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Motivation and Satisfaction of Volunteers at a Florida Natural Resource Agency

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EXECUTIVE SUMMARY: Volunteer participation with park and recreation agencies has been growing in association with reduced agency budgets, broadened goals, an increasingly active population of senior citizens, and recognition of the benefits of stakeholder involvement. Yet research on the motivations of volunteers and influences on their satisfaction is lacking. Findings from this study of volunteers who make a range of contributions to the Florida Fish and Wildlife Conservation Commission (FWC) should be useful for improving volunteer programs at park and nature-based recreation agencies. An understanding of volunteer motivations is important for improving or expanding volunteerism and ensuring the effective use of staff time and resources.

We conducted a Web-based survey of 569 volunteers at FWC, with a cooperation rate of 59%. Slightly more than half of the respondents were male, and 95% were Caucasian. A motivation scale based on previous research measured the relative importance of seven motivations for volunteering: helping the environment, enhancing personal use of the environment, furthering career goals, engaging in social interactions, having opportunities for learning, being involved in effective projects, and expressing values and esteem. The strongest motivation of FWC volunteers was helping the environment, while furthering career goals was the weakest. Although volunteer activities such as office help or fence maintenance may be needed, it is important that supervisors link these activities to "helping the environment" by explaining the relevance of the activities to resource management goals. Motivations for volunteering vary with age and gender. Motivations to obtain career experience were more prevalent among newer volunteers who had been volunteering with FWC for less than a year and among younger volunteers. Females had higher mean scores in several categories, including helping the environment, career, learning, and values and esteem. Longer term volunteering was associated with reports of increased training and higher scores on a satisfaction index. A multiple regression analysis found that strength and type of motivation and two factors often associated with successful programs—training and recognition activities—predicted satisfaction of volunteers. Because motivations vary among volunteers, it is important for agencies to offer a variety of volunteer opportunities and advertise them so that

potential recruits can select options that best meet their needs. In agencies where several motives, such as helping the environment and being socially engaged, are universally strong, supervisors may be able to adjust their volunteer program to help all volunteers better fulfill these important needs through their service. Such activities, along with appropriate training and recognition of the importance of volunteer work, will likely help agencies improve their volunteer programs and retain satisfied volunteers.

KEYWORDS: Agency, volunteer motivations, volunteer recruitment, satisfaction

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Park and recreation agencies use volunteers for many tasks, including landscape maintenance, resource monitoring, youth education, and citizen science (Leslie, Velez, & Bonar, 2004). Trends toward increased volunteer participation in natural resource management activities and declining budgets in many park and recreation agencies are well documented (Propst, Jackson, & McDonough, 2003; Sanburn, 2011). In wildlife agencies, funding has declined from traditional sources, such as hunting, fishing, and trapping license sales; concomitantly, more people are engaging in wildlife-watching activities (Jacobson & Decker, 2006). Agency goals are shifting to engage new constituents and to include stakeholders in management decisions; these additional activities create new opportunities that volunteers may be able to help address (Pfeffer &Wagenet, 2007; Van Den Berg, Riley, & Dann, 2010). The United Nations Environment Program recommends increased public involvement in environmental monitoring to provide educational and social benefits to participants while improving land management (Sharpe & Conrad, 2006), and volunteers can help orchestrate and encourage monitoring and other forms of public involvement. Finally, the recent emphasis by educators, physicians, and parents on reconnecting with nature (Louv, 2005) has prompted some natural resource agencies to promote the social and health benefits of outdoor recreation in order to increase public visitation and volunteerism.

While these various justifications motivate agencies to create and diversify volunteer opportunities, they do not necessarily motivate volunteers to donate their time. A better understanding of what motivates volunteers and the factors that affect recruitment and retention in volunteer programs in natural resource agencies can improve the program administration. Systematic evaluation of existing volunteer programs can help suggest how to expand environmental and natural resource volunteer programs (also referred to as nature-based volunteer programs) and make them more effective at supporting agency goals (Ferraro & Pattanayak, 2006).

This study addresses the need to better understand natural resource volunteer programs through a focus on the Florida Fish and Wildlife Conservation Commission (FWC). FWC is responsible for managing Florida's fish and wildlife resources as well as over 4 million acres of land included in wildlife management areas and wildlife environmental areas that

are open to the public for outdoor recreation, interpretive activities, wildlife observation, and hunting. Volunteers assist the FWC with activities ranging from removing exotic plants and building boardwalks to conducting public outreach programs and monitoring animal populations. Many FWC volunteers work in hunter safety and wildlife outreach programs, promoting wildlife education among hunters, teachers, and youth. Other volunteers help protect endangered sea turtles and restore native habitats. These types of volunteer programs can help citizens learn about and become involved in the stewardship of their public lands (Van Den Berg et al., 2010).

This study examines the motivations of FWC volunteers and how these motivations may influence volunteer satisfaction and commitment, which are key components of successful and cost-effective volunteer programs. Volunteers are not a "free" labor source. Financial and human resources are required to recruit, train, supervise, and retain volunteers and to recognize their accomplishments. It is critical that agencies minimize these costs and maximize the benefits of volunteerism by understanding volunteer motivations and their association with a committed and satisfied volunteer force. This study examines volunteerism at a natural resource agency from the perspectives of volunteers and incorporates motivations with demographic and programmatic variables into an analysis of volunteer satisfaction. We use research findings about volunteerism from more established fields, such as health and community services, to augment our literature review of nature-based volunteer programming. The results demonstrate that agencies can enhance volunteer experiences by addressing a diversity of volunteer motivations and can suggest demographic and programmatic factors that influence volunteer satisfaction.

Literature Review

Understanding what motivates agency volunteers can help an agency better market volunteer opportunities, increase participation, and improve volunteer retention. Basic motivations, such as affiliation, achievement, and esteem generally "drive" people at their work place, but may take a different form when translated into unpaid services. In a voluntary capacity, people are free to select what they find most valuable. They can easily quit volunteering for a program that does not meet their needs. Yet something must keep some people engaged, involved, and returning to provide services.

A useful approach to understanding volunteerism is through a functional analysis that examines the personal and social functions that are being served by a particular behavior and the processes that initiate, direct, and sustain action (Katz, 1960). This approach proposes that different underlying motivational processes may result in similar acts of volunteer action (Clary et al., 1998), which suggests that a diversity of motivations may lead individuals to engage in a helping behavior such as participation in a volunteer program. By understanding the wide range of personal and social motivations that promote volunteerism, agencies can match the characteristic motivations of individuals with their volunteer opportunities. It follows from the functional framework of volunteerism that "people can be recruited into volunteer work by appealing to their own psychological functions… [and that they will remain satisfied volunteers] to the extent that they engage in volunteer work that serves their own psychological functions" (Clary et al. 1998, p. 1518).

Clary et al. (1998) developed a Volunteer Functions Index to measure motivational functions served by volunteerism across many volunteer capacities. They incorporated a number of motivational factors reported in the literature that were thought to influence helping behaviors and categorized them into the following six functions that appear to govern this type of activity:

- Values—opportunities for individuals to express values related to altruistic and humanitarian concern for others. The desire to help is a strong motivator that applies to helping other people, and in our context, also applies to helping the environment. It relates to the need to help make the world a better place in ways that matter to the individual.

- Understanding—opportunities for individuals to have new learning experiences and the chance to exercise knowledge and skills. The desire to make sense out of the world and to learn drives our volunteer activities as well as many other interactions, responses, and preferences (Kaplan & Kaplan, 2009).
- Social—opportunities to be with friends and build relationships with others. This includes engaging in an activity that an individual thinks is viewed favorably by important others.
- Career—opportunities associated with career-related benefits that may be derived from a volunteer experience. This motivation reflects utilitarian drives described by Katz (1960) and is more frequently seen in younger volunteers and those switching careers.
- Enhancement—opportunities for personal development and growth. Volunteerism provides a means for people to maintain or enhance a positive mood or affect, involving "positive stirrings of the ego" (Clary et al., 1998, p. 1518).
- Protective—opportunities related to protecting the ego from negative self-perceptions by reducing guilt over being more fortunate than others and to address one's own personal problems. This function reflects findings of studies of some health service volunteers who reported that they volunteer to escape from negative feelings (Frisch & Gerard, 1981).

Motivation and Satisfaction of Nature-based Volunteers

Relatively few studies have been conducted of volunteers for natural resource and environmental agencies, relative to social service volunteers; yet similar motivations have been reported and results are interpretable within Clary's Volunteer Functions Index (Clary et al., 1998). Although studies have identified varying numbers of motivations, the framework provides a diversity of personal and social motivations that promote this form of sustained helping activity. Bruyere and Rappe (2007) expanded the Volunteer Functions Index (Clary et al., 1998) in a survey of 401 volunteers for six natural resource organizations in Colorado. They identified seven primary types of motivations among nature-based volunteers and found much consistency with motivations of social service volunteers. These included motivations to further career goals, engage in social interactions, to have opportunities for learning, and to express values and esteem. Motivations specific to the environment involved helping the environment, which included concern for the environment and desire to protect it, and enhancing the volunteer's use of the environment. The motivation to be involved in well-organized projects reflected concerns that time was well spent and had an impact on the environment. Only the protective category of motivation identified in health-related volunteers (Clary et al., 1998) is missing from this list.

Several other studies (Grese, Kaplan, Ryan, & Buxton, 2000; Guiney & Oberhauser, 2009; Miles, Sullivan, & Kuo, 1998; Schroeder, 2000) support the use of these categories by identifying specific motivations that attract volunteers to nature-based work. Schroeder (2000), for example, reviewed 27 issues reported in newsletters published by groups coordinating volunteers participating in ecological restoration programs between 1991 and 1995 in the Chicago area. His content analysis revealed nine themes that collapse into three interacting factors that belong in the Bruyere and Rappe's (2007) categories of helping, enhancing, and learning about the environment. He described the motivations as (a) understanding the ecosystem and feeling a sense of immediate concern for decline of environmental quality, (b) believing that they could make a difference through their involvement, and (c) being able to see progress from their efforts (Schroeder, 2000). Minor themes include the social dimensions of volunteering (getting to know others, building a sense of community, and having fun). The newsletter articles suggest a strong motive for continued service was seeing the impacts of their actions. In addition, for these volunteers, the desire to help make a difference where help was urgently needed overshadowed other potential personal motives such as career enhancement.

The desire to help the environment was also a major motivator that attracted Master Naturalists to volunteer in Minnesota (Guiney & Oberhauser, 2009). In this study, 252

individuals were surveyed as they began a 40-hour training class and again while they were volunteering. The purpose of the study was to explore the volunteers' connection to nature and whether it might be influenced by their volunteer activity. In addition to documenting their connection to nature and the benefits of learning about nature, improving natural areas, being in nature, and teaching others about nature, these volunteers also reported being motivated by a sense of accomplishment, helping others develop a stewardship ethic, and meeting people who share these values (Guiney & Oberhauser, 2009). Some spoke explicitly about the need to be in nature to maintain their sense of self and ability to cope, a motivation not reported by Bruyere and Rappe (2007). A majority of the sample was female (65%), had a college degree (77%), was Caucasian (100%), and was employed full time (53%), although there is no report of analysis to determine if these variables play a role in volunteer motives or satisfaction.

Similar results were obtained from a study of volunteers in five stewardship programs in Michigan and Ohio to explore why people contribute their time to such programs (Grese et al., 2000). Survey data were collected from workshop participants and through a mailed request to the organizations' volunteers. The 190 responses were distilled into four distinct benefits of volunteering for conservation organizations, which the authors categorize as helping the environment, exploration, spirituality, and personal and social. In the context of the seven functional motivations from Bruyere and Rappe (2007), exploration includes items such as learning information and enhancing skills, spirituality relates to expressing values and esteem, and personal and social includes engaging in social interactions as well as involvement in well-organized, meaningful projects that matter to each individual. Analysis by organization suggests the priorities are remarkably similar and stable: helping the environment was the most important benefit; exploration was second across all groups; and personal and social was the rated the lowest in four of the five organizations surveyed. The remaining categories were not significantly different in their ranking across the groups. The authors suggest that conservation organizations should be able to attract and retain volunteers by better understanding the motivations for volunteering (Grese et al., 2000).

Another study found similar results among people engaged in volunteer activities to help restore an Illinois prairie (Miles et al., 1998). A survey was mailed to 504 individuals who volunteered in nine different restoration groups in the Chicago area to better understand the benefits of participating in this volunteer work. A factor analysis of 306 responses revealed six types of motivations, each composed of several survey items. These categories relate to the above factors of helping the environment, being involved in effective projects, and expressing values and esteem. Miles et al. (1998) report that the highest scores were for the opportunity to achieve meaningful action and to fulfill their fascination with nature. Three factors scored in the next tier: the opportunity for participation, a chance to be away, and physical activity. The least important type of satisfaction was the category personal growth, which included self-improvement items (Miles et al., 1998). While age or retirement status was not reported in this study, the volunteers were engaged in physical labor and the physical activity category included health and physical fitness items. Analyzing these benefits by length of tenure and frequency of volunteering revealed that, in general, new volunteers report the same satisfactions as longer tenured volunteers, potentially because many effects of restoration activities can be felt immediately. Volunteers who participated more frequently, however, reported significantly greater satisfaction in four of the six categories and also in life satisfaction in general. Furthermore, volunteers who reported working in activities in addition to restoration (e.g., stewardship, education, publicity) were more likely to report higher satisfaction than those who reported being involved in no additional activities. The authors speculate that this difference might be related to the volunteers' sense of commitment and involvement, which has implications for how an organization handles retention, expanding job duties, training, and other factors of maintaining a vibrant volunteer program.

A benefit discussed by Miles et al. (1998) as "fascination with nature" and by Guiney and Oberhauser (2009) as "being in nature" is not explicitly incorporated in the functional analysis approach by Bruyere and Rappe (2007). This benefit suggests that people are

aware of the effect that nature has on them, and credits their outdoor experience with being less stressed and more able to function. Other researchers have found that outdoor experiences, ranging from wilderness camping to visiting urban parks and gardening, have restorative benefits (for a summary, see Kaplan & Kaplan, 1989). Being in nature or even viewing nature through a window can help to restore mental and physical capacity, as seen in hospital studies of recovery rates (Ulrich, 1984), comparisons of recovering cancer survivors (Cimprich, 1992), and improved attention capacity among children with ADHD (Taylor & Kuo, 2009). If people were aware that being in nature is good for them, this benefit could motivate them to volunteer with park and nature-based agencies.

Factors Associated with Motivations and Satisfaction of Volunteers

The studies on nature-based volunteer programs demonstrate that understanding existing motives and perceptions of benefits could be helpful to the development or improvement of a volunteer program. None of the studies reviewed, however, explore variations in demographic factors or specifically ask about the organization's programmatic efforts to enhance the volunteer experience. Research on general volunteerism suggests that volunteer motives differ by gender, with women often reporting stronger motivations overall or placing higher importance on joining a voluntary organization for contributing to society rather than for material benefits (Caldwell & Andereck, 1994; Clary, Snyder, & Stukas, 1996; Fletcher & Major, 2004). Motivations also have been found to differ with age or stage of life (Backman, Wicks, & Silverberg , 1997; Oesterle, Kirkpatrick, & Mortimer, 2004; Omoto, Synder, & Martino, 2000) and by length of volunteer experience (Busser & Carruthers, 2010). Clary et al. (1996) found shorter term volunteers had stronger career advancement and personal development motivations than more experienced volunteers.

A number of general guidelines have been developed to try to improve volunteer experiences and to enhance the creation, organization, and supervision of volunteer programs (e.g., Jacobson, 2009; Stallings, 1998). We expand on this work by examining the association of volunteer satisfaction with both intrinsic volunteer motivations as well as extrinsic factors such as program training and recognition. Popular guidelines for volunteer programs emphasize the importance of enhancing the volunteer experience through training and reward programs (BPDVP, 1990). Researchers have noted the importance of volunteer training for many recreation programs (e.g., Busser & Carruthers, 2010); however, Bruyere and Rappe (2007) and others have not discussed these variables in nature-based volunteerism studies that focus on motivations. Owing to the lack of scholarly literature on the effects of training and recognition on nature-based volunteerism, we include these variables in an analysis with motivation type and strength to determine their relative contribution to volunteer satisfaction. Because satisfaction is a difficult phenomenon to measure (e.g., Jacobson, 2001; Silverberg, Marshall, & Ellis, 2001), we adopted a scale of seven items from Stallings (1998) as our indication of volunteer job satisfaction. Satisfaction has been found to be a key factor in the retention of volunteers as well as the success of recreation programs (Silverberg et al., 2001).

Understanding what motivates and satisfies volunteers at natural resource agencies is necessary for enhancing program strengths to better provide experiences that meet volunteer desires and thereby lead to more effective recruitment and retention. This study focuses on two research questions to better understand volunteer motivation and satisfaction at a natural resource agency:

RQ1 What are the FWC volunteers' motivations for volunteering, and do these vary by sociodemographic factors?

RQ2 How do motivations and programmatic factors, such as program training and recognition, contribute to volunteer satisfaction?

Method

Survey Instrument

The surveys were designed by three social scientists at the University of Florida with collaboration from FWC Volunteer Team staff. The instrument was reviewed by 12 FWC staff and pilot-tested with 16 volunteers to ensure question wording on items not used on previously developed scales was clear (Dillman, Smyth, & Christian, 2009). The survey instrument included 62 items. The motivation scale consisted of 30 items measuring seven motivations based on a previously validated scale by Bruyere and Rappe (2007), described in our literature review. Respondents ranked each motivation item using a Likert scale ranging from 1 (*strongly unimportant*) to 7 (*strongly important*). The categories were tested for reliability with our data using Cronbach's alpha (presented in Table 1). Additional survey questions asked for the following information: recruitment (one item), training and supervision (eight items), retention (four items), rewards/recognition (three items), and sociodemographic background (seven items). A volunteer satisfaction index was composed of seven items adopted from Stallings (1998) (listed in Table 2) and tested for reliability with Cronbach's alpha. Respondents ranked each satisfaction statement using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Two open-ended questions allowed respondents to add comments about their volunteer experience.

Sampling Strategy and Survey Administration

The survey was administered using a Web-based survey program Survey Machine (www.surveyroom.com/default.asp). We worked with Survey Machine staff to verify that the instrument was accessible, functional, attractive, and easy-to-use to help ensure a high response rate. We included the appropriate design and use of personalized contacts before and during survey implementation and other recommendations and instrument design considerations based on Dillman et al. (2009). The survey was launched on January 20, 2009 and closed on February 12, 2009.

All volunteers who had an e-mail address in the FWC database were contacted and asked to complete the Volunteer Survey. After removing duplicate and bad e-mails, a total of 569 addresses had been sent the request. Before the survey was administered, an introductory e-mail from the executive director of the FWC was sent to all of the e-mail addresses requesting participation. Subsequent e-mails were sent via the Survey Machine's Web interface using a survey administrator's personal e-mail address, rather than a program-generated one. Follow-up reminder e-mails, with links to the survey, were drafted and signed by the FWC employees associated with the specific volunteer program, to personalize the request and encourage responses to the Web survey. The reminder e-mails were sent on January 29 and February 5 and 9. To provide a small incentive, all volunteers that completed surveys were entered into a drawing for a free wildlife magazine subscription.

Response Rate

We received 335 responses from volunteers, an adequate response rate of 58.9% (Dillman et al., 2009). Potential sources of bias resulting from Web surveys that exclude non-email users or those who do not have access to computers are discussed in the section on limitations of the study. We examined nonresponse bias among e-mail users by comparing the responses of the first 10% of respondents to the last 10%, a method that tests for significant differences to approximate those most eager or willing to complete the survey from the less willing, who may approximate nonrespondents. This technique has been used in postal mail surveys to approximate nonrespondents in order to identify biases (Armstrong & Overton, 1977). We found no significant differences between the first and last respondents in demographic variables or overall volunteer satisfaction levels, suggesting minimal nonresponse bias among volunteers who had e-mail addresses; however, as discussed later, results may not reflect or be generalized to the full range of FWC volunteers who do not use e-mail.

Table 1

Categories of Volunteer Motivations Showing Mean Scores (1 = strongly unimportant to 7 = strongly important) for Each Item and Reliability Test for Each Category

Motivation Category/Item	Category/ Question Mean	(S.D.)	Category Chronbach's alpha
Help the environment	6.29	0.84	0.90
Concern for the environment	6.19	1.09	
Protecting natural areas from disappearing	6.41	0.88	
Do something for a cause that is important to me	6.34	0.94	
See improvements to the environment	6.17	1.14	
Ensure future of natural areas for my enjoyment	6.23	1.05	
Help preserve natural areas for future generations	6.42	0.85	
Learning	5.23	1.14	0.80
Learn about specific animals	5.04	1.40	
Learn about specific plants	4.85	1.36	
Learn about the environment	5.76	1.24	
User	5.03	1.12	0.56
Allow me to work at an area where I visit	4.13	1.74	
Enrich my future recreation experiences	5.23	1.55	
Enhance the activities I enjoy doing	5.70	1.13	
Values and esteem	5.02	1.07	0.70
Feel better about myself	4.74	1.48	
Express my values through work	5.78	1.28	
Feel needed	3.86	1.63	
Live closely to my values	5.67	1.28	
Project organization	4.80	1.13	0.66
Work with a good leader	4.86	1.41	
Know what is expected of me	4.29	1.62	
Be part of a well organized project	5.24	1.34	
Social	4.79	1.09	0.72
Meet new people	4.85	1.37	
Work with friends	5.15	1.51	
See familiar faces	4.25	1.43	
Have fun	5.71	1.14	
Career	3.36	1.71	0.94
Get a foot in door where I would like work	3.26	1.83	
Make contacts that might help my career	3.44	1.93	
Explore possible career options	3.29	1.93	
The experience will look good on my resume	3.14	1.84	
Help me succeed in my chosen profession	3.61	1.97	

Table 2

Mean Scores of Items Used to Create the Satisfaction Index (Response categories ranged from 1 = strongly disagree to 5 = strongly agree)

Satisfaction Items	Mean	S.D.
I would recommend volunteering with the FWC to others.	4.45	0.73
I am likely to continue to volunteer for the FWC over the next 6 months.	4.29	0.87
I have found my FWC work to be interesting.	4.45	0.65
I have found my FWC work to be challenging.	3.85	0.79
I have found my FWC work to be enjoyable.	4.47	0.66
I have found my FWC work to be meaningful.	4.52	0.61
Overall satisfaction	4.27	0.71
Chronbach's alpha:	0.83	

Data Analysis

To answer our first research question, the 30 motivation items were categorized based on previous work by Bruyere and Rappe (2007) and analyzed using SPSS Version 16.0 statistical software. Ordinal data from indices measuring Motivations and Satisfaction were treated as interval level data (Agresti & Finlay, 1997) for the purposes of t-test comparisons. To address the second research question, however, due to the mixture of ordinal and interval data, and the desire to avoid making assumptions about the distribution of the data, nonparametric statistics were used for analyses (Conover 1998; Hollander & Wolfe, 1999). A Kruskal-Wallis one-way analysis of variance with the post-hoc comparisons (Stata Version 10.1) was used to measure differences in motivations based on demographic factors. Spearman's rank correlation coefficient (Spearman's rho) was used as a nonparametric measure of statistical dependence of postulated linkages between the volunteer motivation and satisfaction and demographic variables. We used multivariate regression to construct a model that best predicted satisfaction of volunteers in order to identify intrinsic motivations and extrinsic factors likely to improve retention of volunteers.

Results

This section first describes the characteristics of the survey respondents. We address the first research question by identifying the type and extent of volunteer motivations and compare these among demographic groups. We then describe volunteers' perceptions of other programmatic factors such as training and recognition, and present results of a regression model identifying variables associated with volunteer satisfaction.

Sociodemographic Variables

The respondents were 57% male, 95% Caucasian, and 95% resided in Florida for more than nine months of the year. Most (58%) were employed part-time; 29% were retired; and 13% worked full time. Most (63%) respondents were between 40 and 64 years old; 20% were less than 40 years old; and 17% were over 65 years old. Most respondents had more than a high school education: 31% attended some college; 34% graduated from college; and 28% obtained an advanced degree. When compared to Florida 2010 census

statistics (U.S. Census Bureau, 2010), our sample differs from the state's population, which is 49% male and 79% Caucasian. The respondents were considerably more educated than the population, in which only 22% have a college degree. In contrast, the respondents accurately reflect the state's aging population, with 17% over 65 years old.

Volunteer time and duration. Volunteers contributed a significant amount of time to FWC, with almost a third providing over 50 hours per year, 23% from 26 to 50 hours, 20% from 13 to 25 hours, 15% from six to 12 hours, and 11% fewer than five hours. A third (34%) had been volunteering for more than five years, 10% from four to five years, 31% from one to three years, and 25% for less than one year. Volunteering occurred throughout the year, with a high of 142 individuals in October and a low of 89 individuals in January.

Respondents who volunteered for more than 12 hours per year were more likely to report having received training for their FWC work than those who worked less than 12 hours ($\chi^2 = 9.18$, $p = 0.002$). Similarly, respondents that had volunteered for more than three years had received more training ($\chi^2 = 8.04$, $p=0.018$). Those volunteering for more than 12 hours ($t = -4.702$, $p = 0.001$) and for four years or more ($F = 11.51$, $p = 0.001$) also reported higher scores on the satisfaction scale.

Research Question 1: Profiling Volunteer Motivations

The 30 motivation items that relate to internal, self-defined needs or desires were grouped into seven categories using the scale of Bruyere and Rappe (2007). The scale resulted in adequate reliability with the FWC volunteer data confirmed by Cronbach's alpha reliability tests (alpha > 0.65; Vaske, 2008). One category, "User," had a lower alpha (0.56), but was retained to provide a similar context for comparison with previous studies (Table 1). Given that the User category falls below the generally accepted alpha level represents a limitation of this study.

Strength of motivations. Mean scores for each motivation category (Table 1) were computed based on three to six items per category. The "help the environment" motivation was the strongest, and the "career" motivation the weakest among FWC volunteers. The strongest motivation encompassed elements of helping the environment (mean = 6.29, SD = 0.84), which included concern about natural areas, a desire to improve the environment and to ensure that natural areas will be available in the future. Learning (mean = 5.23, SD = 1.14) was also a strong motivation and reflected an interest in better understanding wildlife, plants, and the environment in Florida. Being a user (mean = 5.03, SD = 1.12) of natural areas was a strong motivation for volunteering. This captures the idea that people volunteer to work in and enhance an area that they use or enjoy. Motivations based on values and esteem (mean = 5.02, SD = 1.07) were evident among FWC volunteers. This category includes motives such as enhancing self-worth and conducting activities that allowed them to live in concert with their values. Motivations related to project organization (mean = 4.80, SD = 1.13) also were strong and suggest that volunteers are motivated to be part of a well-organized program. Having clear expectations, a meaningful task, and an effective leader can help volunteers feel that their discretionary time is well spent. Motivations related to social (mean = 4.79, SD = 1.09) situations were important among FWC volunteers and reflect the need to work with others, make friends, and enjoy the time spent volunteering. Motivations related to career (mean =3.36, SD = 1.71) suggest people volunteer to explore different types of job possibilities or gain vocational experience. This type of motivation was not particularly important to FWC volunteers. The relatively large standard deviation shows that career motivations may be more important among certain subgroups, such as student volunteers.

Research Question 2: Association of Motivations and Other Factors to Volunteer Satisfaction

Motivations and commitment of time and duration. The number of years of volunteer service was positively correlated with both the helping the environment motivation (Spearman's rho = 0.14, $p = 0.014$) and negatively correlated with the career motivation (Spearman's rho = 0.16, $p = 0.004$). The number of hours volunteered per year was significantly correlated with social motivations (Spearman's rho=0.13, $p=0.024$).

Motivations by demographics. Females had significantly higher mean scores than males in the categories of helping the environment ($t = -3.81$, $p = 0.001$), career ($t = -2.46$, $p = 0.015$), learning ($t = -4.58$, $p = 0.001$), and values and esteem ($t = -2.84$, $p = 0.005$). Several motivations differed with volunteer age. The mean motivation scores among volunteers over aged 40 were lower for the user motivation (Kruskal-Wallis one-way analysis of variance, $H = 15.88$, $p = 0.007$). Similarly, the project organization motivation (Kruskal-Wallis $H = 11.16$, $p = 0.048$), and the career motivation were lower among volunteers over aged 40 (Kruskal-Wallis $H = 92.946$, $p < 0.001$).

Training and reward factors. Volunteer management programs offer appropriate training opportunities and recognition. Nearly half of the respondents (49%) reported receiving general orientation training, and 40% received training that enabled certification for their volunteer activity. One fifth of the respondents reported that training was not necessary for their duties, and about that many received training in job safety (21%) or technical training (22%). Nearly 23% reported that they already had adequate training for their volunteer activity. In total, 235 (70%) individuals reported some type of training, including simply a general orientation.

Most (89%) of the respondents either agreed or strongly agreed they have the knowledge and skills necessary to conduct their volunteer work, suggesting that from their perspective, the absence or level of training appear to be sufficient. There was no significant correlation between volunteers' having received training and their feeling that they have the knowledge and skills necessary to complete their volunteer job, an unsurprising result since there was little variance in respondents' positive feeling that their talents were suited to their job.

Extrinsic recognition and rewards are considered to be necessary elements for retaining volunteers. Most respondents (91%) reported their service has been recognized by FWC staff, and the forms of recognition received, in order of reported frequency, are verbal appreciation (87%); an item of clothing, such as a T-shirt or hat (61%); a certificate (49%); tools needed to perform their work (48%); a recognition event (42%); and recognition in an agency publication (24%). The reported frequency of each form of acknowledgment closely mirrored their popularity among volunteers, yet fewer respondents claimed they were interested in having these recognitions, and 12% preferred to receive no acknowledgment of their service. There was no significant correlation between recognition received and length of service.

Predicting volunteer satisfaction. Seven items asked for measures of satisfaction with the FWC volunteering experience (Table 2). Satisfaction was significantly positively correlated with both the average motivation score ($r = 0.30$, $p < 0.001$) and respondents' highest motivation score ($r = 0.430$, $p < 0.001$). There was no significant difference in overall satisfaction based on gender, age, or education level. Respondents who were retired had lower satisfaction scores than those not retired ($t = 2.039$, $p = 0.04$). Additionally, respondents who received either technical training or a training providing a certificate had significantly higher satisfaction scores than those who did not ($t = 3.26$, $p < 0.001$). Furthermore, the satisfaction index was positively correlated with volunteer commitment in terms of number of hours volunteered per year (Spearman's rho = 0.27, $p < 0.001$) and number of years of service (Spearman's rho = 0.24, $p < 0.001$).

A multiple regression was performed with the satisfaction index serving as the dependent variable and the motivation scores, strongest single motivation, whether recognition was received, whether training was received, and sociodemographic factors serving as independent variables (Table 3). Using backward hierarchical elimination, five significant predictors of satisfaction were found (adjusted $R2 = 0.32$, $F(5,281) = 28.00$, $p < 0$ .001): whether recognition was received ($ß = 0.17$, $p < 0.01$), whether training was received ($ß = 0.15$, $p < 0.01$), the respondent's strongest single motivation ($ß = 0.48$, $p < 0.01$), scores of respondents' project organization motivation ($ß = .013$, $p < 0.01$), and scores of respondents' learning motivation ($ß = 0.15$, $p < 0.01$). Regression analysis with commitment of time and years in service variables and sociodemographic factors were statistically insignificant.

Table 3

Final Regression Model Predicting Volunteer Satisfaction (Only significant variables are displayed)

Predictor	Coef.	Std. Err.	t	P > t	Beta
(Constant)	1.59	0.25	6.47	<0.01	.
Recognition received	0.32	0.092	3.47	<0.01	0.17
Training received	0.18	0.057	3.11	<0.01	0.15
Strongest motivation	0.37	0.04	8.36	<0.01	0.48
Project organization	0.06	0.24	2.47	0.01	.013
Learning	-0.07	0.03	-2.51	0.01	-0.15
Source	**SS**	**df**	**MS**		
Model	25.51	5	4.90		
Residual	49.21	281	0.18		
Total	73.73	286	0.26		

N =287, $F(5, 281) = 28.00$, $P < 0.001$, Adjusted $R^2 = 0.32$

Discussion

Volunteers make a range of contributions to help FWC achieve its mission. Respondents reported volunteering for 27 different FWC programs, ranging from a popular hunter safety program to habitat improvement and research assistance on threatened species. Volunteers are critical to the agency's ability to offer the current diversity and extent of services. An understanding of the factors that motivate volunteers can affect all aspects of a well-managed volunteer program: marketing, recruiting, training, retaining, and rewarding volunteers. Understanding the diversity of motives can also help supervisors improve the selection of tasks that volunteers perform or simply the way the tasks are explained and help make the entire program more effective.

Volunteer Motivations

The FWC volunteers as a group are most motivated by the desire to help the environment and learn about nature; the weakest motivation was career enhancement. Supervisors can use this information to more efficiently recruit and retain volunteers by identifying tasks that address their motivations. The FWC findings are similar to the study of volunteers at five environmental organizations in Colorado (Bruyere & Rappe, 2007). While activities such as office assistance or fence maintenance may be needed, it is important to ensure volunteers recognize how these activities help the environment, for example by explaining the outcome of the office work or the benefit of the fence maintenance to restoring a natural area (Grese et al., 2000). Supervisors also can ensure that the mix of volunteer activities offers some direct links to the environment such as help in managing a natural area, teaching about wildlife, or monitoring wildlife populations. Special field trips or slide shows that highlight improved habitat or restored wildlife as part of volunteers' work can demonstrate program success. Researchers have found that more proactive volunteer activities, such as native plant and stream restoration tasks, were more likely to result in greater frequency and strength of commitment of volunteers than simple clean-up activities (Ryan, Kaplan, & Grese, 2001). An analysis of land stewardship volunteers found the tangible results of ecological restoration work to be an important motivator (Schroeder, 2000). Many volunteers are motivated by self-interest; they are a user of the natural area,

and therefore are compelled to enhance an area that they enjoy. Providing special access to restricted areas and feedback of the successful results of their actions could help reward volunteers appropriately.

Learning also was a strong motivation for some FWC volunteers. However, a strong learning motivation also had a slightly negative association with the satisfaction index. This negative association may indicate that the expectations of learning-motivated volunteers were not being fully met by the volunteer program. This emphasizes the need for supervisors to be sensitive to the desires of different types of volunteers and to provide learning opportunities for volunteers motivated by activities to learn about the natural area or recreation activity with which they are involved. Supervisors also can facilitate learning opportunities whereby more experienced and knowledgeable volunteers teach new volunteers about their natural area or wildlife expertise. This provides recognition of the experienced volunteer in front of their peers and enhances their feelings of being valued. It helps build the social community of volunteers that some individuals seek. It is important that volunteers feel that their existing knowledge and experience is acknowledged and respected. Time spent orienting volunteers so that they can see their work in the context of the agency will help them feel like a part of a team. Good orientation and training generally pay off in volunteer retention and satisfaction (BPDVP, 1990). FWC volunteers reported participation in a variety of training programs. Those who received either technical training or a training requiring a certificate had significantly higher satisfaction scores than those who did not.

In a similar way, ensuring that projects allow time for volunteers to work together and communicate about the activity can help enhance the social benefits of volunteer work. Volunteer activities can be planned to specifically allow time for social interaction, for sharing their values, and for creating a sense of belonging to a group. We found that social motivations were stronger among volunteers who worked more than 12 hours per year, and these individuals were more committed to FWC volunteering than those who worked less. Other researchers also have found that the social benefits of "having fun" and "meeting new people" were an important predictor of commitment to a volunteer program (Ryan et al., 2001). If the volunteer work itself is not socially engaging, or requires individual effort, then it is important for supervisors to create time for volunteers to interact with others to increase retention of long-term volunteers.

Volunteers were motivated to be part of a well-organized program. Having clear expectations, knowing the work is important to do, and working with effective leadership can make it easier to feel that one's efforts are effective, valued, and that discretionary time is well spent. Supervisors must ensure that all volunteers are used effectively so that volunteer numbers match the tasks at hand. In a study of stewardship volunteers, participants who were more oriented toward project organization and social motivations tended to be more committed to their volunteer time (Ryan et al., 2001). These results imply that investment in the volunteer coordination infrastructure may help to improve the overall volunteer experience

We found that motivations to get career experience were more prevalent among newer volunteers who had been with FWC for less than a year. As volunteers gain experience, they either gain the desired experience and stop volunteering or become more motivated by social factors. In studies of college student service volunteers, a desire for social interaction became more important over time (Winniford, Carpenter, & Grinder, 1995). This shift also may be reflected in the correlation we found between hours worked per year and social motivation scores: as individuals work more hours, they get to know colleagues better, the desire for social interaction might become a more important factor, and the benefits from being with friends might be more evident.

Factors Contributing to Volunteer Satisfaction and Retention: Implications for Management

Demographic differences among volunteers are useful to consider in addressing different motivations for volunteering. For example, youth volunteers often seek

opportunities for career advancement (Clary et al., 1998). In our study, women had significantly higher average scores than males in motivations based on helping the environment, career, learning, and values and esteem categories. By varying the types of activities available for volunteers and the types of reward and recognition offered, supervisors can better satisfy the needs of their volunteers.

Recruiting good volunteers is critical to ensuring staff acceptance and promotion of a volunteer program. Many of the common challenges that volunteer coordinators face, such as attracting capable volunteers or recruiting volunteers who can work the appropriate hours and who bring unique and valuable perspectives, expertise, or training, can be minimized through a successful recruitment and retention plan (Hager & Brudney, 2005). The recruitment message should be tailored to the audience the agency is seeking, and the message should address how the volunteer can meet specific agency needs. The recruitment message also must emphasize the benefits that will motivate the volunteer, such as helping the environment, providing camaraderie, or learning new skills.

Rewarding volunteers through recognition is one way an organization expresses thanks for donated time, energy, and expertise. It tells volunteers that their efforts are appreciated. The use of extrinsic rewards must be managed carefully, however, as incentives that are inappropriate or too great can decrease the volunteer's intrinsic motivation for the task (Deci, 1971). Recognition can be as simple as a verbal "thank you" or pat on the back and can occur often to help make volunteers feel needed. This verbal reinforcement and positive feedback tends to increase intrinsic motivation, which will help volunteers continue in their role (Deci, 1971). FWC is successful in this dimension, with over 90% of FWC respondents reporting that their service has been recognized by FWC staff, usually by verbal appreciation or an item of clothing, such as a T-shirt or hat. Celebrations of small accomplishments or the completion of tasks can reinforce a feeling of appreciation and value. Volunteers need to feel that their work is significant. Even people picking up trash need to know that they are saving agency dollars that can be better spent on habitat restoration, helping a species, or building a picnic shelter for youth groups.

One challenge of implementing a successful volunteer program is finding the time and staff to successfully manage a volunteer force. This challenge is both practical, as properly managing volunteers is time consuming and may require specialized skill in recognizing and addressing volunteer motivations, and attitudinal, as some agency staff may resent volunteers or be concerned that volunteer-generated data or products will be unreliable (Foster-Smith & Evans, 2003). Keeping records of volunteer service and types of tasks accomplished helps in recognizing individual volunteer effort, and systematic data collection helps in evaluating an agency's volunteer program. Feedback on their performance helps volunteers to grow personally and professionally through their service. Knowing how financial and human resources are being used for the volunteer program provides administrators with data for assessing its impacts. If agencies wish to retain and expand their volunteer workforce, attention to the types and motivations of volunteers is needed. Motivations of current volunteers may not reflect the broader population, and reaching out to a more diverse audience will require effort in understanding diverse needs. The efficient use of staff to ensure appropriate training and supervision also will be needed.

The results of the regression model underscore the importance of finding motivated volunteers and placing them in well-organized programs. Several of the significant variables (recognition received, training received, and the respondents' motivation to participate in a well-organized project) indicate that a well-run volunteer program can drive volunteer satisfaction, and potentially retention, as well.

The results of this study are consistent with the findings of other functional analyses of nature-based volunteerism and support the use of this approach for examining volunteer behavior. Findings should help contribute to agency efforts to improve volunteer programs. In addition to immediate benefits, long-term volunteer experience has been linked to support for natural resources (Ryan et al., 2001), and should help enhance management of parks and nature-based recreation programs.

Limitations of Study

Only about half of the active volunteers at FWC had known e-mail addresses. Those who do not provide FWC with e-mail addresses may not have access to computers or e-mail, and were, by necessity, excluded from the sampling frame of this electronic survey. Nonrespondents in electronic surveys are more likely to be poor, less educated, minority, and elderly (Vaske, 2008) and may not be represented in our sample. Phone interviews with nonrespondents were not conducted due to financial constraints. As noted in the results, one of motivation categories fell below a generally accepted alpha level and represents a limitation. In addition, the results of this study reflect the motivations and experiences of current FWC volunteers. Generalizability of these findings to a more diverse population would require further study.

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