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**THE URBAN/SUBURBAN WILDLIFE SURVEY
VOLUNTEER PROJECT**

by
Larissa L. Smith

A Thesis

**Submitted in partial fulfillment of the requirements of the
Master of Arts Degree
of
The Graduate School
at
Rowan University
September 2003**

Approved by _____
Professor

Date Approved 9/23/03

ABSTRACT

Larissa L. Smith

The Urban/Suburban Wildlife Survey Volunteer Project

2003

Austin A. Winther, Ph.D.

Environmental Education and Conservation

This study examined attitudes of Volunteers in the Urban/Suburban Volunteer Project. Volunteers for this project surveyed for bird species for the New Jersey Endangered and Nongame Species Program in Urban New Jersey areas. This project was considered unsuccessful by the Endangered and Nongame Species staff. By analyzing a volunteer project that was not as successful as hoped, volunteer managers can learn from this and apply the findings to their own projects. The purpose of this study was to find out what volunteers thought of the Urban/Suburban Volunteer Project

Questionnaires were sent to the known population, a total of 25 questionnaires were returned for a return rate of 60 percent. Questionnaires contained both closed-ended and open-ended questions and these were analyzed.

It was found that most volunteers found the surveys to be a rewarding experience and would participate in the project again. Some volunteers found the surveys time consuming and overwhelming. Most volunteers were highly skilled birders, those with less skills would have found the surveys difficult. The problem is that there were not enough volunteers participating in the Urban/Suburban Project to achieve the data needs of the ENSP program.

Mini-Abstract

Larissa L. Smith

The Urban/Suburban Wildlife Survey Volunteer Project

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The purpose of this study was to find out volunteers perspective on the Urban/Suburban Wildlife Survey Volunteer Project. This project was considered unsuccessful by the Endangered and Nongame Species staff who implemented the project. It was found that most volunteers found the surveys to be a rewarding experience and would participate in the project again.

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CHAPTER 1

INTRODUCTION

Volunteers play an important role in non-profit organizations. For decades human service organizations have used volunteers to cut costs and increase services. Volunteers have become increasingly important to environmental organizations as well, not only to cut costs, but to become advocates of the environment. The New Jersey Division of Fish and Wildlife's, Endangered and Nongame Species Program (ENSP) has used volunteers for many of its projects since its formation in the early 1970's. This paper will look at one particular project, the Urban/Suburban Project, which was implemented to train volunteers to survey for threatened, endangered, and nongame species in urban and suburban areas throughout New Jersey that still contain critical habitat, but for which there are no recorded species sightings.

The New Jersey Division of Fish and Wildlife

The New Jersey Division of Fish and Wildlife is a state agency under the New Jersey Department of Environmental Protection. The mission of the New Jersey Division of Fish and Wildlife is to protect and manage the state's fish and wildlife to maximize their long-term biological, recreational, and economic values for all New Jersey residents. In 1973 the Endangered and Nongame Species Program (ENSP) was created within the NJ Division of Fish and Wildlife as mandated by the Endangered and Nongame Species Conservation Act. The mission of the ENSP is to actively conserve New Jersey's biological diversity by maintaining and enhancing endangered and nongame wildlife

populations within healthy, functioning ecosystems. An endangered species is one whose prospects for survival in New Jersey are in immediate danger because of a loss or change in habitat, over-exploitation, predation, competition, disease, disturbance, or contamination. Threatened species are those who may become endangered if conditions surrounding them begin to or continue to deteriorate. There are 500 nongame animals and over 70 endangered and threatened species in New Jersey. The ENSP receives no dedicated state-appropriation for its wildlife protection and habitat conservation efforts. The Conserve Wildlife Foundation of New Jersey, a non-profit organization, was created in 1998 to help support ENSP with staff and resources. The foundation raises funding to promote wildlife conservation through education and community outreach.

ENSP Volunteer Program

Volunteers have always been an important part of the Division of Fish and Wildlife. The Wildlife Conservation Corps is the Division of Fish and Wildlife's volunteer program. The ENSP has used volunteers from this group who were interested in working with nongame species. Most of the major ENSP projects have always used a core group of dedicated volunteers who gained expertise in the project area. The eagle project is an example of a successful long-term volunteer project. In the 1980's there were a handful of volunteers who helped with the eagle recovery project. Today there are approximately 50 volunteers who monitor each known eagle nest in New Jersey. They watch each nest about two hours per week, often more, from January through August, reporting incubation, hatching and fledging dates. These volunteers are very dedicated and attached to their nest sites. Without these volunteers the ENSP would be unable to monitor and manage the 34 eagle nests in the state today.

The Herp Atlas project is another volunteer project that currently has 300 volunteers who are trained to survey for reptiles and amphibians throughout the state and is the largest volunteer effort that the ENSP has today. The rate of return of data sheets from volunteers' surveys is high for this project. From 2001-2002 there were 3,491 sightings reported of reptiles and amphibians.

In 2000 the ENSP received a grant to implement the Citizen Scientist Program. The Citizen Scientist Program was the mechanism to provide data for the ENSP's Landscape Project. The Landscape Project was developed by ENSP to provide state of the art mapping of endangered and threatened wildlife species habitat in New Jersey, in an effort to identify critical patches of open space in need of preservation. One part of this effort was to increase the volunteer program and focus on developing partnerships throughout New Jersey's communities to conduct wildlife surveys, which would be used to fill in gaps in the mapping of endangered and threatened species habitat. The program was also to focus on urban and suburban areas that still contain important wildlife habitat, despite rampant development.

Volunteers were organized into a single volunteer database and several staff members were assigned to work on the project. Several volunteer projects were implemented with only moderate success, meaning the cost of carrying out the volunteer project in terms of staff, materials, and trainings outweighed the benefits of data return. Two projects, the Gloucester County Project and the Greater Galloway Project, trained volunteers to survey for endangered, threatened, and rare species in these two specific areas. The Galloway Project trained 100 plus volunteers, but only a handful of data sheets were turned in to the project staff. Focus groups were held to better understand

volunteers opinions on the projects. It was found that it is not productive for biologists to train volunteers with no prior wildlife identification experience for some of the projects. To overcome this challenge an outreach biologist was hired to work exclusively with nonprofit wildlife organizations, nature clubs and birding groups in urban and suburban areas. This paper focuses on the Urban/Suburban wildlife survey project.

After reorganizing the volunteer program, today, the ENSP has 650 active volunteers who have contributed over 38,000 hours since January 2001. The focus is no longer on recruiting new volunteers, but on working with the current volunteers to increase their knowledge and expertise in wildlife identification. Communication with volunteers has been improved through newsletters, e-mails, volunteer meetings, and advanced trainings.

The Urban/Suburban Volunteer Project

The Urban/Suburban Volunteer Project concentrated on recruiting volunteers who were already skilled in wildlife identification to conduct surveys and also had a mutual interest in local wildlife and preserving open space. The target survey areas were in the following New Jersey counties: Bergen, Passaic, Essex, Middlesex, Hudson, Union, Mercer, and Camden. During the first year the project coordinator concentrated on recruiting volunteers from the northern counties. This was accomplished by contacting established environmental groups in these urban areas. Volunteers could participate in several different surveys including breeding songbird surveys, migratory songbird surveys, raptor surveys, and colonial waterbird and shorebird surveys. Volunteers were also recruited to survey for reptiles and amphibians and vernal pools. Volunteers interested in these two surveys were plugged into existing volunteer projects and

therefore will not be discussed in this paper. Trainings were held for songbird, raptor, and shorebird/colonial waterbird surveys. Each training consisted of three sessions lasting one hour per session. Volunteers were given the protocol on surveying for these species. The protocol for each survey is slightly different though all required some previous knowledge of bird identification. Surveys had to be done within a specific time frame. Volunteers were also asked to choose specific areas to survey. The topographic quadrangle mapping system was used. There are 178 quadrangles in New Jersey and each of these quads are broken into six blocks approximately 3 square miles each. In the targeted urban and suburban areas there were 120 blocks that needed to be surveyed. Once a volunteer chose blocks, they were given a topographic map of the block to use during surveys. Volunteers were asked to submit data and time sheets at the end of the survey season.

Problem Statement

Though initial interest in the project was high, the return of data from volunteers was low. Initially, approximately 80 people expressed an interest in volunteering for the project. Of these, twenty attended the trainings and so far a total of ten volunteers have submitted datasheets. From the Endangered and Nongame Species Program's point of view, this project was not successful. The cost of implementing this project was far higher than the benefits. Of the 120 blocks targeted to be surveyed, 61 were chosen by volunteers. To date these surveys have not yet reached completion.

Research Questions

This paper will look at the volunteers' perceptions of the Urban/Suburban project.

- What variables influenced prospective volunteers not to participate?

- What variables influenced prospective volunteers who received training not to participate?
- To what extent did the volunteers who conducted surveys find it a rewarding experience?
- To what extent would volunteers be willing to participate in future surveys?

Research Hypotheses

There could be countless reasons why a volunteer chooses not to participate in a project. Based on the review of the literature and theories of the ENSP employees, the following hypotheses have been reached.

- Personal reasons influenced people not to participate.
- Volunteers felt that they were not skilled enough to conduct surveys.
- Volunteers felt that the time frame of surveys was too specific.
- Volunteers felt that they were not receiving enough support from the ENSP staff.
- A year is not enough time to get a new project running successfully.

Purpose of the Study

The purpose of this study is to find out what volunteers thought of the Urban/Suburban Project: finding reasons why volunteers participated will be very useful to the Endangered and Nongame Species staff. This information can be used to manage other Endangered and Nongame Species volunteer projects and also when designing new volunteer projects in the future.

Significance of the Study

Since volunteers are the backbone of a volunteer project, it is very important to understand what they expect from their volunteer experience. Managing volunteers can

be a very difficult job. By analyzing a volunteer project that was not as successful as hoped, volunteer managers can learn from this and apply the findings to their own projects. Finding out why volunteers participated or did not participate could be very useful to volunteer managers in the environmental field.

Limitations

One of the limitations of this study is that only those people who expressed an interest in the project to the volunteer coordinator can be surveyed. It would be interesting to know why people who were members of the environmental groups that were initially contacted did not choose to participate. Because the survey is limited to those who expressed an interest in surveying in urban/suburban areas we can not determine if the fact that surveys were to be done in urban and suburban areas and not rural areas, had any effect on the initial interest in the project. Another limitation of this research is that the volunteers might not be completely honest about their feelings toward the project.

Research Design

To find out the volunteers' perceptions of this project, a survey will be mailed to all volunteers who initially expressed an interest in participating. A survey will be designed and pre-tested on a small group of people. The survey will then be mailed to participants along with a cover letter. After a given period of time, a reminder will be sent to those who did not respond to the first survey. Depending on the response to the reminder a third reminder will be sent if necessary.

CHAPTER 2

LITERATURE REVIEW

Volunteer Motivation and Longevity

In the past there has been much research on the subject of volunteer motivation (Cnaan & Goldberg-Glen, 1991; Clary & Snyder, 1999; Clary, Ridge, et al., 1998) and volunteer longevity and turnover (Rubin & Thorelli, 1984; Miller, Powell & Seltzer, 1990). Most of this research has been done on volunteers in the human services field.

The purpose of the study by Cann & Goldberg-Glen (1991) was to find the motivation to volunteer. In this study, volunteers in the human services field and non- volunteers were asked to rank in importance 28 motives for volunteering. The study found that volunteers are both altruistic and egoistic, and that they do not act from a single motive, but from a combination of motives. In other words, not only do volunteers give by volunteering, but they are getting something back in return whether it be a reward or satisfaction.

Volunteers will continue to volunteer as long as the experience as a whole is rewarding and satisfying to their unique needs. The researchers suggested that volunteer coordinators can use the “motivation to volunteer scale” as a tool to screen potential volunteers and find specific motives to volunteer.

Clary, et al (1998) looked at understanding and assessing the motivations of volunteers using a functional approach. They looked at what functions are served by volunteering and developed a set of six items (see below) to reflect the psychological and social functions of volunteerism.

Values- The individual volunteers in order to express or act on important values like humanitarianism.

Understanding- The volunteer is seeking to learn more about the world or exercise skills that are often unused.

Enhancement- One can grow and develop psychologically through volunteer activities.

Career- The volunteer has the goal of gaining career-related experience through volunteering.

Social- Volunteering allows an individual to strengthen his or her social relationships.

Protective- The individual uses volunteering to reduce negative feelings, such as guilt, or to address personal problems. (1998, p. 1517-1518)

They then developed an instrument to measure the functions served by volunteerism, the Volunteer Functions Inventory (VFI). The article included results from a set of six investigations looking at the motivational foundations of ongoing helping characteristics of involvement in volunteerism. These studies were all carried out on volunteers in the human service field from a variety of different backgrounds. The article cited study one that tested the VFI as an inventory for measuring volunteer motivation. This study was carried out on active volunteers in differing human service projects. It was found that the six functions, mentioned earlier, were served by volunteering. Study two cross validated the VFI by testing it on a more diverse group of both volunteers and nonvolunteers. It was found again that the same six factors emerged, though in a different order. The third study cited in the article examined the temporal

stability of the VFI, by having respondents complete the inventory at two points in time. The results showed that the VFI scales were stable over a one-month period. Study four looked at matching an individual's motivation to volunteer with the volunteer opportunities available. Participants completed the VFI questionnaire and then ranked six different advertisements for volunteer opportunities. The study predicted and found that participants judged each advertisement as effective and persuasive to the extent that it matched their personal motivations. Study five looked at predicting the volunteers satisfaction with their volunteer experience. The results showed that functionally relevant benefits are directly related to the quality of the experiences of volunteers. The final sixth study looked at the role of an individual's motivations for volunteering and the benefits they receive and how they related to the volunteer's continued participation and their commitment. This study was done on students who were required to volunteer for a college course. They were given the VFI to fill out at the beginning of their volunteer experience and were given a follow up survey asking for their perceptions on volunteering at the end. It was found that those who received benefits relevant to their primary functional motivations were satisfied with their service and intended to continue volunteering in the future. At the conclusion of this study it was found that the VFI is a useful tool for measuring volunteer motivation. Volunteers have motives that are important to them and if they find their volunteer role matches these motivations, they will derive more satisfaction and enjoyment and tend to continue to volunteer.

In a follow up to this first paper Clary & Snyder (1999) once again look at their studies of the VFI inventory and volunteer motivation. They found that diverse personal and social motivations are served by volunteering and that volunteer behaviors do not

depend solely on the person or on the situation, but rather depend on the interaction of person-based dynamics and situational opportunities.

Knoke (1981) examined the relationship between voluntary association's social control systems and individual member's commitment to and detachment from the collectivity. The hypothesis was that a member's commitment and detachment from the collectivity are strongly effected by the degree to which the organizational policies facilitate social control by the members. The paper examines three components of volunteer associations: centralization of decision making, pattern of communication, and total amount of influence. Centralization refers to the portion of members engaged in making policies. If only a few members are involved in making policies, the degree of centralization is high in the association. The pattern of communication refers to the degree of communication within the organization. The total amount of influence refers to the amount of influence an organization has available to reach its goals. Interviews were conducted with members from 32 different volunteer groups, two of which included environmental conservation volunteer groups. It was found that communication and decision participation have direct effects on members' commitment to the organization. The less the member feels that they are able to influence a group's decision making process, the less supportive and more cut off they will feel. In groups where members are unable to assist in the decision making process, communication is very important in maintaining members support (Knoke, 1981).

Rubin & Thorelli (1984) looked at egoistic motives and longevity of participation by social service volunteers in The Big Brother/Big Sister Organization. This study tested a hypothesis in a setting in which the costs of volunteering probably outweigh its

egoistic benefits. The studies hypothesis was that, the longevity of participation as a service volunteer will be inversely related to the extent to which the service volunteer's entry was motivated by the need for or expectation of egoistic benefits. Interviews were conducted with volunteers from the organization. It was found that the hypothesis was correct, and what predicts a high level of participation on an entry basis may predict a low level of participation in the context of longevity or exit. The more benefits one expects to derive from volunteering, the more likely one is to volunteer, but the more vulnerable one is to encountering unmet needs or unmet expectations in the actual volunteer experience. The study does point out that additional research needs to be done in other settings.

Miller, Powell & Seltzer (1990) looked at the variables that had a direct effect on volunteer turnover. Questionnaires were given to hospital volunteers that measured attitudes, job satisfaction, organizational commitment, personal situations, and intention to leave. Turnover was measured by having the volunteer director review a list of respondents six months after the survey and identify those who had left. It was found that age had a direct effect because of the fact that older volunteers are less likely to be in pursuit of career experience. The study also found that in addition to making the volunteer experience a satisfying one, managers must recognize outside influences on volunteer behavior. Convenience of the volunteer's schedule was found to have direct effects on turnover. The study found hospital volunteers' reasons for a "quitting" can not always be predicted, and that there are often personal matters involved. This is an important factor to remember when working with a volunteer program.

Environmental Volunteer Programs

The majority of volunteer research has been done in the human services field. But as volunteers are becoming increasingly important to environmental programs there is more research involving these volunteer programs. Volunteer programs in the environmental field are highly variable from restoration projects (Miles, Sullivan & Kuo, 1998; Westphal, 1997; Betsy, 1997), forestry projects (Still & Gerhold, 1997) stream monitoring projects (Vick, 1999; Fore, Paulsen & O’Laughlin, 2001; Middleton, 2001) to the Back Yard Bird Count (Wells, 2001). These projects are discussed below.

One study that surveyed volunteers in an environmental restoration group found some key reasons for volunteering. Volunteers were searching for an improved connection with nature, having an ability to do something tangible to help the environment, and recognizing the aesthetic and emotional benefits of nature (Westphal, 1997).

Miles, Sullivan & Kuo’s (1998) study looked specifically at volunteers involved with environmental restoration projects in the Chicago Metropolitan area. Restoration is a commitment to the re-creation of an entire community of plants and animals modeled strictly on one that occurs naturally. Restoration projects can take place in rare prairie, oak savanna, wetlands, and woodland ecosystems. Volunteers’ levels of involvement vary from volunteering every week, to helping on workdays, to additional responsibilities of monitoring a site for plants or insects, or being a site steward. Questionnaires were sent to volunteers from various restoration groups throughout the Chicago area. Four main areas were measured, volunteer satisfaction, involvement, life satisfaction and life functioning. It was found that those volunteers who participated more frequently had a

higher level of satisfaction, as well as those who had more responsibility. It was also found that volunteers benefit from the sense that they are participating in something meaningful. This supports the early findings of Caan & Goldberg-Glenn (1991) in that volunteers need to get something back from volunteering whether a reward or satisfaction. A sense that they are doing something meaningful is a satisfaction.

Betsy (1994) looked at fostering volunteerism in the Task Force to Bring Back the Don Watershed in Toronto Canada. The goal of this group was to restore a severely polluted and degraded watershed to a clean, green, and accessible one. The Task Force established in 1989, has planted trees, shrubs, and wildflowers, opened a new access point through a local park, and restored wetland for wildlife habitat. The main objective of this study was to look at motivational factors for volunteering and to find the difference between active participation and passive support for environmental activities. Both active and inactive members of the Task Force to Bring Back the Don were sent surveys in the mail. It was found that one major difference between active and inactive members was that active members participate in other environmental volunteer groups. It was also found that the more active members used the Don Valley more frequently for recreational activities such as bird watching and hiking. It was found that those with a higher level of participation were more knowledgeable about various issues related to the Don Watershed. Another major difference between the active and inactive group was that those members who were more active were more likely to have joined to learn new skills or acquire job or career experience. Active members were also more likely to have developed friendships in the group and also felt that the Task Force was getting something accomplished.

Still & Gerhold (1997) looked at the motivations and task preferences of urban forestry volunteers. Forestry volunteers perform tree inventories, tree planting, and tree care. Surveys were sent to volunteers from several tree volunteer organizations as well as members of a botanical garden in New York and Philadelphia. It was found that improving ones neighborhood was the main reason for volunteering followed by a desire for education. This combination of motivations are both altruistic and egoistic reasons as noted by Cnaan & Goldberg-Glenn (1991). Volunteers and potential volunteers are willing to perform a wider range of tasks suggesting increased involvement. It was also found that volunteers wanted to increase their level of participation in the planning and decision making of their projects.

Many environmental volunteers are involved in water monitoring projects of streams, rivers, lakes, reservoirs, estuaries, coastal waters, wetlands, and wells. There are 789 volunteer monitoring programs in the nation (Vick, 1999). Volunteers observe habitat, land uses, and the impacts of storms; measure the physical and chemical characteristics of waters; and assess the abundance and diversity of living creatures; aquatic insects, plants, fish, birds, and other wildlife. They also clean up garbage-despoiled waters, count and catalog beach debris, and help to restore degraded habitats (Vick, 1999).

Middleton (2001) takes a look at the Save Our Streams Program which involves citizens in the monitoring and enhancement of freshwater streams and rivers across the country. The program teaches volunteers to assess the health of their streams by looking at biological, physical, and chemical values and then how to take the necessary steps to restore the streams. Fore, Paulsen & O'Laughlin (2001) address the issue of the quality

of data that water monitoring volunteers collect. With environmental volunteer projects that require a bit more training and expertise than a one-day work project, quality can be an issue. Quality of data from volunteers with the Urban/Suburban Project is often in question. Fore et al. (2001) compared the precision of assessments made by volunteers with those made by professionals in water monitoring. They compared the data from both groups in the field and lab. The results showed that volunteers were capable of collecting meaningful data and their assessments are comparable to those made by professionals. This study shows that if water monitoring volunteers are properly trained they can monitor sites and watch for changes at more sites than professionals may have the resources or time to do.

Ryan, Kaplan & Grese (2001), looked at predicting volunteer commitment in environmental stewardship programs. Volunteers from three different environmental programs, who had been participating at least one year, were sent surveys in the mail. The survey focused on several areas of motivation for continued participation, change in environmental outlook, attachment to natural areas, expertise, level of activity and commitment. It was found that frequency and volunteer commitment were highly correlated. This suggests to volunteer managers, that having regular and frequent volunteer opportunities may be important for building commitment. This concurs with Miles et. al.(1998) findings that frequency of participation correlates to a higher level of satisfaction. They also found that knowledge and expertise also plays a significant role in volunteer commitment and duration, suggesting that an investment in learning increases the desire to continue to volunteer. The two highest factors in volunteering were found to be helping the environment and learning. After this, they found that the social aspect of a

volunteer project was important motivation for volunteering. The Urban/Suburban Project did not have a social motivation. Aside from the initial trainings, individuals were on their own to survey their areas and did not have a chance to meet other volunteers. Social motivation represents one difference between survey projects and environmental restoration projects that involve groups of volunteers. It was also found that the organization of the volunteer project itself can affect volunteer motivation. Programs that are disorganized may discourage volunteers from participating. The surveys indicated that poor organization was a major reason for dropping out of a program.

Ryan, Kaplan & Grese (2001), found that it is important to recognize that people have different needs at different times, and that there are many diverse motivations to consider. Volunteers will continue to volunteer if their needs are fulfilled. This should be taken into consideration when assessing the Urban/Suburban Volunteer Project. There may not be just one factor that caused the project to be unsuccessful and for each volunteer the factors could be varied.

Another important finding from this study was that there was an increased appreciation and attachment to local natural areas which increases the desire to preserve and protect these areas. Today local natural areas need nearby advocates, especially with increased pollution and threats of development.

Many of these studies done with volunteers in the environmental field do not focus on the problems associated with using volunteers as a work force but more on the positives of using volunteers in this field. Miles et.al(1998) described earlier in the literature review, found that while benefits to the participant were high, further research

should be done examining the costs and frustrations of volunteering that might discourage volunteers. The ENSP's Urban/Suburban Project required volunteers to make a commitment for more than one day and required the volunteers to follow survey methods and counts that had to be done at specific points. The surveys also required skills in bird identification by sight and sound, which can be very difficult. The Back Yard Bird Count, which is run by the Cornell Lab of Ornithology and the National Audubon Society, has been very successful in that 100,000 volunteers have participated nationwide (Wells, 2001). But as compared to the ENSP's Urban/Suburban Project that requires some skills in identification and methods, the Back Yard Bird Count is open to anyone who is interested in birds. The count takes place over four days, but volunteers can count anywhere for any length of time during those four days (Wells, 2001). The same holds true of another successful environmental project in Washington called The Nature Mapping Program. This project also uses volunteers to map wildlife sightings, but is open to all volunteers and even those with no previous experience. The survey is very broad in that volunteers can survey for all species and habitat. The program emphasizes the educational value of observing wildlife and habitat and is designed to encourage as much observation as possible even without positive identification (Tudor & Dvornich, 2001). Whereas the data collected by the Endangered and Nongame Species Program volunteers needs to be as accurate as possible.

Bildstein(1998) discusses the use of volunteers to collect data on hawk migration at the Hawk Mountain Sanctuary in Pennsylvania. The Sanctuary has an active roster of over 200 volunteers who assist with many functions including counting hawks during the migration. The database that has been compiled by these counts plays a key role in

analyzing raptor populations. Bildstein found that the data collected by volunteers provides a significant resource to conservation biologists and wildlife managers. He does point out that attention needs to be given to the human side of the volunteer work force. Issues such as personality conflicts, different work ethics, worker dependability, and scheduling concerns all effect the volunteer work force.

As discussed so far, understanding volunteer motivation is an important factor in volunteer longevity and management of the volunteer program itself has a large impact on volunteer longevity. Grossman, Baldwin & Furano (1999) address in their paper three areas that they feel are very important to the success of a volunteer project: screening, training and ongoing management and support. Screening is important in that not every willing volunteer is a good match for every task. The skills of a volunteer as well as the time commitment they are willing to make are important factors. Training volunteers makes them prepared and confident that they can perform the required task. Ongoing support and management of volunteers is essential to an effective volunteer program. A study of volunteers in various programs found that volunteers do experience some level of frustration and that this is usually early in their volunteer experience. A way to help overcome volunteers' frustrations is to have professional staff available to volunteers when help is needed. It was found that when the staff spent more time interacting with volunteers, the volunteers did a better job. It was also found that communication within the volunteer program is important to its success. This finding was also supported by Knokes (1987) research on voluntary associations. The Urban/Suburban Project was run by a single staff member whose sole responsibility was to manage the project. Therefore volunteers should have had access to the manager to deal with questions and problems.

Questions in the survey will address these issues of organization in the Urban/Suburban Project.

Many of the studies mentioned above were carried out in urban and suburban areas which leads to the conclusion that environmental groups can successfully carry out their work in these areas. A study by Conover (1997) looked at urban residents' opinions of urban wildlife and wildlife management practices. A questionnaire was sent to 100 randomly selected residents of 10 metropolitan areas throughout the United States. He found that residents actively managed for some species and against others considered pest species. Over half of the respondents reported that they tried to enhance wildlife populations in their neighborhoods by putting up birdhouses, feeding birds, and providing plants to attract wildlife. Conover concluded that metropolitan residents are deeply interested in urban wildlife and are willing to spend time and money for its enhancement.

This review of the literature shows that though the reasons for volunteering and continuing to volunteer with environmental programs can be generalized, each program and each volunteer is different. There is much room for research in the field of environmental volunteers, especially looking at the problems with volunteer programs and what can be done to improve them.

CHAPTER 3

METHODOLOGY

Purpose of the Study

The purpose of this study is to find out what volunteers thought of the Urban/Suburban project. Finding out reasons why volunteers participated will be very useful to the Endangered and Nongame Species Program staff. This information can be used to manage other Endangered and Nongame Species volunteer projects and also in the future when designing new volunteer projects.

Research Questions

The research questions for this project are:

- What variables influenced prospective volunteers not to participate?
- What variables influenced prospective volunteers who received training not to participate?
- To what extent did the volunteers who conducted surveys find it a rewarding experience?
- To what extent would volunteers be willing to participate in future surveys?

Research Hypotheses

There could be countless reasons why a volunteer chooses not to participate in a project. Based on the review of the literature and theories of the ENSP employees, the following hypotheses have been reached.

- Personal reasons influenced people not to participate.
- Volunteers felt that they were not skilled enough to conduct surveys.
- Volunteers felt that the time frame of surveys was too specific.
- Volunteers felt that they were not receiving enough support from the Endangered and Nongame Species Program staff.

Research Design

There are different types of research based on the nature of the questions asked and the methods used to answer them (Salkind, 2000, p.10). The type of research that I used for this project is nonexperimental, descriptive research. This type of research describes the characteristics of an existing phenomenon (Salkind,p.11). The purpose of this study is to find the volunteers' perceptions of the Urban/Suburban Volunteer Project. I chose to do a quantitative study rather than a qualitative study to measure their perceptions. Quantitative methods of research are based on the collection and analysis of numerical data, usually obtained from questionnaires, tests, checklists, and other formal paper-and-pencil instruments (Gay & Airasian, 2000, p.8). Qualitative research is based on the collection and analysis of non-numerical data such as observations, interviews, and other more discursive sources of information (Gay & Airasian, p.9). I chose to use quantitative research for this project using questionnaires administered through the mail. This method of research was chosen due to the fact that the population of volunteers

selected to be surveyed was too large of a group to interview on an individual basis. Qualitative research most often involves studying a small group of participants, using time intensive methods such as interviews and observations. I also chose a quantitative method because the responses of the volunteers would be confidential and therefore more truthful. Researchers using qualitative methods often interact extensively with the subjects whereas researchers using quantitative methods often have little interaction with the participants. As one of the volunteer coordinators for the ENSP, I felt that volunteers might not be completely truthful in their answers to me in a face-to-face interview. However, by using surveys I will not get as in depth of a look at volunteers' feelings as I would in a face-to-face interview. As a result, a few open-ended questions were added to the survey to let volunteers express themselves openly.

Subjects and Sampling

Gay & Airasian (2000) define sampling as a process of selecting a number of individuals for a study in such a way that they represent the larger group from which they were selected. There are several different methods that can be used to select a sample for research study. The basic steps in sampling are generally the same regardless of the technique used: identify the population, determine the required sample size, and select the sample (Gay & Airasian, p.123). There are two major categories of sampling strategies: probability sampling and nonprobability sampling. Probability sampling is the likelihood of any one member of the population being selected, whereas nonprobability sampling is where the likelihood of selecting any one member of the population is not known (Salkind, 2001, p.87). There are several different types of probability sampling including the two main types, random and systematic. Simple random sampling is when

each member of the population has the same probability of being selected whereas systematic sampling is when every nth member of the population is selected (McMillan, 2000, p.105). Convenience sampling is a nonprobability sampling method where a group of subjects are selected because of their availability (McMillan, p.108).

For this survey I administered a systematic survey of the known population. All known participants in the Urban/Suburban Project were sent the questionnaire. The volunteers who received the questionnaire were chosen from various sources. Since the coordinator of the Urban/Suburban Project was no longer employed by the ENSP, it was a bit difficult to obtain an exact list of volunteers who attended trainings or participated in the project. Due to the fact that I could not find records of those who attended trainings, a questionnaire was sent to all those who had expressed an interest in participating in the project. Those volunteers who have handed in data sheets and timesheets also received a questionnaire. The questionnaire had to be designed to find out if the subject did attend training and if he/she did participate in the surveys. Most likely the entire population was not surveyed since the entire population was not known.

Questionnaire

To design the questionnaire I researched literature discussing questionnaire design. Salkind (2000) states that, "Questionnaires can work very well, but their development demands time and attention to detail". He breaks the factors upon which a questionnaire depends into three general parts.

The Basic Assumptions

- The questionnaire does not make unreasonable demands upon the respondent.
- The questionnaire does not have a hidden purpose.
- The questionnaire requests information that respondents presumably have.

The Questions

- The questionnaire contains questions that can be answered.
- The questionnaire contains questions that are straightforward.

The Format

- The items and the questionnaire are presented in an attractive, professional and easy to understand format.
- All questions and pages are clearly numbered.
- The questionnaire contains clear and explicit directions as to how it should be completed and how it should be returned.
- The questions are objective.
- The questions are ordered from easy to difficult and from easy to specific.
- Transitions are used from one topic to the next.
- Examples are given when necessary. (p.137)

When discussing questionnaire construction, Gay & Airasian sum it up by stating, “As a general guideline, the questionnaire should be attractive, brief and easy to fill out” (Gay & Airasian, 2000, p.282). They also point out that it is easier to respond by circling a letter or word than writing out a lengthy answer. They do point out that one or two free

response questions can be included in the questionnaire to give respondents the opportunity to add information. I designed my questionnaire using these guidelines. The questionnaire was four pages in length and contained twenty-one questions. Questions were numbered and spaced apart so that the wording was not jumbled together. The majority of the questions were closed-ended questions with three open-ended questions. Gay & Airasian point out that closed-ended items are often preferred since they are easier to score and analyze (p.283). Often respondents will not take the time to answer free response questions and if they do they are often unclear (Gay & Airasian,p.283). However, in many cases a few free response questions give the respondent an opportunity to add information not obtained through closed-ended questions. The Likert scale was used with five of the questions. A scale is a series of gradations that describes something. The most typical format for a scaled item is following a question or statement with a scale of potential responses, allowing subjects to indicate their attitudes or values by checking the place on the scale that best reflects their feelings and beliefs about the statement (McMillan, 2000, p.157). The Likert scale is the most widely used scale and a true Likert scale measures level of agreement to a statement (McMillian, p.157). Four of the questions on the questionnaire I designed used a true Likert scale. One question used a Likert-type scale, which has a different form and begins with a neutral statement, and the direction or gradation is provided in the response options (McMillan, 2000, p. 157). Questions started out easy in relation to volunteer experience and moved to questions more specific and requiring the volunteers' opinions. The questionnaire was printed on colored paper so that it stood out from other papers the respondent might have lying about on their desk.

Questions were designed to find the answer to the previously mentioned research questions and to see if the answers supported the research hypotheses. Questions 1 through 7 were designed to obtain necessary background information on the participant. Questions 9 and 21 are designed to answer the research question; what variables influenced prospective volunteers not to participate?. Questions 12 and 21 were designed to answer the research question; what variables influenced prospective volunteers who received training not to participate? The questionnaire is displayed on the next four pages.

Survey of Urban/Suburban Project Volunteers

Please circle the appropriate answer or fill in the blank

1. In what county do you reside? _____

2. Have you volunteered for other Endangered and Nongame Species Program projects other than the Urban/Suburban Project?

yes no

3. If Yes, please list the projects. _____

4. How many years have you volunteered with the Endangered and Nongame Species Program?

none less than 1 year 1-2 years
3-5 years 6-10 years more than 10 years

5. Approximately how many hours per year do you volunteer with the Endangered and Nongame Species Program?

less than 5 hrs. 5-20hrs. 21-40hrs. 41-60hrs. 61-80hrs.
more than 80hrs.

6. Approximately how many hours per year have you volunteered for the Urban/suburban Project?

less than 5 hrs. 5-20hrs. 21-40hrs. 41-60hrs. 61-80hrs.
more than 80hrs

7. How many years of birding experience do you have?

none less than 1 yr. 1-5yrs. 5-10yrs. more than 10yrs.

8. Did you attend trainings for the Urban/Suburban Project?

yes

no

9. If no, why not?

10. If yes, which training/s did you attend? (Circle all that apply)

songbird

raptor

colonial waterbird/shorebird

Herp Atlas

vernal pool

11. Did you participate in the surveys for the Urban/Suburban Project?

yes

no

12. If no, why not?

(If NO, please skip to question 21)

18. I had the necessary skills to complete the surveys.

strongly agree agree neither agree disagree strongly
disagree
nor disagree

19. To what extent do you feel that the Endangered and Nongame Species Program staff supported your volunteer efforts?

very supportive enough support some support very little support
no support

20. Would you participate in the surveys again?

yes no unsure

21. Please comment on your volunteer experience with the Urban/Suburban Project.

**If you need more space, please use the back of this sheet.
Thank you for taking the time to fill out this survey.**

Gay & Airasian (2000) discuss anonymity and confidentiality of the questionnaire. Anonymity means that no one, including the researcher, knows who completed a given questionnaire. Confidentiality means that the researcher knows who completed each survey, but promises not to divulge that information. For my research I chose to have the questionnaires be confidential, since I was not asking any questions which were controversial or personal. Each survey was coded, so that non-respondents could be sent a follow up survey. In the cover letter confidentiality was promised to the respondents.

Both Gay & Airasian (2000) and Salkind (2000) discuss the importance of the cover letter. A cover letter is a necessity because it explains the importance of the project and what is expected of the respondents (Salkind, 2000). The letter should be brief, neat, and addressed specifically to the respondent (Gay & Airasian). The purpose and importance of the study to the respondent should both be given in the letter. A specific date when the survey must be returned should also be included and a stamped, addressed, return enveloped should be included to make it easier for the respondent (Gay & Airasian). The letter should include the sender's address and phone number, a hand written signature, and an expression of thanks to the responder. The cover letter which I designed included all of the above. (Appendix A) After the specified period of two weeks, non-respondents were sent follow up postcards and then again following another two week period. (Appendix B)

It is extremely important to pretest a questionnaire as pre-testing provides information about deficiencies and suggestions for improvement (Gay & Airasian, 2000)). I pre-tested the questionnaire on a group of twenty undergraduates in an

education class at Rowan University. The comments that I received were very helpful in preparing the final questionnaire. Once the questionnaire was finalized it was sent to the Institutional Review Board at Rowan University. I applied for an exemption since my research did not harm the subjects in any way and was granted an exemption by the Review Board.

Timeline

Exemption granted	February 25th
First mailing	March 3rd
Postcard sent to non-respondents	March 13th
Postcard sent to non-respondents	March 28th

CHAPTER 4

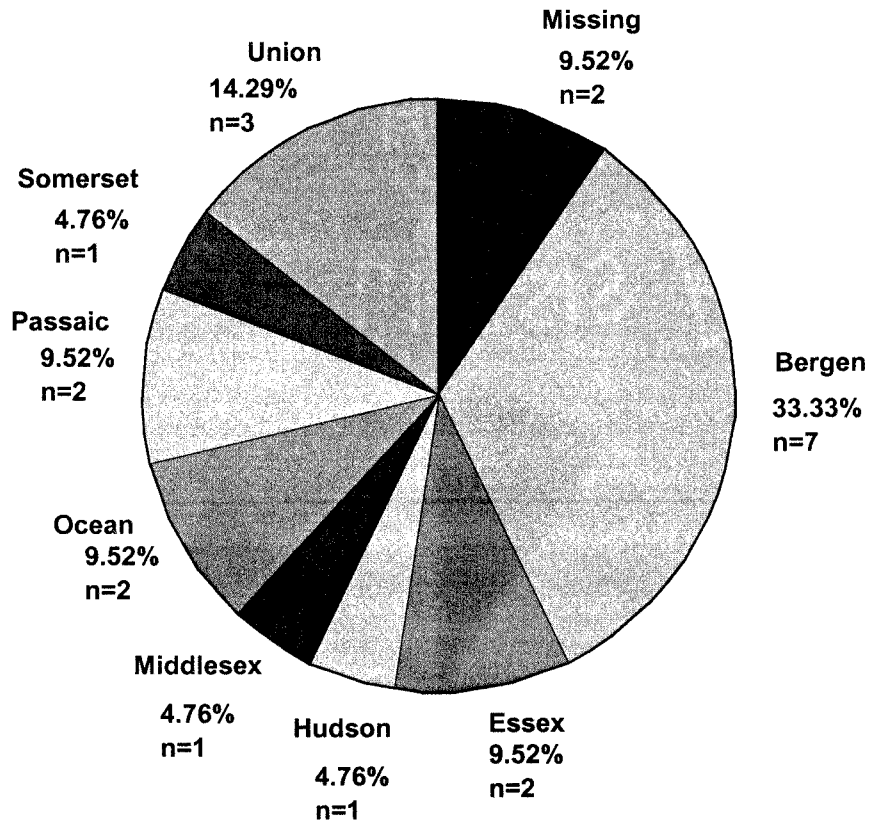
RESULTS

A total of 42 questionnaires were sent out to the known population. A total of 25 questionnaires were returned for a return rate of 60 percent. Out of these returned surveys, three were invalid. All three surveys were returned with no responses and accompanied by a note explaining that the respondent had not participated in the project and did not know about the project. Fifty-three questionnaires had originally been sent out, but questionnaires where the respondent only participated in the Herp Atlas Project or the Vernal Pool Project were also not analyzed. The reason for this was that volunteers for these projects were put into existing volunteer projects that were considered successful already. That left a total of 21 questionnaires to be analyzed for volunteer's opinions on the Urban/Suburban Project. Fifty-eight percent of the surveys returned were qualified to be analyzed for this paper. Below are figures and tables representing the results of the questionnaires.

Question # 1: In what County do you reside?

Figure one represents in what county respondents reside. No differences were seen between respondents from different counties.

**Figure 1.
County of Residence**



Question #2: Have you volunteered for other Endangered and Nongame Species

Program Projects other than the Urban/Suburban Project?

Six respondents had participated in ENSP volunteer projects before participating in the Urban/Suburban Project. Two of these respondents participated in more than one project each. Fifteen respondents had not participated in ENSP volunteer projects before volunteering for the Urban/Suburban Project.

Question #3: If Yes, please list the projects. Refer to Table 1.

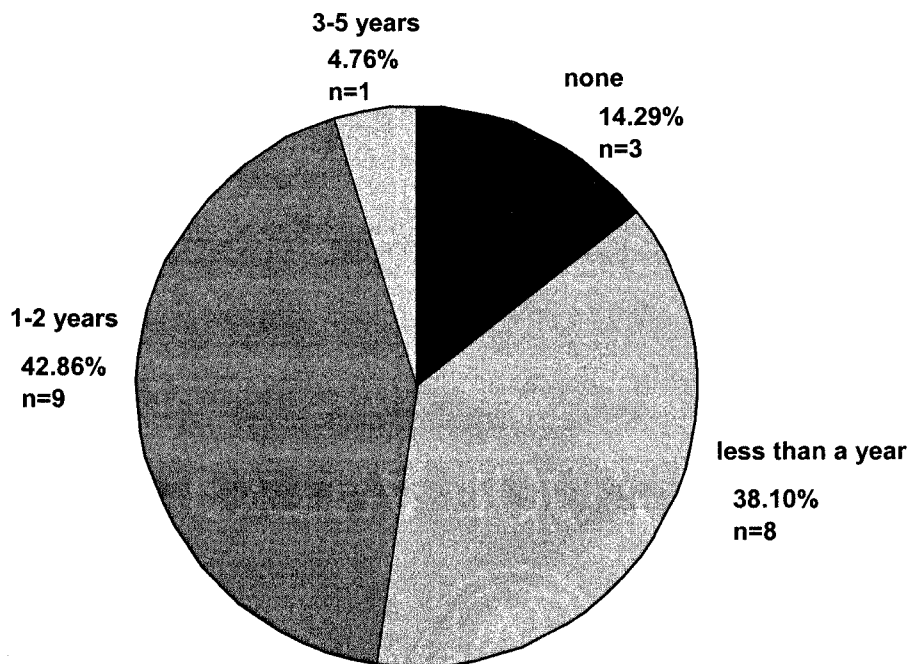
Table 1. ENSP Volunteer Projects that Volunteers Participated in before the Urban/Suburban Project

ENSP Volunteer Project	Number of Volunteers who Participated
Bald Eagle Project	1
Raptor Count	2
Herp Atlas	3
Vernal Pool Project	1
Unsure of the name of project	1
Did not participate in other project	15

Question #4: How many years have you volunteered with the Endangered and Nongame Species Program?

When I wrote this question I had meant for it to be answered by only those volunteers who have volunteered with the ENSP volunteer program before they participated in the Urban/Suburban Project. This question turned out to be unclear since all respondents answered. Figure 2 shows all the respondents' answers to question # 4. Of the six volunteers who had participated in projects other than the Urban/Suburban Project, five had volunteered for 1-2 years and only one had volunteered for 3-5 years. The majority of the respondents, 43 percent, volunteered for the ENSP between 1- 2years and 38 percent participated less than a year.

Figure 2.
Number of Years
Volunteered with the ENSP



Question # 5: Approximately how many hours per year do you volunteer with the Endangered and Nongame Species Program?

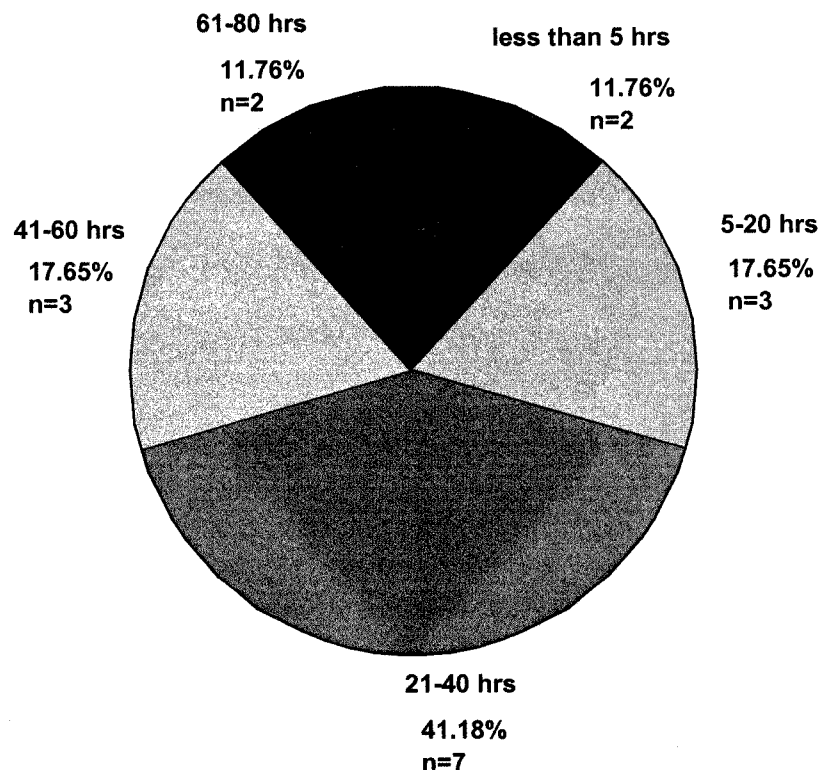
This question was deemed invalid and not analyzed. This question and question # 6 confused respondents, which asked how long they had volunteered for the Urban/Suburban project. Many respondents put question marks by the questions or wrote comments asking, “what was the difference between the questions?”.

Question #6: Approximately how many hours per year have you volunteered for the Urban/Suburban Project?

The most common response was 21-40 hours by seven volunteers. Refer to Figure 3.

Figure 3.

Hours Volunteered Per Year with the Urban/Suburban Project

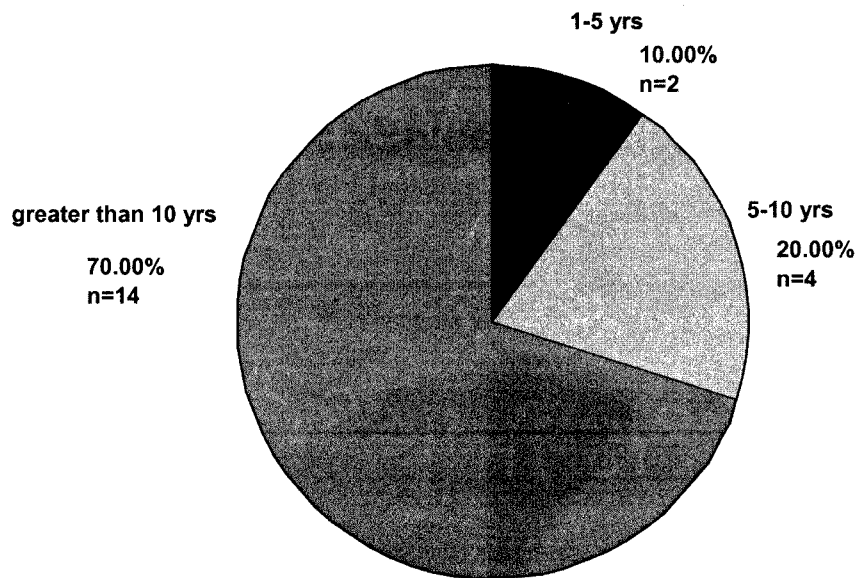


Question # 7: How many years of birding experience do you have?

Seventy percent of the respondents had over 10 years of birding experience. 20 percent of the respondents had 5-10 years of birding experience, while only 10 percent had 1-5 years. Refer to Figure 4.

Figure 4.

Years of Birding Experience



Question # 8: Did you attend trainings for the Urban/Suburban Project?

Fifteen of the respondents attended at least one of the trainings, five did not attend training and one did not answer the question.

Question # 9: If no, why not?

Respondents were asked why they did not attend the trainings. The following responses were received:

- Volunteer was unable to make the scheduled dates.
- Volunteer did not realize the amount of time involved.
- Volunteer had another personal reason.
- Volunteer felt that the trainings should have been held in the county where the volunteers lived.

Question #10: If yes, which trainings did you attend?

Four respondents each attended two different trainings and five each attended three different trainings. The most commonly attended training was the songbird training with twelve volunteers, followed by the colonial waterbird/shorebird training, and then the raptor training; both with 8 respondents attending each training. Refer to Table 2.

Table 2. Trainings Attended by Urban/Suburban Project Volunteers

Urban/Suburban Project Training	Number of Volunteers who Attended Training
Songbird	12
Colonial waterbird/shorebird	8
Raptor	8

Question # 11: Did you participate in the surveys for the Urban/Suburban Project?

A total of 16 respondents participated in the Urban/Suburban Project. Out of the five respondents who did not attend training, three participated in the project anyway. Out of the 15 who attended trainings, two did not participate in the surveys.

Question # 12: If no, why not?

One respondent was committed to several other projects, which caused scheduling conflicts. The other would not complete the Wildlife Conservation Corps application because that it asked for a social security number and race.

Question # 13: For which of the following Urban/Suburban Projects did you Survey?

Eleven out of 12 respondents who attended songbird training participated in the surveys. Half of the respondents who attended the raptor training and half who attended the colonial waterbird/shorebird training did not participate in those surveys. Refer to Table 3.

Table 3. The Urban/Suburban Projects in which Volunteers Participated.

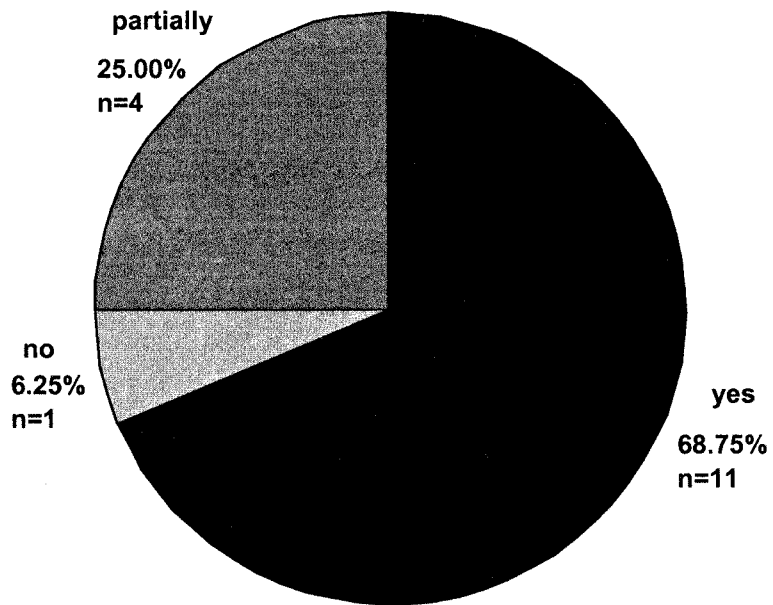
Urban/Suburban Projects	Number of Volunteers who Participated
Songbird survey	11
Colonial waterbird/shorebird surveys	4
Raptor surveys	4

Question # 14: Did you complete the surveys for the Urban/Suburban Project?

When asked if they completed the surveys eleven responded yes, one responded no, and four responded that they had partially completed the surveys. Refer to Figure 5.

Figure 5.

Did You Complete the Surveys?

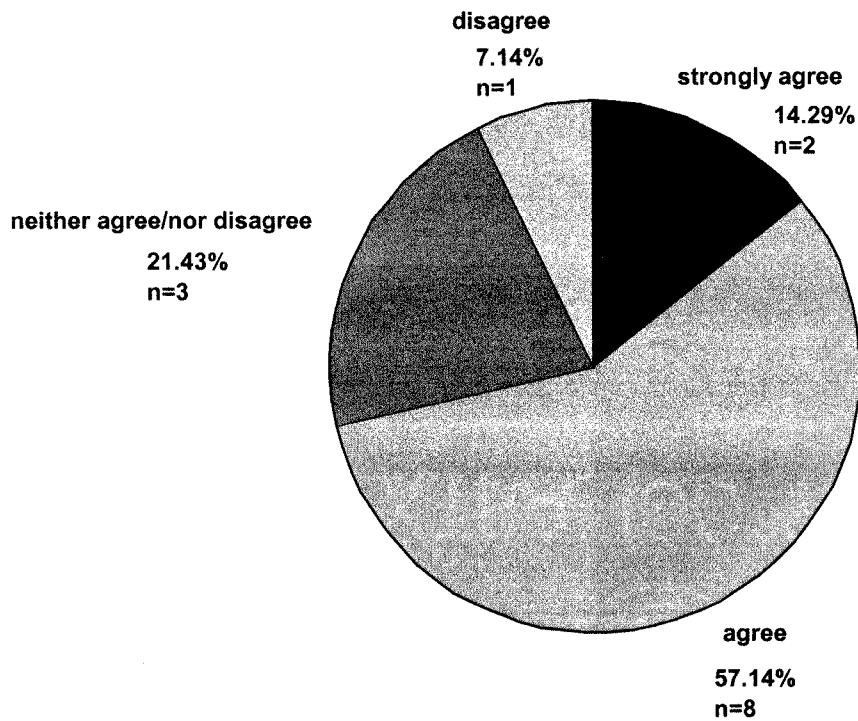


Question # 15: The trainings adequately prepared me for the surveys.

Seventy-one percent of the respondents agreed that the trainings adequately prepared them to survey and seven percent disagreed that the trainings adequately prepared them to survey. Refer to Figure 6.

Figure 6.

The Trainings Adequately Prepared Volunteers to Survey

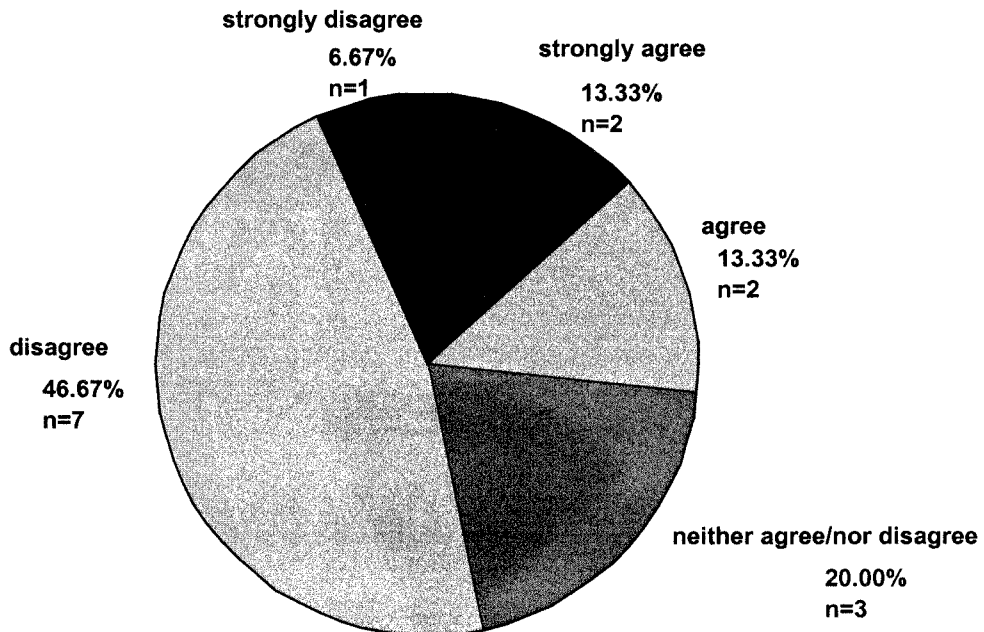


Question # 16: The surveys were too time- consuming.

Fifty-four percent of the respondents disagreed or strongly disagreed that surveys were too time consuming. Twenty-four percent agreed or strongly agreed that surveys were too time consuming. Refer to Figure 7.

Figure 7.

The Surveys Were Too Time Consuming

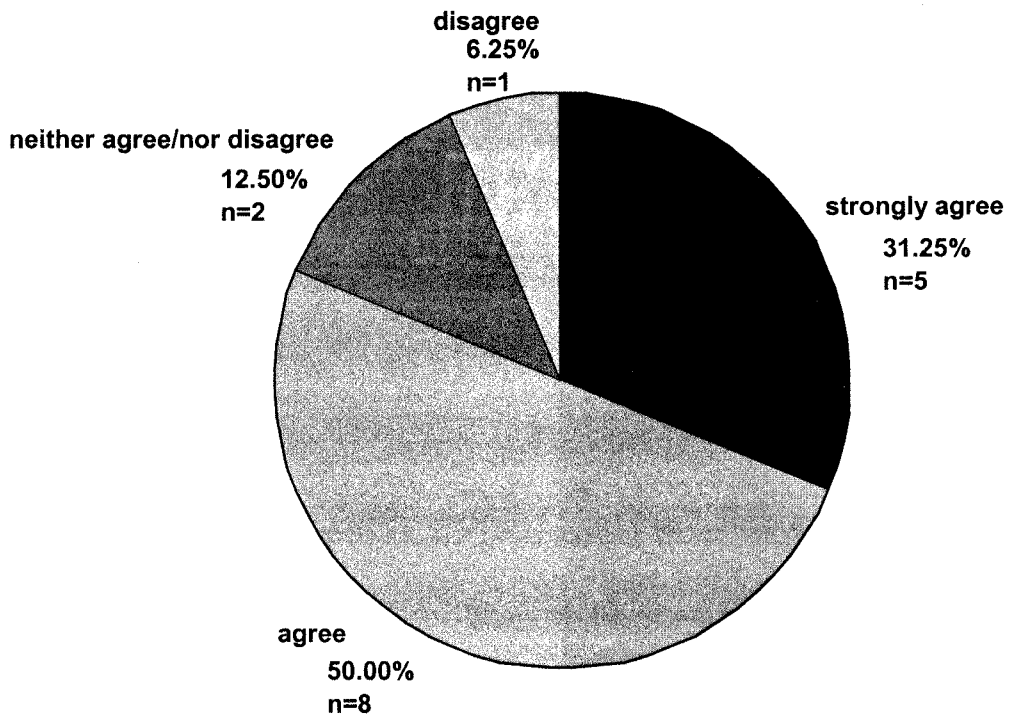


Question # 17: I found surveying to be a rewarding experience.

Fifty percent of the respondents agreed and 31 percent strongly agreed that surveying was a rewarding experience. Six percent disagreed that surveys were a rewarding experience. Refer to Figure 8.

Figure 8.

Surveying Was a Rewarding Experience

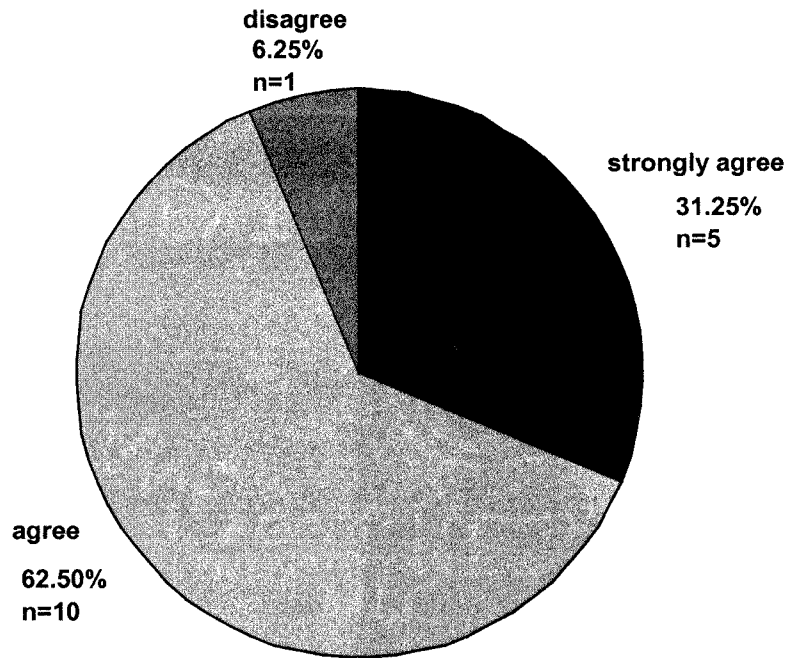


Question # 18: I had the necessary skills to complete the surveys.

Ninety-three percent of the respondents either agreed or strongly agreed that they had the necessary skills to complete the surveys. Only six percent disagreed with the statement. Refer to Figure 9.

Figure 9.

The Volunteer Had the Necessary Skills to Complete the Surveys



Question # 19: To what extent do you feel that the Endangered and Nongame

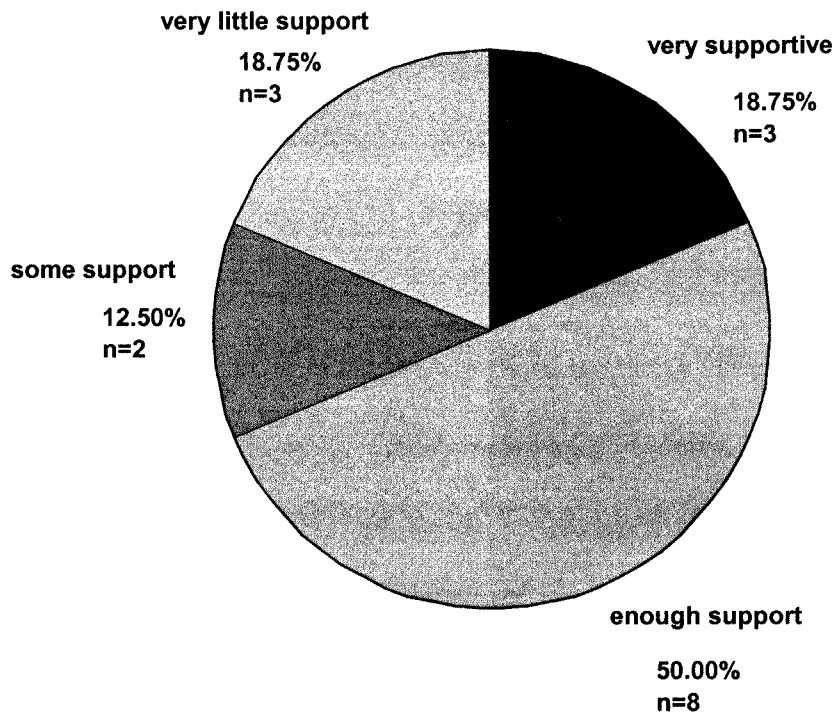
Species Program staff supported your volunteer efforts?

Sixty-eight percent of the respondents felt that the ENSP staff was either very supportive or supportive enough. Twelve percent felt the ENSP staff offered some support, while 19 percent felt the ENSP staff offered very little support.

Refer to Figure 10.

Figure 10.

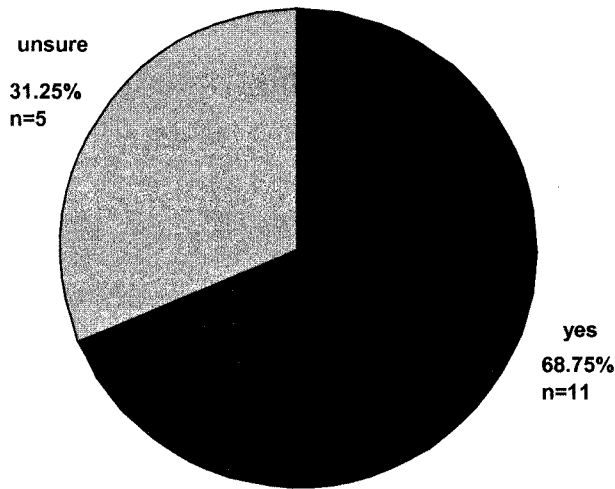
Extent to Which the ENSP Staff Supported Volunteer Efforts



Question # 20: Would you participate in the surveys again?

When asked if they would participate in the surveys again, eleven said yes and five were unsure. Refer to Figure 11.

Figure 11.
**Would You Participate
in the Surveys Again?**



**Question # 21: Please comment on your volunteer experience with the
Urban/Suburban Project.**

This was an open-ended question that will be discussed in more detail in the conclusion section. Four of the responses were completely positive toward the project. Four of the responses were personal reasons for not participating. Four of the respondents said that the surveys were too time-consuming and overwhelming. Three respondents thought that there should have been more extensive training including field-training sessions. Four respondents discussed difficulty with the methodology for surveying.

CHAPTER 5

CONCLUSION

The purpose of this study was to find out what volunteers thought of the Urban/Suburban Project. After removing invalid surveys and those surveys that indicated the volunteers surveyed for the Herp Atlas and Vernal Pool Projects, there were 21 surveys left to analyze. I feel that this number accurately represents the volunteers who participated in the Urban/Suburban Project. Originally I had stated that 53 people expressed an interest in volunteering for the project, but I did not know if any were involved in some way with the Urban/Suburban Project. This list also contained people who might have been involved with the Herp Atlas or Vernal Pool Project and was unable to separate out at the time. I was able to find a list of 20 people who originally attended trainings; and 15 of the survey respondents said they attended trainings, which is a good representation of the original twenty. People who received the questionnaire and did not know anything about the Urban/Suburban Project were less likely to fill out and return the survey since they had no connection to the project.

Research Questions

This study examined the volunteers perceptions of the Urban/Suburban Project.

- What variables influenced prospective volunteers not to participate?
- What variables influenced prospective volunteers who received training not to participate?

- To what extent did the volunteers who conducted surveys find it a rewarding experience?
- To what extent would volunteers be willing to participate in future surveys?

What variables influenced prospective volunteers not to participate?

Only three of the questionnaires can be used to answer this question. This is due to the fact that there were only three respondents who did not attend trainings or participate, but knew about the project. Two of the respondents did not participate due to personal reasons, family and work responsibilities, and lack of time. Both expressed an interest in volunteering for the project in the future. These answers support the hypothesis that personal reasons influenced people not to participate in the project. The third respondent felt that training sessions should be held in the county where the volunteers live. The respondent also stated that, “they should survey their town or surrounding towns, to expect volunteers to go to unfamiliar places is asking a lot”. The location of the surveys was a problem for this respondent.

What variables influenced prospective volunteers who received training not to participate?

Two questionnaires can be analyzed where respondents attended trainings, but decided not to participate anyway. One respondent was committed to several other projects that caused scheduling problems, but felt that the project was very worthwhile. The second respondent did not complete the Wildlife Conservation Corps (WCC) application, because it asked for a social security number and race. The respondent writes, “what role did race play in the survey?”. The WCC is the Division of Fish and Wildlife’s volunteer organization and all volunteers must be members for insurance

purposes. The ENSP uses this information strictly for contact information only. The applicants' social security numbers and race are not used at all. Once again personal reasons influenced respondents not to participate in the project.

To what extent did the volunteers who conducted surveys find it a rewarding experience?

Eighty-one percent of the respondents found surveying to be a rewarding experience. Thirteen out of 16 respondents agreed or strongly agreed that they found surveying to be a rewarding experience, while two were neutral, and one disagreed. The respondent who disagreed wrote that, "I found the timed survey difficult to comply with during migration...during migration it is better to follow the flock and identify all that you can". This respondent participated in songbird surveys that required point count surveys. This survey method is used to record population changes. The surveyor stays in one spot for a prescribed amount of time and records all the birds that are heard or seen. The respondent seemed confused about the method and upon checking over the questionnaire, I realized that he had not attended the training. This could explain his confusion about the survey method and understandably made his experience less rewarding. One respondent stated about the survey, "it was fun, I learned just how much work you have to do to get an accurate survey of birds". Another respondent stated that, "..I can spend time with my daughter doing something that is both educational and fun".

To what extent would volunteers be willing to participate in future surveys?

Eleven respondents said that they would participate in surveys again, while five were unsure. The hypothesis: Volunteers felt the time frame of surveys was too specific

was not an issue with the respondents. None mentioned that the specific time frame was a problem.

Several respondents enjoyed the survey, but found it much too time-consuming. One respondent stated, “I was given way too much to do on my first attempt, it was overwhelming”. Two respondents felt that too many points (survey stops) were assigned. Several volunteers mentioned that too much time was spent driving around, mapping out the route.

Research Hypotheses

There could be countless reasons why a volunteer chooses not to participate in a project. Based on the review of the literature and theories of the ENSP employees, the following hypotheses have been reached.

- Personal reasons influenced people not to participate
- Volunteers felt that they were not skilled enough to conduct surveys
- Volunteers felt that the time frame of surveys was too specific
- Volunteers felt that they were not receiving enough support from the ENSP staff
- A year is not enough time to get a new project running successfully

Each of these hypotheses is discussed below.

Personal reasons influenced people not to participate

This hypothesis was supported by the research. Two respondents did not participate in the survey due to personal reasons, family and work responsibilities, and lack of time. Another respondent did not participate in the surveys due to questions on the WCC application that the respondent did not wish to answer.

Volunteers felt that they were not skilled enough to conduct surveys

The hypothesis that volunteers felt that they were not skilled enough to conduct surveys was not supported by this research. Fifteen of the 16 respondents agreed or strongly agreed that they had the necessary skills. Only one disagreed with the statement. This could be due to the fact that 14 of respondents had more than ten years of birding experience and four respondents had five to ten years of birding experience. These volunteers already had the required skills for these surveys. The volunteer recruiter for the Urban/Suburban Project tried to recruit volunteers with birding experience. The original idea was that these volunteers could then mentor other less experienced volunteers. Two volunteers did mention that a volunteer would really need good birding skills in order to participate in the surveys and added that they enjoyed brushing up on their birding skills.

Though volunteers overall felt that they were skilled enough to conduct surveys, some commented on improving the training sessions. One respondent stated, “the training was sketchy as to what exactly you do in the field”. Another suggested additional training, “one outdoor session with an experienced person would be very helpful”.

Volunteers felt that the time frame of surveys was too specific

This hypothesis was not supported by the findings. A specific survey time frame was not an issue with volunteers and none stated that this was a problem. Several volunteers did find the surveys too time consuming and overwhelming. One respondent stated, “if this were done in a more structured way, I’d have participated more thoroughly”.

Volunteers felt that they were not receiving enough support from the ENSP staff

This hypothesis was not supported by the findings. The research showed that this was not a major problem for respondents. Sixty-eight percent of the respondents replied that the ENSP staff was very supportive of their volunteer efforts or offered enough support. Only 19 percent stated that the ENSP staff offered very little support.

A year is not enough time to get a new project running successfully

This hypothesis is supported by this research, since most volunteers found the Urban/Suburban Project a rewarding experience in general. Eleven said that they would participate again and five were unsure. With more time this project may well have been successful.

Discussion

The ENSP staff found the Urban/Suburban Project to be unsuccessful because the amount of data generated by volunteers was nowhere near what was required. However, this research shows that the volunteers who did participate in the project found the surveys to be a rewarding experience and would participate again. The problem is that there were not enough volunteers participating in the Urban/Suburban Project to achieve the data needs of the ENSP.

One reason that there were not more volunteers could be that the volunteers needed to be well skilled in bird identification to participate in the surveys. Perspective volunteers who were less skilled, might have been intimidated by the amount of skills that were required. The research shows that even some of the skilled volunteers who did participate, found the surveys to be overwhelming. Some volunteers commented that volunteers with less birding skills would not have been able to complete the surveys.

Seventy percent of the respondents had over ten years of birding experience, but this is a relative number, since there was not a test to rate volunteers birding skills.

One recommendation is that experienced volunteers could mentor interested, but less experienced volunteers. The volunteer who is learning could help the mentor to record data and find point count locations. This idea has been discussed by the ENSP staff, but has not yet been put into practice. It would definitely increase the workload of the project coordinator since the coordinator would also be responsible for the pairing up of volunteers. Some of the experienced volunteers might not want someone else joining them on their surveys, but the choice could be offered. One volunteer did comment that she had thought the surveys would be done in teams and she found it difficult to drive around and locate points alone.

The research showed that some of the volunteers found the surveys to be time-consuming. One respondent felt that the size of the territory she was assigned was overwhelming. Volunteers can not be expected to put in endless hours of volunteer time. They are not paid staff and are volunteering in addition to their already busy lives. The number of surveys that volunteers are expected to complete should be decreased.

Based on the research, it is recommended that with surveys that require high skill levels and a good amount of time to complete, the ENSP should pay contractors to carry out the surveys. Paying surveyors is one way to ensure that the necessary number of surveys are completed in a timely manner.

The volunteers who returned questionnaires were those who had participated in the Urban/Suburban Project. Perhaps those who did not return their surveys were not as positive about their experience. It would also be interesting to see why people did not

participate in the surveys, especially those with the needed skills. A follow up phone survey of non-respondents would help to clarify whether non-respondents participated and if they had a positive experience with the Urban/Suburban Project.

It takes some time for a volunteer project to build momentum, especially one that requires more than a one-day commitment and some required skills. It also takes time to establish connections with different environmental groups, nature clubs, and other organizations that may have members who are interested in this type of volunteer project. Many of the ENSP's successful volunteer projects have been around for a good number of years and they also started out with a small group of volunteers. Since important data was needed in a timely manner from the Urban/Suburban Project; as recommended earlier, paying contractors to survey would be one solution. Volunteers still interested in participating in the Urban/Suburban Project should still be encouraged to report any sightings of rare, threatened, or endangered species.

The respondents had many good suggestions about ways to improve the project and if the project was still ongoing, these suggestions could be incorporated into the project. Some volunteers suggested additional trainings, especially field sessions. Another respondent suggested slide presentations of the species likely to be encountered while surveying. Two volunteers suggested that better maps of the routes be given to the volunteers, since a large portion of a volunteer's time was spent mapping these routes.

One volunteer did not participate in the project due to questions asked on the WCC application. He did not like being asked for a social security number and race. Outside of this research, I have had volunteers question why they have to put their social

security number. I would suggest that these questions be taken off of the application unless needed.

Recommendations

The following recommendations are based on the results of this research.

Program Recommendations

- The ENSP should pay people skilled in bird identification to conduct the needed surveys. This would ensure that the surveys were completed in the expected time frame.
- Questions about race and volunteers' social security number should be dropped from the WCC application. If these questions cannot be dropped from the application due to state regulations, then there should be a note that they are optional.
- The amount of volunteer training should be increased as well as adding field sessions. Volunteers felt that they could have used more specific training, especially in species identification.
- The amount of surveys that volunteers are expected to complete needs to be decreased. Volunteers felt that the amount of points they were given to survey was overwhelming. Volunteers should be given a manageable number of points to survey based on the amount of time that they are able to give to the volunteer program.
- A mentor program should be established for those volunteers who would like to participate in such a program. This would benefit less skilled birders who would be able to learn from an experienced volunteer. It would also benefit the mentor who would have someone to help find survey points and record data.

General Volunteer Program Recommendations

- Volunteers should not be expected to volunteer large amounts of their time if they are unable to. Each volunteer should be matched to a project that fits his/her availability. Volunteers should be screened before hand to understand their availability and commitment to the volunteer project.
- Volunteers should be given enough training to ensure that they feel comfortable with their volunteer assignment. A volunteer who feels unsure of his/her job should receive extra training.
- Volunteer programs should take advantage of more experienced volunteers by establishing a mentor program. New volunteers would learn from the experienced volunteers until they feel comfortable being on their own. This could be used to replace additional training by the staff.

Research Recommendations

- It is recommended that the methods used for this research paper be used to research a successful ENSP volunteer project. It would be very useful to know what volunteers think about the successful projects.
- It is recommended that a follow up phone survey of non-respondents from this research be conducted. It would be useful to know if non-respondents participated in the Urban/Suburban Volunteer Project and how they viewed the project.
- It is recommended that a survey of members of environmental groups, nature clubs, and birding clubs be conducted with the purpose of finding out the type of volunteer projects members would be willing to participate in.

- It is recommended that research be done on the best methods to survey for bird species using volunteers.

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APPENDIX

Appendix A

New Jersey Division of Fish & Wildlife
Endangered and Nongame Species Program
2201 County Route 631
Woodbine, NJ 08270
(609) 628-2103
www.njfishandgame.com

February 7, 2003

Dear () :

My name is Larissa Smith and I work for the New Jersey Division of Fish and Wildlife's, Endangered and Nongame Species Program. Currently, I am working towards my master's degree at Rowan University in the Environmental Education and Conservation program. I am doing my thesis on the Urban/Suburban volunteer project, and researching the volunteers' perspectives on this project. I have obtained a list of names from the files of the former coordinator of the Project, who is no longer with the program, as well as from those of you who have sent in data sheets.

The enclosed questionnaire is an opportunity for you to give your opinion on the Urban/Suburban volunteer project, whether negative or positive. Your responses will help the Endangered and Nongame Species staff to better understand the needs of our volunteers, as well as design future volunteer projects. Please fill out the questionnaire even if you did not participate in the surveys or complete the surveys. Your responses to this survey are confidential and will be used for the purpose of this paper only.

This questionnaire takes an average of 15 minutes to complete. I would appreciate your submission of the questionnaire by February 21st. Enclosed you will find a stamped, pre-addressed envelope in which to return the survey.

Thank you in advance for taking time out of your busy day to fill out this survey. If you have any questions about this research please contact me at (609) 628-2103 or LLSmith@gtc3.com.

Sincerely,

Larissa Smith
Assistant Biologist
Endangered & Nongame Species Program

Appendix B

Urban/Suburban Project Survey

You should have received a letter and questionnaire from me in the past two weeks, regarding the New Jersey Endangered and Nongame Species Program's, Urban/Suburban Project.

PLEASE take five minutes to fill out the survey and send it back to me as soon as possible.

Your response is very important to the validity of this research.

Your responses will help the Endangered and Nongame Species staff to better understand the needs of volunteers and design future programs.

If you have already sent the questionnaire back, **Thank you.**

If you misplaced the previous questionnaire and need a new one please contact me.

Larissa Smith

(609) 628-2103 or LLSmith@gtc3.com

Thank you,