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EVALUATING THE EFFECTIVENESS OF TWO OUTREACH PROGRAMS: WILDLIFE HABITAT WORKSHOPS AND PERSONAL SITE-VISITS

By

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ABSTRACT

EVALUATING THE EFFECTIVENESS OF TWO OUTREACH PROGRAMS: WILDLIFE HABITAT WORKSHOPS AND PERSONAL SITE VISITS

By

Kelly Siciliano Carter

The future of wildlife populations across the nation is threatened with the large loss of private lands each year. In Michigan, 96% of southern Michigan's land base is currently privately owned. Therefore, it is critical to the Michigan Department of Natural Resources (DNR) Wildlife Division that private landowners are informed about managing their lands in the best interest of wildlife.

The DNR provided funding to county Conservation Districts (CD) so the CD could create wildlife habitat workshops and personal site-visits that would teach private landowners how to manage their property for wildlife. This research project was designed to evaluate those efforts by assessing changes in participant knowledge, attitudes and behaviors and by assessing whether training resulted in positive changes for wildlife in southern Lower Michigan. Evaluation surveys were distributed to gather data. And, a field evaluation model was created to determine what actual changes were being made on the property to benefit wildlife.

Results indicated that positive changes occurred on private lands although they were not consistent. The two outreach programs did increase landowner knowledge about wildlife management. In addition, participants had a high opinion of the DNR and were highly motivated to make changes to their property.

To my husband, Doug – my "Oasis"

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CHAPTER ONE

INTRODUCTION

"Wildlife, habitat, and people are all ecologically interrelated and change in any one of these is point to cause a change in the others." – Duda (1986)

With 96% of southern Lower Michigan's land base privately owned, it is critical to the Michigan Department of Natural Resources (DNR) wildlife management goals that private landowners are educated in managing their land in the best interest of wildlife. To create opportunities for achieving these goals on private land, the DNR provided funds to county Conservation Districts (CD) to be used in teaching private landowners how to manage their property for wildlife. This research project was designed to evaluate those efforts by assessing changes in participant knowledge, attitudes and behaviors and by assessing whether training resulted in positive changes for wildlife on the southern Lower Michigan landscape.

DNR's Role

In 1991, the DNR created a Private Lands Unit within the Wildlife Division to assist private landowners with managing their land for wildlife. Assistance included workshops, site-visits, educational materials, and telephone consultation. However, due to the large number of requests, the DNR staff could not adequately respond to landowner needs. Therefore, in 1996 the DNR Private Lands Program created a Wildlife Habitat Grant Program. This grant[1] contributed funds to CD Offices within southern

[1] This grant was replaced in October 1999 with a new program titled the Cooperative Resource Management Initiative, which partners the DNR Wildlife and Forestry Management Divisions, the Michigan Department of Agriculture, and all Michigan County Conservation Districts.

Lower Michigan to hire a wildlife biologist that provided assistance to private landowners within certain Michigan counties. The grant was dispersed as a 50:50 match with each county allocated up to $5,000. Biologists that were hired with these funds were trained by the DNR Private Lands Unit in a variety of private land management techniques and issues.

Grant Biologist's Role

The role of the grant biologist was to provide technical assistance and information to private landowners, which included workshops, site visits, telephone consultations and the creation of brochures and demonstration sites. This research project only focused on workshops and site-visits.

Workshops

Workshops were half-day sessions that occurred on Saturdays. Participants were asked to register prior to attending. The cost to attend varied from free to $10.00. The format typically included three hours of presentation (9am to noon), using overheads or a slide projector. Workshop time was expanded if there was a need to remain and answer questions from the participants. Workshop topics included backyard wildlife management, wildlife habitat management, and procedures for planting trees and shrubs. Presenters primarily consisted of the CD wildlife biologist and forester and a wetland specialist from the United States Fish and Wildlife Service, although several of the workshops were taught by only the CD biologist. Numerous educational handouts were available for participants.

Site-visits

Private landowners could request a wildlife biologist to evaluate their property, which is termed a "site-visit". Prior to the visit, landowners were sent questionnaires to be answered and returned before the biologist arrived. The purpose of the questionnaire was to identify the landowner's needs or ideas for the property. The site-visit consisted of the biologist and landowner assessing the condition of the property, usually by both individuals walking the entire property and identifying the different vegetation types that currently exist. The landowner was then provided suggestions on how they should modify their property to benefit wildlife. Land use evaluation results and suggestions were usually distributed in a written, formal "management plan". The plan stated the landowner goals, the biologist's recommendations, and a timeline for implementing the proposed modifications.

The goal of this research

The main goals of this research project were to compare the effectiveness of workshops and personal landowner site-visits as strategies for influencing private land management for wildlife; to evaluate the training currently in use; and to identify strengths and opportunities within each training program.

Study Objectives

To accomplish the above goals, my efforts focused on five objectives, which are listed below:

1. Complete a literature review in outreach training; synthesize a set of principles that can be used to analyze the existing training and make recommendations for improvement.

2. Survey 1998 workshop attendees and personal site-visit landowners in order to compare impacts on knowledge, attitude, and application of management strategies.

3. Survey past 1996 or 1997 workshop attendees and personal site-visit landowners to determine the program success in these areas.

4. Prepare an index model concerning wildlife habitat implementation that may be used to quantify wildlife benefits resulting from improved management.

5. Use the above model to evaluate randomly selected 1996 or 1997 workshop attendees and personal site-visit properties.

CHAPTER TWO

REVIEW OF THE LITERATURE

Overview

The following chapter is divided into five major sections. In the first section, I illustrate that private lands wildlife programs are vital to the future of wildlife species. In addition, I outline the types of private lands programs that currently exist throughout the nation. The latter portion of this section is important in order to establish the differences between the Michigan private lands programs and other programs.

In the next section, I elucidate why evaluation is such an imperative element within any training program. I also summarize the specific evaluation techniques, which helped to serve as an overall framework for this research project.

The significance of training programs is examined in the third section of this chapter. I discuss two different types of training programs and scrutinize which of these programs is most effective. Since the training models utilized for this research were created prior to the project, I could not manipulate the model for this evaluation. However, the review provides a context for assessing the appropriateness of the training models selected by the Agency.

In the fourth section, I discuss adult learning styles and contend that every training program must encompass these diverse styles. The final section discusses additional attributes that can influence the effectiveness of any training program. This information provides a basis for formulating what areas of the program need to be changed or be manipulated (if possible) in order to achieve the highest level of effectiveness.

Private Lands Programs

Throughout Michigan and the nation, wildlife habitat is quickly disappearing. Annually more than 2 million acres of wildlife habitat is lost throughout the United States (Hoover 1976, Deknatel 1979). In Michigan, farmland is disappearing at a rate of 850,000 acres per year (Sargent and Carter 1999). Therefore, with greater than 60% of the land in the United States privately owned wildlife is forced to depend on these lands for habitat (Langner 1987, Wigley and Melchoirs 1987, Gerard 1995, Messmer et al. 1998). According to Arha (1996), "with the rising human population and development that occurs with this rise, wildlife and its habitat increasingly coexist in close proximity to human activities. Therefore, diminishing habitats accentuates the need to maintain good productive wildlife habitat on private lands ".

To be successful, wildlife managers must balance landowner concerns, the public's interest in wildlife production, ecosystem needs, and biological requirements of wildlife populations (Ramsey and Shult 1981; Noonan and Zagata 1982, Wade 1987, Hewitt and Messmer 1997, Messmer et al. 1998). There is also the constant problem with state employee staffing. Wigley and Melchoirs (1987) estimated that one state wildlife employee per year is available to assist with every 3.6 million acres of private land. Given fewer staff and smaller budgets, wildlife agencies now have less time and funds available to establish and maintain personal contacts (Messmer et al. 1996). Some authors believe the profession of wildlife management is not rising to the challenge and opportunity for providing wildlife planning and management guidance to private

landowners (Svoboda 1980); they simply do not have the time or resources available to do so.

It is essential to state and national wildlife goals that private landowners be involved in an active wildlife program. Without their participation, the future of many wildlife species may be at risk (Svoboda 1980). Participation ranges from simply increasing their knowledge about wildlife to inspiring landowners to actively manage their property in the best interest of wildlife populations. Both are critical and necessary. Therefore, private lands programs throughout the nation must encompass a plethora of curricula that motivate, teach, and empower landowners to be the finest stewards of their land.

Private Lands Programs across the Nation

Throughout the United States there are a variety of private lands programs. However, most wildlife habitat programs on private lands are voluntary and small in scale (Deknatel 1979). In 1987, a survey by Wigley and Melchoirs determined that 43 State agencies offered programs to promote private lands management. Forty of these agencies offered technical services and 27 provided wildlife management materials. Outlined below are three private lands programs that were explained within the literature.

Cooperative Wildlife Management Units Program

Since 72% of Utah is publicly owned, many of the big game populations depend on private lands (Messmer et al. 1998). Accordingly, the Cooperative Wildlife Management Units (CWMU) program was created in 1994.

The goals of the program are to:

1. provide income for landowners
2. create satisfying hunting opportunities
3. increase wildlife habitat
4. provide adequate trespass protection for landowners who open their lands for hunting, and
5. increase access to private lands for hunting big game

To participate in the program, private landowners meet with a biologist from the Utah Division of Wildlife Resources who assists the landowner with an application. The application must include the game to be managed, the number of hunting permits requested, and a management plan for the property. The plan must outline population objectives, habitat use, and habitat management activities. Each CWMU must contain at least 4,000 ha of continuous private land of which 75% must be open to hunting. Small parceled landowners may apply together to reach the required hectare amount.

The Utah Wildlife board reviews applications annually. Approved CWMU's are issued a certificate of registration, which also defines the management guidelines for that area. Landowners are compensated for their efforts by charging hunters to use their property.

A survey of CWMU participants was distributed in 1996 to determine what habitat improvements had been implemented. Landowners reported that greater than 4,600 ha of rangeland habitat had been improved at a cost of $51,400 (Messmer et al. 1998) and that 10,330 ha of grazing systems were created and 151 water developments occurred. The authors concluded that this fee-access program was not only beneficial to the hunter and landowner but also the natural resources. It was also stated that this type of program should be utilized by other wildlife agencies.

Private Lands Public Wildlife Program

The Private Lands Public Wildlife Program (PLPW) was also established to enhance wildlife management on private lands. This program has been available in most western state agencies since approximately 1980, with the exception of New Mexico who started their program in the 1920s. The number of acres enrolled in these programs range from 150,000 acres in Washington to 4.3 million acres in Montana.

This program is remarkably similar to the CWMU program described above. The landowner must meet with a biologist and prepare an application and this program also allows hunting on the approved properties.

According to Arha (1996), the PLPW programs "are a step in the right direction, but a small step." At time of publication, only five percent of private lands were involved. There are numerous opposing views, which state that this type of program allows the local sportsmen to privatize state wildlife resources and encroach on other individual's hunting opportunities. An evaluation of this program's effectiveness on private lands management has not been undertaken.

Acres for Wildlife Program

"The Acres for Wildlife Program" involved seven states in 1979: Georgia, Illinois, Kansas, Maryland, Oklahoma, Wisconsin, and Wyoming. This program is on a smaller scale in regards to acreage and does not include cost-sharing practices. Participants enroll at least one acre for a minimum of one year, which must be managed according to the agreement. In exchange, local soil conservation technicians and state district wildlife managers may provide technical assistance and free plantings (Deknatel 1979). Again, no results were provided to indicate the success of the program.

Section summary

It has been well documented that private lands programs are vital for the future of wildlife in the United States. However, most programs that currently exist have not been thoroughly evaluated, which questions their effectiveness and true impacts. Another notable impediment within private lands programs is the lack of explicit goals. As with the three described above, program goals that are defined are usually geared towards recreational opportunities and personal landowner satisfaction as opposed to ecosystem management and biodiversity, which are necessary to sustain wildlife populations.

Importance of Evaluation

Without an evaluation, it is nearly impossible to adequately assess the impact that the Michigan private lands program has on wildlife. Moreover, within various wildlife articles, the use of evaluation was cited as an overwhelming necessity within any "successful" private lands program (Svoboda 1980, Jacobson 1987, Pomerantz et al. 1992, Covell et al. 1997). As Jacobson (1987) stated, "The key to successful conservation lies in chronic effective evaluation."

Numerous authors provide rationale as to why they believe evaluations should be conducted. Vella et al. (1998) contend that evaluations are necessary in order to obtain information about the program; to determine how the program can be improved; and to increase confidence in the program. Birkenholz (1999) states that there are two primary purposes to be served in conducting a program evaluation – accountability and decision-making.

The Evaluation Process

Throughout the literature, a variety of evaluation processes were identified. However, within these processes there was substantial variability between authors on what constituted an effective evaluation and the components that were necessary for completing this evaluation. For instance, Passineau (1975) believes that evaluation is a process of collecting, weighing, and using information that is pertinent when making decisions about the value of a program (Jacobson 1987).

Birkenholz (1999) contends "program evaluation involves the process of collecting and interpreting information that can be used to judge the quality and effectiveness of the program in order to make informed decisions." He feels that there are six steps within an effective evaluation: define objectives, develop criterion questions, identify acceptable evidence, analyze and interpret the information, formulate recommendations, and report to decision makers.

Vella et al. (1998) asserts that in order to evaluate program effectiveness, two types of information are needed: learner change and program design. Learner change is determined by increased knowledge and understanding, improved skills and performance, or changed attitudes in line with the program's objectives. Program design effectiveness is identified through the effective characteristics of instructional activities, resources, and personnel.

The most expansive and notorious evaluation process discussed within the literature is the four levels of evaluation created by Kirkpatrick (1975). The four levels of evaluation are reaction, learning, behavior, and results. Level one (reaction) determines if the participant liked the training program and examines the participant's

reactions and feelings about the program. This level may be achieved through the use of evaluation forms, which should be tailored to include quantitative and qualitative information. Kirkpatrick also feels that to achieve this level, the form must be able to be completed within five or ten minutes. He also suggests that participant feedback should be obtained at most one or two weeks after the program.

The second level is learning, which is meant to determine whether the training material has been understood and to what degree. This level seeks to understand participants' knowledge, skills, and attitudes. To achieve this level, Kirkpatrick suggests giving participants a quiz to assess their understanding of key concepts, which include before and after tests.

The third level assesses behavior, which may be revealed by a participant demonstrating a task or skill, or having a participant's immediate supervisor evaluate their behavior along specific parameters both before and after the training program.

The fourth and most complex level measures results, which focuses on how the program has benefited the organization. Results are often more associative than casual, but do provide a level of confidence when major decisions are needed such as revising, cutting back, or expanding training in an organization. Achieving levels three and four are the most difficult and can sometimes be achieved with before and after measurements and control groups, seeking out additional information about the work environment and interviewing participants. To obtain these levels it is also important to protect the participant's identity.

Section summary

As stated throughout this chapter, evaluation is a necessary component currently missing within most private lands wildlife programs. However, when designing this project I did not set forth to determine if one particular evaluation process was more effective than another. It was my intent to examine various evaluation programs and utilize segments of these programs within our own evaluation process.

Training Programs Advantages and Disadvantages

Training and development, according to Davis and Davis (1998), "focuses on identifying, assuring, and helping develop, through planned learning, the key competencies that enable individuals to perform current or future jobs." These results can be achieved through a variety of training programs.

For the purpose of this research, only workshops and one-on-one training (site-visits) were evaluated. The lecture/workshop style teaching method is usually conducted in an oral presentation to the group; provides a large amount of information in a limited amount of time (Birkenholz 1999); and focuses on organizational change (Klatt 1999). One-on-one training provides knowledge and experience to the trainee from a recognized expert on the subject (Birkenholz 1999) and focuses on individual change and behavior (Klatt 1999). According to Klatt (1999), there are certain advantages and disadvantages to using either outreach program:

Workshops are suitable for any size group. Presenting this type of program is a relatively easy skill to learn and is usually cost effective. However, this type of program

does not allow for participation by participants, individual contact with instructor, and it may be difficult for accurate notes to be taken.

Site-visit learning is sharply focused and individualized with feedback and support immediate and specific. This type of process is active, engaging, and challenging. A couple disadvantages with this type of program are that site-visits are time consuming and require the right chemistry between participant and teacher (Klatt 1999).

Examining two other private lands outreach programs

To expand the scope of this project, I felt it was necessary to examine other workshop and site-visit programs across the nation. Two programs are explained in detail below. Although the programs have not been extensively evaluated, they provided a context for assessing the appropriateness of the training models utilized by the DNR and also provided direction when designing our research questions.

Workshop Model

The Coverts Project was originally created in 1984 as a cooperative effort between The Ruffed Grouse Society and the Cooperative Extension Services of Vermont and Connecticut (Covell et al. 1997). The workshop is an ongoing private lands management tool that gives full decision-making responsibility to the landowner. There are five components of the project: knowledge, persuasion, decision, implementation, and confirmation. The purpose of this project is to integrate wildlife and forestry goals through woodland management.

This 3-day workshop is designed to train community leaders and forest owners to manage their land for wildlife. Participants must submit applications and are selected on

their primary interests, forest management experience, community involvement, communication skills, and access to the media. The individuals taught at these workshops are expected to teach others and earn the title of "Coverts Cooperator" once they have received the training.

The workshop outlines the participants' visions and the forest stewardship goals. There are both indoor and outdoor sessions where participants are taught about philosophies and wildlife and forest management practices. Participants receive binders that outline resource professional contacts and a variety of publications on resource management practices and outreach methodologies. Project sponsors pay participant expenses.

After the workshop, instructors provide newsletters, announcements on more training opportunities, phone calls, and site visits to maintain cooperative energy and enthusiasm. These types of ongoing educational components are intended to prevent the program from being eventually disregarded (Warner 1983).

There are 11 states that promote The Coverts Project. Some have had the program for as long as 14 years. Combining all state information, there have been 1,770 Covert Cooperators trained since the program inception. On average, 23 cooperators are trained each year with an average ownership of 1,348 acres. In addition, these 1,770 cooperators have reached more than 110,000 other individuals.

Site-Visit Model

Svoboda (1980) presents a planning process that he states can be used in order to successfully manage private lands. The planning process involves nine steps: establishing a management goal, completing an inventory, analyzing the inventory data, establishing measurable objectives, preparing management recommendations, analyzing economic implications, producing a management plan, implementing the plan, and monitoring the results.

Svoboda states that the process above evolved as a result of working with four landowners over two years. The landowners had property sizes ranging from 16 to 340 ha. At the point of publishing, the landowners were in the process of implementing the recommendations. Additional research has not been found concerning these individuals or this process.

Both the landowner and the wildlife planner create the management goal for the property, which may take many years to achieve. The next step is to complete an inventory. Again, this involves both the landowner and the planner. The two individuals walk the private property inventorying as many details as possible or as necessary depending on the management goals. The inventory may also include examining aerial photographs, past land use practices, and a soils map. Additional information such as surrounding land uses, market value of forest products, agricultural production, and land ownership patterns should be collected.

Data analysis is identified as the next component of this planning process. During this phase, the planner must look for possible limitations and economic returns to the

property. It should be noted that there may be local and state statutes and regulations that may apply to the area.

Once the analysis is completed, the planner and landowner will again meet to discuss objectives for the property. It may be necessary to revisit the management goals before outlining these objectives. Objectives are short-term and have measurable results; once these are outlined, management recommendations can be prescribed.

The management recommendations provide step-by-step guidelines for the landowner to reach the stated objectives. The level of detail depends on the interest and knowledge of the landowner.

Implementation cost estimates should be included within the economic impacts analysis. In addition, economic returns should be provided. At this time, the planner may suggest government cost-sharing programs, which may defray some of the costs.

A written management plan is provided to the landowner that outlines the long-range goals, objectives, and recommendations. This document should be professionally prepared by the planner and reviewed with the landowner. Changes should be made over time if necessary.

Implementation is the most critical phase in this planning process. Without implementation of the plan, wildlife benefits will not occur and many hours and dollars will be wasted.

Lastly, there should be constant monitoring of the results. Photographs and written documentation are important to this phase. The wildlife planner should monitor more subtle changes, such as vegetation occurrences.

Learning principles

When examining a training program, it is important to understand how certain training styles affect an individual's ability to learn. Although, as I have mentioned in the past, the training models in this project were already in place before the evaluation began, we can still use the information below to provide recommendations on how the two outreach programs may be changed given the data we collected and the observations that were made.

Birkenholz (1999) contends that there are eight principles within adult learning. However, he also contends that these are not hard and fast laws but guiding principles, which should be examined when planning training sessions.

1. Learning is change, which is explained through a change in behavior.
2. Adults must want to learn.
3. Adults learn by doing.
4. Learning should focus on realistic problems.
5. Experience affects adults learning
6. Adults learn best in informal environments.
7. Use variety in teaching adults.
8. Adults want guidance, not grades.

Rose (1987) states that there are three adult learning styles: visual, auditory and kinesthetic, which should be incorporated within each training program. In future, learning styles should be considered when designing and presenting training.

Additional attributes that affect training program effectiveness

Throughout the literature, there were additional underlying attributes that I felt were important to investigate and include within this research project. These attributes are described below.

Goal Setting

According to the literature, another critical component within a private lands program is identifying and setting goals (Covell et al. 1997). Within private lands management, these goals can range from landowner to overall program goals. Jacobson (1987) describes goal setting as providing an opportunity to determine whether the program meets identified needs or objectives. Evaluating a program is severely restricted when goals for that program have not been identified.

Economic, Social and Personal Incentives

There has been disagreement concerning the impact incentives have on private lands programs. Some authors believe that landowners are less motivated to manage their land if economic incentives are not provided (Noonan and Zagata 1982, McDivitt 1987, Morrill 1987, Messmer et al. 1998). McConnell (1981) states that successful programs are acceptable to landowners due to a variety of incentives: economic, personal or social. Therefore, it may be important to know the economic, social and personal status of a landowner and organize recommendations and management plans around these factors (Svoboda, 1981).

Warner (1983) states that if the landowner does not feel appreciated for their efforts, then they will most likely put forth less conservation effort (Pease, 1992). Social incentives include community recognition, peer-group acceptance, and leadership roles (Svoboda 1981).

Another incentive may be empowerment. Leopold (1949) felt that "by providing training, resources and encouragement, resource managers can empower landowners who have expressed appreciation of land stewardship."

Values

According to Svoboda (1981), a person must needs to value and have a concern for wildlife before they can manage for them. This concern will lead them to seek knowledge about wildlife species and ask what can be done to ensure their survival. Therefore, it is important to determine if individuals do "value" wildlife. "Values are inescapable elements of any rational decision-making process" (Davidoff and Reiner 1973, Manfredo et al. 1998).

Chapter summary

This chapter provided an overview of the research findings related to private lands wildlife management. Overall, it is clear that various state agencies have private lands programs in place, but few have documented the success of their programs. Most notable is the lack of actual physical assessment; there is no evidence that landowners actually make changes to their property to benefit wildlife as a function of private lands programs. In addition, this chapter outlined various evaluation processes, the advantages and disadvantages of two training programs, and the importance of understanding learning styles.

CHAPTER THREE

METHODS

Two evaluation techniques were utilized in this research project: mail surveys and a field assessment. Surveys assessed knowledge levels, attitudes, behaviors, perceptions, and demographics. In 1998 and 1999, 524 workshop and site-visit participants were surveyed.

Field evaluations of a selected group of landowners that had received training were conducted using a Habitat Evaluation Index (HEI) that was created solely for this project. The HEI was adapted from two techniques presently in use by state agencies, which is discussed in more length later in this chapter. This evaluation tool was used to document whether manipulations to the landscape had occurred on private lands and evaluate whether those changes were beneficial to wildlife. In August 1999, thirty site evaluations were conducted on private lands across southern Lower Michigan.

Although the HEI was found to be reliable when used by a panel of trained experts, it is the opinion of the authors that further adjustments and testing of the instrument should be conducted before recommended for use in the field by wildlife professionals.

Population Selection and Study Area

Twenty-six southern Lower Michigan counties were selected to evaluate the private lands training program because they had participated in the Wildlife Habitat Grant Program since its inception.

Evaluation of 1998 Workshop and Site-visit Training

Six CD workshops were surveyed in 1998 (Newaygo, Jackson A, Jackson B, Montcalm, Genessee, and St. Clair). Each individual who attended one of these workshops was asked to participate in the survey process. Prior to the examination of their property, landowners that received training through a site-visit received a survey from the CD biologist within the study area.

Evaluation of 1999 Workshop and Site-visit Training

Due to the low number of site-visit surveys received in 1998, both groups (workshops and site-visit) were surveyed again in spring 1999.

Evaluation of 1996 and 1997 Training

A letter was mailed to the 26 CD's requesting the names and addresses of 1996 and 1997 workshop and site-visit participants. Once names and addresses were compiled, a pilot survey (Appendix D) was mailed to 20 randomly selected individuals from this group. This pilot was used to determine the effectiveness of the open-ended questions. The other 120 individuals were mailed a revised version of the survey.

Habitat Evaluation Participants

Participants from 1996 and 1997 (N=120) were asked if they would agree to a habitat evaluation of their property to determine whether modifications were being made to their property to benefit wildlife. Ninety-four landowners were agreeable and called to

make an appointment. Final selection of participants for field evaluation was stratified to reflect combinations of specific site features. For both workshop and site-visit training landowners, it was intended that the samples represent sites with and without reported habitat changes, a range of acreage being managed, and a distribution throughout the study counties. Sites for field evaluation were selected to fit these criteria rather than via a random selection (Appendix B).

Study Design

To assess the impacts of the two treatments over time (workshop training and site-visit training), a study design (Figure 3.1) was created that included a pre-, immediate-post, and post survey. A pre-survey was administered before assistance or impact occurred. An immediate post survey evaluated the influence of the training on participant knowledge and attitudes as soon as it was concluded. A post survey was sent approximately one year after participants received training. The 1996 and 1997 participants did not receive the first two surveys but were sent a post survey two or three years after their training (Figure 3.2). The Michigan State University Committee on Research Involving Human Subjects (UCRIHS) approved all methodology (Appendix A).

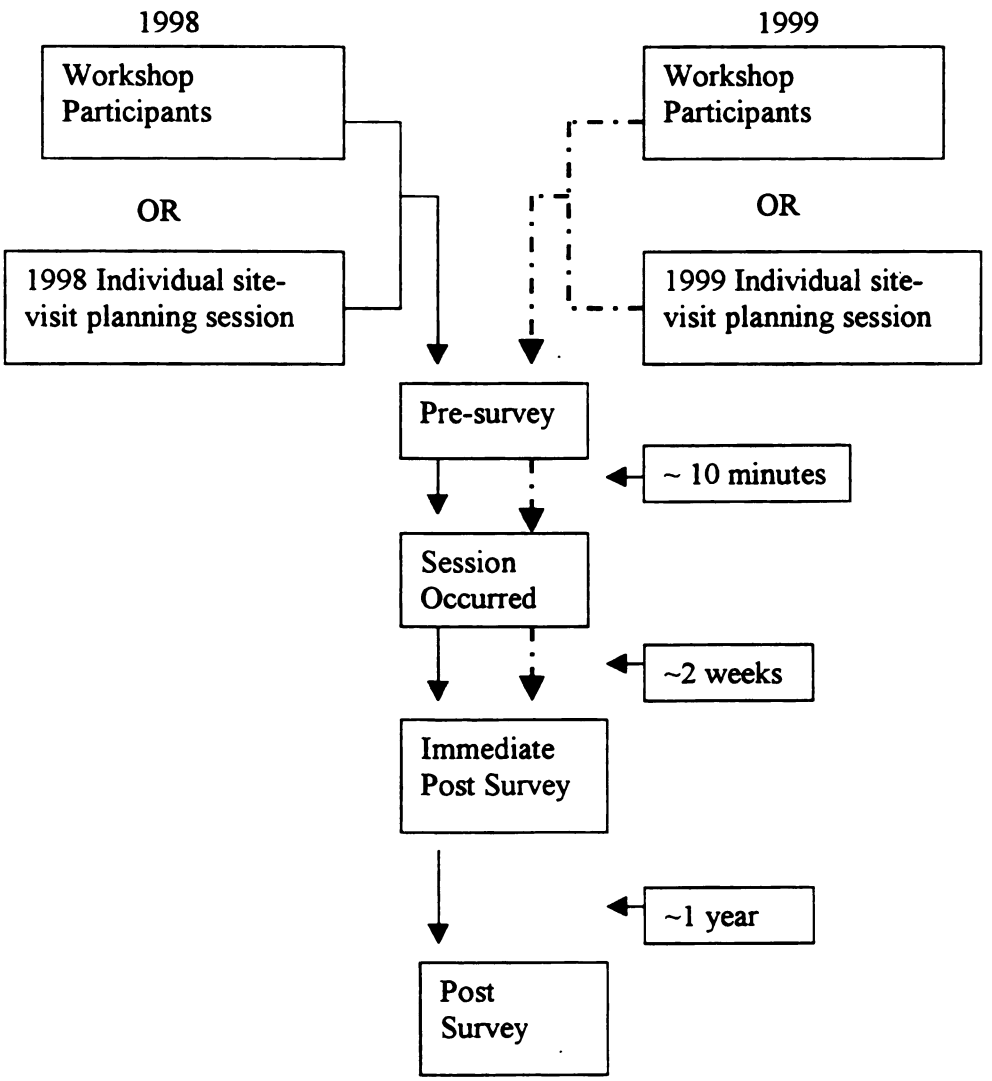


Figure 3.1: Flow chart outlining the 1998 and 1999 study groups, data collection instruments, and time frame between surveys.

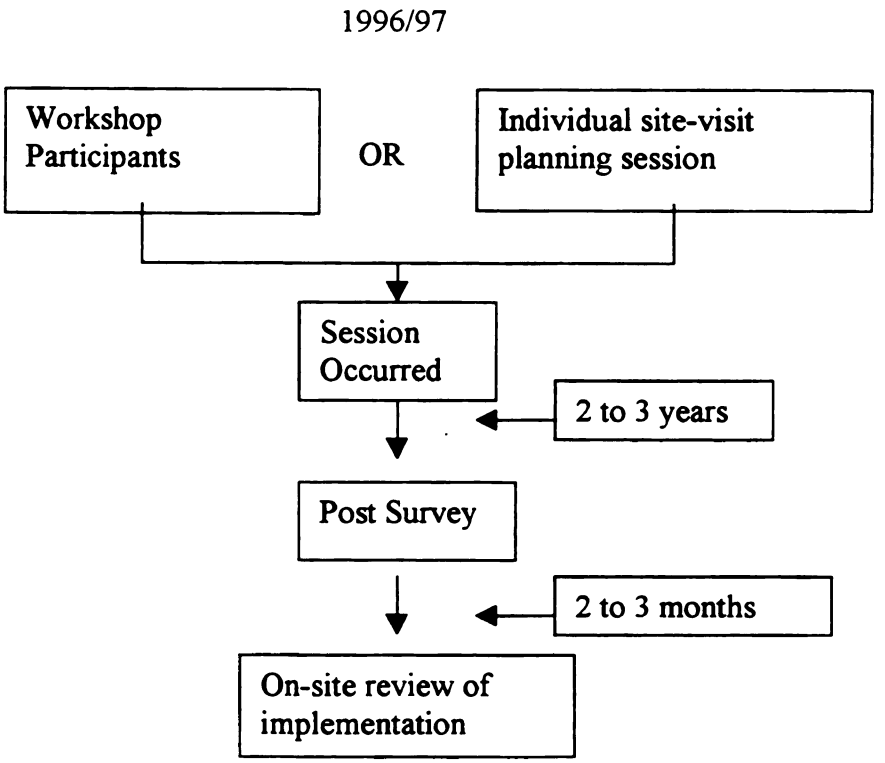


Figure 3.2: Flow chart outlining the 1996/7 past participant study group, data collection instruments, and time frame.

Mail Surveys

Due to the fiscal and time constraints of the project, mail surveys were utilized for data collection. Advantages to using mail surveys are that the cost is low compared to some other methods (i.e., telephone surveys); that a participant's confidentiality can be maintained; and that participants have time to ponder their answer. However, some shortcomings of mail surveys are that the questions may not be understandable to everyone; that the surveys may be hard to follow; and that it is difficult to know if the correct person filled out the survey (Frankfort-Nachmias, Chava, and Nachmias, 1996).

Survey Development

The questions posed within each of the surveys were written to answer research questions, which are listed at the end of this chapter. These research questions are also outlined in Appendix C with a detailed account of the survey item(s) that were written to answer those questions. A variety of item formats were utilized, i.e., Likert-type scales, semantic differentials, and closed and opened questions. Surveys are available for review in Appendices D-K.

Survey Distribution

1998 and 1999 Workshop and Site-visit Surveys

In the spring of 1998, pre-surveys were distributed prior to an individual's participation in either of the outreach programs. In addition, participants were asked whether they would be willing to partake in two additional mail surveys. For those who agreed, an immediate post survey was mailed approximately two weeks after the training occurred. After receiving an individual's second survey, a final post survey was sent one year later.

Individuals that participated in a 1999 workshop or site-visit were also asked to complete only a pre- and an immediate post survey. They were not surveyed again because the evaluation project terminated in 1999.

Past Participant Surveys

A pilot survey was mailed in early spring of 1999 to a random sample of past participants within the study area that had previously received assistance in either the

form of a workshop or a site-visit in 1996 or 1997. The survey was then revised and mailed to the remaining past participants.

Survey Administration

The immediate post survey, post survey, and surveys of 1996 and 97 participants were mailed to both workshop and site-visit participants. Mailing procedures for the survey were adapted from the Total Design Method (Dillman 1978). The immediate post survey was mailed to the landowner approximately two weeks after they received assistance. The post survey was mailed one year after the immediate post was initially mailed. Both survey packets included a cover letter, a questionnaire, and a stamped return envelope. A second and third mailing were conducted if a completed survey was not returned. The second mailing to non-respondents was a repeat of the first with slightly different cover letters and the third mailing was sent to those who had still not responded by certified mail. The second mailing was sent out approximately three weeks after the first and the third mailing was sent out approximately three weeks after the second. Table 3.1 lists the response rate for 1996/7, 1998, and 1999 workshop and site-visit participants. Due to the high response rate achieved in each of these groups, a non-response follow-up was not conducted.

Survey Analysis

Data were entered and analyzed within the Statistical Package for Social Sciences (SPSS) software version 9.0 (SPSS, 1998). The analysis was conducted using cross-tabs, and Pearson Chi-square tests for percent differences across segments and within the

entire sample. T-tests were used to test equality of means of variables with two values. In addition, summary statistics and scale scores were calculated. Cronbach's alpha was calculated to determine scale reliability. Cronbach scores of at least 0.70 were considered acceptably reliable. Throughout the entire survey missing values were considered "system missing values." Regressions were conducted to determine if a certain variable influenced one or more variables.

Table 3.1. Response rates of survey participants.

	Total number of participants	Total number of useable surveys received	Response Rate (%)
Workshop surveys			
1998			
Pre-	159[1]	126	
Immediate-post	126[2]	103	81.75
Post	103[3]	77	74.76
1999			
Pre-	83[1]	49	
Post	49[2]	39	79.59
1996/7 Past Participants	32[4]	22	68.75
Site-visit surveys			
1998			
Pre-	28[1]	26	
Immediate-post	26[2]	23	88.46
Post	23[3]	18	78.26
1999			
Pre-	74[1]	63	
Immediate-Post	63[2]	56	88.89
Past Participants	148[4]	120	81.08

[1]Individuals who attended the workshop or site-visit and turned in a survey.
[2]Individuals who attended the workshop or site-visit and stated they would participate in further surveys.
[3] Individuals who returned the immediate-post survey.
[4]Individuals who received only a mailed post survey.

Habitat Evaluation Index (HEI)

One aspect of the research project was to determine if landowners were manipulating their property to benefit wildlife. Another was to determine if the manipulation was positively benefiting wildlife and if so, to what degree. Therefore, an evaluation tool was needed that could assess both of these components.

HEI Development

The HEI is an adaptation of two current evaluation procedures: the Habitat Evaluation Procedure (HEP) (1977) and the Michigan Conservation District Wildlife Habitat Inventory Worksheet (WHIW) (1991). The HEP calculates an area's suitability for a featured wildlife species. WHIW, however, focuses on wildlife diversity. For this project, wildlife diversity was used to indicate whether a property was being managed so as to provide benefits for wildlife. Although the WHIW is also based on wildlife diversity, it only slightly touches upon the vegetation types that can support numerous species. The HEI, which was created for this project, consists of four wildlife cover types: grasslands, woodlands, croplands, and wetlands. Within each type specific variables were identified as necessary components to achieve a high level of wildlife diversity (Appendix L).

Scoring and Analysis

To quantify wildlife benefits, point values were assigned to each variable on the HEI (Appendix L). Within each cover area (grasslands, woodlands, croplands and wetlands), a choice of items was available under each variable (Appendix L). For example, one woodland variable was stem density. The evaluator identified whether the

stand was predominantly sawtimber, poles, or saplings and assigned a different point value for each. Certain variables were given higher point values than others due to their importance to wildlife.

Once the variables within a cover type were scored, all separate scores (per variable) within that cover type were added together and the total value was multiplied by the number of acres within that cover type. Next, all the cover type values were added together. Both the past cover condition and the present cover condition were scored. To determine the percent change to benefit wildlife on that property, the present cover type calculation was divided by the past cover type calculation.

Instrument Usability and Reliability

On two occasions a field test was conducted with a panel of experts to determine HEI usability. After each instance, the HEI was altered to eliminate identified problems such as ambiguous items or form confusion. To test the reliability of the index, three MDNR employees, who were familiar with wildlife habitat management plans, were asked to use the instrument as it was intended. A field evaluation was conducted to determine if evaluators would obtain similar scores when examining the same parcel. Due to its proximity to the evaluator's daily work site and expansive diverse cover types, Rose Lake Research Center was chosen as the evaluation site. When a discrepancy occurred between evaluators, scores and interpretations were discussed and consensus was reached. Four new cover types were then evaluated to confirm instrument reliability, at which time evaluators had similar scores on over 80% of the items.

Evaluation Procedure

Upon arrival to the site, the landowner was asked to map their property separating the different cover types and estimating the acreage within these types. Subsequently, the evaluator and landowner toured the property. If management manipulations had occurred, the landowner was asked to describe the previous state of the area for scoring purposes. In addition to the habitat evaluation, landowners were asked to identify what they did or did not like about the assistance they had received from the conservation district. Also they were asked to suggest changes to the training. Analysis of the evaluation form (as described previously) was conducted after the investigator left the property. A thank you letter was sent to all participants once site-visits were completed; additional information was also sent to certain participants if requested.

Research Questions

Q: What is the demographic make-up of participants in the program? Is there a relationship between a participant's demographics and program effectiveness; e.g., their decision to modify their property for wildlife? Do workshop and site-visit participants have different demographics?

Q: Does a participant's opinion about the Michigan Department of Natural Resources change after attending a workshop or receiving a site-visit? Do workshop and site-visit participants have different opinions about the DNR?

Q: Are participants satisfied with the instructor and the workshop or site-visit? Is there a relationship between a participant's satisfaction with the training and their decision to modify their property for wildlife? Are there different satisfaction levels between workshop and site-visit participants?

Q: Does a participant's intentions to modify their property to benefit wildlife shift after they have attended a workshop or received a site-visit? Do workshop and site-visit participants have a difference in their intentions?

Q: What percent of survey participants altered their property for the purpose of benefiting wildlife? What modifications did they make to their property? Were the modifications recommended from the Conservation District?

Q: Do participants actually modify their property to assist wildlife? If alterations do occur, is the changed area more beneficial to wildlife?

Q: Do site-visit participants receive management plans? Are participants who receive management plans more likely to modify their property?

Q: Does training influence a participant's decision to set goals? How well does the treatment improve a participant's goals? What are the goals of treatment participants? Are participants who set goals more likely to modify their property?

Q: Why do participants contact the Conservation District?

Q: Are there any perceived obstacles that could keep participants from modifying their property for wildlife? Does a participant's perceived barriers of cost, time, effort, the need for additional information, and low benefits influence their decision to modify their property? Do workshop and site-visit participants have different responses concerning perceived barriers?

Q: Is there a difference between workshop and site-visit participants' opinion of the information that is discussed during the treatment? Is there a relationship between the items that are discussed within the workshop or the site-visit and a participant's decision to modify their property for wildlife.

Q: Does training improve a participant's knowledge about "succession"? Is there a difference between workshop and site-visit participants' increase in knowledge after the treatment?

Q: Do participants receive additional training before and after the workshop or site-visit?

Q: Were there additional topics the participants would have liked to be discussed during the workshop or site-visit?

Q: Were handouts available at the treatment? If so, were participants satisfied with the handouts?

Q: Would participants like the treatment to change in any way? If so, what changes would they like?

Q: Does a participant's values change after attending a workshop or receiving a site-visit? What are participant's values toward wildlife and wildlife management? Is there a relationship between a participant's values toward wildlife and wildlife management and their decision to modify their property? Do workshop and site-visit participants have different values?

Q: How do participants learn about the treatment?

Q: What is the primary and secondary reason for participants to own their property? Is there a relationship between the reason why landowners own their property and their decision to modify their property to benefit wildlife?

RESULTS

The research questions that were created for this project are stated below as are the findings related to those questions.

Demographics

Q: What is the demographic make-up of participants in the program? Is there a relationship between a participant's demographics and program effectiveness; e.g., their decision to modify their property for wildlife? Do workshop and site-visit participants have different demographics?

Participants tend to live in rural-farm areas and were approximately 50 years of age. The majority of participants had some college education. The average annual household income is between $35,000 and $75,000. Most participants did not receive an income from farming (Appendix M, Tables 1 - 2).

There was no significant relationship between a participant's demographic make-up and their decision to modify their property. There were demographics differences between workshop and site-visit participants on two variables: land size and gender (Appendix M, Table 3). Workshop participants usually managed approximately 38 acres for wildlife whereas site-visit participants managed 72 ($F=11.023$, $p=0.001$). Workshop participants had more of a mix of men and women; site-visits consisted of mostly men ($X^2 = 3.81$, $p=0.05$).

Opinion of the DNR

Q: Does a participant's opinion about the DNR change after attending a workshop or receiving a site-visit? Do workshop and site-visit participants have different opinions about the DNR?

Participants' opinion of the DNR did not change after they attended or received the treatment. In addition, there was no significant difference between the workshop and site-visit participants' opinion of the DNR (Appendix M, Table 4).

Results indicate that participants had a favorable opinion of the DNR (Appendix M, Table 4). On a scale of one to seven with one being more favorable, workshop participants rated the DNR a $\bar{x}$=2.71 and site-visit participants rated the DNR a $\bar{x}$=2.93.

Opinion of Instructor and Treatment

Q: Are participant's satisfied with the instructor and the treatment? Is there a relationship between a participant's satisfaction with the training and their decision to modify their property for wildlife? Are there different satisfaction levels between workshop and site-visit participants?

Participants were satisfied with the treatment and the instructors (Appendix M, Tables 5 and 6). On a scale from one to seven with one being high, workshop participants rated the instructor a $\bar{x}$=1.97 and the treatment a $\bar{x}$= 2.29. Site visit participants rated the instructor a $\bar{x}$=2.12 and the treatment a $\bar{x}$=2.34. There was no significant difference in the satisfaction levels of the two treatment groups. There was also no relationship discovered between a participant's satisfaction with the treatment or instructor and their decision to modify their property (Appendix M, Tables 5 and 6). Figures 4.1 and 4.2 portray the participants' response to each adjective independently.

Figure 4.1. Participants' response on each item about the instructor. Scale ranged from 1 to 7 with the most positive response marked as a 1 and most negative response marked as a 7. All items were averaged together to produce one mean, which is discussed on the previous page.

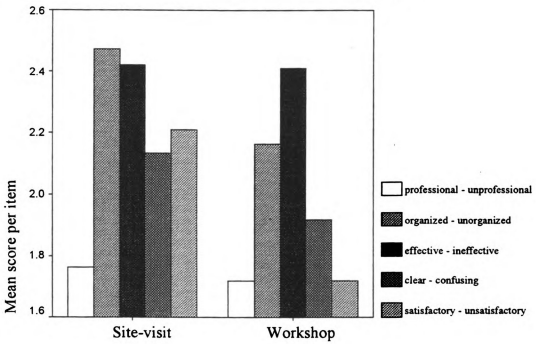
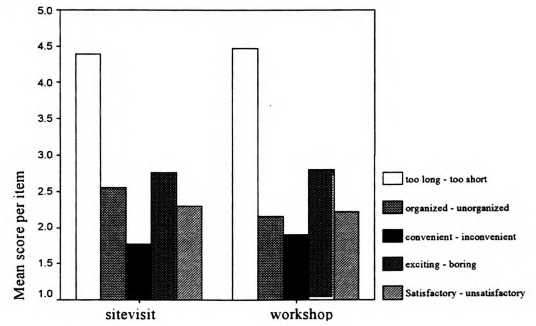


Figure 4.2. Participants' response on each item about the treatment. Scale ranged from 1 to 7 with the most positive response marked as a 1 and most negative response marked as a 7. Note: Too long – too short was dropped when the items were averaged together to produce one mean, which is discussed on the previous page.



Intentions to modify their property

Q: Does a participant's intentions to modify their property to benefit wildlife shift after they have attended a workshop or received a site-visit? Do workshop and site-visit participants have a difference in their intentions?

As outlined in Table 4.1, both workshop and site-visit participants had a significant shift in intentions. After the treatment, participants had lower intentions to modify their property than before. There was no difference between the two treatment groups.

Table 4.1. Participant's Intentions

Q: *How likely is it that you will increase your management effort on your land for wildlife in the next two years?**

Workshops		**Site-visits**	
Mean Before	*Mean After*	*Mean Before*	*Mean After*
1.71 (N= 136)	2.08 (N=136)	1.76 (N= 78)	2.12 (N=78)
*Test Statistic***		*Test Statistic***	
T = -3.38 df = 135 p = 0.001		T = -2.50 df = 77 p = 0.015	
*Test Statistic****			
F = 0.024 p = 0.876			

*Respondents had to choose a number on a scale from 1 to 9 to indicate their intentions with 1 being very likely and 9 being very unlikely.
** Statistical significance alpha ≤ 0.05.
***Anova conducted to determine if there is a significant difference between workshops and site-visit.

Habitat Modifications

Q: What percent of survey participants altered their property for the purpose of benefiting wildlife? What modifications did they make to their property? Were the modifications recommended from the CD or RC&D?

Of the 126 site-visit participants surveyed, 76% stated that they had made changes to their property to benefit wildlife after receiving assistance. Seventy percent of those participants stated that they had made recommended changes.

In addition, 70% of workshop participants (N= 94) stated that they had made changes to their property to benefit wildlife after receiving assistance. Eighty-two percent of those individuals reported that those were recommended changes.

Overall the most substantial change landowners made to their property was the planting of trees. Site-visit (1996/7) participants combined planted 7,060 conifers, 251 deciduous trees, and 2,710 shrubs (N=88) as recommended. Participants with site-visits in 1998 (N=16) planted 120 conifers, 250 deciduous trees, and 550 shrubs, which were also recommended. Workshop participants in 1996/97 (N=13) planted 500 conifers and 100 autumn olive. And, 1998 workshop participants (N=75) planted approximately 6,987 conifers, 170 oaks, and 1,560 shrubs also recommended.

Other changes included planting grasslands and food plots, restoring wetlands, and creating and erecting nest structures. This information is outlined in Appendix M, Tables 7-14.

Site Evaluations

Q: Do participants actually modify their property to assist wildlife? If alterations to the property do occur, is the changed area more beneficial to wildlife?

Thirty field evaluations were conducted to determine if private landowners were actually making changes to their property. Eighteen of the thirty were on properties where participants declared that they had made change to benefit wildlife whereas twelve were on sites where change had supposedly not occurred. Of the 18 apparently changed properties, sixteen had actually made a modification (Appendix M, Table 15).

Out of a possible 989 acres that landowners stated were available, 180 acres were altered to benefit wildlife. Those altered acres had an increased benefit to wildlife that ranged from four to 400% (Appendix M, Table 15).

We did find that when additional assistance, such as attending a second workshop, there was a higher increased benefit to wildlife. In fact, the individuals who participated

in both workshops and site-visits had the largest increased benefit. Participants who received additional assistance from other conservation organizations, such as Ducks Unlimited, also had the considerable increases on their property to benefit wildlife (Appendix M, Table 15). These findings may be due to the strong interest in such participants as well as rather than the increased understanding gleaned from the extra training.

Management Plans

Q: Do site-visit participants receive management plans? Are participants who receive management plans more likely to modify their property?

As outlined in Table 4.2, almost all site-visit participants received a management plan. Although our sample size was inadequate to statistically answer part two of the question above, trends indicate that participants who had received a management plan were more likely to modify their property.

Table 4.2. Number of management plans received by site-visit participants

Question: *Did the Conservation District and/or Resource Conservation & Development write a management plan for your property?*

Response	Frequency	%
Yes	103	90%
No	12	10%
Total	115	

Goal Setting

Q: Does training influence a participant's decision to set goals? How well does the treatment improve a participant's goals? What are the goals of treatment participants? Are participant's who set goals more likely to modify their property?

Results indicate that more than two-thirds of participants had set goals for their property (Appendix M, Table 16). However, more participants set goals after the

treatment than before. The number of workshop participants who set goals increased by 11% after they attended the workshop. Site-visit participants increased by 8%.

The most prevalent goal stated by participants was to "attract wildlife" to their property. Other goals included planting trees and food plots, creating a wetland, and improving viewing opportunities (Appendix M, Tables 17 and 18)

Statistical analysis indicates that those workshop participants who set goals were more likely to modify their property ($X^2 = 3.970$, $p = 0.046$).

Reasons for Assistance

Q: Why do participants contact the Conservation District?

Most often participants contacted the CD to learn about attracting wildlife to their property (Appendix M, Table 19). Other reasons included wetland restorations, forest and grassland management, and information about financial assistance and soil erosion.

Perceived Barriers

Q: Are there any perceived obstacles that could keep participants from modifying their property for wildlife? Does a participant's perceived barriers of cost, time, effort, the need for additional information, and low benefits influence their decision to modify their property? Do workshop and site-visit participants have different responses concerning perceived barriers?

Money and time were most commonly reported by both workshop and site-visits participants as barriers that they felt may prevent them from making modifications to their property (Appendix M, Table 20). Other barriers included effort, weather, equipment, and the need for additional assistance.

There was no statistical relationship discovered between a participant's perceived barriers and their decision to modify their property. In addition, there was no difference

in workshop and site-visit participants' responses concerning perceived barriers (Appendix M, Table 21).

Items discussed within the Treatment

Q: Is there a difference between workshop and site-visit participants' opinion of the information that is discussed during the treatment? Is there a relationship between the items that are discussed within the workshop or the site-visit and a participant's decision to modify their property for wildlife.

Workshop and site-visit participants were asked how thoroughly specific items were covered within the program they attended. A significant difference was found between the two groups on four of six items: goal setting, successional stages, limiting factors, and carrying capacity (Table 4.3).

Workshop and site-visit participants were also asked to rate how effectively certain items were covered within the program they attended. A significant difference was found between the two groups on three of five items: resource inventory, government program availability, and the availability of informational and technical support (Table 4.4).

Table 4.3. How participants' rated how thoroughly certain items in 1998 and 1999 Workshops (WS) and Site-visits (SV)

Q: *When you received assistance, how thoroughly (was each of these items discussed by the individual you spoke with) (WS - were the following topics covered)?*

Items	Response	Frequency		%		Statistical Test	
		WS	SV	WS	SV		
The importance of setting goals for wildlife management.	Thoroughly covered	72	21	54%	27%		
	Somewhat covered	55	39	41%	50%	WS Mean = 1.50	F = 31.11
	Touched-on slightly	6	8	5%	10%		
	Not discussed		9		12%		
	Unsure[2]		1		1%	SV Mean = 2.10	p = .000**
	Total	133	78				
Suitability of various management goals for different habitat types	Thoroughly covered	60	29	45%	37%		
	Somewhat covered	61	32	46%	41%	WS Mean = 1.68	F = 4.008
	Touched-on slightly	8	12	6%	15%		
	Not discussed	2	4	2%	5%		
	Unsure	2	1	2%	1%	SV Mean = 1.92	p = .047[1]
	Total	133	78				
Successional stages and processes	Thoroughly covered	76	21	59%	27%		
	Somewhat covered	42	28	32%	36%	WS Mean = 1.52	F = 41.184
	Touched-on slightly	10	12	8%	15%		
	Not discussed	2	14	2%	18%		
	Unsure		3		4%	SV Mean = 2.36	p = .000**
	Total	130	78				
Relationships among the four habitat components: food, water, cover, and space	Thoroughly covered	75	27	67%	35%		
	Somewhat covered	47	32	36%	41%	WS Mean = 1.52	F = 17.48
	Touched-on slightly	9	11	7%	14%		
	Not discussed		8		10%		
	Unsure	1		1%		SV Mean = 2.0	p = .000[1]
	Total	132	78				
Limiting Factors	Thoroughly covered	41	16	31%	21%		
	Somewhat covered	66	27	50%	35%	WS Mean = 1.99	F = 12.58
	Touched-on slightly	15	15	11%	20%		
	Not discussed	5	16	4%	21%		
	Unsure	5	3	4%	4%	SV Mean = 2.52	p = .000**
	Total	132	77				
Carrying Capacity	Thoroughly covered	42	18	32%	23%		
	Somewhat covered	63	31	48%	40%	WS Mean = 2.0	F = 5.08
	Touched-on slightly	17	14	13%	18%		
	Not discussed	5	136	4%	17%		
	Unsure	5	1	4%	1%	SV Mean =2.32	p = .025**
	Total	132	77				

** = Significant difference between workshops and site visits with alpha ≤ 0.05. [1]Sex (Male/Female) also interacts with this variable, which was determined by running a regression. [2]Unsure was dropped from the calculations Note: those items with a $p \leq 0.05$ that do not have ** have other independent variables interacting;

Table 4.4. How participants' rated certain items that may have been covered in 1998 and 1999 Workshops (WS) and Site-visits (SV)

Q: How effectively do you think the (individual covered) each of the following topics? (WS – the workshop taught ...)

Items	Response	Frequency		%		Statistical Test	
		WS	SV	WS	SV		
How to inventory the resources on your land	Very effective	35	14	27%	18%	WS Mean = 2.0	F = 9.681
	Moderately effective	66	29	50%	38%		
	Slightly effective	22	20	17%	26%		
	Not effective	8	13	6%	17%	SV Mean = 2.42	p = .002**
	Topic not discussed						
	Total	131	76				
The availability of Govern. Programs to financially assist you to manage your land for wildlife	Very effective	33	13	25%	17%	WS Mean =2.15	F = 8.99
	Moderately effective	58	25	44%	33%		
	Slightly effective	30	20	23%	26%		
	Not effective	10	18	8%	24%		
	Topic not discussed	1		1%		SV Mean = 2.57	p = .003**
	Total	132	76				
The availability of other sources of informational and technical support to manage your land for wildlife	Very effective	34	12	26%	16%	WS Mean = 1.93	F = 20.76
	Moderately effective	78	32	59%	42%		
	Slightly effective	17	16	13%	21%		
	Not effective	4	16	3%	21%		
	Topic not discussed					SV Mean = 2.47	p = .000**
	Total	133	76				
The use of planning steps to manage your land for wildlife	Very effective	47	18	36%	24%	WS Mean = 1.97	F = 3.70
	Moderately effective	57	34	43%	45%		
	Slightly effective	20	18	15%	24%		
	Not effective	8	6	6%	8%		
	Topic not discussed					SV Mean = 2.16	p = .056
	Total	132	73				
The appropriate trees and shrubs to plant for wildlife	Very effective	60	34	44%	45%	WS Mean = 1.78	F = .043
	Moderately effective	49	28	36%	37%		
	Slightly effective	21	10	16%	13%		
	Not effective	5	3	4%	4%		
	Topic not discussed					SV Mean = 1.76	p = .835
	Total	135	75				

** = Significant difference between workshops and site visits with alpha $\leq$ 0.05.

There was a statistical relationship found between the thoroughness and/or effectiveness of items covered within the treatment and a landowner's decision to modify their property depending on the items being covered. A workshop participant who indicated that carrying capacity was thoroughly or somewhat covered was more likely to make recommended changes on their property ($X^2 = 5.135$, $p = 0.023$). Trends also indicate that the if the following topics are thought to be thoroughly or somewhat covered by workshop participants, the landowner may make changes to their property: habitat components and successional stages. In addition, a relationship was found between a workshop participant's indication that "inventorying the resource" was very or moderately effectively covered and their decision to make recommended changes ($X^2=4.937$, $p=0.026$). The same occurred for coverage of "government programs" ($X^2=16.94$, $p=0.000$).

A relationship was also found between a site-visit participant's decision to make recommended changes when they felt "the appropriate trees and shrubs" was very or moderately effectively covered ($X^2=6.84$, $p=0.009$). It is important to note that this research did not determine if these relationships were independent of the instructors.

Knowledge Improvement

Q: Does training improve a participant's knowledge about "succession"? Is there a difference between workshop and site-visit participants' increase in knowledge after the treatment?

When asked to indicate what the succession diagram demonstrated within the survey, 63% of workshop participants answered the item correctly before the treatment and 92% answering it correctly after (Appendix M, Table 22). In contrast, 69% of site-

visit participants answered the item correctly before and 78% after (Appendix M, Table 23).

Participant knowledge levels were also assessed before and after the treatments. On question one, 52% of workshop participants answered correctly before and 71% after (Appendix M, Table 22) whereas 67% of site-visit participants answered correctly before and 65% after (Appendix M, Table 23).

Seventy-percent of workshop participants answered question two correctly on the pre-survey whereas 94% answered correctly after the treatment. The site-visit participants answered the item correctly 76% of the time before and 82% of the time after treatment.

Lastly, 61% of workshop participants before the treatment and 79% after correctly answered question three. In addition, 76% of site-visit participants before the treatment and 82% after answered the question correctly.

Although a statistical test could not be conducted, trends seem to indicate that workshop participant's knowledge tends to be increasing more than site-visit participants.

Additional Training

Q: Do participants receive additional training before and after the workshop or site-visit? Is there a relationship between the further training participants receive and their decision to modify their property?

When asked if they had previously received training, 28% of workshop participants and 20% of site-visit participants stated that they had (Appendix M, Table 24). The type of training ranged from other workshops to seminars to wildlife-related literature.

Since receiving assistance, 39% of workshop and 25% of site-visit participants had received further training (Appendix M, Table 25). Site visits, seminars, and additional workshops are some of the additional training that was received. There was no relationship between a participant receiving further assistance and their decision to modify their property.

Additional Topics within Treatment

Q: Were there additional topics the participants would have liked to be discussed during the workshop or site-visit?

Appendix M, Table 26 outlines that 39% of workshop and 11% of site-visit participants would like additional topics discussed within the treatments. Workshop participants are interested in topics such as planting techniques and wildlife diversity. Site-visit participants are interested in topics such as timelines and crops for deer.

Additional Handouts Availability

Q: Were handouts available at the treatment? If so, were participants satisfied with the handouts?

Results:

Handouts were available at workshops (97%) and site-visits (49%). A large percentage of both workshop (91%) and site-visit participants (81%) were very or moderately satisfied with the handouts received. In fact, only 2% of workshop participants were unsatisfied (Appendix M, Table 27).

Requested Changes to the Treatment

Q: Would participants like the treatment to change in any way? If so, what changes would they like?

Almost half of workshop (46%) and site-visit (40%) participants wanted to change the treatment. Workshop changes included the following: would like it to be more specific, not so many speakers, provide time to assess individual properties, and include follow-up. Site-visit participants suggested that they would have liked more time and information from the biologist and were also interested in follow-up (Appendix M, Tables 28 and 29).

Values

Q: Does a participant's values change after attending a workshop or receiving a site-visit? What are participants values toward wildlife and wildlife management? Is there a relationship between a participant's values toward wildlife and wildlife management and their decision to modify their property? Do workshop and site-visit participants have different values?

There was no statistical change in measured participant values after attending the workshop (Appendix M, Tables 30-1 and 30-2). However, there was a significant change in two values with site-visit participants (Appendix M, Tables 31-1 and 31-2). When asked how important it was to site-visit participants that their property "produce wildlife viewing opportunities", the treatment had a significant impact on this change ($t=-2.40$, $p=0.019$) with a mean of $\bar{x}=1.24$ before and $\bar{x}=1.42$ after. Before the treatment, site-visit participants reported they would prefer to use native to exotics with a mean of $\bar{x}=1.86$ compared to a mean of $\bar{x}=1.67$ after. There was a significant difference in this change ($t=2.41$, $p=0.018$).

There was also a significant difference between workshop and site-visit participants on two value types: the importance of having wildlife available to hunt and preferring to create habitat for a diversity of wildlife rather than for one or a few. Concerning if it is important "that wildlife are available to hunt" on their property, workshop participants had a mean of $\bar{x}$=2.73 and site-visit participants had a mean of $\bar{x}$=2.10 (F=12.66, p=0.0001). When asked if they prefer " to create habitat for a diversity of wildlife rather than for one or a primary few", workshop participants had a mean of $\bar{x}$=2.69 compared to one-third of site-visit participants who had a mean of $\bar{x}$=3.84 (F=71.72, p=0.0001).

When asked how important it was to the participant that "the land managed for wildlife produce income", a very small percent stated very to moderately. Almost all felt it was very to moderately important to produce wildlife viewing opportunities" on their property. Similarly, they felt that it was important "to create /maintain a pleasing natural landscape" on their property. Lastly, almost all participants stated that is was important "that wildlife exist even if you never see them" very high.

Participants were also asked their land management preferences. A high percent of participants agreed they would use native plants over exotic plants. In addition, participants agreed they would prefer to "create natural habitat for food for wildlife rather than plant agricultural crops".

Marketing

Q: How do participants learn about the treatment?

Participants most often learned about workshops through fliers (38%) and newspapers (25%). The majority of site-visit participants learned about the program through a CD employee (31%) or from a flier or newspaper (each 21%) (Appendix M, Table 32).

Reasons for owning their property

Q: What is the primary and secondary reason for participants to own their property? Is there a relationship between the reason why landowners own their property and their decision to modify their property to benefit wildlife?

As outlined in Appendix M, Table 33, workshop (66%) and site-visit (71%) respondents overwhelming stated that income was not a reason for owning their property. When asked if residence was the reason for owning their property, a majority of both site-visit (71%) and workshop participants (76%) stated this was the primary reason. Recreation was also a primary reason for a majority of both workshop (56%) and site-visit (55%) respondents. There is no relationship between a participant's reason for owning their property and their decision to modify their property.

CHAPTER FIVE

DISCUSSION

This chapter begins with a look at the limitations of this study. I next discuss the impacts that these two outreach programs had on Michigan wildlife. Then, the effectiveness and differences of the workshops and the site-visits are outlined. A section that discusses the impacts of certain attributes on these programs follows. I revisit the importance of evaluation and then consider the demographic implications. Lastly, the recommendations for this project are outlined.

Limitations

- Within each outreach program, there was no consistency of the instructors or treatment formats. Some instructors provided quite different presentations, both in style and excitement -- which was observed. Workshops were not conducted completely alike and site-visits had no guidelines to follow. However, due to the small population sizes that were available for this study, it was necessary to combine evaluations of all workshops and similarly, all site-visits. I cannot make inferences in regards to the relative value of the instructional methods and overall program designs based on the variability among both. It would be useful to conduct additional research that examines difference between workshops attributable to differences among instructors.
- Due to the timeframe of this study, the habitat evaluation index (HEI) had a limited field trial. The HEI should be considered a pilot program at this time.
- The distribution of the pre-survey to site-visit participants was to occur by the CD—however, they did not always distribute them to landowners. Therefore, the site-visit study group was smaller than expected and caused me to examine only trends in some instances not significant findings.
- The lack of stated goals by both the DNR and CD prevented the researchers from designing an evaluation to determine whether specifically intended outcomes of the program were being met.
- The study was necessarily restricted in length, which did not allow for the influence of time on landowner responses. Over time, landowners might have conducted additional modifications to their lands. Of course, interest and therefore maintenance might have waned as well.

- The measures of attitude, values and knowledge were limited by format of the survey questionnaires and necessarily limited the inferences which can be drawn.

Program impacts on Michigan wildlife

In an attempt to assist wildlife populations on Michigan private lands, the DNR Wildlife Division provided funds to the CD for the sole purpose of educating private landowners about wildlife management. It was of paramount importance for the DNR to determine if the two outreach programs were impacting wildlife and ascertain if their funding was being effectively utilized.

According to the results, almost all survey participants stated that they made changes to their property to assist wildlife. However, since the changes relating to habitat modification and listed in the Tables 7-14 within Appendix M were self-reported survey results, I have no definitive proof that all these changes actually occurred as reported or if wildlife communities responded positively.

It was not unexpected that tree planting would be the most common change landowners made to their property. The CD's heavily promote tree planting during their annual tree sale, which provides major funding to the districts. In addition, tree planting was an area that many survey respondents indicated they could do on their own without additional assistance. Nevertheless, the field evaluations I conducted revealed that most tree plantings were unsuccessful due to poor planting techniques and maintenance. If tree planting is the major goal of the outreach programs, then some progress towards that goal is being made. But, additional training should occur in order to further teach tree

survival techniques. If other landscape manipulations, in addition to tree planting, are also important, the CD may wish to increase their emphases into other areas.

As mentioned in the results, other habitat modifications conducted by landowners included planting grasses and food plots, restoring wetlands, and creating and erecting nest structures. Again, field evaluation determined that in most cases the grasses and foodplots were planted incorrectly and therefore unsuccessful. For instance, one landowner I visited had received switchgrass seed from the CD. However, uneducated about the necessary site preparation and planting techniques, the landowner simply walked a five acre thick reed canary area and "threw" seed around. She asked me to tell her if I could see any switchgrass growing. Obviously, none was found. Additional hands-on assistance is critical within a situation like this.

This is not to say that all landowner modifications were unsuccessful. One landowner made a 400% increase to his property to benefit wildlife, which included a wetland creation and successful grass and food plot plantings. However, this landowner had a detailed management plan and also worked with outside organizations (Duck Unlimited and Pheasants Forever) to assist with the funding of this large project and implementation.

Results also indicate that modifications occur to landowner properties when certain items are thoroughly or effectively covered within the programs. Understanding key wildlife habitat principles, such as carrying capacity, wildlife habitat components, successional stages, the importance of inventorying the resource, and planting the appropriate trees and shrubs, influenced landowners to make changes to their property.

This information provides a great training basis for organizing a workshop or site-visit and also indicates that landowners need basic wildlife management tools to be successful.

Workshops versus Site-visits

There are certain advantages and disadvantages to both workshops and site-visits, which were outlined in Chapter two. When examining these two outreach programs, participants were very satisfied with both the instructors and the workshop treatment they experienced. This is noteworthy since each treatment is independent of the others across the state. The diversity among instructors appears not to have influenced participant satisfaction on the outcomes I measured. However, future research may be useful to compare the effectiveness of instructors on this and other outcomes to determine whether instructor training is necessary.

Participant intentions changed after participating in either of the outreach programs. The results from this study suggest that some aspect of the treatment lowered some participants' intentions to modify their property. It is feasible that participants might be overwhelmed after they complete the treatment. Or, participants may be more realistic about the effort that may be undertaken to modify their property as they wish. In addition, it could be an artifact of the strong intentions held by most participants at the beginning of the training, i.e., the restricted variance did not leave room for intention scores to be improved. The slight decrease does not appear to be of substantial importance.

Differences found between workshops and site-visits

How well items are covered

The results demonstrate that workshops seem to provide a more effective arena than site visits for teaching landowners about wildlife management. There was a significant difference between these two groups on 8 of 11 items that should have been covered within each program, such as the importance of setting goals for wildlife management, understanding limiting factors, and how to inventory the resources on your land. The difference in each of these cases was that workshops covered these items more effectively than site-visits. Therefore, if the DNR feels that these are important items that should be included within the programs, they may wish to have all participants involved in a workshop before receiving a site-visit. This would ensure that all the necessary wildlife habitat principles were taught before receiving personal attention. Also, it would be difficult to make sure that all site-visit participants were being taught this information during their one-on-one contact.

Knowledge Improvement

One purpose of these two outreach programs was to increase the knowledge of private landowners about wildlife management. As stated in the results, these two programs did just that. However, it was not unexpected that the workshop, a classroom type setting, should increase knowledge levels more than a more informal site-visit. Opportunities might be sought for site-visit instructors to spend more time discussing important concepts in order to have a larger increase in their participants' knowledge levels.

Requested Changes to the Programs

Even though participants are satisfied with the programs, they provided suggestions to improve the programs. Results imply that workshop participants would enjoy longer, more specific sessions that also provide an opportunity for the instructor and the participant individual time. In addition, both programs would like follow-up to be included. Follow-up may allow an opportunity for the instructor to check on the participant's progress while also checking the effectiveness of the program. This is currently a major lacking component within these programs and most programs nationwide.

The Impacts of Certain Attributes

Goal Setting

Goal setting was identified by the DNR as a critical part of both outreach programs. The results suggest that both workshops and site-visits positively influenced a participant's decision to set goals for their property. In fact, goal setting may have a direct impact on private lands management since the individuals who set goals were more likely to make changes to their property.

Landowner goals varied widely from vague goals such as "attract wildlife" to "create wetlands". More attention may be needed regarding the structure and dynamics of goal setting both in the curriculum and in instructor training to improve the influence of this skill. In addition, the DNR may have an opportunity to influence landowner goals. Therefore, it is critical that the DNR outline their own goals for the program on both a landscape and county level, which presently they have not done.

Perceived Barriers

Since money and time were most commonly reported by both workshop and site-visits participants as barriers that they felt may prevent them from making modifications to their property, additional research should be conducted that specifically examines these items. The literature outlined that some authors believe landowners will not be motivated to improve their property without monetary compensation. This project was not designed to determine that event but it is important to consider in future evaluations.

Values

A participant's values are difficult to change. However, site-visit participants did alter the importance placed on two benefits: producing wildlife viewing opportunities and using native plant species rather than exotics. Site-visit instructors may have had numerous opportunities to discuss this problem with the participant, i.e, identifying and pointing out exotics on the property. In addition, the instructor may have stated specific modifications that the landowner might employ to create wildlife viewing opportunities.

Another important result was that workshop participants were less likely to manage their land to hunt and/or create habitat for a featured species. This may suggest that workshop participants are not in the program to increase recreation opportunities on their property. This is an interesting side-note since most of the private lands programs across the nation focused on increasing recreation opportunities on private lands.

Management Plans

According to the results, wildlife management plans may have a positive effect on private land management. Management plans usually provide landowners with a step-by-step tool that will guide them in managing their property for wildlife. This tool provides recommendations aimed at reaching landowner goals and a timetable that suggests when modifications should occur throughout the year. Svoboda (1980) discussed in his nine step process that management plans were critical part of his planning process.

The Evaluation Process

Throughout the literature, evaluation was discussed as one of the most critical portions of any training program. The DNR is commended for their insight to conduct an evaluation of these two outreach programs. It is important to reiterate that effective evaluation must be ongoing and a structured component within every training program..

The evaluation process that was utilized provided substantial feedback for the DNR. However, an extended evaluation over many years would provide a more substantial basis for determining the impacts of the program on wildlife. It is critical that the DNR outline program goals before a new evaluation is conducted.

Demographics

Past private lands research tended to focus on farmer related programs. It is important to recognize that most individuals partaking in these programs were not farmers. This could have been due to promotional strategies being ineffective in reaching farmers or that farmers were simply not interested in the experience. The program may

benefit from increasing participation to farmers, since farmers historically have large parcels of land that may benefit wildlife as well as the skills and the resources to conduct the necessary changes (i.e., planting crops) to their property.

More men than women were involved in the site-visits, perhaps because more men recreate on their property or manipulate their property. It is possible that only male members of the family answered the survey but their female counterpart was still actively involved. Additional research should be conducted to filter gender roles in private land wildlife management.

Recommendations

Based on the evaluation results and the literature search, the following are recommendations for the DNR and CD:

- The DNR should refine and articulate the agency goals for wildlife habitat management on private lands. This would provide guidance for MDNR training programs and development of educational materials and provide more direction to the CD when they are organizing workshops or making suggestions/recommendations to landowners during site-visits. The goals would also provide a solid basis for future evaluations, which was not available for the current study.

- The DNR should create a train the trainer program, which teaches CD biologists the curriculum that the DNR staff is most interested in private landowners learning.

- All landowners should set goals for their property. CD should continue to place attention on the structure (i.e., nature of goals, wording of goals, levels of goals) and process of goal setting when creating the curriculum for both workshops and site-visits.

- Additional care should be given to raise the success rates of tree plantings on private lands. Tree planting demonstrations might be in order as part of the training.

- Landowners that received management plans were more likely to alter their property to benefit wildlife. Although it cannot be determined whether this is due to the existence of the plan and/or the landowner's involvement in the process of producing it, it seems prudent to ensure that all site-visit participants receive a management plan.

- Additional research should be conducted to determine whether financial assistance would be effective in increasing the likelihood that landowners would alter their property to benefit wildlife.

- We recommend that participants first be involved in a workshop before receiving a site-visit. Results indicate that workshop participants had a larger increase in knowledge than site-visit participants. Workshops are a good forum for discussing concepts and general goal options. Site-visits can be used to address specific application of techniques and selection of goals and strategies for the area in question.

- Landowner participants seem motivated to learn about wildlife. Additional workshops or a series of workshops should be created that teach more detailed information about wildlife habitat management. In addition, the workshop may wish to address both backyard management and management for recreation opportunities.

- Participants seemed to appreciate the availability of handouts. However, it is recommended that the CD continually assess the usefulness of these materials both as teaching tools and in the context of program goals.

- Participants commented that a follow-up via phone or personal site-visit would help them move to the next step of implementing their management plans. This would also allow the CD instructor to check the progress of both the participants and the program.

- Farmers were not well represented among the participants. CD should expand the types of marketing tools they employ to ensure they are serving all segments of landowners about the technical assistance they provide, i.e., newspapers and radio.

- If new educational programs are developed, they should integrate the use of existing knowledge about adult education and educational research and principles. Curricula frameworks that specify goals and means of attainment would enhance consistency and perhaps broaden the benefits of training.

- Constant evaluation of the DNR private lands program and two outreach programs should occur. A process should be created that outlines short and long-term evaluation goals.

- The Habitat Evaluation Index that was used for field evaluations within this study should be re-evaluated and corrected accordingly before being used by field staff.
- During workshops and at site-visits, the DNR should be acknowledged for their roles in the private lands program, including funding, materials and professional assistance they provide to the CD in order to nurture positive relationships between Michigan landowners and the Michigan resource agency.

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APPENDIX A

UCRIHS APPROVAL LETTER

MICHIGAN STATE
UNIVERSITY

May 21, 1998

TO: R. B. Peyton
13 Natural Resources Bldg.

RE: IRB#: **97-807**
TITLE: EVALUATING THE WORKSHOP AND INDIVIDUAL SITE VISIT TRAINING STRATEGIES OF THE PRIVATE LANDS PROGRAM
REVISION REQUESTED: N/A
CATEGORY: 1-C
APPROVAL DATE: 05/20/98

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete. I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the UCRIHS approved this project and any revisions listed above.

RENEWAL: UCRIHS approval is valid for one calendar year, beginning with the approval date shown above. Investigators planning to continue a project beyond one year must use the green renewal form (enclosed with the original approval letter or when a project is renewed) to seek updated certification. There is a maximum of four such expedited renewals possible. Investigators wishing to continue a project beyond that time need to submit it again for complete review.

REVISIONS: UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please use the green renewal form. To revise an approved protocol at any other time during the year, send your written request to the UCRIHS Chair, requesting revised approval and referencing the project's IRB # and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.

PROBLEMS/ CHANGES: Should either of the following arise during the course of the work, investigators must notify UCRIHS promptly: (1) problems (unexpected side effects, complaints, etc.) involving human subjects or (2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

If we can be of any future help, please do not hesitate to contact us at (517)355-2180 or FAX (517)432-1171.

Sincerely,

David E. Wright

David E. Wright, Ph.D.
UCRIHS Chair

DEW:bed

cc: Kelly Carter

OFFICE OF
RESEARCH AND GRADUATE STUDIES

University Committee on Research Involving Human Subjects (UCRIHS)

Michigan State University
246 Administration Building
East Lansing, Michigan
48824-1046

517/355-2180
FAX: 517/432-1171

MICHIGAN STATE
UNIVERSITY

May 27, 1999

TO: Dr. Ben PEYTON
13 Natural Resources Bldg.
MSU

RE: **IRB #97807** CATEGORY:1-C
RENEWAL APPROVAL DATE:

TITLE: EVALUATING THE WORKSHOP AND INDIVIDUAL SITE VISIT TRAINING STRATEGIES OF THE PRIVATE LANDS PROGRAM

The University Committee on Research Involving Human Subjects' (UCRIHS) review of this project is complete and I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and methods to obtain informed consent are appropriate. Therefore, the **UCRIHS APPROVED THIS PROJECT'S RENEWAL.**

RENEWALS: UCRIHS approval is valid for one calendar year, beginning with the approval date shown above. Projects continuing beyond one year must be renewed with the green renewal form. A maximum of four such expedited renewal are possible. Investigators wishing to continue a project beyond that time need to submit it again for complete review.
REVISIONS: UCRIHS must review any changes in procedures involving human subjects, prior to initiation of the change. If this is done at the time of renewal, please use the green renewal form. To revise an approved protocol at any other time during the year, send your written request to the UCRIHS Chair, requesting revised approval and referencing the project's IRB# and title. Include in your request a description of the change and any revised instruments, consent forms or advertisements that are applicable.
PROBLEMS/CHANGES: Should either of the following arise during the course of the work, notify UCRIHS promptly: 1) problems (unexpected side effects, complaints, etc.) involving human subjects or 2) changes in the research environment or new information indicating greater risk to the human subjects than existed when the protocol was previously reviewed and approved.

If we can be of further assistance, please contact us at 517 355-2180 or via email: UCRIHS@pilot.msu.edu.

Sincerely,

David E. Wright, Ph. D.
UCRIHS Chair

OFFICE OF
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DEW:
cc: Kelly Carter

All UCRIHS forms are located on the web: http://www.msu.edu/unit/vprgs/UCRIHS/

APPENDIX B

SITE EVALUATION MAP

☆ = Counties that provided names and address of previous clients (participants)

◯ = Participants who made changes to their property

● = Participants who did not make changes to their property

Sites Evaluated by County (# of acres)

Montcalm
○ = 100, 40 ● = 16

Ionia
○ = 50 acres

Shiawassee
○ = 60, 80 ● = 70, 24, 10

Lapeer
○ = 160, 1, 100 ●= 13, 30, 4, 10

Livingston
○ = 8, 80

Ingham
○ = 17

Kalamazoo
○ = 42, 2 ● = 4

Calhoun
○ = 160

Jackson
○ = 8, 50, 17 ●= 10

St. Joseph
○ = 14 ● = 250, 15

APPENDIX C

RESEARCH QUESTIONS AND SURVEY ITEMS

Research Questions

Q: What is the demographic make-up of participants in the program? Is there a relationship between a participant's demographics and program effectiveness; e.g., their decision to modify their property for wildlife? Do workshop and site-visit participants have different demographics?

In order to examine if demographics were associated with the participant's behavior, numerous questions ranging from gender to education to income were created (Appendix D, Items 21-28; also in Appendices G and J). These questions were asked on the 1998 and 1999 pre-survey and the past participant survey.

Q: Does a participant's opinion about the Michigan Department of Natural Resources change after attending a workshop or receiving a site-visit? Do workshop and site-visit participants have different opinions about the DNR?

To measure a participant's attitude about the DNR, a six item semantic differential scale was produced; this type of scale was created by Osgood, Suci, and Tannenbaum (1957). In this procedure, respondents rate the object (MDNR) on a number of seven point bi-polar scales that are anchored on each end by a pair of adjectives (O'Keefe 1990) (Appendix D, item 8; *this set of questions repeated in every survey*). The option of "no opinion" was available. In order to determine if a participant's attitude toward the DNR changed over time, the semantic differential scale was repeated in each survey. Each item within the scale was examined independent of one another and then summed together and averaged in order to create a total score for each participant, which could be compared over time.

Q: Are participants satisfied with the instructor and the treatment? Is there a relationship between a participant's satisfaction with the training and their decision to modify their property for wildlife? Are there different satisfaction levels between workshop and site-visit participants?

Participant satisfaction was assessed using semantic differentials. The instructor scale contained five bi-polar adjectives: professional-unprofessional, unorganized-organized, effective-ineffective, confusing-clear, unsatisfactory-satisfactory (Appendix E, item 15; also in Appendices H and J). The treatment scale also contained five bi-polar adjectives: too long-too short, organized-unorganized, inconvenient-convenient, exciting-boring, and satisfactory-unsatisfactory (Appendix E, item 16; also in Appendix H and J). four adjectives for each item were summed together and averaged in order to create one score per participant. Note: too long-too short was dropped because the scale direction did not allow it to be added with the other adjectives.

Q: Does a participant's intentions to modify their property to benefit wildlife shift after they have attended a workshop or received a site-visit? Do workshop and site-visit participants have a difference in their intentions?

One nine-point item measured a participant's likelihood of increasing management efforts on their property (Appendix D, item 4; *this set of questions repeated in every survey*). This question was included in the pre-, immediate-post, and post to determine if management intentions were altered over time.

Q: What percent of survey participants altered their property for the purpose of benefiting wildlife? What modifications did they make to their property? Were the modifications recommended from the Conservation?

Open-ended questions asked the participant to state the changes they had implemented on their property (Appendix C; items 7-8; also in Appendices F and H). Participants reported whether the changes they made on their property were due to the recommendations from the workshop.

Q: Do participants actually modify their property to assist wildlife? If alterations do occur, is the changed area more beneficial to wildlife?

A habitat evaluation index was created to answer this question (Appendix K).

Q: Do site-visit participants receive management plans? Are participants who receive management plans more likely to modify their property?

Site-visit participants were asked "yes or no" did they receive a management plan (Appendix J, item 3).

Q: Does training influence a participant's decision to set goals? How well does the treatment improve a participant's goals? What are the goals of treatment participants? Are participants who set goals more likely to modify their property?

Goal setting was also identified as a critical wildlife habitat management component by the MDNR. Participants were asked on the immediate-post survey to indicate if they had set goals prior to the outreach program and if so, describe those goals. In addition, participants were asked if the outreach program helped them to create new goals or alter the ones they had previously set (Appendix E, items 17-19; also in Appendices H and J).

Q: Why do participants contact the Conservation District or RC &D?

Asked as an open-ended question, participants were given space to describe what their reason was for contacting the Conservation District or Resource Conservation and Development (Appendix F, item 1; also in Appendices I and J).

Q: Are there any perceived obstacles that could keep participants from modifying their property for wildlife? Does a participant's perceived barriers of cost, time, effort, the need for additional information, and low benefits influence their decision to modify their

property? Do workshop and site-visit participants have different responses concerning perceived barriers?

Participants were presented with two questions that would evaluate perceived barriers. In the immediate-post survey an open-ended question was formed in order to elicit a variety of responses (Appendix E, item 30; also in Appendix H). Time and money were the most common perceived constraints. In the post survey a closed-ended Likert-style question identified which additional barriers (Appendix F, items 17-19; also in Appendices I and J) were perceived by respondents.

Q: Is there a difference between workshop and site-visit participants' opinion of the information that is discussed during the treatment? Is there a relationship between the items that are discussed within the workshop or the site-visit and a participant's decision to modify their property for wildlife.

A Likert-type scale was created that asked participants if certain items were 'thoroughly covered' or were certain items 'taught effectively' (Appendix E, items 1-6 and items 8-12; also in Appendices H and J. These items were deemed important components of wildlife management by the DNR. However, not every workshop or site visit discussed every item with landowners. Therefore, it was significant to identify if certain items impacted the program more than the others.

Q: Does training improve a participant's knowledge about "succession"? Is there a difference between workshop and site-visit participants' increase in knowledge after the treatment?

The DNR identified "succession" as an essential component of the wildlife habitat management training being provided. A diagram demonstrating "succession" was presented and participants were asked to select the term which best described the process (Appendix D, item 17; also in Appendices E, G and H). In addition, three Likert items checked participant's comprehension of the term (Appendix D, items 18-20, and also in Appendices E, G and H). The diagram and scale were within both the pre and immediate-post survey as an indication of whether the outreach program had taught participants about "succession".

Q: Do participants receive additional training before and after the workshop or site-visit wildlife training?

Appendix D, item 7 (Also in Appendix G) asks if participants had ever received any previous wildlife training. If so, a space below was available to indicate the training they received. Participants were also asked if they received any additional training after the workshop or site visit. If they had, they were asked to describe the training (Appendix F, item 3; also in Appendix I).

Q: Were there additional topics the participants would have liked to be discussed during the workshop or site-visit?

An open-ended question asked landowners if they would have liked other information to be presented during their outreach program (Appendix E, item 7; also in Appendices H and J).

Q: Were handouts available at the treatment? If so, were participants satisfied with the handouts?

Participants were asked to indicate if handout were available. If so, five options were available to indicate how satisfied they were the handouts (Appendix E, item13; also in Appendix H.

Q: Would participants like the treatment to change in any way? If so, what changes would they like?

As seen in Appendix E, item 20 (Also in Appendices H and J), participants were asked if they would the treatment to be changed, and were provided a space to describe those changes.

Q: Does a participant's values change after attending a workshop or receiving a site-visit? What are participants values toward wildlife and wildlife management? Is there a relationship between a participant's values toward wildlife and wildlife management and their decision to modify their property? Do workshop and site-visit participants have different values?

Values were assessed using two Likert-type scales. Likert scales draw inferences about a respondent's values from their agreement or disagreement with value-relevant statements. Participants were asked five questions pertaining to 'how important' certain wildlife uses were to them (Appendix D, items 9-16; *this set of questions repeated in every survey*) and three questions regarding what wildlife uses they would 'prefer'. These questions were asked in the pre-, immediate-post, and post surveys in order to determine how stable a participant's values are over time.

Q: How do participants learn about the treatment?

Participants were asked to indicate from a list of options how they learned about the treatment (Appendix D, item 2; also in Appendix G).

Q: What is the primary and secondary reason for participants to own their property? Is there a relationship between the reason why landowners own their property and their decision to modify their property to benefit wildlife?

Three reasons were given to landowners as to why they might own their land: recreation, residence, or income (Appendix D, item 3; Also in Appendix G). For each reason, landowners were asked to indicate if it was a 'primary', 'secondary', or 'not a reason'.

APPENDIX D

1998 WORKSHOP PILOT SURVEY

MANAGING PRIVATE LANDS FOR WILDLIFE

An opinion survey conducted by Michigan State University for the Michigan Department of Natural Resources, Wildlife Division

Begin On Next Page

1.) Please indicate the type of assistance you have received from a County Conservation District. ***Check all that apply.***

( ) received a site visit ( ) attended a wildlife workshop

( ) other (please describe) _____

_____

2.) What month and year did you receive assistance?_____

3.) Did the Conservation District write a habitat management plan for your property? Yes ( ) No ( )

4). What was your main reason(s) for contacting the Conservation District and asking for assistance? Please explain below. **BE AS SPECIFIC AS POSSIBLE !!!!!**

_____

_____

_____

_____

_____

_____

_____

5). How successful was the Conservation District in providing you with the assistance you desired. **Please check** your choice.

( ) TOTALLY SUCCESSFUL ( ) SOMEWHAT SUCCESSFUL ( ) SLIGHTLY SUCCESSFUL ( ) NOT AT ALL SUCCESSFUL ( ) UNDECIDED

When you received assistance, how thoroughly was each of these items discussed by the individual you spoke with? *Please **circle** the appropriate choice.*

6). The importance of setting goals for wildlife management.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
7). Suitability of various management goals for different habitat types.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
8). Successional stages and processes.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
9). Relationships among the four habitat components: food, water, cover, space.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
10). "Limiting Factors" (Factors that limit wildlife populations).	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
11). "Carrying Capacity" (The habitat's capacity to produce wildlife).	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE

12). Please evaluate the **individual** that assisted you by ***circling*** the appropriate number.

PROFESSIONAL	1	2	3	4	5	6	7	UNPROFESSIONAL
UNORGANIZED	1	2	3	4	5	6	7	ORGANIZED
EFFECTIVE	1	2	3	4	5	6	7	INEFFECTIVE
CONFUSING	1	2	3	4	5	6	7	CLEAR
UNSATISFACTORY	1	2	3	4	5	6	7	SATISFACTORY

13). Please evaluate the **information** you received by ***circling*** the appropriate number.

TOO LITTLE	1	2	3	4	5	6	7	TOO MUCH
USEFUL	1	2	3	4	5	6	7	USELESS
RELEVANT	1	2	3	4	5	6	7	IRRELEVANT
INTERESTING	1	2	3	4	5	6	7	BORING
SATISFACTORY	1	2	3	4	5	6	7	UNSATISFACTORY

How effectively do you think the individual covered each of the following topic *Please **circle** the appropriate choice.*

14). How to inventory the resources on your land.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective	Topic Not Discussed
15). The availability of Government programs to financially assist you to manage your land for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective	Topic Not Discussed
16). The availability of other sources of informational and technical support to manage your land for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective	Topic Not Discussed
17). The use of planning steps to manage your land for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective	Topic Not Discussed
18). The appropriate trees and shrubs to plant for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective	Topic Not Discussed

19). **Since** receiving assistance, have you implemented any of the recommended or advised changes to your land? ( ) YES ( ) NO. If YES, please write the specific recommendations you have implemented to your property.

Approximate date implementation occurred	***Recommended changes you made to your property***
Example: Spring 97	1. Planted two rows of flowering dogwood 2. Restored a 2-acre wetland

In the space below, please describe any wildlife related management you have done on your property other than that recommended or advised by the Consevation District:

20). How likely is it that you will increase or continue your management efforts on your land for wildlife in the next two years? *Please **circle** the most appropriate number.*

DEFINITELY WILL		LIKELY		DON'T KNOW		UNLIKELY		DEFINITELY WILL NOT
1	2	3	4	5	6	7	8	9

21). Please list any reasons that have or will prevent you from implementing any changes on your property for wildlife.

_____

_____

_____

_____

_____

22). Please indicate how you feel about the Michigan Department of Natural Resources by ***circling*** the appropriate number.

The Michigan DNR is:

USEFUL	1	2	3	4	5	6	7	USELESS	NO OPINION
FOLLOWER	1	2	3	4	5	6	7	LEADER	NO OPINION
RELIABLE	1	2	3	4	5	6	7	UNRELIABLE	NO OPINION
DISHONEST	1	2	3	4	5	6	7	HONEST	NO OPINION
UNFAIR	1	2	3	4	5	6	7	FAIR	NO OPINION
COMPETENT	1	2	3	4	5	6	7	INCOMPETENT	NO

Questions 25-32 refer to the land that you are considering managing for wildlife. *Please **circle** the appropriate answer.*

On your property, how important is it to you. . .

23). . . that wildlife are available to hunt.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
24). . . that the land managed for wildlife produces income.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
25). . . to produce wildlife viewing opportunities.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
26). . . to create/maintain a pleasing natural landscape.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
27). . . that wildlife exist even if you never see them.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED

When managing my land for wildlife, I would prefer to . . .

28). . . use native plants over exotic plants (i.e., plants not originally from Michigan)?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
29). . . create habitat for one or a few primary species (e.g., deer or pheasants) rather than for a diversity of wildlife?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
30). . . create natural habitat for food for wildlife rather than plant agricultural crops?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

31). Are there any ways that you would change the site visit or workshop? ( ) YES ( ) NO ( ) NO OPINION

If YES, please state these changes below.

_____

_____

_____

_____

_____

_____

32) How would you describe the location of the land which you are considering to manage for wildlife?

( ) rural-farm ( ) small town (less than 25,000)

( ) rural-non-farm ( ) urban area (more than 25,000)

33) How large is the area you may manage for wildlife? _____ acres

34) Which county(ies) is the land located in? _____

35) In what year were you born? 19____

36) What is your sex? ( ) F ( ) M

37) Please state the highest level of education you have completed._____

38) Please provide your household income for 1997.

( ) less than $10,000 ( ) $35,000-49,999

( ) $10,000-14,999 ( ) $50,000-74,999

( ) $15,000-24,999 ( ) $75,000-100,000

( ) $25,000-34,999 ( ) $100,000+

39) What portion of your income comes from farming?

( ) none ( ) less than half ( ) more than half

As part of this evaluation process, I will be visiting private landowner properties in June of this year in order to categorize private property opportunities for managing wildlife. The visitation will take approximately one to three hours depending on the size of the property.

Would you be willing to let me make an appointment to walk and evaluate the wildlife habitat on your property?
( ) YES ( ) NO **If NO, please place the survey in the envelope provided and mail. Thank you for time.**

If YES, would you be willing to discuss your property with me at that time for about ½ hour? ( ) YES ( ) NO.

Please indicate what day(s) of the week would be the best time for me to visit your property.

( ) MON ( ) TUES ( ) WED ( ) THURS
( ) FRI ( ) SAT ( ) SUN

Please provide the information below so I can contact you to make an appointment.

Name: _____

Address: _____

_____

Phone number: _____

Thank you for your time and efforts !!!

This concludes your survey. Please place the survey in the **postage paid envelope provided** and return to:

Kelly Siciliano Carter, Research Assistant
Dept. of Fisheries and Wildlife
Michigan State University
13 Natural Resources Building
East Lansing, MI 48824-9902

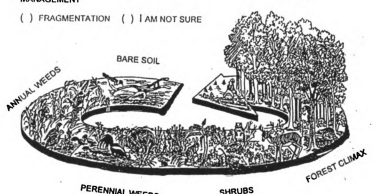
APPENDIX E

1998/9 WORKSHOP PRE-SURVEY

17) The diagram below is showing what process? ***Please check the correct answer.***

( ) WILDLIFE MANAGEMENT ( ) EUTROPHICATION ( ) SUCCESSION

( ) FRAGMENTATION ( ) I AM NOT SURE



Please ***circle*** the appropriate choice to indicate whether you agree with each of the following statements.

18) The most appropriate wildlife management is to help nature produce old forest stages.	AGREE	DISAGREE	UNDECIDED
19) If left undisturbed, eventually an abandoned field in Michigan will often become forested.	AGREE	DISAGREE	UNDECIDED
20) Succession is a process which only occurs when land is managed for wildlife.	AGREE	DISAGREE	UNDECIDED

21) How would you describe the location of the land which you are considering to manage for wildlife?

( ) rural-farm area ( ) small town (less than 25,000)

( ) rural-residential ( ) urban area (more than 25,000)

22) How large is this property? _____ acres

EACH MEMBER OF YOUR HOUSEHOLD SHOULD FILL OUT A SEPARATE SURVEY.

1) Please state how many members of your **household** are attending this workshop. _____

2) Please indicate how you first learned about this workshop. Only ***check*** one box.

( ) ACQUAINTANCE ( ) FLIER
( ) NEWSPAPER ( ) DNR EMPLOYEE
( ) CONSERVATION DISTRICT EMPLOYEE ( ) I AM NOT SURE

3) How important are EACH of the following reasons for owning the land you may manage for wildlife? ***Please circle a choice for each reason.***

Reason:	Importance:		
A. INCOME (E.G. FARMING, FORESTRY)	A PRIMARY REASON	A SECONDARY REASON	NOT A REASON
B. RESIDENCE	A PRIMARY REASON	A SECONDARY REASON	NOT A REASON
C. RECREATION	A PRIMARY REASON	A SECONDARY REASON	NOT A REASON

4) How likely is it that you will increase your management efforts on your land for wildlife in the next two years? ***Please circle the most appropriate number.***

DEFINITELY WILL		LIKELY		DON'T KNOW		UNLIKELY		DEFINITELY WILL NOT
1	2	3	4	5	6	7	8	9

5) Please ***circle*** the appropriate choice to indicate how you feel about the following statement.

"I particularly enjoy learning about wildlife and wildlife management."

STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

6) From the list below, ***please check*** all the items you would be comfortable implementing without further training.

( ) USING FARM EQUIPMENT (PLOW, DISK, ETC.)
( ) TREE PLANTING
( ) GRASS PLANTING
( ) CONDUCTING MANAGEMENT PRESCRIPTIONS (MOWING, TIMBER HARVEST, BURNING, ETC.)
( ) ASSESSING NEEDS AND OPPORTUNITIES FOR WILDLIFE HABITAT MANAGEMENT

7) Have you previously attended a wildlife management workshop or some type of wildlife training? ( ) YES ( ) NO

If YES, please describe the type of training you received:

_____

_____

_____

_____

8) Please indicate how you feel about the Michigan Department of Natural Resources by ***circling*** the appropriate number.

The Michigan DNR is:

USEFUL	1	2	3	4	5	6	7	USELESS	NO OPINION
FOLLOWER	1	2	3	4	5	6	7	LEADER	NO OPINION
RELIABLE	1	2	3	4	5	6	7	UNRELIABLE	NO OPINION
DISHONEST	1	2	3	4	5	6	7	HONEST	NO OPINION
UNFAIR	1	2	3	4	5	6	7	FAIR	NO OPINION
COMPETENT	1	2	3	4	5	6	7	INCOMPETENT	NO OPINION

Questions 9 - 16 refer to the land that you are considering managing for wildlife. ***Please circle the appropriate answer.***

On your property, how important is it to you. . .

9). . . that wildlife are available to hunt.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
10). . . that the land managed for wildlife produces income.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
11). . . to produce wildlife viewing opportunities.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
12). . . to create/maintain a pleasing natural landscape.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
13). . . that wildlife exist even if you never see them.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED

When managing my land for wildlife, I would prefer to . . .

14). . . use native plants over exotic plants (plants not originally from Michigan)?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
15). . . create habitat for one or a few primary species (e.g. deer or pheasants) rather than for a diversity of wildlife?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
16). . . create natural habitat for food for wildlife rather than plant agricultural crops?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

MANAGING PRIVATE LANDS FOR WILDLIFE

An opinion survey conducted by Michigan State University for the Michigan Department of Natural Resources, Wildlife Division

This survey is voluntary and is not required as part of this workshop. However, by answering the following questions, you help us evaluate this private lands management workshop. Your answers will remain confidential. THANK YOU !!

Begin On Next Page

23) Which county(ies) is the land located in? _____

_____

24) In what year were you born? 19 _____

25) What is your sex? ( ) F ( ) M

26) Please state the highest level of education you have completed._____

27) Please provide your household income for 1997.

( ) less than $10,000 ( ) $35,000-49,999
( ) $10,000-14,999 ( ) $50,000-74,999
( ) $15,000-24,999 ( ) $75,000-100,000
( ) $25,000-34,999 ( ) $100,000+

28) What proportion of your income comes from farming?

( ) none ( ) less than half ( ) more than half

In order to evaluate these wildlife training programs, we will conduct two follow-up surveys. If you are willing to take part in these surveys, please fill out your name and address below. You will receive a short survey in about two weeks and another in about one year. The surveys will be confidential. Your name and address are for mailing purposes only, will never be associated with your answers, nor used for any other purpose. **We would like each member of your household who attended today to provide their name and address.**

"Yes, you may send me additional surveys."

Name: _____

Address: _____

_____

THANK YOU FOR YOUR TIME AND EFFORTS !!

APPENDIX F

1998/9 WORKSHOP IMMEDIATE-POST SURVEY

At the workshop you attended, how thoroughly were the following topics covered? *Please circle the appropriate choice.*

1). The importance of setting goals for wildlife management.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
2). Suitability of various management goals for different habitat types.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
3). Successional stages and processes.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
4). Relationships among the four habitat components: food, water, cover, space.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
5). "Limiting Factors" (Factors that limit wildlife populations).	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
6). "Carrying Capacity" (The habitat's capacity to produce wildlife).	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE

7.) Were there additional topics that you were interested in that were not covered in the workshop? ( ) YES ( ) NO

If YES, please describe them below.

_____

_____

_____

_____

_____

How effectively do you think the workshop taught each of the following topics? *Please circle the appropriate choice.*

8). How to inventory the resources on your land.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective
9). The government programs are available to financially assist you to manage for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective
10). Other sources of informational and technical support are available to manage for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective
11). The use of planning steps to manage your land for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective
12). The appropriate trees and shrubs to plant for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective

13). Were additional information handouts available? ( ) YES ( ) NO

If YES, please indicate how satisfied you were with the materials, by *checking* one of the following?

( ) VERY SATISFIED ( )MODERATELY SATISFIED ( )SLIGHTLY SATISFIED ( )UNSATISFIED ( )UNDECIDED

14). Please *circle* the appropriate choice to indicate how you feel about the following statement.

"I particularly enjoy learning about wildlife and wildlife management."

STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

15). Please evaluate the <u>instructor(s)</u> by *circling* the appropriate number.

PROFESSIONAL	1	2	3	4	5	6	7	UNPROFESSIONAL
UNORGANIZED	1	2	3	4	5	6	7	ORGANIZED
EFFECTIVE	1	2	3	4	5	6	7	INEFFECTIVE
CONFUSING	1	2	3	4	5	6	7	CLEAR
UNSATISFACTORY	1	2	3	4	5	6	7	SATISFACTORY

16). Please evaluate the <u>workshop</u> by *circling* the appropriate number.

TOO LONG	1	2	3	4	5	6	7	TOO SHORT
ORGANIZED	1	2	3	4	5	6	7	UNORGANIZED
INCONVENIENT	1	2	3	4	5	6	7	CONVENIENT
EXCITING	1	2	3	4	5	6	7	BORING
SATISFACTORY	1	2	3	4	5	6	7	UNSATISFACTORY

17). Have you set goals for the land you may manage for wildlife?

( ) YES -- If YES, please state these goals below.
( ) NO -- If NO, please skip to question 18.

_____

_____

_____

_____

_____

18). Did you set goals before attending the workshop? ( ) YES ( ) NO

If NO, please skip to question 20.

19). Did the workshop improve these goals? Please *check* the appropriate choice.

( ) GREATLY IMPROVED ( ) SOMEWHAT IMPROVED ( ) SLIGHTLY IMPROVED ( ) NO IMPROVEMENT ( ) UNDECIDED

20). Are there any ways you would change the workshop?
( ) YES ( ) NO

If YES, please state these changes below.

_____

_____

_____

_____

_____

_____

Questions 21-28 refer to the land that you are considering managing for wildlife. *Please circle the appropriate answer.*

On your property, how important is it to you. . .

21). . . that wildlife are available to hunt.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
22). . . that the land managed for wildlife produces income.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
23). . . to produce wildlife viewing opportunities.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
24). . . to create/maintain a pleasing natural landscape.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
25). . . that wildlife exist even if you never see them.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED

When managing my land for wildlife, I would prefer to . . .

26). . . use native plants over exotic plants (i.e., plants not originally from Michigan)?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
27). . . create habitat for one or a few primary species (e.g., deer or pheasants) rather than for a diversity of wildlife?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
28). . . create natural habitat for food for wildlife rather than plant agricultural crops?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

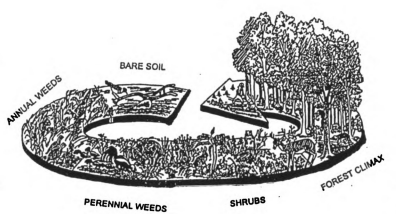
29). How likely is it that you will increase your management efforts on your land for wildlife in the next two years? *Please circle the most appropriate number.*

DEFINITELY WILL		LIKELY		DON'T KNOW		UNLIKELY		DEFINITELY WILL NOT
1	2	3	4	5	6	7	8	9

30). Please list any reasons that might prevent you from implementing your wildlife management plan.

31). The diagram below is showing what process?
Please check the correct answer.

( ) WILDLIFE MANAGEMENT ( ) EUTROPHICATION ( ) SUCCESSION ( ) FRAGMENTATION ( ) I AM NOT SURE



Please *circle* the appropriate choice to indicate whether you agree with each of the following statements.

32). The most appropriate wildlife management is to help nature produce old forest stages.	AGREE	DISAGREE	UNDECIDED
33). If left undisturbed, eventually an abandoned field in Michigan will often become forested.	AGREE	DISAGREE	UNDECIDED
34). Succession is a process which only occurs when land is managed for wildlife.	AGREE	DISAGREE	UNDECIDED

35). Please indicate how you feel about the Michigan Department of Natural Resources by *circling* the appropriate number.

The Michigan DNR is:

USEFUL	1	2	3	4	5	6	7	USELESS	NO OPINION
FOLLOWER	1	2	3	4	5	6	7	LEADER	NO OPINION
RELIABLE	1	2	3	4	5	6	7	UNRELIABLE	NO OPINION
DISHONEST	1	2	3	4	5	6	7	HONEST	NO OPINION
UNFAIR	1	2	3	4	5	6	7	FAIR	NO OPINION
COMPETENT	1	2	3	4	5	6	7	INCOMPETENT	NO OPINION

36). Please provide any additional ideas or comments that will help future private lands management workshops. If more space is needed, continue writing on the back page.

APPENDIX G

1998 WORKSHOP POST SURVEY

MANAGING PRIVATE LANDS FOR WILDLIFE

An opinion survey conducted by Michigan State University for the Michigan Department of Natural Resources, Wildlife Division

Begin On Next Page

1). What was your main reason(s) for originally attending the wildlife workshop? Please explain below. **BE AS SPECIFIC AS POSSIBLE !!**

_____

_____

_____

_____

2). How satisfied are you with the assistance you received from the CD or RC & D ? Please ***check*** your choice.

( ) VERY SATISFIED ( ) SOMEWHAT SATISFIED ( ) NEUTRAL ( ) SOMEWHAT DISSATISFIED ( ) VERY DISSATISFIED

3.) Since attending the wildlife workshop, have you received any other assistance? YES ( ) NO ( ) If YES, please explain.

_____

_____

_____

4). How likely is it that you will increase or continue your management efforts on your land for wildlife in the next two years? ***Please circle the most appropriate number.***

DEFINITELY WILL		LIKELY		DON'T KNOW		UNLIKELY		DEFINITELY WILL NOT
1	2	3	4	5	6	7	8	9

5). How large is the area you may or do manage for wildlife?

_____ acres

6). **Since** receiving assistance, have you made any changes to your property that benefits wildlife? ( ) YES ( ) NO. If NO, skip to Question 9.

7). Did you make changes to your property **that were recommended** by the CD or R C & D ? ( ) YES ( ) NO. If NO, please skip to Question 8. If YES, please describe those changes in the box below.

When	What changes did you make?
Example: Spring 97	1. Planted two rows of flowering dogwood 2. Restored a 2-acre wetland

8). **Since** receiving assistance, have you made any changes to your property **that were <u>not</u> part of the recommendations?** ( ) YES ( ) NO. If NO, please skip to Question 9. If YES, please explain those changes in the box below.

When	What changes did you make?

Questions 9-16 refer to the land that you are considering managing for wildlife. ***Please circle the appropriate answer.***

On your property, how important is it to you. . .

	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
9). . . that wildlife are available to hunt.					
10). . . that the land managed for wildlife produces income.					
11). . . to produce wildlife viewing opportunities.					
12). . . to create/maintain a pleasing natural landscape.					
13). . . that wildlife exist even if you never see them.					

When managing my land for wildlife, I would prefer to . . .

	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
14). . . use native plants over exotic plants (i.e., plants not originally from Michigan)?					
15). . . create habitat for one or a few primary species (e.g., deer or pheasants) rather than for a diversity of wildlife?					
16). . . create natural habitat for food for wildlife rather than plant agricultural crops?					

Assuming money and time are no object, how likely will the following items **prevent** you from making changes on your property that benefit wildlife? Please ***circle*** the appropriate choice

	VERY LIKELY	SOMEWHAT LIKELY	NO OPINION	SOMEWHAT UNLIKELY	VERY UNLIKELY
17). **The amount of effort** it will take to implement changes.					
18). **The lack of information** available to make changes.					
19). **The benefits** that will be received from making these changes.					

20). Please indicate how you feel about the Michigan Department of Natural Resources by ***circling*** the appropriate number.

The Michigan DNR is:

USEFUL	1	2	3	4	5	6	7	USELESS	NO OPINION
FOLLOWER	1	2	3	4	5	6	7	LEADER	NO OPINION
RELIABLE	1	2	3	4	5	6	7	UNRELIABLE	NO OPINION
DISHONEST	1	2	3	4	5	6	7	HONEST	NO OPINION
UNFAIR	1	2	3	4	5	6	7	FAIR	NO OPINION
COMPETENT	1	2	3	4	5	6	7	INCOMPETENT	NO OPINION

This concludes your survey. If you have any other comments, please feel to write them on the back of this survey. After you are completed, please place the survey in the postage paid envelope provided and return to:

Kelly Siciliano Carter, Research Assistant
Dept. of Fisheries and Wildlife
Michigan State University
13 Natural Resources Building
East Lansing, MI 48824-9902

THANK YOU FOR YOUR TIME AND EFFORTS !!

APPENDIX H

1998/99 SITE-VISIT PRE-SURVEY

MANAGING PRIVATE LANDS FOR WILDLIFE

An opinion survey conducted by Michigan State University for the Michigan Department of Natural Resources, Wildlife Division

This survey is voluntary and is not required as part of this assistance program. However, by answering the following questions, you help us evaluate the private lands management assistance programs currently being offered. Your answers will remain confidential. THANK YOU !!

Begin On Next Page

1) Please indicate how you first learned about this opportunity to get wildlife assistance on your land. Only ***check*** one box.

( ) ACQUAINTANCE
( ) NEWSPAPER
( ) CONSERVATION DISTRICT EMPLOYEE
( ) FLIER
( ) MDNR EMPLOYEE
( ) I AM NOT SURE

2) How important are each of the following reasons for owning the land you may manage for wildlife? ***Please circle a choice for <u>each</u> reason.***

Reason:	Importance:		
INCOME (E.G. FARMING, FORESTRY)	PRIMARY REASON	SECONDARY REASON	NOT A REASON
RESIDENCE	PRIMARY REASON	SECONDARY REASON	NOT A REASON
RECREATION	PRIMARY REASON	SECONDARY REASON	NOT A REASON

3) How likely is it that you will increase your management efforts on your land for wildlife in the next two years? ***Please circle the most appropriate number.***

DEFINITELY WILL		LIKELY		DON'T KNOW		UNLIKELY		DEFINITELY WILL NOT
1	2	3	4	5	6	7	8	9

4) From the list below, ***please check*** all the items you would be comfortable implementing without further training.

( ) USING FARM EQUIPMENT (PLOW, DISK, ETC.)
( ) TREE PLANTING
( ) GRASS PLANTING
( ) CONDUCTING MANAGEMENT PRESCRIPTIONS (BURNING, CLEARCUTTING, ETC.)
( ) ASSESSING NEEDS AND OPPORTUNITIES FOR HABITAT MANAGEMENT

5) Before this site visit, have you previously attended a wildlife management workshop or some type of wildlife training?
( ) YES ( ) NO

If YES, please describe the type of training you received:

_____

_____

_____

_____

6) Please indicate how you feel about the Michigan Department of Natural Resources by ***circling*** the appropriate number.

USEFUL	1	2	3	4	5	6	7	USELESS	NO OPINION
SLOW	1	2	3	4	5	6	7	FAST	NO OPINION
RELIABLE	1	2	3	4	5	6	7	UNRELIABLE	NO OPINION
DISHONEST	1	2	3	4	5	6	7	HONEST	NO OPINION
UNFAIR	1	2	3	4	5	6	7	FAIR	NO OPINION
COMPETENT	1	2	3	4	5	6	7	INCOMPETENT	NO OPINION

7) I particularly enjoy learning about wildlife and wildlife management. ***Please circle the appropriate choice.***

STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

Questions 8 - 15 refer to the land that you are considering managing for wildlife. ***Please circle the appropriate answer.***

On your property, how important is it to you. . .

8). . . that wildlife are available to hunt	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
9). . . that the land managed for wildlife produces income	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
10). . . to produce wildlife viewing opportunities	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
11). . . to create/maintain a pleasing natural landscape	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
12). . . that wildlife exist even if you never see them	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED

When managing my land for wildlife, I would prefer to . . .

13). . . use native plants over exotic plants (plants not originally from Michigan)	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
14). . . create habitat for one or a few primary species (e.g. deer or pheasants) rather than for a diversity of wildlife	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
15). . . create natural habitat for food for wildlife rather than plant agricultural crops	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

16) The diagram below is showing what process? ***Please check the correct answer.***

( ) WILDLIFE MANAGEMENT ( ) EUTROPHICATION ( ) SUCCESSION ( ) FRAGMENTATION

Please ***circle*** the appropriate choice to indicate whether you agree with each of the following statements.

17) The most appropriate wildlife management is to help nature produce old forest stages.	AGREE	DISAGREE	UNDECIDED
18) If left undisturbed, eventually an abandoned field in Michigan will often become forested.	AGREE	DISAGREE	UNDECIDED
19) Succession is a process which only occurs when land is managed for wildlife.	AGREE	DISAGREE	UNDECIDED

20) How would you describe the location of the land which you are considering to manage for wildlife?

( ) rural-farm ( ) small town (less than 25,000)

( ) rural-non-farm ( ) urban area (more than 25,000)

21) How large is this property? _____ acres

22) Which county(ies) is the land located in? _____

23) In what year were you born? 19____

24) What is your sex? ( ) F ( ) M

25) Please state the highest level of education you have completed._____

26) Please provide your household income for 1997.

( ) less than $10,000 ( ) $35,000-49,999

( ) $10,000-14,999 ( ) $50,000-74,999

( ) $15,000-24,999 ( ) $75,000-100,000

( ) $25,000-34,999 ( ) $100,000+

27) What portion of your income comes from farming?

( ) none ( ) less than half ( ) more than half

In order to evaluate these wildlife assistance programs, we will conduct two follow-up surveys. If you are willing to take part in these surveys, please fill out your name and address below. You will receive a second short survey in about two weeks. The surveys will be confidential. Your name and address are for mailing purposes only, will never be associated with your answers, nor used for any other purpose.

"Yes, you may send me additional surveys."

Name: _____

Address: _____

_____

Thank you for your time and efforts !!

Please place survey in envelope provided and send to:
Kelly Siciliano Carter, Research Assistant.
Michigan State University
13 Natural Resource Bldg.

APPENDIX I

1998/99 SITE-VISIT IMMEDIATE-POST SURVEY

During the site visit with the biologist on your land, how thoroughly were each of these items discussed? *Please circle the appropriate choice.*

1). The importance of setting goals for wildlife management.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
2). Suitability of various management goals for different habitat types.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
3). Successional stages and processes.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
4). Relationships among the four habitat components: food, water, cover, space.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
5). "Limiting Factors" (Factors that limit wildlife populations).	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
6). "Carrying Capacity" (The habitat's capacity to produce wildlife).	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE

7.) Were there additional topics that you wanted to discuss with the biologist but did not ? ( ) YES ( ) NO

If YES, please describe them below.

_____

_____

_____

_____

How effectively do you think the biologist taught each of the following topics at the site visit? *Please **circle** the appropriate choice.*

8). How to inventory the resources on your land.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective
9). The government programs available to financially assist you to manage for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective
10). Other sources of informational and technical support are available to manage for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective
11). The use of planning steps to manage your land for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective
12). The appropriate trees and shrubs to plant for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	Not Effective

13). Were additional information handouts available? ( ) YES ( ) NO

If YES, please indicate how satisfied you were with the materials by ***checking*** one of the following?

( ) VERY SATISFIED ( )MODERATELY SATISFIED ( )SLIGHTLY SATISFIED ( )UNSATISFIED ( )UNDECIDED

14). Please ***circle*** the appropriate choice to indicate how you feel about the following statement.

"I particularly enjoy learning about wildlife and wildlife management."

STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

15). Please evaluate the **biologist** by ***circling*** the appropriate number.

PROFESSIONAL	1	2	3	4	5	6	7	UNPROFESSIONAL
UNORGANIZED	1	2	3	4	5	6	7	ORGANIZED
EFFECTIVE	1	2	3	4	5	6	7	INEFFECTIVE
CONFUSING	1	2	3	4	5	6	7	CLEAR
UNSATISFACTORY	1	2	3	4	5	6	7	SATISFACTORY

16). Please evaluate the **site visit** by ***circling*** the appropriate number.

TOO LONG	1	2	3	4	5	6	7	TOO SHORT
ORGANIZED	1	2	3	4	5	6	7	UNORGANIZED
INCONVENIENT	1	2	3	4	5	6	7	CONVENIENT
EXCITING	1	2	3	4	5	6	7	BORING
SATISFACTORY	1	2	3	4	5	6	7	UNSATISFACTORY

17). Have you set goals for the land you may manage for wildlife?

( ) YES -- If YES, please state these goals below.
( ) NO -- If NO, please skip to question 18.

_____

_____

_____

_____

_____

18). Did you set goals before the biologist visited your land?
( ) YES ( ) NO

If NO, please skip to question 20.

19). Did the site visit improve these goals? Please ***check*** the appropriate choice.

( ) GREATLY IMPROVED ( ) SOMEWHAT IMPROVED ( ) SLIGHTLY IMPROVED ( ) NO IMPROVEMENT ( ) UNDECIDED

20). Are there any ways you would change the site visits?
( ) YES ( ) NO

If YES, please state these changes below.

_____

_____

_____

_____

_____

_____

Questions 21-28 refer to the land that you are considering managing for wildlife. *Please circle the appropriate answer.*

On your property, how important is it to you. . .

21). . . that wildlife are available to hunt.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
22). . . that the land managed for wildlife produces income.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
23). . . to produce wildlife viewing opportunities.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
24). . . to create/maintain a pleasing natural landscape.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
25). . . that wildlife exist even if you never see them.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED

When managing my land for wildlife, I would prefer to . . .

26). . . use native plants over exotic plants (i.e., plants not originally from Michigan)?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
27). . . create habitat for one or a few primary species (e.g., deer or pheasants) rather than for a diversity of wildlife?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
28). . . create natural habitat for food for wildlife rather than plant agricultural crops?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

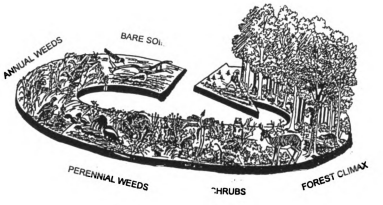
29). How likely is it that you will increase your management efforts on your land for wildlife in the next two years? *Please circle the most appropriate number.*

DEFINITELY WILL		LIKELY		DON'T KNOW		UNLIKELY		DEFINITELY WILL NOT
1	2	3	4	5	6	7	8	9

30). Please list any reasons that might prevent you from implementing your wildlife management plan.

31). The diagram below is showing what process?
*Please **check** the correct answer.*

( ) WILDLIFE MANAGEMENT ( ) EUTROPHICATION ( ) SUCCESSION ( ) FRAGMENTATION ( ) I AM NOT SURE



Please ***circle*** the appropriate choice to indicate whether you agree with each of the following statements.

32). The most appropriate wildlife management is to help nature produce old forest stages.	AGREE	DISAGREE	UNDECIDED
33). If left undisturbed, eventually an abandoned field in Michigan will often become forested.	AGREE	DISAGREE	UNDECIDED
34). Succession is a process which only occurs when land is managed for wildlife.	AGREE	DISAGREE	UNDECIDED

35). Please indicate how you feel about the Michigan Department of Natural Resources by ***circling*** the appropriate number.

The Michigan DNR is:

USEFUL	1	2	3	4	5	6	7	USELESS	NO OPINION
FOLLOWER	1	2	3	4	5	6	7	LEADER	NO OPINION
RELIABLE	1	2	3	4	5	6	7	UNRELIABLE	NO OPINION
DISHONEST	1	2	3	4	5	6	7	HONEST	NO OPINION
UNFAIR	1	2	3	4	5	6	7	FAIR	NO OPINION
COMPETENT	1	2	3	4	5	6	7	INCOMPETENT	NO OPINION

36). Please provide any additional ideas or comments that will help future private lands management workshops. If more space is needed, continue writing on the back page.

APPENDIX J

1998 SITE-VISIT POST SURVEY

MANAGING PRIVATE LANDS FOR WILDLIFE

An opinion survey conducted by Michigan State University for the Michigan Department of Natural Resources, Wildlife Division

Begin On Next Page

1). What was your main reason(s) for originally requesting a wildlife biologist to visit your property? Please explain below. **BE AS SPECIFIC AS POSSIBLE !!**

_____

_____

_____

_____

2). How satisfied are you with the assistance you received from the CD or RC & D ? Please ***check*** your choice.

( ) VERY SATISFIED ( ) SOMEWHAT SATISFIED ( ) NEUTRAL ( ) SOMEWHAT DISSATISFIED ( ) VERY DISSATISFIED

3.) Since the biologist visited your property, have you received any other assistance? YES ( ) NO ( ) If YES, please explain.

_____

_____

_____

4). How likely is it that you will increase or continue your management efforts on your land for wildlife in the next two years? *Please circle the most appropriate number.*

DEFINITELY WILL		LIKELY		DON'T KNOW		UNLIKELY		DEFINITELY WILL NOT
1	2	3	4	5	6	7	8	9

5). How large is the area you may or do manage for wildlife?

_____ acres

6). **Since receiving assistance, have you made any changes to your property that benefits wildlife?** ( ) YES ( ) NO. If NO, skip to Question 9.

7). **Did you make changes to your property that were recommended by the CD or R C & D ?** ( ) YES ( ) NO. If NO, please skip to Question 8. If YES, please describe those changes in the box below.

When	What changes did you make?
Example: Spring 97	1. Planted two rows of flowering dogwood 2. Restored a 2-acre wetland

8). **Since receiving assistance, have you made any changes to your property that was not part of the recommendations?** ( ) YES ( ) NO. If NO, please skip to Question 9. If YES, please explain those changes in the box below.

When	What changes did you make?

Questions 9-16 refer to the land that you are considering managing for wildlife. *Please circle the appropriate answer.*

On your property, how important is it to you. . .

9). . . that wildlife are available to hunt.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
10). . . that the land managed for wildlife produces income.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
11). . . to produce wildlife viewing opportunities.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
12). . . to create/maintain a pleasing natural landscape.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
13). . . that wildlife exist even if you never see them.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED

When managing my land for wildlife, I would prefer to . . .

14). . . use native plants over exotic plants (i.e., plants not originally from Michigan)?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
15). . . create habitat for one or a few primary species (e.g., deer or pheasants) rather than for a diversity of wildlife?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
16). . . create natural habitat for food for wildlife rather than plant agricultural crops?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

Assuming money and time are no object, how likely will the following items **prevent** you from making changes on your property that benefit wildlife? Please ***circle*** the appropriate choice

17). The **amount of effort** it will take to implement changes.	VERY LIKELY	SOMEWHAT LIKELY	NO OPINION	SOMEWHAT UNLIKELY	VERY UNLIKELY
18). The **lack of information** available to make changes.	VERY LIKELY	SOMEWHAT LIKELY	NO OPINION	SOMEWHAT UNLIKELY	VERY UNLIKELY
19). The **benefits** that will be received from making these changes.	VERY LIKELY	SOMEWHAT LIKELY	NO OPINION	SOMEWHAT UNLIKELY	VERY UNLIKELY

20). Please indicate how you feel about the Michigan Department of Natural Resources by ***circling*** the appropriate number.

The Michigan DNR is:

USEFUL	1	2	3	4	5	6	7	USELESS	NO OPINION
FOLLOWER	1	2	3	4	5	6	7	LEADER	NO OPINION
RELIABLE	1	2	3	4	5	6	7	UNRELIABLE	NO OPINION
DISHONEST	1	2	3	4	5	6	7	HONEST	NO OPINION
UNFAIR	1	2	3	4	5	6	7	FAIR	NO OPINION
COMPETENT	1	2	3	4	5	6	7	INCOMPETENT	NO OPINION

This concludes your survey. If you have any other comments, please feel to write them on the back of this survey. After you are completed, please place the survey in the **postage paid envelope provided** and return to:

Kelly Siciliano Carter, Research Assistant
Dept. of Fisheries and Wildlife
Michigan State University
13 Natural Resources Building
East Lansing, MI 48824-9902

THANK YOU FOR YOUR TIME AND EFFORTS !!

APPENDIX K

1996/97 POST SURVEY

MANAGING PRIVATE LANDS FOR WILDLIFE

An opinion survey conducted by Michigan State University for the Michigan Department of Natural Resources, Wildlife Division

Begin On Next Page

1.) Please indicate the type of assistance you have received from the County Conservation District (CD) or Resource Conservation and Development organization (RC & D). ***Check <u>all</u> that apply.***

( ) received a site visit ( ) attended a wildlife workshop

( ) other (please describe)_____

2.) What month and year did you receive assistance?_____

3.) Did the CD or RC & D write a habitat management plan for your property? YES ( ) NO ( )

4). What was your main reason(s) for contacting the CD or RC & D and asking for assistance? Please explain below. **BE AS SPECIFIC AS POSSIBLE !!!!!**

_____

_____

_____

_____

_____

_____

_____

5). How successful was the CD or RC & D in providing you with the assistance you desired. Please ***check*** your choice.

( ) TOTALLY SUCCESSFUL ( ) SOMEWHAT SUCCESSFUL ( ) SLIGHTLY SUCCESSFUL ( ) NOT AT ALL SUCCESSFUL ( ) UNDECIDED

When you received assistance, how thoroughly was each of these items discussed by the individual you spoke with? *Please circle the appropriate choice.*

6). The importance of setting goals for wildlife management.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
7). Suitability of various management goals for different habitat types.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
8). Successional stages and processes.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
9). Relationships among the four habitat components: food, water, cover, space.	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
10). "Limiting Factors" (Factors that limit wildlife populations).	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE
11). "Carrying Capacity" (The habitat's capacity to produce wildlife).	THOROUGHLY COVERED	SOMEWHAT COVERED	TOUCHED-ON SLIGHTLY	NOT DISCUSSED	UNSURE

12). Please evaluate the **individual** that assisted you by *circling* the appropriate number.

PROFESSIONAL	1	2	3	4	5	6	7	UNPROFESSIONAL
UNORGANIZED	1	2	3	4	5	6	7	ORGANIZED
EFFECTIVE	1	2	3	4	5	6	7	INEFFECTIVE
CONFUSING	1	2	3	4	5	6	7	CLEAR
UNSATISFACTORY	1	2	3	4	5	6	7	SATISFACTORY

13). Please evaluate the **information** you received by *circling* the appropriate number.

TOO LITTLE	1	2	3	4	5	6	7	TOO MUCH
USEFUL	1	2	3	4	5	6	7	USELESS
RELEVANT	1	2	3	4	5	6	7	IRRELEVANT
INTERESTING	1	2	3	4	5	6	7	BORING
SATISFACTORY	1	2	3	4	5	6	7	UNSATISFACTORY

How effectively do you think the individual covered each of the following topics? *Please circle the appropriate choice.*

14). How to inventory the resources on your land.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	NOT EFFECTIVE	TOPIC NOT DISCUSSED
15). The availability of Government programs to financially assist you to manage your land for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	NOT EFFECTIVE	TOPIC NOT DISCUSSED
16). The availability of other sources of informational and technical support to manage your land for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	NOT EFFECTIVE	TOPIC NOT DISCUSSED
17). The use of planning steps to manage your land for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	NOT EFFECTIVE	TOPIC NOT DISCUSSED
18). The appropriate trees and shrubs to plant for wildlife.	VERY EFFECTIVE	MODERATELY EFFECTIVE	SLIGHTLY EFFECTIVE	NOT EFFECTIVE	TOPIC NOT DISCUSSED

19). **Since** receiving assistance, have you made any changes to your property that benefit wildlife? ( ) YES ( ) NO. If NO, skip to Question 22 .

20.) Did you make changes to your property **that were recommended** by the CD or R C & D ? ( ) YES ( ) NO. If NO, please skip to Question 21. If YES, please describe those changes in the box below.

When	What changes did you make?
Example: Spring 97	1. Planted two rows of flowering dogwood 2. Restored a 2-acre wetland

21). **Since** receiving assistance, have you made any changes to your property **that were not part of the recommendations?** ( ) YES ( ) NO. If NO, please skip to Question 22. If YES, please explain those changes in the box below.

When	What changes did you make?

22). How likely is it that you will increase or continue your management efforts on your land for wildlife in the next two years? *Please circle the most appropriate number.*

DEFINITELY WILL		LIKELY		DON'T KNOW		UNLIKELY		DEFINITELY WILL NOT
1	2	3	4	5	6	7	8	9

Assuming money and time are no object, how likely will the following items **prevent** you from making changes on your property that benefit wildlife? Please ***circle*** the appropriate choice

	VERY LIKELY	SOMEWHAT LIKELY	NO OPINION	SOMEWHAT UNLIKELY	VERY UNLIKELY
23). The **amount of effort** it will take to implement changes.	VERY LIKELY	SOMEWHAT LIKELY	NO OPINION	SOMEWHAT UNLIKELY	VERY UNLIKELY
24). The **lack of information** availabl to make changes.	VERY LIKELY	SOMEWHAT LIKELY	NO OPINION	SOMEWHAT UNLIKELY	VERY UNLIKELY
25). The **benefits** that will be received from making these changes.	VERY LIKELY	SOMEWHAT LIKELY	NO OPINION	SOMEWHAT UNLIKELY	VERY UNLIKELY

26). Please indicate how you feel about the Michigan Department of Natural Resources by ***circling*** the appropriate number.

The Michigan DNR is:

USEFUL	1	2	3	4	5	6	7	USELESS	NO OPINION
FOLLOWER	1	2	3	4	5	6	7	LEADER	NO OPINION
RELIABLE	1	2	3	4	5	6	7	UNRELIABLE	NO OPINION
DISHONEST	1	2	3	4	5	6	7	HONEST	NO OPINION
UNFAIR	1	2	3	4	5	6	7	FAIR	NO OPINION
COMPETENT	1	2	3	4	5	6	7	INCOMPETENT	NO OPINION

Questions 27-34 refer to the land that you are considering managing for wildlife. *Please circle the appropriate answer.*

On your property, how important is it to you. . .

	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
27). . . that wildlife are available to hunt.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
28). . . that the land managed for wildlife produces income.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
29). . . to produce wildlife viewing opportunities.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
30). . . to create/maintain a pleasing natural landscape.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT IMPORTANT	NOT IMPORTANT	UNDECIDED
31). . . that wildlife exist even if you never see them.	VERY IMPORTANT	MODERATELY IMPORTANT	SOMEWHAT. IMPORTANT	NOT IMPORTANT	UNDECIDED

When managing my land for wildlife, I would prefer to . . .

	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
32). . . use native plants over exotic plants (i.e., plants not originally from Michigan)?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
33). . . create habitat for one or a few primary species (e.g., deer or pheasants) rather than for a diversity of wildlife?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE
34). . . create natural habitat for food for wildlife rather than plant agricultural crops?	STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

35). Are there any ways that you would change the site visit or workshop? ( ) YES ( ) NO ( ) NO OPINION

If YES, please state these changes below.

_____

_____

_____

_____

_____

_____

36) How would you describe the location of the land which you are considering to manage for wildlife?

( ) rural-farm ( ) small town (less than 25,000)

( ) rural-non-farm ( ) urban area (more than 25,000)

37) How large is the area you may manage for wildlife? _____ acres

38) Which county(ies) is the land located in? _____

39) In what year were you born? 19____

40) What is your sex? ( ) F ( ) M

41) Please state the highest level of education you have completed._____

42) Please provide your household income for 1997.

( ) less than $10,000 ( ) $35,000-49,999

( ) $10,000-14,999 ( ) $50,000-74,999

( ) $15,000-24,999 ( ) $75,000-100,000

( ) $25,000-34,999 ( ) $100,000+

43) What portion of your income comes from farming?

( ) none ( ) less than half ( ) more than half

As part of this evaluation process, I will be visiting private landowner properties in June, July, and August of this year in order to categorize private property opportunities for managing wildlife. The visitation will take approximately one to three hours depending on the size of the property.

Would you be willing to let me make an appointment to walk and evaluate the wildlife habitat on your property?
( ) YES ( ) NO **If NO, please place the survey in the envelope provided and mail. Thank you for time.**

If YES, would you be willing to discuss your property with me at that time for about ½ hour? ( ) YES ( ) NO.

Please indicate what day(s) of the week would be the best time for me to visit your property.

( ) MON ( ) TUES ( ) WED ( ) THURS
( ) FRI ( ) SAT ( ) SUN

( ) DAYS ( ) EVENINGS

Please provide the information below so I can contact you to make an appointment.

Name: _____

Address: _____

_____

Phone number: _____

Thank you for your time and efforts !!!

This concludes your survey. Please place the survey in the **postage paid envelope provided** and return to:

Kelly Siciliano Carter, Research Assistant
Dept. of Fisheries and Wildlife
Michigan State University
13 Natural Resources Building
East Lansing, MI 48824-9902

APPENDIX L

HABITAT EVALUATION INDEX VARIABLES

Cropland/Hayland Site _____

Pre: # of acres_____ / Post: # of acres_____

Answer A or B or C

A.

Type of Crop Planted

small grain-grass/legume _____ (5) Row crop-small grain _____ (3)

Row crop or small grain _____ (1)

Type of tillage

no- tillage: yes _____ (2) no _____ (0)

Time of Year Crop Removed

Fall= >50% residue_____ (3) 25-50% residue_____ (1) 0-25% residue _____ (0)

Spring= >50% residue_____ (5) 25-50% residue_____ (3)

0-25% residue __ (1)

B.

Diversity of Hayfield

Many _____ (10) Few _____ (5) Mono _____ (3)

Hayfield Cutting

After June 15th _____ (5) Before June 15th _____ (0)

C.

Wildlife Food Plot

Yes _____ No _____

Quality of Food Plot

High _____ (10) Medium _____ (5) Low _____ (3)

Food Plot replanted yearly

Yes _____ (10) No _____ (0)

Grassland Site ____

Pre: # of acres_____ / Post: # of acres_____

Type of grass

Warm season_____ Cool season _____

Diversity of grass species

Many _____ (5) Few _____ (3) Mono-stand _____ (1)

Quality of planting

High _____ (5) Medium _____ (3) Low _____ (1)

The number of canopies

3 or more _____ (3) 2 _____ (2) 1_____ (1) No canopy _____ (0)

Most recent management practice

summer mowing _____ (6) fall mowing _____ (4) spring mowing _____ (2)

summer grazing >8"_____ (10) grazing <8"_____ (5)

fall grazing >8"_____ (5) grazing <8"_____ (2)

spring grazing >8"_____ (3) grazing <8"_____ (0)

burning: yes _____ (15) no _____ (0)

The number of years since management practice implemented

5+ _____ (1) 4 _____ (3) 3_____ (3) 2 _____ (2) 1 or less ____ (1)

Percent of woody invasion

0-5% _____ (3) 10-20 _____ (5) 25-40 _____ (3) 45-75 _____ (2) >80 ___ (1)

Woodland Site____

Pre: # of acres_____ / Post: # of acres_____

Conilerous _____ Deciduous _____

Diversity of of tree species

Many _____ (5) Few _____ (3) Mono _____ (1)

Shrub thickness

Heavy ___ (2) Medium ___ (4) Slightly ___ (2) Not at all ___ (0)

The number of canopies

3 or more _____ (3) 2 _____ (2) 1_____ (1) No canopy _____ (0)

Ground cover thickness

Heavy ___ (6) Medium ___ (4) Slightly ___ (2) Not at all ___ (0)

Dead/Woody items on forest floor

Present ____ (2) Not present _____ (0)

Dominant tree size

No dominant size class ___ (5) Sawtimber _____ (3) Poles _____ (2) Saplings _____ (1)

Number of snags available(5/acre)

5 ___ (5) 4 ___ (4) 3 ___ (3) 2 ___ (2) 1 ___ (1) 0 ___ (0)

Wetland Site (do NOT include the buffer zone) _____

Pre: # of acres_____ / Post: # of acres_____

How long is the area wet

>8 months _____ (10) 5-7 months ____ (8) 2-4 month ____ (5)

1 month _____ (2) <2weeks ____ (0)

Diversity of vegetation

Many _____ (5) Few _____ (3) Mono _____ (1)

Percent cover available

100-80 ___ (2) 79-60 ___ (4) 59-40 ___ (6) 39-20 ___ (4) 19-0 ___ (2)

The number of canopies

3 or more _____ (3) 2 _____ (2) 1_____ (1) No canopy _____ (0)

APPENDIX M

TABLES OF RESULTS

Table 1. Demographic Variables of Workshop Participants			
Questions	**Response**	**Frequency**	**%**
Q21: *How would you describe the location of the land that you are considering managing for wildlife?*	Rural-farm area	164	70%
	Rural-residential	60	26%
	Small town	6	3%
	Urban area	5	2%
	Total	235	
Q22: *How large is the property you wish to manage for wildlife?*	1-10 acres	82	34%
	11-50	92	37%
	51-80	28	12%
	81+	41	17%
	Total	243	
Q24: *In what year were you born? (Age groups shown)*	18-39	53	22%
	40-59	143	61%
	60-100	40	17%
	Total	236	
Q25: *What is your sex?*	Female	79	33%
	Male	160	67%
	Total	239	
Q26: *Please state the highest level of education you have completed.*	High school	67	29%
	Some college, Assoc., B.A/B.S.	134	58%
	Masters, Ph.D.	32	13%
	Total	233	
Q27: *Please provide your household income for 1997(1998).*	$0-$34,999	40	20%
	$35,000-$74,999	111	56%
	$75,000+	47	24%
	Total	198	
Q28: *What proportion of your income comes from farming?*	None	193	84%
	Less than half	33	14%
	More than half	5	2%
	Total	231	

Table 2. Demographic Variables of Site-visit Participants			
Questions	**Response**	**Frequency**	**%**
Q21: *How would you describe the location of the land that you are considering managing for wildlife?*	Rural-farm area	112	53%
	Rural-residential	81	39%
	Small town	14	7%
	Urban area	3	1%
	Total	210	
Q22: *How large is the property you wish to manage for wildlife?*	1-10 acres	42	20%
	11-50	92	43%
	51-80	41	19%
	81+	39	18%
	Total	214	
Q24: *In what year were you born? (Age groups shown)*	18-39	62	29%
	40-59	118	55%
	60-100	33	15%
	Total	213	
Q25: *What is your sex?*	Female	30	14%
	Male	183	86%
	Total	213	
Q26: *Please state the highest level of education you have completed.*	High school	45	22%
	Some college, Assoc., B.A/B.S.	135	65%
	Masters, Ph.D.	26	12%
	Total	209	
Q27: *Please provide your household income for 1997(1998).*	$0-$34,999	31	16%
	$35,000-$74,999	84	43%
	$75,000+	50	40%
	Total	195	
Q28: *What proportion of your income comes from farming?*	None	169	79%
	Less than half	40	19%
	More than half	2	1%
	Total	213	

Table 3. Significance testing comparing Workshop and Site-visit participants' demographic variables	
Questions	**Test Statistic**
Q21: *How would you describe the location of the land that you are considering managing for wildlife?*[1]	$X^2 = 6.04$*, p= 0.110
Q22: *How large is the property you wish to manage for wildlife?*[2]	WS Mean = 37.6 SV Mean = 71.9 F=11.023, p=0.001**
Q24: *In what year were you born? (Age groups shown)*[2]	WS Mean = 49 SV Mean = 51 F=11.023, p=0.204
Q25: *What is your sex?*[1]	$X^2 = 3.81$, p= 0.050**
Q26: *Please state the highest level of education you have completed.*[1]	$X^2 = 3.59$, p= 0.166
Q27: *Please provide your household income for 1997(1998).*[1]	$X^2 = 2.31$, p= 0.316
Q28: *What proportion of your income comes from farming?*[1]	$X^2 = 2.12$, p= 0.533

[1]Crosstab analysis utilized
[2]One-way Anova utilized
*expected count in cells too small to calculate
**Statistical significance alpha $p \leq 0.05$

Table 4. Opinion of the DNR before and after treatment (1998 and 1999)			
Question: *Please indicate how you feel about the Michigan Department of Natural Resources by circling the appropriate number.* *			
Workshops		**Site Visits**	
Scale Reliability	*Scale Reliability*	*Scale Reliability*	*Scale Reliability*
Cronbach's Alpha = .80 N of item = 6	Cronbach's Alpha = .83 N of item = 6	Cronbach's Alpha = .74 N of item = 6	Cronbach's Alpha = .72 N of item = 6
Mean Before	*Mean After*	*Mean Before*	*Mean After*
2.67 (N=85)	2.75 (N=85)	2.90 (N=39)	2.95 (N=39)
*Test Statistic***		*Test Statistic***	
t= -.897 df= 84 p= .372		t= -.361 df=38 p= .720	
*Test Statistic****			
Before: F= .002 p= .966 After: F= .239 p= .626			

*A semantic differential scale was created with the following bipolar adjectives: useful/useless, leader/follower, reliable/unreliable, honest/dishonest, fair/unfair, competent/incompetent. Participants chose a number between 1 and 7 to indicate their opinion.
**Statistical significance alpha $\leq$ 0.05.
***Anova conducted to determine if there is a significant difference between workshops and site-visit.

Table 5. Opinion of the treatment and instructor (1998 and 1999)			
Question: *Please indicate how you feel about the treatment (instructor) by circling the appropriate number.* *			
Treatment		**Instructor**	
Workshops	*Site-Visits*	*Workshops*	*Site-visits*
Scale Reliability	*Scale Reliability*	*Scale Reliability*	*Scale Reliability*
Cronbach's Alpha = .78 N of item = 4	Cronbach's Alpha = .76 N of item = 4	Cronbach's Alpha = .74 N of item = 5	Cronbach's Alpha = .85 N of item = 5
Mean	*Mean*	*Mean*	*Mean*
2.26 (N=85)	2.34 (N=76)	1.99 (N=136)	2.20 (N=76)
*Test Statistic****		*Test Statistic****	
F= .355 p= .552		F= 2.49 p= .116	

*A semantic differential scale was created with the following bipolar adjectives: useful/useless, leader/follower, reliable/unreliable, honest/dishonest, fair/unfair, competent/incompetent. Participants chose a number between 1 and 7 to indicate their opinion.
Statistical significance alpha $\leq$ 0.05.
***Anova conducted to determine if there is a significant difference between workshops and site-visit.

Table 6. Opinion of the treatment and instructor (1996/97)			
Question: *Please indicate how you feel about the treatment (instructor) by circling the appropriate number.* *			
Treatment		**Instructor**	
Workshops	*Site-Visits*	*Workshops*	*Site-visits*
Scale Reliability	*Scale Reliability*	*Scale Reliability*	*Scale Reliability*
Cronbach's Alpha = .79 N of item = 4	Cronbach's Alpha = .89 N of item = 4	Cronbach's Alpha = .76 N of item = 5	Cronbach's Alpha = .74 N of item = 5
Mean	*Mean*	*Mean*	*Mean*
2.31 (N=98)	2.33 (N=118)	1.95 (N=99)	2.04 (N=122)
*Test Statistic**** F= .027 p= .869		*Test Statistic**** F= .378 p= .539	

*A semantic differential scale was created with the following bipolar adjectives: useful/useless, leader/follower, reliable/unreliable, honest/dishonest, fair/unfair, competent/incompetent.
Participants chose a number between 1 and 7 to indicate their opinion.
Statistical significance alpha $\leq$ 0.05.
***Anova conducted to determine if there is a significant difference between workshops and site-visit.

Table 7. Recommended changes conducted by 1996/7 site-visit participants

FORESTLAND

Tree planting

Coniferous

- 460 white pines - 5
- 2,050 red-pines - 2
- 2,350 pines – 9
- 500 Norway spruce - 2
- 2 rows of norway and white spruce – 2
- 50 white spruce
- 600 spruce – 4
- 500 pines, autumn olive, and dogwood
- 500 pines, spruces, poplars for windbreak
- 50 red cedar trees
- Douglas fir

Deciduous

- 45 oaks – 2
- 100 red oaks
- 50 cherry trees
- 25 oak
- 25 birch
- 6 apple-trees – 2

Non-specifics

- 1,700 shrubs – 11
- 7,500 conifers, deciduous trees, and shrubs to make fencerows – 5

FORESTLAND CONTINUED

Shrubs

- 125 highbush cranberry, honeysuckly, nannyberry - 3
- 100 various berry bushes - 2
- 1,325 sargent crabs - 6
- 35 dogwoods
- 1125 autumn olive - 3
- 2 rows of dogwood, cranberry, crabapples

Maintenance

- cleared lowland woodlot
- cleared area of dogwoods
- cut out mature trees
- cut large poplars - 3
- cut down all mature aspen trees
- clearcut a birch stand
- created forest opening - 2
- selective harvest - 3
- lopped trees
- pruned apple trees
- transplanted seedlings

GRASSLANDS

Grass planting

- 2 acres of whitetail clover
- clovers - 4
- timothy and clover - 2
- 14 acres of clover, orchard, and timothy
- switchgrass, clover, alfalfa, and timothy
- 8 ½ acres of switchgrass - 4
- 51 acres of warm season grasses and wildflowers - 3
- 3 acre wildflower meadow - 2
- sunflowers
- warm season grasses - 3
- alfalfa
- 2 ½ acre nesting grass plot - 3

Maintenance

- let 8 acres grown into native prairie
- didn't mow
- mowed overgrown area
- controlled burn on crp field

CROPLANDS

Food plots

- 11 food plots - 9
- ½ acre food plot - 9

Specific grains

- 3 acres of corn
- 3 acres of beans
- sorghum
- corn and sunflowers
- 1 acre of clover and rye

Practices

- left corn standing

WETLANDS

Restoration

- restored 10 acres of wetlands - 6
- attempted to restore a wetland

Creation

- dug a pond
- dug pothole

Enhancement

- planted 100 cattail roots
- installed water flow device in wetland
- cleared debris from river and pond

STRUCTURES

Artificial

- erected birdhouse - 3
- erected wood duck boxes - 4
- put up bathouses
- installed bluebird houses

Natural

- created brushpiles - 8

GOVERNMENT PROGRAMS

- Entered property into CRP

OTHER

- planted nest plots
- planted wildlife opening
- reduced itch weeds
- planted wildlife corridors
- planted filter strips
- mowed areas in winding strips

Table 8. Non-recommended changes conducted by 1996/7 site-visit participants

FORESTLAND

Tree planting

Coniferous

- 300 white and norway spruce – 2
- 125 white pine – 3
- ½ mile of white pines
- 2,150 red pine – 3
- 600 various pines

Deciduous

- 22 apple trees
- 12 fruit trees
- 50 crab apple trees
- 50 cottonwoods
- rows of hardwoods
- poplar windbreak

FORESTLAND CONTINUED

Shrubs

- 200 rosa rugosa

Non-specifics

- 3,425 trees and shrubs - 4
- 1 acre of trees

Maintenance

- cut mature cottonwood and maple trees - 2
- sprayed round-up around apple trees
- lopped tree tops

GRASSLANDS

Grass planting

- 4 acre clover mix - 2
- 2 acre hayfield
- 17acres of warm season grasses - 5

Maintenance

- burned field
- mowed fields

CROPLANDS

food plots

- 2 acre Michigan mix food plots - 2

WETLANDS

creation

- dug 2 deep and 1 shallow pond

enhancement

- pond improvements created a berm

STRUCTURES

Artificial

- erected bluebird boxes – 3
- installed bat houses

Natural

- created brushpiles - 3

OTHER

- purchased tractor and equipment
- created observation tower

Table 9. Recommended changes conducted by 1996/7 workshop participants

FORESTLAND	FORESTLAND CONTINUED	GRASSLANDS	CROPLANDS	STRUCTURES
Tree planting *Coniferous* • 60 pine trees • blue spruce and pine trees • evergreens	*Shrubs* • honeysuckle and berry bushes • holly and cranberry bushes	Grass planting • clover/alfalfa mix • ½ acre of switchgrass	Food plots • two sites with Michigan mix **WETLANDS** Enhancement • restored culvert	Artificial • erected wood duck boxes Other • planted environmental package • planted wildlife package

Table 10. Non-recommended changes conducted by 1996/7 workshop participants

FORESTLAND	FORESTLAND CONTINUED	GRASSLANDS	CROPLANDS	STRUCTURES
Tree planting *Coniferous* • 45 Austrian Pines • 400 evergreens *Deciduous* • fruit trees	*Shrubs* • honeysuckle, trumpet vine and wisteria • 100 autumn olive *Non-specifics* • trees and shrubs - 2	Grass planting • hayfield • sunflowers Other • cut and sprayed poison ivy vines • sprayed for gypsy moths • planted ferns • planted butterfly and hummingbird garden • planted woodland wildflowers	Food plots • 3 food plots Specific grains • sorghum and rye	Artificial • erected bat houses

Table 11. Recommended changes conducted by 1998 site-visit participants

FORESTLANDS

Tree Planting

Coniferous

- 5 Douglas fir
- 15 pine trees
- 50 spruce
- 50 poplar

Deciduous

- 180 hardwoods
- 20 nut trees
- 50 chestnut tree

Shrubs

- Planted clusters of thorny bushes
- 50 mountain ash
- 500 dogwood, honeysuckle, crabapple, elderberry

Tree Cutting

- Aspen clearcut
- Cleared openings - 2
- Trimmed trees
- Moved two trees

GRASSLANDS

Grass Planting

- 14 acres of native grasses - 2
- ¾ acre of nesting

Maintenance

- Quit mowing 1 acre

CROPLANDS

Food Plots

- ¾ acre food plot - 2

Specific grain

- 1 acre sorghum
- ½ acre buckwheat

STRUCTURES

Artificial

- Erected birdhouses

Natural

- Created brushpiles – 2

GOVERNMENT PROGRAMS

- Applied for CRP

OTHER

- Removed fencing
- Created travel corridors
- Developed trails

Table 12. Non-recommended changes conducted by 1998 site-visit participants

FORESTLAND

Tree Planting

Coniferous

- 200 red pine seedlings
- 10 Norway spruce

Deciduous

25 pin oaks

STRUCTURES

Artificial

- Erected bluebird houses

Table 13. Recommended changes conducted by 1998 workshop participants

FORESTLAND

Tree Planting

Coniferous

- 2625 white spruce - 3
- 600 Norway spruce-2
- 750 blue spruce
- 62 red pine – 3
- 2175 white pines - 7
- 500 austrian pine
- 25 Douglas fir
- 50 white firs
- 200 white cedar

Deciduous

- maple and oak – 3
- 170 oaks – 3

Shrubs

- 800 crabapple – 5
- 506 gray and silky dogwoods – 3
- 8 rows of dogwoods - 2
- 50 hawthorns
- 25 nanking cherry
- 6 rugosa roses
- 6 coralberry
- 50 highbush cranberry - 1
- 100 honeysuckle - 2
- autumn olive – 5
- 20 ninebark shrubs

Non-specific

- 859 trees and shrubs - 6
- 1150 seedlings
- 20 native trees

FORESTLAND CONTINUED

Tree Cutting

- Selective cutting - 2
- Removal of non-native shrubs
- Timber cutting - 2
- Removed Autumn olive
- Cleared saplings
- Thinned areas
- Put plastic strips around base of trees
- Stopped spraying our pine trees with insecticide
- Pruned trees
- Added mulch around trees

GRASSLAND

Grass Planting

Pure stands

- 3 acre of clover - 2
- 9 acres switchgrass - 2
- wildflowers - 5

Mixes

- 4 acres of switchgrass, clover, orchard grass - 2
- native milkweed/butterfly weed/lupine
- 17 acres with big blue, little blue, indian grass, and wildflowers
- 2 ½ acres of grasses - 3

Maintenance

- Stopped mowing 12 acres - 4
- Mowed 25 acres
- Prepared 2 acres for planting

CROPLANDS

Food Plots

- 62 ½ acres food plot - 14

Specific grains

- 3 acres rye - 1
- ½ acre of rye/clover mix
- 1 acre beans
- 6 acres hay pasture
- 5 acres corn and sorghum
- 4 acres oats

Practices

- Left corn up all winter
- Left hay field longer before cutting
- Prepared sites for food plots

WETLANDS

Restoration

- Restored 14 acre wetland- 3

Creation

- Create 3½-acre wetland

Enhancement

- Installed dike for wetland

Ponds

- Stocked pond with fish
- Enhanced pond

STRUCTURES

Artificial

- Erected bird houses - 3
- Erected woodduck boxes

Natural

- Created brushpiles - 5

OTHER

- Planted windbreak - 3
- Planted two - 5acre CRP parcels
- Prescribed burn
- Stopped spraying sevin
- Removed invasive species
- Removed garlic mustard

Table 14. Non-recommended changes conducted by 1998 workshop participants

FORESTLAND	FORESTLAND CONTINUED	GRASSLAND	CROPLANDS	STRUCTURES
Tree Planting *Coniferous* • 2000 white spruce • 50 white pine white cedar *Deciduous* • oaks and hickories *Shrubs* • 50 highbush cranberry Planted autumn olive *Non-specific* • shrubs	Tree Cutting • Selective cutting - 2 • Removal of non-native shrubs • Timber cutting - 2 • Removed Autumn olive • Cleared saplings • Thinned areas • Put plastic strips around base of trees • Stopped spraying our pine trees with insecticide • Pruned trees • Added mulch around trees	Grass Planting • wildflowers • prairie grasses and forbs Maintenance • Prepared 6 acres for planting	Food Plots • Planted 10 acre food plot • Planted clover and buckwheat	**Artificial** • Installed birdbath - 2 • Erected wood duck boxes • Erected bluebird boxes **OTHER** • Removed overgrown brush around one-side of pond • Created butterfly and hummingbird gardens • Eradicated non-native and aggressive species • Made hedgerows

Table 15. Site Evaluation of 18 Participants who stated they had made changes					
Total acres available for wildlife management = 989					*Total acres changed = 180*
Landowner Treatment SV = site-visit W= workshop	***Acres changed***	***Acres available***	***Percent change for wildlife****	***Government program/ Or other conservation assistance***	***Type of changes made***
SV & W	44	50	16%	Ducks Unlimited	Selective cut 37 acre woodlot 3 acre food plot 4 acre wetland enhancement
SV & W	44	80	55%	8 acres CRP Pheasants Forever	8 acres switchgrass Tree planting in 30 acre grassland 8 acres bluestem 2 acre food plot
SV & W	4	100	113%	Ducks Unlimited	3 acre wetland 1 acre foodplot
SV & W	1	100	86%	Already a member of CRP	1 acre wetland restoration
SV & W	13	17	4%		Burned 2 acre grassland Tree planting in 14 acre grassland
SV & W	7	17	85%		Tree planting in 1 acre grassland 5 acre clover and alfalfa planting
SV & W	2	2	16%		Tree planting in 1 acre grassland Tree planting in 1 acre brushland
SV	26	60	46%		Tree planting in 25 acre grassland 1 acre food plot
SV	14	14	342%	CRP	14 acres of switchgrass
SV	8	160	14%	Ducks Unlimited	8 acre wetland restoration
SV	3	40	96%		3 acre food plot
SV	2	80	400%	Pheasants Forever	2 acre food plot
SV	1	50	152%		1 acre food plot
SV	0	8	0%		
SV	0	42	0%		
W	6	160	11%		2 acre clover planting 4 acre food plot
W	4	8	54%		Tree planting in 3 acre grassland
W	1	1	14%		Tree planting

*Percent change reflects the amount of change that occurred to benefit wildlife on the acres that were changed not the entire property, i.e., of the 3 acres out of 40 that were changed, there was a 96% increase to benefit wildlife on those 3 acres.

Table 16. Impact on goal setting					
Questions:	**Response**	**Frequency**		**%**	
		Workshop	***Site-Visit***	*Workshop*	*Site-visit*
Have you set goals for the land you may manage for wildlife?	Yes	102	53	78%	69%
	No	29	24	22%	31%
	Total	131	77		
Did you set goals before attending the workshop (site-visit)?	Yes	88	46	67%	61%
	No	44	30	33%	39%
	Total	132	76		
*Did the workshop (site-visit) improve these goals?	Greatly improved	19	17	20%	35%
	Somewhat improved	50	16	53%	33%
	Slightly improved	16	10	17%	21%
	No improvement	7	3	7%	6%
	Undecided	2	2	2%	4%
	Total	94	48		

*If a participant answered "No" in the previous question they were asked to skip this question.

Table 17. Goals of workshop participants	
Question: *Please state your goals below.*	
➢ Habitat for small game	➢ Attract quail
➢ Restore old agriculture land to earlier type	➢ Attract turkey
➢ Plant native plants	➢ Attract rabbits
➢ Create a pond	➢ To provide food and cover for songbirds and small animals
➢ Erect bird houses	➢ Create a wetland
➢ Wildlife diversity	➢ Create a windbreak
➢ Habitat for songbirds	➢ Reforestation
➢ Plant food plots	➢ Join CRP
➢ Plant trees	
➢ Attract pheasants	

Table 18. Goals of site-visit participants	
Question: *Please state your goals below.*	
➢ Provide habitat for pheasants, grouse and deer	➢ Establish prairie
➢ Pond development	➢ Establish oak savanna
➢ Improvements for waterfowl and birds	➢ Establish travel corridor
➢ Improve wildlife habitat	➢ Rotate Aspen clearcut
➢ Improve viewing opportunities	➢ Selective cut hardwoods
➢ Create nature trails	➢ Climate control
➢ Improve hunting	➢ Plant trees and shrubs
➢ Create nesting and cover	➢ Timber stand management
➢ Plant food plots	➢ Wildlife diversity
➢ Housing for ducks and birds	➢ To raise wildlife populations
	➢ Increase herptiles

Table 19. Reason for contacting Conservation District

Question: *What was your main reason(s) for contacting the CD or RC&D and asking for assistance?*

Workshops	Site-visits	
➢ To attract wildlife	➢ Increase species diversity	➢ Forest harvesting information
➢ Information about trees and shrubs	➢ Habitat for endangered meadow birds	➢ Wetland enhancement
➢ Insect problems	➢ Weed control	➢ Financial assistance (Government programs)
➢ Wetland information	➢ Learn about Quality Deer Management	➢ Planting assistance
➢ To attract pheasants	➢ To attract small game	➢ To increase pheasant population
➢ Sign-up for workshop	➢ Restore area to previous conditions	➢ To join CRP
➢ To attract bluebirds	➢ Soil erosion	➢ To maximize our habitat for wildlife
➢ Enhance wildlife	➢ Grass Information	➢ To choose the best trees for us and teach us how to plant them
➢ To attract deer	➢ To attract pheasants	➢ To attract pheasants
➢ Interested in native plants and restoration	➢ Tree questions	➢ Restore a savanna/prairie
➢ Increase wildlife knowledge	➢ To attract wildlife	➢ Enhance for wildlife and timber
➢ To manage woodlot better	➢ To attract deer	➢ Wetland Issues
➢ To get a different perspective	➢ To attract turkeys	➢ Wetland restoration
➢ To learn about trees and shrubs	➢ Seeking advice on watershed program for wildlife habitat	
	➢ Wetland issues	

Table 20: Open-ended Responses*

Question: *Please list any reason that might prevent you from implementing your wildlife management plan.*

Workshops	Site-Visits
➢ Money	➢ Time
➢ Lack of confidence	➢ Interference from surrounding landowners
➢ Effort involved	➢ City ordinances
➢ Weather conditions	➢ Equipment
➢ Inability to get fire department to approve burn	➢ Health
➢ More information and resources	➢ Money
➢ Time	➢ Planting assistance
➢ Health	➢ Not having the information
➢ Environmental concerns	
➢ The apocalypse	
➢ Tools	

*A response could have been stated by more than one participant.

Table 21: Barriers participants may perceive

Question: *Assuming money and time are no object, how likely will the following items prevent you from making changes on your property that benefit wildlife?*

	Response	Frequency		%		Test Statistic	
		Workshops	*Site-visits*	*Workshops*	*Site-visits*		
The amount of effort it will take to implement changes	Very likely	9	17	10%	14%	SV Mean = 3.47 SE =.14 WS Mean = 3.52 SE = .15	F = .046 p = .830
	Somewhat likely	22	29	23%	23%		
	No opinion	11	8	12%	6%		
	Somewhat unlikely	17	20	18%	16%		
	Very unlikely	36	51	38%	41%		
	Total	95	125				
The lack of information available to make changes	Very likely	4	8	4%	7%	SV Mean = 3.57 SE = .12 WS Mean = 3.61 SE = .13	F = .066 p = .798
	Somewhat likely	23	26	24%	21%		
	No opinion	10	18	10%	15%		
	Somewhat unlikely	28	30	29%	24%		
	Very unlikely	31	41	32%	33%		
	Total	96	123				
The benefits that will be received from making these changes	Very likely	10	16	11%	13%	SV Mean = 3.67 SE = .13 WS Mean = 3.74 SE = .15	F = .092 p = .761
	Somewhat likely	11	15	12%	12%		
	No opinion	16	16	17%	13%		
	Somewhat unlikely	11	19	12%	16%		
	Very unlikely	44	55	48%	46%		
	Total	92	121				

Table 22. Workshop participants' answers to succession questions.

Questions:	Response	Frequency		%	
		Before	*After*	*Before*	*After*
The diagram below is showing what process?	*Wildlife Management, Eutrophication, Fragmentation, or I am not sure	78	11	37%	8%
	Succession	135	125	63%	92%
	Total	213	136		
The most appropriate wildlife management is to help nature produce old forest stages.	Agree	42	20	20%	15%
	Disagree**	108	92	52%	71%
	Undecided	58	18	28%	14%
	Total	208	130		
If left undisturbed, eventually an abandoned field in Michigan will often become forested.	**Agree****	163	126	74%	94%
	Disagree	40	6	18%	4%
	Undecided	16	2	7%	2%
	Total	219	134		
Succession is a process that only occurs when land is managed for wildlife.	Agree	30	15	14%	11%
	Disagree**	129	106	61%	79%
	Undecided	54	13	25%	10%
	Total	213	134		

*Due to N size, responses had to be collapsed

The correct answer is **bolded

Table 23. Site Visit participants' answers to succession questions.

Questions:	Response	Frequency		%	
		Before	*After*	*Before*	*After*
The diagram below is showing what process?	*Wildlife Management, Eutrophication, Fragmentation, or I am not sure	30	16	31%	19%
	Succession	67	57	69%	78%
	Total	97	73		
The most appropriate wildlife management is to help nature produce old forest stages.	Agree	15	11	15%	14%
	Disagree**	66	50	67%	65%
	Undecided	17	16	17%	21%
	Total	98	77		
If left undisturbed, eventually an abandoned field in Michigan will often become forested.	**Agree****	77	63	76%	82%
	Disagree	16	7	16%	9%
	Undecided	9	7	8%	9%
	Total	102	77		
Succession is a process that only occurs when land is managed for wildlife.	Agree	15	10	15%	13%
	Disagree**	62	49	61%	65%
	Undecided	25	16	25%	21%
	Total	102	75		

*Due to N size, responses had to be collapsed

The correct answer is **bolded

Table 24. Received previous training

Workshops			Site-visits		
Question: *Have you previously attended a wildlife management workshop or some type of wildlife training?*			**Question**: *Before this site-visit, have you previously attended a wildlife management workshop or some type of wildlife training?*		
Response	**Frequency**	**%**	**Response**	**Frequency**	**%**
Yes	64	28%	Yes	20	20%
No	160	71%	No	82	80%
Total	224		Total	102	
Question: *If yes, please describe the type of training you received.*			**Question**: *If yes, please describe the type of training you received.*		
➢ Volunteer for conservation organizations ➢ Prescribed burn workshop ➢ Wildlife rehabilitation workshop ➢ BS in agriculture ➢ College coursework ➢ Youth conservation corp ➢ Member of conservation organization ➢ BS in biology ➢ Environmental education workshop ➢ Kellogg Biological Station workshop ➢ Graduate work in ecology ➢ Forest stand improvement ➢ MSU stewardship program ➢ CD site visit ➢ Backyard wildlife workshop ➢ Conferences ➢ Pheasants Forever workshop ➢ Attended same workshop last year ➢ Purple martin seminar ➢ Bluebird festival workshop ➢ MSU workshops ➢ Pond development class ➢ Grass and tree planting workshop ➢ Literature			➢ Master gardener ➢ ANR workshops ➢ Raised on a farm ➢ Seminars ➢ One-on-one discussions with biologists ➢ Wildlife degree ➢ Conferences ➢ MSU workshops ➢ Pond management workshop ➢ Pheasants Forever member ➢ College courses ➢ Literature		

Table 25. Further training received

Workshops			Site-Visits		
Question: *Since attending the wildlife workshop, have you received any other assistance?*			**Question**: *Before this site-visit, have you previously attended a wildlife management workshop or some type of wildlife training?*		
Response	**Frequency**	**%**	**Response**	**Frequency**	**%**
Yes	61	39%	Yes	4	25%
No	49	61%	No	12	75%
Total	80		Total	16	
Question: *If yes, please explain.*			**Question**: *If yes, please explain.*		
➢ Ducks unlimited put in a dike ➢ Received a site visit from CD and hired private ecologist to assist ➢ From State forester ➢ Seminars at Wildflower conference ➢ Applied for WHIP ➢ Attended same workshop again ➢ Enrolled in filter strip program ➢ Received free seed from pheasants forever ➢ USFWS helped fund a wildlife flooding ➢ Pond workshop			➢ Accepted to CRP		

Table 26. Additional topics covered within the treatment

Workshops			Site-Visits		
Question: *Were there additional topics that you were interested in that were not covered in the workshop?*			**Question**: *Were there additional topics that you wanted to discuss with the biologist but did not?*		
Response	**Frequency**	**%**	**Response**	**Frequency**	**%**
Yes	44	39%	Yes	8	11%
No	68	61%	No	63	89%
Total	112		Total	71	
Question: *If yes, please describe them below.*			**Question**: *If yes, please describe them below.*		
➢ Sizes of hole on bird houses ➢ Predators in backyards ➢ Importance of natives ➢ Planting techniques ➢ To manage wildlife diversity ➢ More specific information on habitat and plants ➢ Plantings for wildlife ➢ Agency responsibility at state and federal level for different aspects of water and land resources ➢ Applications to smaller pieces of property ➢ More focus on non-game ➢ Focus on ecosystem management not individual species ➢ The effects of urban sprawl			➢ When and how to plant crops for deer ➢ Environmental concerns pertaining to wildlife habitat ➢ Use of grasses ➢ Timeline for my project		

Table 27 Availability of additional handouts					
	Response	**Frequency**		**%**	
Question: *Were additional information handouts available?*		***Workshops***	***Site-visits***	***Workshops***	***Site-visits***
	Yes	127	37	97%	49%
	No	4	39	3%	51%
	Total	131	76		
Question: *If Yes, please indicate how satisfied you were with the materials.*	Very satisfied	65	18	50%	43%
	Moderately satisfied	53	16	41%	38%
	Slightly satisfied	6	6	5%	14%
	Unsatisfied	2		2%	
	Undecided	3	2	1%	5%
	Total	129	32		

Table 28. Ways to change the treatment – part 1					
Workshops			**Site-visits**		
Question: *Are there any ways you would change the workshop?*			**Question:** *Are there any ways you would change the site-visit?*		
Response	**Frequency**	**%**	**Response**	**Frequency**	**%**
Yes	67	46%	Yes	83	40%
No	69	48%	No	101	48%
No opinion	9	6%	No opinion	26	12%
Total	145		Total	210	

Table 29. Ways to change the treatment - part 2

Question: *If yes, please state these changes below.*	**Question**: *If yes, please state these changes below.*
➢ Needed to be more specific ➢ Provide micro solutions, needed clear step by step instructions: best way to plant; where to get seed ➢ Geared too much to the large landowner; needed a backyard workshop for someone like me ➢ Create a video instead of slides ➢ More information on insect control ➢ Spend more time with the forester and less with the drain commissioner ➢ Have the workshop where we could view actual programs in progress such as wetlands and food plots ➢ Break-out sessions for backyard wildlife landscaping ➢ Start earlier or have it on two separate nights ➢ Start with general information then progress to one-on-one specifics ➢ Show them how to accomplish their goals with little or no out of pocket expense ➢ Help me with the actual design ➢ Have a tree doctor attend ➢ Provide more seed sources and how to plant ➢ Examples, people who have done this or are doing it on a small scale ➢ Have fewer experts – more people who are doing this just for enjoyment not for profit ➢ Not so many speakers at one meeting ➢ Make sure they follow-up; I signed up for a home phone call never received one ➢ Have smaller audience or two workshops running at the same time ➢ More hands-on experience ➢ Have every instructor use a slide show; makes it more interesting ➢ More handouts ➢ Workshops could use a one-on-one section to allow people to at least start development plans for their own property. ➢ Smaller classes for more individual questions ➢ Start on time ➢ Do hands on show us real trees not pictures	➢ The biologist could have the walked the property to get a clear idea of the lands, soils, trees, etc... ➢ See pictures of various planting materials ➢ Biologist seemed to have a somewhat canned program. They should be more responsive to landowner's questions and goals ➢ More time needed with biologist ➢ Provide list of sources for plant materials ➢ Provide handouts ➢ Provide information on other assistance available ➢ Discussion on the site visit was very one sided ➢ Have the biologist sit down with client and write-out a list of goals and objectives so the biologist could respond appropriately ➢ Make a list of the top 10 things or areas you need to work on or accomplish in order of their timing and importance ➢ Need a second visit for the information and changes, first visit for overview and discuss potentials ➢ Provide sources where we can find the items we need to fulfill our management plan ➢ Would like follow-up literature ➢ Explain all opportunities and funding available ➢ What have liked to more time to walk and discuss site and options ➢ We would have liked a plan that we could work on ourselves ➢ We should have received more workshop information, exactly what assistance is available, and how to apply for programs and assistance ➢ State should provide at no cost to the landowner additional planting materials ➢ I would have liked to learn about financial assistance available ➢ Have a follow-up program ➢ Contact individuals who can make the changes for us ➢ Find funding sources ➢ Create a time line so we know when to do things ➢ Provide more information on outside help ➢ Additional follow-up would be good and additional on-site visits to see progress and make suggestions for future changes or improvements ➢ Provide more information on tools needed to do the work and where we can get these tools ➢ A follow-up call or visit ➢ Would like more information on financial assistance and buyers for harvesting and thinning overgrown pine and hardwood trees ➢ More visits without having to make more phone calls ➢ Try to respond in a more timely manner ➢ More follow-up ➢ Have wildlife habitat programs available for property owner owning under 10 acres ➢ Wish more emphasis and information would have been included on non-chemical methods of controlling weeds ➢ Market the CD assistance more

Table 30-1. Values of workshop participants before and after treatment. Part 1 of 2

Questions	Response	Frequency		%		Test statistic	
How important is it to you that your property...		Before	*After*	*Before*	*After*		
... that wildlife are available to hunt	Very important	62	39	28%	29%	Before Mean = 2.65	t = -.266
	Moderately	39	25	18%	19%		df = 132
	Somewhat	17	11	8%	8%		
	Not important	98	59	45%	44%	After Mean = 2.66	p = .790
	Undecided[1]	2		1%			
	Total	218	134				
... that the land managed for wildlife produced income	Very important	6	2	3%	2%	Before Mean = 3.80	t = 1.12
	Moderately	12	7	5%	5%		df = 133
	Somewhat	19	14	9%	10%		
	Not important	181	112	82%	83%	After Mean = 3.75	p = .264
	Undecided	1		1%			
	Total	219	135				
... top produce wildlife viewing opportunities	Very important	157	104	72%	77%	Before Mean = 1.32	t = .103
	Moderately	46	22	21%	16%		df = 134
	Somewhat	10	8	4%	6%		
	Not important	4		2%		After Mean = 1.31	p = .916
	Undecided	2	1	1%	1%		
	Total	219	135				
... to create/maintain a pleasing natural landscape	Very important	158	99	73%	73%	Before Mean = 1.31	t = -.773
	Moderately	48	25	22%	18%		df = 133
	Somewhat	9	12	4%	8%		
	Not important	2		1%		After Mean = 1.35	p = .441
	Undecided						
	Total	217	136				
... that wildlife exist even if you never see them	Very important	178	96	80%	71%	Before Mean = 1.23	t = -1.82
	Moderately	33	34	15%	25%		df = 134
	Somewhat	8	3	4%	2%		
	Not important	2	2	1%	2%	After Mean = 1.34	p = .071
	Undecided	1		1%			
	Total	222	135				

Likert-type scales: 1=Very important, 2 =Moderately, 3=Somewhat, 4=Not important. [1]Undecided was dropped from the calculations. Significant at alpha ≤ 0.05

Table 30-2. Values of workshop participants before and after treatment. Part 2 of 2

Questions	Response	Frequency		%		Test statistic	
When managing my land for wildlife, I would prefer to ...		*Before*	*After*	*Before*	*After*		
… use native plants over exotic plants	Strongly agree	128	76	58%	56%	Before Mean = 1.52	t = -1.24 df = 134
	agree	64	40	29%	30%		
	undecided	22	16	10%	12%		
	disagree	5	2	2%	2%	After Mean = 1.61	p = .217
	Str. disagree	1	1	1%	1%		
	Total	220	135				
… create habitat habitat for a diversity of wildlife rather than for one or a primary few	Strongly agree	30	17	14%	13%	Before Mean = 2.72	t = -.180 df = 134
	agree	84	54	38%	40%		
	undecided	41	23	19%	17%		
	disagree	47	32	22%	24%	After Mean = 2.73	p = .857
	Str. disagree	17	10	8%	7%		
	Total	219	136				
… create natural habitat for food for wildlife rather than plant agricultural crops	Strongly agree	104	66	47%	49%	Before Mean = 1.70	t = -.61 df = 135
	agree	80	47	36%	35%		
	undecided	27	14	12%	10%		
	disagree	10	6	5%	4%	After Mean = 1.75	p = .542
	Str. disagree		2		2%		
	Total	221	135				

Likert-type scales: 1=Strongly agree, 2 = agree, 3=undecided, 4=disagree, 5 = strongly disagree

Significant at alpha ≤ 0.05

Table 31-1. Values of site-visit participants before and after treatment. Part 1 of 2

Questions	Response	Frequency		%		Test statistic	
How important is it to you that your property...		*Before*	*After*	*Before*	*After*		
... that wildlife are available to hunt	Very important	44	38	44%	48%	Before Mean = 2.14	t = 1.044 df = 78
	Moderately	20	14	20%	18%		
	Somewhat	11	12	11%	15%		
	Not important	25	15	25%	19%	After Mean = 2.05	p = .30
	Undecided	1		1%			
	Total	102	79				
... that the land managed for wildlife produced income	Very important	4	1	4%	1%	Before Mean = 3.68	t = 1.47 df = 77
	Moderately	6	9	6%	11%		
	Somewhat	11	12	11%	15%		
	Not important	74	57	74%	72%	After Mean = 3.58	p = .145
	Undecided	5		5%			
	Total	102	79				
... top produce wildlife viewing opportunities	Very important	79	51	78%	65%	Before Mean = 1.24	t = -2.40 df = 78
	Moderately	20	23	20%	29%		
	Somewhat	3	5	3%	6%	After Mean = 1.42	p = .019*
	Not important						
	Undecided						
	Total	102	79				
... to create/maintain a pleasing natural landscape	Very important	77	56	76%	71%	Before Mean = 1.28	t = -1.10 df = 77
	Moderately	18	17	18%	22%		
	Somewhat	5	6	5%	8%	After Mean = 1.36	p = .276
	Not important	1		1%			
	Undecided						
	Total	101	79				
... that wildlife exist even if you never see them	Very important	67	52	66%	67%	Before Mean = 1.45	t = -.323 df = 77
	Moderately	24	15	24%	19%		
	Somewhat	11	11	11%	14%	After Mean = 1.47	p = .748
	Not important						
	Undecided						
	Total	102	78				

Likert-type scales: 1=Very important, 2 =Moderately, 3=Somewhat, 4=Not important, 5 =undecided
Significant at alpha ≤ 0.05

Table 31-2. Values of site-visit participants before and after treatment. Part 2 of 2

Questions	Response	Frequency		%		Test statistic	
When managing my land for wildlife, I would prefer to ...		*Before*	*After*	*Before*	*After*		
... use native plants over exotic plants	Strongly agree	52	46	52%	58%	Before Mean = 1.86	t = 2.41 df = 77
	agree		17	25%	22%		
	undecided	21	13	21%	17%		
	disagree		1		1%	After Mean = 1.67	p = .018*
	Str. disagree	3	2	3%	3%		
	Total	102	79				
... create habitat habitat for a diversity of wildlife rather than for one or a primary few	Strongly agree	6	4	6%	5%	Before Mean = 3.21	t = 1.61 df = 77
	agree	30	30	29%	39%		
	undecided	23	18	23%	23%		
	disagree	24	17	24%	22%	After Mean = 2.96	p = .113
	Str. disagree	19	9	19%	12%		
	Total	102	78				
... create natural habitat for food for wildlife rather than plant agricultural crops	Strongly agree	53	35	52%	44%	Before Mean = 1.72	t = -.74 df = 78
	agree	31	29	30%	37%		
	undecided	16	11	16%	14%		
	disagree	2	3	2%	4%	After Mean = 1.81	p = .462
	Str. disagree		1		1%		
	Total	102	79				

Likert-type scales: 1=Strongly agree, 2 = agree, 3=undecided, 4=disagree, 5 = strongly disagree
Significant at alpha ≤ 0

Table 32. How participants learned about outreach programs					
Question:	**Response**	**Frequency**		**%**	
		Workshop	*Site-Visit*	*Workshop*	*Site-Visit*
Please indicate how you first learned about this workshop or site-visit.	Acquaintance	40	16	18%	16%
	Newspaper	55	21	25%	21%
	Conservation district employee	21	31	9%	31%
	Flier	85	21	38%	21%
	DNR employee	5	7	2%	7%
	I am not sure	3	3	1%	3%
	Other	15		7%	
	Total	224	99		

Table 33. Reasons participants own their property						
Question:	**Response**		**Frequency**		**%**	
			Workshop	*Site-Visit*	*Workshop*	*Site-Visit*
How important is EACH of the following reasons for owning the land you may manage for wildlife?	Income	Primary Reason	19	8	10%	9%
		Secondary Reason	46	19	24%	21%
		Not a Reason	128	65	66%	71%
		Total	193	92		
	Residence	Primary Reason	161	67	76%	71%
		Secondary Reason	29	16	14%	17%
		Not a Reason	23	12	10%	13%
		Total	213	95		
	Recreation	Primary Reason	109	53	56%	55%
		Secondary Reason	74	40	37%	41%
		Not a Reason	17	4	9%	4%
		Total	200	97