

EVALUATING AND ENHANCING INDIANA 4-H MEMBER PARTICIPATION IN
NATURAL RESOURCE EDUCATION

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ABSTRACT

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The purpose of this research study is to discover means to increase participation and interest of youth in Indiana 4-H natural resource projects and programs. This study is designed to identify potential barriers to participation by youth in natural resource projects and learn how to improve youth participation. There were three participant groups in this research study: Indiana 4-H Youth Development and Agricultural and Natural Resource Extension Educators, identified natural resource professionals, and current Indiana 4-H natural resource members. The three groups completed separate online surveys when they received notification from the researchers via an email. Participation was anonymous and voluntary.

Fifty-nine percent of the youth reported that their biggest motivator for continued participation in natural resource projects was their enjoyment or interest in the topic(s). Other motivators for youth to stay involved included: family members (10%); the pursuit of a career in a related field (7.1%); and awards and recognition (5.7%).

Approximately one-third of the 4-H members and Extension Educators reported the greatest barrier to youth participation was a low interest by youth.

The Extension Educators, natural resource professionals, and 4-H members all indicated a need for a knowledgeable volunteer or project leader to help increase interest in the projects. Both the Extension Educators and 4-H members agreed that more learning opportunities for youth to learn about the specific topics could also help increase interest.

Examples of these learning opportunities are workshops, camps, field trips, field days, and seminars. Promotion of these projects, informational workshops, and other resources should also help increase youth interest in the Indiana 4-H natural resource projects.

CHAPTER 1. INTRODUCTION

1.1. Background

Youth in Indiana have a variety of opportunities to learn about and participate in natural resource activities provided by different organizations. The 4-H Youth Development Program, the Department of Natural Resources (IDNR), local towns and cities, and the Soil & Water Conservation Districts (SCWDs) all provide learning opportunities, programs, and activities for youth through informal education.

The Indiana 4-H Youth Development program offers ten natural resource projects statewide which includes: Aquatic Science; Beekeeping; Entomology; Forestry; Geology; Shooting Sports; Sportfishing; Soil & Water Conservation; Weather; and Wildlife. There is an entomology workshop offered once a year to youth along with Entomology, Forestry, and Wildlife Habitat Evaluation Career Development Events (“4-H Natural Resource Education,” n.d.). The number of youth reached through the 4-H program across the United States was over 1.5 million (“4-H Youth Development,” 2008).

The Cooperative Extension Service (CES) was created to be a public-funded, non-formal education service to be used by all people and to be used outside of the normal school setting. The mission of the Cooperative Extension System is: “...the development of practical demonstrations of research knowledge and giving of instruction and practical demonstrations of existing or improved practices or technologies in agriculture, home economics, and rural energy.” The 4-H Youth Development (4-H YD) Program is part of the CES and is also one of the largest educational organizations available to adults and youth outside of the school setting. The current 4-H YD Program is designed to help both youth and adults reach their full potential with different activities and programs (Seevers, Graham, & Conklin, 2007).

The Indiana Department of Natural Resources (IDNR) provides a variety of activities for youth to learn about natural resources and participate in activities at state parks. Hunting events are hosted all over Indiana for youth under the age of 17 during the fall at IDNR properties. There are also opportunities available for youth to learn about and practice trapping techniques (“DNR: Youth,” 2010). Youth also have the opportunity to participate in a summer camp called the Karl E. Kelley Memorial Youth Camp. Campers learn about conservation of natural resources, outdoor life sports, earn an appreciation for natural resources, and gain respect for Indiana Conservation Officers (“DNR: Karl E. Kelley,” 2010). They provide many other activities beyond these to youth in Indiana.

Local cities, towns, and counties throughout Indiana also offer opportunities for youth to learn about natural resources. The city of Elkhart, for example, offers a variety of natural resource learning opportunities for youth including service-learning projects, in school programs and summer camps, among others (“City of Elkhart,” 2010)

The Indiana Soil and Water Conservation Districts with the Hoosier National Forest sponsors the Indiana Envirothon, an event designed for Indiana high school aged students. This is a competition which promotes environmental education and is designed to help build awareness of natural resources, the environment, and the interactions between the environment and people. Contestants have class-room learning opportunities combined with hands-on field experiences. There are five categories used in the testing, which include: soil/land use, aquatic ecology, wildlife, forestry and a current environmental issue (“Envirothon,” 2010).

A number of researchers have studied the effects of different natural resource projects on youth’s environmental knowledge, behavior, and attitudes. Broussard and Jones (2001) provided three natural resource educational opportunities for different audiences. Two of the programs were the *Natural Resources Institute* (NRI) program and *Teaching Forest Stewardship to Urban Youth*. The NRI program was developed for teachers to help understand natural resources and learn how to incorporate those topics into their lesson plans. Eighty percent of the teachers reported after the program they would incorporate the information they acquired into their lesson plans. The urban youth

program was designed to help inner-city youth learn about forestry, forest management, and encourage the youth to develop their own attitudes about forestry. They were taught through three different settings: a school classroom; in local urban settings; and a rural setting at a demonstration forest. The authors reported when experiential learning activities are combined with activities outdoors an effective learning environment for youth is created. The utilization of outdoor classrooms as teaching locations helped urban youth connect with nature. The youths' forestry knowledge and understanding of forestry management increased and they accepted more positive attitudes about forest harvesting management and sustainability after participating in the *Teaching Forest Stewardship to Urban Youth* program (Broussard & Jones, 2001).

Van Horn, Flanagan, and Thomson (1999) stated that learners have a higher retention rate of information when they participate in interactive learning activities compared to a typical classroom setting with lecture as the teaching method. Hands-on learning and activities are the basis of this interactive method and can be easily used in informal teaching settings. It can be difficult to include hands-on learning in typical classroom settings due to time constraints (Van Horn et al., 1999).

A study was conducted to discover the effect of a sportfishing environmental curriculum designed for youth which utilized hands-on activities (Koupal & Krasny, 2003). Activities and programs focused on fishing and aquatic resource skills, knowledge, awareness, attitudes of environmental issues, and the awareness of ethical behavior. These categories were evaluated after the program was completed. This program did help develop the participants' knowledge of fishing skills and biology/ecology, although their ethical behavior and attitudes were unaffected by the programs (Koupal & Krasny, 2003).

Hands-on activities allow youth to become more active citizens and develop into successful individuals (Webster, 2006). One way youth can directly participate in hands-on activities that have a focus on natural resources is through service learning projects. Webster (2006) reported about a service learning project in Pennsylvania supported by the cooperation of Extension personnel, local school officials, and community partners. The students had the opportunity to participate in hands-on, interactive activities within

their school and community, participate in community focused activities, develop a greater appreciation for their environment, and learn about Integrated Pest Management (IPM) practices. The youths' content knowledge was measured through an IPM evaluation tool and they discussed their program experiences through personal journals and weekly open discussions. The participations did increase their appreciation of their community and school, developed a connection with their school, and enjoyed creating the programs for their school (Webster, 2006).

Cramer (2008) presented a service learning opportunity for youth in conjunction with natural resources; an environmental restoration program where they participated in hands-on activities. Youth had the opportunity to restore native ecosystems in their area while building a relationship and connection to nature at the same time. They also had the opportunity to learn information about natural resources and restoration education. The program grew from one school-site to eight school-sites after four years due to the successfulness of the program and its effect on the participants and communities (Cramer, 2008).

1.2. Statement of the Problem

Wray-Lake, Flanagan, and Osgood (2010) conducted a study of high school seniors from 1976 to 2005. The focus of the study was to discover youths' environmental knowledge, attitudes, behavior, & concerns. Results indicated an overall decline of conservation behaviors, with exception of the early 1990s. Other trends over time were decline in personal responsibility, a decline in conservation behaviors, a decline in the belief that resources are scarce, and increase in the belief that current consumers are responsible for the environment (Wary-Lake et al., 2010).

Bradley, Waliczek, & Zajicek, (1999) also conducted a study to discover youths' environmental knowledge and attitudes after participation in a 10-day environmental science class. The knowledge and attitudes of the youth were correlated and showed a positive relationship between the two categories. The youths' environmental attitudes were more positive following the class and their knowledge increased 22% from the beginning to the end of the course (Bradley et al., 1999).

A survey completed in 2006 by high school students across the United States was designed to discover knowledge youth had about climate change and environmental issues. This study revealed that only 28% of the respondents felt that climate change has an effect on them personally in the future and their knowledge of what climate change entails is low (“The Hamilton College,” 2007).

Bogan and Kromrey (1996) and McBeth and Volk (2010) both conducted studies to determine the environmental literacy of youth, ranging in age from sixth-grade to high school students. Their results were contradicting for the students’ ecological knowledge. Bogan and Kromrey found the students’ ecological knowledge was low, scoring an average of 37%, while the youth did have a fairly high ecological attitude with an average 76%. The youth in McBeth and Volk’s study scored higher on their knowledge about ecology, with an average of 67%. Although, the youth in this study did receive low scores on their action planning and analysis of environmental issues, both under fifty-percent.

The lower scores on action planning and analysis of environmental issues is important because the youth of today will both directly and indirectly affect decisions and policies about the environment including: the preservation and use of natural resources and sustainability of the natural environment in the future. Youth will also be supplying the solutions to environmental problems in the future (Meinhold & Malkus, 2005), (Bradley et al., 1999), (Volk & Cheak, 2003).

Most of these studies indicated youth have a low level and decline of their environmental and ecological knowledge. They also showed low levels of environmental action planning and issue analysis. The youth felt current issues such as climate change and amount of resources did not apply to them currently or to their future. Their knowledge of environmental topics and issues need to be increased because they will be the stewards of the environment in the future. Our society can benefit from increasing their environmental knowledge now because they will be making decisions and policies about the environment. Youths’ environmental knowledge needs to be increased and methods need to be discovered on how to involve youth in environmental learning activities.

1.3. Purpose of the Study

The purpose of this study was to identify ways to increase participation and interest in 4-H natural resource and environmental projects, programs, and opportunities. This study was designed to identify potential barriers to youth participation in these projects. Three groups were identified as potential participants for this study: Indiana 4-H Youth Development and Agricultural & Natural Resource Extension Educators, natural resource professionals, and current natural resource 4-H members. Participants had the opportunity to express their opinions and offer suggestions for increasing participation in the 4-H natural resource subject matter projects.

Four projects were focused on during this study: Forestry, Soil & Water Conservation, Weather, and Wildlife. These projects were selected as the research focus for the following reasons: (1) the number of participants statewide could be increased; (2) youth are interested in these subject areas; and (3) there are resources available to youth in these projects.

The following questions drove the research:

1. Why are more youth not involved in the four Indiana 4-H natural resource projects in this study?
2. How can youth involvement be increased in the four Indiana 4-H natural resource projects in this study?
3. What barriers keep youth from participating in the four Indiana 4-H natural resource projects in this study?
4. What are the perceived strengths and weaknesses of in the four Indiana 4-H natural resource projects in this study?
5. What motivates current 4-H Natural Resource members to continue to participate in the four Indiana 4-H natural resource projects in this study?
6. How can interest by 4-H members be improved for in the four 4-H natural resource projects in this study?

1.4. Assumptions

The researchers made the following assumptions about this study:

- Extension Educators are concerned that member enrollment numbers are low in these certain projects.
- Extension Educators want to improve interest and participation in natural resource project areas.
- Natural resource professionals know and understand the structure and mission of the 4-H Program.
- Natural resource professionals have a concern for natural resource projects and enrollment numbers.
- Natural resource 4-H members are interested in their natural resource projects.
- Natural resource 4-H members want to improve interest and participation in Natural resource projects areas.
- Participants complete their survey without input from other sources such as friends, parents, coworkers, volunteer leader, or other Extension Educators.

1.5. Limitations

This study was designed to gather information to understand why 4-H members join and continue to participate in natural resource projects. The potential limitations to the study may have included personal opinions, timeframe of survey, bias, exclusion, lack of time, and lack of control of data. These limitations and others are described in more detail below.

The survey required self-responses to indicate the personal ideas and opinions of the participants. The participants may have responded how they think the researchers wanted to them reply and not the participants' own ideas about the topic. The participants' involvement in the survey was completely voluntary. The reason the participants completed the survey is unknown. They could have a bias toward a certain 4-H project included in the study due to current or previous involvement or lack of involvement.

The participants may have not fully understood the intended meaning of the questions and this could have affected their response. The participants may have felt a question was asking for information that was too personal to answer. They may have felt their answer could affect their position or felt too uncomfortable to respond.

The surveys may not have been open for a long enough time period to allow the participants to complete them. The dates the surveys were open may have been during a busy time for the participants. The surveys may have appeared to be too time consuming to participants and they opted not to participate.

The survey participants were a convenience sample. The groups were not created specifically for this study, but were in existence before this study began.

The group of Natural Resource professionals were identified and selected by the researchers. Other potential professional groups may have been inadvertently missed. The exact number of natural resource professional participants is unknown because contacts of each organization emailed the information to their colleagues and did not report an exact number of people contacted.

4-H members' names and email addresses were supplied by 4-H Youth Development Extension Educators. Not all 4-H members may have an email address or supplied their email address to their local Extension Office. This would have excluded 4-H members fitting the criteria from participating in the survey.

There were many reasons why qualified youth were not invited to participate in the study or could have chosen not to participate. The email addresses provided could have belonged to parents of the 4-H members. The parents did not deem it necessary or beneficial for the youth to complete the survey or ignored the email. Youth were still in school while the survey was open and they had many other responsibilities at the same time. 4-H members may not have received their email when the survey was open because they do not check their email messages frequently. Email addresses may not be valid or may have been typed into the computer incorrectly. The emails from the researchers to potential participants may have gone straight to a "junk" or "spam" box.

Survey information including the survey address may have been sent to youth who were not in the participant target group.

Only natural resource 4-H members who had participated in the selected four projects were included in this study as participants. Other 4-H members were excluded from this study.

Current 4-H natural resource 4-H members were the only youth audience asked to participate in the study. Non-4-H members were excluded from this study.

1.6. Definitions of Terms

- 4-H Youth Development Council – The purpose of this advisory council is to help plan and implement a 4-H Youth Development Program that is consistent with the mission of Extension. Each Indiana County has a council of this nature although different names can be used for the committee.
- 4-H Youth Development Program – A program which assists youth and adults in their development by offering hands-on educational programs, using the knowledge base of land grant universities and the United States Department of Agriculture.
- Barrier – A limit or boundary to progress or advancement.
- Career Development Event (CDE) – An opportunity for youth to participate in activities to showcase their knowledge on specific topics.
- CES – Cooperative Extension Service.
- County Extension Board – The primary function of this Board is to assure the mission of Extension is met in the local community. This Board reviews local needs, evaluates program achievements, participates in the employment of salaried staff, and seeks necessary funds from county councils.
- Ecology – The branch of biology dealing with the study of the relationships between living organisms and their environment.
- Environmental literacy – An understanding of the relationships and interactions among the living and non-living systems which occur in the natural environment.
- Indiana Department of Natural Resources (IDNR) –Mission is to protect, enhance, preserve, and wisely use natural, cultural, and recreational resources for the

benefit of Indiana's citizens through professional leadership, management, and education.

- Interest - Something which attracts the attention, curiosity, or concern of a person.
- Natural Resource – A material source that is found in nature and is necessary or useful to humans. Examples include a forest, a mineral deposit, or fresh water.
- NIFA – National Institute of Food and Agriculture.
- National Oceanic and Atmospheric Administration (NOAA) – A federal agency focused on the condition of the oceans and the atmosphere.
- Natural Resource – Materials which are found in nature and are necessary or useful for humans; examples include land, forests, mineral deposits, and water.
- National Resource Conservation Service (NRCS) – Works with landowners through conservation planning and assistance designed to benefit the soil, water, air, plants, and animals that result in productive lands and healthy ecosystems.
- Professional – A person who is a subject matter expert on a topic dealing with their profession or work.
- Soil & Water Conservation Districts (SWCD) –. Conservation districts are non-profit local units of government which were established under state law. They provide leadership and information to local districts dealing with natural resource management programs. Also, they support partnerships with other federal and state organizations to provide programs.
- USDA – United States Department of Agriculture.
- Youth Development and Agricultural Education (YDAE) –The name of the Purdue University department which houses the 4-H Youth Development Program.
- Youth – Individuals in grades three through twelve, unless otherwise specified.

CHAPTER 2. REVIEW OF THE LITERATURE

2.1. Introduction

The research discussed in this chapter supports the framework for which this research study was developed. The structure of the Cooperative Extension Service is discussed along with the importance of volunteers to the 4-H Youth Development Program and the educational settings utilized in the program. The opportunities for youth through the Indiana 4-H Youth Development Program and demographics of the 2009 youth participants in the program are presented. The Expectancy Value Theory of Motivation and youth's current environmental knowledge and literacy are also discussed.

2.2 Literature Review Methodology

A review of literature was conducted using several sources. Resources used in the review include: Purdue University Library catalogs; *Journal of Extension*; *Google Scholar*, on-line journals; academic journals; and related theses. Key words and phrases utilized to conduct the search include: 4-H Youth Development; Cooperative Extension Education; natural resource education; history of 4-H; environmental attitudes and behaviors; environmental knowledge; expectancy-value theory; environmental education; natural resource extension; adolescent environmental behaviors; natural resource curriculum; and environmental education curriculum. The primary sections of this literature review include: Cooperative Extension Service; 4-H Youth Development Program; Indiana 4-H Youth Development Program; Expectancy-Value Theory of Motivation; Environmental Literacy; and. Environmental Knowledge

2.3. Cooperative Extension Service

The Cooperative Extension Service (CES) was established in 1914; created for change and problem solving. CES was developed to bring the knowledge and research from higher education institutions, particularly Land-Grant Universities, to people of all levels of education and living in all areas throughout the United States (Rasmussen, 1989).

There are four traditional program areas within the CES: Agriculture and Natural Resources (ANR); Consumer and Family Sciences (CFS); 4-H Youth Development (4-H YD); and Community and Economic Development. These program areas provide a variety of learning opportunities for people of all ages. The original focus of ANR program was to make sure people have enough food and fiber to survive. Programs offered through ANR are for everyone and deal with a variety of topics including food safety, water quality, conservation of natural resources, environmental risks, and sustainable practices. The CFS program area has special focus on certain groups such as low-resource families, youth and families at risk, senior citizens, and young homemakers. The 4-H YD program is designed to aid youth in developing life skills and gaining knowledge about different subject areas. The fourth program area of CES is the Community and Economic Development section; which is designed to help communities with the physical, economic, social, cultural, and institutional aspects of their communities. These four program areas work together to teach leadership, improve water quality, and build economic development (Seevers, Graham, & Conklin, 2007).

There are three levels of government that provide resources for the Cooperative Extension Service (CES): national; state; and local. A partnership was first created between the United States Department of Agriculture (USDA) at the national level and land-grant universities and several U. S. territories at the state level. Funding is provided at all three levels and the proportion of funding from each source varies from state to state (Seevers et al., 2007). The National Institute of Food and Agriculture (NIFA) was created following the passing of the Food Conservation and Energy Act of 2008 and is the federal partner. NIFA helps to fund research, education, extension services, and provides leadership to state and local levels. (“About us: NIFA overview,” 2009).

State staff members of the Cooperative Extension System work at land-grant universities, this includes administrators, as well as faculty who serve as state specialists. They deal with statewide issues and programming while also conducting training sessions for county staff members. State specialists focus on specific subject areas and are considered experts in that subject area. The county has been the long-standing arena for supplying the education. Extension Educators working in counties to plan, execute, and evaluate a variety of programs. They provide programs based on the needs of their intended audiences or clientele. Due to this system, the original idea of offering education to everyone is possible (Seevers et al., 2007).

Another resource which provides information for many audiences including students, researchers, clinicians, professors, and the general public is eXtension. eXtension information is available on the Internet and hosts researched and trustworthy knowledge and resources covering a variety of topics from land-grant universities across the United States (“About eXtension,” 2010).

2.4. 4-H Youth Development Program

The 4-H Youth Development (4-H YD) Program is the largest organization for youth to join. It is the only federally authorized program for youth in the United States (“FAQ about 4-H,” 2008).

The 4-H YD Program depends on adult volunteers to help teach youth life skills with educational hands-on learning opportunities (Smith, & Finley, 2004). Volunteers serve a vital role in the 4-H YD Program and have done so since the program’s inception. They assist by serving as mentors to youth, subject matter experts for a certain 4-H projects, or as a guest speaker at a club meeting (Van Horn, Flanagan, & Thomson, 1999). Volunteers play an important part in keeping the 4-H program functioning by assisting 4-H members to gain new information and knowledge (Enfield, 2001).

Youth are reached through the 4-H YD program in a variety of settings including school enrichment programs, 4-H Clubs, special interest or short term programs, camping programs, after school programs utilizing 4-H curricula, individual study, and instructional TV or web programs (“4-H Youth Development,” 2008). One benefit to

school enrichment programs is more students are reached who normally would not join the 4-H program or attend a 4-H function because they are already gathered at an educational setting: a school (Van Horn et al., 1999). School enrichment programs are also successful because school programs can be more structured than 4-H clubs so a larger number of youth are reached in an educational setting.

The United States had over 1.6 million 4-H members in 2008 (“4-H Youth Development,” 2008). Clubs have been a vital component of the 4-H program since its inception. 4-H Clubs generally meet outside of school settings, so the youth are required to find a way to attend the meeting. One type of a 4-H club is a project club which allows youth to focus mainly on one subject matter area and become even more knowledgeable about the specific topic studied (Van Horn, Flanagan, & Thomson, 1998).

There are other arenas where youth can participate in 4-H activities. They can develop their life skills, learn new ideas, and develop leadership skills with 4-H through public speaking, camping, and judging events (Van Horn et al., 1998). Youth also have the opportunity to participate with people in their communities. They can participate in hands-on activities that are beneficial to themselves and their communities that can also help improve their self-esteem and confidence (Enfield, 2001).

2.5. Indiana 4-H Youth Development Program

The mission of the Indiana 4-H Youth Development (4-H YD) Program is: “To provide real-life educational opportunities that develop young people who positively impact their community and world” (Indiana 4-H Youth Development mission,” 2010).

The Indiana 4-H program offers many opportunities and activities in which youth may participate. Examples include workshops, scholarships, awards, trips, and contests. Workshops offered to 4-H members include but are not limited to: aerospace; animal science; computer; food science and nutrition; plant science; band; and chorus. There are a variety of contests offered to 4-H members in Indiana which include soils, livestock skill-a-thon, dairy, horse/pony, meats, crops, entomology, forestry, wildlife, and horticulture (“Indiana 4-H Youth Development,” 2008).

Youth also have the opportunity to choose from different project subject areas which they would like to study and learn information about when they join 4-H in Indiana. These projects are based on a variety subject matters and materials. One example is the livestock projects where youth learn how to take care of animals by learning about the type of food, shelter, and medical care they need, and the physical attributes of the animals among other topics. The natural resource projects allow youth the opportunity to learn about the natural environment around them, such as the names of different trees, insects, or plants and how to conserve the environment for the future among many other topics (“Indiana 4-H Youth Development,” 2008)

The Indiana 4-H forestry project aims to increase youths’ enjoyment of the outdoors by teaching youth about woodland management and increasing their knowledge of trees (“Forestry,” n.d.). Youth can learn about soil and water interaction and how humans can protect and preserve these resources for future generations through the Indiana 4-H Soil & Water Conservation project (“Soil & Water Conservation,” n.d.). The Indiana 4-H weather project teaches youth about why we have different seasons throughout the year, what causes the weather to change, and the different climates all over the Earth (“Weather,” n.d.). The Indiana 4-H wildlife project is designed to increase youths’ enjoyment of the outdoors and the natural environment and by offering 4-H members the chance to learn about basic wildlife needs (“Wildlife,” n.d.).

Volunteers are a vital part of Indiana 4-H because they complete a lot of the direct education delivered to youth. An application process to ensure quality of the volunteers is required of all adults who want to serve as a volunteer leader in Indiana. Once the adult is approved, the local Extension Educator will place the volunteer with the program they think is best suited for the volunteer (McKinley, 2010). Volunteers in Indiana 4-H have a variety of opportunities where they can assist youth and the 4-H YD Program. They can: work as a volunteer coordinator by organizing county-wide activities or events; serve as a project resource person; volunteer for activities in their county Extension office; serve as a committee member on different boards within the county 4-H program; act as a surrogate parent to 4-H members in their club; and provide leadership coach to 4-H members throughout the year (“Opportunities for Volunteers,” 2008).

The 4-H volunteers in Indiana assisted over 200,000 youth in some way in 2009. These 4-H participants were reached in a variety of settings, with school enrichment being the largest venue, 55.5% (Table 1). Thirty-nine percent of Indiana 4-H youth in 2009 were from towns less than 10,000 and rural non-farm settings. The second largest category where youth live is on farms (26%). Just over 89% youth who participated in Indiana 4-H reported they were Caucasian and the second largest ethnicity/race group was Black/African American with 7.1% in 2009 (McKee, 2010).

Table 1 *Educational settings of 2009 Indiana 4-H members*

4-H Settings	Percentage
School Enrichment	55.5%
Organized Club	32.8%
Special Interest Group	8.7%
Overnight & Day Camps	2.3%
Individual Study	.7%

2.6. Expectancy-Value Theory of Achievement

The Expectancy-Value Theory of Achievement was used as the framework of this study because it looks at youths' inputs of their activities. Wigfield and Eccles (2000) presented and discussed two fundamental ideas of their Expectancy-Value Theory of Achievement Motivation about youth: youth's expectancies and task values both directly influence choices youth make related to achievement of a task.

Wigfield and Eccles created an expectancy-value model of achievement motivation (Figure 1). It correlates the ideas which influence expectancies and tasks values of achievement. The youth's emotional memories, short-term and long-term goals, self-schemata, an image of their ideal self, and the youth's perception of their own abilities and the task directly influence their expectancies and task values of achievement. These are in turn influenced by the youth's previous socialization experiences and their view of socialization beliefs and behaviors (Wigfield, & Eccles, 2000). Youths' beliefs about their expectancies for success predict how they feel they will do in future or immediate activities (Eccles, & Wigfield, 2002).

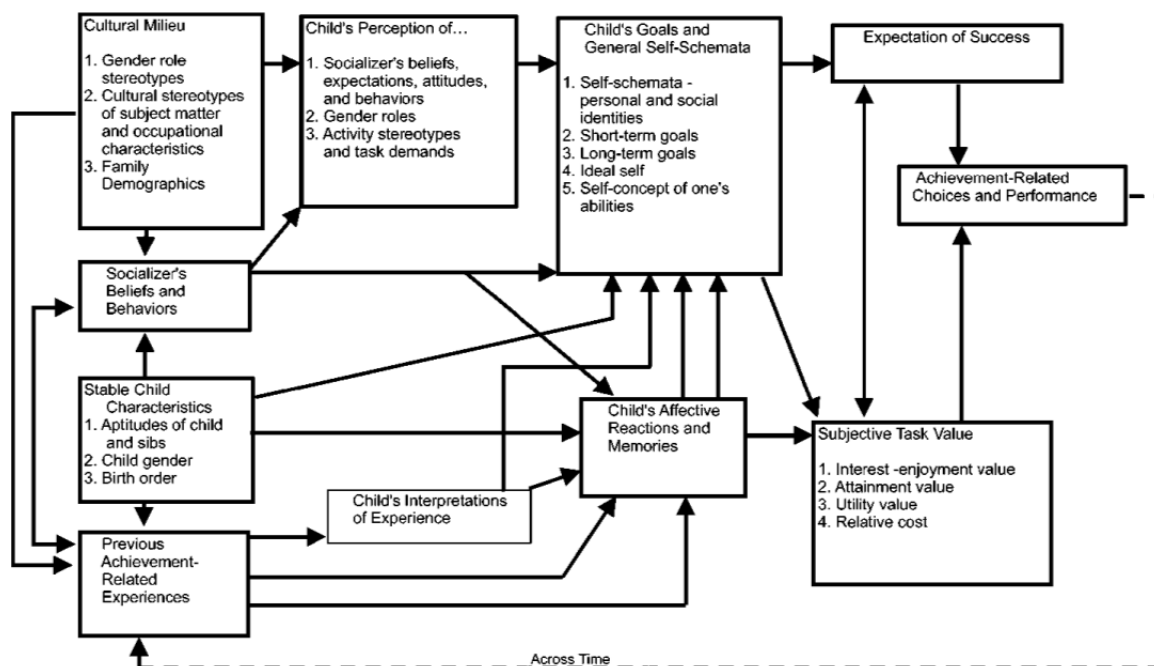


Figure 1. The Eccles et al. expectancy-value model of achievement. (Eccles & Wigfield, 2002)

There are four parts which compose the task values of Eccles and Wigfield's model of expectancy-value of achievement motivation (Figure 1). They include: intrinsic value; incentive and attainment value; utility value; and cost. *Intrinsic value* is the pleasure the youth achieves when they complete any activity. *Attainment value* is defined as the significance of personally completing a specific activity well. *Utility value* deals with how an activity the youth completes supports their current and future goals even if the youth are not interested in the topic at that time. An example of this value is: if the youth wanted to learn about the interaction between soil and plants, they need to learn basic information first such as the different types of soil, even if they were only interested in the plants. The *cost* of an activity is weighing the decision to participate in one activity against not completing another activity. The youth has to decide how much effort they are willing to put forth to complete the first activity compared to the other and if there are any negatives to choosing one activity over the other. An example is: if the youth choose to watch a television show instead of completing homework and how it will affect their school work performance (Eccles, & Wigfield, 2002).

2.7. Environmental Knowledge

Youth are our future scientists, policymakers, and consumers and because of this they will be the stewards of our environment (Bradley, Waliczek, & Zajicek 1999). Youths' environmental knowledge needs to be evaluated to help educators understand their current knowledge level about different environmental topics. Educators can also evaluate what types of educational settings are most beneficial to the youths' learning about the environment, such as non-formal or formal educational settings. Providing situations where youth can learn about the environment are important, so they can make knowledge based decisions in the future (Bradley, Waliczek, & Zajicek 1999).

Bradley, et al (1999) conducted a study to assess the effects on high school students' environmental knowledge after participation in a short environmental science course. The course had four sections dealing with the natural environment: air, water, land, and living organisms. Two-thirds of the class was comprised of hands-on learning. The students had more positive feelings and attitudes toward the environment after participating in this course. The participants also increased their environmental knowledge after completion of the class (Bradley et al., 1999).

Meinhold & Malkus (2005) conducted a self-reported survey of high school level adolescents to discover whether a connection exists between their environmental attitudes and proenvironmental behaviors, and also their environmental attitudes' connection with their environmental behaviors. The authors discovered that the youths' proenvironmental behaviors could significantly be predicted by their proenvironmental attitudes. Also, the youths' environmental knowledge is a moderator for the relationship between environmental attitudes and environmental behaviors.

Wray-Lake, Flanagan, and Osgood (2010) conducted a nationwide survey of high school seniors from 1976 to 2005. Their study was designed to measure aspects of youth's environmental concerns over time. Environmental concerns measured include: conservation behaviors; attitudes of personal responsibility, consumers' responsibility, and government responsibility toward the environment; attitudes of pollution; the belief of resource scarcity, and belief in technology. Results of their study showed an overall drop of conservation behaviors including: cutting down on electricity and vehicular

driving; utilizing bike and mass transit; and reducing the use of heat. Other trends reported by the participants were a decline in personal responsibility, a decline in the belief that resources are scarce, and an increase in the belief that current consumers are responsible for the environment over time (Wray-Lake et al., 2010).

2.8. Environmental Literacy

Youth are the future decision and policy makers about the environment (Meinhold & Malkus, 2005), (Bradley et al., 1999), (Volk & Cheak, 2003). They will need to not only have knowledge about the environment, but also what responsible environmental activities are and how they can complete these activities. Environmental literacy can be a complex body of information to develop and can be delivered to people in many different settings (McBeth, & Volk, 2010). According to Bogan and Kromrey (1996), environmental literacy is: “knowing ecology, being attitudinally predisposed to the environment, valuing responsible environmental behaviors, participating in responsible environmental behaviors, and knowing political action strategies.”

Both Bogan and Kromrey (1996) and McBeth and Volk (2010) conducted studies to discover the environmental literacy level of youth. The youth in both of these studies reported positive attitudes and feelings towards the environment, scoring over 75%. They did discover contradicting results in one aspect. The youths’ ecological knowledge scores in Bogan and Kromrey’s study were low (37%), while the youths’ ecological knowledge in McBeth and Volk’s study were higher (67%).

Culen and Mony (2003) explored 4-H youths’ environmental literacy after the youth participated in separate non-formal environmental education activities and non-environmental activities. The topics in the environmental literacy component of the survey included ecological foundations, knowledge of issues, issue identification, issue analysis, action planning, perceived knowledge of action, perceived skill in action, and self-reported environmental action. The results showed that the 4-H participants involved in the environmental education activities earned higher average scores on the survey than the youth who did not participate in those activities on every section except the self-reported environmental action category (Culen & Mony, 2003).

2.9. Summary

The Cooperative Extension Service and the 4-H Youth Development Program provides youth and adults many learning opportunities through non-formal settings. The 4-H Youth Development Program reaches out to youth in different educational settings including 4-H Clubs, after-school programs, school enrichment programs, and summer camps. The Indiana 4-H Youth Development Program offers projects and programs covering a variety of topics for youth to learn. The youth can further their knowledge and utilize the knowledge gained at state workshops and competitions.

Youth show they have or can have positive attitudes and feelings towards the natural environment and want to learn about it, even if they do not believe it is their responsibility to take care of the environment. They can increase their knowledge of the environment and natural resources through different educational settings including non-formal educational settings and short courses in a school setting. Youth in Indiana do have many opportunities to participate in activities with these educational settings. The 4-H Youth Development Program, the Indiana Department of Natural Resources, local towns and cities, and the Association of Soil and Water Conservation Districts all provide an assortment of opportunities for youth to learn about natural resources in different educational settings. These youth will make a decision to participate in and complete a specific activity related to possible achievement due to their expectancies and task values of the activity. A youth's enjoyment of completing an activity, the significance of completing an activity well, current and future goals, and the cost of participating in a certain activity influence the decisions to participate in an activity.

CHAPTER 3. METHODOLOGY

3.1. Purpose & Objectives of the Study

The purpose of this study was to identify ways to increase participation and interest in 4-H natural resource and environmental projects, programs, and opportunities. This study was designed to identify potential barriers to youth participation in these projects. Three groups were identified as potential participants for this study: Indiana 4-H Youth Development and Agricultural & Natural Resource Extension Educators, natural resource professionals, and current natural resource 4-H members. Respondents from across Indiana had the opportunity to express their opinions and any suggestions they had for increasing participation in the 4-H Natural Resource projects. The participants had the opportunity to discuss their thoughts about the 4-H Natural Resource projects as a whole entity and also about specific projects. Four projects were focused on during this study: Forestry; Soil & Water Conservation; Weather; and Wildlife.

The following questions drove the research:

1. Why are more youth not involved in the four Indiana 4-H natural resource projects in this study?
2. How can youth involvement be increased in the four Indiana 4-H natural resource projects in this study?
3. What barriers keep youth from participating in the four Indiana 4-H natural resource projects in this study?
4. What are the perceived strengths and weaknesses of in the four Indiana 4-H natural resource projects in this study?
5. What motivates current 4-H Natural Resource members to continue to participate in the four Indiana 4-H natural resource projects in this study?
6. How can interest by 4-H members be improved for in the four 4-H natural resource projects in this study?

3.2. Participants

This study included three groups of participants: Indiana 4-H Youth Development (4-H YD) and Agriculture & Natural Resource (ANR) Extension Educators; natural resource professionals; and current 4-H natural resource members. These groups were chosen as participants to provide a broad view of the Indiana 4-H natural resource program. The Indiana 4-H State Program Leader obtained approval for the study and approval to contact current Extension Educators and 4-H members from the Director of the Cooperative Extension Service.

4-H YD Extension Educators were chosen as participants due to their knowledge of the 4-H program and projects. Some of the Extension Educators are also subject matter experts on natural resource topics. The ANR Extension Educators were chosen due to their knowledge of different aspects of agriculture, natural resource, and environmental issues. ANR Extension Educators help in some instances with the 4-H program, particularly the areas which relate closely to their expertise including livestock, natural resources, and environmental project areas. The ANR Extension Educators generally work with a different audience than the 4-H program educates and therefore add another point of view to this study.

There are many different professional groups in the natural resource arena. Particular groups were included as they were identified as organizations that have a focus which is closely related to the four natural resource projects of focus in this study. They were also groups who could potentially assist with natural resource programming. Five organizations were contacted and asked to participate in the study. They were: the Indiana Association of Soil and Water Conservation Districts (SWCD); Indiana Department of Natural Resource (IDNR): Division of Forestry, Division of Fish and Wildlife ,and Natural Resources Education Center; and the National Oceanic and Atmospheric Administration (NOAA).

The current 4-H natural resource members needed to have enrolled in at least one of the four projects in this study. The original intent was to focus solely on high school natural resource members in the study, but information about the study was distributed and advertised to natural resource members of all ages.

Contact information was readily available through listservs and websites because participants were previously members of a group or organization. The three participant groups were all able to be contacted via an email. The 4-H YD and ANR Extension Educators have separate listserv email addresses where all Extension Educators throughout the state can be contacted through a single email address. The natural resource professionals were connected through professional organizations. The information about the research was sent to one individual in the organization who was asked to distribute it to their associates through emails. The youth participants in the survey were current members of the 4-H program. Contact information for the 4-H members, including their names and email addresses, were available from local county Extension offices.

3.3. Survey Development

The survey instruments were designed specifically for this research study. Desired outcomes of this study were to discover ideas to increase youth involvement in the 4-H natural resource and environmental projects and programs and explore opinions why youth choose not to participate in these projects. Separate surveys were developed for the three participant groups. All three surveys contained both quantitative and qualitative questions, in both open-ended and close-ended format.

A close-ended question has a fixed set of response options from which the respondent can pick an answer which most closely relates to their ideas. Examples of close-ended questions include checklists, scaled items, ranking items, multiple choice questions, and likert-type items. An open-ended question does not have a fixed set of response options but allows the respondent to provide their own ideas. Examples of open-ended questions include completion or fill-in items (Ary, Cheser Jacobs, Razavieh, & Sorensen, 2006).

The Extension Educators and 4-H members generally already know the structure of the 4-H program and how it operates. These two surveys were designed to discover what participants' thoughts were about natural resource projects. The natural resource professionals' survey was designed to obtain ideas and opinions about the 4-H natural resource program from professionals outside of the 4-H program. This survey was

designed to understand how knowledgeable this audience was of the 4-H program, particularly of the natural resource projects.

3.4. 4-H Youth Development and Agricultural & Natural Resource Extension Educator Survey

The 4-H Youth Development (YD) and Agricultural & Natural Resource (ANR) Extension Educator survey (Appendix A) was developed to evaluate barriers to 4-H member participation in Indiana 4-H natural resource programs. This survey was also designed to provide information which would be helpful in improving 4-H member interest and participation. Questions were designed to discover the participants' thoughts about specific Indiana natural resource projects statewide and in their county.

This survey was composed of ten questions. Seven questions had multiple choice responses and two of these questions allowed the participant to provide their own answer. These questions focused primarily on the barriers to participation, current 4-H project materials, exhibit requirements, project resources, and natural resource volunteers.

The other three questions allowed the Extension Educators to discuss the 4-H natural resource projects with open-ended responses. The participants had the option to choose one of four projects and discuss the value of that project and how it could be improved. The participants had the opportunity to discuss any perceived strengths and weaknesses of the 4-H natural resource projects as a whole or individually, and to express any comments on how participation and interest can be increased for these projects.

The 4-H YD and ANR Extension Educator survey was available to participants on a website (Zoomerang.com). A link to the survey was provided to participants through an email and they were able to click on the link to view and complete the survey. Each participant could complete the survey only once to avoid duplications in answers. This survey was open and available to participants on March 15, 2010. An email (Appendix B) from the researchers was sent to all 4-H YD and ANR Extension Educators through their respective email listerv on the same day explaining the purpose of the research and asking for their voluntary participation. This survey was open for over three weeks to provide a sufficient amount of time for the Extension Educators to complete the survey.

A reminder email (Appendix C) from the researchers was sent on March 22, 2010 thanking anyone who had already completed the survey and asking for participation of those who had not yet completed the survey. A final reminder email (Appendix D) from the researchers was sent to Extension Educators on March 29, 2010. The last day Extension Educators could complete the survey was April 7, 2010.

3.5. Natural Resource Professional Survey

The natural resource professional survey (Appendix E) was developed to evaluate barriers to 4-H member participation in Indiana 4-H natural resource programs. This survey was also designed to provide information which would be helpful in improving 4-H member interest and participation. Questions were designed to discover what these professionals know about the current 4-H program and specific Indiana 4-H natural resource projects.

This survey was composed of eight questions. Five of the questions were in multiple choice formats. These questions focused on the professionals' familiarity with the Indiana 4-H program, familiarity with 4-H natural resource projects, any current or past involvement with the 4-H program, and volunteering for natural resource projects and programs. The purpose of these questions was to learn any connections or understanding the professionals already had about the 4-H program and current or future volunteering with the program. The three remaining questions were in open-ended format. The natural resource professionals were asked for their connection with natural resources. They could provide ideas of possible resources which could be beneficial to the 4-H natural resource projects and any other comments about the 4-H natural resource projects.

The natural resource professional survey was available to participants on a website (Zoomerang.com). A link to the survey was provided to participants via an email and they were able to click on the link to view and complete the survey. Each participant

could complete the survey only once to avoid duplications in answers. This survey was open and available to participants on, March 22, 2010. An email (Appendix F) was sent from the researchers to a contact of each organization requesting the survey be forwarded to other members of their organization. All contacts were program directors with one exception, the NOAA contact. This contact was asked to forward information about the research to other members on a regional basis. The organizations contacted were: the Indiana Association of Soil and Water Conservation Districts (SWCD); Indiana Department of Natural Resource (IDNR): Division of Forestry, Division of Fish and Wildlife, and Natural Resources Education Center; and the National Oceanic and Atmospheric Administration (NOAA). The survey was open for four weeks to allow sufficient time for individuals to complete the survey. The groups were contacted between March 22 and March 31, 2010. The survey was closed on April 23, 2010.

3.6. 4-H Member Survey

The 4-H natural resource member survey (Appendix G) was developed to determine what motivates current 4-H natural resource members to stay involved in these projects and to ask what they think could encourage other youth to participate in these projects.

There were a total of eleven questions in this survey which contained two primary sections: demographics and other questions related to the natural resource projects. The demographics section was composed of five questions and the first three questions were open-ended. The participants were asked to report how many years they have been enrolled in 4-H, including the current year; the number of years enrolled in any of the four natural resource projects; and their current grade during the 2009-2010 school year. Two questions in the demographic section were in multiple choice formats. The participant could indicate their gender and had the option to indicate if they would serve as a volunteer in the future for any of the four projects. These questions were asked so the researchers could learn the background of the 4-H members who participated in the survey.

The second section dealt with the four natural resource 4-H projects of focus and contained six questions. Two questions were in multiple-choice format and asked the 4-H members to identify what barriers youth had to participating in 4-H natural resource projects and if they are planning a career dealing in one of the four project areas. The other four questions were presented in the open-ended format. 4-H members indicated what motivates them to continue participating in these projects and why they think more youth do not participate. 4-H members were asked if they have had the opportunity to mentor other 4-H members in the natural resource projects. 4-H members had the opportunity to provide any other comments they had about natural resource 4-H projects and suggestions on how to increase participation.

4-H members were contacted via an email address they provided to their local county Extension Office when they enrolled in the 4-H Youth Development Program. An email (Appendix H) was sent to all 4-H YD Extension Educators on March 11, 2010 requesting they provide qualified 4-H members' email addresses so they could be contacted by the research team regarding the study. An attachment (Appendix I) was included with the email describing the information needed and the process for providing the information. An email listserv was created by combining all the 4-H members' email addresses provided to contact this group. This allowed the 4-H members' personal email addresses to be kept private.

Another email (Appendix J) was sent on March 31, 2010 to 4-H YD Extension Educators requesting they send an email to the natural resource 4-H members in their county regarding the research. An attachment (Appendix K) regarding recruitment advertisement for the research was included with the email. The 4-H YD Extension Educators were asked to include the recruitment advertisement in newsletters, postcards, or any other means of communication they had with the 4-H members.

The natural resource 4-H member survey was available to participants on a website (Zoomerang.com). A link to the survey was provided to participants via an email from the researchers. They were able to click on the link to view and complete the survey. Each participant could complete the survey only once to avoid duplications in answers. The survey was opened and available to potential participants on, April 5, 2010.

An email (Appendix L) was sent on April 8, 2010 from the researchers to the 4-H members explaining the purpose of the research and asking for voluntary participation. The survey was open for four weeks to allow the 4-H members a sufficient amount of time to complete the survey. A reminder email (Appendix M) from the researchers was sent on April 21, 2010 thanking those who already completed the survey and asking for participation of who had not yet completed the survey. The last day 4-H members could complete their survey was on May 3, 2010.

3.7. Natural Resource Professional Focus Group

The focus group was created at the request of an IDNR superintendent who wanted to discuss the survey in more detail. This focus group met after the surveys were completed. There were three natural resource professionals and two members of the research team in attendance. One (or more) of the researchers asked questions of the participants from the online survey during the focus group and participants supplied any additional information about the topic. Notes from the focus groups were taken by hand (written) and kept in a locked filing cabinet in the researcher's office.

3.8. IRB Committee Research Approval

Required training was completed in July, 2009 for the Collaborative Institutional Training Initiative (CITI) Course in The Protection of Human Research Subjects online training workshop. Three documents were submitted to Purdue University's Institutional Review Board in February 2010 to request exemption for each of the surveys in this study. Examples of the emails to be sent to all participants and all three surveys were included. The Purdue University's Institutional Review Board reviewed and allowed exemption for this research study. Exemption for the 4-H YD and ANR Extension Educator Survey was received on March 3, 2010 (Appendix N). Exemption for the Natural Resource Professionals Survey was received on March 3, 2010 (Appendix O). Following the first submission of the exemption form for the 4-H Member Survey, the IRB Committee required a different form to be completed and submitted for work with underage youth (Appendix P). Exemption was received for the 4-H Member Survey on

March 5, 2010 (Appendix Q). The natural resource professional revision of protocol (Appendix R) was approved on October 27, 2010. The reference numbers for each survey were as follows: 4-H YD and ANR Extension Educator survey: #1002008998; Natural Resource Professionals survey: #1002008976; and 4-H member survey: #1002008997.

3.9. Data Collection

Data were collected by the (Zoomerang.com) software where participants were directed to complete their respective survey. The number of responses and percentages for each answer were automatically calculated by the Zoomerang software. The researchers downloaded the survey responses and calculated percentages and completed a comparative analysis of both close-ended and open-ended questions.

The 4-H YD and ANR Extension Educator survey was open from March 15, to April 7, 2010. The natural resource professional survey was open from March 22 to April 23, 2010. The 4-H member survey was open from April 5 to May 3, 2010. Results were kept separate for each of the three studies. Data and results were exported to an Excel file from the survey website and printed off for further analysis by the researchers. The printed results were kept in a locked filing cabinet in the researcher's office and on a secure file on the computer.

3.10. Data Analysis

Comparison for close-ended questions was conducted within each question, comparing the number of responses for each answer. This was done to discover the participants' previous knowledge and their opinions about the topic. An example is the Extension Educator's comfort level when recruiting natural resource volunteers. The results indicated Extension Educators were: 24.3% - Very; 36.1% - Some; and 13.6% - Not at all comfortable when recruiting these volunteers.

Open-ended questions were categorized by the similarity of responses. The researchers wanted to learn the demographics of the groups, what the participants knew about the current Indiana 4-H Youth Development Program, and their ideas and opinions about the natural resource projects. The researchers wanted to be able to make

recommendations for future programming for natural resource projects from the results. An example is natural resource professionals had the opportunity to indicate what professional organization with which they were associated. Similar responses were combined in categories: Soil & Water Conservation; Indiana Department of Natural Resources (IDNR); weather related; Society of American Foresters; and other unique responses; then the count and percentage of each answer were tabulated. These results showed the researchers what connection the natural resource professionals had related to the projects. The researchers identified answers which were insightful, in depth and detail, and were “interesting” from the open-ended questions.

CHAPTER 4. RESULTS

4.1. Introduction

The purpose of this study was to discover suggestions to increase participation and interest in 4-H natural resource and environmental projects and program. The researchers also wanted to identify barriers to youths' participation in 4-H natural resource projects. The data collected for this study were analyzed by the researchers of the study. The sections in Chapter 4 present response numbers and results obtained from each of the identified audience groups.

4.2. Survey Response Numbers

The 4-H Youth Development (4-H YD) and Agriculture and Natural Resources (ANR) Extension Educator survey information and link were emailed to a potential 189 respondents. 105 Extension Educators responded (Table 2), yielding a 55.6% response rate with all survey responses deemed usable for this research.

The Natural Resource Professional survey yielded 106 total responses (Table 2). All results were deemed usable because there was no specified criteria for this group before the research began.

The 4-H member survey yielded a total of 75 responses (Table 2). The criterion was 4-H members who had participated in any of the following natural resource projects forestry, soil and water conservation, weather, or wildlife 4-H projects. All results were deemed usable.

Table 2 *Number of survey responses*

Survey	Response Number
4-H YD & ANR Extension Educator	105
Natural Resource Professional	106
4-H Member	75

4.3. 4-H Youth Development and Agricultural & Natural Resource Extension Educator Survey Results

The 4-H YD and ANR Extension Educator survey was developed to evaluate barriers to 4-H member participation in Indiana 4-H natural resource programs and provide information which would be helpful in improving 4-H member interest and participation. All of the close-ended results appear in Appendix S.

The survey began by asking respondents what they consider to be barriers to youth for participation in the four specific 4-H natural resource projects. A total of 204 responses from Extension Educators indicated a low interest by youth was the biggest barrier (39.2%) and a knowledgeable volunteer was the second biggest barrier (24.5%) (Table 3). A variety of other barriers included but is not limited to: projects are too time consuming; not as attractive materials; preconceptions of project requirements; they are not popular topics; and youth have too many other interests.

Table 3 *Barriers to youth participation in Indiana 4-H natural resource projects, as indicated by Extension Educators*

Barriers	Money Resources	Information available on subject	Knowledgeable volunteer	Project not offered	Low interest by youth	Other, please specify	Total
<i>N</i>	11	25	50	4	80	34	204
%	5.4	12.2	24.5	2.0	39.2	16.7	100.0

More than 80% of the 4-H YD and ANR Extension Educators indicated they were somewhat to very familiar with all four of the natural resource projects (Table 4). Project manuals were found to be somewhat to very useful for youth by over 80% of the Extension Educators (Table 5). The natural resource exhibit requirements were also found to be somewhat to very relevant to learning by the 4-H members by greater than 80% of the Extension Educators (Table 6).

Table 4 *Extension Educators' reported familiarity with the four natural resource projects*

	Very	Some	Not at all	N/A	Total
Forestry					
<i>N</i>	24	70	10	0	104
%	23.1	67.3	9.6	0.0	100.0
Soil & Water Conservation					
<i>N</i>	16	67	19	2	104
%	15.4	64.4	18.3	1.9	100.0
Weather					
<i>N</i>	22	65	16	1	104
%	21.2	62.5	15.4	0.9	100.0
Wildlife					
<i>N</i>	28	65	1	0	104
%	26.7	62.5	10.6	0.0	100.0

Table 5 *Usefulness of the four project manuals as resources, as indicated by Extension Educators*

	Very	Some	Not at all	N/A	Total
Forestry					
<i>N</i>	25	66	4	6	101
%	24.8	65.3	4.0	5.9	100.0
Soil & Water Conservation					
<i>N</i>	21	63	7	11	102
%	20.6	61.8	6.8	10.8	100.0
Weather					
<i>N</i>	21	65	6	10	102
%	20.6	63.7	5.9	9.8	100.0
Wildlife					
<i>N</i>	25	62	8	6	101
%	24.8	61.4	7.9	5.9	100.0

Table 6 *Relevancy of the 4-H natural resource exhibit requirements to learning by 4-H members, as indicated by Extension Educators*

	Very	Some	Not at all	N/A	Total
Forestry					
<i>N</i>	33	64	2	4	103
%	32.0	62.1	1.9	4.0	100.0
Soil & Water Conservation					
<i>N</i>	24	61	9	9	103
%	23.3	59.3	8.7	8.7	100.0
Weather					
<i>N</i>	24	67	6	6	103
%	23.3	65.1	5.8	5.8	100.0
Wildlife					
<i>N</i>	28	62	7	4	101
%	27.7	61.4	6.9	4.0	100.0

Extension Educators identified resources for the natural resource projects they currently offer, desire, or were not applicable in their county from a multiple choice list. The Soil and Water Conservation Districts, ANR Extension Educator, and the Internet

were selected as the most currently being utilized with 91.2%, 89.2%, and 89.2% of the Extension Educators' responses respectively. The resources most desired by Extension Educators were Parks and Recreation personnel either state or local (31.6%) and local experts (30.1%). Table 7 provides further summary of the results.

Table 7 Possible resources for natural resource projects, as indicated by Extension Educators

	Current	Desired	N/A	Total
IDNR				
<i>N</i>	76	17	9	102
%	74.5	16.7	8.8	100.0
SWCD				
<i>N</i>	93	5	4	102
%	91.2	4.9	3.9	100.0
ANR Extension Educator				
<i>N</i>	91	5	6	102
%	89.2	4.9	5.9	100.0
Parks & Recreation personnel				
<i>N</i>	56	30	12	95
%	55.8	31.6	12.6	100.0
Library				
<i>N</i>	81	15	4	100
%	81.0	15.0	4.0	100.0
Internet				
<i>N</i>	91	10	1	102
%	89.2	9.8	1.0	100.0
Local Experts				
<i>N</i>	56	28	9	93
%	60.2	30.1	9.7	100.0
Other				
<i>N</i>	9	6	26	41
%	22.0	14.6	63.4	100.0

Extension Educators were asked to identify how comfortable they were when recruiting natural resource volunteers. Just over sixty-two percent indicated they were

somewhat comfortable when recruiting natural resource volunteers (Table 8).

Respondents selected challenges they face when recruiting natural resource volunteers from a list provided. The biggest challenge Extension Educators reported was time required by the volunteer (39.8%). The lack of project experts (26.3%) was the second biggest challenge indicated (Table 9). There were a variety of other reasons reported in response to the open-ended question regarding challenges when recruiting natural resource volunteers. These included: people are already committed to other similar natural resource programs; the Extension Educator has not tried or just does not have time to try; and no youth enrolled in the project.

Table 8 *Extension Educators reported comfort level when recruiting natural resource volunteers*

Level	Very	Some	Not at all	Total
<i>N</i>	25	64	14	103
%	24.3	62.1	13.6	100.0

Table 9 *Challenges Extension Educators' reported they face when identifying natural resource volunteers*

Challenge	Lack of project experts	Time required by volunteer	Difficulty finding people willing to work with youth	Other, please specify	Total
<i>N</i>	45	68	35	23	171
%	26.3	39.8	20.5	13.4	100.0

Extension Educators had the opportunity to discuss at least one of the four natural resource projects in depth. They discussed the value of the project to the youth and made suggestions on how improvements could be made to that project. Sixty-five people in total responded, providing an array of answers. Many discussed more than one of the projects, their answer applied to more than one project, or it was ambiguous as to which

project they were discussing. Some responses were general such as “very valuable. Emphasize the strong points-activity/hands on.” Others were more detailed: “Soil and Water Conservation is important for youth to understand the basic concepts of the importance of soil and water in our daily lives. (they are key to providing food that we eat) & the need to conserve these important resources.” One respondent stated “Forestry is not only a Natural Resource it is also a source of income for landowners...we need to train and educate young people in the care and management of this resource.” All the responses concerning this topic appear in Appendix T.

Extension Educators provided their perception of the strengths and weaknesses of the current 4-H natural resource projects. There were 59 responses giving a variety of suggestions and advice. The strength mentioned most often was the resources available to the 4-H members in these projects. These resources included the manuals, the Internet, human interaction, and parks. Other strengths mentioned multiple times were the youth enjoy these projects, the relevance of the topic, and the information is science-based knowledge. A number of weaknesses were also mentioned. The lack of interest by youth was indicated by ten of the fifty-nine respondents. Other weaknesses mentioned multiple times were: the manuals are boring or are not fun; the manuals need updating; and exhibit posters. All of the results appear in Appendix U.

Forty-five Extension Educators provided comments they had about 4-H natural resource projects in Indiana and gave suggestions on how interest and participation could be increased for these projects. Suggestions provided by more than one respondent included: the need for youth workshops, camps, or field days (4); the need for a knowledgeable volunteer (4); and natural resource projects need to be combined for a more holistic natural resource project (3). All responses regarding this topic appear in Appendix V.

4.4. Natural Resource Professional Survey Results

The survey delivered to natural resource professionals was designed to discover what targeted professionals in this field know about the current 4-H Youth Development Program and specific Indiana 4-H natural resource projects or subject material. It was

developed to evaluate barriers to 4-H member participation in Indiana 4-H natural resource programs and provide information which would be helpful in improving 4-H member interest and participation. All close-ended results appear in Appendix W.

Natural resource professionals indicated their association with natural resources at the beginning of their survey. Over half (58.7%) of the respondents were employees of Soil and Water Conservation Districts (SWCD) across Indiana. They held a variety of positions within their SWCD: Resource Conservation and Development; employee; and District Office Manager. The remaining categories included divisions of the Indiana Department of Natural Resources (IDNR), National Weather Service meteorologist, Society of American Foresters, and a category of other unique responses. These unique responses included a natural resource coordinator, a grant coordinator, and a community and urban forestry state coordinator. The number and percentages of respondents in each category are given in Table 10.

Table 10 *Natural resource professionals' organizations*

Organization	SWCD	IDNR	Weather	Society of American Foresters	Other responses	Total
<i>N</i>	61	35	2	2	4	104
%	58.7	33.7	1.9	1.9	3.8	100.0

The respondents identified their level of familiarity with the current Indiana 4-H Youth Development Program. They could choose from very, some, not at all, and not applicable. Just over fifty-six percent of respondents indicated some familiarity while 30.5% indicated they were very familiar with the 4-H Youth Development Program (Table 11).

This group also indicated the 4-H Natural Resource projects with which they were familiar. Their options were: Forestry; Soil & Water Conservation; Weather; Wildlife; None of the above; and an other category. Respondents were most familiar with the Soil and Water Conservation project (29.5%) and the Wildlife project (26.5%) (Table 12).

Other projects which natural resource professionals were familiar with included livestock, entomology, geology, shooting sports, and sport fishing projects.

Table 11 *Natural resource professionals' reported familiarity with the Indiana 4-H Youth Development Program*

Familiarity	Very	Some	Not at all	Not applicable	Total
<i>N</i>	32	59	14	0	105
%	30.5	56.2	13.3	0	100.0

Table 12 *Natural resource professionals' reported familiarity with specific 4-H natural resource projects*

Project	Forestry	Soil & Water Conservation	Weather	Wildlife	None of the Above	Other, please specify	Total
<i>N</i>	59	71	23	64	12	12	241
%	24.5	29.5	9.5	26.5	5.0	5.0	100.0

Natural resource professionals reported any prior involvement they had with the 4-H Program. They had the option to select from the following: volunteer leader; parent; volunteer; Extension Educator; 4-H member; and other responses. The category with the greatest number of responses was “other responses” (26%). Respondents indicated they were previously judges; part of a committee such as Extension Board, a support committee, and 4-H Council; assisted with programs as a volunteer or project superintendent; and helped a long time ago or with a sign up booth. A judging official in the 4-H program is utilized during a county or state fair by judging the 4-H projects on meeting the requirements and following the instructions. The category with the second most frequent number of responses was the parent category (41), which was followed by the 4-H member category (36). The number and percentages for each category are in Table 13.

Table 13 *Natural resource professionals' reported previous involvement with 4-H*

Involvement	Volunteer Leader	Parent	Volunteer	Extension Educator	4-H Member	Other	Total
<i>N</i>	19	41	28	1	36	44	169
%	11.2	24.3	16.6	0.6	21.3	26	100.0

Respondents were asked to indicate from the Forestry, Soil & Water Conservation, Weather, and Wildlife for which project(s) they would be willing to serve as a volunteer. Soil and Water Conservation was indicated the most with 37.6% of the responses as the project they would be willing to serve. Forestry and Wildlife both received 26.2% of the responses, and Weather received 10.0% of the responses (Table 14).

Natural resource professionals were asked to indicate all options or activities they would be most comfortable performing when volunteering with the 4-H YD Program. Options included working directly with 4-H member; working with 4-H member and an Extension Educator; providing subject matter to an Extension Educator or volunteer adult leader, who will run the meeting; and other, please specify. Providing subject matter to someone else associated with 4-H who will also run the meeting received the highest number of responses, (35%). Working with a 4-H member and an Extension Educator received the second largest number of responses (28.2%). Responses from the open-ended other response category include judging projects, present programs, speak or find a speaker for meetings, urban forestry technical assistance, and assist as a resource person or consultant. A summary of all responses is presented in Table 15.

Table 14 *Projects for which natural resource professionals reported they would be willing to serve as a volunteer*

Project	Forestry	Soil & Water Conservation	Weather	Wildlife	Total
<i>N</i>	34	49	13	34	130
%	26.2	37.6	10.0	26.2	100.00

Table 15 *Activities natural resource professionals reported they would be willing to complete as a volunteer*

Activities	Work directly with 4-H member	Work with 4-H member & Extension Educator	Provide subject matter to Ext. Ed or volunteer who runs meeting	Other	Total
<i>N</i>	40	46	57	20	163
%	24.5	28.2	35	12.3	100.0

Natural resource professionals provided examples of possible resources which they thought could be beneficial for 4-H members in natural resource projects and that could assist with their learning. A total of 69 respondents provided at least one answer. There were a total of 167 ideas with many replications in the responses. The researchers analyzed the responses and categorized them into twelve general themes of possible resources.

The resource that was suggested the most was natural resource organizations and associations (37.7%). Many different natural resource organization and associations were suggested. Organizations that were mentioned multiple times were: Soil & Water Conservation Districts (15 times); the Indiana Department of Natural Resources (13 time); Natural Resource Conservation Service (7 times); and the Indiana State Department of Agriculture (2 times). Other organizations mentioned include: United States Geological Services; DNR Nature Centers; National Association of Conservation Districts; IDEM speakers; professionals involved with permitting and mitigation projects; Conservation Officers; State Forest Offices; Wildlife Conservation Groups; local non-profits, Wildlife Conservation Groups; Indiana Wildlife Federation; National Wild Turkey Federation; Ducks Unlimited; and Pheasants Forever.

The resource that was listed second largest was natural resource literature (14.4%). Many responses provided examples of natural resource literature and information available to the public. Examples included: Historical Maps; Indiana

Community Tree Selection Guide; Field Guides; Native Trees of Indiana; 50 Trees of Indiana; lists of forests, nature centers, and wildlife preserves, tools and equipment for activities; storm water enviroscape module; informative brochures from pertinent agencies; list of resource contacts for members; Prescribed Fires as a Management Tool; fire safety outside the home; trees and their importance in Indiana; information on wildlife; and DNR brochures.

The category receiving the third most responses was the other responses, or unique responses. Responses that were unique included: more recognition for youth, public parks, workbooks, high school agriculture science and business teachers, and resource consultation with knowledgeable adults.

Many websites were supplied as possible resources (18 times). Some suggestions were general such as the Internet (2 times) and professional websites (2 times). Two specific websites were mentioned pertaining to weather: www.weather.gov and <http://www.srh.noaa.gov>. Other websites mentioned were the Natural Resource Conservation Service (NRCS), Indiana Department of Environmental Management (IDEM), Soil & Water Conservation Service (SWCS), and the Environmental Protection Agency (EPA) websites. The Indiana Department of Natural Resources received six responses and specifically the Web Soil Survey presented by the NRCS was mentioned three times.

Natural resource programs designed for general audiences (including youth and adults) suggested as possible resources included: Hoosier Riverwatch (3 times) from the IDNR, Project Learning Tree Activities (2 times), Project WILD from IDNR (2 times), and Project Water Education for Teachers (WET) from IDNR (3 times).

Two respondents suggested youth utilize other states' information or curriculum specific to natural resources. The Minnesota's Stormwater Manual and Oregon's soil programs were specifically recommended. A summary of the number and percentages of each category are in Table 16.

Table 16 *Resources for 4-H members in natural resource projects, indicated by natural resource professionals*

Resources	<i>N</i>	%
Natural Resource Organizations & Associations	63	37.7
Natural resource literature	24	14.4
Other responses	20	11.9
Internet and informative websites	18	10.8
Outdoor classrooms	11	6.6
Previously offered natural resource programs	10	6.0
Communication with natural resource professionals	8	4.8
Job shadowing	4	2.4
Volunteer Leaders	3	1.8
Library	2	1.2
Other states' available natural resource information	2	1.2
Natural resource clubs	2	1.2
Total	167	100.0

Natural resource professionals provided comments about the four 4-H natural resource projects of focus. The thirty-nine responses varied from specific to broad and dealt with different topics. The most common topics discussed were: the need for a project leader or knowledgeable volunteer for these projects areas (3) and these projects need to be promoted and marketed more the youth (5). Respondents mentioned the Extension Educators need to work with the SWCD and IDNR on promoting the projects. All the final comments from the natural resource professional survey appear in Appendix X.

4.5. 4-H Member Survey Results

The 4-H natural resource member survey was developed to determine what motivates current 4-H natural resource members to stay involved in these projects. The survey was also designed to obtain their suggestions of motivators to encourage other

youth to participate in these projects. There were two sections to this survey. All of the close-ended results are presented in Appendix Y. The first section of the 4-H member survey was designed to gather the demographics of the respondents.

Respondents have been enrolled in at least one of the four 4-H natural resource projects in this study. Members who enrolled for eight, nine, and ten years were the largest groups, each with 11 members combining for 44.1% of respondents. The next largest groups of 4-H enrollment were six and seven years, each with 9 respondents, totaling 24.4% of respondents. Members who were enrolled for six to ten years in 4-H totaled 68.1% of the respondents. Table 17 provides the number and percentages of each number of years enrolled in 4-H.

Table 17 Years of enrollment in the 4-H Program as reported by 4-H members

Number of Years	<i>N</i>	%
1	1	1.3
2	5	6.7
3	4	5.3
4	7	9.3
5	7	9.3
6	9	12.0
7	9	12.0
8	11	14.7
9	11	14.7
10	11	14.7
Total	75	100.0

4-H members reported how long they have enrolled in any of the four natural resources projects: Forestry, Soil & Water Conservation, Weather, and Wildlife. Forestry was the most popular project, with 46 youth having enrolled in the project and it was the only project with 10 years of enrollment (two respondents). Members indicated they enrolled in the other three projects from 1-9 years. Wildlife was the second most popular project, with 36 respondents indicating they enrolled in the project (Table 18).

Table 18 *List of each project 4-H members reported enrolling in 4-H*

Project	Forestry	Soil & Water Conservation	Weather	Wildlife	Total
<i>N</i>	46	21	35	36	138
%	33.3	15.2	25.4	26.1	100.0

The grade level of respondents ranged from fourth grade to high school seniors. The highest numbers of respondents were in grades 11 and 12, each with 14 respondents. This combined for just over one-third (37.4%) of the respondents. The next largest category was eighth grade-aged respondents, with 12 respondents. A further summary of the numbers and percentages of all grades are in the table below.

Table 19 *Grade levels reported by 4-H members of the 2009-2010 school year*

Grade Level	<i>N</i>	%
4	2	2.7
5	4	5.3
6	3	4.0
7	1	1.3
8	12	16.0
9	10	13.3
10	11	14.7
11	14	18.7
12	14	18.7
Missing	4	5.3
Total	75	100.0

More than half of the 4-H member respondents were female, 57.3%. The ratio of females to males who responded to this question was almost 1.6:1. Five respondents did not indicate their gender (Table 20).

Table 20 *Gender as reported by 4-H members in this study*

Gender	Female	Male	Missing	Total
<i>N</i>	43	27	5	75
%	57.3	36.0	6.7	100.0

The second section of the 4-H member survey dealt with different aspects of the 4-H natural resource projects.

Respondents were asked to select the projects for which they would be willing to serve as a volunteer in the future. The 4-H Forestry project was selected by 39% of respondents indicating their willingness to serve as a volunteer. The wildlife project received the second highest number of responses, with 32.6% (Table 21).

Table 21 *Projects reported by 4-H members with which they would consider volunteering*

Project	Forestry	Soil & Water Conservation	Weather	Wildlife	Total
<i>N</i>	37	13	14	31	95
%	39.0	13.7	14.7	32.6	100.0

4-H members were asked their opinions of barriers to participation in the four 4-H natural resource projects. Low interest by youth received the largest number of responses (32.0%) as a barrier. Twenty-two percent of the respondents indicated a lack of a knowledgeable volunteer and 21.3% indicated the information available on the subject as the other two main barriers to youth for participation. Other responses included: “non-supportive parents;” “too much paperwork-too much like school work;” “they don’t think its ‘cool;” and “kids don’t what it involves or think it might be boring.” Table 22 summarizes numbers and percentages of all responses.

Table 22 *Barriers for participation in the four Indiana natural resource projects, as indicated by 4-H members*

Barrier	Money Resources	Information available on subject	Knowledgeable volunteer	Project not offered	Low interest by youth	Other, please specify	Total
<i>N</i>	10	32	33	8	48	19	150
%	6.7	21.3	22.0	5.3	32.0	12.7	100.0

The 4-H members were asked if they planned to have a career in one of the four project areas. Thirty-seven percent of the survey participants indicated that they did, with the wildlife 4-H project receiving over one-third of these responses. The forestry project received over one-quarter of the responses (Table 23).

Table 23 *Future career plans in natural resource project areas, indicated by 4-H members*

Project	Forestry	Soil & Water Conservation	Weather	Wildlife	Total
<i>N</i>	8	4	5	11	28
%	11	5	7	15	37

4-H member respondents indicated a variety of motivations for continuing participation in their 4-H natural resource projects. Over half of the responses, 58.6% (Table 24), dealt with the enjoyment of the topics, interest in the topics, or interest in the environment. Family members were indicated with 10.0% of the responses as a motivator. Pursuing a career in related field was indicated as a motivator for continued participation with 7.1% of the responses. Awards and recognition also were motivators for the youth, with 5.7% of the responses. A variety of other responses (12.8%) were indicated as motivators to continue participation. These were each only mentioned once.

Table 24 *Motivations reported by the 4-H members to continue participation in these projects*

Motivation	<i>N</i>	%
Enjoys/interest in topic	41	58.6
Family Member	7	10.0
Pursuing a career in related field	5	7.1
Awards & recognition	4	5.7
Likes the project	2	2.9
Access to resources	2	2.9
Other responses	9	12.8
Total	70	100.0

This study was designed to learn what motivates current 4-H natural resource members to stay involved in these projects and possible motivators to encourage other youth to participate in these projects. 4-H members were asked to indicate why they think more youth do not participate in the four natural resource projects. There were a total of 69 responses (Appendix Z). The most common response (20%) was the projects are too difficult or hard to complete. Other responses included: lack of knowledge of the project or the project is not advertised (17%); other youth find the topics uninteresting or boring (16%); lack of knowledgeable volunteer (11%); the youth do not want to do the work and want to stay inside (8%); and youth are not encouraged to participate in the project (8%).

4-H members were asked if they had prior experience mentoring a younger 4-H member in one of the four natural resource projects. More than half, 53.7% (Table 25), of the respondents said they have not had the opportunity or have not tried to mentor a younger member. Just over forty-six percent of the respondents had in some way mentored or helped a younger 4-H member with their projects. This included all “yes” responses such as helping with the project itself, an idea for their 4-H project, and the 4-H member’s project was presented at a 4-H meeting or to a school class.

Table 25 *Opportunity to mentor younger 4-H members, as indicated by 4-H members*

Response	Yes	No	Total
<i>N</i>	31	36	67
%	46.3	53.7	100.0

Respondents had the opportunity to provide any comments about the 4-H natural resource projects and any suggestions on how to increase interest and participation. Forty-eight 4-H members provided a variety of responses. The suggestions to increase interest mentioned more than once included: the projects need to be easier to understand with a clearer goal (7); exhibit options other than posters (4); more flexible exhibit options (4); the need for a knowledgeable volunteer (3); the need for more outside speakers (3); workshop, field trips, and seminar opportunities (3); mentoring for youth of all ages (2); and more advertisement or an enthusiastic spokesperson (2). All of the results from this topic appear Appendix AA.

4.6. Focus Group Results

A focus group was conducted with natural resource professionals at Ross Camp in Tippecanoe County, Indiana. One of the participants contacted a researcher and asked for a group discussion with a few other natural resource professionals to discuss the survey questions. Three natural resource professionals were in attendance along with two members of this study's research team.

The focus of the survey was briefly explained and discussed among attendees. The researchers kept a written (hand) transcript of notes from the focus group and completed an analysis of the results.

Focus group participants noted that project enrollment has been decreasing. They suggested that projects such as the photography and livestock projects seem to have more participation and popularity. One participant mentioned photography and another natural resource project, shooting sports, provide life skills which members could use in the future. Adding a photography segment or activity to one of the projects was mentioned,

but the focus group noted it would be difficult to incorporate and could possibly not have much to do with the project.

The focus group suggested that online information and project books could help increase enrollment. Specialized clubs or “targeted clubs” could be beneficial if there are adults who would serve as mentors or trainers was another suggestion. These clubs would focus on natural resources and could work with a natural resource professional in different ways. Examples included: a guest speaker; pair the professional with an educator; or the professional only supply subject matter information. 4-H members could also take a field trip to a facility dealing with their subject matter project.

An idea was suggested for future studies to include more natural resource professionals from a wider variety of groups related to the topic. The participants warned that the natural resource professionals contacted for this study cannot be the only groups depended on; other local and state groups should also be included. Suggestions of other groups included people working at State Parks, property managers, Conservation Officers, Master Naturalists (need credit every year to stay with the program), local conservation groups, nature centers, zoos, and conservation landowners. Some forest landowners are also lawyers and deal with conservation practices on their properties and could also provide beneficial information. Smaller, local conservation groups mentioned were Ducks Unlimited and Pheasants Forever. These groups have pamphlets which explain their focus. These are the natural resource groups which could provide a professional to be a project or subject matter leader to a natural resource group. It was also mentioned that it is a good thing to have a different mixture of people to talk about a variety of topics.

One of the natural resource professionals said there is an emphasis for him and his colleagues in the IDNR to provide natural resource activities for youth. He noted that some IDNR employees are required to complete at least five activities each year. He thought that many natural resource professionals would be interested in assisting with activities if someone contacted them.

Another recommendation from the focus group was to have two people direct a natural resource team concerning the projects. The two people in charge of team would

need to have different specialty backgrounds. One would have content background concerning the topic(s) and one would have a background on working with youth.

The natural resource professionals suggested that if the researchers wanted to have more natural resource professionals complete a survey about the 4-H program and projects more information needs to be provided. Background information about the current types of activities, programs, etc., what the problem with the projects are, and what the 4-H Youth Development Program mission all needs to be provided. Previously identified barriers to 4-H members participation needs to be collected and summarized before being presented to natural resource professionals to help support the need for the survey. This information and a description of the research should be given to natural resource professionals before the survey to obtain more responses.

The final suggestion of the focus group was if interest and participation needs to be increased in these projects, we need to go where the kids are located.

CHAPTER 5. DISCUSSION AND CONCLUSIONS

5.1. Introduction

An overview of this research study and the conclusions are presented here. Topics which are addressed in this chapter include a discussion of the responses, recommendations for practice, research limitations, and implications for future research.

When youth enroll in the 4-H program they make a decision regarding which topics they want to learn more information about and what subject areas appeal to them (Enfield, 2001). The purpose of this study was to discover how participation and interest could be increased in the Indiana 4-H natural resource and environmental projects and programs. The researchers also wanted to identify potential barriers to youth participation in these projects and programs.

Four natural resource projects were focused on in this study: Forestry; Soil & Water Conservation; Weather; and Wildlife. Three groups were identified as potential participants in this study to allow the researchers could obtain ideas and information from a variety of audiences. The groups were 4-H Youth Development (4-H YD) and Agriculture & Natural Resource (ANR) Extension Educators, identified natural resource professionals, and 4-H natural resource members.

The results and conclusions were intended to inform and assist Indiana 4-H YD Extension Educators, ANR Extension Educators, and State Specialists with future programming of activities and projects related to natural resources and environmental education. 4-H YD and ANR Extension Educators had the chance to reflect on the natural resource projects and what keeps 4-H members involved with those projects. This hopefully will encourage them to promote these projects to youth. Natural resource professionals had the opportunity to report what they know about the current 4-H program and the natural resource projects, hopefully encouraging them to volunteer and

invest time in the program. 4-H natural resource members had the opportunity to reflect on the reasons they continue to participate in 4-H. This reflection may encourage them to continue with their projects and encourage them to discuss their projects with other youth.

The report generated from this research is intended to be used as a tool for Purdue Extension and its stakeholders for future programming and research efforts.

This study was designed to answer the following research questions:

1. Why are more youth not involved in the four Indiana 4-H natural resource projects in this study?
2. How can youth involvement be increased in the four Indiana 4-H natural resource projects in this study?
3. What barriers keep youth from participating in the four Indiana 4-H natural resource projects in this study?
4. What are the perceived strengths and weaknesses of in the four Indiana 4-H natural resource projects in this study?
5. What motivates current 4-H Natural Resource members to continue to participate in the four Indiana 4-H natural resource projects in this study?
6. How can interest by 4-H members be improved for in the four 4-H natural resource projects in this study?

5.2. Discussion of the Responses

The researchers address the overall views of the 4-H natural resource projects in this study from 4-H YD and ANR Extension Educators, natural resource professionals, and 4-H members. Each guiding research question is addressed with summarized results from the surveys.

Research question one: Why are more youth not involved in the four Indiana 4-H natural resource projects in this study? The primary reasons 4-H members indicated more youth do not participate in these projects are: the projects are too difficult or hard to complete; a lack of knowledge of the project or the project is not advertised; other youth find the topics uninteresting or boring; and the lack of a knowledgeable volunteer.

Research question two: How can youth involvement be increased in the four Indiana 4-H natural resource projects in this study? This question was not directly asked of the survey participants; however youth in these projects reported the biggest motivator for them to continue participating in these projects was their enjoyment or interest in the topic(s). Since 4-H members reported that other youth think the projects are too much work perhaps promotion of these projects might increase involvement in the natural resource projects.

Research question three: What barriers keep youth from participating in the four Indiana 4-H natural resource projects in this study? 4-H members and Extension Educators agreed the greatest barrier to youth participation was a low interest by youth. These groups also indicated the lack of a knowledgeable volunteer as a barrier. Volunteers have always been an important asset to the 4-H program and they help keep the program running by giving of their time (Van Horn, Flanagan, & Thomson, 1999), and these two groups recognize the difficulty of finding knowledgeable volunteers for the natural resource 4-H program.

4-H members further indicated the lack of information available for the projects was another barrier. Extension Educators indicated a variety of other barriers including outdated manuals, the projects take too much time to complete, some parts of the projects are too difficult to complete, and a concern of what others will think of them for taking these projects.

Research question four: What are the perceived strengths and weaknesses of the four Indiana 4-H natural resource projects in this study? Strengths of the projects mentioned were: the resources available to the 4-H members in these projects; the youth enjoy these projects; the relevance of the topics; and the information is science-based knowledge. Weaknesses indicated by the Extension Educators included: the lack of interest by youth; the manuals are boring or are not fun; the manuals need updating; and exhibit posters.

Research question five: What motivates current 4-H Natural Resource members to continue to participate in the four Indiana 4-H natural resource projects in this study? Findings indicated a variety of motivators as to why youth stay involved in natural

resource projects. Fifty-nine percent of respondents indicated the enjoyment of learning about the topic was the biggest motivator to stay involved. This reiterates what Eccles and Wigfield (2002) portrayed in the expectancy-value model of achievement. Ferrari and Turner (2006) also noted that youth were motivated to continue in an after-school youth development program when they felt the activities were fun. Other motivators for youth to stay involved included: family members (10%); the pursuit of a career in a related field (7.1%); and awards and recognition (5.7%).

Research question six: How can interest by 4-H members be improved for the four 4-H natural resource projects in this study? The Extension Educators, natural resource professionals, and 4-H members all indicated a need for a knowledgeable volunteer or project leader to help increase interest in the projects. Both the Extension Educators and 4-H members agreed that more opportunities for youth to learn about the specific topics could help increase interest. Examples of these learning opportunities are workshops, camps, field trips, field days, and seminars. Extension Educators suggested the natural resource projects could be combined for a more holistic natural resource project. Natural resource professionals suggested more promotion and marketing of the projects could help increase interest of 4-H members. 4-H members suggested the projects requirements and goals need to be easier to understand and they would like more exhibit options available.

5.3. Recommendations for Practice

The results of this study, which focused on Indiana 4-H Member Participation in Natural Resource Education, can be applied by the Indiana 4-H Program staff as they work to increase participation and interest in all 4-H projects and program areas. 4-H members shared what motivated them to continue participating in these projects. They also provided barriers other youth may have to participating in these projects. Results from the principal analysis provide new information to Extension Educators and State Specialists.

The following recommendations are based on the survey feedback and key results for the Indiana 4-H natural resource projects. The biggest need expressed was for information. This should be addressed in many ways.

Many respondents noted a knowledgeable volunteer is needed but can be difficult to identify. One volunteer could serve multiple counties through workshops or seminars for youth.

Workshops would benefit all for additional learning opportunities, particularly when different natural resource professionals (e.g., wildlife biologist, forester, SWCD employee) are invited to give presentations. This can also be accomplished through educational days, field days, a summer camp, or seminars in Extension areas or at the state level.

Promotion and advertisement of the natural resource projects should be increased. Current 4-H natural resource members enjoy learning about the topics, but feel other youth lack knowledge about these projects. The 4-H members could help promote the natural resource projects through action demonstrations at fairs or by mentoring youth in these project areas. These topics can also be advertised to current 4-H members who are not in the natural resource projects through state and county workshops.

Resources are available for natural resource projects but can be difficult for youth to find without help. 4-H members need to be informed of where they can obtain information dealing with their project topics; both locally and statewide. Local offices could facilitate this by helping youth find the right natural resource professionals, extension publications, or pertinent websites for the particular need.

In summary, promotion of these projects, informational workshops, and other resources should help increase youth interest in these projects.

5.4. Research Limitations

This study was designed to learn why 4-H members join and continue to participate in Natural Resource projects and barriers which cause youth to choose not to participate in these projects and had research limitations.

The survey required self-responses of the participants and was voluntary. The participants may have skipped, not answered, or felt uncomfortable answering all the questions. The reason the participants completed the survey is unknown. They may have certain 4-H project included in the study due to current or previous involvement.

The participants may have not fully understood the meaning of the question and this may have affected their response. The participants may have felt a question was asking for information that was too personal causing them not to answer. They may have felt their answer may affect their position or felt too uncomfortable to respond.

The surveys were open through March-April. Participants may have been busy with other activities during this timeframe and did not have time to complete the survey.

The group of Natural Resource professionals were identified and selected by the researchers. Other potential natural resource professional groups may have been inadvertently missed.

Email addresses were provided by outside sources. Information about the study may have been sent to audiences who were not originally intended to be part of the study.

Only natural resource 4-H members who had participated in the selected four projects were included in this study as participants. The results cannot be generalized to all 4-H youth.

Non 4-H members were not included in this study. The opinions were presented only by youth in the 4-H program. They may not share the same ideas and opinions about the 4-H program as non 4-H members so the results cannot be generalized to all youth.

5.5. Implications for Future Research

Assign numbers to all participants so data can be correlated within groups and across groups in future research. Information such as the youths' gender, years of participation, and ideas about the natural resource projects could then be correlated. Results could be compared between members who have participated in the projects for a longer period than those who have only been in a few years. Also, by assigning number to 4-H members answers of participants who do not fit the criteria could be discarded. Extension Educators and their county could be correlated so help can be provided

specifically for their programs. Natural resource professionals and any previous involvement they have with the 4-H program could be correlated to discover what natural resource professional groups are already assisting with the 4-H program.

Other audiences could be included such as non 4-H members and 4-H members in projects other than the natural resource projects. They could provide a different viewpoint of the 4-H program and projects. 4-H members in other projects could show why they do not participate in natural resource projects.

Extension Educator participants reported different difficulty levels about the 4-H natural resource projects. Future research could compare the opinions of Extension Educators about the difficulty level of specific projects.

Research can be completed to discover how involved Extension Educators are in direct education with the youth. Also, research can be completed to discover who the Extension Educators think should be educating the youth, themselves or volunteers.

Another recommendation for further research to discover why 4-H members and Extension Educators think these projects are too hard for youth to complete. A study to discover exactly what parts of these projects are hard, whether they be the project requirements, specific levels of the projects, activities the youth are to complete in conjunction with the project, etc. needs to be conducted.

More in-depth information could be provided to participants as to why their help would be beneficial to this research study. Provide more data and reasoning as to why the natural resource projects are important and require their attention.

Results from this study were from current participants in all the groups included. Their membership changes frequently and other ideas and concerns related to natural resources could be introduced at any time. The results may vary if this study was conducted again in another five years.

Questions were designed with a mixture of open-ended and close-ended questions. The answers of the close-ended questions reflected what the researchers thought the participants would answer. More open-ended answers where participants can supply more of their own ideas need to be supplied.

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LIST OF REFERENCES

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APPENDICES

Appendix A. 4-H Youth Development and Agricultural Extension Educator Survey

Indiana 4-H Member Participation in Natural Resource Education

Please feel free to elaborate on any of the following questions.

The following questions will pertain to specific Indiana 4-H Natural Resource projects. They are:

- Forestry
- Soil & Water Conservation
- Weather
- Wildlife

1 What do you consider to be barriers to youth for participation the four Indiana 4-H Natural Resource projects mentioned above? Please check all that apply.

- Money resources
- Information available on subject
- Knowledgeable volunteer
- Project not offered
- Low interest by youth
- Other, please specify

2 How familiar are you with the 4-H Natural Resource project manuals for each project?

	1 Very	2 Some	3 Not at all	N/A
Forestry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soil & Water Conservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildlife	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3 How useful to you feel the project manuals are as resources for each project?

1	2	3	N/A
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Very	Some	Not at all	
Forestry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soil & Water Conservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildlife	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4 How relevant do you believe the Indiana 4-H Natural Resource exhibit requirements are to learning by Indiana 4-H members?

	1 Very	2 Some	3 Not at all	N/A
Forestry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soil & Water Conservation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildlife	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5 From the following list of examples of Natural Resource project resources, please check all that apply in your county.

	1 Current	2 Desired	N/A
IDNR (Indiana DNR)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SWCD (Soil & Water Conservation District)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
ANR Extension Educator	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parks and Recreation personnel, state or local	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Library	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local Experts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6 How comfortable are you recruiting Natural Resource volunteers?

Very	Some	Not at all
<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3

7 What challenges do you face when you try to identify volunteers to lead 4-H Natural Resource projects? Please check all that apply.

- Lack of project experts
- Time required by volunteer
- Difficulty finding people willing to work with youth
- Other, please specify

8 Choose one of the Indiana 4-H Natural Resource projects to discuss from this list for the following two questions:

- Forestry
- Soil & Water Conservation
- Weather
- Wildlife

1. What is the value of this project to the youth?
2. How could we improve this particular project?

9 Please list any perceived strengths and weaknesses of the Indiana 4-H Natural Resource projects.

10 Please list any other comments about 4-H Natural Resource projects in Indiana and any suggestions on how to increase interest and participation in these four projects.

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Appendix B. First Email to 4-H Youth Development and Agriculture & Natural Resource
Extension Educators

Date: Mon, 15 Mar 2010 09:53:04 -0400

From: jwickert@purdue.edu

To: extydae@lists.purdue.edu, extanr@lists.purdue.edu

Cc: rmckee@purdue.edu, ncarroll@purdue.edu, gsteinhardt@purdue.edu,
jwickert@purdue.edu

Subject: IN 4-H Member Participation in Natural Resource Education - Survey

Dear 4-H Youth Development and Ag & Natural Resource Extension Educators,

We value your opinion about the 4-H Natural Resource projects because of your role as an Extension Educator. We are concerned with low statewide 4-H participation numbers in the Forestry, Soil & Water Conservation, Weather, and Wildlife projects. You can help us learn more information by taking our survey titled Indiana 4-H Member Participation in Natural Resource Education. This research has the approval of Dr. Hibberd and has been approved by Purdue's Institutional Review Board (IRB).

The goal of this survey is to evaluate the barriers to 4-H member participation in Indiana 4-H Natural Resource Programs. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals.

Your answers to the questions in this survey are voluntary and will be confidential. You may choose to opt out of the survey at any time without any penalty. The survey is located on the Zoomerang website, an online survey website. You can access the survey by clicking on this link <http://www.zoomerang.com/Survey/WEB22A5AJ92EL8>. There will be no record of who has completed the survey.

The survey will be open for three weeks. Today, March 15th, 2010, is the first day it is open and the last day you will be able to complete the survey is April 5th, 2010. After completing the survey, Zoomerang will automatically assign you a number, indicating you are the xxx participant to complete the survey.

Please take a few minutes to answer the following questions in the survey on the Zoomerang website. If you have any questions, please feel free to email Julia Wickert at jwickert@purdue.edu.

Thank you for helping us in our effort to better understand the Natural

Resource projects!

Sincerely,

Renée McKee
Assistant Director and Program Leader
4-H Youth Development
Education,
Purdue University

Julia K. Wickert
Graduate Student
Youth Development & Agricultural

Purdue University

Appendix C. First Reminder Email to 4-H Youth Development and Agriculture &
Natural Resource Extension Educators

Date: Mon, 22 Mar 2010 09:53:09 -0400

From: jwickert@purdue.edu

To: extydae@lists.purdue.edu, extanr@lists.purdue.edu

Cc: rmckee@purdue.edu, ncarroll@purdue.edu, gsteinhardt@purdue.edu,
jwickert@purdue.edu

Subject: IN 4-H Member Participation in Natural Resource Education - Survey
Reminder

Dear 4-H Youth Development and Ag & Natural Resource Extension Educators,

You should have received an email from me a week ago regarding a survey about Indiana 4-H Natural Resource projects. If you have already completed the survey, we appreciate your response. If you have not completed the survey, you will find the link to the survey below. Your participation is important as the results will be used to help improve Indiana 4-H Natural Resource projects.

We value your opinion about the 4-H Natural Resource projects because of your role as an Extension Educator. We are concerned with low statewide 4-H participation numbers in these specific projects. You can help us learn more information by taking our survey titled Indiana 4-H Member Participation in Natural Resource Education. This research has the approval of Dr. Hibberd and has been approved by Purdue's IRB Committee.

The goal of this survey is to evaluate the barriers to 4-H member participation in Indiana 4-H Natural Resource Programs. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals.

Your answers to the questions in this survey are voluntary and will be confidential. You may choose to opt out of the survey at any time without any penalty. Neither your County Extension Office nor the Department of Youth Development and Agricultural Education at Purdue University will know who said what. The survey is located on the Zoomerang website, an online survey website. You can access the survey by clicking on this link <http://www.zoomerang.com/Survey/WEB22A5AJ92EL8>. There will be no record of who has completed the survey.

The survey will be open for two more weeks. The last day you will be able to complete the survey is April 5th, 2010. After completing the survey, Zoomerang will automatically assign you a number, indicating you are the xxx participant to complete the survey.

Please take a few minutes to answer the following questions in the survey on the Zoomerang website. If you have any questions, please feel free to email Julia Wickert at jwickert@purdue.edu.

Thank you for helping us in our effort to better understand the Natural Resource projects!

Sincerely,

Renée McKee
Assistant Director and Program Leader
4-H Youth Development
Purdue University

Julia K. Wickert
Graduate Student
Youth Development and Agricultural
Education, Purdue University

Appendix D. Final Reminder Email to 4-H Youth Development and Agriculture &
Natural Resource Extension Educators

Date: Mon, 29 Mar 2010 09:50:10 -0400

From: jwickert@purdue.edu

To: extydae@lists.purdue.edu, extanr@lists.purdue.edu

Cc: rmckee@purdue.edu, ncarroll@purdue.edu, gsteinhardt@purdue.edu,
jwickert@purdue.edu

Subject: IN 4-H Member Participation in Natural Resource Education - Survey
Reminder

Dear 4-H Youth Development and Ag & Natural Resource Extension Educators,

You should have received an email from me two weeks ago regarding a survey about Indiana 4-H Natural Resource projects. If you have already completed the survey, we appreciate your response. If you have not completed the survey, you will find the link to the survey below. Your participation is important as the results will be used to help improve Indiana 4-H Natural Resource projects.

We value your opinion about the 4-H Natural Resource projects because of your role as an Extension Educator. We are concerned with low statewide 4-H participation numbers in these specific projects. You can help us learn more information by taking our survey titled Indiana 4-H Member Participation in Natural Resource Education. This research has the approval of Dr. Hibberd and has been approved by Purdue's IRB Committee.

The goal of this survey is to evaluate the barriers to 4-H member participation in Indiana 4-H Natural Resource Programs. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals.

Your answers to the questions in this survey are voluntary and will be confidential. You may choose to opt out of the survey at any time without any penalty. Neither your County Extension Office nor the Department of Youth Development and Agricultural Education at Purdue University will know who said what. The survey is located on the Zoomerang website, an online survey website. You can access the survey by clicking on this link <http://www.zoomerang.com/Survey/WEB22A5AJ92EL8>. There will be no record of who has completed the survey.

This is the last week the survey will be open. The last day you will be able to complete the survey is April 5th, 2010. After completing the survey,

Zoomerang will automatically assign you a number, indicating you are the xxx participant to complete the survey.

Please take a few minutes to answer the following questions in the survey on the Zoomerang website. If you have any questions, please feel free to email Julia Wickert at jwickert@purdue.edu.

Thank you for helping us in our effort to better understand the Natural Resource projects!

Sincerely,

Renée McKee
Assistant Director and Program Leader
4-H Youth Development
Purdue University

Julia K. Wickert
Graduate Student
Youth Development & Agricultural
Education, Purdue University

Appendix E. Natural Resource Professional Survey

Indiana 4-H Member Participation in Natural Resource Education

Please feel free to elaborate on any of the following questions.

- 1 How are you associated with Natural Resources? For example, with what professional organization do you belong?

The following questions will pertain to specific Indiana 4-H Natural Resource projects:

- Forestry
- Soil & Water Conservation
- Weather
- Wildlife

- 2 How familiar are you with the Indiana 4-H Youth Development Program?

Very Some Not at all Not applicable
 1 2 3 4

- 3 Please check all the 4-H Natural Resource projects with which you are familiar:

- Forestry
- Soil & Water Conservation
- Weather
- Wildlife
- None of the above
- Other, please specify

- 4 Have you been involved with 4-H? Please check all that apply.

- Volunteer Leader
- Parent
- Volunteer
- Extension Educator
- 4-H Member
- Other, please specify

5 Please check any of the following 4-H Natural Resource projects for which you would be willing to serve as a volunteer:

- Forestry
- Soil & Water Conservation
- Weather
- Wildlife

6 Please check all that apply. I would be most comfortable:

- Working directly with 4-H member
- Working with 4-H member and an Extension Educator
- Providing subject matter to an Extension Educator or volunteer adult leader who will run the meeting
- Other, please specify

7 List examples of resources that you think could be beneficial to 4-H members who are involved with these Natural Resource projects.

8 Please list any other comments about these four Indiana 4-H Natural Resource projects that you would feel help us improve.



Appendix F. Emails to Natural Resource Professional Contacts

Date: Mon, 22 Mar 2010 13:27:09 -0400
From: "Carroll, Natalie J." <ncarroll@purdue.edu>
To: [Jennifer Boyle <jennifer-boyle@iaswcd.org>](mailto:jennifer-boyle@iaswcd.org)
Cc: "jwickert@purdue.edu" <jwickert@purdue.edu>
Subject: RE: 4-H NR projects & increasing youth interest

Hi Jennifer,

Thank you so much for your willingness to help us with this effort. The e-mail that we would like sent on follows. Natalie

Dear Natural Resource Professional,

We value your opinion about the 4-H Natural Resource projects because of your association with a natural resource organization. We are concerned with low statewide 4-H participation numbers in the Forestry, Soil & Water Conservation, Weather, and Wildlife projects. You can help us learn more information by taking our survey titled Indiana 4-H Member Participation in Natural Resource Education. This research has the approval of Dr. Hibberd, the director of Purdue Extension and has been approved by Purdue's IRB Committee.

The goal of this survey is to evaluate the barriers to 4-H member participation in Indiana 4-H Natural Resource Programs. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals.

Your answers to the questions in this survey are voluntary and will be confidential. You may choose to opt out of the survey at any time without any penalty. The survey is located on the Zoomerang website, an online survey website. You can access the survey by clicking on this link <http://www.zoomerang.com/Survey/WEB22AB7FFMRKM>. There will be no record of who has completed the survey.

The survey will be open for three weeks. Today, March 22nd, 2010, is the first day it is open and the last day you will be able to complete the survey is April 12th, 2010. After completing the survey, Zoomerang will automatically assign you a number, indicating you are the xxx participant to complete the survey.

Please take a few minutes to answer the following questions in the survey on the Zoomerang website. If you have any questions, please feel free to email Julia Wickert at jwickert@purdue.edu <<mailto:jwickert@purdue.edu>>.

Thank you for helping us in our effort to better understand the Natural Resource

projects!

Sincerely,

Renée McKee
Assistant Director and Program Leader
4-H Youth Development
Agricultural Purdue University
University

&
Natalie Carroll
Professor & Extension Specialist, 4-H Natural Resource programs
Purdue University

Julia K. Wickert
Graduate Student
Youth Development and
Education, Purdue

From: Jennifer Boyle [mailto:jennifer-boyle@iaswcd.org]
Sent: Monday, March 22, 2010 12:58 PM
To: Carroll, Natalie J.
Cc: jwickert@purdue.edu
Subject: RE: 4-H NR projects & increasing youth interest

I'd be more than happy to help. Just send me an email with all the information and I will forward it to the SWCDs and ask for their assistance.

Thanks,
Jennifer

Jennifer Boyle Warner, Executive Director
Indiana Association of Soil & Water Conservation Districts (IASWCD)
225 S. East St., Suite 740
Indianapolis, IN 46202
Phone: 317.692.7519
Fax: 317.423.0756
www.iaswcd.org

From: Carroll, Natalie J. [mailto:ncarroll@purdue.edu]
Sent: Monday, March 22, 2010 12:08 PM
To: jennifer-boyle@iaswcd.org
Cc: jwickert@purdue.edu
Subject: 4-H NR projects & increasing youth interest

Hi Jennifer,

I just left a message about a project that my graduate student, Julia Wickert, is working on. The goal of her work is to evaluate the barriers to 4-H member participation in Indiana 4-H Natural Resource Programs, including the Soil & Water Conservation

project. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals. We are particularly interested in getting information from natural resource professionals outside Extension. I am writing to ask for your help with this.

Julia has set up a brief survey (8 questions) using Zoomerang that we think will be quick and easy for people to use and will provide us with valuable insight into barriers to getting more youth and adults involved in working on natural resource projects.

Please let me know if you can help us with this effort. If so, Julia would like to send you an e-mail to you to send out to the Indiana Association of Soil and Water Conservation professionals to ask for their input. Or, we can send a message to those listed at the Contact information for Indiana county SWCD offices (<http://iaswcd.org/contactus.html>), although we suspect that we might get a greater response if the message came from you.

Please let us know if you can help us with this effort.

Thank you,
Natalie

Natalie Carroll, PhD
Professor
Purdue University
http://www.four-h.purdue.edu/natural_resources/
Phone: 765.494.6638

Date: Wed, 24 Mar 2010 14:26:30 -0400
From: "Carroll, Natalie J." <ncarroll@purdue.edu>
To: "wgartner@dnr.in.gov" <wgartner@dnr.in.gov>
Cc: "jwickert@purdue.edu" <jwickert@purdue.edu>
Subject: RE: 4-H NR project survey

Hi Warren,

Thank you so much for agreeing to help with the project that my graduate student, Julia Wickert, is working on. The goal of her work is to evaluate the barriers to 4-H member participation in Indiana 4-H Natural Resource Programs. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals. We are particularly interested in getting information from natural resource professionals outside Extension, especially the NREC staff.

Julia has set up a brief survey (8 questions) using Zoomerang that we think will be quick and easy for people to use and will provide us with valuable insight into barriers to getting more youth and adults involved in working on natural resource projects. Her note is below. Feel free to delete my note & signature when you send it out.

Thanks so much,
Natalie

Natalie Carroll, PhD
Professor
Purdue University
http://www.four-h.purdue.edu/natural_resources/

Dear Natural Resource Professional,

We value your opinion about the 4-H Natural Resource projects because of your association with a natural resource organization. We are concerned with low statewide 4-H participation numbers in the Forestry, Soil & Water Conservation, Weather, and Wildlife projects. You can help us learn more information by taking our survey titled Indiana 4-H Member Participation in Natural Resource Education. This research has the approval of Dr. Hibberd, the director of Purdue Extension and has been approved by Purdue's IRB Committee.

The goal of this survey is to evaluate the barriers to 4-H member participation in Indiana 4-H Natural Resource Programs. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals.

Your answers to the questions in this survey are voluntary and will be confidential. You may choose to opt out of the survey at any time without any penalty. The survey is located on the Zoomerang website, an online survey website. You can access the survey by clicking on this link <http://www.zoomerang.com/Survey/WEB22AB7FFMRKM>. There will be no record of who has completed the survey.

The survey will be open for three weeks. Today, March 22nd, 2010, is the first day it is open and the last day you will be able to complete the survey is April 12th, 2010. After completing the survey, Zoomerang will automatically assign you a number, indicating you are the xxx participant to complete the survey.

Please take a few minutes to answer the following questions in the survey on the Zoomerang website. If you have any questions, please feel free to email Julia Wickert at jwickert@purdue.edu <<mailto:jwickert@purdue.edu>>.

Thank you for helping us in our effort to better understand the Natural Resource projects!

Sincerely,

Renée McKee
Assistant Director and Program Leader
4-H Youth Development
Purdue University
University

Julia K. Wickert
Graduate Student
Youth Development and
Agricultural Education, Purdue

&
Natalie Carroll
Professor & Extension Specialist, 4-H Natural Resource programs
Purdue University

Date: Mon, 29 Mar 2010 09:58:38 -0400
From: "Carroll, Natalie J." <ncarroll@purdue.edu>
To: [Sam Lashley <Sam.Lashley@noaa.gov>](mailto:Sam.Lashley@noaa.gov)
Cc: "jwickert@purdue.edu" <jwickert@purdue.edu>
Subject: RE: 4-H NR projects & increasing youth interest

Hi Sam,

This would be great and I any meteorologist with connections with Indiana would be perfect. The e-mail that we would like sent on follows (feel free to delete this note when forwarding). Thanks so much!

Dear Natural Resource Professional,

We value your opinion about the 4-H Natural Resource projects because of your association with a natural resource organization. We are concerned with low statewide 4-H participation numbers in the Forestry, Soil & Water Conservation, Weather, and Wildlife projects. You can help us learn more information by taking our survey titled Indiana 4-H Member Participation in Natural Resource Education. This research has the approval of Dr. Hibberd, the director of Purdue Extension and has been approved by Purdue's IRB Committee.

The goal of this survey is to evaluate the barriers to 4-H member participation in Indiana 4-H Natural Resource Programs. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals.

Your answers to the questions in this survey are voluntary and will be confidential. You may choose to opt out of the survey at any time without any penalty. The survey is located on the Zoomerang website, an online survey website. You can access the survey by clicking on this link <http://www.zoomerang.com/Survey/WEB22AB7FFMRKM>. There will be no record of who has completed the survey.

The survey will be open for three weeks. Today, March 22nd, 2010, is the first day it is open and the last day you will be able to complete the survey is April 12th, 2010. After completing the survey, Zoomerang will automatically assign you a number, indicating you are the xxx participant to complete the survey.

Please take a few minutes to answer the following questions in the survey on the Zoomerang website. If you have any questions, please feel free to email Julia Wickert at jwickert@purdue.edu<<mailto:jwickert@purdue.edu>>.

Thank you for helping us in our effort to better understand the Natural Resource

projects!

Sincerely,

Renée McKee
Assistant Director and Program Leader
4-H Youth Development
Purdue University
University

&

Natalie Carroll
Professor & Extension Specialist, 4-H Natural Resource programs
Purdue University

Julia K. Wickert
Graduate Student
Youth Development and
Agricultural Education, Purdue

Date: Mon, 29 Mar 2010 13:26:57 -0400
From: "Carroll, Natalie J." <ncarroll@purdue.edu>
To: "Seifert, John" <jseifert@dnr.IN.gov>
Cc: "jwickert@purdue.edu" <jwickert@purdue.edu>
Subject: RE: 4-H NR projects & increasing youth interest

Thanks so much, John!

The e-mail is below. Please feel free to delete this note before sending.

Natalie

Natalie Carroll, PhD
Professor
Purdue University
http://www.four-h.purdue.edu/natural_resources/

Dear Natural Resource Professional,

We value your opinion about the 4-H Natural Resource projects because of your association with a natural resource organization. We are concerned with low statewide 4-H participation numbers in the Forestry, Soil & Water Conservation, Weather, and Wildlife projects. You can help us learn more information by taking our survey titled Indiana 4-H Member Participation in Natural Resource Education. This research has the approval of Dr. Hibberd, the director of Purdue Extension and has been approved by Purdue's IRB Committee.

The goal of this survey is to evaluate the barriers to 4-H member participation in Indiana 4-H Natural Resource Programs. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals.

Your answers to the questions in this survey are voluntary and will be confidential. You may choose to opt out of the survey at any time without any penalty. The survey is located on the Zoomerang website, an online survey website. You can access the survey by clicking on this link <http://www.zoomerang.com/Survey/WEB22AB7FFMRKM>. There will be no record of who has completed the survey.

The survey will be open for three weeks. Today, March 22nd, 2010, is the first day it is open and the last day you will be able to complete the survey is April 12th, 2010. After completing the survey, Zoomerang will automatically assign you a number, indicating you are the xxx participant to complete the survey.

Please take a few minutes to answer the following questions in the survey on the Zoomerang website. If you have any questions, please feel free to email Julia Wickert at jwickert@purdue.edu<mailto:jwickert@purdue.edu>.

Thank you for helping us in our effort to better understand the Natural Resource projects!

Sincerely,

Renée McKee
Assistant Director and Program Leader
4-H Youth Development
Purdue University
University

Julia K. Wickert
Graduate Student
Youth Development and
Agricultural Education, Purdue

&
Natalie Carroll
Professor & Extension Specialist, 4-H Natural Resource programs
Purdue University

Date: Wed, 31 Mar 2010 09:40:58 -0400
From: "Carroll, Natalie J." <ncarroll@purdue.edu>
To: "Reiter, Mark" <MREITER@dnr.IN.gov>
Cc: "jwickert@purdue.edu" <jwickert@purdue.edu>
Subject: RE: 4-H NR projects & increasing youth interest

Thanks so much, Mark!

The e-mail is below. Please feel free to delete this note before sending.

Natalie

Natalie Carroll, PhD

Professor

Purdue University

http://www.four-h.purdue.edu/natural_resources/

Dear Natural Resource Professional,

We value your opinion about the 4-H Natural Resource projects because of your association with a natural resource organization. We are concerned with low statewide 4-H participation numbers in the Forestry, Soil & Water Conservation, Weather, and Wildlife projects. You can help us learn more information by taking our survey titled Indiana 4-H Member Participation in Natural Resource Education. This research has the approval of Dr. Hibberd, the director of Purdue Extension and has been approved by Purdue's IRB Committee.

The goal of this survey is to evaluate the barriers to 4-H member participation in Indiana 4-H Natural Resource Programs. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals.

Your answers to the questions in this survey are voluntary and will be confidential. You may choose to opt out of the survey at any time without any penalty. The survey is located on the Zoomerang website, an online survey website. You can access the survey by clicking on this link <http://www.zoomerang.com/Survey/WEB22AB7FFMRKM>. There will be no record of who has completed the survey.

The survey will be open for three weeks. Today, March 22nd, 2010, is the first day it is open and the last day you will be able to complete the survey is April 12th, 2010. After completing the survey, Zoomerang will automatically assign you a number, indicating you are the xxx participant to complete the survey.

Please take a few minutes to answer the following questions in the survey on the Zoomerang website. If you have any questions, please feel free to email Julia Wickert at jwickert@purdue.edu<mailto:jwickert@purdue.edu>.

Thank you for helping us in our effort to better understand the Natural Resource projects!

Sincerely,

Renée McKee
Assistant Director and Program Leader
4-H Youth Development
Purdue University
University

&

Natalie Carroll
Professor & Extension Specialist, 4-H Natural Resource programs
Purdue University

Julia K. Wickert
Graduate Student
Youth Development and
Agricultural Education, Purdue

Appendix G. 4-H Member Survey

Indiana 4-H Member Participation in Natural Resource Education

We value your opinion about the 4-H Natural Resource projects because of your participation in one of the following: Forestry, Soil & Water Conservation, Weather, or Wildlife. We are concerned with low statewide 4-H participation numbers in these specific projects. From this survey, we are trying to determine what motivates you as a 4-H member to be involved with these subjects. We are also interested in your opinion regarding possible motivators to encourage other 4-H members in these subject areas.

The following questions will pertain to specific Indiana 4-H Natural Resource projects.

- Forestry
- Soil & Water Conservation
- Weather
- Wildlife

Demographics

Please tell us about yourself.

- 1 1. How many years have you enrolled in 4-H?

- 2 2. How long have you been enrolled any of these projects while in 4-H?

Forestry

Soil & Water Conservation

Weather

Wildlife

- 3 3. What is your current grade in school? (2009-2010 school year)

- 4 4. Please check your gender.

- Male
- Female

5 5. Would you consider serving as a volunteer with one of these four projects when you are an adult? Check all that apply.

- Forestry
- Soil & Water Conservation
- Weather
- Wildlife

Other Questions

Please feel free to elaborate on any of the following questions.

6 6 What do you consider to be barriers to youth for participation in the four Indiana 4-H Natural Resource projects mentioned above? Please check all that apply.

- Money resources
- Information available on subject
- Knowledgeable volunteer
- Project not offered
- Low interest by youth
- Other, please specify

7 7 Are you planning on a career in one of these project areas? Please check all that apply.

- Forestry
- Soil & Water Conservation
- Weather
- Wildlife

8 8 What motivates you to continue to participate in one of these projects?

9 9 Why do you think more youth do not participate in these four Natural Resource projects?

-
- 10 Have you had the opportunity to mentor a younger 4-H member in one of the specific four Indiana 4-H Natural Resource projects?

-
- 11 Please list any other comments about 4-H Natural Resource projects in Indiana and any suggestions on how to increase interest and participation in these four projects.



Appendix H. Email to 4-H Youth Development Extension Educators Requesting 4-H
Members' Contact Information



Date: Thu, 11 Mar 2010 14:07:19 -0500

From: "Fox, Richard J." <foxrj@purdue.edu>

To: "extcosecretarys@lists.purdue.edu" <extcosecretarys@lists.purdue.edu>, "extydae@lists.purdue.edu" <extydae@lists.purdue.edu>

Cc: "Carroll, Natalie J." <ncarroll@purdue.edu>, "McKee, Renee K" <rmckee@purdue.edu>, "jwickert@purdue.edu" <jwickert@purdue.edu>, "agitcallcenter@lists.purdue.edu" <agitcallcenter@lists.purdue.edu>, "Flynn, Dee E." <eflynn@purdue.edu>

Subject: Information needed from your ED

Part(s):	General	application/vnd.openxmlformats-	99607	
	 2 push to	officedocument.wordprocessingml.document	KB	
	state.docx			

Hello group,

We need another push from your ED and attached is the instructions to do this. This information is for a research study that was outlined in the CCC and below is the outline. This has all of the approval process done. If you have questions or trouble please e-mail me.

We are concerned with low statewide 4-H participation numbers in four Natural Resource projects. They are Forestry, Soil & Water Conservation, Weather, and Wildlife. We are conducting a survey to evaluate the barriers to 4-H member participation in Indiana 4-H Natural Resource Programs. Also, we would like to improve 4-H member interest and participation in these projects.

Thank you,

Julia Wickert

Richard Fox
Youth Development and Agricultural Education
Computer Analyst
Purdue University
AGAD RM 216
765-494-8726
foxrj@purdue.edu<mailto:foxrj@purdue.edu>

Appendix I. Attachment to 4-H Youth Development Extension Educator Email

Pushing General data to State

With the new version of ED this is now only a two step process here are the steps.

1. **You need to find all of your Forestry, Soil & Water Conservation, Weather, and Wildlife projects for 2009 and 2010.** First go to the Member section in Ed and click the find button. For 2009 it will be grades 8-11 and for 2010 it will be grades 9-12. First put the grade range of 9...12, project year 2010, and then your first project. Duplicate this find for each of the projects that match the list. Now for 2009 click the new button, put in grade range of 8...11, project year 2009, and then the first of your projects matching the list. Duplicate this find for each of your projects.

2. Once you have your find click the main button and then the Utilities button. In the orange box there is a very familiar button labeled push to state. This button will push whatever you have found to a state database. Just put "Natural Resource" in the description box and click the push to state button.

That is it.

Appendix J. Email to 4-H Youth Development Extension Educators Regarding 4-H
Member Survey



From: jwickert@purdue.edu

To: extydae@lists.purdue.edu

Cc: rmckee@purdue.edu, ncarroll@purdue.edu, jwickert@purdue.edu

Subject: Natural Resource 4-H Member Survey

Part(s): Recruitment

 2 advertisement for 4- Hers.docx	application/vnd.openxmlformats- officedocument.wordprocessingml.document KB	15.18 KB	
---	---	-------------	---

Dear 4-H Youth Development Extension Educator,

You are already aware that we are conducting a survey to evaluate the barriers to 4-H member participation in these Indiana 4-H Natural Resource Programs and that this research has the approval of Dr. Hibberd and has been approved by Purdue's IRB Committee.

We are targeting 4-H members in grades 9-12 who have participated in the Forestry, Soil & Water Conservation, Weather, or Wildlife projects for at least three years. This was the group of 4-H members for whom we requested email addresses.

We would appreciate it if you would email these young people about this research. Please email the message below my signature to the youth described above to briefly explain this research. Also, we would appreciate it if you could put the attached recruitment advertisement in newsletters, postcards, letters, Facebook groups or pages, blogs, or any other means of communication you have with 4-H members.

I will send another email to the 4-H members providing them the link to the survey using the email addresses you provided earlier. Their survey will be open April 5th, 2010.

Thank you in advance for your help with this study.

Sincerely,
 Julia Wickert
 YDAE Graduate Student
 Purdue University
 jwickert@purdue.edu

1 attachment

Please delete this top note.

Email to be sent:

Dear 4-H Member,

We value your opinion about the 4-H Natural Resource projects because of your participation in one of the following 4-H projects: Forestry, Soil & Water Conservation, Weather, and Wildlife. We are concerned with low statewide 4-H participation numbers in these specific projects. You can help us learn more information by taking our survey titled Indiana 4-H Member Participation in Natural Resource Education.

From this survey, we are trying to determine what motivates you as a 4-H member to be involved with these subjects. We are also interested in your opinion regarding possible motivators to encourage other 4-H members to participate in these projects. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals.

Your answers to the questions in this survey are voluntary and will be confidential. The survey is located on the Zoomerang website, an online survey website. You can access the survey by clicking on this link <http://www.zoomerang.com/Survey/WEB22AAGL67T3S>. The survey will be open through April 26th. You will receive another email reminding when the survey is open and asking for your participation.

If you have any questions, please feel free to email Julia Wickert at jwickert@purdue.edu.

Thank you in advance for helping us in our effort to better understand the Natural Resource projects!

Sincerely,

County 4-H Youth Development Educator

Julia K. Wickert
YDAE Graduate Student
jwickert@purdue.edu

Appendix K. Recruitment Advertisement for 4-H Member Survey

Recruitment to be placed in county newsletters, postcards, letters, electronic newsletters, or any other form of electronic communication:

Attention all high school Forestry, Soil & Water Conservation, Weather, and Wildlife 4-H Members!

In April you will be receiving an email describing an opportunity to participate in an online survey. The Department of Youth Development and Agricultural Education at Purdue will be conducting a study to determine what motivates you to participate in natural resource projects such as Forestry, Soil & Water Conservation, Weather, and Wildlife and how we can make the projects more interesting for 4-H members. Be on the lookout for the email with more information about the survey. The link to the survey is: <http://www.zoomerang.com/Survey/WEB22AAGL67T3S>. The information you provide will be helpful in increasing interest and participation in natural resource projects!

Appendix L. First Email to Natural Resource 4-H Members

Date: Thu, 8 Apr 2010 09:50:09 -0400

From: jwickert@purdue.edu

To: Natural Resource 4-H Members <natural_resource@four-h.purdue.edu>

Cc: "McKee, Renee K" <rmckee@purdue.edu>, "Carroll, Natalie J." <ncarroll@purdue.edu>, jwickert@purdue.edu

Subject: Natural Resource 4-H Member Survey

Dear 4-H Member,

We value your opinion about the 4-H Natural Resource projects because of your participation in one of the following: Forestry, Soil & Water Conservation, Weather, and Wildlife. You can help us learn more information by taking our survey titled Indiana 4-H Member Participation in Natural Resource Education.

From this survey, we are trying to determine what motivates you as a 4-H member to be involved with these subjects. We are also interested in your opinion regarding possible motivators to encourage other 4-H members in these subject areas. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals.

Your answers to the questions in this survey are voluntary and will be confidential. The survey is located on the Zoomerang website, an online survey website. You can access the survey by clicking on this link <http://www.zoomerang.com/Survey/WEB22AAGL67T3S>. There will be no record of who has completed the survey.

The survey will be open for three weeks. The survey is open now through April 26th, 2010. After completing the survey, Zoomerang will automatically assign you a number, indicating you are the xxx participant to complete the survey.

If you have any questions, please feel free to email Julia Wickert at jwickert@purdue.edu.

Thank you for helping us in our effort to better understand the Natural Resource projects!

Sincerely,

Renée McKee
Assistant Director and Program Leader
4-H Youth Development
Purdue University

Julia K. Wickert
Graduate Student
Youth Development & Agricultural
Education, Purdue University

Appendix M. Reminder Email to 4-H Members

Date: Wed, 21 Apr 2010 13:32:47 -0400
From: jwickert@purdue.edu
To: Natural Resource 4-H Members <natural_resource@four-h.purdue.edu>
Cc: "Carroll, Natalie J." <ncarroll@purdue.edu>, "McKee, Renee K" <rmckee@purdue.edu>, jwickert@purdue.edu
Subject: [No Subject]

Dear 4-H Member,

You should have received an email from me a couple weeks ago regarding a survey about Indiana 4-H Natural Resource projects. If you have already completed the survey, we appreciate your response. If you have not completed the survey, you will find the link to the survey below. Your participation is important as the results will be used to help improve Indiana 4-H Natural Resource projects.

We value your opinion about the 4-H Natural Resource projects because of your participation in one of the following 4-H projects: Forestry, Soil & Water Conservation, Weather, and Wildlife. You can help us learn more information by taking our survey titled Indiana 4-H Member Participation in Natural Resource Education.

From this survey, we are trying to determine what motivates you as a 4-H member to be involved with these subjects. We are also interested in your opinion regarding possible motivators to encourage other 4-H members in these subject areas. This information will be helpful in improving 4-H member interest and participation through designing new programs and working with Natural Resource professionals.

Your answers to the questions in this survey are voluntary and will be confidential. The survey is located on the Zoomerang website, an online survey website. You can access the survey by clicking on this link <http://www.zoomerang.com/Survey/WEB22AAGL67T3S>. There will be no record of who has completed the survey.

The last day you will be able to complete the survey is April 26, 2010. After completing the survey, Zoomerang will automatically assign you a number, indicating you are the xxx participant to complete the survey.

If you have any questions, please feel free to email Julia Wickert at jwickert@purdue.edu.

Thank you for helping us in our effort to better understand the Natural Resource projects!

Sincerely,

Renée McKee	Julia K. Wickert
Assistant Director and Program Leader	Graduate Student
4-H Youth Development	Youth Development & Agricultural
Purdue University	Education, Purdue University

Appendix N. Institutional Board of Review Exemption of Research, Extension Educator
Survey

Date: Wed, 3 Mar 2010 09:36:40 -0500
From: "Berry, Erica L" <elberry@purdue.edu>
To: "McKee, Renee K" <rmckee@purdue.edu>
Cc: "jwickert@purdue.edu" <jwickert@purdue.edu>
Subject: IRB Approval 1002008998 "Evaluating and Enhancing Indiana 4-H
Member...Extension Educators"

The IRB has reviewed your Research Exemption Request titled, "Evaluating and Enhancing Indiana 4-H Member...Extension Educators", Ref. #1002008998 and deem it to be exempt. A copy of the approved letter will be forthcoming via campus mail. Good luck on your research.

Erica L. Berry
Human Research Protection Program
Purdue University
Ernest C. Young Hall
10th Floor, Room 1032
155 S. Grant Street
West Lafayette, IN 47907-2114
PH: 765/494-7090
FAX: 765/494-9911
<http://www.irb.purdue.edu><<http://www.irb.purdue.edu>>

CONFIDENTIALITY NOTICE: This e-mail message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information or otherwise protected by law. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message.

Appendix O. Institutional Board of Review Exemption of Research, Natural Resource
Professional Survey

Date: Wed, 3 Mar 2010 09:38:08 -0500
From: "Berry, Erica L" <elberry@purdue.edu>
To: "McKee, Renee K" <rmckee@purdue.edu>
Cc: "jwickert@purdue.edu" <jwickert@purdue.edu>
Subject: IRB Approval 1002008976 "Evaluating and Enhancing Indiana 4-H...Natural
Resource Professionals"

The IRB has reviewed your Research Exemption Request titled, "Evaluating and
Enhancing Indiana 4-H...Natural Resource Professionals", Ref. #1002008976 and deem
it to be exempt. A copy of the approved letter will be forthcoming via campus mail.
Good luck on your research.

Erica L. Berry
Human Research Protection Program
Purdue University
Ernest C. Young Hall
10th Floor, Room 1032
155 S. Grant Street
West Lafayette, IN 47907-2114
PH: 765/494-7090
FAX: 765/494-9911
<http://www.irb.purdue.edu><<http://www.irb.purdue.edu>>

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Appendix P. Institutional Board of Review Email Regarding 4-H Member Survey

Date: Fri, 26 Feb 2010 13:54:49 -0500
From: "Riddick, Jennifer C" <jriddick@purdue.edu>
To: "McKee, Renee K" <rmckee@purdue.edu>
Cc: "jwickert@purdue.edu" <jwickert@purdue.edu>
Subject: IRB Protocol # 1002008997 "Evaluating and Enhancing Indiana 4-H... Members"

Professor,

Your Research Exemption Application has been received and I am conducting a preliminary review. Before I submit the protocol for final review I will need further information/clarification.

* You have submitted an Exempt Research Category 2 Application. Please be aware that Exempt research cannot be conducted with minors under this category. Please revise your recruitment subject group and/or review the Guidelines to determine eligibility<http://www.purdue.edu/research/vpr/rschadmin/rschoversight/humans/docs/201_eligibility.doc> to determine whether the research qualifies to be exempt under Category 1 which allows the use of minors.

Should you need further information, please visit our web site for those guidelines at www.irb.purdue.edu<<http://www.irb.purdue.edu>>

Thank you,

Jennifer Riddick

Protocol Review Coordinator

Human Research Protection Program

Purdue University

Ernest C. Young Hall, Room 1032

155 S. Grant Street

West Lafayette, IN 47907-2114

Tel: 765-494-6431

Fax:765-494-9911

jriddick@purdue.edu<<mailto:jriddick@purdue.edu>>

<http://www.irb.purdue.edu>

IRB walk in hours Monday 9:30-11:30, Tuesday 2:00 - 4:00, Thursday 9:30 - 11:30

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Appendix Q. Institutional Board of Review Exemption of Research, 4-H Member Survey

Date: Fri, 5 Mar 2010 16:45:46 -0500
From: "Davenport, Morgan R" <mrdavenp@purdue.edu>
To: "McKee, Renee K" <rmckee@purdue.edu>
Cc: "jwickert@purdue.edu" <jwickert@purdue.edu>
Subject: IRB Approval 1002008997 "Evaluating and Enhancing Indiana 4-H Member Participation in Natural Resource education-4-H Members"

The IRB has reviewed your Research Exemption Request titled, "Evaluating and Enhancing Indiana 4-H Member Participation in Natural Resource education-4-H Members", Ref. #1002008997 and deem it to be exempt. A copy of the approved letter will be forthcoming via campus mail. Good luck on your research.

Morgan Davenport
Human Research Protection Program
Purdue University
Ernest C. Young Hall
10th Floor, Room 1032
155 S. Grant Street
West Lafayette, IN 47907-2114
765.494.1527/direct
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Appendix R. Revision of Protocol for Natural Resource Professional Focus Group
Approval

Date: Wed, 27 Oct 2010 09:50:15 -0400
From: "Carroll, Natalie J." <ncarroll@purdue.edu>
To: "jwickert@purdue.edu" <jwickert@purdue.edu>
Cc: "McKee, Renee K" <rmckee@purdue.edu>
Subject: FW: IRB Revision Approval 1002008976 "Evaluating and Enhancing Indiana 4-H Member Participation..."

Natalie Carroll
 Professor
 Depts of:
 Youth Development & Agricultural Education
 Agricultural & Biological Engineering
 Purdue University
http://www.four-h.purdue.edu/natural_resources/

From: Berry, Erica L
 Sent: Wednesday, October 27, 2010 9:12 AM
 To: McKee, Renee K
 Cc: Carroll, Natalie J.
 Subject: IRB Revision Approval 1002008976 "Evaluating and Enhancing Indiana 4-H Member Participation..."

Your request for revision for your protocol titled, "Evaluating and Enhancing Indiana 4-H Member Participation..." Ref.#1002008976 has been approved. A copy of the Approval Form will be forthcoming via campus mail. Good luck on your research.

Erica L. Berry
 Human Research Protection Program
 Purdue University
 Ernest C. Young Hall
 10th Floor, Room 1032
 155 S. Grant Street
 West Lafayette, IN 47907-2114
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Appendix S. 4-H Youth Development and Agriculture & Natural Resource Extension
Educator Survey Close-Ended Results

Zoomerang Survey Results

Indiana 4-H Member Participation in Natural Resource Education

Response Status: Completes

Filter: No filter applied

May 13, 2010 1:02 PM PST

Please feel free to elaborate on any of the following questions.

The following questions will pertain to specific Indiana 4-H Natural Resource projects. They are: Forestry Soil & Water Conservation Weather Wildlife

1. What do you consider to be barriers to youth for participation in the four Indiana 4-H Natural Resource projects mentioned above? Please check all that apply.

Money resources	11	11%
Information available on subject	25	24%
Knowledgeable volunteer	50	48%
Project not offered	4	4%
Low interest by youth	80	77%
Other, please specify	34	33%

2. How familiar are you with the 4-H Natural Resource project manuals for each project?

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Very	Some	Not at all	N/A
Forestry	24 23%	70 67%	10 10%	0 0%
Soil & Water Conservation	16 15%	67 64%	19 18%	2 2%
Weather	22 21%	65 62%	16 15%	1 1%
Wildlife	28 27%	65 62%	11 11%	0 0%

3. How useful to you feel the project manuals are as resources for each project?

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Very	Some	Not at all	N/A
Forestry	25 25%	66 65%	4 4%	6 6%
Soil & Water Conservation	21 21%	63 62%	7 7%	11 11%
Weather	21 21%	65 64%	6 6%	10 10%
Wildlife	25 25%	62 61%	8 8%	6 6%

4. How relevant do you believe the Indiana 4-H Natural Resource exhibit requirements are to learning by Indiana 4-H members?

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Very	Some	Not at all	N/A
Forestry	33 32%	64 62%	2 2%	4 4%
Soil & Water Conservation	24	61	9	9

	23%	59%	9%	9%
Weather	24	67	6	6
	23%	65%	6%	6%
Wildlife	28	62	7	4
	28%	61%	7%	4%

5. From the following list of examples of Natural Resource project resources, please check all that apply in your county.

Top number is the count of respondents selecting the option. Bottom % is percent of the total respondents selecting the option.	Current	Desired	N/A
IDNR (Indiana DNR)	76 75%	17 17%	9 9%
SWCD (Soil & Water Conservation District)	93 91%	5 5%	4 4%
ANR Extension Educator	91 89%	5 5%	6 6%
Parks and Recreation personnel, state or local	53 56%	30 32%	12 13%
Library	81 81%	15 15%	4 4%
Internet	91 89%	10 10%	1 1%
Local Experts	56 60%	28 30%	9 10%
Other	9 22%	6 15%	26 63%

6. How comfortable are you recruiting Natural Resource volunteers?

Very	25	24%
Some	64	62%
Not at all	14	14%
Total	103	100%

7. What challenges do you face when you try to identify volunteers to lead 4-H Natural Resource projects? Please check all that apply.

Lack of project experts	45	45%
Time required by volunteer	68	68%
Difficulty finding people willing to work with youth	35	35%
Other, please specify	23	23%

8. Choose one of the Indiana 4-H Natural Resource projects to discuss from this list for the following two questions: Forestry Soil & Water Conservation Weather Wildlife What is the value of this project to the youth? How could we improve this particular project?

65 Responses

9. Please list any perceived strengths and weaknesses of the Indiana 4-H Natural Resource projects.

59 Responses

10. Please list any other comments about 4-H Natural Resource projects in Indiana and any suggestions on how to increase interest and participation in these four projects.

45 Responses

Appendix T. 4-H Youth Development and Agricultural & Natural Resources Extension
Educator Survey Question Eight Results

Results Overview: Open Ended Responses

Filter: No filter applied (65 Response(s) Returned)

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8. Choose one of the Indiana 4-H Natural Resource projects to discuss from this list for the following two questions: Forestry Soil & Water Conservation Weather Wildlife What is the value of this project to the youth? How could we improve this particular project?

Response

1 Make more relevant and user friendly.

I believe that the Wildlife project is a very important project to the youth who take it

2 because so many of them are not aware of habitats and what it takes to maintain these habitats.

The wildlife project is valuable because it provides youth with a chance to learn about wildlife and their habitats. Prior to the last update of this project, the manuals focused on birds, mammals, fish, reptiles independently. Each year, you switched type of animal and learned more about them. Now there are too many choices that don't really focus on learning about wildlife. The requirements for the project are nearly

3 impossible to do (such as building a habitat to attract animals and working on that for two years) or shadowing someone with a wildlife career. Most youth do not have the ability to do those activities. What they can do is create a poster about birds and their migratory habits or r they could show that they better understand the types of reptiles in Indiana and their life cycles. The changes to this program has made it hard to complete and not appealing to youth. Prior to the changes, it was fun, educational, and realistic for a youth to complete.

4 The youth need an understanding of this resource to insure it is used properly in the future

5 For soil and water...I usually only have 1-2 members take the project. Usually these are older members who are studying this in school or participating in an 4-H/FFA CDE.

6 Wildlife knowledge is important for youth to gain. Incorporate additioanl information regarding the recreational aspects of wildlife (e.g., fishing, hunting, observation), methods to identify various wildlife, and methods to humanely control damage caused by wildlife to homeowners' property.

7 Knowing what tree is what species. Especially valuable for Emerald Ash Borer.

Fliers/brochures for a current topic in Forestry.

8 forestry and weather are studied in school. These projects take time that some youth don't want to take the time. they may think the projects are too much like school.

9 The projects are valubable but time consuming.

10high value all

11Soil and Water has many land use applications and is useful for career development.

- Review to see if any updates, including the use of technology, need to be added.
- Forestry is a very neat project if youth choose to complete. Many times youth just don't take the time required or have an adult who will encourage them as they don't know how either. I think it is fine but if it can't be done quickly-youth will not take the time.
- 13 Forestry - 1. Learning about one of our important natural Resources in Indiana. 2. Not sure
- 14 The Wildlife project is a natural for Shooting Sports and hunter education.
1. Great way to learn about forestry. Tree ID is the first step to get started. 2. I think the project is great. Possibly it is too difficult since 4-H age has been lowered. Maybe make the first two years more simplified.
- The topic is current. It applies to rural, suburban and urban areas. Kids love weather phenomena. Great opportunity to introduce measurements, instrument calibration, graphs. Easily combined with computers applications. Easily combined with GIS/GPS Great possibilities for developing od critical thinking. Tied to standards. Clubs could "borrow" real instruments from the county office.
- 17 Teach basic wildlife management. Remove the grade requirements so that any 4-Her can take these at entry level.
- 18 Soil conservation Relate more to water quality and watersheds
- 19 see #10 below
- 20 Forestry: Identify trees is a super life skill for value. Could try to promote this project and others at the Area/State CDE contests of Forestry/Crops/Entomology, etc.
- 21 1. Weather is an everyday occurrence that directly impacts one's life and choices. 2. I do not know.
- The wildlife project is very interesting because you learn about wildlife in Indiana. For 22 students who are hunters this can be a very valuable resource. I think it is a good project book.
- 23 Soil & Water Conservation Providing educational materials to youth about the future of the earth Current project manuals
- 24 Forestry- one of Owen County's big Ag products. Good way to educate public through youth. Current project however does not appeal to alot of youth in current format.
1. Wildlife - The youth can learn about, reptiles, animals, and birds. Topics include food chain, habitat, management, etc. 2. With any projects, the lower levels need to be very fun and educational to the younger youth in any project. If they enjoy the project, 25 many will continue in that project. If the project is not fun and maybe difficult to complete, they will not take it in future years. We have several in the first year in Forestry and Wildlife but not many in 2nd year and above
- 26 weather is very important to my community as we are prone to flooding and other weather-related issues not sure how to improve it
- The weather project has some value for those wishing to learn weather observation and 27 instrumentation. The improvements to make could include being slightly more specific on project requirements at early levels.
- 28 Soil and Water Conservation is important to youth as they will one day own property. Relate the project to property ownership, houses, drainage, backyard conservation.
- 29 Forestry- value is learning tree ID and wood ID plus ecological niche of woodlands
- 30 Forestry - kids need to learn that not all trees are alike - urban forestry needs rather

- than on logging/tree farms - where and what do trees show up in
 We have a few that take S&W, but we need to update the manuals. For all of the
 31 projects the exhibit requirements are very specific...this is not unique to the NR
 projects...too many choices and stipulations. The projects that are most popular are the
 "county-only" projects where there is not such stringent guidelines.
- 32 Forestry This is a renewable resource both for industry and tourism. If youth could see
 the value both short and long term, it would be more viable.
331. Learn to identify trees. 2. Key volunteer to promote.
 Soil and Water Conservation 1. it is very useful to learn how to protect our soil and
 34 water resources by learning the proper techniques 2. not sure of any specific ways to
 improve it.
- Soil and Water Conservation and Weather need to be totally revamped in regards to the
 35 topics. The exhibit options are boring. The projects need to be something that will
 create interest. Don't know what that is.
- 36 Forestry continues to be a good topic for Indiana since we are surrounded by National
 forests. We should encourage youth to visit National Forests more.
- Weather: This is an exciting topic that could turn into a career for youth. I once offered
 37 this project for after school youth. It did not seem parent friendly. One of the projects
 involved cutting sharp metal which seemed dangerous for the youth.
- 38 Soil and water - not a high interest level needs to be updated and address homeowner
 issues
- 39 To learn life long principles. Make it more relevant
- Soil & Water - It is helpful to know soil types and how water and the soil interact. It is
 40 however hard for youth to see that or most people. You see houses built on land that
 should not have a house on it but they do not know better. Update the manuals and
 make it more relevant to the needs of people.
- 41 Teaches conservation and importance of soil conservation in the future. 2. It needs to
 be pushed harder at the local level with more support by local SWCD's
- Youth need to understand Wildlife & Weather not only now but in the Adult Lives.
- 42 Improve - I think that the cost of manuals is inhibiting members from taking these
 projects.
- Soil and Water Conservation is important to future land and water resources for food
 43 production and preservation of natural resources. 2. Make manuals that relate to young
 people and avoid trying to make them beyond their capabilities.
- Soil & Water 1.) Basic understanding of soil and water resources, the sciences
 associated with each, and the importance and methods of conservation for these
 resources. 2.) This project, like the others listed, would benefit most from a focused
 44 club/group meeting with earlier year groups to learn basics and complete
 partially/completely early level projects. Materials for this and the other projects (with
 perhaps the exception of the Wildlife manual, which at times has instructional and
 resource weaknesses on a small scale) are all very appropriate for goals attempting to
 be addressed.
- 45 Weather--While I am not involved in the teaching of this project, I can say that the first
 year coloring sheet turns away some boys who are not oriented to coloring.
- 46 Forestry: If the youth desires a job in this area, it would be valuable. It also can be

valuable to those students that would just like a better understanding of their environment.

I believe there is great value to enhance youth knowledge in these four areas. The key is to find a volunteer that has passion to share this knowledge with youth in a manner to allow this education to occur. That would be our challenge is to find the right volunteer that has both the passion and time for our area youth. There are some opportunities that could be explored for next year.

This project would increase their knowledge of wood products, so as a consumer they purchase furniture that will last. This project could be improved with pertinent life skills to ensure they purchase quality wood products.

Wildlife - learning a bit about how we as humans are connected to the world around us, and how our use of resources impacts not only ourselves, but all species.

1. Members are curious about animals and they can learn a lot about their behavior, habitats, etc. 2. I think the project requirements limit what they can learn about. They read their choices and it doesn't appeal to them, so they don't take the project.

This is just not an interest to the youth right now. Many of them do not want to get outside to play and work. Not sure how to get the interest up.

Very valuable. Emphasize the strong points-activity/hands on; school courses should cover the technical material.

Soil and Water--youth see little value in this project. Great lack of interest. We are planning to hold a workshop this year to increase awareness/importance of this topic.

Soil 1 - Good project - learn about soil types for home use. 2- consider the age / skills of 4-H'er when writing the book and exhibit requirement. Have more fun learning activities.

It is nice to know and understand the environment around us. It allows us to better appreciate it later in life.

Weather - 1) There is great value to learn life skills 2) the manuals are not helpful. Material are dated and are hard to follow

Somewhat valuable Touch on common pests and problems

Knowledge of wildlife around us is critical for knowing what is happening in our environment. Concepts with exhibits are good but parents just do not help much or have the interest. It has gotten to complicated.

1. Soil & Water Conservation is important for youth to understand the basic concepts of the importance of soil & water in our daily lives (they are key to providing food that we eat) & the need to conserve these important resources. Experiential learning of key concepts about soil & water will help youth appreciate and promote the better use and care of these (and other) resources in our communities. 2. Better promotion of the key concepts and available resources for learning about them (e.g. Master Gardener program, SWCD Education coordinator & school programs, Ag Days programs, city water treatment plant operator, SWMD folks who compost, Ag educators, NRCS agency folks, etc.); conduct local workshops/field days to promote this project & assist with understanding key concepts; involve youth in self-study activities as part of the project (e.g. spend a day with the NRCS DC, shadow an Ag educator on a field call, assist with the County or Area soils judging CDE, attend a pond clinic, form an Envirothon team and compete).

Forestry is not only a Natural Resource it is also a source of income for landowners. Indiana has a rich heritage as a high quality timber producing state and we need to train and educate young people in the care and management of this resource. Career exploration in this field is also a concern and need. This project could be improved and interest heightened by returning the forestry and conservation resource state camps that were once conducted in Indiana. Perhaps regional (a south and a north camp) would work.

The field of natural resource is so important in regards to how our environment is changing (global warming, pollution, etc.) and how it effects everything else in our world.

I think the value is there youth, however I think we are seeing fewer actual farm youth and more urban youth participate. I think if we could have a mix of rural and urban concepts in the projects that would help.

value of protecting environment

Soil & Water Conservation is good to help youth learn more about conservation of the earth's resources. There are some good activities in the project manuals, but a lot of activities to complete as part of the exhibit requirement.

65

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Appendix U
 . 4-H Youth Development and Agricultural & Natural Resources Extension Educator
 Survey Question Nine Results

Results Overview: Open Ended Responses
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9. Please list any perceived strengths and weaknesses of the Indiana 4-H Natural Resource projects.

Response

- 1 Books and activities are boring. There is no "easy" way to start getting involved into the project.
- 2 I think that the kids enjoy learning about these things and there is plenty of resource information available for them.
 A lot of them have unrealistic activities for the youth to complete, as was previously mentioned. I do think the weather project is realistic with it's requirements but is just a hidden secret among youth as to how great the project is. One disadvantage that turns
- 3 individuals off of the project is that after they have been in it for four years or more, the books are often changed and it is hard for them or confusing to them as to why they have to repeat a level because levels changed as to what grades fit what level. That is annoying and makes them decide to stop doing the project.
- 4 There are alot of life skills that can be developed through these projects we just need to have up to date stuff more visual hands-on instead of reading.
 Again the project requirement are more academic and thus intimidating to members who just want to complete a project. I think the perception is these are not FUN
- 5 projects and more WORK is involved to complete. And each year the project requirements change sometimes after our Handbooks have already been printed.
- 6 Well-written activity manuals are available; additional exhibit options that include more practical applications may help increase enrollment/participation.
- 7 Assistance to those major in Natural Resources, Forestry, or Wildlife in COLlege.
- 8 these projects are part of the science curriculum in school.
 Strengths: for those 4-Hers interested, they're great Weaknesses: Most 4-Hers don't want to color posters...that's the first year option for two of the projects. If they're
- 9 interested but don't enroll because of the coloring, they may never take the project.
 Technology is a strength (too much technology) as well as a weakness (not available in all rural areas and families cutting bills--Internet is not a necessity)
- 10na
- 11 Strength is the material contest. Weakness is more of a challenge...getting more youth to spend more time outdoors.
- 12 Strength - easily find areas where there is all of these resources can be utilized.
 Weakness - getting the youth involved and excited.

13 These folks are the enforcement group in the county. No time to volunteer they are over worked.

14 Gets kids working with plants. Gets kids working with parents and other leaders.

14 Teaches them how interesting the environment is.

15 Strengths are above. The manuals are not inquiry based. The manuals focus more on how to put things together, rather than in the science behind the project.

16 Grade requirements for projects exhibited.

17 see #10 below

18 Strengths: Seems like most of them are simple poster projects which don't require much time. Weakness: Maybe need to get away from posters and somehow create exhibits/items? taxidermy, soil profile, sample of leaf ID cards, weather instruments, etc.

19 Strengths: science focus, interesting content, helpful website! Weaknesses: parents intimidated by manuals, materials needed, time involved; kids not excited by it and don't see very many other members doing these projects; end product is "just another poster"; some manual questions are odd, like asking what is your favorite part of a tree... (lots of reflection but not enough content to get the kids are excited about learning something)

20 The project books are all great... making a poster about it is BORING!! We need to offer opportunities for kids to learn more about these things through hands-on experiences like camps and day camps. Reading about these things in a book does not interest the students who would really be into these project areas!

21 Lack of knowledge of youth in these areas Outdated

22 Strength available & good basic project products. Weakness: 1. Must do certain activity each year...would be better if choice was given based on interest. 2. Youth today like team, computer and camp activities.project is more individual which is a good start but other learning methods should be added.

23 Strengths - There are good activities for the youth to learn and exhibit at the fair. Many of the youth are involved in youth baseball, softball, swimming, etc. in their community and are very busy. These are done around the last of June and then the youth work on project for the fair, vacation, etc. and don't exhibit in projects they have enrolled in. We have one 4-H member that has taken Wildlife for 8 years.

24?

25 Strengths are relevance, information, high level of hands-on education. Weaknesses are perceived "cool" factor, confusing or vague guidelines in some instances, and *apparently* spelling. Who wants to take Forestry, honestly? I don't want to take "like a forest" when I could take Forestry, or maybe a little model forest for collections or something.

26 Strengths: The projects have excellent content. Weaknesses: 4-H members just are not interested; view them as science projects instead of fun summer projects.

27 Weaknesses.. major changes and no expertise in the offices to answer questions.

28 The projects lend themselves to great activities - but several parks/nature groups are already up and running that offer similar experiences - and having a 4-H exhibit is just not something that they want to do. Their completion goal is achieved differently. So if you measure the success of the project simply by the number of enrolled kids and

- exhibits - it is not on the same plane/level as what is being offered in our community.
 Unless youth have a particular interest in one of these projects they do not see the
 29 value in spending time on these projects. It is important to make it relevant to youth
 and their world.
- 30 Gets too difficult as the kids get older.
- 31 These projects have traditionally low enrollments.
- 32 There is just not a huge amount of interest at the youth level.
- 33 These should be at the top of youth interest with all of the environmental concerns.
- 34 Wildlife and Forestry attract youth. It is hard for youth to find good leaves and know
 how to preserve them.
- 35 Forestry places too much emphasis on exhibition of project, ex leaves mounted and dried
 and arrangement on poster. We need more emphasis on learning rather than exhibiting!
- 36 Strengths - manuals are kid friendly and these projects have been around for many
 years and are considered a basic part of 4-H
- If there would be a way to bring children into a living lab to learn more about our
 37 natural resources vs just reading a manual. Develop alliances with River Watch,
 Watershed groups, wildlife groups to provide training opportunities and funding.
 Materials for most manuals in this group are very sound. Due to heavy schedules of
 38 modern families and 4-Hers, a very good approach would be offering focused days of
 3-4 hours per project to learn concepts (after 4-Her reviews manuals) and complete
 roughly or completely the fair project itself.
- The Forestry project gives members a reason to go out and learn about trees and their
 identification, use, etc. The popularity of the project should be high in my county
 39 because we have abundant forestry resources, and many people are employed by the
 forestry and mulch industries here. I as an educator must find the time and the people
 to help promote this project and show members its importance in our county.
- 40 Weakness: Constant change in exhibit requirements. Incorrect information sometimes
 distributed at CDEs. Strengths: Allows youth to use their creativity.
- I believe the overall weakness with most 4-H programs is having the volunteer that is
 knowledgeable in a project area that can enhance the 4-Hers experience. Marshall
 41 County does have many 4-H project leaders which does in my opinion enhance the 4-
 Hers opportunity to learn by having knowledgeable individuals they can contact with
 their questions.
- 42 The strengths of these projects they have connections to making smart decisions when
 purchasing land, furniture, or hunting and fishing.
- Strengths - can be completed without direct volunteer support. Strong, science-based
 43 information for the most part. Weaknesses - This is a solid project. With good
 volunteer support it has the base needed to be successful.
- 44 The project requirements are very intense for these projects and it requires a lot of time
 from the 4-H member and their parent to complete the projects.
- 45 Some of the manuals have mistakes in them. This makes it difficult for the youth to
 utilize the information.
- 46 Important topics; Missing the reason for taking projects.
- 47 Not a currently 'trendy'/popular project like Scrapbook or ?? Perceived lack of
 resources--but they are there.

48 Too many changes.

Knowing different types of trees. Knowing woods and their uses. Understanding
49 different forest management practices. Activities are all to do by yourself at home. No
really group learning or high tech activities.

You know the biggest reasons for the drop in these program areas are because there
has not be the investment put into it. Every since the State 4-H dropped Conservation
Camp, Natural Resources Teen Leadership camp, Forestry Camp the numbers have fell
off the charts. Conservation Camp engaged many youth to the outdoors. There are field
educators that would invest time to do this for Indiana's youth but the lack of funding
50 and leadership from the university has sank this ship. Money needs to be put into an
effort to really connect with Indiana families and Marketed through the normal
channels with emphasis on hands on activities-seining, checkin aquatic species that are
pollution indicators, fish, backyard wildlife management. Connect them with potential
job connections. We have to bring them on board before we hit them with all the
complicated concepts of higher education.

Strengths: good basic concepts and available supporting resources. 4-H Activity
manuals could be updated to improve relevancy to daily life. Weaknesses: Competition
for "fun" 4-H projects demands that these projects have an image that is meaningful,
51 important & relevant to today's youth. The demands for sound "science" as part of
these may cause some youth to turn away, thinking that the projects are "too hard."
Having youth focus on the importance of these natural resources as a part of our daily
lives (and can still be fun) might encourage more to participate.

52 Manuals have lots of busy work and don't focus on activities kids really like to do
We could go a long way by advertising and promoting the projects to our Natural
53 Resource agencies and developing some relationships on a statewide level to assist
with volunteer development.

54 As stated above, Indiana has a heritage regarding timber and wildlife, this needs to be
capitalized upon as a strength of these projects.

Our Soil and Water conservation project has many more youth enrolled than the other
55 NR projects, I believe it has to do with the resource leader (very active in the project
and with the youth) involvement.

56 weaknesses are not enough mixture of rural and urban activities. Strengths are that the
materials have been updated within the last 10 - 15 years for the most part.

57 knowledge gained by youth a definite strength

Some of the materials were outdated long enough that it did not encourage 4-Hers to
enroll in the projects. Now that they have been/are being updated, it is a matter of
58 communicating that to those who may be interested. Another drawback is that some of
the exhibits are posters – some parents discourage their children from taking projects
that have posters as the exhibit requirements. I know it's not about the exhibit, but that
is what the local perception is – in reality.

59 low interest

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Appendix V. 4-H Youth Development and Agricultural & Natural Resources Extension
Educator Survey Question Ten Results

Results Overview: Open Ended Responses

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10. Please list any other comments about 4-H Natural Resource projects in Indiana and any suggestions on how to increase interest and participation in these four projects.

Response

- 1 I hope that you have luck in getting more youth to participate in these projects as I do believe that they are useful.
Make the project requirements realistic and obtainable for those in rural areas that can't do many of the activities or don't have an adult who will help them do them. Make
- 2 them simple and easy to do. Even the year when you made fishing lures with the old wildlife project was fun and interesting. It was something enjoyable that a youth could do with minimal help and would learn something about fish along the way.
As we currently have horse and pony clubs, goat clubs etc...may be a good idea to
- 3 encourage 'outdoors' clubs to tackle the forestry, wildlife, soil and water project.
Leaders to coordinate efforts to collect leaves, explain the process of drying leaves, plants, understanding erosion etc.
- 4 I have very enthusiastic adult volunteers but it is hard to keep up their enthusiasm when the projects have low enrollments.
Prepare simple, easy-to-use lesson plans that Adult 4-H Volunteers could utilize in
- 5 their 4-H Club meetings with their members. Perhaps allow for group exhibits/projects (things that the Club could do together to participate in these projects areas - e.g., develop a wildlife habitat, establish a tree identification walk in the community, etc.)
- 6 I am nor sure why youth don't participate unless they are too much like school.
- 7 Everything goes in cycles...patience....the numbers will come back up.
- 8 na
- 9 have science workshops at Purdue with other animal/plant/food in June
- 10 Find good educated volunteers.
- 11 I don't have any answers, but I hope you find some. This is a worthy project.
- 12 Service learning techniques could be combined with these projects.
I think we're thinking to "small" here. The problem with low participation really isn't that the materials are poor or the exhibit options aren't suitable...the trouble, in my opinion, lies with the changing dynamics of families. Fewer sons & daughters are
- 13 growing up with a father around to teach them about the outdoors. I don't mean this to sound sexist, but for example, I've been involved with 4-H sportfishing for years, and when you ask kids (or even adults) who took them fishing for the first time, it is almost always a male. I think the lack of participation in these projects is a sign of growing disconnect between youth and the outdoors.

Still would like to keep these... I took them all and learned a lot which am using today.
 14 Overall, maybe need to change the exhibits... I know you learn a lot with a poster, but
 after you do it, not much value in them afterwards. Other projects, it is like... an actual
 aquarium, models, rocket, collections, etc.

Also these topics could be taught through the schools as in-school enrichment
 15 programs. Maybe by educating these students the counties will be able to encourage
 more students to take these projects.

16 Field day - we do one for 4th graders annually related to soil and water conservation
 and natural resources

Add team, computer learning and camp activities. One of the biggest problems is local
 17 educators are bogged down by "red tape & paperwork" that they don't have time to be
 educators and program developers.

18 Really have not had many members interested in these projects, but would be willing
 to help with some more instruction from the state.

The Natural Resource projects are interesting and some youth take the projects for a
 19 year or two. Currently, I really don't have suggestions on increasing participation.

Some is how busy they are with other activities.

20?

Personality, Foods, and other non-livestock projects are cool because they are easy,
 somewhat fun, and bond adults with young people. You've listed the four projects that
 21 are difficult, less fun in that epiphany-like "wow!" way, and darn near impossible to
 find an extroverted adult expert to bond with.

22 They are all good projects for 4-H members. However, the other 4-H projects available
 are often easier and require less effort.

23 they are time consuming projects and in our instant society these projects don't appeal
 to many kids - you can't whip up a poster in an hour for these projects.

24 Lack of overall desire for youth to do projects. Need to do fun, exhibits to encourage
 youth to want to take these projects.

25 Look at these wholistically - not as individual projects - Earth Science or Nature or
 something - that includes all.

26 These make great school enrichment projects. Increase participation - reduce cost of
 manuals.

Through interaction with 4-Hers in these projects, as well as my own children's
 involvement with these projects, I feel these projects are usually not the first projects
 chosen for completion, but are instead usually taken by youth as the 2rd or 4th or 10th
 27 project on their list in many cases. I do not feel that 4-hers do not want to take these
 projects, but rather they are frequently drawn to other areas such as livestock or
 shooting sports or crafts and then pick up natural resources projects as "secondary"
 picks (and this is a vast generalization)

As an example, our county has two volunteers who recently came on to help with the
 Sportfishing project. They are very qualified to work with kids in this area. Their
 28 emphasis is on the hands-on part of sportfishing, so kids can go fishing and enjoy an
 outdoor hobby that can last many years for them. Hopefully they can also incorporate
 some exhibit-making sessions into their program too.

29 I would say that these subject matters particularly forestry, wildlife, and weather

should have a appeal to many youth. Though the challenge remains that there needs to be a knowledgable person for the youth to talk to and work with to enhance the youth's participation in a project area and build numbers within a project area. I feel that is one reason why there tends to be low participation in soil and water.

30 I think there are levels of the projects that need work because they require complex activities. Some levels of the projects are very engaging for the youth.

Extension as a whole focuses on wildlife from a nuisance control standpoint far more 31 often than from a natural resource benefit base. Educators that do a good deal of youth-based natural resource programming aren't lauded by their District Directors.

Two things: I was conducting a leader training and discovered a woman in Porter County who has a 4-H club specifically devoted to Natural Resource projects. She 32 would be a good person to talk to. The other thing I would recommend is for counties to participate in the Envirothon competition. We've had a team for the past two years and it has stimulated interest (at least among the participants) to study in these areas.

It seems that youth who take this type of project are in for one year only or they stay in 33 the project for multiple years. Unless they have a personal interest in the topic, I don't see growing enrollment in the natural resource projects.

34 Return to a 4-H manual; allow accredited trained professionals teach the material [in school].

Maybe an 'Environmental Awareness' approach would be better, or a 'Conservation' approach--that covers a bit about each of these. Or called Natural Resources Project, or 'Our Natural World'. And at the upper levels they then can concentrate more on specific topics/areas once they have selected an interest in one area. If you look at State Fair entries over the years--and there seems to be a downward spiral--perhaps it is time 35 to axe that particular project. Soil and Water seems to be the lowest of the 4 asked in this survey. While I am giving my opinion--looks to me like Weeds needs to be AXED as a 4-H project in Indiana. The others Forestry, Weather and Wildlife all seem to have OK numbers at State Fair. Soil and Water is the 'lowest numbers' one. Either try to revive--[give 2-3 years period] and if numbers not up--then axe. It is a question of using our resources most efficiently/effectively.

36 I could get more kids in it if I had a leader. They could then do some workshops or field days.

37 Maybee need to lokk at a wider view "Environment" project, with more current items of interest in it.

We must focus on youth being protectors of the future of all species around us. This biology science has fallen victim to nano science. I know that IDNR is even having issues with adults to teach Project Wild, WET and critical concepts to professional educators since these curriculum are not a focus on standardized tests. The Board of Education and other leaders have not seen the importance. There has been a reluctancy 38 from field educators to take much time with these areas since the perception is that SWCD will do it. A monster majority of Extension hires have no history, experience, training, or interest. Urban sprall is winning and desympathizing the aesthetic importance of all wildlife, and water resources. Must attain grants for a new camp(s). Again there are educators willing to spend the time and resources for these types of life changing camp programs that genuinely connect kids to Natural resource education.

Global warming should not be the only emphasis. The existing ecosystems if studied will help solve some of these issues if we just get some new youth interest revived. IDNR and Mollenhauer in the North are the only camps that cover these areas and they turn kids away every year. It is time for Purdue Extension, Wildlife and Forestry departments to reinvest in youth.

Elkhart Co. had a 4-H club organize several years ago; the focus of this club was the natural resources projects (4-H members could take any project, however, club activities focused on the natural resources projects; instead of formal meetings, the club would take a field trip to the local landfill to better understand "recycling" issues; they would visit with the Plan Commission to better get a picture of land use planning and soil & water issues. Their youth formed a team to compete in the regional Envirothon, a competition that focuses on natural resource issues (http://iaswcd.org/district_tools/envirothon.html or www.envirothon.org). The club has grown over the past few years as youth learn about the "fun" things that the club does to help youth better understand natural resource issues.

To reinvigorate the projects, it might be helpful to assist counties with media displays that could be used at county fairs to market the projects. This is something that counties try to do, but we only have so much time to market, so help with some marketing materials, posters, interactive displays might be useful.

I feel that emphasis on possible careers or at least career exploration is important as a means to increase interest in these projects.

I'm fairly new as a 4-H Educator, however, maybe having more opportunities (trips or workshops available) that is specific to these projects.

field days to increase interest

Would there be any way to add a Natural Resource option to the list of state 4-H workshops offered? That might add some interest.

While coloring birds/mammals was not perceived as being educational, we did at least have a decent enrollment in the project.

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Appendix W. Natural Resource Professional Survey Close-Ended Results

Zoomerang.com Survey Results**Indiana 4-H Member Participation in Natural Resource Education**

Response Status: Completes

Filter: No filter applied

Apr 26, 2010 10:17 AM PST

Please feel free to elaborate on any of the following questions.		
1. How are you associated with Natural Resources? For example, with what professional organization do you belong?		
104 Responses		
The following questions will pertain to specific Indiana 4-H Natural Resource projects: Forestry Soil & Water Conservation Weather Wildlife		
2. How familiar are you with the Indiana 4-H Youth Development Program?		
Very	32	30%
Some	59	56%
Not at all	14	13%
Not applicable	0	0%
Total	105	100%
3. Please check all the 4-H Natural Resource projects with which you are familiar:		
Forestry	59	57%
Soil & Water Conservation	71	68%
Weather	23	22%
Wildlife	64	62%
None of the above	12	12%

Other, please specify	12	12%
4. Have you been involved with 4-H? Please check all that apply.		
Volunteer Leader	19	20%
Parent	41	44%
Volunteer	28	30%
Extension Educator	1	1%
4-H Member	36	38%
Other, please specify	44	47%
5. Please check any of the following 4-H Natural Resource projects for which you would be willing to serve as a volunteer:		
Forestry	34	44%
Soil & Water Conservation	49	63%
Weather	13	17%
Wildlife	34	44%
6. Please check all that apply. I would be most comfortable:		
Working directly with 4-H member	40	45%
Working with 4-H member and an Extension Educator	46	52%
Providing subject matter to an Extension Educator or volunteer adult leader who will run the meeting	57	64%
Other, please specify	20	22%
7. List examples of resources that you think could be beneficial to 4-H members who are involved with these Natural Resource projects.		
69 Responses		
8. Please list any other comments about these four Indiana 4-H Natural Resource projects that you would feel help us improve.		
39 Responses		

Appendix X. Natural Resource Survey Question Eight Results

Results Overview: Open Ended Responses

Filter: No filter applied (39 Response(s) Returned)

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8. Please list any other comments about these four Indiana 4-H Natural Resource projects that you would feel help us improve.

Response

- 1 More interesting topics and projects in the 4-H books. It is hard to keep the kids interested in them.
- 2 Volunteer work at a nature center in State Park, Demonstations on a topic within the project to share with a group, hands-on activities that show the relevancy.
- 3 You might ask local groups to sponsor some type of monetary prize - like a savings bond - to encourage participation.
- 4 Extension Educators should work with SWCD's, DNR-Forestry, DNR-Fish & Wildlife to promote the projects in each county.
- 5 Mostly they take time and the kids can't do them "the nite before" ...
I helped write the last Soil & Water Conservation Book, and am familiar with the other manuals. I really like the activities in the S&WC manuals, but am not sure they made the best exhibits possible. The manuals seem to intimidate some, and others claim they are "too easy." When I did the forestry workshop this year, the kids were very
- 6 interested, and the parents impressed that it could be so easy to do a project. One older youth was excited to learn that he could go back to his club and do the activities I had done and mentor younger members - and that could be his project!! (I gave him all my stuff to borrow, and can't wait to see how it turns out!) I know they enjoy hands on activities, and having choices.
I have been the superintendent for 5 years and I can not get more then 13 kids to sign up. We need something to "dress up" soil and water education. I retain the same kids but they are getting older and many are in levels C and D and will finish soon. I need
- 7 to know how to attract new kids. I go to the 4-H Expo to promote Soil and Water and the kids say,"they don't want to get dirty". I explain not all the projects are like that. Can we change the name to something more "green"?
- 8 I feel the way the projects were run in the past are easier and more interesting to do than the requirements are today. Collecting the leaves, then seeds, and doing different types of woods gets them started at the lower levels of the project. Then they can go into the more involved projects when they are more interested in pursuing this as a lifetime career. I am not as up to date on the other two projects, but they have been changed to more involved projects instead of earlier interest. i.e. coloring the pictures of birds. Also there is more money involved with the more involved projects.
- 9 Encourage Extension people to offer these projects so we can provide the information.
- 10 Connection to home school groups Connection between public education and 4-H

Unfortunately, all of these projects are mainly "poster projects" and that is something the youth may not want to do. For example, what if an exhibit for forestry would be a 14" slice through a tree where the rings could be counted and important dates identified on certain rings. A short 1/2 - 1 page report could accompany this exhibit. Kids really are not in to posters.

the newer project books don't teach anything. The ones used several years ago, even 1220-30 years ago were very educational and informative. The children learned about the subjects, not just did comic activities.

13 They are very good programs. Today's kids are tied more to the technical world.

14 the natural resource projects are not portrayed as 'fun and interesting' projects... that starts with 4-h leaders!

15 Educationg these members about these natural resource issues at this stage in their development is paramount. Understanding the issues and knowing what questions to ask will help to develop good stewardship skills and forge leadership amongst the next generation of ag-oriented children and young adults.

16 It may be beneficial to have a project leader for the natural resource projects. This project leader could coordinate fun activites that are relevant to each project. Service learning could also be incorporated.

17 Over all..... competing with sports is the biggest obstacle.

Parents and Youth often think they are too difficult and don't know where to begin to find the information. They are difficult if you don't know anyone who can guide you. It is not "everyday" and easy accessible information. The internet makes it a little easier.

19 Again, natural resource clubs would benefit the kids, they can learn about NR, be outdoors, and perhaps this could get more children out of doors and involved with caring for their NR for the future.

20 We had 3 Soil and Water Conservation projects this year instead of the usual one or none. I attribute the increase to the fact that I was in the school systems promoting it that year. I also helped them with their projects by taking them out into the field to look at a conservation practice or helping them with soils maps.

21 Already given advice to Natalie Carroll regarding project books. Making sure they appeal to members, are easily understood and interesting. Paperwork can be VERY cumbersome and deterring.

22 4-H'ers in my area don't have the interest. They pick more popular projects. "natural resource/Science" projects are not 'cool.' I helped the judge of the natural resource project at our county fair this year. Only 2 people had taken 2 natural resource projects. So each won a grand champ and reserve champ ribbon.

23 involving the students about the inportance of water quality and conservation, as hands on.... field trips, workshops, etc.

24 I think there needs to be a bigger push in schools and possibly a revitalization of the 4-H name to better incorporate the science side. So man kids think 4-H is either crafts or livestock and do not realize there's so much more. So changing that attitude/perspective through marketing may help.

25 The 4-H projects are good but as students become increasingly removed from the outdoors, it is becomming less relevant in their eyes. I think it is a marketing problem and we may need to combine natural resources and their interests - involve more

- technology in the projects or show how they are connected to natural resources, even in today's indoor culture.
- I am not thoroughly familiar with all levels of wildlife project. Some of the poster projects seem pretty static... I attended Natural Resources Camp as a camper and teen
- 26 volunteer. Bringing this camp back for kids in the natural resources projects would be great.
- 27 The books all need to be changed, updated more than anything.
- Our office reviewed the Soil and Water Conservation project books a few years ago to see if there was some assistance we could offer the kids in completing their projects,
- 28 and spur some interest. We found the books to be very involved compared to some of the other project books. My daughter signed up for the Soil and Water project for the first time this year, so we'll see how we make it through.
- Many of the project are far to simple and really do not teach much to the 4'Her.
- 29 Example display ten photo of products made from trees. Copy this from the book and place on a poster. I beleive that the kids should have to challenged a little more for participation to increase.
- We've tried over and over to get information out about soil & water projects. We honor the winners at our annual meeting each year with awards and free dinner for the
- 30 student and parents. We think Extension should make a better effort in getting information out about projects in each category. 4-H leaders need to be better informed.
- 31 Forestry needs an urban forestry component to spur students thinking in that vein-- especially since over 80% of Hoosiers live in urban areas or sprawling areas.
- 32 organize a job shadow day or field day with IDNR
- 33 Great program, almost as good as boy scouts!!
- 34 I would love to have a copy of the Forestry information used by 4-H in order to allow me to better assists
- The ownership landscape has changed from "farm children" to "white collar" children.
- 35 Those owning the land are no longer tied to the land for income and don't see the importance. I don't have an answer to change the attitude.
- 36 There are too many competing attractions (video games, etc.). .
- 37 actual visits to forest
- 38 My kids and I have enjoyed working on the Forestry projects. It just has to be interesting for the kids.
- To be frank, this is a pretty simplistic survey. I don't see how you can evaluate and improve the four natural resource projects from this survey. You've asked that this
- 39 survey be sent to a large segment in DNR. I would say that 90% of DNR employees aren't involved in 4-H. Your response numbers will be low. Ask Natalie to call Dean if she wants to really look at these projects and improve them. :o)

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Appendix Y. 4-H Member Survey Close-Ended Results

Zoomerang Survey Results**Indiana 4-H Member Participation in Natural Resource Education**

Response Status: Completes

Filter: No filter applied

May 13, 2010 12:52 PM PST

We value your opinion about the 4-H Natural Resource projects because of your participation in one of the following: Forestry, Soil & Water Conservation, Weather, or Wildlife. We are concerned with low statewide 4-H participation numbers in these specific projects. From this survey, we are trying to determine what motivates you as a 4-H member to be involved with these subjects. We are also interested in your opinion regarding possible motivators to encourage other 4-H members in these subject areas.

The following questions will pertain to specific Indiana 4-H Natural Resource projects. Forestry Soil & Water Conservation Weather Wildlife

Demographics Please tell us about yourself.

1. 1. How many years have you enrolled in 4-H?

75 Responses

2. 2. How long have you been enrolled any of these projects while in 4-H?

75 Responses

3. 3. What is your current grade in school? (2009-2010 school year)

74 Responses		
4. 4. Please check your gender.		
Male	27	39%
Female	43	61%
Total	70	100%
5. 5. Would you consider serving as a volunteer with one of these four projects when you are an adult? Check all that apply.		
Forestry	37	64%
Soil & Water Conservation	13	22%
Weather	14	24%
Wildlife	31	53%
Other Questions Please feel free to elaborate on any of the following questions.		
6. What do you consider to be barriers to youth for participation in the four Indiana 4-H Natural Resource projects mentioned above? Please check all that apply.		
Money resources	10	14%
Information available on subject	32	44%
Knowledgeable volunteer	33	45%
Project not offered	8	11%
Low interest by youth	48	66%
Other, please specify	19	26%
7. Are you planning on a career in one of these project areas? Please check all that apply.		
Forestry	8	36%
Soil & Water Conservation	4	18%
Weather	5	23%
Wildlife	11	50%

8. What motivates you to continue to participate in one of these projects?

65 Responses

9. Why do you think more youth do not participate in these four Natural Resource projects?

69 Responses

10. Have you had the opportunity to mentor a younger 4-H member in one of the specific four Indiana 4-H Natural Resource projects?

67 Responses

11. Please list any other comments about 4-H Natural Resource projects in Indiana and any suggestions on how to increase interest and participation in these four projects.

48 Responses

Appendix Z. 4-H Member Survey Question Nine Results

Results Overview: Open Ended Responses

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9. Why do you think more youth do not participate in these four Natural Resource projects?

Response

- 1 Hard to find information, takes too much time to complete the book and look for information you need to complete the project.
- 2 It's boring because there are not many hands on activities not a lot of help with these-may need to offer some workshops to spark more interest
- 3 and give ideas using previous years' actual projects; have real dnr representatives come and talk
- 4 they don't want to do the research or the work. Or they may just not like the subject.
- 5 Because at the higher levels they require a lot o work and money.
- 6 uninterested
- 7 They think it is too hard.Or they don't know what it is about. they don't want to color the poster the first year.
- 8 they do not advertise them and a lot of members think that they would be boring
- 9 I think it is because they have no interest in learning about these projects because they don't consider it big part of their life.
- 10 It seems many just don't want to spend the time. Photography is the most popular project in our area - take one picture and you're done!
- 11They don't want to do the research and/or they require a little more work.
- 124-H and FFA contests have gained a stereotype that lots of teenagers do not want to be involved. The majority of kids just do not have the desire to learn about these projects.
- 13projects are too hard. NOt enough time to do all the activities.
- 14too hard, more fun to goof off in the summer, too much work. kids are lazy.
- 15there is not enough information, and the adults do not always know what they are doing.
- 16Its not convenient for most.
I honestly believe because they are too much work for the majority of them. As the
- 17projects proceed in the division they become much more involved and I believe they just do not want to take the time.
- 18It doesn't interest them.
These projects are quite a bit of work and I think some youth aren't willing to put in the
- 19time and effort to succeed at the project. Also, the importance of these projects just isn't stressed enough and youth often times overlook them.
- 20Weather - many rule changes made it not a "set" project .. lots of repeating of same thing every year. Forestry - becomes too complicated .. hard to get everything required

- to complete you know someone in that type of business
- 21 Maybe they think they are too detailed to complete, but that's not a good excuse. Or, maybe they aren't interested in the project.
- 22 It is time consuming and with summer school homework it is more to do.
- 23 they don't know about them
- 24 people think they are boring and don't like to do posters
- 25 They think that they are boring
- 26 They would rather be inside playing games or watching TV
- 27 I think they do not because they are harder than other projects.
- 28 I believe that there is a low interest in these projects. There might also be a low percent of knowledgeable leaders.
- 29 These projects would be a lot more interesting if they were not as much just poster projects. They would be better as a hands on class type of thing like the other activities.
- 30 People lack an interest, and the projects aren't as flashy as some projects are.
- 31 They have formed biased opinions about it, and don't realize how wide open the fields are in the projects.
- 32 The paperwork is usually what turns me off. Independent study is flexible, but if you are in a club the rules are more strict. Why?
- Lack of knowledge. - These projects are more environmental in nature - so schools don't really educate much on them until (10, 11, 12) high school. The Duneland School
- 33 corporation of which I am a part of, doesn't have an in-depth science curriculum - therefore the projects seem to be "out of reach" knowledge wise. Lack of workshops too.
- 34 not enough experts to inform them
- 35 they do not know what to do that
- 36 They may have other interests in mind, some may not like learning about topics like this?
- 37 They might not know what they're about.
- I think that youth don't participate in these projects because when you see wildlife or
- 38 one of the other Natural Resource Projects you automatically think Outdoors and more and more youth are becoming less interested in camping and such.
- 39 They aren't pushed to do them. Many people probably don't know that the projects even exist.
- 40 they are not very popular and they don't exactly pertain to the general teenager's life
- 41 they are harder subjects
- 42 Young people are not interested in the outdoors as much as video games.
- 43 Some of the projects seem very clear in the manual. Then upon judging (especially at state level) it seems that I am lacking in requirements.
- Some of the manuals are hard to understand just what you want done. You do not let us
- 44 have a choice on what we want to do on our posters. Some project requirements are too much to enjoy doing.
- 45 they are hard work
- 46 too much reading and poster making
- 47 Because the manuals are kind of difficult, and there aren't many adults around to help them.

I think a lot of kids are not informed enough about how the Natural Resource projects
48effect them. I became interested in the projects when I saw how it affected the farm I
live on and the woods I have fun in.

49Lack of knowledge about topics. Lack of exposure to people interested in these topics.

When you look at the activities to do for these projects, they don't look like the most
50interesting projects. The projects are so specific and don't allow you to really expand
on subjects.

51probably seem too boring/out of date compared to other mainstream projects such as
arts and electronics...relevance to kids today? (especially city kids!)

52Low interest

53I don't think they participate in the four Natural Resource projects because finding
someone that is truly knowledgeable on these subjects is very hard.

When someone would say 4H to me I personally think of animals. I myself don't think
of projects or nature projects for that matter until 10-20 seconds have gone by because
I feel more involved with my animal clubs than in my projects. Projects do take time to
54make but there are not many clubs (especially for the ones on this survey) to help out
with projects or to allow younger children the opportunity to want to apply for these
projects. I think by raising awareness with a club or fun things hosted by the youth in
these programs, maybe more would want to join, and they would then tell their friends,
there for, more children joining.

55It seems unrelated or too much like what we get lectured over in school

56They are not interested.

57Not a lot of kids want to learn about the weather or earth. They are too hung up on
technology.

58because they think that it is not that interesting. and most kids are obsessed with video
games.

59Because nearly everybody lives in a neighborhood now and they don't know about the
outdoor activities that don't involve a sports theme

60Don't know why.

While browsing available topics, I think that the Natural Resource projects seem more
time consuming and not as fun/interesting for many people. Throughout school,
61students encounter enough Natural Resource projects through science classes. Most
students view 4-H as a relaxing/fun project that captivates interest. Students do not
want their project to feel like another school project/report.

62Not interested. Not much project promotion.

Not everyone takes an interest in nature any longer. There are so many other
63opportunities and things to do, such as computers that kids just don't spend time
outdoors like they used to. My mom has kept us interested in nature as she feels it is
important to preserving the earth

64TIME MANAGEMENT

65lack of knowledge of the course

66lack of information

67I think they are not really informed about natural resource projects.

68It doesn't sound fun and no one is talking it up

69not encouraged

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Appendix AA. 4-H Member Survey Question Eleven Results

Results Overview: Open Ended Responses

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11. Please list any other comments about 4-H Natural Resource projects in Indiana and any suggestions on how to increase interest and participation in these four projects.

Response

- 1 Make the project easier to understand. There is not enough information in the book to explain what you need to do to complete a project.
- 2 Updated manuals. More hands-on activities. Weather manuals & project need to be more grade appropriate. Changes in the project were made to fit one time use manuals rather than updating the manuals to be more informative and include interactive activities that were grade appropriate.
- 3 our area needs to have an active volunteer to help promote these! maybe include the new Leave No Trace ethics to the options for the projects-this is all about the eco-friendly idea and lots of people like to promote this!
- 4 Mabey have a DNR person or other come and explain a little about the project. Having a kid help might help a little. Because kids can relate to them better.
- 5 I think that it would be a bad idea to get rid of them if that is what this is about. Make it easier and more simple.
- 6 fun and educational, can let you get to know people in those areas of profession.
- 7 maybe a workshop, field trip, activity
- 8 Invite TV weather people to speak at a meeting.
- 9 I enjoyed participating in these projects. I also did forestry and soil judging.
- 10 If you could get the younger 4-H members interested to begin with, it would help in later divisions. Maybe promoting it to science teachers as a hand's on supplement would help.
- 11 I personally thought the 4-H Natural Resource projects were a great way to learn more about the environment and wildlife in particular. I believe more exciting, enthusiastic spokesmen are needed to draw in dwindling numbers of interested participants.
- 12 I love Forestry, weather and vet science.
- 13 make the activities easier to understand and some kids just cannot go out to the woods to do the projects, more choices for exhibits.
- 14 Get kids interested early on.
- 15 No, I have not mentored anyone. I think the low interest is because there are so many other projects to take- that are easier (like photography, legos, models, etc. that require no research, thinking, etc. I believe the natural resource projects are great- but again kids are lazy!
- 16 It's a really good program, but I think there needs to be more mentoring and guidance from an adult, even for high school students. Group discussions among the participants

- could also be a positive thing for the program.
- Both enjoyable -- just not set up to stay in for long period of time (10 years)... a lot more could be done with Forestry - but limited to set subjects - that are very hard to follow.
- 18 I really like the Natural Resource projects in Indiana. More advertising might do the trick?
- 19 It's hard to find someplace you can do Soil and Water conservation or to find somebody who knows enough to help you.
- 20 More ways to display information and more categories.
you could increase the interest if it got expanded such as not having poster projects and doing something more creative and hands on or have more of a variety of things to do with it.
- 22 None
- 23 The projects need to be more flexible for older members to keep them involved.
Some of the project require you to travel to national parks or state parks. This is dependent on parental support and money, therefore unless you can drive yourself again at an older age - the projects are not as attractive - again lack of general knowledge due to indiana teaching standards not in depth on these subjects. Review standards for the state. That is were I believe I would have been more influenced by these topics.
- 24 they are fun to do
- 25 I think they should be more descriptive in what the projects are about in the handbook.
- 27 I don't know very much about the projects because I am only in Soil and Water Conservation and it is only my first year doing it.
- 28 Weather was very interesting, but trying to interview a meteorologist was difficult to schedule.
- 29 Too much information has to go on a poster to be competitive and paper work is too much like school work-----
- 30 directions were difficult to follow.
- 31 Maybe more programs in schools where adult volunteers like park rangers come and talk to kids about the projects.
- 32 Provide more detailed and clearer information on projects and project completion.
- 33 I would recommend to make the projects so that you can broaden what your researching and not making it so specific.
- 34 do more "fun" projects rather than just creating a poster? (very school-like and thus unappealing)
- 35 More interesting activities that are more hands on. More variety to each activity and larger source of information
Participation might increase if the requirements for the project weren't so difficult. I know in either forestry or wildlife some of the poster options were absolutely ridiculous because there would be no way to complete the poster without traveling out of state to acquire some of the items needed to make the poster good.
The only way I can think of to raise interest is to in the higher levels, have "cooler" topics to choose from. The lower levels are wonderful but once I hit the last level of the wildlife book my interest has sort of faded. But i'm going to stick with the wildlife

projects for all 10 years anyway.

I believe you would have a 90%+ participation if you could get just a general ag type
38 project, not just these four things. Something that I know in a rural small town area we
are in, it will be something almost all of us want to be involved in later in life, and are
proud to show off what we know now.

39 One just have to say one thing. You guys are awesome! I have respect for what you do
in Indiana.

40 Get some more interesting topics to really get kids thinking.

41 I think its important to keep the activites but I don't know how to get more kids
interested

42 don't know

I choose to mentor in Entomology, rather than forestry, because it is my preferred
43 project. I have given multiple talks to youth and adults regarding my Entomology
project.

You might also include fish identification in the wildlife project somewhere. Kids still
44 fish with their grandparents. Perhaps, expand the wildlife project to include other
State's wildlife, or even other countries. A lot of internet access these days let kids
learn alot about things all over the world.

45 WORKSHOPS

46 the extension office could offer seminars about the subjects

47 make it more fun and needs to give more information about the resources

You can learn a lot about them, but it seems kids dont want to learn anymore unless
48 they see the direct benefits. I mean i dont mind it it is just not what i want to do with the
rest of my life.

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