An Assessment of Relationship Quality Between Forest Service Land Managers and Volunteers

Jessica H. Evett
University of Denver

Follow this and additional works at: https://digitalcommons.du.edu/etd

Part of the Mass Communication Commons, and the Recreation, Parks and Tourism Administration Commons

Recommended Citation
Evett, Jessica H., "An Assessment of Relationship Quality Between Forest Service Land Managers and Volunteers" (2013). Electronic Theses and Dissertations. 188. https://digitalcommons.du.edu/etd/188

This Thesis is brought to you for free and open access by the Graduate Studies at Digital Commons @ DU. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Digital Commons @ DU. For more information, please contact jennifer.cox@du.edu,dig-commons@du.edu.
An Assessment of Relationship Quality Between Forest Service Land Managers and Volunteers

Abstract
The relationship between Forest Service land managers and volunteers was studied quantitatively utilizing theoretical principles of relationship management theory and efficacy. 39 Forest Service employees completed quantitative surveys designed to compare within sample responses related to four volunteer partner types. Results showed measurable differences between mean scores for relationship quality and efficacy levels between partnership types selected as those land managers most liked and least liked working with. Partial support was found for the hypothesis stating that levels of relationship quality would predict willingness to recruit and work with volunteers, and partial support was also found for the hypothesis stating that levels of self-efficacy and response efficacy would predict willingness to recruit and work with volunteers. Although key limitations exist, this first attempt at a quantitative evaluation of this relationship between a government agency and its public reveals several conclusions relevant to the Forest Service and volunteer partnerships.

Document Type
Thesis

Degree Name
M.A.

Department
Mass Communications

First Advisor
Renee Botta, Ph.D.

Second Advisor
Lynn S. Clark

Third Advisor
Margaret Thompson

Keywords
Efficacy, Forest service, Public relations, Relationship management theory, Volunteerism

Subject Categories
Communication | Mass Communication | Recreation, Parks and Tourism Administration

Publication Statement
Copyright is held by the author. User is responsible for all copyright compliance.

This thesis is available at Digital Commons @ DU: https://digitalcommons.du.edu/etd/188
AN ASSESSMENT OF RELATIONSHIP QUALITY BETWEEN
FOREST SERVICE LAND MANAGERS AND VOLUNTEERS

A Thesis
Presented to the Faculty of Arts and Humanities
University of Denver

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
Jessica H. Evett
March 2013
Advisor: Dr. Renee A. Botta
Abstract

The relationship between Forest Service land managers and volunteers was studied quantitatively utilizing theoretical principles of relationship management theory and efficacy. 39 Forest Service employees completed quantitative surveys designed to compare within sample responses related to four volunteer partner types. Results showed measurable differences between mean scores for relationship quality and efficacy levels between partnership types selected as those land managers most liked and least liked working with. Partial support was found for the hypothesis stating that levels of relationship quality would predict willingness to recruit and work with volunteers, and partial support was also found for the hypothesis stating that levels of self-efficacy and response efficacy would predict willingness to recruit and work with volunteers.

Although key limitations exist, this first attempt at a quantitative evaluation of this relationship between a government agency and its public reveals several conclusions relevant to the Forest Service and volunteer partnerships.
Acknowledgements

I would like to express the deepest appreciation to my committee chair and advisor, Dr. Renee A. Botta, who remained a supporter of this project despite multiple delays and challenges on the way to its completion. I also could not have completed this thesis without the commitment of Dr. Lynn Clark and Dr. Margaret Thompson. In addition, I owe a sincere thank you to Dr. Carol Johnson for serving as the outside chair for my committee. I am deeply appreciative of their patience and professionalism throughout the entire process. I would also like to extend a sincere thanks to employees of the USDA Forest Service for their assistance in distributing my survey as well as for taking the time to complete it.
# Table of Contents

Chapter One: Introduction ........................................................................................................ 1

Chapter Two: Review of the Literature .................................................................................. 12
  Relationship Management Principles ............................................................................ 12
  Measuring Relationship Quality ..................................................................................... 13
  Introduction to Forest Service and Similar Federal Agencies ........................................ 17
  Forest Service Structure ................................................................................................. 18
  The Forest Service and the Public – The Need for Engagement .................................... 21
  Volunteerism ................................................................................................................... 23
  Managing Public Lands in Partnership with Volunteers .................................................. 25
  Volunteering, Collaboration and Partnerships ................................................................. 27
  Defining Types of Volunteer Partnerships ...................................................................... 31
  Challenges to Effective Partnerships .............................................................................. 35
  Relationship Management Theory and Collaborative Partnerships.............................. 38
  Self-Efficacy and Response Efficacy .............................................................................. 46
  Efficacy in Managing Volunteer Relationships ............................................................. 48
  Relationship Quality and Efficacy Within the Forest Service: Next Steps ......................... 50

Chapter Three: Method .......................................................................................................... 53
  Sampling .......................................................................................................................... 53
  Procedures ....................................................................................................................... 58
    Survey overview .......................................................................................................... 58
    E-mails ......................................................................................................................... 60
    Partnership types ......................................................................................................... 61
    Measurement ................................................................................................................. 62
    Reliability analysis ...................................................................................................... 69

Chapter Four: Findings .......................................................................................................... 71
  Comparing Different Types of Volunteers/Volunteer Programs ..................................... 71
  Relationship Quality Measures as a Predictor of Willingness to Proactively Recruit and Work with Volunteers ................................................................. 73
    Relationship quality measures related to willingness to proactively recruit volunteers – like. ................................................................. 74
    Relationship quality measures related to willingness to proactively recruit volunteers – dislike ................................................................. 75
    Relationship quality measures related to willingness to work with volunteers – like. ........................................................................... 76
    Relationship quality measures related to willingness to work with volunteers – dislike ........................................................................... 77
    Self-efficacy measures related to willingness to proactively recruit volunteers – like .................................................................................. 80
    Self-efficacy measures related to willingness to proactively recruit volunteers – dislike .................................................................................. 80
Response efficacy measures related to willingness to proactively recruit volunteers – like................................................................. 81
Response efficacy measures related to willingness to proactively recruit volunteers – dislike.......................................................... 82
Self-efficacy measures related to willingness to work with volunteers – like................................................................. 83
Self-efficacy measures related to willingness to work with volunteers – dislike.......................................................... 84
Response efficacy measures related to willingness to work with volunteers – like................................................................. 85
Response efficacy measures related to willingness to work with volunteers – dislike.......................................................... 86

Chapter Five: Discussion .................................................................................................................................................. 88
Differences Between “Like” and “Dislike” Groups ........................................................... 88
Exchange versus communal relationship: A continuum.......................................................... 89
Self-efficacy and response efficacy between organizational types.................................................. 91
Types of volunteer partnerships......................................................................................... 92
Relationship Quality’s Predictive Value for Proactive Behaviors......................................... 93
Exchange relationship and communal relationship.......................................................... 95
Predictive Value of Self-Efficacy and Response Efficacy on Proactive Behaviors ................................................................. 97
Discussion of self-efficacy................................................................................................. 97
Response efficacy as predictor......................................................................................... 99

Chapter Six: Conclusions........................................................................................................................................ 101
Methods: Limitations and Recommendations ........................................................................ 101
Lessons Learned and Value of Research........................................................................... 102

References........................................................................................................................................ 107
Appendix A........................................................................................................................................ 114
Appendix B........................................................................................................................................ 115
Appendix C........................................................................................................................................ 117
Appendix D........................................................................................................................................ 119
Appendix E........................................................................................................................................ 121
Appendix F........................................................................................................................................ 123
List of Tables

Table 1 ....................................................................................................................... 72
Table 2 ....................................................................................................................... 75
Table 3 ....................................................................................................................... 76
Table 4 ....................................................................................................................... 77
Table 5 ....................................................................................................................... 79
Table 6 ....................................................................................................................... 80
Table 7 ....................................................................................................................... 81
Table 8 ....................................................................................................................... 82
Table 9 ....................................................................................................................... 83
Table 10 ..................................................................................................................... 84
Table 11 ..................................................................................................................... 85
Table 12 ..................................................................................................................... 86
Table 13 ..................................................................................................................... 87
Chapter One: Introduction

Public lands managed by the United States federal government comprise around 30 percent of the country’s total land mass and represent a substantial natural and cultural resource. While public lands were once largely viewed as a resource to be exploited for financial gain, our public lands and the bureaucratic systems that oversee them have increasingly become the focus of debates related to conservation and environmental concerns. Since public perception is reflected in management practices, controversy surrounding land management is inevitable as different groups weigh in on how to best manage public lands. These controversies often surround issues such as federally designated roadless or wilderness areas, in which those who favor roads being built for purposes such as timber extraction face off against those who believe in the importance of protecting large tracts of habitat from human development. Issues such as these reflect a significant shift from perceptions more commonly held in earlier parts of the 20th century. While the idea of preserving large tracts of public lands simply to preserve the impression of land unspoiled by human development would have once run counter to the desire for expansion, officially designated roadless areas were seen as a necessary response to a growing perception that there was a human need for wild areas untouched by human settlement. This is only one example of how different human values placed on public lands are reflected in management practices. Given that social processes drive
federal land management decisions, the study of these processes is critical to ensuring that the various human influences on public lands are managed in a sustainable way.

Established in 1905 as an agency of the United States Department of Agriculture, the United States Forest Service currently oversees 193,000,000 acres of public lands (USDA, Forest Service, About Us). While it is ultimately responsible for making final decisions related to the management of the lands under its jurisdiction, the Forest Service must also weigh the needs of the public with the various considerations related to preserving the natural resources of forests and grasslands for future generations. Since many management decisions carried out by the Forest Service go through lengthy processes of public comment and input prior to their enactment, citizens of the United States have a certain amount of influence on issues such as resource extraction, recreation management, wildfire management, and habitat protection. Given the inherent complexities of public opinion, science, legislation, and financing involved in management decisions, the Forest Service faces a tremendous challenge in managing the millions of acres under its jurisdiction. While not all of the agency’s decisions are met with controversy, issues such as restricting logging practices in Oregon and Washington forests to protect endangered spotted owl habitat can turn into fractious debates over the importance of protecting habitat versus the economic impact on local communities dependent on the timber industry. As a government agency charged with balancing the influence of various interest groups in its management plans and policies, the Forest Service has a vested interest in examining its interactions with its diverse publics.

While a certain amount of controversy and debate is inevitable in this relationship, there are interactions between the Forest Service and the public that are
viewed within a more positive and problem-solving framework. The concept of collaborative conservation, in which involved citizens around the United States devote their time and energy on projects that benefit public lands, has attracted attention as a social process that directly influences ecosystem health (E.g., Davenport, Leahy, Anderson, & Jakes, 2006; Frentz, Voth, Burns, & Sperry, 2000; Payton, Fulton, & Anderson, 2005; Schueller, Yaffee, Higgs, Mogelgaard, & DeMattia, 2006; Wollondeck & Yaffee, 2001; Weber, 2000). Collaborative partnerships have been formed to address a variety of concerns ranging from watershed protection and invasive weeds (Schueller, Yaffee, Higgs, Mogelgaard, & DeMattia, 2006), community involvement with official forest planning efforts (Frentz, Voth, Burns, & Sperry 2000), and civic action tied to specific places such as wildlife refuges (Payton, Fulton, & Anderson, 2005). In a time of numerous challenges facing the Forest Service, collaborative efforts are viewed by the agency and partners as a positive capacity-building development. On the official National Partnership Office website, Forest Service Chief Dale Bosworth is quoted as saying “The success or failure of conservation today depends on building partnerships for community-based stewardship.” (USDA, Forest Service, Partnerships Office, About Us). Partnerships address climate change, wildland fire risk, engaging youth in the outdoors, and other conservation issues that are highly relevant in a world faced with pressures of overpopulation, habitat fragmentation, and other environmental concerns. Partnerships are one of the most effective means of maintaining a connection between our citizens and our public lands, helping ensure that future generations will continue to value these critical resources.
Collaborative efforts with local nonprofit organizations with appropriate missions can provide skilled volunteer labor on natural resource projects such as watershed restoration or trail maintenance. These projects are often made necessary by negative human impacts such as excess sedimentation released into streams by old roads or increased numbers of hikers on a particular path. The resources needed to operate large volunteer projects are often not available to Forest Service employees, so access to organizations willing to provide these services to the agency is an effective way of engaging the public and bolstering existing efforts to get work accomplished on the ground. Paying attention to the collaborative process offers a way of maximizing that input and improving the relationship between the Forest Service and those who want to take an active role in management decisions on the public lands overseen by the Forest Service.

While there are numerous types of collaborative efforts taking place on National Forest land, this study is primarily concerned with volunteer efforts related to trail work and restoration projects aimed at mitigating impacts of recreational activities on public lands. These types of collaborative efforts are geared toward fostering an ethic of active stewardship among the population, reducing impacts on federal lands by encouraging individuals and groups outside of government agencies to contribute their efforts to aid in long-term sustainability. It is a form of volunteerism in which those who make use of a public resource contribute directly to on-the-ground efforts aimed at “giving back” to that resource. In addition, individual volunteers and organizations that provide groups of volunteers are viewed as a way of leveraging public funding with private dollars and compensating for the loss of funding to relevant federal programs, particularly those
related to recreation management. Given its potential for aiding in the long-term sustainability of this country’s natural resources, the relationship between the Forest Service and those citizens who engage in collaborative efforts with the agency is worth closely examining in order to maximize volunteer efforts on federal lands.

While collaborative volunteer efforts offer a tremendous opportunity to supplement agency resources, the relationship between the Forest Service and its volunteers is subject to pressures from the time and money involved in recruiting, training, and coordinating volunteers (Toolbox for the Great Outdoors, 2006). Land managers, defined here as the Forest Service employees who are responsible for overseeing aspects of recreation management duties such as trail maintenance programs, are faced with coordinating volunteer efforts at a time when their allotted budgets and manpower are considered inadequate to address increasing demands on public lands (Toolbox for the Great Outdoors, 2006). Currently, recreational visits to all federal lands number around two billion annually at a time when the traditional congressional appropriations process has resulted in budgetary shortfalls and a maintenance backlog estimated to be in the billions of dollars (Toolbox for the Great Outdoors, 2006). While collaborative conservation efforts aimed at addressing some of the shortfalls caused by inadequate federal budgets are a way of ameliorating the impacts of increased visitor numbers by encouraging stewardship-based volunteer projects, these types of relationships require a great deal of strategic planning, time, and resources to coordinate.

Having personal experiences both as a Forest Service employee and a volunteer provided me with firsthand knowledge of the effort involved to make these collaborative efforts successful, and one anecdote in particular led to the initial impetus for this
research project. During my third summer as a wilderness ranger for the Forest Service, a job that involved maintaining recreational trails in addition to providing public outreach and education in the backcountry, I was assigned a weeklong project coordinating the efforts of a “volunteer vacation” group on a trail improvement project. The group was tasked with creating new sections of mountain bike trail along a creek, as well as installing several culverts and bridge structures. The individual volunteers were enthusiastic about contributing their volunteer time in exchange for the opportunity to experience a new place and “give back” to public lands, and the majority of them had volunteered on these types of projects for multiple seasons.

Having worked for the Forest Service and other federal agencies for over a decade in a similar capacity, my immediate supervisor had worked with many different volunteer groups in the past and didn’t feel that they were the best use of limited agency resources. This particular project had only occurred because a local woman involved with the nonprofit organization that coordinates dozens of similar “volunteer vacation” projects every year had sought out a project with the ranger district, and my supervisor was clear about the fact that this was set up purely out of the agency’s obligation to provide ways for members of the public to volunteer. My supervisor was apologetic about giving me the assignment, was clearly annoyed at dedicating staff resources to the project, and selected a project that was easily accessible to a developed campsite in order to avoid the risk of having the group backpack into a remote location. Although she was polite to the volunteers, her attitude in private was skeptical to the point of being dismissive.

Prior to working as a Forest Service employee, I had spent several years working for conservation corps and organizations that performed similar work with volunteers and
had seen good results firsthand, so my opinion about the potential for success with this project was generally more positive. Throughout the week, the individual members of the group worked hard and clearly took pride in completing work up to technical standards in order to provide value. While a Forest Service trail crew may have been a more efficient way of completing the work since the volunteers needed a great deal of technical direction, the value in generating a deeper connection between the public and the federal agency responsible for management of these lands was evident in my interactions with the group throughout the week. Like many of the other volunteer outdoor stewardship projects I’d participated in, it was clear that while relationships between members of the public and federal agencies in general can be bureaucratic and unpleasant, collaboration on this small scale was simply about getting good things done on the ground.

At the end of the week, my supervisor stated that she was surprised at the quality and amount of work contributed by the group. Although she was positive about the project’s outcome, it was clear that the experience did not drastically shift her opinion about utilizing these groups to complete important work. Because the members of this particular group would be volunteering at a different place the following year, there was no guarantee that the next group of volunteers would be as effective. Even though the volunteer project I oversaw had a positive result, it was clear that my supervisor was unlikely to proactively seek out another volunteer vacation group. Other Forest Service employees that I’d worked with in the past had been significantly more positive about volunteers, viewing them as an essential part of their work plan rather than something they were required to oversee because it was expected. Since the Forest Service has put
considerable effort into promoting volunteerism within the agency, my supervisor’s reluctance to dedicate resources to volunteer partnerships struck me as an attitude worthy of further examination as part of my graduate studies.

The difference I observed between my supervisor’s negative opinion and the more positive ones I’d observed in others made me wonder what specific factors might influence the perceptions held by US Forest Service employees charged with utilizing volunteers. Viewed over the course of a single week, the volunteer project I coordinated appeared to be a straightforward “win-win” scenario and a benefit to the agency and public lands. However, it was clear that my supervisor did not view the utilization of volunteers positively as a long-term, beneficial relationship since she had worked with other similar groups that had not performed as well. After this single experience, I became interested in examining the factors behind why one land manager might view volunteers positively while another might not. Since I observed my supervisor’s reluctance to proactively seek out volunteers or find new ways to engage them, I also wondered if certain factors would have a measurable impact on positive behaviors such as willingness to recruit and work with volunteers. My initial scan of the academic research surrounding public lands and volunteerism revealed an opportunity to view these questions through the lens of public relations theory and practice, with the ultimate goal of attempting a quantitative evaluation of the types of perceptions and attitudes that can help inform the ongoing process of engaging people with the stewardship of public lands.

Public relations theory informs practice by examining how relationships are fostered between various stakeholders, and exploring how different constituents perceive costs and benefits of those relationships. The ultimate goal of this project is to develop a means
of evaluating the perceptions and attitudes of Forest Service land managers toward volunteers and to quantify patterns as a means of informing the ongoing process of engaging people with the stewardship of public lands.

The need to examine the attitudes of Forest Service land managers toward different types of volunteer groups is crucial because: 1) innovative community-based solutions to reducing negative impacts on the land must develop in conjunction with increased recreation and usage pressures 2) volunteers and nonprofit organizations constitute an active public that is engaged with stewardship issues and is willing to act on their shared interest in conservation, making this an ideal relationship to explore through the application of relationship management and public relations principles; 3) the level of organization in different types of volunteer groups may have unexamined effects on the relationship between those groups and the Forest Service; 4) the relationship between the Forest Service and external publics has been largely examined from the public’s perspective, but a quantitative evaluation of attitudes from the agency’s perspective may be helpful for volunteer organizations looking for ways to improve their role in maintaining a successful relationship; 5) the Forest Service is in need of quantitative evaluation tools concerning volunteer efforts, and regularly assessing the quality of the relationship offers a baseline measurement to evaluate the quality of collaborative efforts over time; and 6) the methods employed within this study will offer a practical test of public relations theory that may be applicable to other areas of interest.

Relationship management theory will be applied in this study to help understand the relationship between the Forest Service and its volunteers. Relationship management is a public relations theory that serves as a framework for measuring outcomes of
relationships based on attitudes and their impact on actual behaviors, and operates under the principle that the publics in question are motivated by mutual benefits (E.g. Bruning, Langenhop, and Green, 2004; Bruning, DeMiglio, & Embry, 2006; Hon & Grunig, 1999; Kent & Taylor, 2002; Ledingham, 2001; Ledingham, 2003; Taylor & Doerfel, 2005). In their examination of dialogue between organizations and their publics as it applies to relationship management, Kent and Taylor (2002, p. 25) define mutuality as “an acknowledgment that organizations and publics are inextricably tied together.” Kent and Taylor (2002, p.25) also state that “A collaborative orientation is one of the central features of mutuality.” In his examination of relationship management principles in reference to activist groups, Grunig (2000) looks to collaboration as the best possible central value for the profession since public relations has the ability to bring in collaborative elements to organizations and foster cooperative, communal relationships that benefit society. The relationship between the Forest Service and citizens willing to volunteer on public lands may be a particularly fitting example of mutuality and a collaborative orientation, and thus a good application for relationship management theory, since land managers can no longer prevent resource damage without incorporating private citizens into their conservation efforts, and private citizens need the guidance and permission of land managers to complete many volunteer efforts.

An application of relationship management principles to the collaborative relationship between Forest Service land managers and volunteers will enable me to examine whether attitudes tied to the relationship will have measurable effects on behaviors related to using volunteers on federal lands. For example, will a volunteer project characterized by poor communication, a failure to meet expected project
standards, or other potential difficulties affect a land manager’s willingness to proactively seek out volunteers? If a volunteer group or an individual within that group is seen as difficult to work with, what are characteristics of that relationship that might negatively impact the attitudes toward volunteers in general? Does the presence of volunteer organizations that have a strong level of organization and communication improve overall attitudes among land managers toward volunteers? Do land managers feel that agency culture and funding supports efforts to engage more volunteers? Overall, it is unknown to what extent relationship quality between federal agencies and the public can be measured, or to what extent those measurements can be utilized to improve the relationship, as would be suggested by relationship management theory. In addition to applying this framework to better understand these relationships, another purpose of this study is to clarify the distinction between attitudes toward volunteer groups and the feeling that working with volunteers is feasible given the inherent challenges posed by the structure of the agency. Feasibility may be better understood conceptually as efficacy. Thus, the overarching questions as suggested by relationship management theory are: 1) What is the Forest Service’s perception of the quality of the relationship between the Forest Service and volunteer organizations; 2) What role does efficacy play in understanding the association between relationship quality and proactive tactics; and 3) What factors of the relationship between the Forest Service and volunteer organizations are related to increased proactive tactics in building and maintaining the relationship?
Chapter Two: Review of the Literature

Relationship Management Principles

Relationship management theory proposes that the central, organizing principle of public relations should be the creation and long-term maintenance of relationships between organizations and publics (Grunig, 2006; Hon & Grunig, 1999; Ledingham, 2006). The relationship quality is measured by perceptions and attitudes of either the public toward an organization or an organization toward its public (Hon & Grunig, 1999; Ledingham, 2001). Brief examples of attitudes that have been considered as important facets of relationship quality include levels of trust (Hon & Grunig, 1999; Morgan & Hunt, 1994), the presence of mutual benefit (Bruning, DeMiglio, & Embry, 2004), and the level of personal commitment an individual has to a relationship with an organization (Bruning, Castle, & Schrepfer, 2004). Attitudes such as trust and commitment can be conceptualized as variables in a number of ways given the subjective nature of these terms and the specific dimensions of trust that may differ between various types of organizations and their publics. Ledingham (2006) points out that as a theory, relationship management has proven to yield consistent outcomes in different contexts, results in measurable outcomes, and allows for the measurement of longitudinal changes within the organization-public relationship (OPR) over time. Given the inherent variability in OPRs, there is general agreement in the field that relationship management is a useful perspective that can help devise measurements for program accountability for
a number of different organizational types (Ledingham, 2001). Ledingham (2001) also maintains that public relations scholars agree that relationship quality measurements should provide predictive indicators for how organizations and publics will behave in a given situation.

Taylor and Doerfel (2005) state that effective relationship management between government entities and outside publics enables each group to gain access to the social capital and financial resources of the other groups, communicate more effectively with media outlets, and improve government/constituent relations. The extent to which the preceding outcomes will materialize in collaborative efforts hinges largely on the organization’s capacity for strategic management and communication. Grunig (2000) points out that using OPRs as the central unit of study in public relations assumes that both organization and its public will engage in communication with each other. Kent and Taylor’s (2002) examination of the dialogic process within a relational model of public relations is important in this context because it assumes that communication is a two-way exchange of ideas. Given the two-way exchange of ideas and resources inherent in a relationship between the Forest Service and members of the public who contribute time and resources as volunteers, these assumptions are met and the theory serves as an appropriate framework to measure the quality of the relationship.

**Measuring Relationship Quality**

Hon and Grunig (1999) suggest that relationship quality is best understood by examining perceptions about the extent of *control mutuality, trust, commitment,* and *satisfaction* within the relationship and determining the extent to which a relationship can be considered an *exchange relationship* versus a *communal relationship*. These variables
are rooted in relationship management principles and function as the foundation for Hon and Grunig’s (1999) measurement scale for relationship quality. This scale is intended to measure long-term outcomes between an organization and its publics rather than the short-term outcomes of behavioral or attitude change frequently measured as part of assessing whether or not a particular public relations campaign has been effective (Hon and Grunig, 1999).

Within this scale, control mutuality is conceptualized as the extent to which organizations and publics are satisfied with the level of power or influence they have within a relationship (Botta, 2006; Hon & Grunig, 1999). The level of power or influence between an organization may not be equal in all instances, but the scale measures specific instances in which mutual benefit or two-way communication is expected. Trust is the second dimension of Hon and Grunig’s (1999) relationship measurement scale and is defined as the level of confidence an organization or public holds toward the other party in the relationship. This level of confidence is reflected in part by a party’s willingness to open up to the other member of the relationship (Hon & Grunig, 1999). Hon and Grunig (1999) break trust into three dimensions of integrity, dependability, and competence. These three qualities relate to perceptions of fairness, that an organization or public will do what it says it will do, and the measure of perceptions related to the abilities of a public or organization (Hon & Grunig, 1999).

The third dimension of relationship quality is satisfaction, which is defined as the reinforcement of positive expectations that lead to positive attitudes towards the other party (Hon & Grunig, 1999). When the benefits outweigh the costs, an organization or public is more likely to rate the relationship positively (Hon & Grunig, 1999). Hon and
Grunig (1999) define commitment, the fourth dimension in their measurement scale, in terms of the level of energy required to sustain and improve the relationship and the extent to which a party believes that the relationship is worth the effort. Hon and Grunig (1999) break commitment down into two dimensions: continuance commitment, in which the commitment relates to a specific line of action, and affective commitment, which relates to the emotional orientation surrounding a particular relationship. Morgan and Hunt (1994) point out that commitment and trust lead to long-term relationships through behaviors such as efficiency, productivity, and effectiveness, and observe that some strategic alliances are failures because not enough attention is paid to these factors. Morgan and Hunt (1994) found that levels of commitment and trust had direct effects on the willingness to cooperate and proactively cultivate actions beneficial to both organizations. According to Jahansoozi, (2006, p.69) “In relationships where there is a high degree of trust present, parties are more likely to make a commitment to the relationship and invest appropriate resources to maintaining and developing it further.”

In addition to these different relationship dimensions, Hon and Grunig (1999) also developed measurement tools for determining the degree to which relationships are exchange or communal. An exchange relationship is a concept with ties to marketing principles involving the exchange of goods and services and involves the perceived level of debts incurred by the party who receives the benefits of an exchange (Hon & Grunig, 1999). An example of an exchange relationship would be one in which a customer pays money for the delivery of a specific, short-term service without expecting anything other than that service in return. Conversely, the company providing the service does not expect anything other than a fee. In their discussion of their measurement scale, Hon and
Grunig (1999) cite the work of psychologists Clark & Mills, who point out that while relationships between organizations and their publics will likely retain elements of exchange even over many years, a long-term relationship takes on elements that go beyond the simple exchange of values and benefits. Hon and Grunig (1999) state that exchange relationships do not foster the same levels of control mutuality, trust, satisfaction, and commitment found in long-term relationships between organizations and publics in which benefits are perceived as mutual and consistent over time. Hon and Grunig use *communal relationship* as the sixth and final dimension in the relationship quality scale. When describing communal relationships, Hon and Grunig (1999, p. 3) write that “In a communal relationship, both parties provide benefits to the other because they are concerned for the welfare of the other – even when they get nothing in return.”

Hon and Grunig (1999) point to the ability to cultivate stable, communal relationships as one of the greatest values offered by public relations since they have benefits for the exchanges that drive business and reduce the likelihood of negative impacts on business from disgruntled stakeholders.

Hon and Grunig’s (1999) concept of relationship quality recognizes that behavior forms the basis of relationships between an organization and its publics, and that within each organization or group of stakeholders, multiple parties may be involved. In the instance of the Forest Service, symmetrical communication and greater equilibrium between the agency and its partners are key components of the successful management of public lands given the access provided to the public; these lands are a shared resource, and collaboration encourages open dialogue about the appropriate use of those lands as well as the opportunity to benefit the resource through direct action of citizens with coordination provided by the agency.
Introduction to Forest Service and Similar Federal Agencies

The Forest Service was established as a part of the Department of Agriculture by Congress in 1905 in order to oversee the extraction of timber and water resources on non-private land for the benefit of the American public (USDA, Forest Service, About Us). The Forest Service currently oversees 140 million acres of public land in this country, a figure which represents an area approximately the size of Texas (USDA, Forest Service, About Us). While there was a heavy emphasis on the extraction of natural resources on public lands in the agency’s early history, the Forest Service has adapted over the years to accommodate public pressure related to the preservation of wildlife and the increasing popularity of recreational activities such as hiking. These types of shifts reflect the changing attitudes of the American public toward conservation and an increasing interest in the utilization of wild lands as a means of escaping the pressures of daily life rather than a resource strictly suited only for extraction.

The Forest Service is one of the three primary federal agencies charged with the oversight of public lands. To avoid confusion between the Forest Service and the other two primary federal public lands agencies, brief descriptions of the Bureau of Land Management (BLM) and National Park Service are offered here. Both of the latter agencies are contained within the Department of the Interior as opposed to the Department of Agriculture. The BLM was created in 1946 when the General Land Office and the U.S. Grazing Service were consolidated into a single department responsible for the oversight of mineral and grazing rights on 258 million acres of public lands (United States Department of the Interior, Bureau of Land Management, About the BLM). While it is primarily associated with laws governing grazing and mineral rights, the BLM shares
a similar purpose with the Forest Service in that it has a legislative mandate to promote multiple uses such as mining, grazing, and recreation on the millions of acres of lands it oversees (United States Department of the Interior, Bureau of Land Management, BLM and Its Predecessors). Created in 1916, the National Park Service oversees other lands that were designated largely for their natural and cultural heritage and works to ensure that these lands are set aside for their long-term preservation as well as the enjoyment of the people rather than a multiple use mandate (United States Department of the Interior, National Park Service, National Park Service History). These lands are contained in various units including National Parks and National Monuments.

While this study may prove useful in relation to BLM and Park Service volunteer partnerships, the differences between policies and laws governing each agency are numerous. There may be some overlap and similarities in terms of issues facing employees in all three agencies who work with volunteers, but to provide consistency in defining the problem at hand, this study will refer only to the specific aspects facing Forest Service employees.

**Forest Service Structure**

Currently, the Forest Service employs over 30,000 people within its numerous departments, which are contained within three main branches: the National Forest System, State and Private Forestry, and Research (USDA, Forest Service, Partnership Guide, 2005). An organizational chart is included in Appendix A. For the purpose of this study, the State and Private Forestry branch is largely irrelevant whereas the processes specific to the National Forest System and the Research branches have the most impact on volunteer partnerships. Forest Service policy is determined by the
national office in Washington, D.C., which works with the President’s Office to determine budgets for each branch and report back to Congress (USDA, Partnership Guide, 2005). For example, the proposed Forest Service budget from the President’s Office for FY2008 totaled $4.13 billion dollars (USDA Forest Service, Budget). This proposed number represented a $64.54 million decrease from FY2007, a decrease that was officially ascribed to “our Nation’s priorities of fighting the War on Terror and reducing the Federal deficit while it maintains funding levels for priority agency programs” (USDA Forest Service, Budget). The effect of budget reductions is a large component of the agency/volunteer relationship since it will have impacts on the ability of employees to engage with volunteers.

The employees within the National Forest System represent the most visible face of the Forest Service within local communities and are segmented into a reasonably simple hierarchy. The 140 million acres under Forest Service oversight are managed under the nine geographical regions shown in Appendix A. Each Region has an official headquarters that determines policies relevant to that Region and allocates funds to the next smallest system of units, the National Forests and Grasslands. There are 155 National Forests and 22 Grasslands of widely varying acreages located throughout the United States, each of which has a Forest Supervisor who allocates funds to each National Forest and coordinates the activities of over 600 ranger districts that comprise the final division of units within the National Forest System (USDA, Forest Service, About Us). The ranger district offices are often the recognizable “face” of the Forest Service since they are usually located in communities within close proximity to the lands they oversee. Each of these districts has a District Ranger responsible for overseeing the
various operations of that particular unit such as wildland firefighting, forestry, and recreation. When visitors to public lands seek information or have contact with employees in the field, they are generally in contact with an employee of the local Forest Service ranger district.

For the purpose of this study, the attitudes of employees who work with volunteers at the ranger district level will be the primary focus given their frequency of contact with volunteers. This level of administration faces unique challenges that are deserving of further examination in order to achieve further success on the ground. This particular study will focus on local, community-based points of contact between the Forest Service and volunteer partners. Since there are no specifically designated job descriptions for those who work in partnership, this study will utilize the term “land managers” to categorize those Forest Service employees who are involved with partners and volunteers at a ranger district level in some capacity. These include those who are involved in: administrative duties related to volunteer projects, the planning and implementation of technical aspects of volunteer projects, the planning and implementation of volunteer recruitment, and direct technical assistance on volunteer projects.

The Forest Service’s Research branch is also worth noting for its contributions to the existing literature on collaborative efforts with the Forest Service and other relevant topics. In addition to divisions of research related to the physical sciences such as biology and ecology, the Research branch contains social science divisions. Researchers have provided a number of peer-reviewed studies related to collaborative efforts, social processes within the agency, and characteristics of the general population that have
impacts on federal lands (Davenport, et al., 2006; Frentz et al., 2000; Macdonald, 2002; Payton, Fulton, & Anderson, 2005; Schueller et al., 2006; Wollondeck & Yaffee, 2001; Weber, 2000). The existence of a social science research division and the studies produced within those divisions reflect the importance that social processes have on the ecosystems located on Forest Service lands. Relevant studies provided by researchers within the Forest Service as well as those who look at social aspects related to volunteerism from outside the agency provide a substantial body of available literature to provide context and a foundation of previous research for this study.

**The Forest Service and the Public – The Need for Engagement**

In an evaluation of Forest Service practices intended to foster strong agency/community relationships, Frentz, Voth, Burns, and Sperry (2000) characterize the general relationship between the agency and the public as troubled. A Sonoran Institute (2005) list of recommendations for collaborative conservation maintains that while the Forest Service was initially seen as an organization that sought solutions on a local level, legislation and increased bureaucracy led to an organizational culture that perceives itself as sole protector of the public interests on federal lands. This is attributed in part to federal policy shifts that limited local influence in management decisions and reduced Forest Service-based industries such as timber in favor of what are often perceived as non-local interests such as environmental advocacy groups (Frentz, et. al., 2000; Weber, 2000). The effort to address these criticisms and to move back toward a locally-based, collaborative agency approach has been steadily gaining momentum, a trend observable in part by the number of agency studies and academic research projects dedicated to fostering effective partnerships (Davenport, et al., 2006; Frentz et al., 2000;
The creation of the National Partnerships Office can also be viewed as an indicator of the interest in collaborative efforts. This agency-wide interest in shifting to a more symmetrical exchange of influence on how public lands are managed echoes Grunig’s (2000) assertion that government agencies can more effectively serve the public if they are actively engaged in communication and dialogue with the public.

The emphasis on local collaboration is viewed by Weber (2000) as a practical approach in an age where population increases and demands for recreational opportunities make it apparent that humans are not living separately from nature nor are viewing it purely as a resource for exploitation. Analyses of U.S. Census Bureau data from 1970, 1980, 1990, and 2000 compiled with data from the U.S. Geological Survey revealed that the majority of counties that contain federal lands experienced population growth larger than in counties without these types of lands regardless of metropolitan status or region (Frentz, Farmer, Guldin, & Smith, 2004). While Frentz, Farmer, Guldin, and Smith’s (2004) purpose is to document population growth rates in counties with federal lands rather than examine the factors behind these rates, they propose that their results may be tied to the natural amenities and recreational value offered to varying degrees by federal lands. Whatever these underlying factors may be, these population growth rates point to challenges related to issues such as increased recreational pressures and an increasingly complex public/agency relationship (Frentz et al., 2004).

Collaborative efforts are in part an admission that traditional approaches in which the Forest Service and its employees are solely responsible for sustainable practices are
impractical. Collaborative efforts on public lands emphasizing the concept of active stewardship acknowledge that while increased pressures on public lands exist, impacts will be reduced if the same population that uses public lands is actively involved in caring for those lands. Volunteerism and partnerships in relation to the public and agencies charged with the care of public lands are worth further study if we are to maximize the collaborative potential of these relationships.

**Volunteerism**

In general discussions of volunteerism, much of the research examines what factors can help predict volunteer behaviors or the intent to engage in these types of behaviors. (Clary, Ridge, Stukas, Snyder, Copeland, Haugen, & Miene, 1998; Greenslade & White, 2005; Houle, Sagarin, & Kaplan, 2005; Mowen & Sujan, 2005). A theory that has resulted in several studies on predicting the willingness to volunteer is the functional approach (Clary and Snyder, 1991; qtd. in Greenslade and White, 2005). Clary, Ridge, Stukas, Snyder, Copeland, Haugen, and Miene (1998) break volunteering into six different motivational functions: values, or concern for others or society; understanding, or learning and developing competencies; career, or gaining practical experience; social, or going along with the norms of a particular social group; protective, or a defensive mechanism in which volunteers assuage guilt through volunteering; and esteem or enhancement of a person’s self-concept. Theory has been applied to test whether these personal motivations impact volunteer task selection (Houle, Sagarin, and Kaplan, 2005), the degree to which individuals engage in above-average rates of volunteering (Greenslade & White, 2005), and whether particular motives and related personality traits are more predictive of actual volunteering behavior than others (Mowen & Sujan, 2005).
Throughout all of these studies, one of the primary assumptions is that groups utilizing volunteers rely heavily upon their contributions and are actively trying to recruit more.

The functional approach can be utilized to examine the relationships between volunteers and government agencies. However, it is not viewed as a relevant framework to approach the research questions brought up in this study. In his examination of Forest Service attitudes towards volunteers, Self (2002) points out much of the literature on volunteerism does not explicitly refer to environmentally-based volunteer projects. As pointed out in Greenslade & White’s (2005) examination of high levels of volunteerism within individuals involved with a particular social service organization, the nonprofit sector in Australia is now pressured to deliver welfare services that were formerly provided by the government, and many of these organizations rely on volunteer labor to achieve their missions. In this instance, the agency in question views volunteers positively and is largely focused on recruitment and retention. In the case of the Forest Service, the current attitudes and agency capacity for recruitment and retention are the primary issue of concern of this research. There has been no practical test of the functional approach to volunteers engaged in natural resource work, and this particular study is not directly related to why people volunteer on natural resource projects; while motivational functions for volunteers offer a potential framework for studying how to engage more people on projects, in this instance motivating volunteers is secondary to examining the factors that influence the agency’s current capacity and willingness to utilize those volunteers.

The emphasis on persuasion factors within research focusing on volunteerism may be tied to the strong economic benefits of improving volunteer recruitment within a
variety of settings. Mowen and Sulan (2005) point out that volunteer services in 2001 contributed around $75 billion dollars to the gross domestic product of the United States and largely support the efforts of the nonprofit sector. Certainly, similar economic benefits to the underfunded Forest Service provide a strong incentive for fostering effective partnerships. However, while the nonprofit sector is often geared towards grassroots organizing powered by volunteers, the federal government is somewhat limited in its ability to proactively seek out dedicated cadres of volunteers. There may be some strong incentives for partnerships, but these incentives may not outweigh a lack of time or other constraints experienced by land managers.

**Managing Public Lands in Partnership with Volunteers**

Volunteer labor is an integral part of the concept of active stewardship. Frentz, Voth, Burns, and Sperry (2000) point out that fostering good relationships between the Forest Service and local communities could lead to increased mobilization of a volunteer force dedicated to collaborative stewardship of the land and a reduction in agency workload. Weber (2000) categorizes this new emphasis on citizen participation and collaboration as grass-roots ecosystem management (GREM), which in Weber’s view is a new environmental worldview that is a shift toward the balance of economic interests with environmental protections. This worldview sees the social capital and contributions of individuals and organizations outside of the Forest Service as a necessary component of achieving sustainability in local ecosystems (Weber, 2000). Visitor numbers on federal lands are clearly increasing, and balancing the social and economic benefits of recreation with the degradation of ecosystems that can occur without adequate management of
visitor impact will require a considerable amount of attention as the United States population continues to grow.

Increased visitor numbers on public lands can result in intentional and unintentional resource damage such as litter, vandalism of natural features, erosion damage caused by off-road vehicles and foot traffic, pollution of watersheds, and negative impacts on wildlife. Volunteer projects offer the opportunity to reduce these impacts and achieve long-term sustainability while fostering a strong ethic of stewardship among visitors to public lands. Volunteer efforts on projects such as habitat restoration, trail work, and backcountry campsite rehabilitation have the potential to educate volunteers about the negative impacts of recreation, develop positive relationships between agency representatives and the public, encourage civic participation from other visitors who view volunteer efforts, and address management needs that may not have been met without the donated labor. According to the Toolbox for the Great Outdoors (2006) website, volunteer labor on recreation-related projects such as trail work or litter cleanup comprises two-thirds of the average 100,000 individual volunteers that assist the Forest Service each year. However, it is important to note that volunteers require effort on the part of the Forest Service, particularly in terms of outlining project work, providing technical support, and creating opportunities to volunteer (Toolbox for the Great Outdoors). While the need for volunteer labor and the inherent value of volunteerism is apparent, the relationship between the Forest Service and volunteers needs more than a common vision and mission to succeed. The benefits to incorporating volunteers must outweigh the perceptions of difficulty in establishing relationships since the Forest Service is not a social service agency or nonprofit dedicated to the social
benefits of volunteerism. The Forest Service is there to protect the resource, not necessarily to provide opportunities for personal growth through volunteerism. Attention must be paid to the inherent challenges in building and maintaining a positive/strong relationship that achieves the ultimate goal of benefiting all parties, both within and outside the Forest Service, who seek to work together on protecting the natural resources involved.

**Volunteering, Collaboration and Partnerships**

The definition of the term “collaboration” as it relates to the agency is outlined in official Forest Service publications. Within the Forest Service National Partnership Guide, collaboration is defined as the broader term used to describe either formal or informal agreements between the agency and outside groups. More specifically, the Forest Service defines collaboration as “a process where groups that disagree, often significantly, come together to identify common interests, define common problems, and seek solutions that reach beyond what any one of them could accomplish on their own” (USDA, Partnership Guide, p. 77). This agency-specific conceptual definition will be used throughout this study when referring to collaboration.

Collaborative efforts often involve volunteers from the community. However, while volunteer partnerships are a type of collaborative effort and the terms “collaboration” and “partnership” are often used interchangeably within discussion of the Forest Service, there is a clear distinction between the two terms provided by the agency. Partnership agreements and the policies that affect their creation are the primary way in which volunteers and nonprofit organizations work directly with Forest Service employees to accomplish projects such as trail maintenance or habitat restoration.
According to official definitions circulating within the agency, partnership agreements between the Forest Service and external organizations must meet the following criteria: “appropriate legal authority, mutual interest in some goal or value, mutual non-monetary benefit, a state of participating or sharing, no conflict of interest, agreement must be executed before costs are incurred or work commences, a specific relationship between the parties (written agreement), and voluntary participation” (USDA Forest Service, National Agreements Desk Guide, 2002, p.10).

As defined by the Forest Service, an individual volunteer “is a person who gives time and talent to advance the mission of the Forest Service. No salary or wage for the Forest Service is received for the voluntary service” (USDA Forest Service, Partnerships Guide, 5-1, 2007). These individual volunteers commonly participate in projects organized through Sponsored Volunteer programs in which the participant “is supervised by another institution, organization, or unit of state or local government” (USDA Forest Service, Partnerships Guide, 5-1, 2007). The relationship between the Forest Service and nonprofit organizations that utilize volunteers must be documented through agency paperwork due to legal concerns and official policy. Volunteer labor is viewed as an in-kind contribution to the Forest Service that must be documented through written agreements that essentially function as a contract between the volunteer and the agency (USDA Forest Service, Managing Volunteers, 2003). The specific descriptions of the work performed within the context of volunteer positions clarify whether volunteers will be covered by worker’s compensation for injuries incurred while volunteering and are intended to be very descriptive, detailed agreements. These agreements fall into two types: Agreements for Individual Voluntary Services, FS-1800-7, and Agreements for
Sponsored Voluntary Services, 1800-8 (USDA Forest Service, Managing Volunteers, 2007). While these agreement types differentiate between volunteers that operate independently and those who volunteer with partner organizations, it will be crucial to make some general distinctions between different types of partner organizations for the purpose of a quantitative study. These differences will be outlined and defined at a later point in this discussion.

Since many volunteer agreements are tied to partnerships, no discussion of volunteering with the Forest Service is possible without identifying important factors involved with the creation and maintenance of partnerships. In 2003, the increasing interest in partnerships on both a local and national level resulted in the creation of a National Partnership Office, a Washington D.C.-based Forest Service department that works across the three main agency branches to more effectively engage members of the public and nongovernmental organizations with efforts aimed at conservation (USDA, Forest Service, Partnerships Office, About Us, 2007). As described on the official Forest Service website, the National Partnership Office (USDA, Forest Service, Partnerships Office, About Us, 2007, para.3):

- “Develops partnership tools for employees and partners.
- Reaches out to connect partnership and collaboration practitioners and experts through national networks.
- Provides inter- and intra-agency coordination on policies and initiatives.
- Builds employee and partner capacity for working together.
- Promotes and facilitates skill development.
- Provides Congressional relations for expanding partnership authorities.”
Since the National Partnership Office is relatively new, there is little literature related to its overall impacts within discussions of collaborative efforts related to the Forest Service. However, its creation indicates a widespread interest in providing top-down authority and organization to provide needed resources and support to land managers and other Forest Service employees involved with partnerships. The support of partnerships within a National Office is crucial given the complexity of agreements involved with creating partnerships. For example, a Forest Service strategic plan on partnership development within Region 2 points out that “there are some 30 different laws and 14 different agreement instruments” that govern the establishment and maintenance of partnerships (USDA, Forest Service, Region 2 Strategic Partnership Plan, 2006). While these codified partnership agreements are a way of clarifying objectives and providing consistency from year to year, the process is bureaucratic and requires a large amount of paperwork on both sides. It is hoped that federal legislation may simplify this complex system of laws and build capacity for partnerships throughout the country, although support of this legislation is secondary to strategically evaluating how to build partnership capacity in ways that address agency culture. While legislation will be helpful in generating more internal support for partnerships by reducing the amount of time required to establish and maintain relationships with external organizations, it is only one component of improving capacity for engaging more volunteers and the nonprofit sector.

On a more Regional and District level, job descriptions for those who work directly with partners within the National Forest System include program/technical specialists, partnership coordinators, grants and agreements specialists, and contracting officers (USDA Forest Service, Partnership Guide, 2007). Not all of these positions are
found in each district and some are shared across larger sections such as Regions (USDA Forest Service, Partnership Guide, 2007). When examining the agency/volunteer relationship, the differences between how each Region, Forest, and District approach volunteer partnerships are numerous. There may be different levels of potential volunteers within a community, and the unsure nature of a stable population of volunteers is compounded by the fact that the Forest Service may not have a stable form of administrative support in relation to partnerships or volunteers.

**Defining Types of Volunteer Partnerships**

Because different types of partnerships are frequently the means through which individuals interact with the Forest Service, part of the challenge in evaluating the relationship between the Forest Service and volunteers is clarifying what is meant by “volunteer” when surveying land managers. If asked to evaluate their relationship with “volunteers,” that category is too broad to land managers to evaluate given the potential effect the type of partnership (or lack thereof) might have on the relationship. As Hon and Grunig (1999) point out, organizations in general often deal with multiple publics and coalitions that may have different characteristics. Hon and Grunig (1999) state that “organizations have a ‘reputation’ that essentially consists of the organizational behaviors that publics remember” (p. 13). A more specific definition of “volunteer” that reflects the complexity of the different behaviors among partners is needed to effectively measure organizational behaviors. Because volunteers and partnerships take on many different forms depending on the unique circumstances and needs of ranger districts, this study required a more specific categorization of volunteer partnerships recognizable to land managers in order to measure the quality of the relationship.
There are nonprofit groups within the United States with a high level of organization that are dedicated to collaborative conservation partnerships with the Forest Service. These include youth conservation corps programs that have seasonal crews dedicated to service projects as well as nonprofit volunteer alliances that offer trainings, recruitment, and full-time staff dedicated to program coordination. While some of these external organizations excel at providing regular trainings for volunteers and effectively communicating with land managers, not all Forest Service districts operate in areas where these types of external organizations exist. For the purpose of this study, these different categories are particularly critical to define in order to apply the principles of relationship management theory and relationship quality and examine these issues quantitatively. The following classifications were developed in part from categories listed on the Toolbox for the Great Outdoors website (2006), a support resource for land managers that provides specific information related to different types of volunteers. The classifications are generally based on whether or not the Forest Service is primarily responsible for recruiting volunteers, the extent of compensation received from Forest Service, length of time spent on volunteer projects, and level of program support from affiliated group.

The first category defined here is official Forest Service volunteer projects in which the Forest Service often actively recruits or encourages volunteer participation for programs coordinated by the agency. In this category, the Forest Service initiates projects and is responsible for coordinating most of the project logistics. Examples might include Adopt-a-Trail or community-based initiatives designed to meet specific needs of each district. This category is meant to encompass district-level volunteer efforts with the least amount of administrative support from groups outside the Forest Service.
The next relevant category is volunteer vacation groups. This group is categorized as groups like Sierra Club or American Hiking Society in which volunteers sign up with a national or regional organization that helps coordinate these projects with the Forest Service. These national organizations have the capacity to bring in volunteers from outside the community who are willing to travel to fill project needs. Volunteers will give up a period of several days or more of their time to volunteer, and may have received some sort of training before arriving at the project site. These types of organizations can help fill the need for volunteers in districts without larger communities or local partner organizations nearby.

The third category of interest is categorized as volunteer-based organizations. These are organizations dedicated to coordinating efforts of local volunteers on public lands and proactively seeking participants. The organization’s mission statement centers around volunteer coordination and outreach. Depending on the level of organizational development and funding, these organizations may provide training for their volunteers. Groups range from local “place-based” organizations that have a more narrow geographic focus to organizations that coordinate groups across multiple districts or land management agencies.

The final category refers to a type of partnership organization that may deal with volunteers who receive reimbursement for their efforts. The mission statements of these organizations are often a combination of conservation and youth development. Teenagers or young adults on the crews often receive some sort of monetary compensation for their efforts and work for extended periods of time on natural resource projects. While these participants are usually paid, the emphasis on education and public service emphasized
by these programs set them apart from contracting crews or seasonal Forest Service employees. These organizations are modeled after the Civilian Conservation Corps (CCC), a Depression-era program that was formed to put unemployed men to work on conservation-related projects on public lands. While the original program was disbanded once World War Two began, other organizations have adapted the CCC model and commonly refer to the original program as the basis for their mission of personal development achieved through projects that benefit public lands. Examples include the Student Conservation Association and various youth corps such as Northwest Youth Corps, the Vermont Youth Conservation Corps, and the Montana Conservation Corps. Since these crews are composed of younger volunteers who spend longer periods of time in the field, the type of labor provided by these groups differs significantly from partner organizations that utilize volunteers of various ages for shorter durations.

Although these categories do not represent all possible collaborative partnerships that work with the Forest Service, these categories capture common features of partnerships that are most likely to work with land managers on a ranger district level. In Frentz et al’s (2000) examination of Forest Service relationship building practices, the ranger district level was identified by community members as the primary source of initial contact and the most effective in terms of building trusting relationships between communities and the Forest Service. This is due to the placement of district offices within or near the local communities that are in close proximity to Forest Service lands, making them the natural portal for dialogue with those communities. Therefore, the logical unit for studying the communication processes related to community engagement is the district office, where the two-way exchange of ideas can take place between agency
representatives and members from the volunteer community. However, as the following points will show it can be difficult for employees at this level to engage in effective communication for several reasons.

**Challenges to Effective Partnerships**

According to Wollondeck and Yaffee’s (2001) follow-up study of 35 collaborative partnerships between federal agencies and interested publics, agency personnel often find that they are forced to battle internal agency resistance to collaborative efforts. A study from the Sonoran Institute’s Collaborative Action Team (2005) points out that while the private sector rewards personnel with risk-taking behaviors such as launching new initiatives or campaigns there is little incentive for land managers to buck trends in agency culture and forge collaborative alliances. This same study indicated that even those managers who seek out innovative solutions meet with agency resistance, a fact that robs initiatives of momentum and corroborates Wollondeck and Yaffee’s (2001) findings. This resistance is attributed in part to the bureaucratic nature of the Forest Service, which has a traditional hierarchal structure that is resistant to innovation when the commitment to collaborative conservation is not endorsed by officials higher up in the agency (Frentz et al., 2000; Wollondeck and Yaffee, 2001). In an examination of collaborative partnerships between the Canadian government and external organizations, Phillips (2001) notes similar obstacles to collaboration when traditional hierarchies instead of horizontal management across departments and sections of government are in place.

Since these internal barriers to effective collaboration can be viewed as threats to effective communication between the Forest Service and members of the public who might be interested in forming collaborative partnerships, this internal resistance would
make it more difficult to create or maintain a relationship. This is especially true in the context of proactive public relations efforts that attempt to assess an organization’s relation to a variety of external publics, which according to Stacks should be part of a circular process of researching and addressing issues related to public relations efforts (Stacks, 2002, as quoted in Botta, 2006; 154). If resistance from within the agency is a problem, then it falls to those employees who are willing to take on that resistance to change the agency culture and proactively seek out new volunteers for collaboration. In other words, while land managers may be receptive to external organizations that proactively seek them out, in the absence of these types of organizations they may be less capable of promoting new initiatives that target latent publics who may be willing to volunteer. While these individuals may contact their local Forest Service district in the interest of volunteering, it may be difficult for land managers to utilize that volunteer if there is no pre-established program that provides individuals with a training program or volunteer event that they can join.

Other relevant threats to the public/agency relationship caused by ineffective communication practices are listed as a lack of public relations training for agency personnel (Davenport et al., 2006), agency performance measures that do not take interpersonal skills into account (Sonoran Institute, 2005), and budgetary constraints (Sonoran Institute, 2005). A lack of public relations training would indicate a lack of knowledge about what the profession can do in terms of strategic planning and maintaining an effective relationship with the public. A lack of emphasis on interpersonal skills as a desired trait might limit a land manager’s ability to maintain relationships with their volunteers, or make them more reluctant to seek out new relationships. As Kent and
Taylor (2002) point out, any organizational member who communicates with publics must be comfortable engaging in interpersonal communication in order to foster a climate that is conducive to relationship building. Wollondeck and Yaffee (2001) found that successful partnerships had a mechanism in place for reliable communication efforts between agency personnel and outside individuals, either by arranging regular meetings, participating in non-agency functions, releasing regular newsletters, or designating project coordinators. Budgetary constraints can in part threaten this mechanism by restricting available meeting times, cutting back on “extra” costs such as newsletters, and numerous other constraints placed on communication and collaboration caused by a lack of funds.

These limiting factors related to agency culture and threats to its ability to communicate have been studied at some length in order to form recommendations for agency personnel looking to improve their collaborative efforts (Davenport et al., 2006; Frentz et al., 2000; Sonoran Institute, 2005; Wollondeck & Yaffee, 2001). The other side of the relationship has been examined as well. Schueller, Yaffee, Higgs, Mogelgaard, and DeMattia’s (2006) guide for organizations seeking out measures for program effectiveness related to collaborative efforts provides an important resource for identifying ways of different types of collaborative programs succeed. In this resource, the emphasis is on goal setting and strategic planning, identifying ways of assessing success in a variety of ways, gathering data, and using data and outcomes to guide the project (Schueller et al., 2006). In a study of the potential for burnout among participants in Australia’s volunteer-based public land conservation program, Byron, Curtis, and Lockwood (2001) call for improved leadership training, clearly defined and realistic
expectations for participants, improved recruitment and training for participants, and burnout awareness. The authors reached these conclusions after administering a scale called the Maslach Burnout Inventory, a measurement tool previously designed by researchers to determine levels of activity. This is an example of how evaluation can improve a program and help foster effective relationships. Community-based efforts need to take ecological, social, and organizational aspects of projects into account, creating the need for a multi-metric approach to evaluating the success of the program (Schueller et al, 2006).

**Relationship Management Theory and Collaborative Partnerships**

With the particular issues facing the Forest Service and threats to successful relationships with its partners examined in more detail, it is now possible to return to the concepts of relationship management theory and begin applying them to the first overarching question of this study: what is the Forest Service’s perception of the quality of the relationship between the Forest Service and volunteer organizations?

As stated earlier in the broader discussion of relationship management theory and measurements of relationship quality, Hon and Grunig (1999) suggest that relationship quality is best understood by examining perceptions about the extent of *control mutuality*, *trust*, *commitment*, and *satisfaction* within the relationship and determining the extent to which a relationship can be considered an *exchange relationship* versus a *communal relationship*. Measuring relationship quality using reliable scales provides a consistent framework to assess change over time, and provides the opportunity to quantify perceptions of relationship quality between the Forest Service and volunteer partners. Since this measurement requires a consistent definition of the public involved, utilizing
the categories of volunteer groups and partnerships detailed above -- volunteers coordinated by the agency, volunteer vacation groups, volunteer-based organizations, and youth corps – land managers surveyed for this study are given a clear idea of the exact relationship they are being asked to evaluate.

The concept of control mutuality, or the extent to which organizations and publics are satisfied with the level of power or influence they have within a relationship (Botta, 2006; Hon & Grunig, 1999), is highly relevant to examining the relationship between a government agency and some of its key publics. In this instance, the hierarchical structure of the government is inherently set up to control the majority of the decision-making, but the mission of the Forest Service involves the responsible stewardship of public lands which belong to all United States citizens. The recent move towards collaborative conservation would indicate that citizens would gain more influence within government through helping it better meet its mission. In her study of the Canadian government, Phillips (2001) points out that the government in a more collaborative model derives its legitimacy from its perceived credibility in the eyes of involved stakeholders rather than through traditional hierarchical structures. Relationship building is seen as key in this instance since a more active citizenry and government are interdependent, with citizens providing better input to government and gaining more control over their communities while the government gains access to the resources provided through social capital and increased credibility (Phillips, 2001). This shift to a relationship building perspective shows how the concepts of control mutuality can be applied to government/public relationships. Citizens and volunteers have the power to influence their government through civic participation while the Forest Service gains the social
contributions of volunteers and improves the health of the natural resources it manages by cultivating a better relationship with the people served by the agency. However, giving citizens the opportunity for more direct involvement with the government does involve ceding a certain amount of control, an act that requires a mindset shift on the part of agency officials. While the Forest Service frequently solicits public comment for major decisions regarding public lands – a good example of this would be the public comment periods that take place when a ski area operating on National Forest lands proposes an expansion of its operations -- the Forest Service is not required to solicit public comment on every minor decision. On activities like trail maintenance, the agency is not required to engage the public at all during on-the-ground projects, but recognizes that volunteers can contribute on these projects and contribute positively to the protection of the resource. When a Forest Service employee chooses to engage a volunteer partner in a project, they do so knowing that the relationship will be different than instances where they may be supervising other Forest Service staff on a project.

The second dimension of Hon and Grunig’s (1999) relationship measurement scale is trust, which is defined as the level of confidence an organization or public holds toward the other party in the relationship. Hon and Grunig’s (1999) measures of dependability and competence in relation to trust are particularly fitting when evaluating perceptions related to volunteer efforts, since the good intentions of volunteers are assumed while their delivery of service may not be consistent. A motivated volunteer may still not have a high level of technical trail maintenance skills or physical stamina, which may reduce the perception of their dependability and competence. Grunig (2000) asserts that trust and control mutuality are the most important indicators to evaluate in a
collaborative relationship viewed from the perspective of symmetrical public relations. However, while a good deal of attention has been paid to ways that the Forest Service can improve their organizational ability to foster trust, and while well-organized volunteer organizations have the capacity to build trust through effective strategic management, volunteers who do not have an organization to tap into may be limited in their ability to establish trust. If volunteers do not appear to exhibit integrity or fairness agency personnel, provide a consistent product, or fail to complete projects up to federal standards then it may fall to reason that an agency representative will be less likely to seek out volunteer labor. Conversely, it could be expected that an organization that provides the Forest Service with a reliable source of volunteers who deliver quality results will engender high levels of trust among agency officials.

While the research on volunteerism within the Forest Service is limited, there are several relevant studies on the value of trust within relationships between the agency and volunteers. The term trust is identified throughout many of these studies as a quality of a strong relationship. While there is no consistent operational definition of trust utilized within the studies, some of the hallmarks of “trust” identified in these studies contain elements of the other dimensions in Hon and Grunig’s (1999) scale, including satisfaction. Again, this dimension is defined as the reinforcement of positive expectations that lead to positive attitudes towards the other party (Hon & Grunig, 1999). In a 2006 study, Davenport, Leahy, Anderson, & Jakes examined the variable of trust between federal agencies and relevant stakeholders through qualitative methods. While not directly related to volunteerism, this study does examine the relationship between the Forest Service and external groups involved with conservation issues. Part of an ongoing
study of trust between federal agencies and local communities, this examination was intended to provide land managers with guidelines for establishing trust with local communities. Through a qualitative evaluation process, non-agency participants identified values, knowledge, and capacity as components of trust while the process of trust involved communication, collaboration, and cooperation (Davenport, Leahy, Anderson, & Jakes, 2006). Opportunities for building trust in this community were viewed as community support, community character, community resources, mutual benefits, and interagency cooperation. In relation to this study, these qualities fit in with the dimension of satisfaction since they relate to positive expectations and attitudes, which Hon and Grunig (1999) measure as a distinct variable. The authors point to potential benefits in giving FS personnel training in public relations and top-down support for interacting with the community. This study is significant since it identifies key elements of what is perceived as a strong relationship, and identifies some recommendations how to increase positive expectations in order to improve a relationship.

Hon and Grunig (1999) define commitment, the fourth dimension in their measurement scale, in terms of the level of energy required to sustain and improve the relationship and the extent to which a party believes that the relationship is worth the effort. The operational definition of the word “trust” in research surrounding volunteer partnerships contains elements that have connections to Hon and Grunig’s (1999) definition of commitment; within several studies, internal staffing trends in which agency employees frequently change districts or positions within the Forest Service reduced trust among collaborative partnerships and the agency (Davenport, Leahy, Anderson, & Jakes,
An overwhelming 74% of effective partnerships in Wollondeck and Yaffee’s (2001) study exhibited personnel continuity either through continued involvement of the same key people or through effective briefing of replacements moving into the same position. However, employees within the Forest Service often move on to other districts, and when collaborative efforts lack this continuity they are more likely to cease to exist. Davenport, Leahy, Anderson, and Jakes (2006) also mention staff turnover as one of the primary threats to a sense of trust between the Forest Service and volunteers. Phillips (2001) points out that the Canadian government has a similar problem in terms of public service employees constantly moving around, which limits the sense of trust that forms between involved stakeholders and key government personnel by restricting the good working relationships that are essential to highly functional partnerships. Viewed through the theory of relationship management theory, constant turnover could be viewed as an issue with high potential to drain energy and resources from partners, which would indicate a low level of commitment on the part of the agency.

Hon and Grunig (1999) define an exchange relationship as one in which benefits are granted to the other side of the relationship because they have been established in the past. In his examination of mutual benefit and its role in influencing the likelihood that citizens will remain in a particular community, Ledingham (2001) asserts that when this relationship is imbalanced and the public does not perceive benefits, the relationship declines. Grunig (2000) asserts that mutual benefit tied to exchange is more of a marketing concept and that collaboration should be the aim, moving socially responsible organizations away from expecting anything in return. Morgan and Hunt (1994)
categorize different types of relational exchanges, looking at relationships such as lateral partnerships between research firms and government agencies and public purpose partnerships. Morgan and Hunt (1994) point out that public-purpose relationships between organizations and government are exchange relationships that involve partnerships rather than traditional marketing classifications of consumers and producers. Grunig (2000) urges practitioners to look beyond the concept of exchanging benefits and add collaboration to the process in order to add long-term sustainability to the relationship by getting the organization to think beyond the self-interest associated with the exchange of trading benefits.

While an exchange relationship runs counter to the idea that effective relationships are more symmetrical in nature, Grunig (2000) does not imply that all relationships will be able to completely move away from exchanges. While the efforts at collaboration between Forest Service managers and volunteers are widely framed as a win-win scenario in principle, it is unknown to what extent the relationship is perceived in terms of exchanges. If Forest Service land managers don’t feel like they are receiving anything in exchange for their efforts, will the relationship decline? This is a particularly important question to ask since the Forest Service is charged with protecting public lands for the betterment of society, implying in a sense that they are not supposed to necessarily receive benefits from the public. However, social capital and principles of governance (Phillips, 2001) alter the paternalistic, hierarchical view of government and imply that citizens have something to offer in the form of social capital. Collaboration inherently assumes that something is being exchanged, pointing to the need to evaluate to what extent land managers feel that they receive something in exchange for working with
volunteers.

When describing *communal relationships*, Hon and Grunig (1999, p. 3) write that “In a communal relationship, both parties provide benefits to the other because they are concerned for the welfare of the other -- even when they get nothing in return.” In his examination of how activist organizations can influence government through relationship management principles, Grunig (2000, p. 41) looks to political science to explain in part how “government agencies collaborate and bargain with publics they are supposed to serve or regulate to balance the interests of those publics and society at large through symmetrical communication.” Grunig (2000) does not suggest that organizations and their publics will be able to achieve perfect equilibrium in terms of power, but defines symmetry and communal relationships in terms of a process in which concern for the other side balances out natural self-interest. Collaboration requires Grunig’s (2006) concept of symmetrical public relations in which organizations seek to balance out asymmetrical roles of power that have been in favor of the organization. In this instance, the concern for the welfare of the other can be replaced by the welfare of public lands. The ultimate benefactor in this collaborative partnership is the welfare of ecosystems tied to the communal relationship that aims to create long-term sustainability. Both the Forest Service and the volunteers benefit in certain respects from the relationship, but negative perceptions may arise if these benefits do not occur along with significant benefits to public lands. On the qualitative portion of Self’s study of Forest Service land managers (2002), a significant number of respondents indicated that programs with a strong emphasis on volunteer benefits ran the risk of becoming more like entertainment than a way of achieving positive results for the ecosystem (Self, 2000). Self (2000) found that while a significant majority of land managers who responded to his Internet survey
believed that volunteering on restoration projects gave important benefits to participants, the perceived benefits of outreach did not outweigh the need for maximizing the output of labor.

While the concept of symmetry has been criticized by some scholars as being too idealistic for many real world situations (E.g. Pieczka, 2006), the relationship between the Forest Service and volunteers is collaborative in nature and therefore well-suited for Hon and Grunig’s (1999) communal relationship scale. In this instance, the benefits of collaborative relationships with volunteers such as tangible benefits to the ecosystem, educational opportunities and more positive relations with the public are weighed against the potential challenges posed by budget restrictions and agency culture.

Self-Efficacy and Response Efficacy

While relationship management theory is the primary framework for this study, the role efficacy plays in understanding the association between relationship quality and proactive tactics is also worthy of examination since it may help quantify perceived limitations within the agency in relation to working with volunteers; a land manager may view volunteers positively, but if they feel limited in their ability to utilize volunteers, that may have a powerful impact on other behaviors. Self’s (2000) unpublished master’s thesis focuses largely on the inherent value of the volunteer experience and utilizes both quantitative and qualitative survey questions to explore various aspects of the relationship between the Forest Service and volunteers. In most cases, the 290 Forest Service employees from both national and local levels of bureaucracy who responded to Self’s (2000) survey only worked with volunteer coordination, conservation education and ecosystem restoration on a part-time basis. A significant number of those surveyed
qualified this as a problem, and while the majority of respondents agreed that volunteers should be utilized, the level of perceived funding and staffing inadequacies was viewed as a limiting factor within certain regions (Self, 2000).

Within the qualitative essay response section, land managers indicated that greater levels of financial, administrative, and internal support were crucial to the success of volunteer efforts (Self, 2000). This response is not surprising, although it is critical to note given its ties to one of the central intents of this study. It is one thing to philosophically support volunteer programs and entirely another thing to believe that one is capable of finding the time, effort, and funds needed to coordinate volunteers. These feasibility beliefs are rooted strongly in theoretical concepts tied to efficacy, and leads to the second overarching question of this study: what role does efficacy play in understanding the association between relationship quality and proactive tactics?

Self-efficacy is a term rooted in applied psychology defined as perceptions or beliefs held by a person about their own ability to carry out a particular action (Bandura, 1977). Bandura (1977) states that while a person may believe that a particular action will produce certain outcomes, low self-efficacy perceptions toward that behavior will negatively influence that person’s decision to take action even if the outcomes are perceived as desirable. Bandura (1977) uses this concept to explain in part why people may recognize the beneficial outcomes of a particular behavior without taking action. For this reason, the concept of efficacy has been widely used in a variety of health communication applications such as AIDS prevention programs and heart disease prevention programs (Witte, Meyer, and Martell, 2001). Levels of self-efficacy within an individual can influence the level of effort that they are likely to expend to achieve a
particular outcome when there are perceived challenges or barriers to achieving it (Bandura, 1977). In relation to the Forest Service and volunteers, self-efficacy offers promise as a way to measure the extent to which perceived funding and staffing inadequacies may affect behavior.

While the concepts of self-efficacy are a critical component of examining the relationship between the Forest Service and volunteers, efficacy needs to be considered on two levels: response efficacy and self-efficacy (Witte, Meyer, & Martell, 2001). Response efficacy is the belief that a recommended response will help to reduce or solve a particular problem or threat while self-efficacy is the belief that the respondent is able to carry out a behavioral response to a perceived problem or threat (Witte, Meyer, & Martell, 2001). Response efficacy is related to the concept of outcome expectations, which as defined in Bandura’s (1977) theory are the anticipated results caused by a particular behavior. Bandura and others argue that it is necessary to consider what people expect to happen as a result of actions they might take in order to predict whether they will take those actions. Since Witte, Meyer, and Martell’s (2001) scale evaluates perceptions related to the perceptions of the outcomes resulting from volunteer contributions, the perceived value of volunteers can be tested through response efficacy measures. This may be a particularly appropriate variable in relation to the behavior of land managers in terms of recruiting volunteers.

**Efficacy in Managing Volunteer Relationships**

Within research related to volunteering, Greenslade and White (2005) adapt Ajzen’s theory of planned behavior to replace measurements of perceived behavioral control with concepts of self-efficacy. Greenslade and White (2005) predicted that the
intentions to volunteer at a high rate would be influenced by attitudes as well as self-efficacy levels. Self-efficacy along with attitudes was also predicted to have an effect on the actual participation levels of the 141 respondents. The predictive value of these variables upon these particular outcomes was then weighed against the level of predictive value of the functional approach. Self-efficacy was found to have a significant effect on people’s intentions to volunteer, although it did not have a significant effect on the level of actual volunteering behavior. The theory of planned behavior when combined with measures of self-efficacy had more predictive value than the functional model, although the functional model also had significant predictive qualities (Greenslade & White, 2005). While this study is primarily concerned with comparing ways of determining how likely it is that someone will volunteer, the use of self-efficacy as a variable is of particular note here. Self-efficacy is not a concept designed specifically to measure the willingness to volunteer, and it is therefore of more use when examining the issues facing government employees whose beliefs and attitudes towards volunteers may be complicated by a massive bureaucracy. If the nature of bureaucracy poses a challenge to creating effective partnerships and volunteer programs, then the concepts of efficacy may provide a means to measure and track the presence of those challenges.

A land manager may believe in the intrinsic value and practical benefits of volunteer efforts, but will their level of self-efficacy influence their commitment to volunteer projects in the face of challenges? For example, it is not uncommon for Forest Service employees to deal with several different groups of volunteers throughout the season, all of them with varying levels of technical and interpersonal skills. Even if the land manager has positive experiences with these types of groups, do they have the time,
resources, or institutional support necessary to proactively recruit new volunteers and provide the kind of organizational effort provided by effective programs in the private or nonprofit sector? Even if the outcomes associated with volunteers are desirable, low self-efficacy levels may influence the amount of proactive tactics used to recruit volunteers in the face of challenging situations such as agency resistance to innovation.

Response efficacy is also valuable in providing a framework to examine whether or not land managers feel that their efforts to recruit volunteers or work with volunteers will result in positive outcomes. Is the extra effort involved in working with volunteers worth the effort required to seek them out when there is no external organization dedicated to volunteer recruitment and training? The potential for challenging situations related to the agency/volunteer relationship is considerable given the variety of experiences stemming from a lack of centralized trainings or communication channels within certain geographic regions. While volunteers can contribute a great deal, there is the potential for frustration due to ineffective communication, lack of technical skills in the absence of coordinated training efforts, perceived lack of sufficient physical stamina, and lack knowledge about the amount of effort required by the Forest Service to coordinate their efforts. While these frustrations may exist, it is unknown to what extent they might affect behaviors related to seeking out volunteers and working with them.

**Relationship Quality and Efficacy Within the Forest Service: Next Steps**

To examine the first overarching question of this study -- what is the Forest Service’s perception of the quality of the relationship between the Forest Service and volunteer organizations -- it is theorized that the measured levels of control mutuality, trust, commitment, satisfaction, exchange relationship, communal relationship, self-
efficacy, and response efficacy may differ between the different types of volunteer groups identified above. These include volunteers directly coordinated by the agency, volunteer vacation groups, volunteer-based organizations, and youth corps. For example, while volunteer projects on trails and other recreation-related activities comprise a larger percentage of the total volunteer base, not all of these volunteers have options in terms of a ready organization to plug into. One individual may not be able to volunteer without a full program since one volunteer is not going to provide enough in the way of returns for the land manager. However, there may be a non-profit agency that provides training for that volunteer and organizes volunteer work crews for the agency. Levels of organization among volunteers and partnership types are conceptualized here as a variable that must be accounted for, since the relationship between an unorganized group of volunteers or a volunteer group with substantial administrative and financial resources will probably differ in fundamental ways. Since Hon and Grunig (1999) point out that there are often multiple groups involved in organizational relationships with distinct identities and reputations, identifying specific types of partnerships will be a critical part of testing relationship quality through Hon and Grunig’s scale.

While the differences between these types of organizations are numerous, it is felt that these four categories will provide enough of a framework to begin exploring those differences. Given the exploratory nature of testing these four separate categories, the following research question was asked:

RQ1: Will different types of volunteers/volunteer programs result in significant differences in the levels of control mutuality, trust, commitment, exchange relationship, communal relationship, self-efficacy, and response efficacy within the sample of land managers?

Given the applicability of Hon and Grunig’s (1999) conceptualization of
relationship quality to this particular issue, the following hypothesis is proposed to examine another one of the overarching questions of this study: what factors of the relationship between the Forest Service and volunteer organizations are related to increased proactive tactics in building and maintaining the relationship? A directional hypothesis will test the assumption that a relationship with higher levels of quality will lead to increased willingness to work with volunteers and proactively recruit them:

H1: Land managers’ perceptions of increased relationship quality (levels of control mutuality, trust, commitment, satisfaction, exchange relationship, and communal relationship) will predict land managers’ increased willingness to proactively recruit volunteers and work with volunteer programs.

The third overarching question related to efficacy is: what role does efficacy play in understanding the association between relationship quality and proactive tactics? Since perceptions of the value and effectiveness of volunteer programs (response efficacy) and land managers’ perceived personal ability to work with volunteer programs (self-efficacy) may have measurable effects on land managers' proactive behaviors, the following hypothesis is proposed:

H2: Increased efficacy (self-efficacy and response efficacy) within the sample of land managers will predict their willingness to proactively recruit volunteers and work with volunteer programs.
Chapter Three: Method

Sampling

The studied population was comprised of Forest Service recreation land managers at the ranger district level who are responsible for volunteer projects in one or more of the following categories:

- administrative duties related to volunteer projects.
- planning and implementation of technical aspects of volunteer projects.
- planning and implementation of volunteer recruitment.
- direct technical assistance on volunteer projects.

This study focused on ranger district level employees since they are involved with local initiatives and projects involving direct contact with volunteers. Employees who are not connected to a specific district may have perceptions about utilizing volunteers that differ from those who are expected to implement or plan volunteer projects. Since the survey was electronically distributed, a measure of control over who responded was given up as e-mail surveys may have inadvertently reached higher-level Forest Service employees who do not work at the district ranger level. Since only one participant who completed a survey indicated that they did not work at a ranger district, this did not appear to be a significant issue.

The sampling technique was a purposive sample based upon the Forest Service’s regional system and internal mailing lists that were created prior to this survey, and these
were not made available directly due to privacy concerns. Lists did not make distinctions between departments, so the e-mails were sent to a number of employees who are involved in various divisions of the Forest Service such as fisheries, wildlife, rangeland management, and recreation. E-mails informed potential respondents about the study’s focus on recreational management issues, and demographic questions on the survey screened for respondents who work in other departments. These e-mails were sent to employees of the Forest Service in two Forest Service regions. These Regions have officially designated partnership-focused employees who served as gatekeepers charged with forwarding the e-mails to relevant employees. Demographic questions provided information on response rates for each Region to determine overall effectiveness of this distribution method.

Distribution of this study was arranged with the cooperation of the Washington Office of the Forest Service, and survey responses were obtained from two Forest Service Regions located within the Western United States. These included Regions One and Two, which oversee multiple ranger districts in Montana, Colorado, Idaho, Wyoming, South Dakota, and North Dakota. In terms of external validity, the exploratory nature of this study, bureaucratic restrictions, and cost/time limitations made it prohibitively difficult to obtain a completely random sample of Forest Service employees who fit the criteria established by the focus of this study. Participants had the ability to forward on the link to other Forest Service employees in their Regions, which made obtaining an exact number of potential participants and the exact response rate for the survey impossible. The e-mail with the link to the survey was sent to approximately 100 potential participants in Region 1. The number of potential participants in Region 2 was estimated
to be of a similar size by the designated Regional contact. Distribution of the e-mail in Region 2 relied on designated contacts within each district who were asked to forward it on to relevant employees in their district. For this reason, the total size of the population is difficult to determine but is estimated at 200. However, the method was designed so that all district-level Forest Service employees who work with volunteers in the selected Regions would have an opportunity to complete the survey. Although collecting survey responses from land managers in other Regions would have been helpful in collecting more data points, this was not practical or feasible given the constraints of the agency.

Out of the estimated 200 potential participants, 63 individuals initiated taking the survey for a 31.5% response rate. Response data was tested at a 95% confidence level with a ±5% confidence interval. Out of the 63 participants who initiated taking the survey, 43 provided complete responses for the entire survey for a 68.3% completion rate. Out of the 43 completed responses, 34 participants indicated that they worked at ranger districts located in Region 1 with only 6 participants indicating they were from ranger districts located in Region 2 (3 participants did not indicate which ranger district they worked at). With the exception of one response from Region 2, all of the completed responses from ranger districts located in Region 2 were completed after the 2nd e-mail reminder was sent. With 100 estimated potential participants in Region 1, approximately 34% of estimated potential participants in Region 1 completed the survey, while only 6% of the 100 approximate participants in Region 2 completed a survey. The difference in response rate between Regions is likely due to the difference in distribution methods. With only one complete response logged from Region 2 prior to the 2nd reminder e-mail,
it seems likely that the distribution method for Region 2 was a factor in the low overall response rate.

While the small response set and uncertainty surrounding both distribution and the actual number of potential participants means that the sample is not representative of all Forest Service land managers, the demographic data suggests that those who completed the survey represent a small but relevant group of Forest Service land managers. Out of the 43 complete responses, 20 participants indicated that they were female (46.5%) and 23 indicated that they were male (53.5%). Out of the 43 completed responses, 40 of the participants indicated that they had completed at least some college coursework, with 5 receiving an associate’s degree, 26 completing a 4-year degree, and 5 completing a master’s degree. Out of the 43 completed responses, 97.7% of participants were permanent employees, with only one seasonal employee responding. Twenty-nine participants indicated that they had worked for the agency for 16 years or more, and 41 indicated they had worked for the Forest Service for 6 or more years. These responses indicate that those who responded to the survey were well-established members of the agency’s workforce, with volunteer coordination, trail construction, and recreation management selected as the three most common job responsibilities. The response set demonstrates a nearly equal gender split and lengthy careers dedicated to natural resource management within the same federal agency. The demographic data collected suggests that while the sample is not representative of Forest Service land managers in general, the collective experience of these district-level employees represents a core group of decision-makers at the ranger district level with relevant opinions regarding volunteer partnerships. Since the majority of participants were permanent employees with many
years in which to interact with volunteers, this small group would share a high likelihood of viewing their relationships with different volunteer groups over the long-term. This makes them a very relevant group to examine through the lens of relationship management theory, which was designed to assess relationships over extended periods of time.

While the demographic data provides a picture of those who responded to the survey, the sample set was too small to make more detailed comparisons of responses and how they may have been affected by factors such as education or gender. Since the demographic questions were optional and located at the end of the survey, it was also not possible to collect demographic data on participants that did not complete the survey. This limitation could have been prevented by placing the demographic questions at the beginning of the survey, which is recommended for future research. The small sample set also limited comparisons that could be made between responses for different types of volunteer groups, which will be discussed further in the discussion section. Although some opportunities for richer comparisons were lost, enough responses were collected to test the general concepts of relationship management theory and efficacy as it relates to a relevant group with experience in administering, planning, and implementing volunteer projects in partnership with the Forest Service.

Anticipated problems with obtaining this sample were: limited potential sample size, response rate within regions, getting a response from representatives of all districts, and bureaucratic red tape. These problems did arise, although the issues were unavoidable given the limitations of having to go through official channels in the Forest Service. A larger sample size would have been possible if the survey could have been
sent to all of the Regions, but that possibility was not approved by the Forest Service due to logistical constraints. Response rate within Regions could have been improved if the Forest Service sent the link to every relevant employee, but the official channels for distribution may not have been the most effective since e-mails in Region 2 may not have been forwarded on by the designated District Rangers. Bureaucratic red tape was certainly an issue since getting official approval for the study required getting written documentation and assistance from the Washington DC office of the Forest Service. Demographic data was collected to assess response rates among different regions and districts to assess overall effectiveness of distribution methods. Efforts were made to obtain as many representative responses as possible.

Procedures

Survey overview.

Responses were collected through an Internet-based analytical survey. Links to this survey were included with an e-mail and official memo from a Forest Service employee in the national office. Self (2000) found that numerous Forest Service contacts advised him to go through official channels when sending out links to his Internet survey since employees generally indicated a greater willingness to participate in a survey endorsed by superiors. In my discussions with numerous Forest Service employees, I discovered that this approach was unavoidable given privacy considerations. Administering the survey over the Internet was a cost-effective way of collecting data across a large geographical area. The primary advantages to this approach were the convenience for participants as well as the cost. Primary constraints to internal validity were lack of control over survey environment and reduced ability to debrief participants.
There was also a measure of control given up due to the need to send the survey e-mail through official Forest Service channels. It was possible that gatekeepers would neglect to send on the e-mails or delay sending them, which could eliminate potential participants from receiving the e-mail. Since the majority of completed surveys were completed by Region One employees, it is possible that the difference in how the survey was distributed in Region Two limited the number of responses from that Region. Since the only way to gain access to Forest Service employees is through official channels, the threats to validity were viewed as an unavoidable possibility.

Testing may have provided threats to internal validity in this situation by sensitizing participants to the test material through repeated questions. In terms of instrumentation, the survey was tested on a slower modem speed to reduce potential issues with slow Internet connections. Threats to internal validity from participants included a self-selection bias. It may be that land managers who are more willing to work with volunteers are also more willing to complete an Internet survey dealing with volunteers. This was dealt with by trying to create a compelling explanation of the survey to convince land managers that this was a valuable study designed to take up a limited amount of their time.

Survey questions were submitted to the University of Denver’s Internal Review Board prior to implementation. It was also made clear to any potential participants that participation in this survey was optional and not required by the Forest Service or any other agency. An official memo from the Forest Service stating the purpose of this survey accompanied the e-mails. The welcome page for the online survey made it clear that all answers were anonymous and could not be traced to an individual. To further guarantee
anonymity, participants were not required to provide their names and could not be identified individually by the researcher. Consent was given by the respondents when they clicked the link to the survey, read the welcome page, and agreed to begin answering questions by clicking a “begin survey” button at the bottom of the welcome page.

**E-mails.**

Participants received an e-mail with a request to participate and a link to the e-mail survey, and a reminder e-mail was sent about 3 weeks later. A final reminder e-mail was sent after another week and the survey was closed on after having been open for about 6 weeks. Two designated agency representatives from Regions 1 and 2 distributed the survey e-mail and reminders to Forest Service employees. For Region 1, the recruitment e-mails were sent directly to Forest Service employees who were members of an internal list of employees with duties related to volunteer coordination and partnerships. In Region 2, the e-mail was sent to district rangers, who were asked to pass on the survey to their district employees. The 2nd reminder e-mail included a specific mention of the need for more responses from Region 2, and that e-mail was distributed through a general distribution list for all employees of Region 2. Since all Forest Service employees who received the study had the ability to forward the link to interested persons, and because the Forest Service was not able to provide an exact number of potential participants, the estimated number of participants eligible to be contacted was 200.

An introductory e-mail containing a brief explanation of the study, the researcher’s contact information, assurance of confidentiality, and a link to the Web survey was sent to designated recipients who forwarded it to all Forest Service employees.
who were identified by the Regional gatekeepers as those who work with volunteers (Appendix B). This e-mail and subsequent follow-up e-mails were also accompanied by an official Forest Service memo clarifying that while the study was not being conducted by the agency, the agency granted permission for its distribution through official channels (Appendix C). In addition to the initial e-mail sent during the first week of data collection, two follow-up e-mails were sent (Appendices D & E). Since it was anticipated that not all of these employees would work with recreation-related projects, the e-mails asked those who work with volunteers on predetermined types of projects to participate. Demographic questions at the end of the questionnaire that were adapted from Self's (2000) questionnaire determined the breakdown of their duties (Appendix F). These demographic questions also measure the number of years spent working for the Forest Service, level of education, and which district the individual worked for (Appendix F).

**Partnership types.**

The Internet survey allowed participants to evaluate organizations within four chosen categories. The following classifications are generally based on whether or not the Forest Service is primarily responsible for recruiting volunteers, the extent of compensation received from Forest Service, length of time spent on volunteer projects, and level of program support from affiliated group.

A. Forest Service volunteer programs. Official Forest Service volunteer projects in which the Forest Service often actively recruits or encourages volunteer participation for programs coordinated by the agency. In this category, the Forest Service initiates projects and is responsible for coordinating most of the project logistics.
B. Volunteer vacation groups. Categorized as groups like Sierra Club or American Hiking Society in which volunteers sign up with a national or regional organization that occasionally helps coordinate these projects with the Forest Service. Volunteers will give up a period of several days or more of their time to volunteer, and may have received some sort of training before arriving at the project site.

C. Volunteer-based organizations. Organizations that are dedicated to coordinating efforts of local volunteers on public lands and proactively seeking participants. The organization’s mission statement centers around volunteer coordination and outreach. Depending on the level of organizational development and funding, these organizations may provide training for their volunteers.

D. Youth corps programs. Organizations whose primary mission is conservation and youth development. These organizations are modeled after the Civilian Conservation Corps program. Teenagers or young adults on the crews often receive some sort of monetary compensation for their efforts and work for extended periods of time on natural resource projects. Examples include Student Conservation Association and various youth corps such as Rocky Mountain Youth Corps or the Montana Conservation Corps.

Measurement.

The first question related to these categories asked respondents to rate their level of involvement with these groups from 1 (least) to 4 (most). The second question asked respondents to choose the category with which they would most like to work. Within this question, it was made clear that respondents would be asked to answer a similar set of questions for the group that they would least like to work with after they had completed
this section. A response to question 2 was required since the answer was critical to the skip pattern (each of the 4 responses will send the respondent to a different point in the survey). As the respondents proceeded to the next question, the directions clearly indicated that the respondents should answer the following set of questions in relation to their choice for the group they would most like to work with. The category was placed at the top of each new screen for easy reference and the questions referred directly to the category title. Upon completing the questions in relation to their choice for the group they would most like to work with, the respondents were then asked to choose which group they would least like to work with. Depending on which choice was selected, the respondents skipped to the corresponding point in the survey in order to answer questions in relation to their choice for the group they would least like to work with. Comparing results for the groups that respondents would most like to and least like to work with were designed to examine RQ1: Will different types of volunteers/volunteer programs result in significant differences in the levels of control mutuality, trust, commitment, exchange relationship, communal relationship, self efficacy, and response efficacy within the sample of land managers?

Since there were not enough responses within the set to analyze differences between each specific type of volunteer program, this question was answered by comparing the mean scores of all valid responses for the compiled “like” and “dislike” responses. While this limited some of the potentially rich comparisons between specific types, since participants within the sample self-selected two distinct types according to their general preferences this approach still allowed for an exploration of whether or not the dimensions of relationship quality and efficacy vary between different categories of volunteer partnerships.
Respondents answered the questions adapted from Hon and Grunig’s (1999) scale and the efficacy measures for the category of organization with which they would most like to work with and for the category of organization with which they would least like to work. The operational definitions of control mutuality, trust, commitment, satisfaction, exchange relationship, and communal relationship assessed participants’ responses to Hon and Grunig’s (1999) relationship measurement scale. Five variables in the original 30-item scale were tested with 4 questions instead of 6, ensuring the integrity of the scale while reducing the amount of time necessary to complete the survey. According to Botta (2006), most of these relationship dimensions can be shortened to four items without sacrificing reliability or validity. This 26-item scale measured the level of agreement/disagreement with the relationship dimension using a 7-point scale ranging from “1-strongly disagree” to “7-strongly agree” and each variable has shown consistent reliability and validity in a number of different research studies (Botta, 2006). In the following list of questions, “volunteers” stands in for the specific category of volunteers that appeared on the screen depending on which categories are selected by the participant.

**Control mutuality**

1. Volunteers and people within the Forest Service who deal with volunteers listen well to what the other is saying.

2. In dealing with Forest Service land managers, volunteers tend to act as if they know everything.

3. Volunteers believe my technical guidance on projects or those directions given by my seasonal employees is legitimate.
4. In dealing with me or other Forest Service employees, volunteers listen well to what we have to say.

Trust
1. Volunteers treat me fairly and justly.
2. Whenever volunteers become involved with an important decision, I know that they will consider the amount of effort that is required on my end.
3. Volunteers can be relied on to keep their promises (i.e. show up on time, finish a project, etc.).
4. I believe that volunteers take my efforts and opinions into account when making decisions.
5. I feel very confident about volunteers’ technical skill level.
6. Volunteers have the ability to accomplish what they say they will do.

Commitment
1. I can see that volunteers are eager to maintain a relationship with the Forest Service.
2. There is a long-lasting bond between volunteers and Forest Service employees who deal directly with volunteers.
3. Compared to contracted work crews who work on similar projects, I value my relationship with volunteers more.
4. I would rather work with volunteers than not.

Satisfaction
1. I am happy with volunteer efforts in my district.
2. Both volunteers and my Forest Service district receive intangible as well as
tangible benefits from the relationship.

3. Most people in the Forest Service who hold similar positions to mine are happy
with their interactions with volunteers.

4. Generally speaking, I am pleased with the relationship that volunteers have
established with people like me.

**Exchange Relationship**

1. Whenever volunteers give or offer something to the Forest Service public lands to
benefit, they generally expect to benefit in return.

2. Even though the Forest Service has had a relationship with volunteers for a long
time, volunteers still expect intangible or tangible benefits in return.

3. Volunteers will compromise with the Forest Service when they know public lands
will benefit from their efforts.

4. Volunteers are more likely to work with the Forest Service if they receive praise
or some other sort of intangible reward in exchange for their efforts.

**Communal relationships**

1. Volunteers do not especially enjoy giving the Forest Service assistance.

2. I feel that volunteers are more concerned about the welfare of public lands than
those who do not volunteer.

3. Volunteers are very concerned about the welfare of public lands.

4. Volunteers help out the Forest Service without expecting anything in return.

Self-efficacy and response efficacy were tested through an adaptation of Witte,
Meyer, and Martell’s (2001) Risk Behavior Diagnosis Scale, which contains sets of
questions that have shown reliability and validity measuring these variables in a number of different research settings. Questions pertaining to self-efficacy assessed the extent to which the participant perceives they are capable of seeking out new volunteers. Response efficacy was tested through a series of questions designed to assess the extent to which the participant believes that his or her efforts to seek out new volunteers will be effective. Both sets of questions rate perceptions using a 7-point scale ranging from “1-strongly disagree” to “7-strongly agree.” Response efficacy questions were designed to measure response efficacy both in terms of the perceived effectiveness of working with volunteer groups as well as the perceived effectiveness of recruiting efforts.

**Self–Efficacy Measures**

1. I feel that I am limited in my ability to seek out new volunteer partnership opportunities.

2. I feel that I am able to communicate effectively with volunteers prior to the start of a project.

3. I feel like there is a mechanism of agency support (i.e. funding, available personnel) for bringing in new volunteers to the district.

4. It is easy to recruit volunteers to increase the numbers of volunteers on my district.

**Response efficacy – working with volunteer groups.**

1. I feel that volunteers on recreation-based projects such as trail maintenance make important contributions to the Forest Service.

2. In terms of quality of work, volunteers offer a good return on the time investment required to coordinate their efforts.
3. In terms of quantity of work, volunteers offer a good return on the time
investment required to coordinate their efforts.

4. Both the Forest Service and volunteers receive benefits when working together on
projects.

*Response efficacy - recruiting volunteers*

5. Recruiting volunteers works as a way of bringing in new participants to my
district’s volunteer program.

6. I feel that any time my district might spend working on recruiting volunteers
would be time well spent.

7. Our district sees more benefits from volunteers the more we seek them out.

8. When the Forest Service recruits new volunteers there are direct benefits for
public lands as a result of the work volunteers do.

*Willingness to proactively seek out volunteers*

This variable was operationalized using questions designed to measure intended
behaviors through a 1 to 7-point Likert scale ranging from “1-strongly disagree” to “7-
strongly agree.” Questions included:

1. I feel that actively pursuing new relationships with volunteer groups is an
important part of the Forest Service’s mission.

2. I feel like my district could do more to recruit new volunteers.

3. I feel that community outreach efforts related to recruiting volunteers is an
important part of my job.

4. I am willing to call or email potential volunteers who leave their contact
information with the district when I have a project they may fit into.
Willingness to work with volunteers

Willingness to work with volunteers was measured through the following questions, which were also measured on a 1-point to 7-point scale ranging from “1 strongly disagree” to “7 strongly agree.”

1. I enjoy collaborating with volunteers.
2. I use volunteers whenever the opportunity presents itself.
3. I am dedicated to working with volunteers.
4. I find volunteer projects to be more trouble than they are worth.
5. Working with volunteers is not something that I look forward to.
6. I am reluctant to use volunteers because I feel it may displace my seasonal workforce.
7. I am reluctant to support funding for working with volunteers because I feel that money would be better spent elsewhere.
8. Volunteers supplement the efforts of Forest Service employees without displacing them.
9. I am concerned that the more volunteers I recruit, the less Forest Service employees will be seen as necessary.

Reliability analysis.

Among the responses for the groups that land managers selected as those they most enjoyed working with (n=52), the scales of control mutuality (α = .88), trust (α = .83), satisfaction (α = .76), and exchange relationship (α = .78) were highly reliable. Due to a low Cronbach’s alpha (α = .35), a factor analysis was run on the original 4-item scale used to measure commitment. Two items with a correlation significant at the .01 level
(p<.001) were selected. Due to a low Cronbach’s alpha (α = .45), a factor analysis was also run on the original 4-item scale for communal relationship. 2 items with a significant correlation (p < .013) were used. The 4-item scale used to measure willingness to proactively recruit volunteers was highly reliable (α = .72). The 8-item scale used to measure willingness to work with volunteers was also highly reliable (α = .79).

Among the responses for the groups that the land managers selected as those they least enjoyed working with (n=39), the scales of control mutuality (α = .85), trust (α = .85), satisfaction (α = .75), and exchange relationship (α = .76) were highly reliable. Due to a lower Cronbach’s alpha and to maintain consistency between the “like” and “dislike” commitment scales (α = .61), a factor analysis was run on the original 4-item scale used to measure commitment. Two items with a correlation significant at the .05 level (p<.021) were selected. The 4-item scale to measure communal relationship (α = .67) was reliable within this group. The 4-item scale of willingness to proactively recruit volunteers (α = .80) and the 7-item scale used to measure willingness to work with volunteers were also highly reliable (α = .80).

Among the responses for the groups that land managers selected as those they most enjoyed working with, Cronbach's alphas for the 4 self-efficacy items, 4 response efficacy (work with volunteers) items, and 4 response efficacy (recruit volunteers) items were .68, .78, and .76, respectively. Among the responses for the groups that land managers selected as those they least enjoyed working with, Cronbach's alphas for the 3 self-efficacy items, 4 response efficacy (ability to work with volunteers) items, and 4 response efficacy (ability to recruit volunteers) items were .73, .81, and .78, respectively.
Chapter Four: Findings

Comparing Different Types of Volunteers/Volunteer Programs

RQ1: Will different types of volunteers/volunteer programs result in significant differences in the levels of control mutuality, trust, commitment, satisfaction, exchange relationship, communal relationship, self-efficacy, and response efficacy within the sample of land managers?

A paired samples t-test was used to compare the differences between the two means of the responses for the volunteer groups that land managers most preferred to work with and least preferred to work with for levels of control mutuality, trust, commitment, satisfaction, exchange relationship, communal relationship, self-efficacy, and response efficacy. The operational definitions of control mutuality, trust, commitment, satisfaction, exchange relationship, and communal relationship assessed participants’ responses to Hon and Grunig’s (1999) relationship measurement scale. Control mutuality, trust, commitment, satisfaction, exchange relationship, and communal relationship are elements of long-term relationships used to measure relationship quality (Hon & Grunig, 1999) between the Forest Service and different volunteer partnerships. Questions pertaining to self-efficacy assessed the extent to which the participant perceive they are capable of seeking out new volunteers. Response efficacy was tested through a series of questions designed to assess the extent to which the participant believes that his or her efforts to seek out new volunteers will be effective. Response efficacy questions were grouped in subscales designed to measure response efficacy both in terms of the
perceived effectiveness of working with volunteer groups as well as the perceived effectiveness of recruiting efforts.

Missing values were excluded listwise, leaving 39 paired responses. The t-test revealed statistically significant differences between the mean scores for control mutuality, trust, commitment, satisfaction, exchange relationship, communal relationship, self efficacy, response efficacy (work), and response efficacy (recruit) (Table 1). Land managers rated all of the groups that they selected as those they liked working with the most significantly higher than those they least liked working with. Within both the “like” and “dislike” responses, the mean score for exchange relationship was higher than that for communal relationship, indicating that regardless of type and preference, the relationship between the Forest Service and different types of volunteer partnerships contained more elements of exchange. Thus, the answer to the research question is that there are significant differences in the levels of relationship quality and efficacy between the different groups listed here. The results indicate support for testing the predictive value of the indices for relationship quality, self-efficacy, and response efficacy in the directional hypotheses.

Table 1
Paired Sample t-tests for Like and Dislike Responses (N=39)

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Mean (Like)</th>
<th>Mean (Dislike)</th>
<th>Std. Error (Like)</th>
<th>Std. Error (Dislike)</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Mutuality</td>
<td>5.84</td>
<td>4.74</td>
<td>0.15</td>
<td>0.18</td>
<td>5.46</td>
<td>38</td>
<td>0.001</td>
</tr>
<tr>
<td>Trust</td>
<td>5.48</td>
<td>4.34</td>
<td>0.14</td>
<td>0.15</td>
<td>6.65</td>
<td>38</td>
<td>0.001</td>
</tr>
<tr>
<td>Commitment</td>
<td>5.97</td>
<td>4.64</td>
<td>0.16</td>
<td>0.17</td>
<td>5.90</td>
<td>38</td>
<td>0.001</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>6.07</td>
<td>4.60</td>
<td>0.13</td>
<td>0.14</td>
<td>10.33</td>
<td>38</td>
<td>0.001</td>
</tr>
<tr>
<td>Exchange Relationship</td>
<td>5.30</td>
<td>4.80</td>
<td>0.17</td>
<td>0.16</td>
<td>3.39</td>
<td>38</td>
<td>0.002</td>
</tr>
<tr>
<td>Communal Relationship</td>
<td>5.27</td>
<td>4.21</td>
<td>0.14</td>
<td>0.10</td>
<td>6.87</td>
<td>38</td>
<td>0.001</td>
</tr>
<tr>
<td>Self-Efficacy Work</td>
<td>4.13</td>
<td>3.23</td>
<td>0.18</td>
<td>0.18</td>
<td>6.16</td>
<td>38</td>
<td>0.001</td>
</tr>
<tr>
<td>Response Efficacy Recruit</td>
<td>5.79</td>
<td>4.94</td>
<td>0.13</td>
<td>0.13</td>
<td>6.59</td>
<td>38</td>
<td>0.001</td>
</tr>
<tr>
<td>Response Efficacy Recruit</td>
<td>5.29</td>
<td>4.60</td>
<td>0.14</td>
<td>0.15</td>
<td>4.68</td>
<td>38</td>
<td>0.001</td>
</tr>
</tbody>
</table>
**Relationship Quality Measures as a Predictor of Willingness to Proactively Recruit and Work with Volunteers**

H1: Land managers’ perceptions of increased relationship quality (levels of control mutuality, trust, commitment, satisfaction, exchange relationship, and communal relationship) will predict land managers’ increased willingness to proactively recruit volunteers and work with volunteer programs.

This hypothesis required 4 separate regression analyses in order to assess whether the independent variable (scale of relationship quality) can predict land managers’ increased willingness to predict increased levels of the first (proactively recruit volunteers) and second (willingness to work with volunteer programs) dependent variables, with two regression analyses conducted for responses for the group that participants most liked working with (N=52) and two conducted for the responses for the groups that participants least liked working with (N=39). The dependent variable of willingness to proactively recruit volunteers measures the degree to which land managers will seek out new volunteers and partnerships, and the dependent variable of willingness to work with volunteers measures the degree to which land managers perceive working with volunteers as a positive experience. The independent and dependent variables measured responses in relation to specific volunteer group types (Forest Service volunteers, volunteer vacation groups, volunteer-based organizations, and youth corps) self-selected by participants as they most enjoyed working with and least enjoyed working with.
Relationship quality measures related to willingness to proactively recruit volunteers – like.

Within the responses for the groups that land managers selected as those they would most like to work with (N=52), the results of the regression indicated that the 6 predictors of control mutuality, trust, commitment, satisfaction, exchange relationship, and communal relationship explained 16.9% of the variance, but combined did not significantly predict willingness to proactively recruit volunteers, $F (6, 45)=1.520$, $p<.193$. As shown by the table below (Table 2), none of the betas are significant predictors of the willingness to proactively recruit volunteers and there were no significant zero-order correlations between any of the dimensions of relationship quality and the willingness to proactively recruit volunteers.

Exchange relationship was negatively associated with willingness to proactively recruit volunteers, although the zero-order correlation was not significant (Table 2). Communal relationship was positively associated with willingness to proactively recruit volunteers, although the correlation was not significant (Table 2). The direction of the correlation is consistent with relationship management theory in that communal relationships are viewed as having a positive impact on other variables including the other dimensions of the relationship quality scale (Hon & Grunig, 1999).
Table 2

Relationship Quality Measures Related to Willingness to Proactively Recruit Volunteers - Like (N = 52).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-Order r</th>
<th>Willingness to Proactively Recruit Volunteers</th>
<th>β</th>
<th>p</th>
<th>b</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Mutuality</td>
<td>0.17</td>
<td>-0.03</td>
<td>0.92</td>
<td>0.02</td>
<td>5.85</td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>0.12</td>
<td>-0.38</td>
<td>0.25</td>
<td>0.31</td>
<td>5.53</td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>0.24</td>
<td>0.18</td>
<td>0.55</td>
<td>0.17</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.32</td>
<td>0.43</td>
<td>0.14</td>
<td>0.32</td>
<td>6.12</td>
<td></td>
</tr>
<tr>
<td>Exchange Relationship</td>
<td>-0.22</td>
<td>-0.14</td>
<td>0.26</td>
<td>0.17</td>
<td>5.23</td>
<td></td>
</tr>
<tr>
<td>Communal Relationship</td>
<td>0.26</td>
<td>.127</td>
<td>0.58</td>
<td>0.11</td>
<td>5.29</td>
<td></td>
</tr>
<tr>
<td>Proactive Relationship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.3</td>
<td></td>
</tr>
</tbody>
</table>

Relationship quality measures related to willingness to proactively recruit volunteers – dislike.

A second regression analysis for the same variables was run for the responses for the groups that land managers selected as those they least liked working with (n=39). Results are shown in Table 3. The 6 predictors of control mutuality, trust, commitment, satisfaction, exchange relationship, and communal relationship explained 23.4% of the variance but as a set did not significantly predict willingness to proactively recruit volunteers, F(6,32)=.p<.171. Individually, satisfaction (β = .501, p<.043) significantly predicted levels of willingness to proactively recruit volunteers. Thus, the results indicate that satisfaction is the most important factor in predicting willingness to proactively recruit volunteers for a group they selected as one that they would least enjoy working with; while they may not like working with them as much as others, if the relationship is
satisfying they will still be willing to recruit them. Consistent with results for the “like”
group, higher scores on the exchange relationship dimension were also negatively
associated with willingness to proactively recruit and higher scores on the communal
relationship dimension were positively associated with willingness to proactively recruit,
although neither of the zero-order correlations were significant.

Table 3

Relationship Quality Measures Related to Willingness to Proactively
Recruit Volunteers - Dislike (N = 39).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-Order r</th>
<th>Willingness to Proactively Recruit Volunteers</th>
<th>β</th>
<th>p</th>
<th>b</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Mutuality</td>
<td>0.28</td>
<td>-0.02</td>
<td>0.94</td>
<td>-0.02</td>
<td>4.73</td>
<td></td>
</tr>
<tr>
<td>Trust</td>
<td>0.31</td>
<td>-0.16</td>
<td>0.62</td>
<td>0.19</td>
<td>4.33</td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>0.28</td>
<td>0.12</td>
<td>0.57</td>
<td>0.13</td>
<td>4.64</td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.43</td>
<td>0.50</td>
<td>0.04</td>
<td>0.60</td>
<td>4.60</td>
<td></td>
</tr>
<tr>
<td>Exchange Relationship</td>
<td>-0.15</td>
<td>-0.12</td>
<td>0.54</td>
<td>-0.13</td>
<td>4.80</td>
<td></td>
</tr>
<tr>
<td>Communal Relationship</td>
<td>0.20</td>
<td>0.12</td>
<td>0.49</td>
<td>0.20</td>
<td>4.21</td>
<td></td>
</tr>
<tr>
<td>Proactive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.23</td>
</tr>
</tbody>
</table>

Relationship quality measures related to willingness to work with
volunteers – like.

The second part of H1 tested whether or not higher levels of control mutuality,
trust, commitment, satisfaction, exchange relationship, and communal relationship will
predict a willingness to work with volunteers (Table 4). Within responses for the
volunteer groups selected as those the participants most liked to work with, results of a
3rd separate regression analysis indicated the 6 predictors of control mutuality, trust,
commitment, satisfaction, exchange relationship, and communal relationship explained 24.6% of the variance and significantly predicted willingness to work with the volunteer groups selected F (6, 45)=2.453, \( p < .039 \). Thus, 24.6% of the reason that land managers are willing to work with volunteers can be explained by relationship quality. None of the individual predictor variables had a significant effect on the willingness to work with volunteers. Consistent with the previous results of this study, higher scores for exchange relationship were negatively associated with willingness to work with volunteers while communal relationship was positively associated.

Table 4

*Relationship Quality Measures Related to Willingness to Work With Volunteers - Like (\( N = 52 \)).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-Order ( r )</th>
<th>Willingness to Work With Volunteers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>b</td>
</tr>
<tr>
<td>Control Mutuality</td>
<td>0.39</td>
<td>0.13</td>
</tr>
<tr>
<td>Trust</td>
<td>0.34</td>
<td>-0.16</td>
</tr>
<tr>
<td>Commitment</td>
<td>0.44</td>
<td>0.26</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.40</td>
<td>0.13</td>
</tr>
<tr>
<td>Exchange Relationship</td>
<td>-0.26</td>
<td>-0.16</td>
</tr>
<tr>
<td>Communal Relationship</td>
<td>0.39</td>
<td>0.11</td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Relationship quality measures related to willingness to work with volunteers – dislike.

A 4\(^{th}\) regression analysis was run to examine responses within the groups selected as those the land managers would least like to work with (Table 5). The 6 predictors of
control mutuality, trust, commitment, satisfaction, exchange relationship, and communal relationship explained 37.2% of the variance and significantly predicted willingness to work with volunteers, $F(6,32)=p<.015$. Thus, 37.2% of the reason land managers are willing to work with volunteers can be explained by relationship quality. None of the individual predictor variables had a significant unique effect on the willingness to work with volunteers above and beyond that which it shares with the other measures in the set. Satisfaction showed the strongest correlation with the dependent variable, thus the more satisfied with the relationship, the stronger the willingness to work with volunteers. Although neither correlation was significant, exchange relationship was negatively associated with willingness to work with volunteers and communal relationship was positively associated, which is consistent with the previous regressions. Thus, hypothesis one is partially supported in that relationship quality does have predictive value for the willingness to work with volunteers, and that is the case regardless of whether or not the group is selected as one that the land managers prefer to work with or least like to work with.
### Table 5

**Relationship Quality Measures Related to Willingness to Work With Volunteers - Dislike (N = 39).**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-Order $r$</th>
<th>Willingness to Work With Volunteers</th>
<th>$\beta$</th>
<th>$p$</th>
<th>$b$</th>
<th>$M$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Mutuality</td>
<td>0.17</td>
<td>-</td>
<td>.23</td>
<td>0.43</td>
<td>.19</td>
<td>4.73</td>
</tr>
<tr>
<td>Trust</td>
<td>0.12</td>
<td></td>
<td>-.10</td>
<td>0.74</td>
<td>-0.09</td>
<td>4.33</td>
</tr>
<tr>
<td>Commitment</td>
<td>0.24</td>
<td></td>
<td>0.12</td>
<td>0.54</td>
<td>0.10</td>
<td>4.64</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.32</td>
<td></td>
<td>0.38</td>
<td>0.09</td>
<td>0.39</td>
<td>4.60</td>
</tr>
<tr>
<td>Exchange Relationship</td>
<td>-0.22</td>
<td></td>
<td>-0.09</td>
<td>0.62</td>
<td>-0.08</td>
<td>4.80</td>
</tr>
<tr>
<td>Communal Relationship</td>
<td>0.26</td>
<td></td>
<td>.16</td>
<td>0.32</td>
<td>0.23</td>
<td>4.21</td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.04</td>
</tr>
</tbody>
</table>

H2: Increased efficacy (self-efficacy and response efficacy) within the sample of land managers will predict their willingness to proactively recruit volunteers and work with volunteer programs.

Hypothesis two predicted that increased self-efficacy and response efficacy within the sample of land managers will predict their willingness to proactively recruit volunteers and work with volunteer programs. Self-efficacy measures the extent to which land managers perceive they are capable of seeking out new volunteers, and response efficacy assesses the extent to which the participant believes that his or her efforts to seek out new volunteers will be effective. Response efficacy questions were designed to measure the degree to which land managers perceive the effectiveness of working with volunteer groups as well as the perceived effectiveness of recruiting efforts. These scales were adapted from Witte, Meyer, and Martell’s (2001) Risk Behavior Diagnosis Scale, which has demonstrated reliability and validity in previous studies.
Self-efficacy measures related to willingness to proactively recruit volunteers – like.

A 5th regression analysis was run to examine the responses for the groups that land managers selected as those they most enjoyed working with (n=52), and increased self-efficacy explained 32.8% of the variance and significantly predicted willingness to proactively recruit volunteers, F (1,50)=24.357, p<.001. Results are shown in Table 6. Thus, 32.8% of the willingness to proactively recruit particular volunteer partners can be explained by how much land managers perceive they are capable of seeking out new volunteers. Thus, the self-efficacy model adapted from questions developed for Witte, Meyer, and Martell’s (2001) Risk Behavior Diagnosis Scale is a significant predictor of the willingness to proactively recruit volunteers.

Table 6

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-Order r</th>
<th>β</th>
<th>p</th>
<th>b</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy</td>
<td>0.57</td>
<td>.57</td>
<td>0.001</td>
<td>.48</td>
<td>4.2</td>
</tr>
<tr>
<td>Proactive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.3</td>
</tr>
</tbody>
</table>

Self-efficacy measures related to willingness to proactively recruit volunteers – dislike.

A 6th regression analysis was run to examine the responses for the groups that land managers selected as those they least enjoyed working with (n=39), and self-efficacy explained 8.7% of the variance and did not significantly predict willingness to
proactively recruit volunteers, F (1,37)=3.53, p<.068. Thus, the predictive value of self-efficacy was not significant within the second set of responses and this component of hypothesis one was not supported. Results are shown in Table 7.

Table 7

*Self-Efficacy Measures Related to Willingness to Proactively Recruit Volunteers - Dislike (N = 39).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Self-Efficacy</th>
<th>Proactive</th>
<th>Willingness to Proactively Recruit Volunteers</th>
<th>β</th>
<th>p</th>
<th>b</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy</td>
<td>0.30</td>
<td></td>
<td></td>
<td>.30</td>
<td>0.068</td>
<td>.28</td>
<td>3.2</td>
</tr>
<tr>
<td>Proactive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.2</td>
</tr>
</tbody>
</table>

Response efficacy measures related to willingness to proactively recruit volunteers – like.

A 7th regression analysis was run to examine response efficacy’s predictive value in relation to the willingness to proactively recruit volunteers for responses for groups that land managers selected as those they most liked to work with (Table 8). Response efficacy (work) and response efficacy (recruit) explained 50.3% of the variance and significantly predicted willingness to proactively recruit volunteers F(2,49)=24.80, p<.001. Response efficacy (recruit) was a significant predictor of an increased willingness to proactively recruit volunteers (β = .609, p<.001). Thus, the response efficacy model adapted from questions developed for Witte, Meyer, and Martell’s (2001) Risk Behavior Diagnosis Scale is a significant predictor of the willingness to proactively recruit volunteers and the relationship between response efficacy (recruit) and willingness
to proactively recruit is significant beyond what is shown in the model. The more that land managers feel that recruiting volunteers and working with volunteers has positive outcomes, the more likely they are to engage in behaviors associated with proactive recruitment. This relationship is not surprising given that the two variables are directly related to the specific action of recruitment of volunteers while response efficacy (work) assesses a more general perception of whether or not working with volunteers is effective.

**Table 8**

*Response Efficacy Measures Related to Willingness to Proactively Recruit Volunteers - Like (N = 52).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Willingness to Proactively Recruit Volunteers</th>
<th>β</th>
<th>p</th>
<th>b</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Efficacy (Recruit)</td>
<td>0.70</td>
<td>.61</td>
<td>.001</td>
<td>.69</td>
<td>5.36</td>
</tr>
<tr>
<td>Response Efficacy (Work)</td>
<td>.51</td>
<td>.15</td>
<td>.223</td>
<td>.20</td>
<td>5.84</td>
</tr>
</tbody>
</table>

Response efficacy measures related to willingness to proactively recruit volunteers – dislike.

An 8th regression analysis was run to examine response efficacy’s predictive value in relation to the willingness to proactively recruit volunteers for responses for groups that land managers selected as those they least liked to work with (Table 9). Response efficacy (work) and response efficacy (recruit) explained 48% of the variance and significantly predicted willingness to proactively recruit volunteers F(2,36)=16.68,
Response efficacy (recruit) significantly predicted an increased willingness to proactively recruit volunteers ($\beta = .64$, $p<.001$). Thus, the response efficacy model adapted from questions developed for Witte, Meyer, and Martell’s (2001) Risk Behavior Diagnosis Scale is a significant predictor of the willingness to proactively recruit volunteers and the relationship between response efficacy (recruit) and willingness to proactively recruit is significant beyond what is shown in the model. The more that land managers feel that recruiting volunteer partners that they least prefer to work with and working with these types has positive outcomes, the more likely they are to engage in behaviors associated with proactive recruitment. This finding is consistent with the results from the regression analysis for the “like” responses, making response efficacy the only independent variable tested in both hypotheses that consistently predicts willingness to proactively recruit volunteers.

**Table 9**

*Response Efficacy Measures Related to Willingness to Proactively Recruit Volunteers - Dislike (N = 39).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-Order $r$ Willingness to Proactively Recruit Volunteers</th>
<th>$\beta$</th>
<th>$p$</th>
<th>$b$</th>
<th>$M$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Efficacy (Recruit)</td>
<td>0.69</td>
<td>.64</td>
<td>0.001</td>
<td>.75</td>
<td>4.6</td>
</tr>
<tr>
<td>Response Efficacy (Work)</td>
<td>.51</td>
<td>.07</td>
<td>.65</td>
<td>.09</td>
<td></td>
</tr>
<tr>
<td>Proactive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Self-efficacy measures related to willingness to work with volunteers – like.

A 9\textsuperscript{th} regression analysis was run to examine the predictive value of self-efficacy on
the willingness to work with volunteers for the groups that land managers selected as those they most enjoyed working with (n=52). Results are shown in Table 10. Increased self-efficacy explained 23.9% of the variance and significantly predicted willingness to work with volunteers, F (1,50)=15.74, p<.001. Thus, 23.9% of the willingness to work with particular volunteer partners can be explained by how much land managers perceive they are capable of seeking out new volunteers. This indicates that levels of self-efficacy within individual land managers influences the level of effort that they are likely to expend to work with volunteers when there are perceived challenges or barriers to achieving it, which is consistent with the principles of self-efficacy (Bandura, 1977).

Table 10

*Self-Efficacy Measures Related to Willingness to Work with Volunteers - Like (N = 52).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-Order r</th>
<th>Willingness to Work With Volunteers</th>
<th>β</th>
<th>p</th>
<th>b</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy</td>
<td>0.30</td>
<td>.49</td>
<td>.001</td>
<td>.36</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td>5.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Self-efficacy measures related to willingness to work with volunteers – dislike.

A 10th regression analysis was run to test the predictive value of self-efficacy and willingness to work with volunteers in the “dislike” responses (Table 11). As with the regression for self-efficacy and willingness to proactively recruit volunteers, the results for this test were much different within the “dislike” responses. Self-efficacy explained 0% of the variance and did not significantly predict willingness to work with volunteers.
F(1,37) = .011, p < .918. Thus, self-efficacy did not show consistent predictive value in between the “like” and “dislike” conditions and this aspect of H2 is only partially supported.

**Table 11**

*Self-Efficacy Measures Related to Willingness to Work with Volunteers - Dislike (N = 39).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-Order r</th>
<th>Willingness to Work With Volunteers</th>
<th>β</th>
<th>p</th>
<th>b</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy</td>
<td>0.017</td>
<td></td>
<td>0.017</td>
<td>0.918</td>
<td>0.014</td>
<td>3.23</td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.04</td>
<td></td>
</tr>
</tbody>
</table>

Response efficacy measures related to willingness to work with volunteers – like.

An 11th regression analysis was run to examine the predictive value of response efficacy (work) and response efficacy (recruit) in relation to willingness to work with volunteers among responses for groups land managers selected as those they would most like to work with (Table 12). This regression explained 59% of the variance and significantly predicted willingness to work with volunteers F(2,49)=36.04, p < .001. Response efficacy (recruit) significantly predicted an increased willingness to work with volunteers (β = .34, p < .004), and levels of response efficacy (work) also significantly predicted an increased willingness to work with volunteers (β = .52, p < .001). Thus, the response efficacy model adapted from questions developed for Witte, Meyer, and Martell’s (2001) Risk Behavior Diagnosis Scale is a significant predictor of the willingness to work with volunteers, and the relationships between response efficacy
(recruit) and response efficacy (work) are significant predictors of willingness to work with volunteers beyond what is shown in the model.

Table 12

Response Efficacy Measures Related to Willingness to Work With Volunteers- Like (N = 52).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-Order r</th>
<th>Willingness to Work With Volunteers</th>
<th>β</th>
<th>p</th>
<th>b</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Efficacy (Recruit)</td>
<td>0.65</td>
<td>.34</td>
<td>.004</td>
<td>.34</td>
<td>5.36</td>
<td></td>
</tr>
<tr>
<td>Response Efficacy (Work)</td>
<td>.72</td>
<td>.52</td>
<td>.001</td>
<td>.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.84</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.43</td>
<td></td>
</tr>
</tbody>
</table>

Response efficacy measures related to willingness to work with volunteers – dislike.

A 12th and final regression analysis tested whether or not response efficacy (recruit) and response efficacy (work) significantly predict willingness to work with volunteers among responses for the groups land managers selected as those they least enjoyed working with (Table 13). This regression explained 47% of the variance and significantly predicted willingness to work with volunteers F(2,36)=16.28, p<.001.

Unlike the responses for the “like” groups, response efficacy (recruit) did not significantly predict an increased willingness to work with volunteers (β = .194, p<.242) but levels of response efficacy (work) did significantly predict an increased willingness to work with volunteers (β = .54, p<.002). Thus, the response efficacy model adapted from questions developed for Witte, Meyer, and Martell’s (2001) Risk Behavior Diagnosis
Scale is a significant predictor of the willingness to work with volunteers regardless of whether or not land managers selected the group as one that they most wanted to work with or least wanted to work with, and the relationship between response efficacy (work) is a significant predictor of willingness to work with volunteers beyond what is shown in the model.

**Table 13**

*Response Efficacy Measures Related to Willingness to Work With Volunteers - Dislike (N = 39).*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable</th>
<th>Willingness to Work With Volunteers</th>
<th>β</th>
<th>p</th>
<th>b</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Efficacy</td>
<td>0.56</td>
<td>.19</td>
<td>0.24</td>
<td>.20</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>(Recruit)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response Efficacy</td>
<td>.67</td>
<td>.54</td>
<td>.002</td>
<td>.62</td>
<td>4.9</td>
<td></td>
</tr>
<tr>
<td>(Work)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.04</td>
<td></td>
</tr>
</tbody>
</table>
Chapter Five: Discussion

Differences Between “Like” and “Dislike” Groups

One research question was investigated in this study, and the mean scores for measurements of relationship quality were found to differ significantly between the “like” and “dislike” responses. This supports the idea that the dimensions listed here (control mutuality, trust, commitment, satisfaction, exchange relationship, communal relationship) are important in working relationships between Forest Service land managers and volunteer partnerships, since the absence of significant differences would have indicated that the scale used to measure relationship quality was not accurately detecting differences between most preferred types and least preferred types. The significant differences between means also indicates that partnerships have different organizational identities, and that the groups selected as those land managers would least like to work with score lower across all dimensions of relationship quality. These results are consistent with research in which significant differences in the mean scores of this scale were found when participants responded to questions in relation to 5 different organizations (Hon & Grunig, 1999). The degree to which the relationship quality scale can predict certain proactive behaviors will be explored in the discussion of the directional hypotheses, but the differences found between the “like” and “dislike” responses indicate support of Hon and Grunig’s (1999) scale as a valid tool for exploring those hypotheses.
Exchange versus communal relationship: A continuum.

Findings also revealed that the land managers viewed the relationship between the Forest Service and volunteers as more of an exchange in nature rather than a communal relationship regardless of organizational type, and scores for both exchange relationship and communal relationship were lower for the “dislike” responses. While the difference in results found here run counter to the assumption that the relationship between the Forest Service and volunteers is communal in nature, the results do not necessarily run counter to the concepts of relationship management theory. In Hon and Grunig’s (1999) original study, organizations perceived by stakeholders to be higher on exchange values scored lower on the 4 indicators of relationship quality (control mutuality, trust, commitment, and satisfaction). Recent research comparing three different organizational types conducted by Waters and Bortree (2012) also found that organizations with higher levels of communality scored higher on the 4 indicators of relationship quality. Both studies compared scores for relationship quality between organizations that serve different functions, such as nonprofit organizations and major corporations (Hon and Grunig, 1999) and retailers and political organizations (Waters & Bortree, 2012). In the case of this study, scores likely wouldn’t vary as much as a comparison between the scores of organizations or publics that serve completely different functions. Given that all four types are ostensibly meeting the same need of the Forest Service to utilize volunteers to help accomplish work on the ground, the finding that all four types are more exchanges in nature is not surprising since the nature of the relationship itself is fundamentally the same. When interpreted in this way, the results found here do not contradict previous findings on the relationship between communal relationship and scores on the other dimensions in the relationship quality scale.

As stated earlier, Morgan and Hunt (1994) point out that public-purpose relationships between organizations and government are exchange relationships that
involve partnerships rather than traditional marketing classifications of consumers and producers. The Forest Service’s primary given reason for working with volunteers is for accomplishing more work on the ground; while some could argue that this could be viewed as utilizing volunteers as a form of cheap labor, one could say that about volunteering in general. Volunteers with the Forest Service also receive benefits since they are motivated to contribute their time and would not voluntarily offer to participate on projects if they didn’t perceive value. Regardless of whether a particular volunteer joins a project due to a desire for a working vacation or because they care deeply about a particular place, if the work contributed by either volunteer is equal in terms of quality and quantity then the end result is the same for the land manager. Because of this, while the act of volunteering with the Forest Service is communal and collaborative in the sense that the Forest Service and members of the public enter into an agreement to benefit the resource, it is not automatically more communal in nature than that of any other organization and its public. It is also important to note that Hon and Grunig (1999) make the point that exchange relationships are not necessarily negative, and are more characteristic of organizational/public relationships in their earlier stages.

It is also worth noting that the difference between the mean scores on communal relationship within the “like” and “dislike” groups was significantly greater than the difference between the two mean scores for exchange relationship. This indicates that while scores for both exchange and communal relationship were lower for the “dislike” responses, the more significant drop in communal relationship score may be correlated with the lower scores of trust, commitment, satisfaction, and control mutuality within that group. While the difference between the levels of exchange and communal relationships was not inversely related to whether or not land managers selected particular types as those they most wanted to work with and least wanted to work with, the groups that they most wanted to work with did exhibit proportionately higher levels of communal
relationship. This finding is consistent with other statistical tests of Hon and Grunig’s (1999) scale in that relationships with more communal traits score higher in terms of overall quality and indicate that the degree to which a relationship is exchange versus communal can be viewed as part of a continuum between communal and relationships that are highly favorable to one side (Waters & Bortree, 2012).

**Self-efficacy and response efficacy between organizational types.**

There is also support for the idea that levels of self-efficacy and response efficacy vary between organizational types, and are therefore valid dimensions to explore since they take into account the fact that behavior of individual land managers is influenced by factors other than relationship quality. As stated earlier, concepts of self-efficacy take into account the fact that while a person may believe that a particular action will produce certain outcomes, low self-efficacy perceptions toward a certain behavior will negatively influence that person’s decision to take action even if the outcomes are perceived as desirable (Bandura, 1977). In this study, self-efficacy was incorporated to account for the possibility that if a land manager views their relationship with a particular type of volunteer partner positively yet feels that they do not have the resources to engage in certain proactive tactics needed to recruit and engage volunteers, self-efficacy may be a stronger predictor of the willingness to recruit and work with volunteers than relationship quality. The results indicated a significant difference between the means of the two partnership types selected by land managers, which supports the idea that self-efficacy levels are also important in working relationships. In the context of this research question, the results may indicate a connection between perceived relationship quality and self-efficacy. For example, if a land manager has finite available resources, they may place a higher priority on allocating those resources toward coordinating a particular volunteer partner that they feel more positively about. While the degree to which self-efficacy may predict certain behaviors will be explored further in the discussion of the
directional hypotheses, this result demonstrates a relationship between self-efficacy levels and organizational type.

The results also revealed a significant difference in levels of response efficacy between the groups that land managers most liked working with and least liked working with. Response efficacy is the belief that a recommended response will help to reduce or solve a particular problem or threat while self-efficacy is the belief that the respondent is able to carry out a behavioral response to a perceived problem or threat (Witte, Meyer, & Martell, 2001). Response efficacy was utilized within this study to evaluate the degree to which the sample of land managers feel that their efforts to recruit volunteers or work with volunteers will result in positive outcomes. Although the primary intent behind the inclusion of response efficacy is related to the testing of the dependent variables in the directional hypotheses, the results of the t-test used to answer the research question supports response efficacy as an important component of this working relationship as well. The results indicate that the participants perceive that proactively recruiting volunteers and working with volunteers yields more positive results in regards to some volunteer partnership types than it does for others. The degree to which response efficacy levels predict selected behaviors will be examined further in the discussion of the two directional hypotheses.

**Types of volunteer partnerships.**

The results of comparing the types of volunteer partnerships should not be generalized toward attitudes toward volunteers in general, but offer a more precise look at perceptions related to specific types of volunteer partnerships that land managers work with. The results are significant in that they support the concept that when examining relationship quality between the Forest Service and volunteers, it is critical to clearly
identify what types of volunteer groups or partnerships are being referenced. If a similar study of agency perceptions of volunteers used the general term “volunteers” rather than specifying a specific organizational type, land managers may conceptualize “volunteer” differently. This could threaten internal validity since a participant might make incorrect assumptions about the type of volunteer groups referenced, or score their answers differently because they feel they have to answer for multiple types. As Hon and Grunig (1999) point out, organizations have different identities tied to their behaviors, and if different volunteer partnerships behave differently due to how they operate, it is critical to recognize that difference in order to accurately assess relationship quality. Thus, in addition to demonstrating that the dimensions of relationship quality and efficacy tested here are relevant, these findings are significant in that the categories used might be helpful when conducting similar studies.

**Relationship Quality’s Predictive Value for Proactive Behaviors**

The first directional hypothesis tested whether or not measures of relationship quality would have a significant predictive effect on willingness to recruit and work with volunteers. The different dimensions of relationship quality did not predict an increased willingness to proactively recruit volunteers in either the “like” or “dislike” categories, thus the first part of hypothesis 1 is not supported. While the results for RQ1 indicate that the relationship quality measures are important in assessing the relationship, different levels of relationship quality do not exhibit a significant effect on the willingness to proactively recruit volunteers. These results are inconsistent with previous studies that have demonstrated support for the predictive value of the scale developed by Hon and Grunig (1999). For example, levels of relationship quality among a sample of individual
donors to a nonprofit significantly predicted giving behaviors such as frequency and size of donations (Waters, 2008). It is important to note that while the dependent variable of willingness to proactively recruit volunteers is based on self-reported behavior and is intended to assess general intentions rather than specific past actions, the study by Waters (2008) utilized the past giving histories of the participants as the dependent variable. This could indicate that the inconsistency in findings may be a result of the differences between attempting to predict the more subjective concept of willingness to volunteer rather than utilizing relationship quality as a means to try and predict actual behaviors that can be measured. It may also be that levels of relationship quality do not predict willingness to proactively recruit because recruitment may be influenced more by other factors, including self and response efficacy. That possibility will be examined in the 2nd directional hypothesis.

The second part of H1 was supported in that the quality of the long-term relationship between land managers and volunteer partnerships as measured through Hon and Grunig’s (1999) scale is a measurable and significant predictor of willingness to work with specific types of partnerships. The willingness to work scale was created to assess specific aspects of the Forest Service/volunteer relationship including the degree to which land managers feel they use volunteers whenever possible, feel that working with volunteers is important and worthy of funding, consider themselves dedicated to working with volunteers, and whether or not they have concerns about volunteers displacing their seasonal workforce. The results indicating a predictive effect for the model of relationship quality in regards to this variable lends support to relationship management theory as a framework for measuring outcomes of relationships based on attitudes and
their impact on actual behaviors (E.g. Bruning, Langenhop, and Green, 2004; Bruning, DeMiglio, & Embry, 2006; Hon & Grunig, 1999; Kent & Taylor, 2002; Ledingham, 2001; Ledingham, 2003; Taylor & Doerfel, 2005; Waters & Bortree, 2012). Although the extent to which the results can be generalized toward other relationships outside of this particular group of Forest Service land managers and different types of volunteer partnerships is limited due to the small sample size, the results indicate that for these participants, relationship quality as measured by Hon and Grunig’s (1999) scale has a measurable predictive effect on relevant perceptions of volunteers. This provides support for quantitative measurement of relationship quality as a potential means of influencing positive outcomes and attitudes toward volunteer partnerships over the long-term. While the fact that a land manager who states a general preference for working with one type of volunteer partner is probably going to be more willing to work with them seems logical, this finding shows that this general concept can be quantified in a way that could provide consistent evaluation of the relationship between the Forest Service and volunteer partnerships from year to year.

**Exchange relationship and communal relationship.**

One interesting result of utilizing the scale for relationship quality to test a directional hypothesis was that scores for exchange relationship revealed a negative correlation between levels of exchange relationship and both the willingness to proactively recruit volunteers and the willingness to work with selected groups. This negative association was consistent for all statistical tests in this hypothesis regardless of whether or not the responses were related to the volunteer partnerships that Forest Service land managers selected as those they most wanted to work with or least wanted to
work with. While there was no significant predictive effect, higher levels of exchange relationship in this case were correlated with lower scores for both dependent variables. Reflecting the dichotomous nature of exchange relationship and communal relationship, scores for communal relationship were positively correlated with scores for both the willingness to proactively recruit and the willingness to work with volunteers.

In relationship management theory, exchange relationship is conceptualized as the degree to which a relationship can be measured as transactional, with both parties exchanging benefits only because they expect something in return (Hon & Grunig, 1999). Although levels of exchange and communal relationship did not predict either of the dependent variables, the direction of the correlations is consistent with previous findings demonstrating that relationships with more communal qualities score higher on other dimensions of relationship quality (Waters, 2008; Waters & Bortree, 2012). This lends further context to the discussion surrounding exchange relationship and communal relationship in relation to the research question. While the results do not indicate a strong predictive effect for either exchange or communal relationship, the direction of the correlation does lend support to the idea that even though this may be an exchange relationship, the cultivation of communal qualities and two-way communication may have a positive impact on the relationship. While shifting the balance from communal to exchange may not a realistic end goal for the Forest Service and volunteer partnerships, perhaps cultivating more communal qualities to improve the overall quality of the relationship is a more realistic and potentially worthy goal.
Predictive Value of Self-Efficacy and Response Efficacy on Proactive Behaviors

Discussion of self-efficacy.

The second hypothesis tested whether increased levels of self-efficacy and response efficacy within the sample of land managers will predict willingness to proactively recruit volunteers and work with volunteer programs. Results indicated that self-efficacy levels predicted willingness to proactively recruit and work with volunteers among responses for the group selected as the one the land managers most liked to work with, but not for the group that they selected as the one they least wanted to work with. The difference between the predictive ability of self-efficacy within the group selected as the one land managers most liked to work with and the group they least liked working with may be due to several factors. Firstly, there was a difference between the scales used for self-efficacy for the “like” and “dislike” conditions due to reliability concerns. In the “like” responses, removing any one of the 4 questions for the scale for self-efficacy would have dropped the Cronbach’s alpha to less than .700 during the reliability analysis. However, removing the question “I feel I am able to communicate effectively with potential (insert volunteer partnership type) prior to the start of a project” from the scale was essential in the “dislike” responses in order to get the Cronbach’s alpha above .700 (Cronbach’s was .359 with all four items, and .739 after taking out this question). Since the 3 other questions were related more directly to recruitment rather than communication, this question may be part of the reason why the significance of the results varied in between the “like” and “dislike” conditions. Other factors could include the smaller sample size and the fact that 13 participants stopped taking the survey at the midpoint. Since self-efficacy approached significance as a predictor at p<.068 and because self-efficacy did
significantly predict willingness to proactively recruit volunteers in the “like” responses, future research should include examination of these factors.

Another factor potentially involved with the different predictive quality for self-efficacy could be due to a fundamental difference between perceptions surrounding the groups that the land managers most wanted to work with and least wanted to work with. These results could indicate that when land managers feel positively about a particular partnership type, they feel that they have the capacity and willingness to proactively recruit volunteers associated with that partnership type. However, if the land managers have a negative perception of a particular partnership type, recruiting more volunteers in that category is not a priority and the capacity for recruitment is removed. This would be consistent with some of the concepts explored in Greenslade and White’s study on planned behavior and the predictive value of self-efficacy and attitudes in relation to volunteering (2005); this study found that while self-efficacy was not always a strong individual predictor of the intent to volunteer, it did have a predictive effect when combined with measurements of positive attitudes toward volunteering and social norms. Since higher scores on relationship quality may have a similar interaction with self-efficacy, the intent to proactively recruit volunteers may be predicted by a model that takes both of these factors into account.

This seems to indicate that when a particular volunteer group is selected as one that land managers least like to work with, self-efficacy is not an important factor in predicting willingness to work with that group. This may indicate that perceived barriers to recruitment are not relevant in instances where land managers have a more negative perception of the particular volunteer partnership type, but are relevant when land
managers have a positive perception of the particular volunteer partnership type. In terms of practical applications, this may mean that in instances where volunteer partner types are viewed as less desirable to work with, concerns about efficacy and agency support for its employees are less important than concerns about behaviors on the part of the volunteer partner that may need to be addressed.

**Response efficacy as predictor.**

Out of all the models and variables tested within this study, the model for response efficacy demonstrated the most significant predictive effect within responses for the groups that land managers most wanted to work with and least wanted to work with. Response efficacy is related to the concept of outcome expectations, which as defined in Bandura’s (1977) theory are the anticipated results caused by a particular behavior. Bandura (1977) and others argue that it is necessary to consider what people expect to happen as a result of actions they might take in order to predict whether they will take those actions. The results of this study support these concepts in that the more that land managers feel that recruiting volunteers and working with volunteers has positive outcomes, the more likely they are to engage in collaborative behaviors such as using volunteers whenever possible, supporting funding for volunteer projects, and expressing support for working with volunteers. This result indicates that the most consistently predictive quantitative measurement explored in this study is the degree to which land managers feel that recruiting volunteer partners and working with volunteers has tangible benefits for public lands and volunteer programs. If land managers do not feel that recruiting volunteers provides benefits, it seems logical to assume that they would be less willing to spend time recruiting volunteer partners. The measurements used here help
quantify and demonstrate support for that logical assumption.

While response efficacy (work) did not have a significant predictor effect on the willingness to proactively recruit volunteers independent of its effect within the model, results indicate that the belief that working with volunteers provides benefits to the Forest Service and public lands are also important when predicting willingness to proactively recruit volunteer groups. It seems unlikely that a land manager with high response efficacy levels for recruiting volunteer partners would have low response efficacy levels in relation to perceived benefits of working with volunteers, but it would not be out of the question for a land manager to have low response efficacy levels for the benefits of recruiting volunteers yet still have high response efficacy levels for the benefits of working with volunteers. In short, the only consistent predictor of willingness to proactively recruit volunteers is the belief that those recruitment efforts are valuable. Regardless of whether or not a land manager feels positively about a particular type of volunteer group, the perception that recruiting new volunteers is a valuable use of resources is independent of their assessment of relationship quality. While self-efficacy was partially supported as a predictor of willingness to proactively recruit volunteers, the results indicate that it only has predictive qualities when the type of volunteer partnership is perceived positively. In this sense, response efficacy may be less influenced by other factors in the relationship.
Chapter Six: Conclusions

Methods: Limitations and Recommendations

Overall, several general limitations of this study that were outlined in the methods section should be considered when interpreting and discussing results. First, only Forest Service land managers from two designated Regions participated and results should not be generalized as representative of all Forest Service land managers since there are 7 other Regions within the agency that were not represented here. Furthermore, interpretation of the results might not transfer to other industries, government agencies, or other real-world scenarios outside of the Forest Service. Differences in distribution methods within the two Regions also affected the number of responses from employees within each Region, with the majority of responses completed by Region One employees. It may therefore be difficult to generalize these results to Forest Service land managers within Regions One and Two. Demographic data indicated that the participants met the primary criteria for the intended sample, which included employment at the district level and job duties related to coordinating volunteers or volunteer programs. Thus, while results are limited in terms of generalization, the data represents a small but influential group of land managers with relevant experience with volunteer groups. In general, results should be interpreted in the context of analyzing the responses of a small yet relevant sample of Forest Service land managers through the framework of relationship management theory.

Second, while the sample set was large enough to assess differences between responses for the groups that land managers selected as those they would most like to work with as well as those they least liked working with, there were not enough valid
responses to compare differences between each specific type of volunteer category. This meant that responses for the “like” and “dislike” categories were grouped together. While this approach provided enough responses to conduct relevant analysis of the research question and hypotheses, it does not provide for richer analysis of responses between different types of volunteer groups. For example, Only 4 out of 53 respondents indicated that they would most like to work with volunteer vacation groups, while 28 out of 51 respondents indicated that volunteer vacation groups would be their least favorite group to work with. Had the response been greater, comparing the mean scores between volunteer vacation groups and the three other types may have revealed differences in specific aspects of the relationship that could help determine why this one group type was selected less frequently as a preferred partner. The smaller sample size limits the ability to analyze if scores for relationship quality and efficacy had measurable effects or implications related to specific volunteer partnership categories. When interpreting results, readers should be cautious about implications as they relate to specific types of volunteer partnerships and view the research question in particular as a general test of whether or not there is a measurable difference between the groups that this sample of land managers selected as those they that they least liked working with and most liked working with.

**Lessons Learned and Value of Research**

As mentioned above, significant differences between the mean scores of relationship quality and efficacy between the two different types of volunteer partnerships were found; this indicates that relationship quality and efficacy are important aspects of working relationships between Forest Service land managers and volunteer partnerships, and that the scales used here may be useful as practical tools for tracking relationship quality and efficacy related to working with different types of partnerships over time. These scales could also be used to assess the quality of the relationship
between the agency and a particular volunteer partner, or more generally to track internal efficacy levels within the Forest Service. Further refinement of the questions based on Hon and Grunig’s (1999) scale would be necessary to see if some of the issues that led to weaker Cronbach’s alpha levels in the scales for commitment and communal relationship can be addressed. There might also be opportunities to improve reliability by adding more items back to Hon and Grunig’s (1999) scale, which was not practical here due to the length of the questionnaire. In general, practical applications of these scales would need to be determined by the current and ongoing needs of the Forest Service and volunteer partners. Sharing the results of this study within several different contexts will be critical to determine if there is interest in utilizing these scales. Qualitative interviews with key decision makers such as district rangers or the National Partnership Office may be helpful in determining whether or not these scales might be useful, and in determining next steps for utilizing them.

The significant differences between means also indicates that different types of partnerships have different identities, and that the groups selected as those land managers would least like to work with score lower across all dimensions of relationship quality and efficacy. In terms of practical applications, the categories of volunteers coordinated by the agency, volunteer vacation groups, volunteer-based organizations, and youth corps may be useful in future examinations of agency and volunteer partnerships. These categories could be applied within a number of different contexts and areas of study beyond the variable studied here. In terms of practical applications, this might be one of the more significant findings since it demonstrates that these relationships can be measured quantitatively, and that using categories such as “volunteers” or “partners” may be too broad in certain contexts. Out of all of the findings here, this holds the most
promise as one that would be immediately useful to researchers and anyone interested in Forest Service partnerships.

In terms of practical applications of the theories explored here, there were multiple results that could inform future action depending on agency resource and needs. For example, if proactive recruitment of volunteer partners is identified as something that either the agency or its partners would like to increase, the most important factor may be increasing the perception that these efforts will provide benefits on a district ranger level. However, in some districts there simply may not be a need to proactively recruit more volunteers or different types of partners. In some ranger districts, land managers may be content with the number of partners and volunteers that they work with every year, and may not have the capacity to take on new partners. In the event that volunteer partners are already recruiting an adequate number of volunteers, recruitment might not be viewed as a priority either. Qualitative interviews with land managers may be able to provide some insight as to whether or not the willingness to proactively recruit volunteers is a consistently necessary activity, or if there are other proactive behaviors that are more relevant.

Similar approaches could be applied toward evaluating each of the variables studied here. The scales used here could also be utilized to evaluate relationships and efficacy on an agency-wide or micro level, with land managers evaluating specific partners rather than attempting broad comparisons and statistical analysis. The overall recommendation is to build upon these results in order to improve the quality of the relationship between the Forest Service and volunteer partnerships.

In terms of methodological approaches that directly impact the testing of
relationship management theory, the clearest way to improve the sampling technique is to have a consistent means for distributing the survey among Forest Service land managers using internal lists of employees that are targeted toward employees that work extensively with volunteers. However, it is worth noting that the study from the Sonoran Institute’s Collaborative Action Team (2005) cited earlier in this study pointed out that there is little incentive for land managers to forge collaborative partnerships due in part to traditional bureaucratic structures, and it is not unlikely that the same internal agency resistance to change would be encountered when attempting to implement a multi-year effort to study collaboration and partnerships. The same traditional hierarchal structure that is resistant to innovation makes it an extremely difficult agency to study as an external party requesting access to employees. It is likely that the difficulties inherent in studying bureaucracy are one of the main reasons why the majority of the academic literature surrounding public lands and collaboration is based on qualitative data, since the access to participants within the agency is so much easier on a smaller scale.

Although definitions of bureaucracy within the organizational behavior literature were not included as part of this study, previous academic research on bureaucracies may have theoretical and practical implications for further study of the Forest Service.

If we return to the anecdote of the Forest Service land manager who did not have a positive view of volunteer groups, it is important to return to the reasons why that anecdote is important in terms of illustrating the importance of quantitative measurement in regards to Forest Service land managers and volunteer partnerships. Without a way to quantify perceptions that have an impact on behavior, the degree to which the Forest Service is succeeding in its role as the coordinator of thousands of partnerships across the
country will remain unknown outside of anecdotes. An aspect of success can be measured in the number of volunteer hours and on-the-ground accomplishments produced by volunteers on each district, but those accomplishments do little to reveal valuable information about how perceptions inform behaviors. Given the tremendous value of public lands, the relationship between the Forest Service and its partners is an extremely important one that needs to be evaluated on a broader scale over the long-term. Public relations theory provides a perspective not previously utilized in research surrounding partnerships and public lands, and this study is one example of how the theory can be applied to a broad spectrum of situations.
References


Appendix A

Lands Managed by USDA Forest Service

Appendix B

Introductory E-mail

Subject: Forest Service Volunteer Survey

Do you work for the USDA Forest Service at the ranger district level or coordinate other employees who do? Do you work with volunteers on Forest Service projects related to trail work, wilderness stewardship, or other recreation-related needs that can be supplemented with a volunteer workforce? If you fit this general description, you are invited to complete this voluntary survey to share your opinions.

If you are a line officer or coordinator, you are also invited to forward this e-mail to other Forest Service employees in your district or region who fit the above description.

Your opinions concerning the relationship between Forest Service and volunteers are extremely important and are entirely confidential. Your time is very valuable and I greatly appreciate the time you give to fill out this survey, which will take about 15-20 minutes to complete. Again, participation is voluntary and is not required by the Forest Service or any other entity.

I am conducting this study as part of my Master of Arts degree program at the University of Denver. This survey has been officially approved by my faculty committee and the Institutional Review (IRB) at the University of Denver and reviewed by several Forest Service employees prior to being made available. Results will be made available upon request. You may also contact me or my faculty advisor, Renée Botta, at any time with any questions or concerns that you may have.

The survey is located at http://surveygoeshere. By clicking on this link you will be taken to the survey greeting page which will offer some more detailed information. At the
end of the greeting page, you will be prompted to click through to begin the survey.
Again, your responses are COMPLETELY confidential and cannot be traced back to an
individual.

Thank you in advance for your time and cooperation.

Sincerely,

Jessica Evett
University of Denver
jevett@du.edu
303-638-XXXX

Renée A. Botta, Ph.D.
Associate Professor, University of Denver
rbotta@du.edu
303.871.XXXX
Appendix C

Internal Forest Service Memo Sent with E-mails with Survey Link

File Code: 2300
Route To: Date: April 5, 2009

Subject: Volunteer Program Survey
To: Dave Bull, R1 Recreation Director, Steve Sherwood, R2 Recreation Director

I have been contacted by a graduate student, Jessica Evett, who is pursuing a Master’s Degree in the Department of Mass Communications at the University of Denver. Her thesis topic is “Relationship Management Issues Between Forest Service Land Managers and Volunteers.” She has provided the Forest Service with a copy of her survey which has been reviewed by the University’s Survey Review Board.

Jessica is asking for our assistance in surveying employees in Regions 1 and 2 who interact with volunteers. She has been in contact with Volunteer Coordinators from both regions and requested their assistance in distributing the surveys to the appropriate employees. The responses to the survey are anonymous and cannot be matched to an individual by the researcher, the agency or the University.

I have reviewed the project proposal and the survey and believe that the results of this project would be useful to the agency and could add value to the Volunteer Program. I understand that this is an added request to employees and that it is optional for them to take the 15-20 minutes required to respond. However, as we continue to make changes to expand our program and enhance the experience of volunteering for the Forest Service, the information gained from this project could be very valuable to the agency.

I appreciate your consideration of Jessica Evett’s request and encourage your staff to assist in her project.
JAMES S. BEDWELL

Director of Recreation, Heritage, and Volunteer Resources

cc: Steve Kratville

Marlette Lacey
Appendix D

1st Reminder E-mail Text

Subject: Forest Service Volunteer Survey

Do you work for the USDA Forest Service at the ranger district level or coordinate other employees who do? Do you work with volunteers on Forest Service projects related to trail work, wilderness stewardship, or other recreation-related needs that can be supplemented with a volunteer workforce? If you fit this general description, you are invited to complete this voluntary survey to share your opinions. Responses will be collected through May 31st, so your participation is greatly appreciated.

If you are a line officer or coordinator, you are also invited to forward this e-mail to other Forest Service employees in your district or region who fit the above description.

Your opinions concerning the relationship between Forest Service and volunteers are extremely important and are entirely confidential. Your time is very valuable and I greatly appreciate the time you give to fill out this survey, which will take about 15-20 minutes to complete. Again, participation is voluntary and is not required by the Forest Service or any other entity.

I am conducting this study as part of my Master of Arts degree program at the University of Denver. This survey has been officially approved by my faculty committee and the Institutional Review (IRB) at the University of Denver and reviewed by several Forest Service employees prior to being made available. Results will be made available upon request. You may also contact me or my faculty advisor, Renée Botta, at any time with any questions or concerns that you may have.
The survey is located at http://surveygoeshere. By clicking on this link you will be taken to the survey greeting page which will offer some more detailed information. At the end of the greeting page, you will be prompted to click through to begin the survey. Again, your responses are COMPLETELY confidential and cannot be traced back to an individual.

Thank you in advance for your time and cooperation.

Sincerely,

Jessica Evett
University of Denver
jevett@du.edu
303-638-XXXX

Renée A. Botta, Ph.D.
Associate Professor, University of Denver
rbotta@du.edu
303.871.XXXX
Appendix E

2nd Reminder E-mail Text

Subject: Volunteer Survey Open Through June 5th

If you work for the USDA Forest Service and work with volunteers on projects related to trail work, wilderness stewardship, or other recreation-related needs, you are invited to complete this voluntary survey to share your opinions. In particular, we are hoping to get more responses from those Forest Service employees who work in Region 2. Responses will be collected through June 5th, so your participation is greatly appreciated.

If you are a line officer or coordinator, you are also invited to forward this e-mail to other Forest Service employees in your district or region who fit the above description. Your assistance in distributing this survey to employees who work with volunteers is greatly appreciated, and it will help me collect data that may prove helpful in assessing volunteer efforts throughout Regions 1 and 2.

Your opinions concerning the relationship between Forest Service and volunteers are extremely important and are entirely confidential. Your time is very valuable and I greatly appreciate the time you give to fill out this survey, which will take about 15-20 minutes to complete. Again, participation is voluntary and is not required by the Forest Service or any other entity.

I am conducting this study as part of my Master of Arts degree program at the University of Denver. This survey has been officially approved by my faculty committee and the Institutional Review (IRB) at the University of Denver and reviewed by several Forest Service employees prior to being made available. Results will be made available
upon request. You may also contact me or my faculty advisor, Renée Botta, at any time with any questions or concerns that you may have.

The survey is located at http://surveygoeshere. By clicking on this link you will be taken to the survey greeting page which will offer some more detailed information. At the end of the greeting page, you will be prompted to click through to begin the survey. Again, your responses are COMPLETELY confidential and cannot be traced back to an individual.

Thank you in advance for your time and cooperation.

Sincerely,

Jessica Evett
University of Denver
jевett@du.edu
303-638-XXXX

Renée A. Botta, Ph.D.
Associate Professor, University of Denver
rbotta@du.edu
303.871.XXXX
Appendix F

Questionnaire:

WHAT IS THIS STUDY? With permission of the Forest Service, employees in Regions 1 and 2 who work with volunteers have been asked to complete an anonymous, online survey. Your time and opinions are very valuable to me and will provide important insight into the relationship between Forest Service employees and volunteers. Your honest and immediate response is greatly appreciated. The study is being conducted by Jessica Evett, a master’s student at the Department of Mass Communications & Journalism Studies, University of Denver, Denver, CO 80208, 303-638-3860, jevett@du.edu. The results may be published to share with other researchers and those interested in volunteer partnerships.

CONFIDENTIALITY: Participation in this project is strictly voluntary. The risks associated with this project are minimal. If, however, you experience discomfort you may discontinue your participation at any time. We respect your right to choose not to answer any questions that may make you feel uncomfortable. No penalty or loss of benefits to which you are otherwise entitled will occur if you decide to withdraw from participation at any point while taking this survey. Your responses will be anonymous and no one will be able to connect your identity with the information you give. Your completion and submission of the online questionnaire will signify your consent to participate in this project.
HOW LONG WILL THE QUESTIONNAIRE TAKE? The questions are all multiple choice answers. This test has an average completion time of 15-20 minutes.

Thank you in advance for choosing to fill out this survey. This survey is intended to measure the candid opinions of ranger district level Forest Service employees, so please respond to questions with your honest opinion whether or not it falls in line with the official Forest Service position on the subject. Again, your answers are completely confidential and cannot be traced to an individual.

If you have any concerns or complaints about how you were treated during the interview, please contact Sylk Sotto-Santiago, Office of Sponsored Programs at 303-871-4052, ssottosa@du.edu, or write to the University of Denver, Office of Sponsored Programs, 2199 S. University Blvd., Denver, CO 80208-2121. You may print and keep this page for your records. Thank You!

Question One: Please read the following descriptions for volunteer program types carefully and then rank them for HOW MUCH you work with the groups in order of LEAST=1 to MOST=4.

A. Forest Service volunteer programs. Official Forest Service volunteer projects in which the Forest Service often actively recruits or encourages volunteer participation for programs coordinated by the agency. In this category, the Forest Service initiates projects and is responsible for coordinating most of the project logistics.
B. Volunteer vacation groups. Categorized as groups like Sierra Club or American Hiking Society in which volunteers sign up with a national or regional organization that occasionally helps coordinate these projects with the Forest Service. Volunteers will give up a period of several days or more of their time to volunteer, and may have received some sort of training before arriving at the project site.

C. Volunteer-based organizations. Organizations that are dedicated to coordinating efforts of local volunteers on public lands and proactively seeking participants. The organization’s mission statement centers around volunteer coordination and outreach. Depending on the level of organizational development and funding, these organizations may provide trainings for their volunteers.

D. Youth corps programs. Organizations whose primary mission is conservation and youth development. These organizations are modeled after the Civilian Conservation Corps program. Teenagers or young adults on the crews often receive some sort of monetary compensation for their efforts and work for extended periods of time on natural resource projects.

Question 2: Below is the same list of volunteer program types that you saw in the previous question. This time, we’d like you to choose the group category that you would MOST LIKE to work with on average. You will then be asked to answer a series of questions based on your answer. Upon completing those questions, you will then be asked to identify the group category that you would LEAST LIKE to work with on average and answer a series of questions based on that answer. (skip pattern here depending on selection of Group A, B, C, or D).
For the following questions, please indicate the extent to which you agree that the statement accurately represents the relationship between the Forest Service and the volunteer group you chose as the one you would MOST LIKE to work with. You selected Group (A, B, C, or D with definition).

Questions (3, 55, 107, 159) – Commence questions for relationship quality, self-efficacy, response efficacy, willingness to recruit volunteers, willingness to work with volunteers for group selected as the one the participants would most like to work with.

Question 211: Below is the same list of volunteer program types that you saw in the previous question. This time, we’d like you to choose the group category that you would LEAST LIKE to work with on average. You will then be asked to answer a series of questions based on your answer. (skip pattern here depending on selection of Group A, B, C, or D).

For the following questions, please indicate the extent to which you agree that the statement accurately represents the relationship between the Forest Service and the volunteer group you chose as the one you would LEAST LIKE to work with. You selected Group (A, B, C, or D with definition).

Questions (212, 264, 316, 368): Commence questions for relationship quality, self-efficacy, response efficacy, willingness to recruit volunteers, willingness to work with volunteers for group selected as the one the participants would least like to work with.
Question 420: Please indicate whether you are male or female

- Male
- Female

Question 421: Please check any of the following responsibilities that apply to your current job.

- Archaeology/anthropology
- Soil science; Minerals and geology
- Range Management
- Hydrology
- Fisheries; fish ecology
- Fire ecology/rehabilitation
- Forestry; forest management
- Plant ecology/botany
- Trail construction/maintenance
- Wildlife ecology
- Watershed improvement
- Threatened/endangered species
- Recreation management
- Ecosystem restoration
- Volunteer coordination
- Conservation education
Question 422: Please indicate the number of years you have been working for the Forest Service

- Less than one year
- 1-5
- 6-10
- 11-15
- 16-20
- 21-25
- 26-30
- greater than 30

Question 423: Please indicate your highest completed level of education.

- Less than high school
- High school diploma or equivalent
- Some college courses
- Associate’s degree
- Completed four-year undergraduate degree
- Some advanced study such as master’s or doctorate-level coursework
- Master’s degree
- Doctorate

Question 424: Are you a seasonal or a permanent Forest Service employee?
Question 425: Please indicate your ranger district in the box below (Responses are being collected to ascertain response rates regionally. Responses cannot be traced back to an individual).