Our results indicate that land trusts express diverse commitments to equity in their organizational mission statements and contemporary textual materials. However, most of the land conservation organizations that expressed any commitment to equity were categorized as expressing low to medium-low commitments to equity. In addition, expressions of equity were more common in contemporary textual materials than mission statements. The following narrative explores our findings in relation to our first two hypotheses in greater detail.

***H1: Land conservation organizations will discuss equity in relation to public access to land (distributional equity), DEI, and/or community engagement in land stewardship (procedural fairness).***

Based on our literature review, we hypothesized that land conservation organizations would discuss equity in relation to public access to land, diversity, equity and inclusion, and/or community engagement in land stewardship. We chose these potential expressions of equity for several reasons. First, examples and discussions of

distributional equity and procedural fairness were the most common forms of equity in the environmental justice, just conservation, and land trust literature that we reviewed. This is not unexpected since most social equity research in the conservation field has skewed towards these expressions of equity (Friedman et al., 2018). We selected public access and community engagement in land stewardship as expressions of these forms of equity because they were actively promoted by the Land Trust Alliance, WeConservePA, and the Pennsylvania Department of Conservation and Natural Resources, who are important partners and collaborators of Pennsylvania land conservation organizations. In addition, research suggests that many land trusts provide some degree of access to public lands (Lieberknecht, 2009). We hypothesized that land conservation organizations may also express equity in relation to DEI due to the recent social pressure to adopt social justice and DEI actions and the promotion of the same by the LTA and WCPA.

Our results support this hypothesis in several regards. Among the 47 organizations that were coded with some expression of equity (JSI = 1, 2, or 3), we found direct expressions of equity in relation to public access, DEI, and community engagement in land stewardship. Regarding public access, 55 organizations expressed commitments to public access and open space, the majority of which were brief statements about providing access to open spaces or nature for all (e.g., “We believe everyone should have access and availability to green space”). However, a few organizations made specific statements regarding connecting vulnerable or marginalized groups to nature.

Regarding DEI, 13 of the 35 equity codes were referenced in association with diversity and inclusion. This represented 10 out of the 47 organizations that were designated to have expressed some commitment to equity (JSI = 1, 2, or 3). References to

equity in relation to DEI generally focused on providing equal opportunity to participate in environmental stewardship, implementing equitable organizational policies around hiring, and addressing social, racial, and historical inequities related to the land conservation sector.

Regarding community engagement, we found frequent references to community or communities throughout most mission statements and contemporary textual materials. However, many of these references were oriented toward directing benefits or efforts to the community (e.g., “the protection of unaltered land in its natural state to benefit the community) or using “community” as a descriptor. There were only a handful of references to partnering with communities in stewardship (e.g., “to preserve...through engagement with and education of our community in sustainable stewardship”). However, a few were quite specific and integrated specific references to equity or diversity (e.g., “collaborating with the community to ensure equitable access to all of these resources...”). Overall, there were far fewer references to community engagement in land stewardship compared to public access and DEI even though community engagement is an essential part of land conservation organizations’ work (LTA, n.d.-d).

We also found other unanticipated expressions of equity. For example, many land trusts referred to providing benefits “for all” beyond just public access to land (e.g., healthy environment, natural resources, quality of life, etc.). We had not expected land trusts to express distributional equity in relation to benefits since it more commonly addresses the redistribution of environmental harm in the environmental sector. We also were surprised to find that 29 organizations incorporated intergenerational equity into

their mission statements and contemporary textual materials. This suggests that many land trusts are considering how their decisions and actions influence future generations.

Overall, our research affirms that land trusts conceptualize and commit to equity in various forms. However, by using the JSI, which has a relatively structured interpretation of equity, justice, and commitment to equity, to inform our content analysis process, we may have unintentionally overlooked additional examples of expressions of equity. For a future study, we suggest constructing an index for assessing equity grounded in a comprehensive, multidisciplinary literature review.

***H2: Land conservation organizations will incorporate equity more frequently into contemporary textual materials than mission statements.***

This hypothesis was informed by previous research indicating that mission statements may not always reflect an organization's current priorities (see Keller et al., 2022). In addition, Agyeman's design for the JSI assumes that expressions of equity in mission statements are more significant than those in contemporary textual materials, which are more malleable (2005). Therefore, since discussions about equity in land conservation are a newer phenomenon, we hypothesized that expressions of equity would be more commonly incorporated into contemporary textual materials than mission statements.

Our results support this conclusion in several regards. First, comparing Tables 9 and 10, we observe that there were no direct references to the words "equity" and "justice" (used to calculate the JSI rankings) in mission statements but several references in contemporary textual materials. In fact, only one organization, out of the entire sample selection, referenced a derivative of the word "equity" directly in its mission statement.

Meanwhile, variations of the word “equity” appeared in the contemporary textual materials of at least 15 organizations. In addition, most organizations expressing commitment to equity were assigned a low commitment to equity ( $n = 25$ ), which required references to equity in no expression of equity in the mission statement. These findings suggest that future research on expressions of equity should always include complementary resources (e.g., DEI statements, value statements, vision statements, etc.) to paint a more comprehensive picture of an organization’s commitment to equity.

**Research Question 2: What patterns emerge regarding how Pennsylvania land trusts and land conservation organizations characterize and commit to equity?**

Results suggest that most land trusts that express some commitment to equity express low commitments to equity; that the land trust accreditation program, association with the LTA, and adoption of the LTA S&Ps does not influence commitment to equity; and that certain variables which may correspond to indicators of organizational maturity may positively influence expressions of equity. The following narrative interprets these findings in greater detail in relation to the three hypotheses associated with Research Question 2.

***H3: Most land conservation organizations will express low commitments to equity.***

Our literature review indicated that the application of equity theory to the conservation field is a relatively recent and understudied phenomenon (see Beckman et al., 2023; Friedman et al., 2018). In addition, research suggests there is a real tension between equity goals and conservation priorities (see Beckman et al., 2023; Vucetich et al., 2018). Given these factors, we hypothesized that of those organizations that made

commitments to equity, most would express low levels of commitment to equity. Our results generally support this conclusion.

41 of the 88 sampled organizations expressed no commitment to equity in their mission statements or contemporary textual materials, affirming that many land trusts are not conceptualizing equity in relation to their missions. Of the 47 organizations that expressed some commitment to equity, 43 were ranked as low to medium-low commitments to equity (JSI = 1, 2). It is important to note that only four organizations were categorized with a medium commitment to equity (JSI = 3), and no organizations were categorized with a medium-high or high commitment to equity (JSI = 4, 5). Accordingly, while land conservation organizations are considering issues of equity, most were found to make low commitments to equity.

***H4: Land conservation organizations that are affiliated with the LTA, have adopted the LTA Standards & Practices, and/or are accredited by the Land Trust Accreditation Committee will be more likely to express some commitment to equity.***

The Land Trust Alliance, a professional affiliation organization for land trusts, plays an important role in setting professional standards, expectations, and ethics for land trusts in the United States. One of LTA's strategies to promote professionalization is the Standards and Practices, which include a standard on community engagement that integrates equity-related concepts (LTA, n.d.-d). All organizations affiliated with the LTA or accredited by the Land Trust Accreditation Commission (created by LTA) must adopt and abide by the Standards and Practices. Therefore, we hypothesized that affiliated organizations, those who adopted the S&Ps, and/or accredited land trusts would be more

likely to express some commitment to equity. However, our results are inconclusive regarding this hypothesis.

Table 8 shows that more LTAC-accredited organizations (n=28) expressed some commitment to equity (n=21) rather than not (n=7). However, there were still 26 unaccredited organizations that expressed some commitment to equity. So, it is possible that accreditation is related to the likelihood of committing to equity, but further analysis is required to make a definitive link. In addition, of the organizations that adopted some commitment to equity, more organizations (n=38) than not (n=9) had adopted the LTA Standards and Practices. However, there were still 30 organizations that had adopted the S&Ps that were coded with no expression of equity. Again, further analysis is merited to determine if there is a definitive connection. Finally, there appears to be no trend between LTA affiliation and expression of equity.

These results are surprising as we thought the LTA may serve as a vehicle for advancing equity-related commitments among land trusts. However, this may still be the case if the lack of a definitive result is a product of our methodological design. As noted previously, the JSI may be an inadequate tool for capturing all types of commitment to equity. Therefore, perhaps an adapted version of the JSI informed by an extensive literature review coupled with additional qualitative data sources (e.g., annual reports, interviews, LTA survey data, etc.) would reveal a definitive relationship between affiliation, accreditation, and commitment to equity.

***H5: Larger, more mature land conservation organizations will be more likely to make commitments to equity.***

Our literature review indicated that conservation organizations face common barriers to pursuing equity- and DEIJ-related work, such as financial and personnel-related constraints, board disinterest or hesitancy, and limited expertise (Beckman et al., 2023; Keller et al., 2022). Given these barriers, we thought that larger, more mature land conservation organizations may have more resources to dedicate to equity-related work than smaller organizations. Based on our dataset, we assumed that several of our variables could serve as proxies for organizational size and maturity. This included the total amount of land managed, number of staff, number of board members, number of counties of operation, and years in operation. In addition, staff size counts supported the assumption that regional or national organizations were likely to be larger, on average, than PA-based organizations. Our results tentatively support this hypothesis but merit further analysis.

Table 6 clearly shows a positive trend between increasing commitments to equity and the average number of counties an organization operates in, the average total acres they conserve in Pennsylvania, the average number of board members, and the average number of years since they were first affiliated with the LTA. In addition, organizations with any expressed commitment to equity, on average, operated in more counties, managed more land, maintained larger boards and more staff, and were in operation and affiliated with LTA for more years. However, Table 7 indicates that commitment to equity (JSI ranking) is not strongly correlated with any of our variable proxies for organizational size. However, there are weak positive correlations between JSI, the number of board



members ( $r=0.3066$ ) and the total acres conserved in PA ( $r=0.2819$ ). Table 7 also indicates that there are positive but weak correlations between many of our continuous variables, suggesting that, as we assumed, they may serve as effective proxies for organizational size or complexity. However, more analysis is needed to determine the nature of the relationships between these variables.

**Research Question 3: What additional themes from Pennsylvania land trust and land conservation organization mission statements and contemporary textual materials merit future research?**

While the primary purpose of this study was to characterize land conservation organizations' commitment to equity, we also used the study to explore other themes that may be relevant for future research. In particular, and as characterized in this study's theoretical framework, we anticipated that DEI and a public service perspective might influence expressions of equity by land conservation organizations. Based on our inductive coding process, we found evidence of both concepts in our qualitative dataset. This finding potentially supports the case for constructing a unique framework to analyze equity in the land conservation sector that integrates environmental justice/just conservation, DEI, and public administration.

***DEI***

28 organizations were coded with references to diversity and inclusion, including 10 that specifically referenced the terms in relation to DEI or DEIJ (four organizations). Expressions of DEI were wide-ranging, addressing both internal organizational diversity and inclusion efforts as well as external-oriented programmatic efforts. Many organizations also linked diversity and inclusion to social and racial justice, indicating the

potential influence of the recent wave of DEIJ movement. As with expressions of equity, references to DEI were more common in contemporary textual materials. In fact, 10 organizations included explicit DEI statements in association with their mission statements. Interestingly, organizations categorized with a medium commitment to equity did not have separate DEI statements. Rather, they integrated DEI themes into their mission statements or existing contemporary textual materials.

Although organizational DEI has a different theoretical background than social equity or social justice, our findings suggest that land conservation organizations may consider all these concepts to be interrelated. Therefore, the DEI movement may be an effective vehicle for integrating equity considerations into the land conservation sector. Future research could involve interviews with land trust staff to determine how they conceptualize differences between diversity, equity, inclusion, and justice and understand what motivated them to pursue such action. In addition, researchers could analyze land conservation organizations with current DEI commitments and assess whether they have taken any corresponding actions.

### ***Public Service Perspective***

85 organizations (96.6%) were coded with references to person-related benefits in their mission statement or contemporary textual materials (66 organizations in both locations). Person-related benefits were generally aligned with a public service perspective, though with some exceptions. Coded references to person-related benefits included sentiments such as conserving land for scenic beauty, quality of life improvements, and public recreation; connecting people to nature (35 organizations); and

promoting public access to land/nature (55 organizations) (see the results section for a detailed review).

The degree to which land conservation organization mission statements and contemporary textual materials referenced people and person-related benefits was a little surprising. Based on the literature review and this study's theoretical framework, we expected some references to person-related benefits. For example, we knew that LTA's S&P Standard 1 encouraged land trusts to have a mission that integrates "conservation, community service, and public benefit" (LTA, 2017, p. 3). However, we thought land conservation organizations might also align with the traditional view of conservation, which considers the environment or nature as a pristine, wild entity exclusive of humans (Reed & George, 2017). Regardless, our finding suggests that land conservation organizations might consider a public service perspective when developing their missions and other organizational priorities. If accurate, this could open the door to applying broader public administration-related theories to the land conservation sector for novel new avenues of research.

## Conclusion

This study's purpose was to characterize the commitment of conservation land trusts and land conservation organizations to equity through a qualitative analysis of their mission statements and contemporary textual materials. As a whole, land conservation organizations make an interesting case study for equity because of their intersecting identities as conservation organizations, public-serving nonprofits, and participants in modern dialogue around social justice and DEI. Further, understanding these organizations' commitment to equity is important since they play an increasingly important role in modern land conservation and governance (Rigolon, 2019), and because there remain many documented inequities in the land conservation field (see Lang et al., 2023; Pahnke & Treackle, 2023; Sims, 2023; Van Sant et al., 2021).

While this study produced many intriguing results, most saliently, it showed that nearly half of all Pennsylvania land conservation organizations examined were coded with no expression of equity (n=41). Although these organizations only manage 17% of the total acres managed by our sample selection, we also found that 43 of the 47 organizations coded with some commitment to equity (i.e., JSI = 1, 2, or 3) were categorized as low or medium-low expressions of equity. While these findings may be influenced by our research design (see Limitations), it is concerning that so many land conservation organizations may not be considering equity-related issues or only consider very simplistic interpretations of equity.

Although this study did not find any definitive variables or qualities that positively influence commitment to equity, does offer indications of future research paths that could help expand equity-related commitments in the land conservation field. In

particular, the literature review and findings under Research Question 3 suggest that most land trusts consider public service sentiments, and many consider DEIJ sentiments in addition to conservation priorities in their organizational priorities and values. This suggests a potential framework for evaluating or even promoting equity that integrates theories from public administration, DEI, environmental justice, and just conservation.

Overall, this study's findings speak to the need for continued research into land conservation and equity, especially regarding how to encourage organizations to embrace equity and related principles. Despite its limitations, however, this study represents a meaningful contribution to an important and growing field of research with many societal implications.

### **Limitations and Implications for Future Research**

This study had several limitations related to our methodological design, data sources, sample selection criteria, and data analysis methodologies that could impact the applicability of our findings. At the same time, these limitations and our findings also suggest many avenues for future research.

Regarding methodological design, we chose to apply Agyeman's (2005) Just Sustainability Index to quantify land conservation organizations' commitment to equity. In Agyeman's original application of the JSI, he analyzed organizational mission statements, prominent contemporary textual materials, and programmatic materials to ensure broad coverage. Due to human resource and time constraints, we had to exclude programmatic materials from our study and narrow our definition of contemporary textual materials to only those that appeared on the same page as the mission statements. While reducing the scope for contemporary textual materials was necessary to standardize our data collection process, we acknowledge that we potentially excluded relevant content from our equity analysis. In future research, we would expand the focus of our content analysis to potentially include the entire website, recent programmatic material (e.g., annual reports), or other statements (e.g., DEIJ commitment). This is important because our research indicates that contemporary textual materials tended to have more references to equity and justice than mission statements. In addition, we would strive to redesign the JSI and adapt it more carefully to the land conservation sector.

Related to methodological design, content analysis best practices encourage assigning multiple coders to reduce potential biases. Since this was an independent research study, no secondary researchers were available to validate the coding process.

To mitigate the potential for bias, we developed descriptions for the deductive codes and sentiments provided by Agyeman (2005) and reviewed coded references for consistency twice. We also reviewed all inductively coded references for consistency, even though they were more exploratory. For future analyses, we could engage a secondary researcher to help validate the codes.

There were also potential limitations based on our data sources. Many other studies on land conservation organizations rely upon LTA's National Land Trust Census data. The data provides detailed self-reported information about land trusts' programmatic achievements, operations, motivations (e.g., commitment to DEI), and other factors, which might have been a useful complement to our content analysis. Due to time and Institutional Review Board-related constraints, we could not access this dataset for our analysis. We mitigated this limitation by collecting secondary data about each land trust from their websites and the LTA and WCPA. However, the publicly available data is less comprehensive and detailed than that collected in the census and, in some instances, we lacked the relevant expertise to analyze the data effectively with statistics.

Future studies could integrate the National Land Trust census data into our dataset to determine if additional factors predict or influence land trusts' expressions of equity. In addition, subsequent research could include interviews with land conservation organization staff and/or community members. Interview data would help paint a more comprehensive picture of how land conservation organizations conceptualize and implement equity-related work. In addition, including first-person narratives could reconcile Keller et al.'s (2022) observation that land trusts' diversity, equity, inclusion,

and justice-related work may not be reflected in their websites and publicly available documents.

Finally, there were some limitations inherent to our sample selection criteria. We decided to study only land trusts and land conservation organizations operating in Pennsylvania. In addition, out of practicality, we identified only land conservation organizations and land trusts affiliated with the LTA and/or WCPA. Organizations that choose to affiliate with a professional organization may have characteristics that distinguish them from those that do not affiliate (e.g., differences in finances, organizational maturity, etc.). Therefore, our findings may not be generalizable to other geographies in the United States or among unaffiliated land conservation organizations.

Despite these limitations, our study also suggests many exciting avenues for future research. While we situated our research within the Just Sustainability framework, we also inductively coded for references related to public administration/service and diversity, equity, and inclusion. Our findings suggest that many land conservation organizations conceptualize equity in relation to diversity and inclusion and, at the same time, integrate a public service perspective into their work. Future research could explore this connection further by examining, for example, if land trusts distinguish between different types of equity (i.e., DEI-related equity v. distributive equity), to what extent public administration theories of service delivery apply to land trusts, or to what extent organizations act upon their expressed equity or DEI values.



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