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# Sociocultural Dimensions of Environmental Stewardship in New Hampshire: Implications for Adult Environmental Education

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SOCIOCULTURAL DIMENSIONS OF ENVIRONMENTAL STEWARDSHIP IN NEW

HAMPSHIRE: IMPLICATIONS FOR ADULT ENVIRONMENTAL EDUCATION


BY


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DISSERTATION


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# DEDICATION

To Ali, Ajax, and Io

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SOCIOCULTURAL DIMENSIONS OF ENVIRONMENTAL STEWARDSHIP IN NEW

HAMPSHIRE: IMPLICATIONS FOR ADULT ENVIRONMENTAL EDUCATION

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The overarching aim of this dissertation is to expand evidence and theory of adult identity

processes in the context of environmental stewardship, as well as to provide knowledge and

recommendations to environmental stewardship and environmental education professionals. The

intent is to better understand variation in how adult environmental stewards report on and value

their own engagement with both sociocultural and natural systems. This line of inquiry stems

from the fundamental claim that environmental stewardship activity is not singularly based in

environmental content knowledge but is also related to forms of cultural and social engagement.

By recognizing these dual aspects of environmental stewardship, organizers and educators can

provide better support and resources for environmental stewardship efforts.

Environmental stewardship occurs in at least two prominent forms, both related to efforts

to facilitate environmental health. In *everyday stewardship* (or "small s" stewardship),

individuals make day-to-day decisions intending to lessen harm or benefit environmental

systems. These may include disposing of waste through compost, recycling, or trash, choosing to

walk or bicycle somewhere instead of drive, or remembering to turn off lights or unused

electronics. *Formal stewardship* (or "large S" stewardship), perhaps in stewards' recognition of

their place within natural systems and related connections, engages explicitly in land

management (e.g., tree harvesting, brush piling, removing pollutants), may work educationally to

increase others' awareness of environmental issues, or may monitor protected lands. The research presented throughout this dissertation focuses on the *formal* stewardship of adults who are involved in cooperative efforts with other people.

The introductory section that follows this executive summary gives an overview of how I define environmental stewardship and a brief history of natural resource management that has led to environmental stewardship as it is often currently practiced in the US. The introduction section grounds environmental stewardship conceptually as a "serious leisure" activity, as defined by Veal (2017), and introduces adult identity processes relevant to environmental stewardship.

This dissertation consists of five documents: an executive summary and overarching introduction (the present document), three core manuscripts, and an overarching conclusion. As each core manuscript focuses on different aspects of adult identity processes, the introductory section of each manuscript will not address broad identity constructs, but instead focuses on the specific aspect of identity that is central to that manuscript. The three core manuscripts represent a sequence of inquiry, complement each other, and together provide insight into how stewardship activities and identity relate.

**Manuscript 1**

The first manuscript of the dissertation focuses on motivational themes that guide participation in environmental education and stewardship. Interviews were conducted with 22 participants of an adult, master-volunteer environment education program. Thematic coding analyzed motivations for program participation and stewardship efforts, including relation with the environment and individuals' personal life histories. Ethnographically informed program

observation and literature on motivation informed the development of motivational themes used for coding: generativity, social connection, and personal satisfaction.

When participants were reporting on involvement in environmental education programs they've taken, personal satisfaction was the most common theme present, followed by social connection. When discussing stewardship, generativity was the most referenced theme, followed by social connection. This frequency indicated an association between activity and motivational themes. Participants appeared to engage in stewardship for a generative benefit, as in, to benefit others. This is significant because it directly links stewardship engagement with a central tendency of adult identity processes. This benefit was not only focused on other people (primarily youth) but also on the environment. This environmental focus expands previous conceptions about Eriksonian generativity beyond a pure focus on future generations. To explore the idea of environmentally focused generative action, I used the term bio-generativity – identity-relevant motivations and actions that center on subjects other than people. It is a hypothesis that needs further research.

The focus on personal satisfaction from environmental education is not surprising, as people enroll in adult environmental education programs to gain knowledge and skills. The consistent presence of social connections in both activities should highlight the importance of this interaction. The manuscript concludes that stewardship is an identity-relevant activity for these participants. It goes on to recommend that in order to prepare people for stewardship action, educational programs should facilitate stewardship initiative development by increasing collaboration between participants and staff. It is through using program time to help develop a foundation for efforts to build from.

This article lays the groundwork that stewardship activities are influenced by, and themselves influence, sociocultural processes.

**Manuscript 2**

The second manuscript is a conceptual effort linking identity-relevant participation in communities of environmental stewards to recognized identity constructs. The manuscript will suggest that stewardship is grounded at two levels: a broad, cultural level and more local, associational level. Multiple cultural communities from around North America recognize the importance of culturally grounded stewardship. The manuscript also argues that associational groups have a role in mediating the connection between the broad, cultural level and the individual. It suggests that many of these associations function as "communities of practice" that have identity-developing characteristics.

The manuscript explores the idea that stewardship provides opportunities for identity transformation through generativity, building on a main findings of Manuscript 1 regarding the importance of generative identity formation opportunities for environmental stewards. Generativity, a major aspect of Erikson's (1959; 1968) life stage model, involves gaining identity-relevance through activities that benefit others. It further suggests that Erikson's theories on generativity may need further expansion to represent contemporary social and environmental issues.

Building from Erikson's theories about generativity, the manuscript explores the conceptual underpinnings of biologically centered generativity or *bio-generativity*. First described in Manuscript 1, the concept of bio-generativity suggests that adults may receive identity-affordance from activities that are beneficial to nature, as they would with activities benefiting adolescents in more conventionally Eriksonian understandings of generativity. This is

theoretically interesting because it represents an expansion on Erikson's original ideas. The manuscript concludes with recommendations for stewardship organizers and environmental educators.

**Manuscript 3**

Stewardship represents a "crossroads" of individual psychological processes, cultural patterns, and domain-specific concerns. The third manuscript explores how and whether participation in various stewardship activities involves relations among *personal* identity processes in the form of generativity commitments, *cultural* and *historical* identity processes in the form of engagement with identity content such as master narratives, and environmental values that may vary among the communities with which stewards engage. The study will focus on the identity-relevant generativity orientation of environmental stewards, which was a significant finding of Manuscript 1. It will examine stewardship through environmental values. These values are representative of how the individual is interacting with identity content, which has prescriptive qualities of beliefs, actions, and goals for people that receive that content from cultural communities. This content is ultimately mediated, and made "usable," through membership in associational groups. Values represent how the individual has chosen to position themself in relation to this content. This manuscript applies Stephen Kellert's framework of biophilic values to narrative evidence of stewardship action to understand how different kinds of environmental values give shape to the meaning of identity-relevant stewardship action as described above. Narrative analysis revealed four distinct "value profiles," which are combinations of biophilic values seen across multiple people: humanistic/naturalistic, humanistic/utilitarian, naturalistic/utilitarian, and scientific/utilitarian (all named after their

primary values from Kellert's typologies). These profiles represent a way to approach understanding how identity content is interpreted and acted on by the individual.

Overall, this dissertation aims to contribute to both practical and conceptual understanding of environmental stewardship. By understanding how stewardship links to identity development, stewardship managers and environmental educators can organize efforts and design programs to engage people effectively. These efforts can also broaden involvement to groups that may not have previously engaged in stewardship. Conceptually, this dissertation can add understanding of how adult identity is constructed and linked to activity participation. Overall, this contribution may help to guide future stewardship efforts to improve environmental health and connect humans to the environment.

# 1. INTRODUCTION

We are living in an unprecedented era of humanity's relation with the environment. Humanity's attention to the natural world has decreased as human impacts continue to increase (Mies & Shiva, 2014). People are unbreakably linked to the environment due to our reliance on food, water, and resources for survival. Humans have created impacts, such as climate change and environmental degradation (Abdelhafez et al., 2021; Akbari et al., 2022; Aryal et al., 2014; Eekhout & de Vente, 2022; Hiruta et al., 2022; Lomborg, 2020), that now directly affect entire ecosystems and natural cycles (Naeem, 2002). Finding solutions to these issues requires broad support from many people, and includes meaningful changes to personal, corporate, and societal behavior, norms, and expectations.

This dissertation will not focus on the specific actions and changes that need to occur to fix the problems. The required solutions are numerous, often have specific technical components, and have deep systematic connections to natural, social, political, and economic systems. *This dissertation will instead focus on environmental stewardship as a sociocultural process. To ground stewardship in sociocultural context, stewardship will be defined as the simultaneous commitments to both natural and sociocultural systems.* The way people engage in stewardship balances their community and social relationships with their responsibility as integral members of natural systems. The individual's connection to one's systems closely relates to their engagement with the other.

## A History of "Top-Down" Environmental Stewardship

Historically in the United States, stewardship, and natural resource management more fully, has developed around a system that values top-down leadership. Public interest in environmental management generally began in the mid-19th century with the rise of

transcendentalism, highlighted by the popularity of figures like Thoreau (Roberts, 2012; Thoreau, 1854). However, these popular romantic notions were short-lived through the explosion of settler colonialism during the era of Manifest Destiny (Isenberg & Kessler, 2017). The development of the American West highlighted the increased commoditization of natural resources and land rights, something that would become a theme of America's relationship with the environment. This ultimately resulted in a system where government, usually federal and some state agencies, were left to balance the protection of natural resources with the need for resource extraction. Some of the most historically prominent names of American environmental history contributed to the establishment of this system: John Muir's work to establish strict environmental preservation and ultimately the Nation Parks system (Poe, 2009); Gifford Pinchot's work to create the US Forest Service helped to bridge this divide through a focus on "working landscapes" (Poe, 2009); and Aldo Leopold's work, such as *Game Management* (Leopold, 1933) and *A Sand County Almanac* (Leopold, 1949), which called for agencies to manage resources more vigilantly. These federal and state agencies quickly began managing natural resources through such regulation of resource extraction permitting, providing recreational opportunity, and addressing hunting and fishing regulation, with the goal to maintaining environmental health that could recover from sustainable usage and harvests.

The need for this system was present at the turn of the 20th century and continues today, with examples such as continued attempts to allow oil drilling at the Arctic National Wildlife Refuge (Davenport et al., 2021). This system has undoubtedly protected a vast amount of land from unchecked extraction, but it has also perpetuated numerous historical examples of marginalization and exploitation of underrepresented communities, especially North America's Indigenous communities (Champagne, 2018; Davis-Delano et al., 2021; Lee et al., 2020). It has

also created a legacy of public exclusion from meaningful input and contributions to decision making processes. Public input has often been limited to voting for a politician who appoints the people in charge of these agencies and departments, and has therefore led to a politization of environmentalism. This has occurred in such debates about land use (Adduci, 2014), climate change (Rojas, 2016), and waste removal (Wu & Martus, 2021)

A reoccurring feature of this history is that agencies often viewed their responsibilities as only to the resources of the ecosystem, and viewed interactions with the public as outside of the scope of their responsibilities (Gigliotti, Shroufe, & Gurtin, 2009). As a result, the environmental management that came from these models failed to address the practical realities of sustainable usage and impact-based relations, namely the impact on local human populations (Roronhiakewan Longboat et al., 2013).

Communities beyond the European American-centric, patriarchal, and historic model described above take ontologically different approaches to their relations with the natural world, even understanding themselves differently in relation to it. For example, Indigenous frameworks highlight human-nature connections as essential to well-being and focus on increasing "relationship, respect, and responsibility" toward nature in their lives (Bell, 2013). In a cross cultural comparison, Medin and Bang (2014) suggest that European and Indigenous American communities are distinct with respect to their conceptualizations and values of human-environment relations. Variations in how people construct their relation with nature suggests that perspectives are related to community participation and cultural norms (Bang et al., 2007). For example, Bauer et al. (2009) suggest that societal priorities direct human-nature relations, and that relations vary by local community and take into account community norms and values. A broader examination of cultural epistemologies, including Indigenous North American, African

American, and Latinx communities, can be found in Manuscript 2. This variation suggests the actual and symbolic value of historic figures such as Muir, Pinchot, and Leopold that defined 'American environmentalism' is likely narrower than the range of ideological commitments present in contemporary environmental stewardship.

Though public interest has increased in natural resource stewardship (see below), the natural resource management is still structured around federal and state agency control. Many agencies have expanded their services to work with local owners or managers to meet this need, but this has resulted in a top-down flow of knowledge and management strategy. In this system the "experts" – people working for the agencies – convey knowledge and recommendations to other people, many of whom are looking for assistance or needs. They can also direct what instruction, technical support, and funding opportunities are provided, thus resulting in the agencies setting management strategy for the area they serve. This can limit "ground up" or "grassroots" attempts to direct management strategy by limiting what resources are available to those initiatives.

It is highly unlikely that this predominant model will fall or significantly change in the near future, but other models, which engage in public participation and community-based collaborative knowledge creation provide an opportunity for more people get involved in stewardship (Cadman et al., 2020; Hung et al., 2022; Jiménez & Basurto, 2022; Nyssa, 2020). In these alternative models, people work together to create knowledge through continued experience and sharing of their experiences (Cadman et al., 2020). These models utilize shared learning, interpersonal relationships, and community norms, values, and beliefs to engage people in developing connections to natural systems. In order to help facilitate the expansion and wider

adoption of models like this, understanding how cultural and social context mediates the individual's experience may prove useful.

**Increasing Interest in Environmental Stewardship**

Stewardship is a broad concept that has many different approaches, and people engage in stewardship in a variety of ways. Examples of stewardship include engagement in local nature-based groups (Audubon Society, The Nature Conservancy, etc.), enrolling in environmental education programs, or joining a local or municipal board. The following cases represent examples of the different ways people engage in stewardship in New Hampshire, as taken from interview narratives that are part of the data used in Manuscript 3.

- A woman in her 30s who lives in the Conway area works with area farmers and land users to reduce soil and water quality impacts. They also help small farms collaborate to sell their produce at local farmers markets when the farms cannot each afford to hire a person to specifically transport and sell their produce at local markets.

- A man in his 50s who lives in the Claremont area owns and operates a Christmas tree farm and serves on the local conservation commission. He's concerned about the impacts of climate change on his town and surrounding area, and has begun retrofitting his home to run on renewable energy sources.

- A woman in her 60s who lives in the seacoast region organizes a weekly group of retirees who pick up trash along residential roads for two hours a week before spending time together afterward at a local coffee shop. She sees the impacts of this group multiply as more people get involved each year, allowing them to clean more miles of road and meet new people in their community.

These are brief examples of the variation in how stewardship is enacted throughout New Hampshire. Stewardship can be done both personally and professionally, but a consistent factor is an engagement with other people.

The broad scope of stewardship makes tracking participation and number of stewardship organizations difficult. To help illustrate the growth of stewardship in general, examples will be given on two forms of stewardship engagement to demonstrate its popularity: citizen science and land trusts. Citizen science is a model of stewardship engagement where people volunteer to help collect scientific data on a variety of environmental variables. These efforts are normally lead and organized by researchers (National Academies of Sciences, Engineering, and Medicine, 2018). The number of citizen science participants and projects has steadily increased in recent years (Aristeidou et al., 2017; Ballard et al., 2017; Cheung et al., 2022; Monzón Alvarado et al., 2020). The National Geographic Society reports that around 2,500 participants regularly take place at each BioBlitz events held around the country, something that has been ongoing since 2007 (National Geographic Society, 2022). This has been bolstered by the increased use of phone based applications, such as iNaturalist and eBird, which allow for photo documentation and GPS-based location tracking of data points (Crimmins et al., 2021). In May 2020, the popular iNaturalist phone application reported having 2.5 million registered users, of which, one million had submitted verified, usable observations (iNaturalist, 2020). These observations can also be shared with other users across an online, social media/blog-style platform. Recent research reported mixed impacts in citizen science due to the COVID-19 pandemic with Kishimoto and Kobori (2021) reporting one of Japan's biggest projects had declining activity, although Crimmins et al. (2021) showed regionally mixed results across the United States. Due

to its ability to engage a variety of people in different subjects, citizen science represents a popularly avenue for stewardship participation.

Land trusts are another form of popular stewardship engagement that allows people to become involved in local land protection. Land trusts are non-governmental organizations, usually organized as non-profits, that purchase land or conservation easements, with the intent of enacting a conservation purpose, which can be defined as "protecting natural habitat, water quality, or scenic views; ensuring that the land is always available for farming, forestry, or outdoor recreational use; or protecting other values provided by open land" (WeConservePA, 2021). As members or volunteers of land trusts, stewards frequently help with tasks such as trail maintenance, habitat restoration, and usage monitoring. The recent 2020 National Land Trust Census reported 1281 land trusts in the United States that engage over 230,000 volunteer stewards and 6.3 million total financial supporters. These trusts protect 6.3 million acres of land in the United States and provided recreational opportunity for 16.3 million trail users annually (Land Trust Alliance, 2022). The work of land trusts across the country provides ample opportunity for people interested in engaging in stewardship.

Stewardship is a broad area of interest, as suggested by the increased interest in citizen science and the large numbers of volunteers who engage in land trusts. These numbers don't include people who are on local environmental/conservation commissions (216 commissions in New Hampshire alone (New Hampshire Association of Conservation Commissions, 2022)), over 17,000 people nationally who serve on over 3,000 county conservation district boards (National Association of Conservation Districts, 2022), and people who engage in numerous other non-governmental organizations. This vast landscape of practices and organizations makes tracking of demographic information difficult.

A common criticism of stewardship initiatives is the lack of engagement in underrepresented communities and those of lower socio-economic status (Authelet et al., 2021; Baker-Médard et al., 2021; Cuya et al., 2021). These trends were reflected in the participant group for Manuscript 1 and Manuscript 3, whose participants were 100% White, and both studies had over two-thirds of participants making above New Hampshire's average household income of $78,000 (US Census Bureau, 2022). Recently, there have been an increasing variety of urban-focused conservation initiatives, both nationally and globally, to attempt to address this issue (Hill et al., 2021; Lucchi & Buda, 2022; Ost & Saleh, 2022). A goal of this dissertation is that the recognition of sociocultural context mediating stewardship experience provides insight into how programs and initiatives can be organized to better meet the needs of underserved populations.

Adults' engagement in stewardship practices overall can be better supported if these efforts are contextually grounded and understanding of the characteristics involved in their participation. Adult stewards have the ability to play a significant role in natural resource management. They control and contribute to human impacts on the environment through land management and resource usage. At the same time, they also have a variety of other interests vying for their attention, time, and resources. To understand the characteristic features of stewardship participation, serious leisure theory may be useful to better understand the constraints and obligations that are entailed.

**Serious Leisure**

For many people, formal stewardship is what would be considered a leisure activity. As reported from the 2020 National Land Trust Census, for the 233,574 active volunteers, there are 12,716 full or part-time staff members (2022). This suggest that most people engaging in this form of stewardship are volunteer, as is the case for many stewardship opportunities. Therefore,

their participation may be theoretically described as a leisure activity. Leisure activities involve what people choose to do with their time away from their constraints and obligations of paid employment and household responsibilities (supply purchasing, food preparation, cleaning, etc.) (Wood, 2016). Individuals have varying amounts of their own time and effort they can contribute to the leisure project as compared to the needs of their occupation or household (Seong & Chi-ok, 2015). Participation in leisure activities can include increased feelings of interpersonal, intrapersonal, and well-being satisfaction (Lorek Dattilo, Ewert, & Dattilo, 2012). Stewardship is an example of one of thousands of options for people taking part in leisure activities.

Stewardship efforts, especially formal stewardship in the context of group membership, could be described as having its own set of constraints and obligations, and would be categorized as "serious leisure" (Veal, 2017). In a synthesis of Robert Stebbins and others' series of articles since 1974, Veal identified six distinguishing characteristics of serious leisure: (1) perseverance, or continued, long-term engagement; (2) durable benefits such as self-actualization, self-enrichment, self-expression, regeneration/renewal, feelings of accomplishment, enhancement of self-image, social interaction/belonging, lasting physical products, and self-gratification; (3) career-style progression; (4) unique ethos, that has identifiable traits and values; (5) high levels of effort/training/knowledge/skill; and (6) identification with the activity. These identified characteristics are all aspect that stewards may experience during involvement with organized stewardship initiatives. As an example, in many stewardship initiatives, such as land trust monitoring or citizen science participation, members gain more experience and knowledge about the group's practices and values over their continued participation. Depending on the organizational structure, this experience may facilitate them in a career-style progression with the organization. This participation may result in various durable benefits (as described above)

being realized. Situating this activity in a group format, as may occur in stewardship, has the potential to inscribe identity-relevance to this engagement.

The characteristics described by Veal (2017) represent common features of group or associational involvement, which is a common avenue of stewardship, and suggests identity relevance. Serious leisure theory, and the characteristics described by Veal (2017) provide a description of the possible constraints, obligations, and benefits of group involvement, which is consistent with group stewardship settings, and suggests identity relevance of group stewardship. As identity is rooted in sociocultural context (Penuel & Wertsch, 1995), group or association involvement is identity relevant because it mediates broader cultural identity processes. KangJae and Sunhwan (2018) found that through serious leisure activities, individuals may be able to strengthen identity commitments through participation in leisure programming. The focus on adult stewards as agents of pro-environmental change aligns well with broader, cultural identity processes, such as Erikson's generativity (Erikson, 1959, 1968), which may help understand adult engagement.

**Adult Identity Development**

As the individual interacts with other people and groups, they engage with broad, cultural processes, such as identity. Identity is not constructed by "identifying" or "not identifying" with a specific practice (Kubiak et al., 2015), such as stewardship. Identity develops as individuals interact with others, reflect and revise their self-perceptions, and learn new knowledge (Wortham, 2004, 2005), which may occur through engagement with people involved in stewardship activities. This dissertation will utilize Eriksonian identity tradition to theoretically structure the research.

Eriksonian identity theory is derived from the work of Erik Erikson (see 1959, 1968). It situates identity processes within sociocultural contexts, which aligns itself well with environmental stewardship based in group settings, and will be examined in this dissertation. Erikson's theory of generativity (described below) lends itself well to adult environmental stewardship activity, which is often rooted in helping others. This dissertation does not engage the environmental identity literature (also known as ecological identity), which has historically been aligned with Marcia's Identity Status Model (Marcia, 1966). Erikson's theories and subsequent work by other researchers provides a robust theorical framework to develop from in this dissertation.

To conceptualize adult identity development, many people have used Erikson's (1959, 1968) life stage model to structure adult identity processes. Erikson identified three different stages of identity development during adulthood; "intimacy and distantiation versus self-absorption," "generativity versus stagnation," and "integrity versus despair and disgust." With identity rooted in social interaction (Schachter, 2015), this crisis model suggests that an individual's developmental challenge unfolds as part of interaction with others (Schachter, 2015). Erikson's stage model has suggested that adult identity is dominated by the "generativity versus stagnation" stage (Erikson, 1959; Schachter, 2018), which I will refer to in this dissertation simply as "generativity."

Generativity focuses on the individual's desire to provide for future generations by guiding them through the stages of adolescent development (Erikson, 1959; Schachter, 2018). It represents the transition of the *ontological* life cycle to an *intergenerational* and, by extension, cultural form (Schachter, 2018). The counterpoint of generativity, as described by Erikson, is "stagnation" or a static or stillness of the individual life cycle. The centrality of generativity in

Erikson's model is a vivid representation of the importance of the cyclical and intergenerational nature of identity. A concern for the sustaining of ideologies through the development and well-being of others, usually adolescents, is a common way that generative tendencies are expressed and experienced psychologically (Erikson, 1959; Pratt et al., 2013; Volckmann, 2014). Many individuals at generativity-focused periods of the life course because increasingly concerned that their own actions have an impact on others' lives (Fassbender et al., 2019; Lawford et al., 2019). This purpose-driven connection, often to younger generations, helps give Erikson's model temporal movement.

Within an individual's sociocultural context, there are influences and constraints upon an individual's generative activity. Agency and social connections are essential aspects of navigating generativity (Bauer & DesAutels, 2019). This was seen in Halsey and Deegan's (2016) work with correctional officers in their interactions with inmates. During these activities, many officers were unable to feel generative due to "fatalistic" outlooks on their interactions. These feelings linked to strict authoritarian rules that limited opportunities for engagement and prisoner growth. Those workers who were able to get the most benefit from their relationships with prisoners were those that conceptualized the relationship as mutualistic and not "us" versus "them," the predominant narrative reported by participants (Halsey & Deegan, 2016; Halsey & Harris, 2011). In another illustrative example of the importance of agency and social connections, Australian family farmers who were unable to keep their family farm in the family and were likely to have to sell the farm showed low metrics of satisfaction (Downey et al., 2016). These occurred when they unable to maintain agency and felt that their actions did not do enough to encourage intergenerational farming, despite the availability of other options that might instigate an identity transition, such as selling their farm to interested farmers. The ability to

enact generative behavior connects to ideas of "healthy" or "successful" well-being. Malone (2016) found that higher levels of generative behavior in mid-life were related to increased well-being in later life. The ability to work with future generations and prepare them for upcoming challenges, such as a family business, is an important aspect of identity growth during the generativity phase (Verma et al., 2017; Zacher et al., 2011). These examples illustrate the impact that agency and social connections have on generative identity processes.

Generativity is a promising aspect of Erikson's model for understanding stewardship because generative action is common in stewards' activities. Stewards frequently purpose their actions and efforts for the benefit of other people or the natural world (Hanley & Coppens, in prep.). In doing so, they intend to improve others' well-being, which is a key component of generativity. Recent research on environmentally focused generativity has focused on activists (Alisat et al., 2014; Matsuba et al., 2012). This work has relied primarily on the comparison of questionnaire results for activists and a control group. Their results indicate that activists may have a greater commitment to generative identity constructs due to environmental activism engagement. Further research, as done in this dissertation, expands upon this understanding. It is crucial to recognize that there is both regularity within identity-relevant actions and experience-based individual variability. The degree to which stewardship is an identity-relevant activity would vary by sociocultural context as well as by an individuals' patterns of engagement.

Generativity represents a cultural identity process, and is thus mediated by the engagement of the individual in various local groups and communities. Individuals are part of multiple social groups, of varying sizes (family, professional, leisure, friends, etc.), within whom their membership is identity salient (Wenger-Trayner et al., 2015). An individual may utilize aspects of membership of one community when building their identity within another (Kubiak et

al., 2015; Wenger-Trayner et al., 2015). This demonstrates how fluid the identity process can be. This is particularly relevant in the case of stewards, who may engage in activities as part of serious leisure pursuits. The constraints, obligations, and benefits of such engagement represent one example of membership for an individual who is most likely engaged in membership in various groups. It is through these groups that cultural processes, like generativity, are acted upon and made identity salient as individuals attempt to find ways to further identity development.

Generativity as a dynamic cultural process, mediated by membership in local groups, is based on a theoretical framework of life stages; however, these stages may not be a rigidly patterned and discrete psychological and cultural phenomenon. Instead of a step-by-step structure, and to emphasize the contextual perspective of this dissertation, the stages are reconceptualized as "central tendencies" which suggests more flexible boundaries among stages than definitions based on chronological age-based membership. Recent understandings of generativity extend to numerous sociocultural contexts and have expanded our understanding of how generativity occurs and is enacted (McAdams & Guo, 2015). It is with this recognition of the dynamic nature of identity processes that the dissertation engages in identity research.

**Identification of Need and Significance of the Study**

The purpose of this study was to explore the sociocultural dimensions inherent in adult environment stewardship and environmental education. Conceptually, the dissertation will identify and address areas of relevance when considering a socioculturally grounded approach to environmental stewardship. As described above, recognition of sociocultural aspects of stewardship have only recently come into focus and there is a lack of literature about relevant psychological or sociological features, which play a role how people engage in stewardship. This

dissertation approaches this need by addressing different aspects of how an individual engages with sociocultural systems, with a core focus on identity. Identity, as described above, is a dynamic, cultural, and historical process that represents the interplay between the individual and their community. Identity-relevant content (such as norms, values, and beliefs) is mutually mediated between the culture and the individual through participation in local groups and social settings. As this dissertation looks to deepen our understanding of sociocultural systems, and its connections to natural systems, this is a pertinent area of interest. The manuscripts included here explore aspects of motivation, central tendencies of adult identity development, and identity-relevant content. The identity components referenced represent only a part of what constitutes identity. It is important to recognize that individual identity is always in flux as the individual interacts with communities.

Practically, there is need to understand the concerns around developing models of stewardship engagement that are sociocultural driven. Effectively utilizing the increasing engagement of "serious leisure" type stewards, as described above, will take a different approach than the "top down" model described. To do this, it will take facilitation of groups of people interested in engaging with others over similar interests and motivations in environmental health and restoration. This would create a broader, decentralization of knowledge, and a distributed model of engagement. Ultimately resulting in more partnerships and collaborations to create communities of environmental stewards. Understanding how to facilitate this transition will take an understanding of the deep sociocultural features which are rooted in how people engage in sociocultural and natural systems. Our involvement in these systems and the impacts humans can have on the Earth creates commensality between the systems. We need to understand how that connection can become symbiotic and beneficial to both.

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## II. Manuscript 1

Stewardship as an Identity-Relevant and Motivational Process in Adult Environmental Education Activity

**Abstract**

The first manuscript of the dissertation focuses on motivational themes that guide participation in environmental education and stewardship. Interviews were conducted with 22 participants of an adult, master-volunteer environment education program. Thematic coding analyzed motivations for program participation and stewardship efforts, including relation with the environment and individuals' personal life histories. Ethnographically informed program observation and literature on motivation informed the development of motivational themes used for coding: generativity, social connection, and personal satisfaction.

When participants reported on motivations to take environmental education programs, personal satisfaction was the most common theme present, followed by social connection. When discussing stewardship, generativity was the most referenced motivational theme, followed by social connection. This frequency indicated an association between activity and motivational themes. Participants appeared to engage in stewardship for a generative benefit, as in, to benefit others. This is significant because it directly links stewardship engagement with a central tendency of adult identity processes. This benefit was not only focused on other people (primarily adolescents) but also on the environment. This environmental focus expands previous conceptions about Eriksonian generativity beyond a pure focus on future generations. To explore the idea of environmentally focused generative action, the term bio-generativity is used, and

described as identity-relevant motivations and actions that center on subjects other than people. It is a hypothesis that needs further research.

The focus on personal satisfaction from environmental education is not surprising, as people enroll in adult environmental education programs to gain knowledge and skills. The consistent presence of social connections in both activities should highlight the importance of this interaction. The manuscript concludes that stewardship is an identity-relevant activity for these participants. It goes on to recommend that in order to prepare people for stewardship action, educational programs should facilitate stewardship initiative development by increasing collaboration between participants and staff. It is through using program time to help develop a foundation for efforts to build from. This article lays the groundwork that an individual's participation in stewardship activities are influenced by, and themselves influence, sociocultural processes.

## Introduction

This study examines the presence of adult identity development processes associated within environmental stewardship. It frames motivation as an important part of these processes, and related activities represent identity salient decision making and therefore stewards' engagement in related activities sheds light on its identity relevance. The study focuses on adult participants who enroll in wildlife stewardship-focused environmental education programing.

Adult environmental education has implications about how natural communities are managed. Adults are often land managers, and frequently have the means to act on their beliefs about how land should be managed. For this reason, environmental education has the ability to influence the decisions these land managers make. Literature on adult environmental education programs informing land managers is lacking. There is ample literature on subjects of youth environmental education (Karpudewan & Mohd Ali Khan, 2017, Kurnianto et al. 2018), teacher motivation in environmental education (Pratson, Stern, & Powell, 2021; Smith-Sebasto, 2007), and motivations to go to educational centers (Schultz & Joordens, 2014), such as zoos and science centers. However, gaps exist in understanding why adults engage in these programs even as these programs are steadily increasing in popularity.

Adult environmental education programs occur throughout the country. The number of programs has steadily increased since the 1970's (Haugen, 2009). Programs are offered by a variety of organizations, such as private organizations, universities' extension departments, and some state agencies. Adult environmental education plays an important role in engaging participants in their local environment, and can therefore influence the decisions participants make about its management.

**Adult Environmental Education Through Master Volunteer Frameworks**

Environmental education and stewardship programs provide an opportunity for participants to develop their identity through engagement in activities that they believe add value to their life. It also allows them to interact with others and engage in their community. Action-oriented learning through promoting subject competence is a popular approach to environmental education, and recent research trends have shown the importance of framing environmental problems as social constructions (Kyburz-Graber, 2013). Adults may seek out educational programs with an interest to learn more about stewardship that relates to their interests or local community.

The master volunteer framework for environmental education seeks to prepare participants to engage in a variety of self-directed stewardship activities in their local communities (Kueper, Sagor, Blinn, & Becker, 2014). The participants in these programs organize and lead stewardship efforts in their communities, such as leading habitat restorations, leading nature walk, and directing local conservation efforts. The master volunteer framework is meant to prepare and support participants to lead stewardship initiatives. What differentiates a master volunteer program is that the program is designed to provide knowledge, resources, and train participants to guide others, contrasted to traditional environmental education models where participants simply learn about the natural world. This is a valuable framework as engaging participants in real-life situations is important in developing meaningful action (Kyburz-Graber, 2013). Engagement in master volunteer programs and resulting stewardship represents an interest in exploring aspects of their self and has identity-relevant contributions. Involvement represents a commitment to an aspect of identity salience they want to explore or express. Investigating

these programs through identity-conscious frameworks can be beneficial in understanding why people enroll in programs and engage in stewardship.

Adult environmental education programs, such as master volunteer programs, can be considered leisure activities. Leisure activities involve what people choose to do with their time away from their constraints and obligations of paid employment (Wood, 2016). Individuals have varying amounts of their own time and effort they can contribute to the leisure project (Seong & Chi-ok, 2015). The voluntary nature of environmental education programs means that participants are coming to the program believing that their participation will improve some aspect of their life. This may include the desire for new knowledge, fellowship, or outdoor recreation. Environment stewardship is an example of one of thousands of options for people taking part in leisure activities. These efforts however, could be described as having its own set of constraints and obligations, and would be categorized as "serious leisure" (Veal, 2017). Stebbins (1982) described serious leisure as an activity that people find so "substantial, interesting, and fulfilling" that they pursue "acquiring and expressing a combination of special skills, knowledge, and experience." People interested in environmental education programs are demonstrating a commitment to stewardship as serious leisure due to the amount of knowledge and experiences that will be gained through the process of the educational program and following volunteer work. This willingness to commit to such an activity indicates that there may be identity-relevant processes involved in their motivation to join these programs.

**Connecting Serious Leisure Activities to Motivation and Identity**

Mutualistic relations between motivation and identity have the potential to powerfully drive individual action. Both are closely related to sociocultural context (Gentry & Fugate, 2012; Hamedani, Markus, & Fu, 2013; Hickey, 2003), and guided by shared normative beliefs (Sheikh,

2014). Eccles argued that behavior derives its value from the participant's ability to enact an aspect of a person's identity (Eccles, 2009; Kaplan & Flum, 2009). These actions are derived from self-assessed beliefs of individual competencies and the relative task value. In the case of environmental education programs, participants value the knowledge and experience they gain through participation as a way of meeting future goals. The ability to connect current activity with future goals is key in motivation development (Nurra & Oyserman, 2018; Oyserman, 2019). In cases where participants are learning material that related to personal identity, higher levels of motivation were reported (O'Sullivan, Mkony, Beard, & Irby, 2016), and has been suggested that they co-regulate each other (McCaslin, 2009). Identity-based motivation focuses on defining and meeting psychological needs, such as autonomy, competence, and relatedness (La Guardia, 2009). These needs frame individual's identity development through cycles of internalization and commitment (Kaplan & Flum, 2009; La Guardia, 2009). This feedback cycle allows for identity development as individuals move through cycles of experience and reflection (Renninger, 2009). The conceptual linkage between motivation and identity indicates the importance of recognizing their interdependent nature.

Participant identity development and motivation cannot occur in a socio-cultural vacuum. It is important to recognize community as the context of identity, and its associated motivation. Both Stone (2019) and Anderson (2010) agree that serious leisure activities have influences on participants' sense of identity and well-being. Stone (2019) suggests that the social interaction, knowledge, and skill acquisition contribute to identity formation. The communities that form around these leisure activities are also important. In an examination of two "masculine" leisure pursuits, skydiving and gun collecting, Anderson (2010) found that communities within these activities were crucial as participants sought refuge in the community and away from

stereotyping or misinformed broader society. Identity should thus be considered highly contextualized. Lave and Wenger (1991) describe this well in stating "We conceive of identities as long-term, living relationships between persons and their place and participation in communities of practice. Thus identity, knowing, and social membership entail one another" (53). This means that participation in serious leisure activities and their associated communities, such as environmental stewardship, can provide insight into identity-relevant understandings.

Contextualization plays an important role in motivation development, including how the individual sees themselves engaging within the sociocultural communities they are a part of, and how they receive histories, activities, and values (Goodwin & Duranti, 1992). It is important to fully understand the linkages between motivation and identity in the context in which they develop. This research examined environmental education program engagement as a context for identity development.

This identity context becomes where identity processes take place. For adults, generative action benefiting others becomes a major process of identity development. As described within Erikson's identity development model, it represents a large amount of identity development during adulthood (Erikson, 1959; Schachter, 2018). It is the stage that creates an intergenerational framework in Erikson's model (Schachter, 2018). The dynamic nature of generativity is highlighted by how Erikson phrased its antagonist: "stagnation" (Erikson, 1959, 1994; McAdams, 2018). Schachter points out that Erikson stressed that generative identity development is "mostly embedded in interactional relations between generations," and that there is an orienting process that occurs in identity development at both the micro- and macro-scales. This need to orient identity development at macro-scales suggests the importance of understanding motivational presence.

Most discussion of generativity in the identity literature focuses on adults making an impact on others' lives. Some recent work has focused on environmental engagement. In which, generative action has been shown to be a mediator for adult participants who were interested in environmental engagement (Alisat, Norris, Pratt, Matsuba, & McAdams, 2014; Jia, Alisat, Soucie, & Pratt, 2015; Matsuba et al., 2012). This work focused on environmental activities, and so there is limited empirical background on generativity and stewardship. Participants in environmental education and stewardship are generally concerned about environmental health, and these actions are often seen as generative (Jia, Soucie, Alisat, Curtin, & Pratt, 2017).

**The Present Study**

This study seeks to help create an understanding of motivational processes involved in adults' environmental education participation and engagement in stewardship. It also attempts to link environmental stewardship to adult identity development processes. By understanding how stewards conceptualize their activities as part of their identity, we can develop adult environmental education programs to best meet participants' needs. The following question guided the research:

*What identity and motivationally relevant processes guide adults' engagement in an environmental education program and, more broadly, their environmental stewardship activities?*

By understanding what motivates people to engage in stewardship, program developers can create curriculum that increases participant engagement. Well-designed programs serve to connect participants with the work they want to do, and encourage participation in similar programs through a valuable use of their time. This is particularly important in adult education,

as participants are choosing to enroll in the program, and have many other competing interests for their time.

**Methods**

**Program and Participants**

Participants were recruited from a three and a half day educational environmental workshop that uses a master volunteer framework (Kueper, Sagor, Blinn, & Becker, 2014) to teach participants about ecology, land management, conservation, and community engagement for natural resources stewardship. The master volunteer framework seeks to prepare participants to engage in a variety of self-directed stewardship activities in their local communities. These include leading nature walks, hosting tours on their properties to provide examples of good stewardship practices, giving public talks on natural resources and conservation, and providing resources and knowledge to their community to address stewardship and conservation issues. Researchers had no input into program design, management, or applicant selection.

Participants came from a variety of locations around the State of New Hampshire. The lead author observed the program, interacting occasionally with participants. Observations occurred during structured classroom time, during trips to example sites in nearby forests and grasslands, and during class and lunch breaks. The lead author did not engage in any instruction during the program. The researcher's presence was to become familiar with the program and participants' experiences in it (to inform interviews and later coding). During these observations, participants frequently turned conversations toward future stewardship efforts and engaged with experts and other participants to discuss ideas – these patterns gave general thematic shape to the coding.

**Interviews**

Interviews were conducted with 22 total participants in the 2018 and 2019 cohorts of the program. Research participants were recruited after being admitted to the program by program staff. Post program interviews were conducted, lasting between 30 and 60 minutes each. Four male and six female participants of the 2018 cohort, and three male and nine female participants of the 2019 cohort were interviewed. Average participant age was 58.5 years, and ranged from 28 to 71. Interviews were conducted via telephone or online videoconference, though one was conducted in person due to participant preference and geographical proximity to the lead researcher. The interviews were semi-structured and questions focused on participant perspectives on environmental stewardship, motivations for enrolling in the program, collecting stories about stewardship, community engagement, and discussing environmental values and conflicts (Full interview script can be found in Appendix 2). Participants were also asked to evaluate the program, and their evaluative responses, once made anonymous, were given to program staff for future program improvement.

**Coding**

Interviews were transcribed and analyzed for content related to motivations and engagement in valued or "good" (as defined by participants) stewardship practices and environmental education programing. A coded unit was defined by an occurrence of a participant describing past or present motivation to engage in environmental education or stewardship. Initial code creation was developed by the authors from an inductive process using ethnographically informed observations and open coding techniques.

Coding categories were also adapted from frameworks related to motivations for improving personal well-being (Adler et al., 2016). This is consistent with participants'

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voluntary engagement in the program and lifestyle choice to pursue stewardship activities as a form of serious leisure. Trends noticed during initial open coding indicated the presence of three primary motivational themes present when discussing stewardship and program participation: generativity, personal satisfaction, and social connections.

*Generativity*

Many participants discussed their activities in terms related to generativity, a broad category of actions and motivations including direct land management, educating the community through nature walks and public classes, and serving on local boards and groups that engage in stewardship. Alder et al. (2016) define generativity as "a strong concern for and commitment to promoting the well-being of youth and the next generation, expressed by caring for children and other family members or conserving or promoting social traditions." We expanded this definition to all people (encompassing large-scale human impacts of environmental systems) and to participants' bio-environment. Participant motivations were recognized as generative when the beneficiary of the action was someone or something else.

*Personal satisfaction*

Participants who reported engagement for personal satisfaction were interested in achieving some new level of knowledge, experience, or increased agency. These motivations may have reflected a culturally shared value that people should engage in behavior that they enjoy and find meaningful. Keeping in mind that no person acts/learns within isolation, there will always be social interactions and learning that occurs through sociocultural activity.

*Social connection*

Increased interaction between participants and their sociocultural environment and community was a common motivation. This was coded when the motivation present was

focused on increase the quality or quantity of the participant's social interactions with their community. The coded definition of social connection was based on Adler et al.'s (2016) definition for "communion," which they defined as, "The degree to which the protagonist aims to have a sense of togetherness and harmony with other people and their [social-cultural] environment, to share, help, connect to, and care for others."

Once code creation was completed, motivational occurrences were coded for which theme was most appropriate. Coding also identified each occurrence as either focused on environmental stewardship or environmental education. This was necessary as participants spoke about both motivations for taking part in the program and also engaging in stewardship activities. This allowed for identifying what motivations aligned with each activity.

During coding, other contextual aids were noted and recorded as background and support for motivational themes. These included evidence of how the participant viewed their relationship with the natural world, how they viewed stewardship decisions impacting their day-to-day lives, and their life history of past stewardship, volunteerism, outdoor recreation, or major life changes were identified. These areas described were used to help support findings about motivational themes and understand the context of the provided responses.

## Results

The results section is organized as follows: First, motivations related to generativity, personal satisfaction, and social connection are described, each examined through statements from multiple participants. Most participants reported multiple motivations throughout the interviews.

**Generativity**

Generative intent was a frequent motivational theme displayed by participants. 21 participants (95%) referenced generative interest, with all 21 focused at least on stewardship as the vector for this interest (Table 1). Participants' responses indicated generativity in a desire for their actions to have benefits on others, even if they don't get to see that benefit. Generative action was not always focused on other people. Some participants' responses suggested that in the context of environmental stewardship, concepts of generativity can be expanded to also emphasize the natural world. We use the terms "anthro-centric" and "bio-centric" to differentiate these types of generativity.

**Table 1**

*Occurrences of Motivational Themes Organized by Environmental Education and Stewardship*

*= one occurrence

| Environmental Education | | | Environmental Stewardship | | |
|---|---|---|---|---|---|
| Gen. | Social Con. | Per. Sat. | Gen. | Social Con. | Per. Sat. |
|  |  | ** | * |  | * |
| * | * | ** | ***** | ** |  |
| **** | * | ** | * | * | * |
| ** |  | ** |  |  | *** |
| ** |  | * | ** |  |  |
|  | * | *** | ** | * | ***** |
|  | **** | * | ***** | * |  |
|  |  | *** | ** | ** | ** |
| ** | * |  | *** |  |  |
| * |  | ** | ** |  |  |
| * | **** | *** | ***** | * | ** |
|  |  |  | ******* | * |  |
|  | * | **** | ** | ** | ** |
|  | * | * | * | * |  |
| * | ** | ** | * | * | * |
| ** | ** | ** | * |  |  |
|  | * | * | ***** | * |  |
|  |  | ** | ***** |  |  |
| ** |  | * | **** |  |  |
|  | * |  | ****** | ** |  |
|  | ** | **** | *** | ** |  |
| ** | ** | *** | ********* |  |  |
| 11 | 14 | 19 | 21 | 13 | 8 |

Anthro-centric generativity focuses primarily on development of well-being of other people, which could include people known or unknown to them, such as specific groups (local school children) or future generations. Of the total occurrences of generativity, 82% were directly toward people and human communities. For example, one participant reported:

> I think that my strongest area of interest which takes into account my professional career as an educator is the interface with people, specially families and kids with the environment and I see that, again. I really like boiling things down to the essence and thinking about how to instill a passion for a natural environment which will then hopefully foster families engaging in a lifestyle that includes really getting out there into the woods.

This participant focuses their generative action on developing psychological dispositions in others or "instilling a passion." They describe how they see linkages between their background in education and future stewardship action, later mentioning their commitment to "fostering" values in others that align with their own. Another participant similarly emphasizes anthro-centric generativity:

> They [local conservation organization] were looking for additional board members and I had a big interest in the educational piece with introducing kids because I feel like if you get kids to love being there, they're going to want to take care of the environment.

This participant is interested in joining the organization because of the opportunity to work with children's education, but understands such efforts as a means toward motivating in others a disposition to care for the environment. In this case, the generative action is focused on children, and is therefore anthro-centric, but does not exclude bio-centric concerns.

Bio-centric generativity closely resembles the motivation of wanting to improve the well-being of others, but the recipient is the natural world. For example, one participant reported removing unwanted vines from a tree with their spouse: "We would just go up, and we just started to cut and pull down that bittersweet. We saved that tree. It's one of my favorite trees now." In another example a participant describes their enthusiasm for stewardship after the program, "So that's just that whole experience has led me to want to participate more and want to give back, you know, to Mother Nature." The first participant's generative action is directed at "saving" a tree, with no indication that other people received any benefit from the action. In this case, it is notable that bio-centric generativity remains infused with human cultural values that articulate preferences for some species over others – that is, the tree was "saved" at the expense of the bittersweet vine. Over time, these stewardship actions shape a natural environment that embodies human values and preferences, further complicating actual distinctions between

anthro- and bio-centric generativity. These examples of bio-generativity demonstrate how generative action, with its focus on benefits to others, can be directed toward the natural environment in participants motivations for engaging in stewardship.

Generativity plays a major role in motivating participants toward stewardship action, and both anthro- and bio-centric generativity may provide identity-relevant motivational framework for them to follow as they engage in what they consider to be "good" stewardship activities. The prevalence of anthro-centric generativity demonstrates that participants do not see good stewardship actions as having to be done specifically on natural communities, such as habitat restorations, but can instead be through numerous opportunities to improve the well-being of others. This displays a recognition that society, specifically its norms and values, plays a major role in resource stewardship. These two forms of generativity are not mutually exclusive and may complement each other in steward's actions.

**Personal Satisfaction**

Personal satisfaction represents a motivation to engage in activities for individual benefit. This was commonly seen as interest in personal learning and personal enjoyment. Participants described the desire to learn about something around them related to stewardship activities. This could include learning about the environment, natural history, local history of their area, or learning about their community. Participants emphasized personal satisfaction in various ways in their discussions of stewardship. 19 participants (90%) referenced personal satisfaction, most frequently when discussing participation in educational programing (Fig. 1). The remainder of this section will focus on the description of two main forms of personal satisfaction expression. The first is focused on increasing personal knowledge and motivation to join educational programing. The second is concerned with environmental stewardship as personally satisfying.

One participant focused their interest on learning about the local environment as a way to learn about the property they had recently purchased. After talking to various neighbors about how to get involved in stewardship efforts, they eventually found their way to participating in educational programming. Having a history of outdoor recreation, they have begun participating in education programs as a way to explore something unknown to them. Their desire to learn about the natural world and explore their own knowledge and beliefs is evident in the follow quote:

> I would have to say that I'm still forming my value systems with respect to the forest, the wetlands, the lakes, the rivers and the various critters and levels of critters. And by level of critters, I mean it's much easier to develop caring for bunnies and foxes than it is for salamanders and damselflies.

The participant is describing how they are still learning about the natural world. It is illustrative of a desire to develop their understanding of local ecosystems and their relationships in them. Another participant spoke about seeking out the program to learn more about specific issues, "I'm interested in learning about ways to deter vole attacks on some of my plantings, my orchard and my trees without killing anything." Learning was also a catalyst for stewardship for some participants, as a participant with no prior stewardship history indicated when describing what they enjoyed about the program:

> What I really enjoyed was the opportunity to take in information and then have some time to get with it and think about it… I just starting thinking of like five different big projects that I wanted to start at my house.

The desire to learn about natural communities and being given time to reflect on this learning provide an opportunity for participants to think about applications of this knowledge. Gaining knowledge was a common motivation for people to apply for the program.

Some participants reported engaging in stewardship for personal enjoyment. This may take the form of leisure activities or engaging in stewardship activities as a way of recreating.

This is often demonstrated through common activities such as gardening, property management, or stewardship to promote hunting or fishing opportunities. When asked about how stewardship is a part of their everyday life, one participant stated:

> I hunt, so yeah, I guess so about one month a year or two months sometimes I get out in the woods, I usually just take a walk but not had a lot of success but I do see a lot of wildlife and I find that enjoyable.

Another participant has similar thoughts when asked about how they engage in stewardship:

> I am into wildlife management, population control. I am a hunter. My husband is a hunter. And I've seen the impacts that has happened with the deer population in southeastern New Hampshire. So that's been one of my concerns because we've got so much growth in neighborhoods that the deer are squeezed in smaller areas and they are breeding like crazy.

Responses like these indicate that stewardship can be seen as enjoyable and part of recreation. Hunting is a great example of this as most hunters do not rely on hunting for personal survival and hunting has become primarily a recreational pursuit. As hunting is time intensive and can be financially demanding, generally hunters enjoy the process of hunting, and see it as a way of engaging in stewardship.

Personal satisfaction is an important motivation of good stewardship efforts. It represents a connection between the person and their bio- and socio-environment. Personal satisfaction could also be manifested in other ways that were not described by study participants. Through these pathways, people are looking to engage in stewardship in a way that is generally motivated for self-benefit or fulfillment.

**Social Connection**

In environmental education and stewardship, the focus of this motivation for stewardship is about building and engaging in a community of stewards. Social connection was the second most commonly expressed motivational theme for both education and stewardship. 14

participants referenced social connections for environmental education, and 13 for environmental stewardship (Fig. 1). The motivations behind this were identified through three expressions; increasing the number of people the participant can engage with, finding new ways they can represent nature to others, and social connection as an end result. These three expressions are detailed below.

One participant described interest in social connections as a major motivator for program participation. With a history of long-term stewardship efforts, they described their motivation for signing up for the program as "I'm hoping it will change my perspective. And I hope it will introduce me to new ways that I think can get involved and new people that I can learn from." In this example, the participant is describing how they hope to receive benefit from increasing the number of people they engage with. Beyond engaging in traditional stewardship, this participant has turned to social media to communicate with other stewards in their area to spread information and collaborate on efforts. The importance of learning from the experiences of others can also be seen in the reports of a participant who highlighted the importance of interactions with both experts and fellow participants. After describing how they initially applied for the program to learn about local ecology, they stated a realized effect of environmental education was the benefit of the interaction with other participants stating:

> I learned from interactions from my fellow participants who have their own experiences of working on habitat, wildlife, land, conservation, you know, to different degrees and working in particular with different people and the conversations we had were also very good and really enriched my experience.

This participant recognized the value of social connection with others when reflecting on the program. Having described that they are not currently engaged in stewardship efforts, they go on to describe how social collaboration is going to be a major motivator of their future stewardship efforts. This participant's discovered awareness of social connection is indicative of how they

came into the program prioritizing expecting certain learning, but came away with a desire to engage in a community of stewards.

As many expressions of motivation can be considered increasing social inputs in the community engagement, expressions may also be output-based, and focused on sharing nature. When asked what they were expecting to get out of the program, one participant stated "I'm looking for ways to share the bog with other people and just this area [where they live] with other people." Another participant expressed a desire to reach out to others, saying, "Basically it's created a great bridge for me to reach beyond like my comfort zone and start to connect with people in a wider community." These examples demonstrate how participants are interested in increasing their opportunity to share their experiences with nature with others.

Socially derived motivation for stewardship and educational participation can also be expressed through the desire to be part of a wider community. People may be interested in joining conservation organizations or community efforts in an attempt to interact with like-minded people. Speaking about their desire to take part in the program to help engage with local conservation efforts, a participant stated "I am trying to get back in the community which is one of the great things about this program." This indicates that the participant views the program as a gateway to enter a specific community they have in mind. The participant appears primarily concerned with entrance into the community not specific social interactions. Social connections can be demonstrated through different expressions of social interaction. This can be done through output-based expressions of connecting with others. Input-based expressions are creating opportunities to learn from others. It can also be expressed through a desire to be a part of a community. This motivation is an important part of recognizing socio-cultural interactions that occur in stewardship efforts.

**Association between Activity and Motivational Theme**

*Environmental Stewardship and Generativity*

Table 1 suggested an association between generativity and social connection in relation to environmental stewardship, as both were frequent in terms of number of participants and number of occurrences. This was done in ways that demonstrated a complementary relationship, as these quotes demonstrate;

> *So does wildlife management and invasive species conservation, do these things impact your participation within your local community where you live?*
> I'm a steward at the [conservation organization] but also we live in a development that was established in the mid-80's as a friendly place to live and so I'm trying to use whatever I learn there to help my neighbors who don't know nearly as much as I do about it and help them do a better job.

They went on to describe their philosophy regarding their interaction with the natural world, "Stay in balance. Be aware that we're just one generation of people, the world continues. You have grandchildren. You want them to grow up in a world that's friendly to people, wildlife. So just stay in balance, I think." Both quotes represent the participant's motivation for stewardship as clearly generative and also concerned with the social connections and interactions involved.

Generativity was supported secondarily by social connection. This teaching and outreach form of relationship between generativity and social connection was the most common example of these occurrences. They demonstrate how their participation in the program will allow them to be generative by giving of their time to others. It also shows that they have a desire to work with others in their community, and thus develop social connections. The example of wanting to develop educational opportunities was a common example of expressing these two forms, and this interaction was seen frequently when discussing environmental stewardship. The following quote by another participant demonstrates this well, who describes the importance of the social connections involved in the stewardship program they are involved in.

So I'll be working fewer hours during the week which is going to allow me to start getting involved in different volunteer things. So I am trying to get back in the community which is one of the great things about this program.

They clearly prioritize social connections when engaging in stewardship activities. The relationship seen between the two motivations is complementary, as they both serve to motivate the participant toward stewardship action.

### *Environmental Education and Personal Satisfaction*

Complementary relationships between personal satisfaction and social connection were also seen. This occurred most frequently when focused on environmental education. Twelve (12) participants referenced both motivational themes when discussing environmental education. The following quotes represents how the interaction commonly occurred:

*So which aspects of the class do you think helped you learn the most?*
I think having a group of 23 people who share a common concern about how to best preserve and protect the best things about the landscape around them.

Another participant described the value of learning from both experts and other students during the program.

I learned from the presentations which I thought were very good. I learned from the interaction, you know, being out in the field with foresters… And also I learned from interactions with my fellow participants who have their own experiences of working on habitat, wildlife, land, conservation, you know, to different degrees and working in particular with different people and the conversations we had were also very good and really enriched my experience.

This indicates that the participants gained personal value from the learning that was occurring and the interaction with the other participants. In these and cases like them, participants viewed both the knowledge presented by instructors and the social interaction that occurred between themselves and other participants and instructors as beneficial. Environmental education programs provide an opportunity for participants to learn from peers and experts about stewardship strategies and develop their own efforts through collaborative means. As with the

prior example, both themes alluded to are positive motivating forces, and represent a complementary relationship between them.

The relationship between themes play an important role in participant engagement. These influences do not happen in isolation, and the presence of complementary relationships is evidence of the important socio-cultural influences that act on participants. The presence of multiple influences can provide insight into identity-relevant understandings of education programing and stewardship.

## Discussion

This study sought to identify participants' motivation to engage in environmental education programs and take part of stewardship activities. Through this work we have identified three motivations engaged with: generativity, social connections, and personal satisfaction. This work serves to contribute to the importance of personal satisfaction and social connections in motivating environmental education participation, and generativity and social connection in stewardship, as well as complementary associations between them. It also serves to expand the conception of Erikson's generativity beyond human-centric focus, in what we have termed "bio-generativity." We also contribute the relation between educational programing and identity development that will be detailed below.

### Expanding Notions of Generativity through Environmental Stewardship

Seeking out and engaging in generative behavior is a major aspect of Erikson's model of identity development. Participants in this education program appear to engage in environmental stewardship to develop their identity and increase generative action. These results complement those found by Matsuba et al. (2012) and Alisat et al. (2014) who found similar significance for generativity and environmental activism.

The prevalence of generativity as the primary motivator for environmental stewardship demonstrates that participants are looking for ways to benefit others. Examples of generative actions, both realized and planned, included engaging future generations in outdoor recreation, educating others, or to pass on an appreciation of the environment. This aligns with Erikson's theories on generativity that focuses on the well-being of others and future generations (Erikson, 1959; McAdams & McLean, 2013). Recognizing that participants are seeking opportunity for generative action is important in understanding how their stewardship actions are part of identity development.

Expanding beyond anthro-centric views of generativity allows for the recognition of broader notions of what constitutes identity-meaningful activities. Erikson wrote heavily on the foundational phases of psychological development in a different sociocultural age from modern times. Today, people have time and opportunity to explore other outlets for generative action. As technology has made communication easier and more expansive, as well as reducing the need for labor intensive occupations, people are able to expand their experiences beyond the frames that Erikson worked in. This coincides with increased awareness and concern for environmental health, as society attempts to plan for the future and mitigate effects of anthropogenic climate change. The context of modern-day life calls for a need to expand our understanding of generativity. Therefore, it is important to recognize bio-generativity as a way people can express concern for others but focus this concern beyond future human generations.

For the purpose of this study, the term "bio-generativity" has been used to create a conceptual space for expanding on Erikson's original construct. The intent was not to create a separate form of generativity or any sort of parallel construct that was specifically ecologically focused. Bio-generative action is still generativity nested well within Eriksonian identity

development, ultimately suggested a broadened view of how generativity can be explored. It is the intent to recognize the need to understand how Erikson's model fits in our modern, and ever changing, society. Although there are obvious connections to E.O. Wilson's "biophilia" (1983), it is not this study's intent to draw conceptual linkages at this time. In refining the idea of bio-generativity it may be beneficial to utilize Kellert's nine biophilic typologies of environmental values to understand the impact of values framework on stewardship and stewardship (Kellert 1993, 2002).

The presence of overall generative intent and action by program participants was staggering. Participants' need for generative action was supported by the presence of references to managerial relationships with the natural world. Of total comments where participants relationship to nature was referenced, 65% framed their relation as one of human management, and was included by 20 of 22 total participants. For a participant to receive satisfaction of generative behavior, which is a positive reinforcement of their identity development, they must feel like they contributed enough effort to warrant feeling good about themselves. Holding a viewpoint that nature requires human management and oversight promotes a need for generative behavior and a conceptual pathway for people to feel that their action is needed. This relation would be more effective in creating a sense of generative need than holding a viewpoint of a mutualistic or separate/sanctuary relation to nature, which would mean that people's influence is not needed.

**Importance of Educational Programing for Adult Identity Development**

Findings indicate that personal learning is the primary motivation engaged with when participants seek out and participate in environmental education. This is understandable as programs are designed and advertised to provide participants with new knowledge.

Environmental education programs serve as an opportunity to learn about best practices as they are managed by universities, state agencies, and well-known conservation organizations, which lends credibility to their messages as best practices and normative values. They often utilize subject matter experts who keep up to date about industry standards and progressive research.

This allows environmental education programs to serve as an obvious starting point for people looking to explore their identity relevance related to stewardship. This suggests that educational programing serve as both a launchpad for participants first exploring this option for generativity, and as a reference for those already engaging in generative action. In the case of the latter, returning to educational programing serves as a way for the participant to "check-in" with experts and instructors, who often represent the standard-bearers of the profession. In these programs, participants not only learn about stewardship opportunities and strategies, but can also interact with experts and other stewards. The desire to confirm identity has the potential to draw people to environmental education programs.

**Programmatic Implication and Applications**

The prevalence of generative motivation in adult environmental stewardship should be an indication to program developers and educators of the need to provide students with opportunity to develop their actions and planning. Since generative action is the target tangible outcome of their participation in these programs, educators should plan the program around facilitating their needs. It is recommended that program developers look for opportunities to engage participants in meaningful stewardship initiatives. This can be done by utilize frameworks such as master volunteers.

The relatively consistent occurrence of references to social connection by participants indicates that social interaction serves as a major motivating factor for participation in both

stewardship and education. Programs should still contain information on new topics and learning, but should provide time for collaboration and idea development. Students should be given time to brainstorm new ideas, and work with experts to determine how reasonable their plans are. They should be given time in the program to work in collaboration with other students and be able to give and receive feedback from their peers. By providing students more time for collaboration and idea development, even at the expense of some material not being covered in as much depth, educators can provide students with a greater opportunity for successful stewardship efforts in their community.

**Limitations and Future Considerations**

The finding described above would be benefitted from a more robust understanding of how decision making occurs within participants and coherence about decisions that conflict with the participants values. When a participant describes a decision that is made, they are representing an identity-salient argument. They are trying to position themselves as a particular type of environmental steward. By understanding the structures around these decisions, we can understand participants' views of stewardship and their how they view themselves as stewards. Further research will attempt to explore decision-making coherence more deeply.

Future research should explore the impact of educational programing as an anchoring force that links their identity development to master narratives, serving as a system of checks for what they are doing. Educational programing may serve as a "recharging" or centering of the identity development because of the opportunity to interact with other practitioners and experts. This aligns with Hammack's theory of master narrative engagement, which promotes the idea that individuals and societies "negotiate the meaning of lives, events, and groups through an engagement with narratives" (Hammack & Toolis 2016). In the case of this study, the experts

and fellow students are representative of the wider society in environmental stewardship. Further study of master narrative presence would be needed to understand how this interaction occurs.

The interviews were not able to shed light on motivational conflict. This research showed how they can complement one another, and it is reasonable to assume that there are motivations that conflict with one another. This conflict was coded for, although no examples were found. We were surprised that conflict was not more prominent, especially given the paradoxes of modern post-industrial life. We believe this absence is due to the voluntary nature of participants participation in both the educational programing and in the research. Environmental education programs such as these are similar to leisure activities and are only done by people who want to be there. This results in participants generally have positive feelings and motivations for being there. To understand conflicting master narratives, researchers may find exploring less voluntary and enjoyable activities for participants.

These paper present findings from one adult environmental education program over two program cohorts. The participants are Americans of European decent, many of whom are of similar age and middle class to upper-middle class socio-economic status. This may mean that the findings are not generalizable to other populations, especially those of varied cultural backgrounds. Further investigation would be needed to determine cross-cultural generalizability.

**Conclusion**

When educators plan adult environmental education programs it is vital for them to recognize the interest in generative action and the value of collaboration between program staff and participants, and between participants. It is important that educators recognize the sociocultural dimensions of stewardship. Educators should therefore provide opportunity for participant's idea development. They should also recognize the value of program's "in between"

time, breaks between sessions, meal times, and side conversations between people in the back of the group. Real benefit is occurring in this unstructured time. Conceptually, participants may be looking toward staff and other participants for identity development reference. In their own personal stewardship activities, they are exploring identity salient decisions, and these interactions serve to ground those decisions. The motivations identified provide a structure for understanding how participants engage in environmental education and stewardship.

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## III. Manuscript 2

Environmental Stewardship as a Culturally Mediated and Socially Grounded Activity

## Abstract

The second manuscript is a conceptual effort linking identity-relevant participation in communities of environmental stewards to recognized identity constructs. The manuscript will suggest that stewardship is grounded at two levels: a broad, cultural level and a more local, associational level. Multiple cultural communities from around North America recognize the importance of culturally grounded stewardship. The manuscript also argues that associational groups have a role in mediating the connection between the broad, cultural level and the individual. It suggests that many of these associations function as "communities of practice" that have identity-developing characteristics.

The manuscript explores the idea that stewardship provides opportunities for identity transformation through generativity, building on a main finding of Manuscript 1, regarding the importance of generative identity formation opportunities for environmental stewards. Generativity, a major aspect of Erikson's (1959; 1968) life stage model, involves gaining identity-relevance by sustaining ideologies through activities that benefit others. It further suggests that Erikson's theories on generativity may need further expansion to represent contemporary social and environmental issues.

Building from Erikson's theories about generativity, the manuscript explores the conceptual underpinnings of biologically centered generativity or *bio-generativity*. First described in Manuscript 1, the concept of bio-generativity suggests that adults may identify with that are beneficial to nature, as they would with other people in more conventionally Eriksonian

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understandings of generativity. This is theoretically interesting because it represents an

expansion on Erikson's original ideas. The manuscript concludes with recommendations for

stewardship organizers and environmental educators.

Keywords: environmental stewardship, identity, generativity, communities of practice, culture

**Introduction**

Interest in engagement with nature is increasing. These interests are broad, and range from having more house plants (Garden Pals, 2022; Marsh, 2019; Sullivan, 2021) to increasing outdoor recreation (Outdoor Industry Association, 2021; White et al., 2016) to developing engagement in stewardship opportunities (Close et al., 2016; Falkner & Buzan, 2019). Environmental stewardship is particularly interesting because of the social setting in which stewardship actions often occur. Adults may join stewardship organizations in order to increase their stewardship efforts, such as those of local municipal or non-profit organizations, such as land trusts or local chapters of larger groups like the Audubon Society. For adults who participate in environmental stewardship and environmental education programs, a feeling of connection with the environment is often an impetus. Many of these participants share a commitment to pro-environmental values (Chwialkowska et al., 2020), which often comes with recognizing their place in and impacts on various natural systems (Kimmerer, 2013). Stewards may be concerned with improving environmental well-being, reducing and repairing human impacts, or creating a more sustainable future (Agyeman et al., 2016; Dimick, 2012). As interest in various forms of stewardship increases, it is important to understand the dynamic social and cultural structures that underpin these group interactions in order for organizers and environmental educators to more fully support stewardship opportunities.

Many adults engage in stewardship opportunities that involve working with other individuals and groups of people. Stewards are often interested in engaging in communities of like-minded or similarly interested people as part of these activities (Hanley & Coppens, in prep). This interaction means that stewards act not only to realize specific environmental commitments, but they also seek to maintain connections to social groups and networks as part

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of their involvement in environmental stewardship efforts. This manuscript firmly roots stewardship as a socially engaged activity with participation involving identity-salient implications. As such, membership in these groups, both broadly and locally, connect with and involve social and cultural messaging about content such as norms, values, and beliefs. This content, for example, may include information about expected behaviors, supported ideologies, and intended goals of group members. This work will build off previous work (Hanley & Coppens, in prep), that defines stewardship as recognition of simultaneous commitments to natural and sociocultural systems. This manuscript will examine environmental stewardship engagement through sociocultural identity theory. This includes how social engagement in stewardship may be structured and linked to recognized theoretical identity constructs. These constructs provide an opportunity to better understand the dynamic nature of social engagement and can help develop recommendations for organizing stewardship and educational efforts.

This manuscript explores stewardship beyond a set of environmental values and commitments. It will situate stewardship as an activity that occurs at multiple social scales, both broad and local levels. First, it will examine stewardship through the perspective of various North American cultural communities, suggesting that stewardship is often a culturally aligned practice. Then it will look at stewardship at a finer, more local scale where individuals engage with both formal and informal groups, what will be called *associations*. Under the right organizational structural, cultural, and practical contexts, these associations may form "communities of practice" (Lave, 1991; Lave & Wenger, 1991; Wenger, 1999) that provide important ideational resources for members as they come to understand what stewardship means and how to act as stewards. In an attempt to understand community membership, this work places *identity* at the core of stewardship as a social and individual practice and aims to redefine

stewardship as a process that is mediated by, and activity occurring within, sociocultural communities (both broadly cultural and through local associations).

Identity theory is useful in understanding the role of sociocultural systems in environmental stewardship involvement, particularly Erik Erikson's life stage of generativity (Erikson, 1959), which holds meaning for understanding adult stewardship. Yet this manuscript also expands Erikson's original formulation of generativity by moving beyond a "stage" based model of identity development. It proposes *bio-generativity*, first noted in Hanley and Coppens (in prep), as an important dimension of stewardship among older adults, where generativity meets community-specific "objects" of learning and development in adulthood among individuals intensely engaged in environmental stewardship. The need for expansion of generativity theory is framed through the need to address climate change impacts on future generations and recognize the increasing plurality of stewardship groups and initiatives. It will conclude with a discussion of recommendations for stewardship and adult environmental education organizers to best support participants' sociocultural and environmental commitments.

## Stewardship as a Social Activity

Stewardship often occurs in group activities such as engaging with environmental organizations' initiatives and taking environmental education classes. Many of these opportunities are inherently social, where the activity is done with other people. However, social interaction as a feature of many stewardship activities utilizes broader cultural, historical, and political processes as individuals engaged in environmental stewardship and creates meaning of their experiences.

Since environmental stewardship in these contexts are shaped by broader cultural, historical, and political processes, it can be regarded as a socioculturally mediated activity.

Through the lens of Eriksonian identity theory (Erikson, 1968), socioculturally mediated activities make possible the identity positions available in any society during a given historical period. In this context, individual involvement in a group's routine activities carries identity-salient characteristics as the individual engages with the norms, values, and beliefs held by the group (Wenger-Trayner et al., 2015). These identity features contribute to the individual's membership and identification with the group and imbue even solo activity with broad cultural and social significance. This means that stewardship as a socioculturally mediated activity carries identity-relevant characteristics that shape how individuals engage with these groups and activities and what those experiences mean to those taking part.

In the following sections, this article will describe environmental stewardship as a sociocultural activity at different levels. At the *cultural level*, one feature of environmental stewardship as a cultural and historical process is its connection to deeply seated and culturally specific values and epistemologies. Next, at an associational, where environmental stewardship is expressed in more specific ways as both connected to broader shared cultural values and epistemologies and also shaped by local and regional specific features.

## Stewardship at a Broad, Cultural Level

Environmental stewardship is practiced in a variety of forms by people and groups around the world. Numerous epistemologies recognize stewardship as heavily mediated by social group and community membership. The following examples represent a broad representation of cultural variation within socioculturally mediated stewardship and connection with natural systems.

North American Indigenous epistemologies often consider the relationship between people and the environment as central. In the case of the Anishinaabe, the interconnectedness of

all living beings (human and non-human) is embedded within life's philosophy (Bell, 2013).

Robin Wall Kimmerer (2013) describes this well in saying "Old growth cultures, like old-growth forests, have not be exterminated. The land holds their memory and the possibility of regeneration. They are not only a matter of ethnicity or history, but of relationships born out of reciprocity between land and people" (p. 291). The connection between the individual, community, and the environment is central in creating a sustainable relationship. This relationship is predicated on a shared economy, where gifts are passed not only from person to person, but also person to the environment, and vice versa. By not structuring society on tenets of private property, something increases in value the more it is shared (Kimmerer, 2013). This recognition reciprocal relationships underpinning the community's place in natural systems provides powerful structure to creating a sustainable shared economy.

African American environmental epistemologies are often heavily rooted in local communities. Dianne Glave (2010) highlighted an emphasis on "the communities that populate those wild places" instead of a "places and not people" approach to environmental preservation that dominates Euro-centric epistemologies (p. 8). This approach developed throughout the African diaspora as African and African-American slaves were brought to, and moved throughout, North America. This movement created a strong link to the community as specific links to place were not well-established, and slaves were often sold and moved to new properties (Anthony, 2006; Glave, 2010; Glave & Stoll, 2006). African Americans show high levels of concern about environmental issues that affect local communities, such as pollution and pesticide usage (Arp & Kenny, 1996; Gantt-Wright et al., 2003; Mohai, 2003). These rates of concern are higher than those of White neighbors, who are often more concerned with global environmental problems (Mohai, 2003; Parker & McDonough, 1999). Concerns about local impacts are well

founded, as natural resource disasters and climate change impacts will disproportionately impact people of color (Byrnes, 2014). African American epistemologies of environmentalism and environmental justice are influenced by, and in-turn influence, social justice needs impacting African American communities (Gustave Speth & Thompson III, 2016).

Latinx environmental perspectives are heavily rooted in a complex history of land relations and decolonizing work. Latinx communities have been both perpetuators of, and targets of, settler-colonial dispossession (Wald et al., 2019). Modern work focuses developing decolonial approaches that address environmental and social justice concerns of communities looking to reconnect with the environment. This work looks to Latinx communities for increased engagement and pushes back on the "greenwashing the White savior" narrative (Minich, 2019). Any stewardship work must be heavily situated in Latinx communities as the disconnect between mainstream societal institutions (school, government, etc.) and Latinx communities as been distinct and perpetuated over generations (Ybarra, 2019). This work, which is gaining recent traction, is heavily situated in Latinx communities.

We recognize that these views are those of their author/s, and may not represent the experiences of all North American Indigenous, African-American, or Latinx individuals and communities. I have chosen to focus on differently constituted environmental positions in a North American context as a way of providing some form of conceptual boundary. Although the authors recognize that other cultural groups around the world have their own experiences and values, these perspectives demonstrate how notions of stewardship are grounded in different epistemological and axiological systems that shape the environmental commitments of groups and individuals. In this way, sociocultural systems mediate the connection between people and the environment while also providing resources for establishing stewardship identities.

**Stewardship at a Local, Associational Level**

Environmental stewardship provides an opportunity for individuals to engage in groups of peers who share similar interests. Previous work has suggests that interest in social engagement is a motivating factor in adults becoming involved in stewardship and environmental education programs (Hanley & Coppens, in prep) and that relationships and other social factors play a role in adults' engagement (Lopez & Weave, 2021). Fine (1987) suggests that American society is becoming more based on voluntary engagement in associations than inherited social position. This provides a need for understanding how associations function and interact with wider cultural characteristics.

Local stewardship groups range in organization structure and other characteristics; from small, informal friend groups to locally or regionally active non-governmental organizations (e.g. local Audubon Society chapters, land trusts) to municipal or county government (e.g. conservation/environmental commissions, county conservation districts). These groups will be referred to as "associations" to reference the varying levels of organizational structure represented.

As a member of an association, the interface between the individual and the association is dynamic. The individual receives guidance on sociocultural content such as norms and values, through such messages as master narratives (McLean & Syed, 2015). This content helps provide the individual with "boundaries," which help differentiate membership in the group from the general public and other groups (Fine, 1987). These at the same time, the individual brings their own experience to the association, which helps refine the group's norms and values. This relation creates mutualistic influence between the individual and the group, as they provide feedback to each other (Rogers, 2018). As individual continue to engage with the association, they may be

provided opportunities to become more involved in organization leadership or activity planning. This represents an opportunity for the individual to strengthen their identity-salient commitment to the organization.

## Connections Across the Two Levels

The interconnection of these two levels – *cultural* and *associational* settings – is theorized by the notion of a "community of practice" (Lave, 1991; Wenger, 1999). Communities of practice are specific instances where members share engagement in a particular activity and learn how to do that better as part of their community membership (Lave, 1991; Lave & Wenger, 1991; Wenger, 1999). This membership in a community of practice highlights a connection between membership activity and a recognition of the activity's impact on others, as described by Lave and Wenger (1991), who state "…participants share understandings concerning what they are doing and what that means for their lives and for their communities" (p. 98). In the case of stewardship, associational groups are often focused on specific types of activities (trash clean-up, habitat protect, etc.), and in some cases this activity is focused on a local or regionally specific area. Participation in group activities in a major component of group membership and learning occurs as part of that membership.

Although it may seem as if there is a large and uniform group of environmental stewards sharing and developing a body of knowledge, this is not reflective of the dynamic patchwork of smaller, associational groups that occur at a finer scale. Each of these groups contain their own normative messages, values, and beliefs. These groups may share cultural characteristics from broader cultural communities they are part of and interacting associations may trade sociocultural content between them. As Etienne Wenger-Trayner and Beverly Wenger-Trayner (2015) describe the landscape of communities as "dynamic as communities arise and disappear,

evolve, merge, split, compete with or complement each other, ignore or engage the other" (p. 15). Some of these associational groups may be more permanent than others, such as local environmental/conservation commissions or large non-profits, but others are small groups such as local habitat restoration groups or informally organized groups of friends.

The identity-salience commitment present in group membership mediates the relation between the individual and cultural community processes. This means that associations plays a vital role in making norms, values, and beliefs of the broad cultural community tangible to the individual and providing activity guidance (Packer & Cole, 2019). Therefore, engagement in associations which constitute communities of practice create identity affordance for their members through access to processes of increasing membership commitment and identity content (Lave & Wenger, 1991). The follow section will take a closer look at how associations create affordance and contribute to identity transformation.

**Socioculturally Mediated Stewardship Provide Opportunities for Identity Transformation**

Engagement with the environment is frequently operationalized as a sociocultural experience within associations and cultural communities, and this has embedded identity relevance. Involvement in associations, such as groups of stewards as described above, is a dynamic identity processes that involves navigating membership commitments. That identity is related to their commitment as members of an association, and the individual may have different identity features between each community they are a part of (Fenton-O'Creevy et al., 2015). For example, an individual may be a leader of one association and a general member of another association. In the first association they may have greater group commitment which includes more roles and responsibilities due to their leadership position, when compared to the second group.

Within a community, opportunities for increased membership commitment and experience can lead to related increases in recognition and status. This process is known as "legitimate peripheral participation." As described by Lave and Wenger (1991), individuals move from "new comers" to "old timers" within a community of practice as they demonstrate larger ideological commitments tied to the group as well as an increasing frequency of normative and values demonstrations. These new comers are recruited as relative novices, and over time show greater familiarity with community ideology and content, such as norms, values, and beliefs. New comers increase membership commitments within and toward the group over time and ultimately become old timers. Through this process, individuals undergo identity transformation – in other words, increasing ideological commitment and engaging in behavior such as taking on new roles and gaining experience reflects a coextensive change in both self-conception and community recognition, resulting in identity development. When these changes occur, it may shift the way the individual sees their relationship with the group and experiences the wider sociocultural context. This shift may lead to identity transformation as identity is a dynamic, socio-contextual phenomenon.

Some stewardship institutions provide excellent examples of this kind of identity transformation. In the case of New Hampshire's county-based conservation districts, five "supervisors" provide leadership, guidance, and technical support to other county land managers and users, termed "cooperators." Districts can also have multiple "associate supervisors" who assist in district activities but do not vote on district matters, except as a proxy for an absent supervisor. District supervisors and associate supervisors work to provide guidance and resources to county farmers, property managers, and other natural resource users who look to the supervisors for technical, educational, and financial support. Although their expertise, statuses,

and role positions differ, all these users are members within one community of practice, some relatively more novice than others with greater expertise and authority. As Lave and Wenger (1991) specify, participation at multiple levels is involved in membership within a community of practice. As supervisor vacancies arise, associate supervisors are well positioned to fill those positions, thus increasing their membership commitment within the community, and becoming "old timers". District cooperators, who may be considered less experienced community members, could increase membership commitment by becoming associate supervisors. This ladder of responsibilities within the institution provides a mechanism for increasing community commitment and resulting identity transformation. Legitimate peripheral participation, which may occur in some stewardship associations, provides a helpful framework to understand how identity commitment can change within a community of practice.

The relationship between different members within communities of practice play an important role in identity development. Within these communities of practice, multilayered structures exist which allow members to increase commitment and whose activities provide identity-salient opportunity. An important aspect is that "old timers" confer legitimacy and provide learning opportunity for "new comers," which is more important than providing specific teaching and curriculum to newer members (Lave & Wenger, 1991). In the landscape of stewardship organizations, some communities of practice are better structured and more experiences in the process of member identity development, and thus have more success at enculturation and reproduction of relevant norms, values, and beliefs. The communication and adoption of these pieces of sociocultural content highlight the importance of identity processes within association members.

**Stewardship as Generativity Salient: An Intergenerationally Focused Identity Process**

Environmental stewardship within a community of practice firmly roots the individual in the sociocultural context in which they are engaging. This relationship between the community and the individual is central to identity development. Lave and Wenger (1991) describe identity as being considered "long-term, living relations between persons and their place and participation in communities of practice. Thus identity, knowing, and social membership entail one another" (p. 53). In the case of environmental stewardship, there are themes of caretaking environmental systems and natural resources, often for the benefit of future generations (Hanley & Coppens, in prep). This suggests that identity-relevant intergeneration concern may be a part of stewardship activity.

To understand how the intergenerational dimensions of environmental stewardship bears on identity, one can turn to Erik Erikson's theory of identity formation, specifically his concept of *generativity*. For a major period of adulthood, Erikson suggests identity is heavily mediated by ideological generativity, which is often actualized in activities that benefits others. His Life Stage Model places the need for generativity as the predominant crisis of adulthood (Erikson, 1959; Schachter, 2018) stating, "Generativity is primarily the interest in establishing and guiding the next generation" (Erikson, 1959, p. 103). This "guiding" occurs through passing along ideological and identity-relevant content through interaction in which actions and conversation communicate beliefs, values, and goals that are important within the cultural community. Erikson (1959) framed each stage as a crisis that the individual is seeking to resolve, and theorized that a significant part of adult identity development was related to resolving "generativity" versus "stagnation," which he described as "interpersonal impoverishment" and having a proclivity for self-obsession (p. 103). This manuscript conceptualizes identity

development more as "central tendencies" of a certain period in the life course rather than as uniformly predictable "stages," Erikson's model focuses identity-relevant generativity on adolescents and guiding them toward adulthood. This intergenerational focus gives Erikson's model a cyclic nature as mature generations guide the development of younger generations into maturation (Schachter, 2018).

Erikson's theories on generativity characterize it as a sociocultural process. Much the research exploring generativity has focused on generativity as a wider, cultural phenomenon. Higher rates of generativity have been reported by those with more positive social engagement (Jones & McAdams, 2013), those working with younger professional (Downey et al., 2016), and involvement in family-based groups (Pratt et al., 2013). These associations are connected with positive personal reinforcement during generative activities with actions that develop future generations within the community. Previous work on environmentally focused generative content has linked environmental work to higher self-reported levels of generative feelings amongst environmental activists (Matsuba et al., 2012; Matsuba & Pratt, 2013) and as a motivating theme for adult environmental education participants (Hanley & Coppens, in prep). These inquiries have supported the idea of generativity as a sociocultural process as it was initially framed by Erikson.

Erikson's framing of generativity as a sociocultural process lends itself well to a beneficial understanding of environmental stewardship. His writings did not explore smaller scale examples or cases where identity processes were seen in effect. As described previously, associations may act as the lens through which norms, values, and beliefs are mediated, communicated, and operationalized, thus creating locally specific content about generativity. Stewardship, defined here as the simultaneous commitment to sociocultural and natural systems,

becomes heavily rooted in the norms, values, and beliefs of local associations. The way these are expressed result in how stewardship activities occur. This includes both "large S" stewardship, such as what stewardship projects are selected and building infrastructure around less impactful materials and methods, and "small S" stewardship through decisions about daily personal transport or how to dispose of personal waste. Local associations become the setting for stewardship practices to be developed from a sociocultural perspective.

This focus on generativity at the associational level (big "S" stewardship) lends itself toward better understanding of stewardship. It is within these group memberships that identity transformation occurs as individuals shift from "new comers" to "old timers" (Lave & Wenger, 1991). The roles and responsibilities built into associations provides a pathway from individuals to increase membership commitment and undergo identity transformation. As part of this increase in membership commitment, individuals may attempt to recruit and develop "new comers" to the institution. This then begins the process of conferring identity-relevant values, norms, and beliefs to newer members who begin their own transformation. This process creates the intergenerational loop that is powered by generativity theory's central tendency toward helping others and developing future generations (Schachter, 2018).

When associations engage in stewardship activities, they signal to members what positive actions and values are within the community. This signaling encourages individuals to engage in similar activities as part of community membership. The individual may see participation in these activities as linked to in-group identity. This interpretation would guide their activities to follow group norms as they look to strengthen their identity commitment. For adult stewards engaging in these associations, generativity may be a central tendency of identity commitment.

By increasing their positively linked activities to community goals, the individual may strengthen their identity commitments.

Stewardship activities may engage identity-relevant generativity that is broadly cultural and mediated by local association membership. Many stewards engage in activities that benefit others as part of their group engagement. These activities may not be directly beneficial of other members or adolescents within their group, but may benefit the wider local community, such as local children, schools, or youth organizations. These activities, even if they don't occur through a specific association-sponsored activity, allow for stewards to derive identity-salient meaning from their engagement as they represent norms, values, and beliefs of the association.

So far, the paper has argued for a sociocultural perspective on environmental stewardship as an identity salient activity. This salience has been discussed at two levels: a local, associational level and a broader, community cultural level. In the next section, the central tendency of generativity is expanded into new territory not described by Erikson's model.

**Developing Identity-Salient Generativity Theory Through Connections to Natural Systems**

It may be possible that identity-meaningful generativity may occur through processes that are not focused on benefiting people. This builds on Erikson's original theory that generativity is primarily rooted in supporting adolescents' ideological and social development. So far only work by a few researchers has connected generativity and environmental engagement (Alisat et al., 2014; Matsuba et al., 2012; Matsuba & Pratt, 2013; Pratt et al., 2013). One thing that is unclear from this previous work is the importance of the action's beneficiary. Previous theory on generative focus (see Erikson 1959 & 1968) has limited the scope of the beneficiary to other people, predominately adolescents. Much of the work of environmental activists does not directly benefit adolescents, and thus creates a disconnect between Erikson's theory and practice.

Also, cultural epistemologies rooted in Indigenous American communities suggests that connections to nature are just as identity salient as connection to other humans (Alisat et al., 2014; Au et al., 2020; Bang & Medin, 2010; Medin & Bang, 2014). This suggests conceptual space between traditional Eriksonian generativity and observed identity processes. This means that identity-relevant generativity can occur beyond the youth development focus proposed by Erikson, and there is therefore space for conceptual development of generativity theory.

This manuscript proposes the concept of "bio-generativity" in order to expand theory to meet contemporary needs. Bio-generativity is the desire to engage in generative action focused on improving environmental health, which Hanley and Coppens (in prep.) found was present in adult environmental education participants. Bio-generativity suggests that identity-relevant generative action can be focused on the environment around them, and they may have a desire for their actions to promote environmental conservation or restoration. It furthers suggests that these activities, though not directed toward other people, may have identity relevance. Bio-generativity expands and contextually grounds itself in Erikson's generativity theory, broadening ideas about where identity processes occur.

Stewardship may occur in ways that benefit the environment and are ultimately identity-meaningful due to their human impacts. These activities may not overtly benefit people, but the individual's motivations may be related to benefiting others. By understanding the participant's motivation, we can better understand the action's identity relevance. This activity may not obviously be linked to another person's benefit; however, by understanding its significance with respect to locally and culturally meaningful actions we can gain potential insight into its identity relevance. To illustrate the difference between generativity and bio-generativity the example of participation in an organized stream clean-up will be used. For example, they may have been

motivated to create a clean natural space and environment for children in the neighborhood. In this example, our understanding of an environmental-focused identity process is improved by utilizing Erikson's concept of generativity. This is because their activity is ultimately meant to benefit future generations. This would be considered as an application consistent with historic understanding of Erikson's generative life stage.

To follow the example of the stream clean-up used in the previous paragraph, the participant may be primarily interested in participating for the improvement of environmental health. This type of action will be referred to as "bio-generativity," and represents identity-relevant generativity that does not need to be focused on people. Bio-generative action may be identity-meaningful and may occur within associations. If identity-meaningful, these activities would influence how the individual perceives their membership in an institution. By participating in group activities, the individual may increase identity commitment through participation, ultimately undergoing identity transformation as their membership commitment increases. Examples like this of "big S" stewardship, such as the stream clean up referenced earlier, are likely common in institutions whose values, norms, and beliefs center around improving ecosystem health and building connections to natural systems. Bio-generativity may also be seen in "small S" stewardship as individuals engage in day-to-day activities that promote awareness and connection with natural systems. These activities may include decisions that affect transportation choices, waste disposal, or other choices that impact their carbon footprint. In these examples, the activity may be identity relevant as the individual looks to connect associational participation to wider values and norms of the cultural community they are part of.

The need for expanding generativity theory may be rooted in changing socio-historical context. This manuscript suggests two potential reasons for this expansion. The first is the

emerging threat to environmental health caused by climate change. As the climate continues to warm, the resulting impacts have numerous effects on human populations; rising sea level (Abdelhafez et al., 2021; Alhamid et al., 2022; Schibalski et al., 2022), decreasing farmland production (Akbari et al., 2022; Eekhout & de Vente, 2022; Khairulbahri, 2021), and increasing demands on our energy systems (Hiruta et al., 2022; Suomalainen et al., 2022). This may lead to adults being concerned about the environmental health and resources that future generations will inherit, and in some cases concern if the human species will be able to survive the changes. The effects of climate change have been felt and studied globally, and are expected to continue to increase (Lomborg, 2020; Zhang et al., 2021). For adult stewards, these need to do something about these impacts may play a role in their participation. This engagement may be undergirded by the need to address these problems for the benefit of future generations. This concept represents bio-generativity because the stewards' actions are not directly related to development of adolescents but instead represent a desire to improve environmental health for the benefit of others.

The second socio-historical reason for this theoretical expansion is the increase cultural and epistemological pluralism involved in environmental stewardship. As more people have gotten involved in stewardship efforts (Close et al., 2016; Falkner & Buzan, 2019), people bring a variety of experiences and sociocultural content to stewardship efforts (Palola et al., 2022). With this comes increasing variety of values and norms, and the development of new systems and ways of doing (Kish et al., 2021). This recognition can help represent emerging areas of stewardship growth, such as urban populations and underrepresented communities (Grabowski et al., 2019). Current models of understanding generativity and environmental stewardship among adults may be inadequate to describe the current issues and features of the times. This expanding

view of how identity-salient generativity functions looks to meet the needs of modern stewardship.

Bio-generativity allows the concept of Erikson's generativity to be expanded. By conceptualize environmentally focused identity processes within Erikson's identity framework, it becomes easier to understand how stewardship actions become important to the individual. This needs to be fundamentally understood within the context of sociocultural systems. To try to understand identity without a recognition of its systemic origin shortstops the ability to comprehensively understand it is influence on stewardship. It is also important to recognize the inseparable link between Eriksonian generativity and bio-generativity because people are committed members to both sociocultural and natural systems.

**Implications for Practitioners to Develop Stewardship Opportunities through Identity-Relevant Understanding**

Many stewardship initiatives and adult environmental education programs follow service-based and content-based models, that highlight increasing knowledge about natural systems. The need for these efforts can be historically recognized from an era of top-down preservation-based efforts highlighted by the efforts of Theodore Roosevelt and John Muir. In this case, "service-based" is meant to reflect a model where one person or group provides a service to another. In stewardship efforts, this relation often goes beyond human-helping-human and encompasses human-helping-nature mindsets. These models are outcome based, and often look for quantifiable measures to determine success. This may come in the form of number of events run, acres protected, participants enrolled, or dollars raised. The "service-based" model has often led to unidirectional impacts and reduced feedback opportunity for model improvement as participants are reduced to the help or the helped.

Adult environmental education programs often utilize similar unidirectional models focusing on content delivery. Programs may utilize the "teacher-tells-student" model of learning, which historically dominate historic K-12 education in America. This, and similar models, are content driven, and outcome goals are often linked to information retention. Previous research (Hanley & Coppens, in prep) has suggested content acquisition is a motivating factor for adults to participate in environmental education programs. Though content acquisition may be a motivating factor for participation, methods of instruction still rely on paradigms of the instructor, a perceived content expert, imparting knowledge to less informed students. These are outdated models that do not recognize the importance of social and cultural dimensions to stewardship.

The relationship between the individual and the environment should not be considered without recognition of the social and community contexts in which they live. It is a misunderstanding of identity processes to think that an individual's relationship with the environment occurs in isolation from sociocultural systems. Instead, this relationship is heavily mediated by social and cultural processes, as described previously in this manuscript. Any understanding of how the individual interacts with the environment must recognize these additional commitments. The recognition of stewardship as an environmentally focused identity process means that stewardship and environmental education professionals should recognize the sociocultural systems in which environmental engagement occurs. Organizers should look to highlight and strengthen the inherent linkage with ecological communities embedded in sociocultural systems. The remainder of this manuscript will discuss implications for practitioners based on recognizing stewardship as an environmentally relevant identity process.

**Navigating Competing Commitments with Associations**

Individuals belong to multiple associations as part of their daily lives, and each one has its own norms, values, and beliefs that influence the individual. In any specific instance, the identity processes at work are the results of interactions between multiple sets of commitments. For example, a steward may volunteer to help with a stream clean-up initiative. The extent to which they are involved may be mediated by both time availability and how they perceived their membership in the organization running the clean-up. If their membership in another community (e.g., local recreational sports) requires their time, and they are more committed to their identity within the other community, they may have a limited amount of time they can spend on the stream clean-up. In the case of stewardship associations, it is important to provide opportunities for members to strengthen identity commitments.

In order to engage stewards in active associations, stewardship organizers should look for opportunities to add identity-value for a participant's activities. Increasing a stewards membership commitment can come from engaging them in the organization beyond the physical activity of environmental conservation and/or restoration work. These opportunities are created through including people in development and planning processes, even of small activities. Having committees or workgroups focusing on tasks like recruitment, activities planning, or web presence can involve more people in the continued activities of the group. This process allows individuals to increase commitment as they become more and more involved in group activities. In some case this may occur as legitimate peripheral participation, as previously mentioned. Regardless of if a community is a true example of a community of practice exhibiting legitimate peripheral participation, the concept of increasing engagement as a way of building membership commitment is valuable within an organization's activities.

Within the stewardship organization, they may commit more time to the project if they are in a leadership position or a seasoned volunteer, rather than a newly recruited volunteer. Organizers should look for ways to engage people in their operations of the organization to provide opportunity for increasing identity commitment. Allow for these opportunities provides a pathway for commitment to group membership which influences their involvement in activities.

**Strengthening Sociocultural Networks**

Associations should look for opportunities to increase network building and engagement within the group. Recognizing that stewards may derive identity-relevance from their actions is essential for stewardship and educational developers to consider in their work. As identity is community-situated, organizers should consider how planned activities interface with wider sociocultural content. These efforts may involve considering how program activities help meet the interests of the community. Organizers should also think about the development of social networking and community expansion. Participants are coming to programs to meet with professionals and, in doing so, learn new information and check their identity against professionals and peers. By allowing program time for workshopping and idea development, participants can develop their ideas and reinforce identity commitments. Previous work (Hanley & Coppens, in prep) has found increasing social connections with experts and peers was highly motivating to sign up for environmental education programs. This can come in the form of creating time for socialization as part of activity involvement, or recognizing the value of interaction. By increasing these opportunities, organizers can provide increased opportunity for time in an identity-relevant context.

Organizers should also provide opportunity for adults' central tendency of identity development: generativity. As previously described, generativity can be considered a central

tendency of identity to many adults, and can be acted upon by individuals engaging in behavior that benefits others. Providing opportunities for generative engagement would directly meet an identity-relevant goal of most adults, and is a straightforward way of increasing community engagement. This can be in the form of work that benefits others involved in linked sociocultural or natural systems. Examples may include building, maintaining, or restoring community gardens, habitat restoration work, or organizing educational opportunities. These activities may be identity-relevant and involving individuals in them increasing positive engagement and well-being. Organizers can utilize generative activities as a way of engaging people in community action.

**Communicating Sociocultural Network Values and Delivering Content**

It is important for organizers to recognize how content about values, norms, and beliefs are communicated to members. This manuscript has highlighted the reciprocal relationship between and the individual's action and beliefs. As the individual is influenced by the group, they also contribute to the continuation and alteration of the group's identity content. Sociocultural content is an important aspect of identity salience, and its regularly communicated between group members. These building blocks of identity emphasize what is considered important identity features, and how do they impact individual well-being. What makes up identity-relevant content is subjective, but may be influenced in by group norms. These may come in the form of core interests, values, or skills (Waterman et al., 2010) or as an event, such as rite of passage (McLean et al., 2018; McLean & Pasupathi, 2012). In stewardship initiatives, this means recognizing the core values, beliefs, and norms that are being mediated by the association the individual is engaging with.

From a "leadership-to-member" perspective, individuals often look to group leaders and content experts as "standard bearers" of the norms and values within the association. This can involve information about values, actions, and beliefs, as well as physical representations of in-group membership, such as clothing and appearance. Stewardship organizers play a major role in the identity content communicated to members, and this can have a major impact on group membership and how it is enacted. The individual does have the ability to provide feedback through their involvement and response to the content they are receiving. It is important for organizers to understand the identity-relevant content delivered to stewards and participants during programs.

## Conclusion

This manuscript suggested that environmental stewards are rooted in both sociocultural and environmental systems. The commitment to these systems cannot be overlooked by those interested in developing stewardship and environmental education initiatives. Various experiences from cultural communities across North America highlighted stewardship as rooted in sociocultural context. Identity theory is useful in attempting to further understand this relationship. Identity is a collective and historical process and lends itself well to understanding stewardship involvement. Stewardship groups take a variety of different forms and organizational structures and represent an associational-level mediation of identity processes and content. Many stewardship associations constitute a "community of practice," and membership commitment within the community occurs through legitimate peripheral participation. For adult stewards, a central tendency toward generativity may heavy influence an interest in involvement. This manuscript has provided initial ideas about bio-generativity, a promising idea that develops thought about what constitutes an identity-relevant activity. The manuscript has also provided

suggestions for how organizers and educators can approach program and community

development in an identity mindful way. Ideally though a more community-situated initiatives

and programs will engage more people in stewardship efforts.

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# IV. Manuscript 3

Evidence for a Supra-Individual Perspective on Environmental Stewardship: Generative Identity, Narrative, and Cultural Values of Nature

## Abstract

Stewardship represents a "crossroads" of individual psychological processes, cultural patterns, and domain-specific concerns. The third manuscript explores how and whether participation in various stewardship activities involves relations among *personal* identity processes in the form of generativity commitments, and *cultural* and *historical* identity processes in the form of engagement with environmental values that may vary among the communities with which stewards engage. The study will focus on the identity-relevant generativity orientation of environmental stewards, which was a significant finding of Manuscript 1. It will examine stewardship through the presentation of environmental values. These values are representative of how the individual in interacting with identity content, which has prescriptive qualities of beliefs, actions, and goals for people that receive that content from cultural communities. This content is ultimately mediated and made "usable" through membership in associational groups. Values represent how the individual has chosen to position themself in relation to this content. This manuscript applies Stephen Kellert's framework of biophilic values to narrative evidence of stewardship action to understand how different kinds of environmental values give shape to the meaning of identity-relevant stewardship action as described above. Narrative analysis revealed four distinct "value profiles," which are combinations of biophilic values seen across multiple people: humanistic/naturalistic, humanistic/utilitarian, naturalistic/utilitarian, and scientific/utilitarian (all named after their primary values from

Kellert's typologies). These profiles represent a way to approach understanding how identity content is interpreted and acted on by the individual.

Overall, this dissertation aims to contribute to both practical and conceptual understanding of environmental stewardship. By understanding how stewardship links to identity development, stewardship managers and environmental educators can organize efforts and design programs to engage people effectively. These efforts can also broaden involvement to groups that may not have previously engaged in stewardship. Conceptually, this dissertation can add understanding of how adult identity is constructed and linked to activity participation. Overall, this contribution may help to guide future stewardship efforts to improve environmental health and connect humans to the environment.

Keywords: environmental stewardship, identity, generativity, identity content, narratives, values

**Introduction**

The academic and perhaps dominant cultural understanding of environmental stewardship is in transition. The narrative of environmental stewardship in the United States over the past 150 years has been linked to figures in the United States such as Theodore Roosevelt, John Muir, Aldo Leopold, and Hugh Hammond Bennett. These figures were no doubt influential; however, the relatively narrow nature of the cultural and perhaps ideological perspectives represented by these figures may have been often overlooked. These figures' efforts led to the rise of top-down, often government led, policy-oriented models of environmental stewardship – many of them valuable to address the needs of the times. Stewardship research has historically been rooted in these models, their focus on the maintenance of healthy natural systems (Romolini et al., 2012) and society's moral and ethical obligations to natural systems (Cockburn et al., 2018; Raymond et al., 2013; Welchman, 2012; Worrell & Appleby, 1999). The historic ideological perspectives that rooted previous environmental engagement models may no longer be broad enough however to represent the developing pluralism of environmental stewardship efforts.

Indeed, individuals in numerous cultural communities worldwide seem to orient large portions of their lives and selves toward caring for, and stewarding, natural ecosystems they are close to or spend time in, often without pay or acknowledgement (Hanley et al., in prep.) At a smaller, more local level, developing social connections between peers was seen to be a motivating factor for adult participation in stewardship and environmental education programing (Hanley & Coppens, in prep). These results parallel an increase in academic research on the social dimensions of environmental stewardship that suggest dynamic social features, such as group membership and identity relevance (Bennett et al., 2017; Lopez & Weave, 2021). Hanley

and Coppens (in prep) suggest that social connections among group members – in addition to engaging in generative activity and personal knowledge growth – is a prominent motivating factor in adults participating in environmental stewardship and educational programs. Therefore, the solution to local, regional, and global environmental issues, such as pollution, fragmentation, or climate change, may not be undergirded by simply increasing available knowledge and awareness, but instead by recognizing the sociocultural approaches that solutions require.

To claim that environmental stewardship is fundamentally social is, of course, to beg further inquiry and precision. Social dimensions of stewardship reside in at least two closely interconnected levels: a "micro" associational scale and a "macro" cultural scale. At the micro scale, environmental stewards access cultural values of nature via their associations with, and participation in, local or regional groups that range in organization from informal friend groups to non-profit organizations (e.g., local land trusts, Audubon Society) to municipal and regional government (e.g., conservation/environmental commission, conservation districts). To recognize the variation between these types of groups, this "micro" level will be known as associations (or associational) moving forward. Previous research suggests that social groups may be a major influencing factor in how stewardship is carried out (Close et al., 2016; Fisher et al., 2012; Romolini et al., 2012; Sheppard et al., 2017; Wolf et al., 2013). Although these associations may have distinct norms, values, and beliefs (Fine, 1979), they are also likely to relate (reciprocally) to cultural norms and other associational groups they work with and around.

At the macro scale, stewardship is rooted in social relationships for numerous cultural communities. For example, North American Indigenous epistemologies frequently consider the relation between people and the land as central (Kimmerer, 2013). African American environmental epistemologies are heavily connected to communities engagement as movement

through the African diaspora was common from place to place through slavery or settlement, thus meaning that links to specific places were not as strong (Anthony, 2006; Glave, 2010; Glave & Stoll, 2006). Latinx communities work to develop their relationship with the land through the connection with other communities, working through a complex history of decolonization as historic perpetuators of, and targets of, settler colonial dispossession (Wald et al., 2019). These examples only begin to represent the relation between cultural communities and stewardship engagement.

This study is grounded simultaneously in both scales, or in other words takes a sociocultural perspective on environmental stewardship. The research builds on previous work by taking a closer look into sociocultural processes and provides insight into what cultural values of nature undergird stewardship across New Hampshire. The manuscript explicitly centers sociocultural perspectives on stewardship – sensitivity to both "micro" and "macro" – as a vital and less understood aspect of participation in these efforts.

In addition to this multilevel sociocultural stance, we define stewardship as consisting of commitments to both sociocultural and natural systems, often simultaneously (Hanley & Coppens, in prep). This definition brings together two different kinds of commitments that, for some environmental stewards, may operate synergistically. On one hand, environmental stewards' activities and efforts clearly reflect commitment to natural systems and ecologies, whether local or global. On the other hand, in relation to its fundamental sociocultural nature, environmental stewardship commitment may also consist of a core identity commitment. As identity is a sociohistorical and culturally mediated activity, stewards' participation in various associational groups and their alignment with the values and practices of such groups may have identity relevance.

Two specific aspects of identity theory will be explored in this manuscript. The first is Erik Erikson's theory of generativity, which suggests adult's interest in helping others is identity relevant (Erikson, 1959). Previous stewardship research has suggested that this concern may come from concern for future generations (Robinson et al., 2012), and that environmentalists may have generative inclinations (Alisat et al., 2014; Matsuba et al., 2012; Matsuba & Pratt, 2013). The research presented here uses narrative methodologies to explore identity salient aspects of generativity as they relate to in-group membership and what participation constitutes identity-relevance.

The second aspect of identity theory used in this manuscript relates to values and their ability to help understand identity content. Identity content answers the question "what is developing?" as part of identity development (McLean et al., 2016). A common way of conceptualizing the identity content provided by the broad, cultural community level is through *master narratives*. Master narratives exist in virtually all domains of life, at once imposing prescriptions for what a "good" member of a community ought to do, think, or feel (e.g., suggesting that "good" new mothers fall in love with their babies at first sight (Kerrick & Henry, 2017)) and at the same time providing templates or resources for belonging that individuals either take up or resist in identity formative processes (McLean & Syed, 2015). Common environmental master narratives exist in varying forms. In some forms they parallel "fall-recovery" narratives often seen in other aspects of life (Dickenson, 2013). Environmental master narratives may exist that perpetuate historic settler colonial ideologies of the need for human management and control of nature, although others may suggest the need to feel "connected" with nature.

Personally held values provide another representation of how people engage with identity content. In the environmental domain, Stephen Kellert and E.O. Wilson's "biophilic values" (Kellert & Wilson, 1993) may be a useful starting place for identifying the values held by stewards as a result of the mutual mediation of identity content, such as master narratives, at work in environmental stewardship contexts. This framework is used both conceptually and analytically in this study to identify possible value profiles, which are combinations of values commonly expressed together, in environmental stewards' reports and narratives, that may clarify how individuals process identity content such as master narratives.

In the rest of the introduction, we introduce Erikson's theory of generativity, which will be used in this study to frame the identity-relevance of stewardship activity. Next, sociocultural identity theory, which guides our theoretical understanding of stewardship's identity context, will be enhanced by the addition of narrative identity theory. This addition provides promising insight into identity content. Finally, the way this research will look at identity content, through environmental values will be introduced. In this case, through Kellert and Wilson's (1993) biophilic values of nature, which will ultimately be used to identify value profiles prevalent in New Hampshire stewardship.

**Stewardship Viewed Through Erikson's Theory of Generativity**

A large body of conceptual and empirical work has suggested that adult identity is dominated by a stage that Erikson called "generativity versus stagnation." This stage focuses on the individual's desire to provide for future generations by ideologically guiding them through the stages of adolescent development (Erikson, 1959; Schachter, 2018). This focus on younger generations represents the transition of the *ontological* life cycle to an *intergenerational* and, by extension, cultural form (Schachter, 2018). Although Erikson theorized identity in a stage-based

model, we will move forward referring to generativity as a "central tendency." We believe that "stage" is too rigid and suggests that they are discrete phases, as in, one phase is completed and the next begins. Instead, utilizing a central tendency model, the individual is seen as primarily having identity-related characteristics of that tendency and may have characteristics of other tendencies as well. This suggests that over the life course the individual transitions through numerous central tendencies, and at any given point in life they may exhibit characteristics of multiple tendencies.

Generativity tendencies are presented as the individual attempts to pass on ideological beliefs, values, and preferences to future generations. This occurs in a manner where younger generations, often adolescents, are rapidly constructing their own identity as their interactions with wider sociocultural context are expanding (Erikson, 1968). This results in the adult ideologically guiding the development of the adolescent. As this guidance is occurring, youth process this in the present sociocultural context they find themselves in (Alberts & Durrheim, 2018). This may result in ideologies of older generations being contrasted against experiences, crises, and opportunities of the present day.

This purpose driven connection of adults gives the life course temporal movement and ideological grounding. A concern for the ideological development and wellbeing of others, usually adolescents, is a common way that generative tendencies are expressed and experienced psychologically (Erikson, 1959; Pratt et al., 2013; Volckmann, 2014). Many individuals at generativity-focused periods of the life course become increasingly concerned that their own actions have an impact on others' lives (Fassbender et al., 2019; Lawford et al., 2019). With the people who received the ideological messaging and benefits of generative action eventually being able to provide their own generative beliefs and actions to benefit those now younger than

them. The centrality of generativity in Erikson's model of adult identity is a vivid representation of the importance of the cyclical and intergenerational nature of identity.

A small body of empirical evidence suggests that generativity is a promising concept for understanding identity related to environmental stewardship, and that generativity is a common purpose or motivation of environmental stewards' activities. Robinson et al. (2012) suggest an interest by stewards to improve environmental health for future generations. Stewards frequently purpose their actions and efforts for others' benefit or wellbeing, or to benefit the natural world (Hanley & Coppens, in prep.). Research on environmentally focused generativity has been done on activists (Alisat et al., 2014; Matsuba et al., 2012). This work has relied primarily on the comparison of questionnaire results for activists and a control group. These results indicate that activists may have a greater commitment to generative identity constructs due to environmental activism engagement. Although valuable, there are still gaps within our understanding of environmental engagement and generativity. These being highlighted by addressing how stewards enact generative tendencies as part of their stewardship activities. These gaps also include a need to understand the role macro- and micro-level social groups play on identity-relevant generativity, as identity is firmly rooted in social engagement. Addressing these gaps will help understand how generativity provides a theoretical bridge between identity processes and the individual's engagement in cultural communities and associations.

**Stewardship Viewed Through Sociocultural and Narrative Perspectives on Identity**

The central notion of engagement with others as a defining aspect of identity development lends itself well to structuring human relationships within cultural and associational groups, a key aspect of sociocultural identity theory. Sociocultural theory of identity seats the individual's identity as firmly related to their participation in various groups, both cultural and

associational, that they are members of, and not in specific practices, such as stewardship (Kubiak et al., 2015). As a member of a group, the individual constructs knowledge at various levels of expertise within the group (Packer & Goicoechea, 2000). This suggests that identity cannot be constructed in the absence of cultural and associational settings (Packer & Cole, 2019). Theory positions this participation as the way individuals receive "cultural and historical resources" as tools for identity formation (Penuel & Wertsch, 1995). As culture is not static, the individual contributes to the construction of these resources through their membership, thus making the relationship between individual and cultural processes "mutually constituting" (Rogoff, 2003, p. 51). Erikson's identity theories were heavily rooted in recognizing that cultural resources, passed down through generations, played a key role in development (Erikson, 1968; Penuel & Wertsch, 1995). Lave and Wenger (1991) describe this relation of identity as a cultural-historical processes by saying "identity, knowing, and social membership entail one another" (p. 53). This rooting of identity as a cultural and historical process is a similarity between sociocultural identity theory and narrative identity theory.

Narrative traditions provide a structure by which individuals relate their past, present, and future in a socially and culturally recognizable manner. Similarly to sociocultural theory, narrative identity theory recognizes that social/cultural/historical processes and identity are mutually constituting (Seaman et al., 2017). Methodologically, narrative perspectives provide insight into how individuals understand and position themselves within their sociocultural context (Adler, 2012; Adler et al., 2017). As such, narratives serve as representations of the mediation of culture and identity through the depiction of the individual's past experiences, their present situation, and intended future (Adler et al., 2017; McAdams & McLean, 2013; Singer,

2004). Narratives have a powerful role to play in understanding both the content and the process of identity development.

When examining the individual's relation to their cultural or associational setting, "master narratives" are useful in understanding narrative identity construction. Master narratives are culturally shared normative beliefs that are grounded in the sociocultural dynamics of a group (Hammack & Toolis, 2015; McLean et al., 2017; McLean & Syed, 2015). Master narratives provide a framework for individuals to draw from in positioning themselves relative to prevailing ideological currents in their communities. Narratives provide a framework by which the individual can review past actions against and also use to guide future action (Bradford & Syed, 2019). McLean and Syed (2015) recognize this and conceptually link personal narratives with master narratives through reciprocal connections. This means that personal narratives reinforce or modify master narratives. This conceptually parallels the mutual constitution of cultural and historical processes and identity that is central to sociocultural and narrative identity theories.

In addition to providing normative guidance, master narratives function as cultural resources for identity formation that mediate the inseparable connection between individuals and both their local and broader cultural communities. McLean and Syed (2015) framed master narratives in relation to the individual through negotiation between the self and society, and this insight can be extended to understand community-rooted values undergirding (1) how stewards conceptualize human-nature relations and (2) how they may justify their environmental actions. As these relations and actions would be highly contextualized by the individual's experience as part of a community. Previous research on generativity was used narrative methods (Alisat et al., 2014; McAdams, 2008; McAdams & Guo, 2015), and suggested that participants engage with

broader narratives connected to cultural norms and expectations (McAdams & Guo, 2015). This linkage suggests using narrative methodologies to investigate cultural mediation of identity processes (such as generativity) may be a fruitful way of examining the identity salience of stewardship activities of adults.

**Content of Master Narratives Related to Values of Nature and Human-Nature Relations**

Master narratives provide a pathway for the communication of identity content. This is because master narratives represent culturally grounded archetypes about individual's expected behavior and feelings (McLean & Syed, 2015; Seaman et al., 2017). Content may also be represented by the types of events included in the life story, and the subject, or domain, of the story (McLean et al., 2016; Seaman et al., 2017). Master narratives content is identity salient due to the structure and meaning that it provides the individual (McLean & Breen, 2009), as the individual attempts to mediate their relation to cultural communities. This suggests master narratives exist, and provide identity salient content, to various aspects of the individual's life, including their relation with nature.

A common master narrative in human-nature relations is the idea of separation between human activity and the natural world, and the need to reconnect with nature. This "fall-recovery" narrative permeates environmental thinking, according to Dickenson (2013), who cites the reinforcement of this epistemology in Louv's *Last child in the woods* (2005). This narrative is also seen historically in other works such as Thoreau's *Walden* (1854) and by other 19th and early 20th century transcendentalists (J. W. Roberts, 2012). This redemptive arc is similar to common life story narratives collected by Dan McAdams and fellow researchers (McAdams, 2008, 2014; McAdams & Guo, 2015). In the case of stewardship, master narratives may center around their relation with natural systems. A "good" steward may be someone who recognizes

the interconnected nature of people with the environment and makes changes to theirs's and others' lives consistent with this interconnected view. Others may think differently. Whereas another narrative may be that people should be separate from nature and either allow nature to exist without human interference or even exploit natural resources as an expression of human "progress" or ingenuity. Multiple narratives can exist around a single subject, and the one that is taken up by an individual relates, in part, to the cultural and historical processes that person engages with.

Within the archetypes created by master narratives, there are instilled values and beliefs. The mediation of identity by the culture is not a singular act or transfer, but instead the repeated exposure of the individual to behavior and language that communicates values. Therefore, a potential way of understanding the cultural content embedded in master narratives may be through recognizing consistent values. As an individual reports a narrative they are communicating values. There are the values they want to be seen as having or acting upon, which guide how they narrate the described event, as well as values demonstrated by the intent of the action. For example, if Paul Bunyan was to report a narrative about their timber clearing, they may present it as doing something for the greater good of local communities by making logs for home building. This describes a value of providing for other people. The activity they are engaging in and how there doing it may also describe valuing nature as a place for resource gathering. In this way, multiple values are presented within a narrative, even if only one was the intended value to be presented. An individual's values are a result of the mutual mediation occurring between the individual and their cultural community as enacted through membership in associational groups, such as Paul Bunyan's interest in providing for the local town. The town would be an associational group from which his membership in influences his values. Within

environmental stewardship, multiple values exist that help frame a steward's human-nature relation. Stephen Kellert and E.O. Wilson (1993) provide a rigorous values typology that may prove useful in constructing value profiles.

With a recognition of the relation between people and the environment, ecologist E.O. Wilson suggested that humans have an innate connection to the natural world. This affiliation, which he called "biophilia," is an inherent kinship with the natural world and tendency to relate with life and natural processes (Wilson, 1984). Biophilia has been extended to assert that this connection to nature plays a role in our identity, and biophilic values are present in everyday decisions and community interactions (Kellert & Wilson, 1993). However, this extension has also opened up questions regarding how supposedly universal biophilic tendencies are present in contextually variable community values and practices.

Biophilia provides a way for people to think about their relation with the natural world. People are part of complex natural systems, whether or not they consciously consider themselves to be. To define how individuals enact their human-nature relation, Kellert & Wilson proposed a typology of nine values, which have been used by Kellert and others to explore the human-nature relation (N. Bauer et al., 2009; Kellert, 2002). These values represent a variety of perspectives of nature, and are listed below as quoted from Kellert (2002; Kellert & Wilson, 1993):

- *aesthetic*, reflects the physical attraction and appeal of nature;

- *dominionistic*, reflects the urge to mater and control nature;

- *humanistic*, emphasizes strong affection and emotional attachment to nature;

- *moralistic*, reflects an ethical and spiritual affinity for nature;

- *naturalistic*, expresses the desire for close contact and immersion in nature;

- *negativistic*, reflects the avoidance, fear, and rejection of nature;

- *scientific*, emphasizes the empirical and systematic study and understanding of nature;

- *symbolic*, indicates nature's role in shaping and assisting human communication and thought;

- *utilitarian*, reflects the material and commodity attraction of the natural world.

The values represent the multifaceted way in which people connect to nature. As people express themselves and their narratives through sociocultural frameworks such as master narratives, these values may provide insight into how the individual engages with identity content.

Kellert and Wilson's typology represent a lens to view environmental values, and this may also be a starting point for investigating variations that organize community and culturally specific stewardship commitments. Stewards may demonstrate specific values combinations because of their involvement in cultural and associational groups. It is through involvement in these groups that they receive identity content about acceptable beliefs, actions, and goals, while their actions and beliefs provide feedback to the group.

**The Present Study**

The previous section discussed the relation between generative identity processes, sociocultural identity theory, master narratives, and environmental values, and how they are useful in understanding sociocultural dimensions of environmental stewardship. At a macro-level, environmental values have been linked to cultural communities (Duff et al., 2022; Huang et al., 2022; Irawan et al., 2022). At an individual level, research has shown that adult stewards are interested and looking for ways to be engaged in environmental initiatives and programs (Larson et al., 2020; Plummer et al., 2020). The desire to be involved in stewardship efforts includes multiple motivating themes including social connections (Larson et al. 2020; Hanley & Coppens, in prep) and generativity (Alisat et al., 2014; Hanley & Coppens, in prep; Matsuba et

al., 2012, 2012). We also know that stewards value feeling connected to natural systems and meaningful places around them (Duff et al., 2022; Gottwald & Stedman, 2020) and that increased feelings of connection to nature positivity correlate with perceived pro-social behavior (Castelo et al., 2021). This research attempts to provide clarity on how individuals use values to position themselves in relation to identity content.

This study will empirically address stewardship's identity relevance, and how it may be derived from generative activity. It will also look to understand narrative values. The following research questions were used to guide this aim:

1. Is environmental stewardship identity salient, and can its identity salience (i.e., generativity) among adults be understood in terms of relations and responsibilities to both human and non-human aspects of environmental systems?

2. How do adult stewards conceptually position themselves in natural systems and what values guide that positioning?

3. How do adults from different backgrounds combine environmental values to configure stewardship activities in identity-meaningful ways?

**Methods**

This study recruited adult participants from around New Hampshire that were engaged in environmental stewardship efforts. Initially, participants completed an online survey which collected demographic information, personal history of stewardship efforts, and two generativity scales. Upon completion of the survey, participants were engaged in a narrative-style, semi-structured interview which allowed them the opportunity to share stories about a variety of stewardship experiences. These narratives were then coded and analyzed.

**Participants and Communities**

Thirty-six participants were interviewed from around the State of New Hampshire. Participants ranged from 31 to 81 years old, with an average age of 62.8 years. The participant group was made up of 20 men and 16 women, with no participants identifying as gender non-binary. All participants identified as "White" or "Caucasian." Thirteen participants lived below the median state household income of $77,923 (US Census Bureau, 2022). Participants were from over 30 New Hampshire cities and town, and 9 of the state's 10 counties. Participants described themselves professionally (in addition to their descriptions of stewardship roles and activities) as involved in education (9), engineering (5), business (5), non-profit administration (4), medical development (4), and informational technology (3), local government (3), pluming, law, and recreation management (1 each). Nineteen participants reported being retired, 4 of which were in the past 5 years. Retired participants' careers were included in the professional categories mentioned above.

**Recruitment**

Participants were recruited through word of mouth by contacting adults (18 years old or older) engaged in stewardship capacities throughout the state, and asking them to forward recruitment materials to people they thought would be suitable participants. Participants recruited through this method made the first communication with the lead researcher. Some participants sent the recruitment materials onto other contacts they had, thus enacting a "snowball" recruitment approach. Recruitment was also done through "cold emails" to groups engaged in stewardship through publicly available contact information on their websites. All recruitment procedures were approved by the University of New Hampshire's Institutional Review Board. A goal was to recruit adults from a variety of stewardship-oriented activities and associations

around the State of New Hampshire: land trusts, local conservation commissions, conservation districts, hiking trail maintainers, ATV and snowmobile clubs, rod and gun clubs, farmers market producers, etc.

Eligible participants had to have been engaged in stewardship activities in New Hampshire for at least a year prior to contact with researchers to ensure that they were well situated within the sociocultural communities engaged in stewardship. Participants' stewardship was required to be in New Hampshire (but not that the person lived in New Hampshire). The purpose of this sampling criterion was to allow for the assumed familiarity with at least one of the state's public or governmental narratives regarding natural resources. It also sufficiently bound the search area for participants, and as a result, kept the scope of the research manageable.

**Survey**

A research survey was sent to participants to be completed online at their convenience. The survey collected demographic information, a complete history of their stewardship efforts, and included two established generativity scales (see Appendix 4 and below) – the *Loyola Generativity Scale* (McAdams & de St. Aubin, 1992) and the *Social Generativity Scale* (Morselli & Passini, 2015). The Loyola Generativity Scale has been used numerous times (Fan & Luo, 2022; Luo & Ren, 2020; Thompson, 2015; Wells et al., 2016). The Social Generativity Scale is more recent, but has also been used in multiple studies previously (Barnett et al., 2021; Harris, 2020; Kramer, 2020; Passini & Morselli, 2017; Prati et al., 2020; J. R. Roberts & Maxfield, 2019). These scales were not specific to stewardship, but instead provided overall insight into generative tendencies of the participants. The surveys were used to examine differences in generative tendencies based on age, gender, and values profile.

**Interviews**

Participants were engaged in a single semi-structured interview lasting 75-120 minutes. The original intent of the study was to use site visits to help contextualize the participant's activities however, the COVID-19 pandemic forced interviewing to be done via video conference or telephone. The lead author interviewed all 36 participants.

Interviews were organized into a multi-section structure, with interview questions often posed as narrative prompts (Iborra, 2007; Maykut & Morehouse, 1994). A full interview protocol is included in Appendix 4. The interview questions were not a set script or order that was always followed. The conversation with the participant was allowed to meander through various topics. The narrative prompts and supporting questions served more as a checklist to make sure each aspect was getting covered rather than a strict recipe. If the conservation stalled, the prompts and questions were used as a way of restarting the conversation to discuss a new subject.

The interview began with a brief, and scripted, overview of the research being done and how the interview fit into that research. It also discussed what the participant should expect during the interview. The scripted introduction closed with repeating the potential risks and benefits of participation and asked the participant to reaffirm their consent to be interviewed.

The first section of questions focused on the participant's personal background in environmental stewardship and helped identify their major stewardship efforts and communities. Questions during this section of the interview focused on the origins and motivations participants had to get involved in stewardship and why this work was important to them. Participants completed a full list of their stewardship history in the survey, and this meant the interview was able to quickly focus on current or major efforts.

The next session focused on eliciting specific types of narratives. Prompts were used to encourage participants to describe "peak" experiences, nadir experiences, turning points, major decisions, and community involvement. These were based on McAdams' (2008) Life Story Interview, and modified to focus the prompt on stewardship activity.

The final section of the interview focused on "meaning making," asking questions about positive and negative influences on participants' stewardship, where they go for resources, what they think the future holds for their personal stewardship, and if they've noticed any themes or consistent elements of their own stewardship action.

**Coding**

Upon interview completion, the audio files were uploaded to NVivo's transcription add-on for automated transcription. The produced transcription was then proofed by the lead author. Upon completion of transcription, coding was able to begin. Original audio files were used as a way of checking participant's speech characteristics (sarcasm, tone, etc.) that would have been lost as part of transcription.

The overall coding approach used both deductive and inductive techniques. Deductive techniques were used to develop generativity coding. The approach drew heavily on theory from prior work (Hanley & Coppens, in prep; Hanley et al., in prep), such as anthro-centric and bio-centric generativity (see below), as well as generativity literature. The content of the coding focused mainly on evidence of generativity as a guiding purpose for engagement in environmental stewardship. Coding for generativity looked for reports of prior action construed by participants as either motivated by, or having purpose in, generativity. An inductive approach was used when developing coding relating to Kellert and Wilson's (1993) biophilic values, as described in the participants' narrative prompts due to the content and structure of the study's

data. Coding for biophilic values looked for evidence of biophilic values as directing how the participant engaged in stewardship activities.

### *Generativity*

Generativity was identified using the following coding definition; "The interest and altruistic concern for the well-being of others in natural and sociocultural systems." This was developed from Erikson (1959) who framed generativity around the development of future generations with the addition of "natural and sociocultural systems" to reference the stewardship definition used in this research. As one of the research questions focused on how generativity related to humans and non-humans, the first aspect of coding an example of generativity was to identify it as either *anthro-centric* or *bio-centric* generativity (Hanley & Coppens, in prep.; Hanley et al., in prep.). "Anthro-centric" generativity was a coding name given to what would be considered, "traditional," Eriksonian generativity theory as a way of making a distinction between that concept and bio-generativity.

Anthro-centric generativity focused directly on a human recipient. An example of this would be a trash clean up at a local park where the participant is primarily concerns about providing a clean and safe play space for children. In this example, the actions improve environmental health by reducing pollution, but the motivation behind it is rooted in improving opportunities for safe recreation of children at the park.

Bio-centric generativity, on the other hand, focused the motivation for the action squarely on improving natural systems. In the example used in the previous paragraph, bio-generativity would have been coded if someone cleaned up their local park with the motivation to improve water quality and reduce human waste that could be mistakenly eaten by wildlife. In this case,

the participant's motivation would have been the improvement of ecological health, thus making the narrative a description of bio-generativity.

### *Biophilic Values of Human-Nature Relations*

Environmental values are an important aspect how stewards engage with identity content. As stewards participate as members of cultural and associational groups, they are receiving information about cultural content and providing feedback on that content to those groups. A way of seeing how they engage with that content is through the values they demonstrate. As the narratives provided by participants are self reported, in theory, they demonstrate the values the participant wants to be seen as enacting. This choice of methods limited the analysis to the participants' narrative, which may be modified and/or idealized, either consciously or not. As a result, the research will be unable to comment on the feedback on identity content returned to the group by the steward, which may be possible through other methods, such as ethnography.

In order to identify consistent values, Kellert and Wilson's biophilic typology was applied as a values framework. Definitions of each value were used to inform coding definitions (Kellert & Wilson, 1993; Kellert, 2002) that were specific to stewardship activities being described by the participants. Participant narratives were coded for representations of Kellert and Wilson's biophilic values. Observed values were coded as either "primary" or "secondary" values, which was an inductively derived distinction created to manage the fact that most participants' interview responses amounted to narrative evidence of more than one of Kellert and Wilson's values. Primary values were salient as an overarching orientation to stewardship as described with the given narrative. Secondary values were values represented by the participant, but we not reflected in the overall meaning of the narrative. Kellert and Wilson's original definitions were used as a starting place for creating coding definitions, as seen below:

*Aesthetic.* The participant describes their interaction with nature in a way that values nature in a sensory pleasing manner (sight, hearing, touch, smell, or feel); such as enjoying seeing trees leaf or the sound of birds calling. This may be seen as an expression of nature's beauty.

*Dominionistic.* The participant describes a need to control nature. This can also be demonstrated through the need to "protect" nature.

*Humanistic.* The participant describes the ability of nature to provide opportunity for increased human bonding and relationship building. Nature may be valued as a location where experiences occur that strength social and familial bonds between people.

*Moralistic.* The participant describes themselves/society as having an ethical or moral obligation to natural. This usually takes the form of having a duty to care for nature. Note: be careful when considering moralistic vs. dominionistic. Moralistic is often predicated on "owing" nature a debt for the resources/sustenance it provides, whereas dominionistic is trying to control/protect nature.

*Naturalistic.* The participant wants to increase their perceived connection to nature. This is commonly actualized through increased outdoor experiences, increasing knowledge about natural processes & cycles, or trying to live "closer to nature" or "more sustainably."

*Negativistic.* The participant demonstrates a negative view of nature in a way that does not value environmental well-being or their place in natural systems.

*Scientific.* The participant is interested in increased understanding of nature through "systematic study." They may value natural occurrences (wildlife, trees, ecological communities) based on being rare or common compared to other locations.

*Symbolic.* The participant assigns value to nature for its ability to increase human communication through language or symbol, or as a conduit through which human experience can be shared. This would be seen in examples of "rites of passage" or other actions to mark a transition from one life phase to another.

*Utilitarian.* This can reflect material and commodity as both recreational opportunity or for resource extraction/exploitation. In this typology, nature provides a physical location and/or resources, usually positively, to improve the participant's experience.

As narratives are representations of previous events that may involve various motivations, representations of relationships with other people, and emotional experiences multiple overarching values were seen across any given narrative. This meant that any particular narrative could demonstrate multiple biophilic values. These narratives that described combinations of values may even represent two primary values within one narrative. In some cases, participants

would describe different primary values in different narratives. The combination of multiple primary values across all narratives and some narratives that had multiple primary values resulted in participants being categorized as having two, or even three, primary values.

**Results**

This study examined environmental stewardship through sociocultural theory, emphasizing the ways in which participation in stewardship activities may be identity-relevant for adults in terms of generativity (Erikson, 1968). Extending Erikson, we examined the emerging concept of "biologically centered generativity" (bio-generativity) in order to understand the identity relevance of activities whose motivational and identity purposes for stewards are not explicitly the direct benefits provided to other people. The research also examined prominent biophilic values, and combinations thereof, that were seen across multiple participants. Consistent combinations of values across multiple people, what will be called "values profile," can help understand how stewards engage with cultural content, such as master narratives.

This section is organized as follows: we begin by empirically grounding stewardship activities in associational settings, as many of the stewardship activities described by participants occurred in associational groups. Then, we report results related to the prevalence of generativity among stewards participating in the study and examine how traditional Eriksonian (1968) generativity, "anthro-centric generativity," and bio-generativity was reported to occur within stewards' activities. This section then identifies prominent environmental values reported in stewards' narratives and later combines them into four value profiles which are described. Analysis of relations between generativity scale results and value profiles provide a foundation for discussing identity-salient features of engagement in activities like stewardship.

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In theory, stewardship activities do not have to derive their meaning from social engagement, much less be done with other people. However, one of the most consistent findings of both this and a prior study (Hanley & Coppens, in prep) is that social engagement is a foundational characteristic to stewardship work. In this study, stewardship activities were often reported as embedded in associational group settings. Commonly reported associational settings included regular meetings with friends, involvements in non-profit organization or club activity, or work with local municipal or state agency stewardship work. Survey results, where participants were asked to list the environmental and stewardship organizations they were involved with, showed that all 36 participants were actively involved in at least one environmental organization. A majority of participants belonged to 2 or more organizations (57%), and most had previously belonged to other organizations that they are no longer involved with (54%). These survey results suggest that involvement in environmentally focused associations and social organizations is central to stewards' activities.

Participants reported enjoyment in being around "like-minded people." Interview results indicate that building relationships with other stewards was an important aspect to them in participation. For example, participants below responded to a question about why their stewardship work is so important to them:

> So, two things really, thing one is I've always been a strong believer in volunteerism and in giving back…So on one hand, it's an opportunity to give back and do something for the community and the other thing is it's something that I'm passionate about. I love the outdoors and being with like-minded people and having an opportunity to spend time outdoors.

> I love the conversations. We've had fun working together, and I really have enjoyed helping that group build its focus and expand on some really concrete goals that's been really rewarding for me personally. And they bring us together as a cohesive unit that's coming, that's really doing some great things in our town. I feel like I've had a pretty good hand in helping them along.

As the quotes indicate, social connections and a sense of community can be of central importance and a strong motivator to stewards (see also Hanley & Coppens, in prep.). The first quote references stewardship as an opportunity to engage with "like-minded people" and the second described the steward as having "fun working together" and "enjoyed helping that group build its focus." These quotes indicate that the social aspect of stewardship is something they value. Although the questions in this study were more specific than whether or not stewardship is meaningful because it is socially connected, it is important to underscore how connected these activities were reported to be to social and associational contexts.

**Generative Opportunity in Stewardship**

In this section, we first describe demographic-based statistical analysis on the two generativity scales used during the pre-interview survey. Of particular interest are relations between participants' age and Erikson's notion of generativity, which roughly links generative action and orientation to older adults (though a careful read of Erikson [1968] makes clear that Erikson views the emergence of all stages as cultural and historical phenomena, not merely maturational). Because participants were of a wide age range (31-81 years), analysis of correlation with age is warranted. This section then examines descriptions of activities that constitute anthro-centric and bio-centric generativity.

Average participant scores for the *Social Generativity Scale* were 6.04 of 7.0 (SD = 1.3, n = 32) and for the *Loyola Generativity Scale* were 2.81 of 4.0 (SD = 0.7, n = 31). These averages suggest that participants overall have a central tendency toward generativity as a motivation and locus of meaning in their environmental stewardship activity. Pearson's correlations were examined between participant ages and generativity scale scores, with the *Social Generativity Scale* showing a relatively small association ($r = 0.16$, $p = .390$, n = 31) and the *Loyola*

*Generativity Scale* showing a small to medium correlation ($r = 0.33$, $p = .070$, n = 31). Figure 1

(below) illustrates the bivariate correlations for both scales between age and generativity score.

**Figure 1**

*Scatterplot of Scores from Two Generativity Scales by Age*
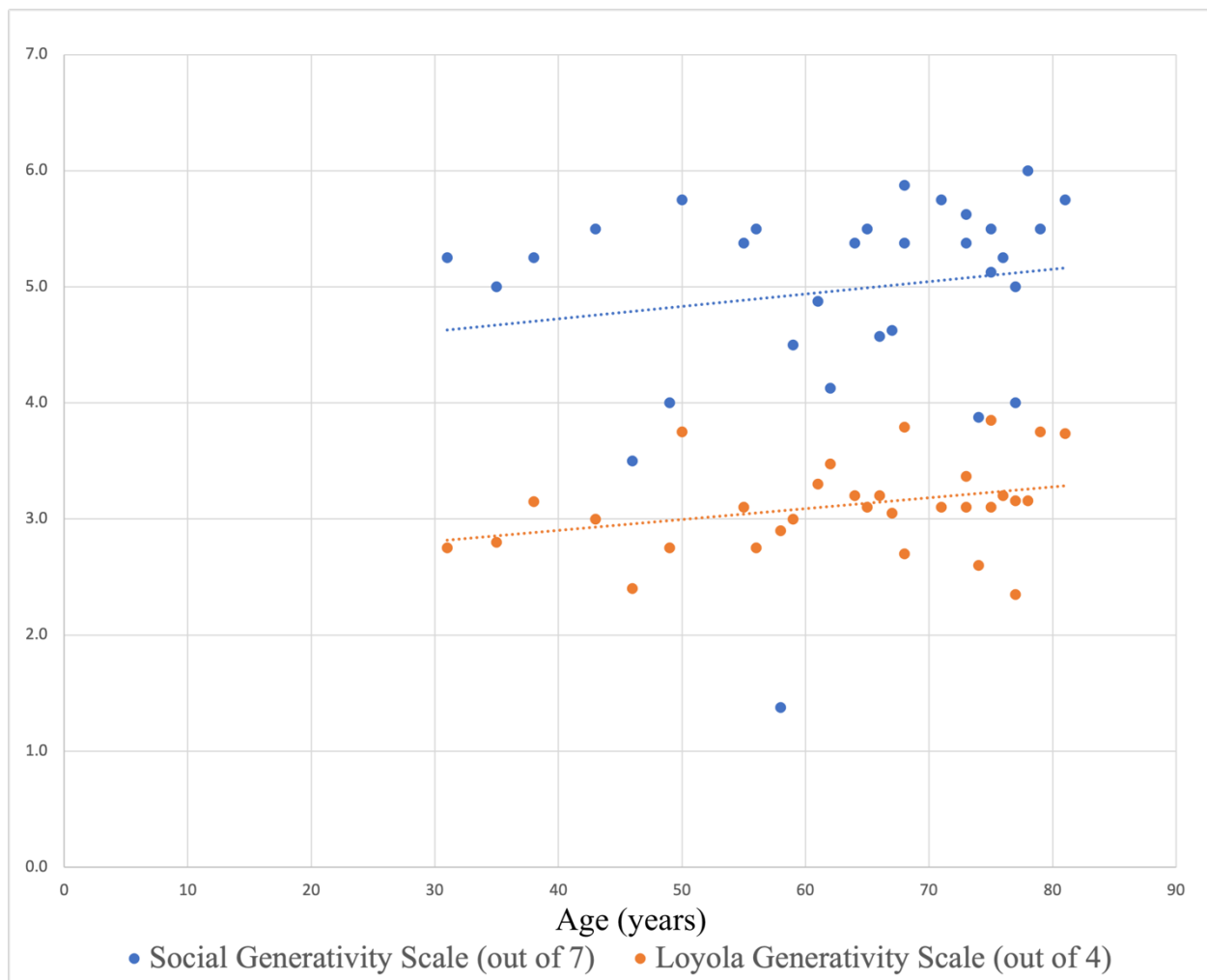


Importantly, these results suggest that generativity is driven by engagement in the

community, in this case conducting stewardship activities, and not specifically age. Based on

"traditional" identity theory, it might have been expected to see a stronger correlation between

age and generativity scores among older adults. However, these participants' engagement in

stewardship – an activity that may be inherently generative, occurring in associational settings involves the organized caretaking of natural resources for the benefit of environmental health of all members of natural systems – may have been a stronger source of generativity than age alone.

Gender differences in generativity were not a main question of research; however, basic statistical analysis examined possible patterns. Participants' genders were self-identified, and although gender non-binary options were available, no participants selected them. Only 30 participants reported gender on their survey, and were used for this aspect of analysis. Table 1 (below) describes scale results by gender.

**Table 1**

*Mean Generativity Scales Results Based on Gender*

| Logistic Parameters | Men | | Women | | t(28) | p | Cohen's d |
|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | | | |
| Social Generativity Scale | 6.02 | 0.91 | 6.46 | 0.55 | -1.63 | 0.11 | 0.585 |
| Loyola Generativity Scale | 3.06 | 0.45 | 3.21 | 0.31 | -1.04 | 0.31 | 0.388 |

*Note*. Mean parameter values for analysis of each generativity scale for men (n=17) and women (n=13), as well as results of *t* tests (assuming unequal variance). These mean scale results are reported out of 7 for the Social Generativity Scale, and out of 4 for the Loyola Generativity Scale, with standard deviation noted.

Age and gender distinctions for both generative scales showed no significant different in mean scale scores. This suggests that there is little difference between age or gender-based groups, but instead that group membership, such as seen in associational settings, may be a driving force for generativity.

Participant interview narratives, in addition to the scaled score findings, also included numerous examples of generative activity and value in opportunities to create positive impact for others. Some environmental stewards emphasized aspects of social or community contribution in talking about the aspects of the work that they valued. For example, when asked about how

participants know that they're doing a good job in their stewardship work many highlighted the

social and community contributions of their activities:

> I love it when people are loving the trails. I'm responsible for monitoring it. I watch the boundaries, looking for violations. So that's my official role, but I'm also a trail maintainer. So I'm out there a lot, and I do a lot of work out there. I'm always tweaking trails. I know that property, when I see people, especially first timers, local people, sometimes who weren't even aware of it. They're just gushing about the great trail and that makes me happy.

> That's a hard question. Because there's no score card… I wouldn't stay with an organization where that was all I was needed for was to just fill a spot on a commission. I would need to be able to contribute. What contributes to my sense of doing a good job, that my presence there and the things that I engaged in moved the agenda of the group forward protected land or solve problems on the land or introduced more people to the land and its natural sense.

In the first quote, a trail monitor in his 60s living in southwestern New Hampshire described how

they are "happy" when they learn of people enjoying the trail/s they maintain. They engaged in a

task, trail maintenance, and received an emotional benefit from learning that others enjoyed the

fruits of their work. In the second quote, a conservation commission member in his 50s reported

his engagement is based on a sense of a need to contribute. Both stewards described how they are

compelled to continue being active and meaningfully contributing whether on a commission,

"solving problems on the land," or introducing "people to the land." In both of these examples,

their actions ultimately benefit others, and are thus an example of generative activity.

Stewards also described their activity in terms of intergenerational meaning and

contributions, a more conventionally Eriksonian construal of generativity. The next two quotes

clearly identify an interest in providing for future generations from their stewardship activities.

First, a local landowner from a small rural town in southwestern New Hampshire describes the

values and priorities that both give meaning to and motivate their stewardship engagement:

> Well, I consider myself lucky that I live in this little corner of southern New Hampshire that's not developed. The nature is just important to me. And I want to be able to take my

grandchildren up this trail… they're a little bit too young right now. But to bring them up the trail to see what I see.... moose tracks, occasional deer, we'll see bobcat or see coyotes. And we used to see moose. Now we just see the tracks.

This landowner describes an appreciation of the area that they live in and references a feature they value (trail), an example of something that they want to be able to share and protect for future generations.

I always enjoy it when students are observing things and asking questions and engaging with whatever topic we're focusing on. It brings me just great joy to see them engaged. And usually they're smiling and laughing…or it might be an issue or gross, but it's still an engagement. So I like seeing that in the curiosity with the kinds of questions they come up with.

The second quote comes from reports about stewardship in an educational setting by a woman in her 40s who teaches environmental education programs in the New Hampshire seacoast region. She clearly describes the emotional benefit they receive from engaging with children when exploring the environment. In this case, their "joy" is dependent on seeing and helping to provide opportunities for the students to be "engaged" with nature. These two quotes are examples of stewardship activities that provide identity-salient generativity to the steward. This is particularly noteworthy because the generative opportunity is focused on young children, which is the focus of Erikson's descriptions of generativity.

In addition to the social, community, and intergenerational aspects of generativity in environmental stewardship, previous empirical and theoretical work (Hanley & Coppens, in prep.; Hanley et al., in prep.) suggested that generative activity focused on directly benefiting environmental systems – *bio-generativity* – could also be identity relevant. Participants' bio-generativity related reports frequently focused on preservation and enhancement work of local habitat, as these quotes illustrate:

Being involved in conservation to me is sanity. I feel a tremendous sense of gratitude to nature for my existence, and I want to give back. I want to help other organisms besides my own. And that means pretty much everything to me at this point.

It made me feel really good that the land was protected, and is now the crown jewel of what they call the "super sanctuary."

One thing that I've done for myself and where I work is just managing by not overmanaging, like blueberries, we'll say, for example, wild blueberries. Just helping them promote their own environment that they're already in. And then obviously, the benefits for all the birds that you see, you start seeing more birds and it just has a chain effect on things, and I like doing it.

I learned about what I can do on my own two acres to have sustainable areas for wildlife, pollinator gardens or whatever. So even on my own two acres, I can do things to help wildlife and carbon capture.

These quotes demonstrate an interest in assist and protect natural systems. The first quote states a desire to "give back…to help other organisms besides my own," and the second quote describes how their actions lead to land being protected. The third quote discusses how they are interested in "helping," in this case the blueberries, to grow in their environmental and the resulting benefits to birds. The fourth quote reports a description of the steward's work to "help" wildlife and increase carbon sequestration, both of which benefit natural systems. The reported descriptions illustrate ways in which people frame their actions as beneficial to natural systems. The often reported these actions as having a positive impact on them; as the first quote describes the work as their "sanity" and the second quote says "It made me feel really good." This suggests that generative action is an important piece of their relationship with natural systems.

**Stewards Present Multiple Values of Nature**

As a reminder, Kellert and Wilson's (1993) biophilic typology was used as a coding framework for the environmental values present in participant narratives. All participants showed multiple biophilic values throughout their narratives, as noted in Table 2 below. Participant narratives were determined to be a primary value (marked in green) or a secondary value

(marked in yellow), as described in the Coding section. Five values were coded as a "primary" environmental value for at least one participant. These were humanistic, moralistic, naturalistic, scientific, and utilitarian.

**Table 2**

*Participants' Values Prevalence in Participant Narratives*

| Aesthetic | Dominion. | Humanistic | Moralistic | Naturalistic | Negativistic | Scientific | Symbolic | Utilitarian |
|---|---|---|---|---|---|---|---|---|
|  | Yellow |  |  | Green |  |  |  | Green |
|  |  | Green |  | Green |  | Yellow |  | Green |
|  |  |  | Yellow | Green |  | Green |  | Yellow |
|  |  | Green | Green | Green |  |  |  | Green |
| Yellow |  | Green |  | Green |  |  |  | Yellow |
|  |  |  | Yellow | Green |  |  |  |  |
|  |  | Green | Yellow | Green |  |  |  | Green |
|  |  | Yellow | Yellow |  |  | Green |  | Green |
| Yellow |  |  |  | Yellow |  | Yellow |  | Green |
|  |  | Green |  | Yellow |  | Green |  | Yellow |
|  |  | Green |  |  |  |  |  | Yellow |
|  | Yellow | Green | Yellow | Green |  |  |  | Green |
|  | Yellow | Green | Yellow | Green |  |  |  |  |
| Yellow |  | Yellow |  | Green |  |  |  | Green |
|  |  | Yellow |  | Green |  |  |  | Green |
| Yellow |  | Green |  |  |  |  |  | Green |
|  | Yellow | Yellow |  |  |  |  |  |  |
|  |  | Green | Green | Yellow |  | Yellow |  |  |
|  |  | Green | Yellow | Yellow |  |  |  |  |
|  |  | Green | Yellow | Green |  | Yellow |  | Green |
|  |  | Green | Yellow | Green |  |  | Yellow | Yellow |
|  |  | Green |  | Yellow |  |  |  | Green |
|  |  | Green | Yellow |  |  |  |  | Green |
|  |  | Green | Yellow | Green |  |  |  | Green |
|  |  | Green |  | Green |  |  |  | Green |
|  |  | Yellow | Green | Green |  | Green |  | Yellow |
|  |  | Green |  | Yellow |  |  | Yellow | Yellow |
|  |  |  |  | Green |  |  |  | Green |
|  |  | Green |  |  |  | Yellow |  | Green |

### *Humanistic Values*

Humanistic values described a focus on the human relationships built as part of stewardship activities. These values were identified as primary values for 17 participants (of 36, 47%, see Table 2) and a secondary value for 11 more participants (of 36, 31%, see Table 2). The following quote represents an interview response indicating a primary humanistic value orientation toward environmental stewardship, and in particular when asked to describe the biggest positive impact of their stewardship activities:

> I think it's enriched my living in [town] by getting connected, networking with people…we all live in a day and age where you don't have to know your neighbors. You go to work, you come home….So it's that working on the [organization] is just, aside from being something that I'm passionate about, it's been a means of getting to know people within the community.

Humanistic values demonstrated a strong interest in engaging with other people, primarily community members, as part of their connection with nature. These quotes demonstrate the importance of "networking with people" as central to the benefits engaging in stewardship provides. They develop this further by describing how the routine of day-to-day life often alienates people from their neighbors, but stewardship has allowed them to build connections. The increasing of relationships with others was a hallmark feature of the humanistic value. With all participants reporting via the survey that they belong to at least one stewardship association, it is understandable that an interest in connecting with other people is an important aspect of their connection with nature.

### *Moralistic Values*

Moralistic values were often predicated on an ethical debt or responsibility to natural systems. These values were seen as primary in narratives of 5 participants (of 36, 14%, see Table 2) and secondary in 12 participants (of 36, 33%, see Table 2). Moralistic values were usually

framed as *nature has given us (humanity) abundant resources, and therefore we have an obligation to protect and preserve natural systems*. For example:

> I think it is a sense of responsibility and, especially through the pandemic, showing it more with a lot of friends who are really invested in equity and inclusion and different things. I feel like everyone has their specialty… I feel like I have friends who are so much more passionate about the human world than I am. And it's not to say that I don't think those issues matter… I can learn from my friends about what they're asking and I hope my friends can learn from me about what I'm passionate about. So I think it's how do you give back? What's your responsibility to the planet? I feel like my conservation feelings come from a lot of my bigger feelings toward life and human places in the world and like the cycle of life and how I view the world.

> I've been outdoors, I grew up on a on a nice brook, which I lived on in the summer, you know, just swimming and fishing. And I'd ride my bike two miles up the road and fish back to my house and then beg somebody to give me a ride back to get my bike. And I've always been at peace on the water or in the woods. And I just, I take pride in what we do to protect those resources. And I think it's our responsibility to do a better job of monitoring and taking care of those resources. So it's pretty personal to me. And I and again, I just think it goes back to the way I was brought up in the country and enjoying it all my life.

Moralistic values related responsibility and obligation to the environmental, often due to our place in natural systems. A community organizer in her 50s reported in the first quote how they contrast other people's valuing the "human world," by highlighting their friends' investment in equity and inclusion and relating it to their own interest in protecting natural resources. Both quoted participants use the term "responsibility" to describe their relation with the environment. The second quote illustrates how this environmental steward often recreated outdoors, and now feels a need to protect ecological communities in reciprocity for the opportunities they were provided. In the case of moralistic values, the sense of responsibility appeared to be derived from reciprocal sentiment around "we received this experience/these resources, and therefore owe our efforts in protection."

*Naturalistic Values*

Naturalistic values were reported by people who described an interested in exploring their relationship with natural systems. Primary naturalistic values were coded for 22 of 36 participants (61%, see Table 2), and as secondary for 10 of the 36 (28%, see Table 2) participants. Naturalistic values were seen by people describing valuing living more sustainability or increasing their awareness of their impact (such as their carbon footprint). In these cases, participants often described interest in learning more about natural systems, often framed as a desire to feel more "connected," as these quotes demonstrate:

> There's nothing like the beauty of the mountains and the forests. I traveled out west and the darkness of the desert and that led to a getting involved in activism. Over the years, I have fought coal plants and incinerators to protect our environment and stewardship. I am a vegan, so I do not believe in harming animals. I do not eat any animal products. I have become more and more educated in the indigenous people's stewardship and how they coexisted with the Earth. We try and adopt that kind of behavior as well as we can in 21st century living. So for me, the stewardship, the conservation stewardship, the leaves and the tree, the trunk of the tree and the roots. For me, it's just everywhere.

> I think I drive in a way that I don't waste gas. I used to carpool a lot more until COVID hit. Everything I do in my house is a reflection of trying to have less of an impact than the negative parts of the way we all live as affluent Americans. So I think about it every day.

Reports from participants that show connections among actions and beliefs to engagement with natural systems was a consistent feature of naturalistic values. The first quote, from a Christmas tree farmer in southwestern New Hampshire, describes the steward's interest in learning about ways to better "coexist" with the Earth, and highlights Indigenous people's ways of living as models of that. The use of the work "coexist" is emblematic of valuing their place in natural systems. The word "coexist" entails two or more actors whose activities impact the other/s. Therefore, the use of "coexist" indicates an appreciation of their actions having impact on the environment and the environmental having an impact on them. The mutualism that the participant is trying to describe is illustrative of naturalistic values of recognizing, and living

with an appreciation for, their connection with the environment. The second quote, by a retired professor in northern New Hampshire, described a similar sentiment, attempting to make behavioral changes to reduce impact on natural systems, but instead frame that effort in contrast to the lives of "affluent Americans." They connect "negative parts" to the way "affluent Americans" live, and state they want to have less of an impact than them. This contrast suggests that "affluent Americans" don't live in ways that recognize their connection with nature. He instead positions himself as aware of his impacts on the Earth and trying to live in a way that minimizes those impacts. Both quotes demonstrate naturalistic value of living with the awareness of their connection to natural systems.

### Scientific Values

Scientific valuing of nature can often be seen through a desire to learn more about natural systems, valuing the amount of knowledge an individual has about natural systems, or increasing awareness of local biodiversity. Coding efforts identified this as a primary value of 4 participants (of 36, 11%, see Table 2) and secondary for 7 participants (of 36, 19%, see Table 2). This value was often seen in the context of stewards planning conservation projects, such as in the following quotes:

> I mean, we know pretty much what we're interested in. This is not a mystery at this point. We've had numerous open space plans done and we have in fact, we had one updated very recently, which you can go on the city's website. It's actually an excellent study. We hired some consultants to do it for us.

> The prime area is down here along the brook where there's tons of knotweed and honeysuckle and it's impenetrable almost. We got to be very careful about how we deal with it there, but the point is we are developing a program and we know where these areas are but we're going to continue to inventory them as too how big they are, how old they are, and what are the possible methods of treatment depending on where they are. So that's just invasive plants. We've also developing as you can see up here, what we're calling rehabilitation of that logged area, it was really hammered pretty hard.

In these quotes the participants demonstrate a prioritization of specific ecological areas. As described in these quotes, this prioritization was based on a scientific evaluation of how important that ecological community is to the wider landscape. The first quote, by a local conservation commission member, references the creation of multiple plans which guide these actions. The second quote, reported by an environmental engineer discussing a town project, has demonstrated that they have evaluated and deemed certain areas "prime" for the project being described based on ecological factors and need to clear invasive species from that area. They also describe the use of an inventory in guiding their future actions.

The quotes demonstrate a scientific type of valuing nature because they show a clear interest in certain aspects of nature, based on research or scientific qualifications. This valuation, through a scientific report or study, guides their relationship with nature. They see some aspects of natural systems as more valuable than others. The second quote described how they are interested in a specific "prime" area, but it is occupied by "invasive plants" such as knotweed and honeysuckle. They report how they will need to treat the area before proceeding with their "program." This is illustrative of scientific values because they've determined that invasive plants in the area are undesirable based on ecological value.

### Utilitarian Values

Utilitarian values primarily centered around commoditizing and commoditized relationships with natural systems. For 21 of the stewards (out of 36, 58%) taking part in this study, utilitarian values were primary. For 8 environmental stewards (out of 36, 22%, see Table 2), utilitarian values of nature were secondary. This commoditization took two primary forms, one of resource use (such as logging or farming) and another for recreation purposes (hiking, mountain biking, etc.). Recreation was seen as a utilitarian because stewards are valuing nature

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for its ability to provide recreational opportunity. The following quotes demonstrate both these forms:

> It's where the big skid road is right now, but it has to be cleaned up and made suitable for both pedestrian and some vehicular access for those research and replanting projects. And down on the meadow here, there's going to be an interpretive trail with probably a little bit of an observation platforms. It's around a big meadow. We're going to be talking about ways of mowing that meadow, or not mowing the meadow for pollinators. Or planting of pollinator friendly plants?

> I think one of the things that's been really good over the last year is…. We had two properties that we did timber cuts on roughly about three years ago. And one of the things that we did in the contract for the timber cuts, is we put in the contract that the forester would develop a trail system using the funds from the timber cuts on those properties. And so when they were done with the timber cuts the forester then hired a group to enlarge some of the trails that we already had. And then to add some new trails and add signage and make them more user friendly.

In these examples, the participants demonstrate valuing the natural systems for their ability to both produce resources and recreational opportunity. In both quotes, previous forestry work on a site is being turned into recreational opportunities once extraction of natural resources (timber) has been completed. The first quote notes a "big skid road" (a path through the forest on which a logging skidder travels), referencing that extractive logging operations have occurred, and the second is explicitly about two timber cuts. Both then reference the development of recreational opportunities through trail building. These exemplify utilitarian values because the stewards focus their relationship with nature on their ability to use it, in these examples for extractive practices like logging and for recreation.

**Combining Environmental Values into Consistent Profiles**

All participants demonstrated multiple values, including at times multiple primary values. The combinations of these values were analyzed for similarities in combinations across the participant group. This analysis was done inductively, based on common similarities in primary values first, followed by secondary values. Ultimately, this analysis strategy identified four value

profiles: Humanistic/Naturalistic, Humanistic/Utilitarian, Naturalistic/Utilitarian, and

Scientific/Utilitarian (Table 3). These profiles are not themselves master narratives, but instead

represent values that are informed by the stewards' reception of identity content, such as master

narratives.

Identification of *master narratives* in individual interview data is not straightforward, as

master narratives often work normatively in implicit ways at the level of shared cultural

expectations or even common sense. Thus, in many of the environmental stewards' reports it was

more common to see participants aligning their work with particular value commitments,

suggesting for example what they viewed "good stewardship work" to be, than it was to

encounter explicit statements about what environmental stewards should or should not be doing.

The value profiles identified and discussed below represent how the individual is interpreting the

identity content they receive and presenting their positioning through narrative values. Instead of

identifying a master narrative/s, they provide insight about what stewards may take from those

narratives.

Four profiles were organized based on primary values. Most participants had two primary

values, and these were used to categorize them into a group. In the case of the two participants

with three primary values, their interviews were reanalyzed to confirm coding, and evaluated to

see which group they most aligned with. Each profile represents a particular perspective on how

stewards may construct their activities as identity salient. The following profiles begin to

describe functional components of how stewards interpret messaging from master narratives and

other identity content.

# Table 3

*Participant Typologies Organized by Value Profiles*

| Aesthetic | Dominion. | Humanistic | Moralistic | Naturalistic | Negativistic | Scientific | Symbolic | Utilitarian |
|---|---|---|---|---|---|---|---|---|
| **Humanistic/Naturalistic** | | | | | | | | |
|  |  | G | Y | G |  |  |  |  |
| Y |  | G |  | G |  |  |  | Y |
|  |  | G | Y | G |  |  |  |  |
|  |  | G |  | G |  |  |  | Y |
|  | Y | G | G | G |  |  |  |  |
|  |  | Y | G | G |  |  |  | Y |
|  |  | G | Y | Y |  | Y |  |  |
|  |  | G | Y | G |  | Y | Y | Y |
|  |  | G | G | Y |  |  |  |  |
|  |  | G |  | G |  |  |  |  |
| **Humanistic/Utilitarian** | | | | | | | | |
|  | Y | Y |  |  |  |  |  | G |
|  |  | G |  | Y |  | Y |  | G |
|  |  | G | Y | Y |  |  |  | G |
|  |  | G | G | Y |  |  | Y | Y |
|  |  | G |  |  |  | Y |  | G |
| **Naturalistic/Utilitarian** | | | | | | | | |
|  | Y |  |  | G |  |  |  | G |
|  |  | G |  | G |  | Y |  | G |
|  |  | Y | Y | G |  |  |  | G |
|  |  |  | Y |  |  |  |  | G |
|  |  | Y |  | G |  |  |  | G |
|  | Y | Y | Y | G |  |  |  | G |
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| Y |  |  |  | G |  |  |  | G |
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|  |  |  |  | G |  |  |  | G |
| **Scientific/Utilitarian** | | | | | | | | |
|  |  | Y | Y | Y |  | G |  | Y |
|  |  | Y | Y |  |  | G |  | G |
| Y |  |  |  | Y |  | Y |  | G |
|  |  | Y |  | Y |  | G |  | Y |
|  |  | Y | G | Y |  | G |  | Y |

*Humanistic/Naturalistic*

This narrative focused on building connections within the community and responsible connection to nature. Of the 36 participants, 12 (33%, see Table 3) were labeled within the Humanistic/Naturalistic profile. The following three quotes demonstrate the Humanistic/Naturalistic narrative form in different associational contexts: first in a familial context, then in non-governmental organization contexts, and finally a municipal governance context. In this quote, the participant intertwines their familial and environmental relations.

> I feel like my conservation feelings come from a lot of my bigger feelings toward life and human places in the world and like the cycle of life and how I view the world. So I think devoting as much time as my family has a focus to conservation and those things it fits with like how the rest of our life work, too. So I think there actually is a little bit of a practical side to it, which I never would have really thought that it was more of a passionate but it kind of within the constellation of who we are as a family and our values and the things that we do, it's a way to give back and learn.

This participant has referenced how they view their relationship between their family, the environment interconnected. By highlighting these relations they demonstrate an interest in engaging with natural systems as a central part of developing their family relationships. They state a desire to "devoting as much time as my family has to focus on conservation" indicating that conservation is a priority to them and one that they see as central to what their family does. This represents support that the steward values nature as a domain that their family can connect about, thus strengthening familial ties.

Developing connections to natural systems as complementary to developing social relationships was also seen in the activities of environmental stewards involved in non-governmental organizations. The following two quotes provide more description about these linkages through the activities of an environmental education program and a land trust:

> I do a little bit of everything really, but my main job is to connect with the community, whether it's kids, families, retired folks like whoever is in our community and provide

resources to meet our three main goals. Our main goals are promoting place based education. So getting people outside, knowing their space and knowing more about their space. Hopefully it leads to caring about it and then being able to make informed decisions, which I'm sure would be called stewardship. But it's to foster that and just to get people curious and outdoors and connected to it. Then we also promote local agriculture…So, I connect people to resources that allow them to do these things.

I think one of my fondest memories, though, is working with the [name] Land Trust and several other local organizations for the course of three years. To put it generally, we were able to raise enough money that we were able to buy these massive large tracts of land around [name] Mountain to create this massive area of conservation land that was going to be turned into a park. Once we did that and it wasn't just one single group, it was a bunch of groups working together. I remember because I was part of the school. We had brought up the whole school to show them this land. And we had community groups there and we have like festival. And to me, that was one of the biggest events that I remember happening where so many people were involved, because it was a collection of all these different agencies working together for this one piece, when it was kind of central to all of them. And there were just so many people that were involved in it that were excited to see this happen and come to fruition. So that was really an exciting event that I won't ever forget, and just being in the school system and being able to bring kids out there who were doing like field trips and studies out there and, you know, showing them the land and having them help with the fundraisers and help with the festival and just the sheer number of people that got involved in that was incredible.

These quotes demonstrate the combination of social relationships and natural system relationships in stewardship activity. The first quote described the centrality for this steward of developing the connections between the community through engaging people with nature. The list the main goals of their education program starting with "connect with the community" which is indicative of humanistic values of building interpersonal relationships through environmental engagement. The goals also include "getting people outside" and "knowing their space." This suggests that they are interested in developing their, and their students', connection with nature. In the second quote, the steward describes how the acquisition and protection of forest lands provided an opportunity to bring people from multiple organizations together. This act resulted in people being able to connect, through such events as a "festival," as well as "showing them [students] the land" which suggests a desire to have people be more connected with nature.

In the final example, the participant describes how they can engage with the community through conservation commission work to address an area of concern:

> I think it was just I'm a community minded person and I wanted to, you know, I followed what they did online and but there was an alternate opening and I thought, "oh, this is a way to kind of dabble in." And I felt really nervous about stormwater and being on a conservation commission. I've done natural resource inventory for vernal pools and that kind of thing. But when it comes to just moving of stormwater, permeable and impermeable and all that stuff like that was in the first few meetings!

In this example the participant saw the act of joining the conservation commission was an act of themselves as a "community minded person," and was able to find an opportunity to engage with their community about an issue that concerned them, especially stormwater management. This presents activities like this, such as working on a local conservation commission, as opportunities that involve environmental and community engagement. This represents a different context as the participant is describing a municipal organization that is part of the governmental function of the town, and not a private organization. Thus showing that Humanistic/Naturalistic profile is present at multiple contexts of associational stewardship.

Overall, representation of the Humanistic/Naturalistic profile is centered around strengthening the connection between the community and their local environment. In this relation, increased engagement and improving environmental health appear to be used as common metrics of identity commitment.

### *Humanistic/Utilitarian*

The Humanistic/Utilitarian values profile focuses heavily on the development of interpersonal connection within social systems and how those partnerships utilize natural resources. This profile was identified for 6 of 36 participants (17%, Table 3). As this profile is framed through descriptive quotes it is important to notice the context by which the interaction with natural takes place. This interaction is predicated on natural resource usage, such as through

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recreation or agriculture. This relation with nature, in turn, influences the social partnerships

involved as those relationships are based on similar values for natural resource usage.

The following quotes illustrate the importance of community and partnership building

within the context of local farming and agricultural development.

> I think that I believe in stewardship as a core value that we owe each other as residents of the Earth. If one of us has risen to a point of privilege that we own property and or come to be caretakers of it, we should be really great caretakers of it for us, for the land, and for those around us. And I think it's one of the most neighborly things you can do to take care of your soil and water. And I believe in doing that for each other. And I also really care about farm viability. I think small farms are almost extinct, and the new ones that come in quickly get out because you can't make money as a farmer. So anything that I can do to help local agricultural producer have a more viable business while sharing their resources makes me really excited because that means that there's local land stewardship and local food and fiber coming from our neighbors.

> Two or three years ago, part of our collective brought together five different farms at its peak and did a joint farmers market booth. There was a new farmer's market popping up. And everyone was like "Yeah, we'd be stoked to be there. But we don't have the time because we're already doing other markets, but we can't spend a third day away from the farm out in the field. OK, well, let's create a system where everybody drops off food at one point." I organize it, pick it up, bring it to the market, sell it, bring any leftovers back, and we feed the system out of a joint booth for two years. I think it was awesome. I loved seeing those folks working together. How one person could solve a problem that was kind of affecting both the farmer who couldn't find enough vendors and all these other folks who had more produce then they could sell. We didn't make a ton, but all of them made some money…It was a pretty cool model. And I'm glad we tried it, because now I know that it can be done with the right people involved and team members.

Both of the quotes above demonstrate how important building community partnerships are

around natural resource utilization. These quotes demonstrate that there is a cognizance of the

mutualistic relationship between humans and natural communities, in these quotes that is through

farm viability. In the first quote, they describe how they are "excited" about enhancing small

farms. This is evidence of Utilitarian values because of the linkage to using the land for food

production inherent in farming, and their enthusiasm for farming demonstrates that a Utilitarian

value of relating with the environment is present. They follow this up by describing how doing a

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good job at caretaking resources is directly linked to being a good neighbor and, as part of that, being a positive member of their community. This is seen in the first quote as they reference the belief that stewardship is "a core value we owe each other as residents of the Earth." In contrast to the Moralistic value, this quote references obligation to other people and not the Earth. This obligation is shown through stewardship action. This is a key aspect of the Humanistic value, which centers around people connect with each other.

Humanitarian/Utilitarian values can also center around recreation use of the outdoors. The following quote demonstrates interest in developing recreational opportunities for others:

> There was a husband and wife and a couple young children on their bikes using our trail system in that area and you say to yourself, well, that's what we want to do, you know, that's what we want to encourage as a family, going out and doing something together. So that was sort of another positive outcome.

This quote by a trail maintainer in their 30s, clearly describes the motivation behind why they maintain trail systems in highlighting the importance for recreational opportunity. They describe the family as using "our trail system." This suggests they feel a connection to that trail system, and then go on to describe that recreation is what they want people to do on that land. The humanistic aspect is embedded in what they are trying to encourage, a family to "do something together." The steward is describing an interest in providing opportunities for people to develop social and familial relationships with others. This combination clearly positions this statement as a demonstration of humanistic and utilitarian values.

*Naturalistic/Utilitarian*

Within this profile, participants describe a value of being close to nature. This is primarily realized through an appreciation of the opportunities provided by nature. This profile was identified by 13 participants (of 36, 36%, Table 3). As the following quotes will show, there is value in being deeply connected with nature, thus the naturalistic designation. Utilitarian

values were often expressed in strong connections to activity in nature. This occurred primarily through recreation and active management (e.g., property management, timber harvests). The Naturalistic/Utilitarian values profile differs from the Humanistic/Naturalistic profile because there is a focus on the commoditization of nature or time in nature, and less focus on nature as a place for building social connections. The follow quotes demonstrate examples of how the Naturalistic/Utilitarian profile occur in the two primary contexts that utilitarian values were seen; recreational and extractive land use. The first set of quotes will describe the Naturalistic/Utilitarian profile through recreational contexts:

> Years ago there was a piece of property in [town], New Hampshire. The [environmental conservation] Center, which is in [different town]. They communicated that they wanted to protect the place called [name] reservoir. I used to paddle on many years ago and I sort of forgot about that. Totally undeveloped upon pristine area. It made me feel really good to help and the land was protected and is now a crown jewel of what they call the super sanctuary. So that was one of the highlights.

In this example, the participant has been prompted to discuss a positive memory of their stewardship experience, in which they identify that they value a site (the reservoir) through referencing previous activity there and the action they took to try to help protect it. The participant reports positive feelings of engagement with the site and the conservation project based on their contribution. Their apparent value of the site is based on both their previous recreation there (utilitarian value) and its ecological health as a "totally undeveloped upon pristine area" (naturalistic value). So the narrative describes both naturalistic and recreational (utilitarian) value. The next quote described what the steward enjoyed about their work as an easement monitor and trail maintainer:

> Just taking care of the land. It's not just protecting the land, but if the land happens to have trails on it, it's maintaining the trails and making sure they don't get overused or doing work so that the usage of it doesn't degrade wet areas, for example, keep trying to keep people on the trail. One thing about it, like I said before, it's nice to be protecting property and I'm very enthusiastic about it.

This excerpt is another example of how they value their contributions toward recreation in environmental stewardship. This quote also prominently shows the importance of ecological health to the participant, such as by saying "doesn't degrade wet areas," suggesting an interest in not contributing to soil erosion. They show a strong connection to nature and a desire to maintain and improve ecological health in locations of heavy human usage (trails). These examples show the value stewards place on their activities as a way to both connect with nature and maintain recreational opportunities on it for sustained use, a combination they describe themselves as "very enthusiastic about". Recreation was a major way that participants show utilitarian values for nature.

Utilitarian values were also seen in related to extractive activities. Participants often recognized value in the natural resources available in New Hampshire's environment, and engaged in behavior to support or manage that usage. The following quotes demonstrate a recognition of the need to utilize forest natural resources.

> Well, I think there's been a couple times where I've led, not in a formal way, but led groups of people on hikes, where we pass through logging areas and clearly it's discouraging to see people's complete distaste and horror at what that can look like. So I usually do try to help them put what they're seeing in context of the products we use to the long term nature of forestry being slow motion gardening… So there can be really discouraging and sometimes I feel a little bit embarrassed to not be on board with Forever Wild and never cut anything. And I shouldn't feel embarrassed cause I intellectually and practically understand what forest management can do, but it depends on the crowd you're with and where they're coming from, their attitudes toward it.

> Plain and simple, I guess I grew up just playing in the woods and enjoying the woods and from recreation to hunting to cutting firewood and I just wanted my kids to enjoy the same opportunities and future generations to have the same opportunities I did, just seeing basically the natural world out in the woods, enjoying the… No buildings, no nothing, but just enjoying it.

The first quote demonstrates a recognition of both how people respond to extractive practices like logging, and also its value. They describe how they try to put these practices in context of

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the need for natural resources and also long term forest management practices. They describe an "intellectual and practical" connection to nature and humans' extractive use of its resources. These second quote describes how they developed an appreciation for nature through extractive recreational opportunities such as hunting and cutting firewood. These quotes demonstrate the various ways that participants derive gain value from having an appreciation for both the connection to natural systems and simultaneously recognizing the practical benefit of utilizing natural resources. This recognition can come in different form, both from extractive and sometimes damaging impacts, but also through recreational opportunities, which also cause certain degrees of damage. It is however, because of this usage and the recognized cost of it for human benefit, that people within this profile appear to value developing strong connections with natural systems.

### Scientific/Utilitarian

The Scientific/Utilitarian profile is novel within these results due to the prevalence of science and research-based decision making in how people interact with environmental systems. It was identified as represented by 5 participants (of 36, 14%, Table 3). While the previous three value profiles are careful combinations of three primary biophilic values, this profile is distinct due to the present of scientifically informed values. Thematic aspects of this profile include: recognition that humans have, can, and are currently causing impacts on environmental systems, and that science and research should provide guidance about how to manage human/nature relations.

The first thematic element involves the recognition of human impacts and their negative effect on environmental health, which is often supported by scientific research. This reliance on published research might have been expected as the sampled group represents people that are

concerned about environmental stewardship. It is important that these impacts, which create need

for stewardship efforts, are undergirded by sound scientific research, as this quote describes a

steward's efforts to stop the building of a pier into and above a salt marsh:

> I was able to convince the planning board based on real science, based on science that
> had been done at the Jackson Laboratory, and based on a real study that had just come out
> on the impact of docks and piers on salt marshes in Massachusetts. That was a multi-year
> study involving many hundreds of thousands of dollars in research funding and it readily
> showed the impact on productivity of the salt marsh and the degradation that would
> follow. I had other studies that involved the impact of avian flu and the bird community.
> As it turned out, it would have had a significant impact on the bird species in the marsh,
> mainly gulls. Birds that normally use the salt marsh both for foraging and nesting and, as
> a matter of fact, after talking with the regional biologist I said, "Based on your own
> agency's map, the GIS map, you have this area listed as critical wildlife habitat…The
> impact here is fragmentation." Building a 300 foot pier is obviously going to have a huge
> impact on fragmentation, which, as you know, has always been a big no-no of wildlife
> biology.

The steward, a retired biologist in his 70s in the seacoast region, described the constructing of

their argument in detail, one that they ultimately brought to their local planning board. As the

quote describes, their argument is based on published scientific research and industry best

practices, citing published research and publicly available GIS maps. They don't focus on

potential impact to people or recreational opportunities, but instead focus on the value of the

natural system being undisturbed and opposing construction of the pier due to the value they

place in the ecosystem. They imply, through their opposition to the pier, that they value the

undisturbed salt marsh more than the need for a pier. This demonstrates that they're using the

scientific reasoning to guide their opinions of natural resource usage. This suggests the

importance, within the Scientific/Utilitarian values profile, of recognizing human impacts and

the need to minimize these impacts when they aren't necessary.

The recognition of human impacts shouldn't be overlooked as it provides an opportunity

for Scientific/Utilitarian stewards to provide a solution through science and research. The

importance of science and research is paramount in this profile. Another thematic aspect of this

profile is that science can provide a logical solution or guide for future action. As these quotes

demonstrate, the more sound the science involved correlates to the righteousness of the action.

> That's a really good question, and I think I would circle back to fairly recent times in that
> case with the Conservation Commission… I was, in fact, in some sort of a court battle
> with an attorney who worked for the largest law firm in Boston, along with his law firm
> and a team of wetland scientists. It was a little overwhelming and saying, what the hell
> am I doing here? You know, these people are probably going to crush me like a bug on a
> sidewalk, but I really felt like science was on our side.

> So we took the logical study which said here's certain areas we don't think you should be
> in, and they have high ecological significance, when we look at the forester's plan. Then I
> said, "Here's my idea where we could do some number harvesting." We put the two
> together and came up with a stewardship plan which basically located areas that we
> wanted to use for timber harvest and the areas that we want to have for reserve areas.
> Then a discussion of trails and infrastructure and improvements and all the things that go
> along with that, and it was quite the stewardship report that we created.

These quotes demonstrate that science, especially science related to creating a guiding action

plan, is critical in how stewards construct value of individual's actions. In the first quote, the

participant describes feeling better during a court case because "science was on our side." This

belief is giving them hope in their legal case against a much more resourced opposition. It

suggests they belief that they are right because they are aligning their opinion with science

research. In the second quote, they incorporated previous research and planning into a

stewardship project they were working on. They describe how they use a forester's plan of the

area, which indicates areas of high ecological importance, and combined that with their plan for

timber harvesting to make a plan for land management. This represents using scientific reasoning

to guide utilization of forest resources. For people demonstrating this profile, the ability to apply

scientific knowledge is a key component for involvement in stewardship efforts. This

commitment is reinforced through referencing scientific research-based efforts and planning.

**Mean Generativity Scale Scores based on Biophilic Values Profile**

In an attempt to analyze if values profile was related to generativity the mean generativity scale scores for each profile was calculated using a single factor ANOVA (Table 4). Both generativity scales showed little effect of values profile on mean scale scores, suggesting that the four profiles have similar levels of self-reported generativity. The small effect size suggests that the group distinctions have little impact on variation in mean scale scores. As no statistical difference between profiles was noted, further analysis of comparison between profiles was not done.

**Table 4**

*Mean Generativity Scale Scores by Values Profile*

| Measure | Hum./Nat. | | Hum./Util. | | Nat./Util. | | Sci./Util. | | $F_{(3, 27)}$ | p | $\eta^2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | Mean | SD | | | |
| Social GS | 6.02 | 1.82 | 6.07 | 0.83 | 5.93 | 0.94 | 6.43 | 0.58 | 0.158 | 0.924 | 0.02 |
| Loyola GS | 3.21 | 0.33 | 2.8 | 0.31 | 3.11 | 0.44 | 3.31 | 0.32 | 1.727 | 0.185 | 0.16 |

## Discussion

The discussion section of this manuscript will examine the analytical results of narratives reported describing generative action and environmental values. The discussion of generativity will examine how participants used narratives to describe generative activity, including how they were grounded in group context. It will further examine what the results of analysis for bio-generativity means for expanding generativity theory. The discussion will then move on to biophilic values. It will discuss how values allow researchers to better understand individuals' relations to identity content, what having three common and overlapping values seen throughout the participant pool may indicate, and examine value profiles as a proof-of-concept. There is then a discussion of how participants framed their environmental stewardship at local and global

scales. The discussion concludes with limitations of the research and considerations for future research.

**Generativity in Environmental Stewardship**

New Hampshire's environmental stewards often engage in groups with others of similar interests and values. As part of the narrative interviews, participants shared numerous illustrative reports of their engagement in environmental stewardship. These examples were primarily situated within their involvement in various social associations, either formalized organizations (such as a governmental entity or environmental non-profits) or within a group of friends. This associational group-based stewardship was supported by participants' background and experience listed in the survey. Many participants reported being involved in multiple stewardship focused groups. Frequently participants stated, in their interview, how interacting with other people with similar values and interests was a common influencing factor in beginning and/or continuing their involvement in the group as part of the social connection motivational theme seen as a component of motivation to engage in environmental education programs and environmental stewardship (see also Hanley & Coppens, in prep). This is not surprising as both demographic groups were remarkably similar and engaged in similar activities.

Much of this involvement was based on generative activity. When asked about "peak" or highly positive experiences, participants frequently reported being engaged in activities of community or environmental benefit. These activities were broadly ranging and included trail or property maintenance, easement monitoring, environmental education programs, and outdoor recreational activities. As a follow up to Hanley & Coppens (in prep), ample evidence provided

in these narratives received suggests the importance of generative components to stewardship for these participants.

The importance of generative activity in group involvement suggests that stewardship may be an identity-salient activity for adults. This generative tendency was identified in the reported actions of the participants and supported by survey analysis. This manuscript suggests that involvement in an association that engages in generative activity, such as environmental stewardship, has a mediating effect on individual participants. This results in positive feedback for members who engage in generative activity, because the more generative activities they do the more they align with norms and values of the association. In this way the association mediates how the individual enacts identity processes.

As identity is not simply an individual phenomenon, but also a cultural and historical process, stewards' engagement with associational groups and cultural systems coupled with high levels of generative interest suggests identity relevance. Previous work (Alisat et al., 2014; Matsuba et al., 2012; Matsuba & Pratt, 2013) on environmental activists has suggested that this work is linked to generative tendencies and suggested identity relevance as well. This research suggests that adults engage in generative tendencies as part of broad, cultural identity processes. As part of this process, they receive identity content and provide feedback as part of membership in the cultural community. This generativity is then mediated by engagement with associational groups. As a member of an association, their involvement means they are regularly receiving and giving identity content to and from other members. In this way, the association is the lens through which the individual views and responds to identity processes. Stewardship, as an act that benefits others or the environment, is a ready-made area for individuals to enact generative tendencies.

**Developing Generativity Theory Through Bio-Generativity**

Identity salient involvement in stewardship activities, by way of involvement in associations, was heavily linked to "anthro-centric" generativity. This means that the intent of the generative action was to benefit other people, usually within their community or social groups. Work from Hanley and Coppens (in prep) suggested that generative interest was a major motivating theme of stewardship participation and suggested further investigation into how these activities contributed to identity relevance. Therefore, this research paid close attention to generative behavior and if its intent was to benefit other people or the environment. Results heavily pointed to stewardship work as preserving or restoring natural systems for the benefit of sociocultural communities. This benefit frequently focused on youth and future generations, suggestion a linkage to Erikson's central tendency for generativity.

The way examples of bio-generative occurred suggests a link to sociocultural membership of their stewardship activities and thus identity relevance. Bio-generative activities were often related to association membership and focused on improving environmental health and well-being for future generations. This suggests that bio-generativity should be conceptualized as an expansion of Eriksonian theory, and not as a stand-alone theory. Through their engagement in associations, adult stewards appear to be able to provide ideological guidance and engage in beneficial activities for future generations.

Previous work (Hanley et al., in prep) has identified associations and their membership as the connection between stewardship and "communities of practice" (Lave & Wenger, 1991). Building on this connection, bio-generativity represents the way environmentally focused communities of practice enact identity salience from their activities. This suggests that bio-generativity represents a way to operationalize Erikson's generativity theory in an

environmentally focused context. Many reported examples of stewardship focused on restoring or protecting natural systems for the benefit of future generations. There were also numerous examples of direct bio-generative interaction with adolescents. Many environmentally focused associations described by participants engage in activities aimed at improving environmental health and opportunities for future generations. This complements and expands existing generativity theory.

Bio-generativity should be considered an expansion of Eriksonian generativity theory, but not a novel idea or something unique to this moment in time. As identified in Hanley and Coppens (in. prep), many cultural communities consider environmental stewardship to be an integral aspect of community membership. This suggests that in communities where environmental stewardship is more of central focus that bio-generativity may be more prevalent and/or recognized. In the current moment in time, the climate crisis represents a clear issue that many have decided to address through their actions. This has created an opportunity for bio-generativity to become more noticeable within sociocultural contexts. Bio-generativity provides a theoretical platform to begin consideration of expansion of Eriksonian theory to meet other contemporary needs.

## Value Profiles Within New Hampshire Stewardship

Values play a major role in demonstrating the reception of identity content. This research identified 4 distinct value profiles across New Hampshire stewards. These profiles were combinations of biophilic values that were identified consistently across multiple participants. These participants represented a variety of geographic and interest-based stewardship efforts in New Hampshire. In some cases, there were participants that were in the same local stewardship communities.

Identity content is an important aspect understanding how cultural communities, associational groups, and the individual interact. Seaman et al. (2017) identified three aspects of content in narrative identity traditions; types of events contained within the life story, the subject of the story (focal domain), and master narratives which represent "coherent, culturally rooted archetypes reflecting moral messages (p. 2028). Master narratives are particularly interesting in environmental stewardship as they suggest what stewards are supposed to believe and how they should act, often conceptualized as "what does it mean to be a good steward?" This messaging comes from broad, cultural communities, and is then mediated, or operationalized, by associational involvement.

The methods used in this research should not be considered to identify master narratives, the focus on values provides insight into how people engage with master narratives and other identity content. As the individual engages with cultural and associational groups, they are receiving identity content. This content is then interpreted through the individual's past experiences, present circumstances, and intended future. The values they use when representing their actions and beliefs through narrative presentation are indicative of how they have processed identity content. In the case of this research, when asked to describe a "peak" experience, participants are likely to present a narrative that demonstrates their highest priority values. These values represent identity positioning as a result of identity content from the sociocultural context they inhabit mixed with their personal experiences. In this way, value profiles represent common ways adult stewards position themselves as "in line" with prominent master narratives.

The four value profiles that were identified by this research represent common ways stewards position themselves in relation to prevailing master narratives. The bounded scope of this research limited the number of profiles identified, as it is likely that more profiles exist in

different communities. However, when considering the variety of associations that mediate identity content around stewardship master narratives it is understandable to have identified multiple profiles, as different associations impart their own unique mediation. It would be theoretically unlikely to find a single profile that represents all stewards as there is large variation in associations and their practices within the participant pool.

The identification of four values profiles suggests that stewards from similar cultural communities engage identity content in consistent ways. This research suggests that White, middle- and upper-middle-class adult stewards often value increased connections with natural systems (naturalistic values), the opportunity for interpersonal relationship building through activity in areas of less human impact (humanistic values), and the ability to recognize human impact on natural systems by understanding our usage (utilitarian values). The results of these profiles suggests that individuals hold multiple values of nature and that combinations of values occur in different ways. These combinations are likely influenced by personal past experiences, received identity content, current sociocultural context, and intended future and goals.

### Differentiating Between Three Similar Value Profiles

The presence of 3 profiles that are different combinations of 3 biophilic values (humanistic, naturalistic, and utilitarian) was analytically difficult. Many participants who were identified as one profile with two primary values had the third value as a secondary value. It is possible that the analytical process used in this research was too focused on creating distinctions and that the 31 total participants in these profiles all interact in similar fashion with identity content. However, that approach may be too broad to be representative of 31 people in different cities and towns across New Hampshire, of different ages, and engaging in stewardship in

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different ways. The relative commitment to primary values over secondary values observed during analysis indicated noteworthy variation between participants.

The values overlap of the three most common biophilic values may be attributed to sociocultural homogeny within the participant pool, as many participants may receive similar identity content as a result of being in a singular cultural community. At an associational level, this manuscript presents two possible explanations: association type and association crossover. First, many participants were engaged in similar types of associations but locally focused, such as land trusts or conservation commissions. These associational types may have similar overarching values, such as land trusts being interested in protecting land from development and providing recreational opportunity, but apply them at small, locally specific contexts. This explanation may suggest that this variation may also include overarching content provided by larger organizations, such as a national governing body. This content is then mediated in similar ways by smaller, local associations.

Secondly, for many of the participants, their stewardship community/-ies were one of several groups in which they exhibit membership commitment. They therefore move between associations, and are likely to retain values from one group when interacting with another. Many of the participants reported, both in surveys and through narrative, participation in multiple stewardship associations. This also does not take into account non-stewardship associations they are members of. Adult stewards may take values from one organization and applying them in their work with others. This concept of "multimembership" is provides insight into how identity is constantly adapting as individuals go between multiple communities (Kubiak et al., 2015).

This research was designed to identify value profiles that were present in New Hampshire stewards, but similarities in profiles may be a result associational type or associational crossover

influence, or both. It is more likely that a combination of these two ideas explain the result than one exclusive explanation.

### *Methods as a Proof-of-Concept*

Values are present in the associations and cultural communities that individuals engage with through day-to-day life and over the life course, and are constantly adapting as our relationship within these groups change. It is important to remember that the results presented here represent a still image in time of a dynamic process. That said, using an established values framework to identify the values present in adult stewards appears to have been a successful method. In doing so, results were able to identify a range of values demonstrated and provide a general idea of the relative strength of these values for the individual (primary versus secondary values). Although this process could be further refined and improved, it does appear to be a successful method of identifying the values present. This method can be used to begin to describe how individuals engage with master narratives and other identity content. There still are other aspects of identity content, such as normative beliefs, that should be researched, however values profile analysis provides an initial roadmap in how master narratives can be better understood.

### Contextual Narrative Framing within Sociocultural Systems

During narrative coding, the way a steward contextualized their activities in relation to other people was noteworthy. Though not specifically identified for research questions or subsequently coded, it appeared that stewardship activities were often frames in one of two ways. First, as a locally focused effort that creates positive impact on local ecosystems. Alternatively, as a way of reducing or mitigating the effects of widespread human impacts on the planet, mainly climate change.

*Stewards as Positive, Local Actors*

Many of the stewardship activities described were based in local communities and resources. Narratives framed stewardship activities as being positive pieces of local conservation efforts, as this quote demonstrate:

> I think my impact has been largely local, and it probably has to be because in reality, everything is local. Look, the local feeds the global as well. And so it would be beyond hypocritical to put a lot of energy into global solutions if locally I was living or promoting completely unsustainable things. So, I have and I need that, frankly, I need that because I'm very big picture person. So having real things to hold on to is valuable and important for me. It keeps me real. So yeah, I would say it's local.

This participant heavily grounds their activities in local responsibility and engagement. This includes highlighting how you can't improve global issues without local solutions, stating "everything is local," and that it would be "hypocritical to put a lot of energy into global solutions if locally I was living or promoting completely unsustainable things." They recognize that their impact has been primarily local, and see that as necessary to combat global scale problems.

This next quote links locally focused stewardship to membership in an information associational group:

> Why would you throw something out where you live? Isn't that sort of a basic community principle? You just mess up your town? It's amazing. I mean, just seeing the amount of people that just chuck stuff out cars. That's been a little project and that's, you know, go out for an hour, get everybody organized on a certain piece of road. And then of course we all go for coffee. So it's bringing people together after. It's a little reward for doing something that's pretty unpleasant, but we only do it for an hour. You'll be surprised what we get in an hour. 12 people out there in an hour. I mean, that's 12 hours of work right there.

In this example, the participant begins by critiquing behavior such as littering, which is framed local by saying "where you live." This positions the participant as opposed to activities that harm local settings. They then pivot to discussing the work of their group as a remedy for the negative

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local littering. In doing so, they position themselves as a positive actor of local environmental health and providing social opportunities for members of their community to get involved.

As identity is a sociohistorical process that involves assessing and reassessing individuals' commitment to, and place within, a group, it is understandable that the group would play a role in individual identity development. At a local scale, their actions may be heavily rooting improving the lives of people in their communities and improving surrounding environmental health. This may be linked to the generative nature of their activities. As discussed, the participants were noted to be highly generativity oriented in their central tendency of identity. There were also numerous examples of generativity provided in their narratives. The presence of interest in positive local narrative positioning may be related to prevalence of generative activity. Both are firmly rooted in improving local communities and create benefit and opportunity for others.

### *Stewards as Opposing Larger Scale Trends*

Participants were keenly aware of environmental issues that occur at a national or global scale. Many participants highlighted climate change when asked to describe an environmental problem that was worrying them. They demonstrated an understanding of effects of global environmental trends and issues, such as anthropogenic climate change and its effects, and discussed examples of local change they've noticed. They positioned themselves as opposing global trends and issues, but offered few examples or concrete steps they are taking to lessen their impacts. This was the opposite of local-centric responses, that were frequently complementing ongoing conservation and stewardship work the participant was engaged in. Many participants framed these concerns around environmental health for future generations and the need for global response to reversing human impacts, as these quotes demonstrate:

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I think about the kids. I mean, I have 12 year old grandkids: twins, a girl and a boy. And what are they inheriting? They're first inheriting a huge deficit, which really bothers me. But things have to be done…They are inheriting some really big problems that if we don't tackle them now, it's going to be awful when they take over.
I think you raise an interesting point about this issue [climate change] with it being all around us. But we don't tend to care or notice that…It's like something we're living with now.

Well, it's a good question. It's a very good question because, I understand what's happening environmentally and in large part, we humanity are destroying not only our own species future, but the future of most life on earth, most complex life on Earth…Conservation at this point is like rearranging deckchairs on the Titanic.

These participants have described concern about environmental health for future generations and natural systems. This is seen in the use of wording such as "inheriting" and "future." This indicates that there are concerned about the direction of global trends and humanities ability to address them. Many of these examples frame the participant's belief and actions as opposed to global human impacts as the individual believes they are doing their part to, if not reverse its effects, not make this worse. There as often a lack of specific people and organizations cited when discussing large scale issues they opposed, even when specifically asked. This generalization is a noticeable difference in comparison to the specifics given for local actor efforts. Although the participants could probably name specific actors whose actions and beliefs they oppose, the generalizations may indicate a fundamental concept or issue they wish to situate themselves away from. This may be due to the sociocultural context of identity as individuals engaging as a member of various communities. If the individual does not therefore consider themselves committed to a community, which they don't appear to be at global scale, they may not engage with identity content of that scale community. There strong commitment and engagement at a local level may be prioritizing locally applicable content.

As a whole, the participants were widely involved in local efforts. Some referenced making financial contributions to groups working nationally or globally, but there was little

narrative description focused on how their actions impact these large-scale issues. This may be due to issues in the interview structure that didn't allow for these narratives to be given, if they exist. They may also be genuinely focused primarily on improving local communities and not as interested in global impacts, despite knowing the issues. It also may be that their actions to remedy global issues may be situated in "small s" stewardship. For example, they may be choosing to take deliberate actions against climate change by taking mass transit, utilizing an electric vehicle, reducing consumption, or other ways of reducing their carbon footprint. These "small s" stewardship examples weren't expressly prompted for but did come up throughout numerous interviews. Overall, it is possible that the presence of oppositional values, norms, and beliefs can provide a counterpoint for the individual to base their own positioning on.

**Limitations of Research and Future Directions**

The research was limited to a certain degree by pandemic restrictions. Interviews taking place at stewardship locations, as originally intended, may have been more fruitful an eliciting more details and comprehensive narratives. The ability to use online video conferencing software, such as Zoom, was however, still a valuable experience. The increasing use and familiarity of videoconferencing software may have led participants to be more willing to do a videoconference interview than a telephonic interview. The ability to see interviewer and participant may have lead to a more conversational and realized feeling to the interview.

When considering implications for generativity theory it is important to consider the potential for self-selection bias. Potential participants may see their participation in this research as a way to be generative, by assisting in research for a graduate student. In this situation, a potential participant, who is engaging in central tendencies of identity through generativity, may see this research as an opportunity to demonstrate generativity or their commitment to

community membership. This theory would suggest that participants may be predisposed to particularly generative reporting, shaping how the participant acts within the interview.

Broader application of statistical generativity findings may be limited by the relatively small sampling size. The number of participants recruited was designed around creating robust qualitative data, it simultaneously created a small qualitative pool which limited transferability of the results beyond the participant pool. It is important to keep in mind when considering the statistical results that the participant pool represents a small group, from a similar geographic area, who engage in similar activities that are often generative in nature. It is not a broad representation of adults across a large geographic area or sociocultural context.

Research conclusions about broad, cultural communities were limited by the lack of representation of more cultural communities. Sampling method focused on association and contextual representation, and less on cultural community representation. All 36 participants could be considered from similar cultural communities, generally defined as that of White European-Americans from the northeastern United States, and the participant pool represents an overrepresentation of middle class or upper-middle class White adults compared to regional means. Thus, the sample lacked cultural diversity and thus has limited application in cross-cultural comparison. This is especially noteworthy regarding values profiles, where other cultural communities may engage with other values more frequently. An example of this may be the "symbolic" biophilic value. This value was infrequently seen in participant narratives, but may be more common in other cultural communities, such as Indigenous Americans. Further research in different cultural communities would be needed in order to explore this theory.

The research methods used appeared to provide quality insight into the values within the sampled population. This research was designed to do a state-wide view of biophilic values.

Although this was effective in identifying value profiles in order to help understand master narratives, as was the intent, it creates a far from complete picture of how master narratives function. Further research specifically investigating norms and beliefs as part of an in-group setting would be helpful in creating more well-rounded understandings of them. This research was able to shed some light on this, but further research is needed to build and test research method options to explore master narratives. I believe a logical next step may be for a more in-depth approach, such as interviewing multiple members of a single group, such as a municipal conservation commission, to identify how individuals interact with master narratives differently in a single context. As this research was broad, in an attempt to see what master narratives existed over a state-wide landscape, a closer examination would be beneficial in complementing the findings here.

## Conclusion

This research has suggested that stewardship activity is an identity-salient feature of engagement in associational group settings. Participation in these groups appears to be a major component of adults' stewardship activities. Generative opportunity is a major feature of this engagement. This research found that generative tendency did not increase with age or was higher based on gender, suggesting that engagement with the community is a driving force contributing to this tendency. This research also used a values framework to successfully identify four value profiles, which are combinations of values seen across multiple participants, that were represented in participant narratives: Humanistic/Naturalistic; Humanistic/Utilitarian; Naturalistic/Utilitarian; and Scientific/Utilitarian. These value profiles are not master narratives, but instead represent consistent ways New Hampshire stewards may position themselves in relation to identity content they receive.

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## V. Conclusion

The three articles presented in this dissertation provide insight into the sociocultural dimensions of adult environmental stewardship and education opportunities. The following section will discuss these contributions and implications. It will begin by discussing the theoretical contributions of these works, as well as directions of future research and limitations of the scope of this dissertation. The final section will discuss the implications for stewardship in New Hampshire. This will provide an overview of the direction stewardship efforts should take as a way of improving future opportunities.

### Theoretical Contributions

This dissertation has explored environmental stewardship and education as an identity-relevant activity. The research described has suggested that individuals often engage in formal, or "large S," stewardship as a way to facilitate increased engagement in associations of like-minded individuals. Many of these associations function as a community of practice (Lave, 1991), and may even engage in legitimate peripheral participation, as described by Lave and Wenger (1991). Associations mediate the mutual relation between broader, cultural identity processes, such as generativity, and the individual. This mediation also serves to help individuals frame identity content, such as master narratives (McLean & Syed, 2015), which guide the norms, values, and beliefs of the individual.

The prevalence of social connections as a motivation theme for both stewardship and education programs, as seen in Manuscript 1, suggests that engagement in these associations may be more important than previously recognized. Ethnographically informed observations during the studied adult environmental education program suggest that informal social time during the program, such as breaks between activities and meal times, were ripe with student discussion

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about projects they were working on or ideas they were developing. This suggests that the mediation occurring through peer-to-peer interaction during the program was a central aspect of their engagement, which added value in program participation beyond the knowledge acquisition. During these conversations they are not only communicating technical or organizational knowledge, but also norms, values, and beliefs supported by the community. This occurs in numerous ways including highlighting priority topics and values, discussing group activities and their involvement which may reflect membership commitment, and demonstrating connections with other members and communities. These interactions represent opportunity for identity content to be communicated, and shows the importance of context – that being the histories, activities, and values of specific groups (Seaman et al., 2017) – in guiding identity development.

The remainder of this section will focus on the manuscripts' specific contributions to identity theory. Beginning with identity-relevant generativity, it will discuss the expansion of theory regarding motivations to engage in generativity and bio-generativity, how individuals may take identity-relevance from generative action not directed at other people. It will also look at work on environmental values. This identity-relevant content was identified in Manuscript 3 (Hanley et al., in prep, b), and plays an important role in how people engage in associations. This work provides a promising step in furthering identity theory.

**Expanding Identity Theory, Generativity, and Bio-Generativity**

Framing generativity as a central tendency, and not a discrete "stage" as used in Eriksonian tradition, helps recognize the dynamic nature of identity processes and an individual moves between communities. An individual is a member of multiple communities throughout the course of their day-to-day life. In each different community the individual has different roles and

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responsibilities. These means that they may demonstrate different levels of identity salience from one community to the next (Kubiak et al., 2015). Identity is rooted in the community as a socio-historical process. It is not a fixed psychology feature within the individual but shifts as they increase membership commitment and transition between communities. The helps to conceptually recognize how an individual's identity may shift when they move between social groups. Theorizing identity processes as developmental stages does more to recognize this dynamic process.

The recognition that adults may seek environment stewardship for generative and social connection with others is a major development in thinking about identity development. It suggests that identity processes are mediated, as in transitioned from concepts and ideas into actions and beliefs, by stewards' engagement in associations. Adult stewards may look for associations of like-minded individuals to help facilitate this mediation. As middle adulthood individuals are undergoing identity processes related to generative central tendencies, involvement in environmental associations provide an opportunity for generative activity. Narratives received during Manuscript 3 (Hanley et al., in prep, b) suggest that involvement in these groups often provides this opportunity. These generative activities were often reported to be benefiting others in the community, local children, or environmental health. Most of the generative activities described in Manuscript 3 were focused on improving environmental health for other community members and future generations. This aligns well with traditional Eriksonian theory on generativity as a sustaining of ideologies to future generations and operationalized through donative behavior. Some generative action was primarily focused on improving environmental health, referred to as "bio-generativity."

The concept of biologically centered generativity, "bio-generativity," provides an opportunity to consider how someone may engage in identity-relevant stewardship that isn't directly focused on benefiting other people. Erikson's original theory on generativity focused heavily on being beneficial for future generations, and gives his life cycle model an inter-generational and cyclic nature (Erikson, 1959; Schachter, 2018). Bio-generativity theory suggests that stewardship activity can be identity-relevant if it benefits other members of connected natural systems, and not directly impactful on younger generations.

Climate change plays a fascinating case example of this theory. Many adults, especially those engaged in environmental stewardship, have recognized the impact of climate change on natural systems ranging from local to global scales. Adults may see work to mitigate climate change impacts as identity-relevant if they are connected to associations or cultural communities they hold membership in. This would come in the form of passing on experiences, values, and beliefs about caring for natural resources, working to improve environmental health, and prepare future generations to continue this work. In this way, these bio-generative tendencies hold identity relevance for the steward.

**Environmental Values**

Identity content plays a large role in the messaging that is communicated to individuals about what group membership entails. This content originates at the cultural level and is mediated by associations. Through membership in associations the individual receives information about expected behavior, acceptable beliefs, and intended goals. This is a major opportunity for conceptual ideas and beliefs to turn into actions, values, and feelings. A noteworthy form of identity content are master narratives. These create a series of a culturally shared normative beliefs. Master narratives are often framed as "What does it mean to be a good

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____?" In the case of stewardship, being a good steward may mean actively engaging in conservation project, giving money to environmental non-profits, or reducing your carbon footprint. How an individual interacts with these narratives, both receiving identity guidance and providing feedback, is mediated by associational membership. They provide a conceptual method for how communities impact the individual and how the individual, in turn, gives feedback to the community.

Manuscript 3 used Kellert and Wilson's (1993) biophilic typology of 9 environmental values to categorize the values demonstrated in reported narratives. From this, 4 "value profiles" of New Hampshire stewards were identified. These value profiles are combinations of values that were consistently seen across multiple participants. The value profiles were opportunities to see how New Hampshire stewards frame their values in relation to master narratives. The profiles aren't master narratives themselves, but are representative of how the individual is positioning themselves to interact with the master narrative. The analytical approach used to create the profiles should be considered for further use in other applications.

Individuals contextualized their activities by framing themselves in relation to others. Manuscript 3 noted how most participants framed their stewardship activities as creating a positive impact in local context. Participants also frequently positioned themselves in opposition to global environmental trends such as global warming. This positioning is important to understand when considering identity-relevant generativity. This conceptually aligns with adults' engagement in generative action. Generativity is rooted in a continuance of ideologies, and with that, their supported activities. For this reason, rooting their actions as supportive of wider, local efforts is central to creating identity-relevance.

The values profiles identified represent the ways that stewards have interpreted identity content, and provide insight into how they approach identity-relevant generativity. For adults, generativity is a central tendency of identity processes, which represents grounding in cultural communities and mediated through associations. This suggests the values they demonstrate in their narrative reports are representations of their preferred way to communicate ideological beliefs about the environment. These 4 profiles identified represent ways stewards connect natural resources to identity processes. For example, when a steward demonstrates "utilitarian" values they are suggesting an ideology of natural resource usage based on natural systems providing resources and opportunity for people, and the need to continue that sustained usage. As such, the biophilic values represent ways in which nature is being related to identity processes.

**Future Directions in Research**

The identity processes examined in this dissertation are only a portion of what would be required to have a "complete" picture of identity processes. Future research would benefit from focusing on other aspects of identity processes. The methodologies employed in this dissertation were chosen as a way of building a descriptive understanding of identity-relevant processes as they relate to stewards in New Hampshire. As such, specific inquiries into "how" associations contribute to mutual mediation of broad cultural processes and the individual would be warranted. This research may require a more focused approach on the individual experience through case study or ethnographic methods. This kind of focus would be able to provide specific detail on the individual's experience and their relation with a specific association, such as interviews or ethnographic work with a town's conservation commission. Work could also be done to better understand the master narratives within these communities.

The methods used in Manuscript 3, using an established values typology to clarify narrative values, was very much a proof of concept. It would be recommended for future use as a way to identify prominent value profiles. As previously mentioned, the approach did not specifically identify master narratives. This was not methodologically possible as the research design targeted a landscape of stewards throughout the state, and not a "deep dive" on a focal group. Further research examining individual members of an association, and comparing their master narrative engagement would be conceptually beneficial. It would be beneficial to see if members of a single group have similar engagement with master narratives and to compare and contrast that engagement between members.

This focused examination of a case group or association may also be able to further examine conflict. As the individual interacts with others within a community, differences in values through varied engagement in master narratives may spark conflict, despite the individuals working toward the same overarching stewardship goal. The research done within this dissertation did not specifically examine conflict to the depth required to make claims, but open coding observations suggest conflict may arise as a function of individuals engaging master narratives, even the same master narrative, in different ways and the manner in which they demonstrate community membership and commitment. It is suggested that this line of further research may be most successfully examined through study of master narratives in specific communities as described above.

An area of master narrative theory that is particularly ripe for contributions is how the individual plays a role in shaping narratives. As master narratives represent a feedback loop between the broad cultural level and the individual, mediated by participation in an association, the manner of how the individual is able to provide influence and shift the narrative is

particularly interesting. This dissertation has provided a slice of the processes involved in identity development for adults but there is still plenty of area for understanding within this dynamic process.

**Implications for Stewardship**

The need for environmental stewardship and conservation to shift away from the top-down, expert driven model as described in the Introduction is paramount to increasing engaging in environmental decision making. Currently, many stewardship groups and organizations frame their mission as a service or content provider. This can come in the form of learning opportunities for environmental education programs, technical assistance for landowners/managers, or land protection through programs like easement monitoring. This framing lends itself to a business-client/customer model where one side provides something to another. In most cases this involves providing expertise, equipment, or funding to those who wish to engage in stewardship. It is not to say these aren't valuable services, but instead that more focus needs to be put on recognizing the sociocultural dimensions of stewardship efforts.

This dissertation has shown how interested individuals and associations often function and provides valuable insight into how successful new models may develop. This ideal model would consist of associations functioning as community developers which facilitate the recruitment and engagement of members. There will always be a place for knowledge acquisition by members. As seen in Manuscript 1, this is a major motivating theme for people to engage in stewardship programs such as environmental education. This model thrives when groups and institutions recognize that stewardship efforts are heavily rooted in community engagement.

Experts and technical professionals have an important role to play in this model. There will always be value in having highly knowledgeable and experienced experts available to help

with technical support and fund acquisition. Environmental conservation and natural resource management often requires technical knowledge, and experts should play and important role in providing guidance and supporting community inquiry. This support and expertise is essential in helping communities enact effective conservation strategies.

A shift to community-grounded stewardship efforts can be undergirded by the use of community specific roles to build membership commitment within the communities. As discussed in Manuscript 2 (Hanley et al., in prep, a), association-based stewardship communities provide a prime opportunity to develop communities of practice (Wenger, 1999). In such systems, people are able to increase identity commitment through roles and responsibilities within the community. These roles and responsibilities provide "buy-in" in which their actions make a difference in community well-being. Communities of practice also allow members to engage in activities that increase well being of others in a way that may create identity-relevant generativity. This links community membership directly with identity development. Members can then increase their membership commitment by increase or changing their roles and responsibilities within the community. This structure allows for members' experience to be at the forefront of community growth and development.

The survey of value profiles done in Manuscript 3 presents an opportunity to recognize the values that are present in New Hampshire stewards. Three of the profiles identified were combinations from the same 3 of biophilic values. This indicated that these three values were consistently prevalent. This suggests that there are many overlapping values of stewards throughout the state. This represents an opportunity to recognize what values are being communicated as part of participation in stewardship communities. Understanding value profiles benefits community-based stewardship efforts because identity content plays a major role in how

individuals engage in their community. It is important to recognize that there may be more than one narrative involved as individuals move between communities as part of daily life.

Community organizes should be attune to the identity content that is being communicated during organized activities. As discussed in Manuscript 1, group leaders, or those who may fit Lave and Wenger's (1991) "old timer" description, play important roles in setting the standards for the community. Program participants reported coming to the program to develop ideas gain new information. This engagement is not limited to informational knowledge and learning, but also extends to values, interests, and norms within the stewardship association. It suggests that much of what is being communicated goes beyond the specific content of a workshop, which includes many identity-relevant features that connect with master narratives.

Recognizing how stewards frame their stewardship also has value in development of stewardship opportunities. As scene in Manuscript 3, stewards frequently positioned themselves as protagonistic of local efforts and antagonistic of global environmental trends. Many were specific to point out opposition to climate change denial and indifference, and pushed back on trends regarding pollution and environmental fragmentation and degradation. This suggests that stewardship efforts should be organized around locally focused efforts that impact connection to local natural and social systems.

This shift to a stewardship and conservation system where the development of conservation communities is a primary factor provide an opportunity for engagement with broader areas of sociocultural context. As described in Manuscript 2, community-grounded stewardship is central in numerous examples of cultural community across North America. A community-based approach would likely encourage more engagement from underrepresented communities who have historically been marginalized from environmental decision-making in

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the past. Engaging with increasing community members may be central to addressing our stewardship challenges. As stewardship is the recognition of our commitments to both sociocultural and natural systems, it is imperative that recognizing the dynamic dimensions of our sociocultural systems is as important as recognizing our place and impact in natural systems.

Adult environmental education has the opportunity to benefit from socioculturally grounded pedagogy. As previously described, educational classes and workshops provide numerous opportunities for the reception of identity content and for individuals to assess and evaluate their membership commitment with communities of practice. With this in mind, this dissertation gives recommendations for improving adult environmental education curriculum. As discussed in Hanley et al. (in prep, a), more time for discussion and development of ideas may help provide value to the participating steward. Many adult participants come to education programs with projects in mind, either in progress or in development. Providing structured time for idea development, participants may be able to directly apply educational content to their plans and provide considerable value through the interaction with experts and peers. This is a straightforward way of creating value through the educational opportunity.

Environmental education has often been interested in utilizing place-based education. Many educators may consider utilizing land-based pedagogies based on Indigenous American practices and relationships with the land. It is important to recognize that these approached aren't simply learning large amounts of educational content about the land, but instead recognize the social, cultural, and historic connections that are present in these places (Medin & Bang, 2014; Ryan et al. 2013). This connection with sociocultural features is often lost on environmental education curriculum. Educators should design curriculum on understand the various histories of place, such as: the history of people's land use over time; what is the reciprocal relation with the

land; and what does this demonstrate about our values and connection with the land and others. By understanding the reciprocal connection between our place in natural and sociocultural systems educators can better prepare students to engage in meaningful stewardship.

When looking to improve programing, educators and program developers can look for opportunities to solicit communication from students, either before or after the program, to help determine programmatic direction. This can be done by asking registrants about what they are hoping to get from the program, or if they have any specific application in mind for the educational content they receive at the program. Educators should consider designing program curriculum around flexible outcomes and providing opportunities for adults to get the outcomes they are looking for from their time. This could come from open time to encourage idea development and discussion with experts and peers. Post program surveys can also help refine program design by asking about how the program could better meet the student's needs. This is particularly important because adults have multiple groups and responsibilities vying for their time and attention. It is therefore important that education programing is seen as an effective use of their time and efforts. Adult environmental education has the advantage of not being standard- or content-acquisition driven, as seen in K-12 schooling. As such, educators should not limit their thinking about how time is used to match norms and frameworks of K-12 education. The flexibility inherent in adult environmental education provides a great opportunity for curriculum adaptation.

Both environmental stewardship and education has the ability to powerfully connect people with other like-minded people and membership in natural systems. These activities provide a pathway for identity-relevant development. It is by better understanding sociocultural dimensions of this involvement, such as through identity processes, that we can improve how

environmental stewardship education programs are designed and organized. Doing so will allow

organizers to engage more people and better connect them with these activities.

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**APPENDIX 1. IRB APPROVAL LETTERS FOR MANUSCRIPT 1**

# University *of* New Hampshire

Research Integrity Services, Service Building
51 College Road, Durham, NH 03824-3585
Fax: 603-862-3564

02-Feb-2018

Hanley, Ian
,

**IRB #:** 6843
**Study:** Motivations for Learning about Wildlife Conservation in Informal Learning in New Hampshire
**Approval Date:** 30-Jan-2018

The Institutional Review Board for the Protection of Human Subjects in Research (IRB) has reviewed and approved the protocol for your study as Exempt as described in Title 45, Code of Federal Regulations (CFR), Part 46, Subsection 101(b).  Approval is granted to conduct your study as described in your protocol.

Researchers who conduct studies involving human subjects have responsibilities as outlined in the document, *Responsibilities of Directors of Research Studies Involving Human Subjects.*  This document is available at http://unh.edu/research/irb-application-resources. Please read this document carefully before commencing your work involving human subjects.

Upon completion of your study, please complete the enclosed Exempt Study Final Report form and return it to this office along with a report of your findings.

If you have questions or concerns about your study or this approval, please feel free to contact me at 603-862-2003 or Julie.simpson@unh.edu.  Please refer to the IRB # above in all correspondence related to this study.  The IRB wishes you success with your research.

For the IRB,

Julie F. Simpson
Director

cc: File
,
    Honwad, Sameer

# University *of* New Hampshire

Research Integrity Services, Service Building
51 College Road, Durham, NH 03824-3585
Fax: 603-862-3564

13-Mar-2019

Hanley, Ian
Education, Morrill
62 College Rd
Durham, NH 03824

**IRB #:** 8047
**Study:** Evaluation of Adult Environmental Education Program Impact in Participant Identity
**Approval Date:** 13-Mar-2019

The Institutional Review Board for the Protection of Human Subjects in Research (IRB) has reviewed and approved the protocol for your study as Exempt as described in Title 45, Code of Federal Regulations (CFR), Part 46, Subsection 104(d).  Approval is granted to conduct your study as described in your protocol.

Researchers who conduct studies involving human subjects have responsibilities as outlined in the attached document, *Responsibilities of Directors of Research Studies Involving Human Subjects.* (This document is also available at http://unh.edu/research/irb-application-resources.) Please read this document carefully before commencing your work involving human subjects.

Note: IRB approval is separate from UNH Purchasing approval of any proposed methods of paying study participants.  Before making any payments to study participants, researchers should consult with their BSC or UNH Purchasing to ensure they are complying with institutional requirements. If such institutional requirements are not consistent with the confidentiality or anonymity assurances in the IRB-approved protocol and consent documents, the researcher may need to request a modification from the IRB.

Upon completion of your study, please complete the enclosed Exempt Study Final Report form and return it to this office along with a report of your findings.

If you have questions or concerns about your study or this approval, please feel free to contact Melissa McGee at 603-862-2005 or melissa.mcgee@unh.edu.  Please refer to the IRB # above in all correspondence related to this study.  The IRB wishes you success with your research.

For the IRB,

Julie F. Simpson
Director

cc: File
     Coppens, Andrew

**APPENDIX 2. INTERVIEW SCRIPT FOR MANUSCRIPT 1**

**Interview Script for Manuscript 1**

Interviewer: This is _____ (name of interviewer) at _____
(location) on _____ (date) at _____ (time). Before we begin can you state
your name?

Respondent: _____ (Responds with their name)

I: This interview is entirely voluntary and you may answer any or all questions you would like.
You may choose to end the interview at any time. You may also choose to have your data
removed from this study at any time in the future. Do you understand?

R:_____(If respondent responses affirmatively, continue interview. If they
decline, say "Thank you" and stop recording.)

Research-based Post-program Interview Questions
- Can you describe to me the steward ship efforts you are involved in?
  - How long have you been doing that?
  - Where there any time that your stewardship increased?
    - What was the reason for that?
- Can you think of a time that motivated you to begin your stewardship efforts?
- Is your environmental stewardship pointed at any particular topic or focus on a particular natural systems?
- Can you think of a time when you felt proud of an environment action you took?
  - Why were you proud of that?
  - How did that reflect who you were?
- A way you might think about yourself is through roles that you play, such as father/mother, sibling, etc. What kinds of roles do you think you have?
  - …in environmental management.
  - How important are these roles to you?
- Do you consider environmental stewardship part of your everyday life?
- How does the process of environmental stewardship apart your everyday life? Can you give an example?
  - What practices are the most impactful?
  - Why are they the most impactful?
- How does your participation in natural resource management impact your community participation? Does your stewardship efforts connect you to a community?
  - If so how?
  - Is this a special community or interest-based community?
  - How does your wildlife management practices positively or negatively impact your relationship with your community?
  - Do you feel like there is a community of environmental stewards?
  - How does your involvement impact your day-to-day relationships?
- Tell me about an environmental issue that is worrying you?
  - Why does that worry you?
  - Is it a particular group of people or type of people that are responsible for this?

- - In what ways do your values conflict with what they are doing?
- In one sentence/statement, how would you describe your philosophy about your connection with nature.
- In one sentence/statement, how would you describe your relationship with nature.

Program Evaluation Post-Program Question
- Did you enjoy the Covert program?
  - What aspect of the program was the most appealing?
  - What aspect of the program was the least appealing?
  - What part of the program helped you learn the most?
- Can you describe something that happened at the workshop that evoked a strong positive reaction out of you?
  - What was it about that that caused you to have that reaction?
  - ….negative reaction?
  - What was it about that that caused you to have that reaction?
- Did the Coverts program meet your expectations?
- How do you feel like the Coverts program curriculum aligned with your values of wildlife?
- How will you utilize what your learned when you return home?
- How will you utilize what you learned in your day-to-day life?

Thank you for participating in the interview.

**APPENDIX 3. IRB APPROVAL LETTER FOR MANUSCRIPT 3**

# University *of* New Hampshire

20-Nov-2020

Hanley, Ian
Education, Morrill
62 College Rd
Durham, NH 03824

**IRB #:** 8413
**Study:** Sociocultural Dimensions of Environmental Stewardship in New Hampshire
**Approval Date:** 20-Nov-2020

The Institutional Review Board for the Protection of Human Subjects in Research (IRB) has reviewed and approved the protocol for your study as Exempt as described in Title 45, Code of Federal Regulations (CFR), Part 46, Subsection 104(d).  Approval is granted to conduct your study as described in your protocol.

Researchers who conduct studies involving human subjects have responsibilities as outlined in the attached document, *Responsibilities of Directors of Research Studies Involving Human Subjects.*  (This document is also available at http://unh.edu/research/irb-application-resources.) Please read this document carefully before commencing your work involving human subjects.

Note: IRB approval is separate from UNH Purchasing approval of any proposed methods of paying study participants.  Before making any payments to study participants, researchers should consult with their BSC or UNH Purchasing to ensure they are complying with institutional requirements. If such institutional requirements are not consistent with the confidentiality or anonymity assurances in the IRB-approved protocol and consent documents, the researcher may need to request a modification from the IRB.

Upon completion of your study, please complete the enclosed Exempt Study Final Report form and return it to this office along with a report of your findings.

If you have questions or concerns about your study or this approval, please feel free to contact Melissa McGee at 603-862-2005 or melissa.mcgee@unh.edu.  Please refer to the IRB # above in all correspondence related to this study.  The IRB wishes you success with your research.

For the IRB,

Julie F. Simpson
Director

cc: File
    Coppens, Andrew

**APPENDIX 4. SURVEY AND INTERVIEW SCRIPT FOR MANUSCRIPT 3**

**Online Pre-Interview Survey**

Part 1: Demographic and Background information

Survey will collect participants' name, age, gender, zip code, household income, race, and profession.

What kinds of stewardship activities do they engage in? List of activities, select all that apply. (land management, habitat restorations, public outreach, add-in box).

What kinds of stewardship have they been involved in (enter stewardship history) and for how long?

Part 2: Social Generativity Scale

Please respond to the following questions on a scale including I strongly disagree, mostly disagree, somewhat disagree, neutral, somewhat agree, mostly agree, and strongly agree.
A.      I carry out activities in order to ensure a better world for future generations.
B.      I have a personal responsibility to improve the area in which I live.
C.      I give up part of my daily comforts to foster the development of next generations.
D.      I think that I am responsible for ensuring a state of well-being for future generations.
E.      I commit myself to do things that will survive even after I die.
F.      I help people to improve themselves.

Part 3: Loyola Generativity Scale

Please answer the following questions on a four-point scale of never/sometime/mostly/always applies to me.
A.      I try to pass along the knowledge through my experiences.
B.      I do not feel that other people need me.
C.      I think I would like the work of a teacher.
D.      I feel as though I have made a difference to many people.
E.      I do not volunteer to work for a charity.
F.      I have made and created things that have had an impact on other people.
G.      I try to be creative in mist things I do.
H.      I think that I will be remembered for a long time after I die.
I.      I believe that society cannot be responsible for providing food and shelter for all homeless people.
J.      Others would say that I have made unique contributions to society.
K.      If I were unable to have children of my own, I would like to adopt children.
L.      I have important skills that I try to teach others.
M.      I feel that I have done nothing that will survive after I die.
N.      In general, my actions do not have a positive effect on others.
O.      I feel as though I have done nothing of worth to contribute to others.
P.      I have made many commitments to many different kinds of people, groups, and activities in my life.

Q. Other people say that I am a very productive person.
R. I have a responsibility to improve the neighborhood in which I live.
S. People come to me for advice.
T. I feel as though my contributions will exist after I die.

**Interview Script**

Part 1: Brief introduction to the interviewer and research

This is _____ (name of interviewer) at _____ (location) on
_____ (date) at _____ (time), and I am interviewing _____
(participant's name). The purpose of this research is to collect stories of environmental
stewardship across New Hampshire. I am interested in understanding how people engage in
different forms of stewardship and how it impacts their life. I am pursuing this research to fulfill
dissertation requires of UNH's Doctorate Program in Education.
This interview is semi-scripted, so all participants will be asked the same prompts. I do however,
have flexibility to ask clarifying or follow-up questions that are specific to your responses. Once
I have completed the prompt, I will remain as silent as possible to allow you to respond. You can
respond with as much or as little detail as you think is necessary to convey your experience.
Please do not interpret my silence as lack of interest in your response. I'm intending to allow you
an un-interrupted opportunity to answer.

Part 2: Reaffirming of participant's consent to participate in the recorded interview

This interview is entirely voluntary and you may answer any or all questions you would like.
You may choose to end the interview at any time. We anticipate this interview will take between
60 and 120 minutes. As a reminder, this interview is being audio recorded. You may also choose
to have your data removed from this study at any time in the future. Do you understand?

Part 3: Personal background in stewardship

A. Tell me about what activities you are involved in/_____ (context)? (This initial question will
   depend on the context of their engagement with the environment)
       i.     How long have you been involved in each?
       ii.    How did you get involved in them?
B. What made you want to get involved in this/_____ (context)?
       i.     Was there ever a singular event that you can recall?
       ii.    What happened?
       iii.   What influences were involved?
       iv.    What did you get from the experience?
       v.     How did it influence your views on the environment?
C. Why is this so important to you?
D. How do you know you are doing a good job?
E. Were you involved in environmental conservation/management as a youth? Volunteering?
Outdoor recreation?

Part 4: Narrative prompts

A. Peak Experience

Can you tell me about a time when you were really enjoying your ____ (context)?

      i.      What happened? [Interviewer should make sure that participant answers each aspect of the prompt]

      ii.     Where it happened?

      iii.    Who was involved?

      iv.    What did you get out of that?

      v.     What you were thinking or feeling?

      vi.    What impact did this have on you?

B. Nadir Experience

Have you ever felt bad about your work here? (Despair, disillusionment, or guilt)

      i.      What happened?

      ii.     When?

      iii.    Who was involved?

      iv.    What did you do?

      v.     What were you feeling and thinking?

      vi.    What impact has the event had on you?

      vii.   Did you gain any motivation from the experience?

C. Turning Point

Was there ever a "turning point" for you? Something that lead to a major change in your _____ (context)?

      i.      What caused this turning point?

      ii.     Why do you think it happened?

      iii.    What impact did it have on you?

      iv.    Are you a better person because of it? Why?

D. Crisis

Tell me about a time when you had a to make a major decision regarding _____ (context).

      i.      What was the crisis about?

      ii.     What were the pros and cons of each?

      iii.    What did you decide and why?

      iv.    What were the results/impacts of the decision?

      v.     Do you have any regrets from making that decision?

E. Community Interaction

Who do you interact with others while doing _____ (context)? Tell me about them?

      i.      Are they a positive influence?

      ii.     Does anyone help support your efforts?

      iii.    Are there negative influences?

      iv.    Please describe a memory of when your stewardship activities created a positive impact on your community participation. Community can be defined as however you see your community. Please include what happened, why it happened, who was involved, and what made it such as positive experience.

Part 7: Reflections and meaning-making

A. Influences on the Story

      i.       Positive- Looking back over your _____ (context), what has been the biggest positive impact on your activity? This could be a single person, a group or people, or an organization. Please describe how they have impacted your stewardship.

      ii.     Tell me about someone/organization who you think is a great example of _____ (context). What are they doing? What about what they are doing is so inspiring to you? How do take what they are doing and use it in your context?

      iii.    Negative- Please identify the biggest negative impact on your ____ (context)? Please describe why it has been such a negative impact on you.

      iv:     Tell me about someone/organization that is doing a bad job? What is it about what they are doing that makes it bad? What could they do to improve?

**B. Alterative Futures**

      i.       Positive Futures- Please describe a positive future of your _____ (context). Please be realistic, but include goals that you would like to accomplish. In other words, what would you see as your ideal continuation of your _____ (context)?

      ii.     Negative Futures- Now please describe a negative future, one that you fear could happen but that you hope doesn't. Again, try to be realistic.

**C. Personal, Master, and Alternative Influences**

      i.       Where do your influences and ideas for _____ (context) from? Can you tell me where you get ideas and information from? This can be various people, groups, websites, magazines, etc.

      ii.     Do you believe these are common influences?

      ii.     Are their different types of (context)? If so, what types of ____ exist?

**D. Personal Ideology**

      i:      Are there ways that someone may be critical about your stewardship activities?

      ii:     Tell me about an environmental issue that is worrying you? Why is it worrying you, what can/have you done about it? Are they particular persons/groups involved in this issue? Is this issue based on beliefs about the environment, how?

      iii.    Do you believe that environmental stewardship/conservation is a personal responsibility or the role of government and public policy? Why?

      iv:     Do you believe that _____ (context) is part of your everyday life? How so? What would make it more or less part of your everyday life?

**E. Stewardship Theme**

      If NH Public Radio was going to do a segment about your _____ (context), what would it be about?

**F. Other**

      What else should I know to understand your _____ (context)?