

The Value of School Forests in Wisconsin: Perspectives of District Administrators

FIELD PROJECT

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By

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## **Chapter One**

### **Introduction**

The number of schools/school districts in Wisconsin that have forests established for educational purposes is large. At the time of this study, 222 school districts had school forests registered through the Wisconsin Department of Natural Resource's (WDNR) community forest program (Marshall, 2013). While much research has been done on how these lands are utilized by teachers and schools, little is known about how district administrators (formerly known as superintendents) view and value the uses of these properties as educational spaces.

#### **Background and Setting:**

Wisconsin has a long history in the development of school forests. The first school forest developed in the United States was founded in Laona, WI in 1928. In that same year school forests were developed in Crandon, and Wabeno. In 1935, legislation was passed mandating that all high schools teach conservation education. In 1949, "[s]chools became eligible to receive free planting stock from state forest nurseries and to use the services of foresters for forest management plans" (Madison Area School District, n.d.). School forestlands were acquired in various ways, e.g., tax delinquency, purchase, donation, long-term lease, land use agreement, etc.

School forests are tracts of land that are owned by schools or school districts for the purpose of education and sources of income (mainly timber sales) (Marshall, 2011). They provide schools with an outdoor classroom that can potentially enhance student learning in subject areas such as history, art, natural resources, geography, music, archeology, math, biology, and chemistry. Further, school forests can present students with opportunities to explore their knowledge and ideas that classrooms simply cannot.



School forests can enable teachers to use environmental education, outdoor education, and experiential education to encourage their students to explore the natural world and use critical thinking to apply students' prior knowledge to solve real world problems. For instance, high school students studying forest ecology could explore and survey a plot of land in the school forest and decide how to effectively manage that plot of land for multiple uses, for example timber production, wildlife habitat, and recreational uses (Marshall, 2011). In this way, school forests can provide learning experiences that foster responsible environmental behavior and critical thinking skills in students (Peacock, 2006). The pressure on schools is significant in this day and age (e.g., accountability, financing), suggesting the possibility that schools will jettison these critical resources, even as topics such as sustainability, STEM (Science, Technology, Engineering, and Mathematics), and locally sourced products become central concerns in our society.

**Purpose Statement:**

The purpose of this study was to explore and describe the value of Wisconsin school forests to students' education from a district administrator's perspective.

**Research Questions:**

1. How do district administrators value their school forests?
2. In what ways do school administrators support the use of school forests?

**Definition of Terms:**

**Environmental education**

*nominal*

“The goal of environmental education is: To develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge,

skills, motivation, and commitment to work individually and collectively toward solutions to current problems and the prevention of new ones” (UNESCO-UNEP International Workshop on Environmental Education at Belgrade, 1975).

### **Outdoor education**

#### *Nominal*

Outdoor education is an experiential method of learning by doing, which takes place primarily through exposure to the out-of-doors. In outdoor education, the emphasis for the subject of learning is placed on relationships—relationships concerning human and natural resources (Priest, 1986).

### **Experiential education**

#### *Nominal*

“Experiential education is a philosophy that informs many methods, in which educators purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills, clarify values, and develop people's capacity to contribute to their communities” (Association for Experiential Education, n.d.).

### **School Forest**

#### *Nominal*

“A school forest is an outdoor classroom. Officially, a school forest is land owned or controlled by a public or private school and used for environmental education and natural resource management, which is registered through the state of Wisconsin’s community forest program” (Green and Healthy Schools Wisconsin, n.d.).

## **School Administrator**

### *Nominal*

For the purposes of this study school administrator will be defined as the district administrator (formerly referred to as superintendent) of individual school districts in the state of Wisconsin.

### **Limitations:**

This study only selected district administrators from the state of Wisconsin who had a registered school forest through the Wisconsin Department of Natural Resources within their respective districts. The study surveyed opinions of those administrators; therefore, how school forests are actually operating on the ground was not be able to be affirmed through this study. Further, results from this study could not be generalized beyond the state of Wisconsin.

### **Significance:**

The significance of this study is that little research has been done on how district administrators view the value of school forests to student learning. This study investigated to what extent these school forests are being utilized by schools in Wisconsin, and to what extent district administrators value the use of these school forests. Most of the research done on Wisconsin school forests has focused on how teachers use the forests and what limitations and motivations fuel the use or non-use of these school forests. Further, that children respond positively to an outdoor learning environment is widely recognized; yet little is known about how administrators view or understand the value of these school forests as education tools.

## **Chapter Two**

### **Review of Literature**

The purpose of this chapter is to explore to what extent school forests are utilized for educational purposes by Wisconsin's public school districts that have school forests registered with the Wisconsin Department of Natural Resources (WDNR). Who initiates the use of these school forests and at what level within the district is the use of school forests encouraged? First, the historical and contemporary aspects of environmental education as it might include school forests will be discussed. Second, questions about how school forests and education in Wisconsin are being used in conjunction with each other will be explored. Third, who are the people within the district that are encouraging and/or facilitating the use of these school forests?

#### **Environmental Education:**

To trace the roots of environmental education, one must look back into human history. Since the beginning, humans have had to rely on the land to provide the resources required for life. For thousands of years, people had to have a deep understanding of the natural world in order to survive, and many throughout the world still do today. They had to have an understanding of plants and animals and where and when to find them. They had to have what has been recently referred to as traditional ecological knowledge (TEK) (Kimmer, 2002). This knowledge was passed down from generation to generation and is still being shared in many parts of the world today (Kimmer, 2002).

To understand the relatively recent development of the "environmental education movement," the 1890s nature study movement will serve as the starting point for this study. The nature study movement was started to help educate urban youth who had lost touch with the natural world. It placed an emphasis on learning natural history and rural agriculture through

discovery and first-hand observations. Cornell University started a junior naturalist program (1890s), and Anna Comstock's *Handbook of nature-study* (1939) became a staple in natural history education (Eells, 1986). The development of conservation education as a response to environmental catastrophes such as the "Dust Bowl" began in the 1930s (Smith, 2007). Soon federal and state natural resource management agencies saw the importance of educating the public on natural resource conservation and looked to the public schools as an avenue for reaching a large audience (Eells, 1986).

In 1962, Rachel Carson wrote *Silent Spring*, making the public aware of the detrimental effects humans could have on the environment. By the late 1960s, environmental problems were apparent to some, with rivers so polluted that you could not swim in them, some even catching fire; for example, the infamous Cuyahoga River fire of 1969 (Rottman, n.d.). April 22, 1970 was celebrated as the first Earth Day. The field of environmental education emerged, as it is known today with the first international conference on environmental education being held in Tbilisi, Georgia, USSR in 1977.

Stapp (1969) wrote the first definition of environmental education, stating, "Environmental education is aimed at approaching a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to solve those problems, and motivated to work toward their solution" (p. 34).

As previously defined, "The goal of environmental education is: To develop a world population that is aware of, and concerned about, the environment and its associated problems, and which has the knowledge, skills, motivation, and commitment to work individually and collectively toward solutions to current problems and the prevention of new ones" (UNESCO-UNEP International Workshop on Environmental Education at Belgrade, 1975). This charter

was the first unified international guideline for an environmentally literate citizenry. Research shows that most environmental educators attribute their commitments to a combination of “many hours spent outdoors [as] keenly remembered wild or semi-wild places in childhood or adolescence, and an adult who taught respect for nature” (Sobel, 2008, p. 9).

### **School Forests and Education:**

Environmental education can be taught effectively in the classroom (Ernst, 2009), but school forests provide a space for hands on learning where students can actually interact with the environment. For example, if students are learning about trees and how to identify individual tree species, then a school forest would provide direct interaction with the trees that they are learning about. Further, direct interaction often increases the level of interest students have in what is being taught, regardless of subject area; and since school forests provide direct interaction with the environment, environmental education can be taught in all subject areas (Peacock, 2006). The following section will further explore the importance school forests play in students’ environmental education and their education as a whole.

School forests are a place where schools and communities teach about the natural world and the environment. They have the potential to use all subject matters in a natural setting with the intention of enhancing student learning through direct experience (<http://www.cudenver.edu/cye>). The state of Wisconsin is reputed to be progressive in its use of school forests compared to other states in the nation. Wisconsin at the time of this study had over 400 school forest parcels, while 222 different school districts had school forests registered with the Wisconsin Department of Natural Resources (Marshall, 2013). The University of Wisconsin-Stevens Point (UWSP), in conjunction with the WDNR, has spearheaded a program called Learning, Experiences, and Activities in Forestry (LEAF), which has propelled an

increase in the use of Wisconsin school forests. This high quality is measured in some ways by the Green Ribbon Schools initiative, which is a nationally run program through the US Department of Education. However, schools must be nominated by their states department of education in order to be eligible for certification as a Green Ribbon School. In partial fulfillment of certification, schools must demonstrate that they are teaching environmental education in an outdoor classroom such as a school forest (U. S. Department of Education, Fact Sheet, n.d.). Currently, Wisconsin has the highest number of certified Green Ribbon Schools of any state in the nation (U. S. Department of Education, 2014). The fact that LEAF has forest management plans on file for 326 school forests, and forest management plans have been approved for 90 schools, further demonstrates Wisconsin's progressive use of school forests (G. Marshall, personal communication, February 2015).

The top subjects taught at school forests in Wisconsin are science and agriculture, with elementary teachers utilizing the school forests for all subjects (Marshall, 2013). High schools used the forests the most of any grade levels (Marshall, 2013). Lieberman et al (1998) claims that using outdoor classrooms such as school forests increases student performance in several subject areas. One of the issues pressing schools to perform today is their obligation to the No Child Left Behind Act (NCLB) of 2001, which forces schools to improve their students' performance on standardized testing or suffer certain undesirable consequences (U. S. Department of Education, 2001). The result of this Act is that schools, in preparing students for a standardized exam that may not be directly tied to learning in a school forest, seem to avoid using the school forest for instruction. Yet, there is evidence that environmental education (EE), when infused into curriculum, has a positive influence on students in more ways than one. For example, standardized test scores increase, attention and retention increases, behavior issues

decrease, attendance increases, and graduation rates increase (Bartosh et al., 2006; Lieberman et al, 1998). This being said, at what level within the districts is school forest use being initiated? Is it the district administrators, the principals, or teachers?

### **Level of Involvement in the Use of School Forests:**

As mentioned previously, little is known on how district administrators are involved in the utilization of school forests. The University of Wisconsin-Stevens Point (UWSP) surveyed administrators in 2007-2008; although, unlike this study, the survey included principals as administrators. Only a handful responded, however, and the information received was not very informative as to how these district administrators were involved with their school forests' usage (G. Marshall, personal communication, March 2013). On the other hand, teachers have continually responded to UWSP's Wisconsin School Forest Program surveys and consistently indicated that they personally initiated the use of their school forests.

### **Summary and Conclusion:**

In exploring to what extent school forests are utilized for educational purposes by Wisconsin's public school districts that have school forests registered with the WDNR, it is clear that Wisconsin has a well-developed school forest program. This is evidenced by the fact that Wisconsin at the time of this study had 222 school districts that have school forests that are registered with the WDNR. The Wisconsin School Forest Program has been fostered through UWSP's LEAF program, in conjunction with the WDNR. Individual teachers are personally initiating the use of school forests, yet little is known about how district administrators view and value the use of school forests. The question remains: How do district administrators view and value the use of school forests? The significance of knowing this information can perhaps lead



to entire school buildings or even school districts systematically using school forests in the school district versus individual teachers who are highly motivated.

## **Chapter Three**

### **Methods**

#### **Introduction:**

The current study used survey methodology to investigate the value of school forests as perceived by school administrators. This exploratory study utilized an overarching quantitative strategy of inquiry, which allowed for numeric measures of observations and the use of objective data collection and rational considerations to shape knowledge (Creswell, 2009). The thought was that a more informed understanding of administrators' perceptions as to the value of their school forests should enable the environmental education community, as well as K-12 educators, to better advocate for the continuation of school forests, and better communicate the value that school forests play in students' knowledge about the natural world.

#### **Design:**

The design of this study was quantitative, utilizing survey research. The purpose of survey research was to "generalize from a sample to a population so that inferences can be made about some characteristic, attitude, or behavior of this population" (Creswell, 2009, p. 148). This design was cross-sectional, meaning that the data was collected at one particular time. The data was collected using a web-based, self-administered questionnaire, which was appropriate, given that email addresses for school administrators are publicly available.

#### **Population and Sample:**

The study's population was comprised of K-12 school administrators in the state of Wisconsin who had a school forest in their district that has been certified as a school forest by

the Wisconsin Department of Natural Resources (WDNR). A current list of these districts with school forests was obtained through the University of Wisconsin-Stevens Point's (UWSP) Wisconsin School Forest Program coordinator. The population size was determined by the districts that have school forests registered with the WDNR, which was 222 districts in an annual survey of school forests done through UWSP in 2012-2013 (Marshall, 2013).

### **Instrumentation:**

The instrument was a survey that was specifically designed for this study, constructed in such a way that it was a self-administered electronic survey using Campuslabs (Creswell, 2009). The survey was kept to a small number of statements to increase the response rate. Questions were close-ended with a response tool that ranked responses using a 5-point Likert scale. The online administration should have made it easy for administrators to complete the survey. An initial email to administrators contained a link to an online survey site that allowed for self-administered questionnaires. This gave the administrators anonymity and kept the data secure by storing it in cyberspace until the analysis of data was needed.

Survey participants were asked about their school forests in a variety of ways. For example: What was their understanding of how the forest is used by schools in the district? Did they think that how the school forest is utilized for educational purposes is worthwhile for the district to continue to fund its use? How is funding for the use of the forest acquired? Did they value the school forest as an asset to the district or not?

### **Procedures:**

The survey was pilot tested using a panel of experts with the following criteria for their selection:

- Former school district administrator

- A researcher on school forests
- An educator on school forests
- An expert on survey research

Once the survey was pilot tested, it was sent out to the selected participants. It was distributed with an initial notice by email with a letter (see Appendix A) including a link to the survey (see Appendix B) indicating that they had been requested to participate in a survey regarding the school forest/s in their district (sent out June 25<sup>th</sup>, 2014). Reminder emails were sent out once a week for the next three weeks after the initial email was distributed, with the link to the survey once again included in the email. Using Campuslabs as the online survey engine insured that participants could only take the survey once, as Campuslabs only allowed emails from those who had not yet participated in the survey to take the survey; also, it only sent reminder emails to those who had yet to take the survey. This avoided pestering those who had already responded to the survey.

#### **Data Analysis:**

Those statements to which respondents replied using the comment box were addressed by giving examples to display the variability within the sample of those respondents who provided written comments, and are summarized in table one-A *summary of written comments by respondents*, which can be found on page 36. Descriptive statistics were used to analyze the data.

## Chapter 4

### Results

The following chapter presents the results of a cross-sectional survey, which was administered to school district administrators in Wisconsin who had a school forest registered with the Wisconsin Department of Natural Resources (WDNR).

#### District Administrator

The survey questions were designed to measure the following objectives: To determine: one, the level of **awareness** district administrators have about their school forests; two, the understanding district administrators have of the level of **curricula** used at the school forest; and three, the degree to which district administrators **support** the use of school forests.

#### Study Sample Size

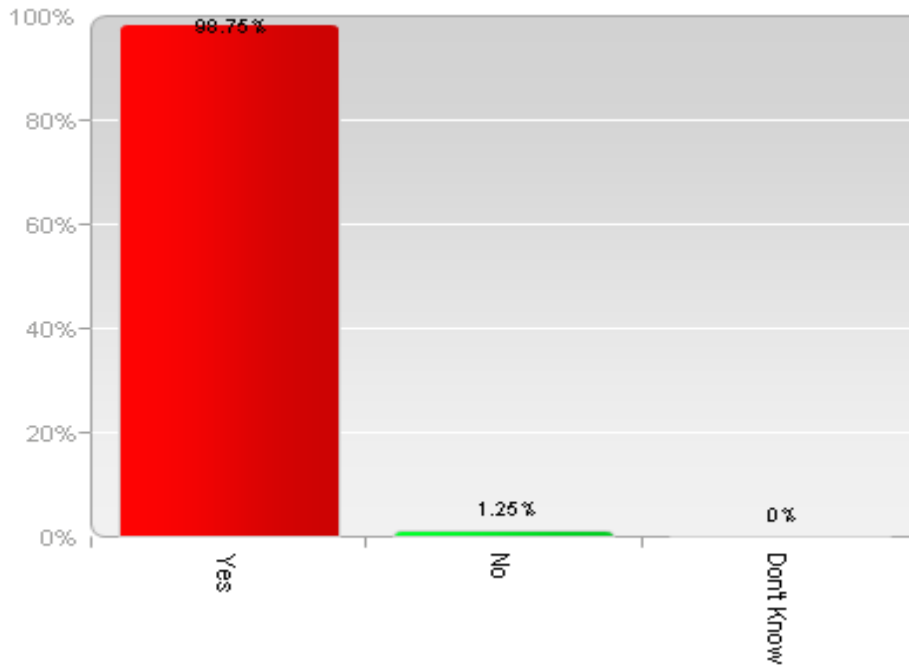
All district administrators with a WDNR registered school forest in their district and who had valid emails were sent an online survey. The number of district administrators who received the survey was 198, eighty of whom responded (40.4% response rate). This is considered an acceptable response rate with electronic surveys (Dillman et al., 2009).

## Awareness

Survey respondents were asked to respond to the following statements regarding their awareness of the school forest/s in their school district:

**I am aware that our school district has a school forest certified by the Wisconsin Department of Natural Resources (Figure 1 below).**

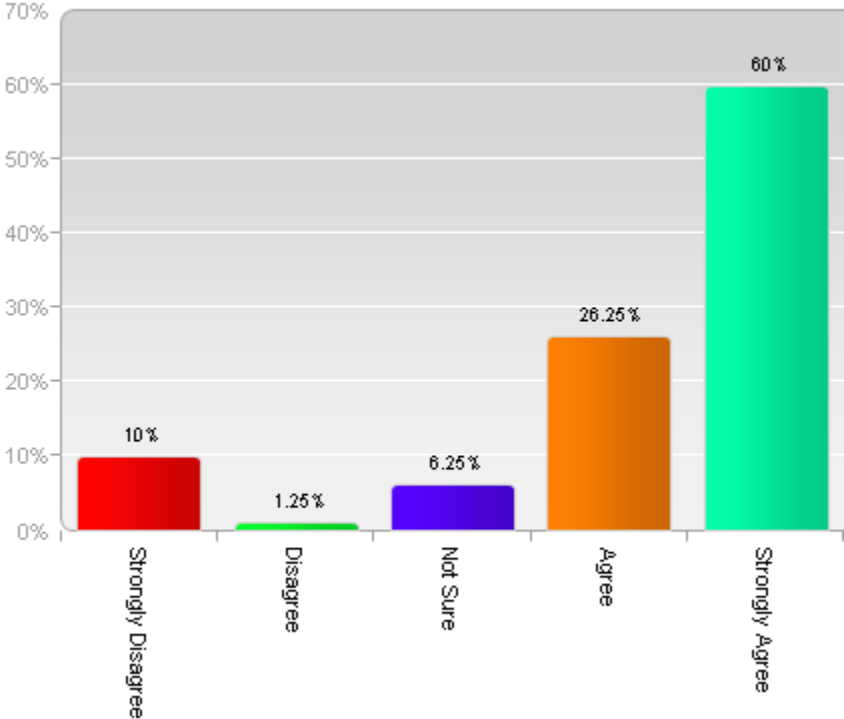
Of the total respondents (n=80), 79 (98.75%) stated that they were aware that their district has a school forest that are registered with the WDNR (see Figure 1).



*Figure 1.* Awareness that their school district has a school forest certified by the WDNR.

**Members of my school district’s Board of Education are also aware of our school forest (Figure 2 below).**

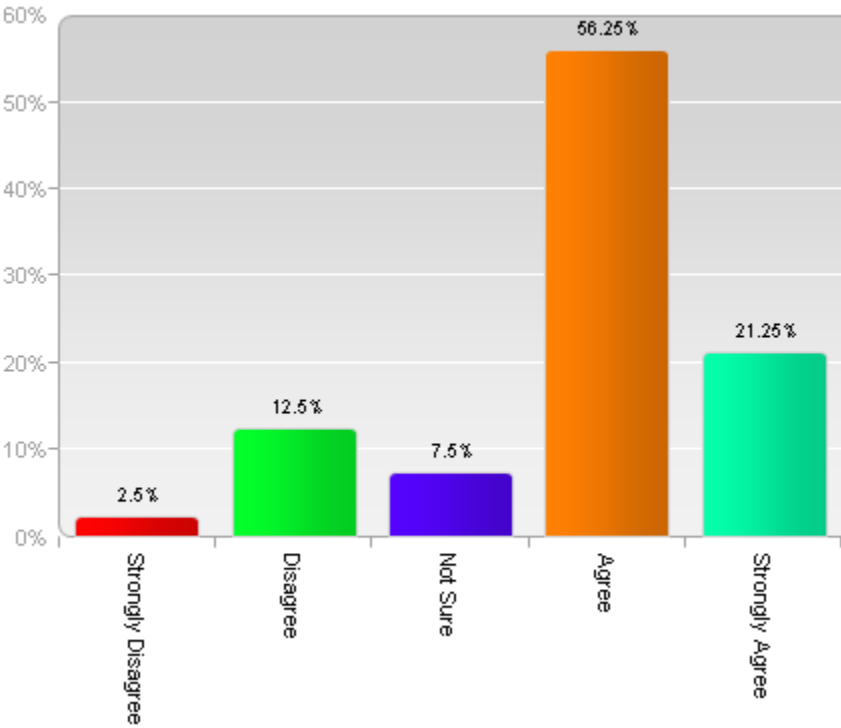
Of the 80 respondents, 69 (86.25%) respondents stated that they agreed or strongly agreed that their school district Board of Education was aware of their school forest/s (see Figure 2).



*Figure 2.* Members of my school district Board of Education are aware of our school forest/s

**School forests play an integral role in the education of the students of our district (see Figure 3).**

Sixty-two (77.5%) responded that they agree or strongly agree. Six (7.5%) were not sure, and twelve (15%) disagreed or strongly disagreed that school forests play an integral role in the education of their students (see Figure 3). Five (6.25%) made written comments, none of which expanded on their thoughts of whether or not school forests play an integral role in the education of their students.



*Figure 3.* School forests play an integral role in education.



**I have observed the district’s outdoor classroom/school forest education program being used (Figure 4 below).**

Fifty-seven (71.25%) responded that they had observed the forest/s being used for educational purposes, five (6.25%) responded as not sure, while 16 (20%) mentioned that they had not observed the forest/s being used as an educational place (see Figure 4). Six (7.50%) made written comments about observing education being taught in a school forest. For example, “I am aware that projects take place. I have not accompanied any.”

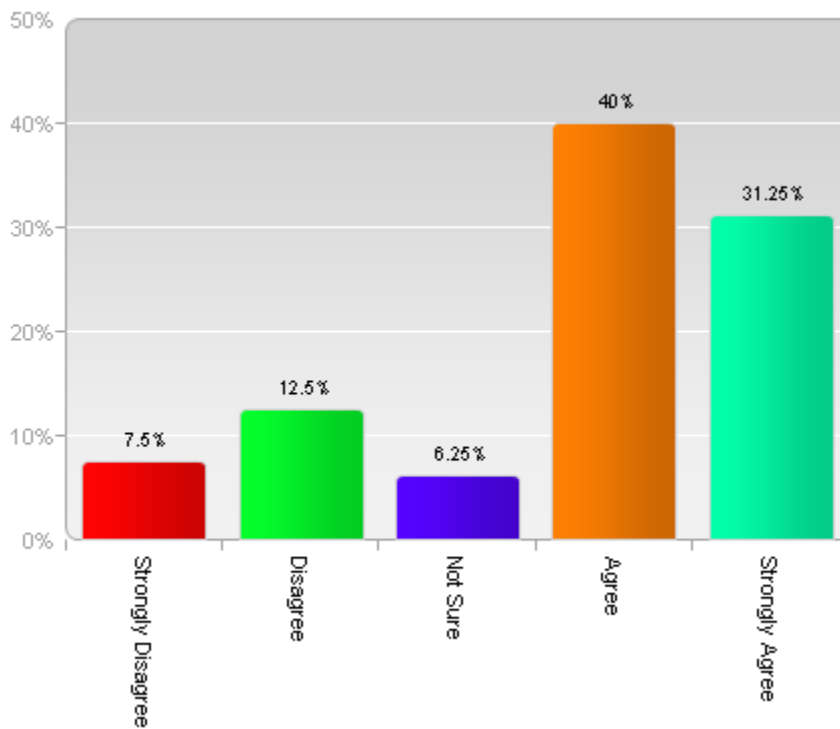
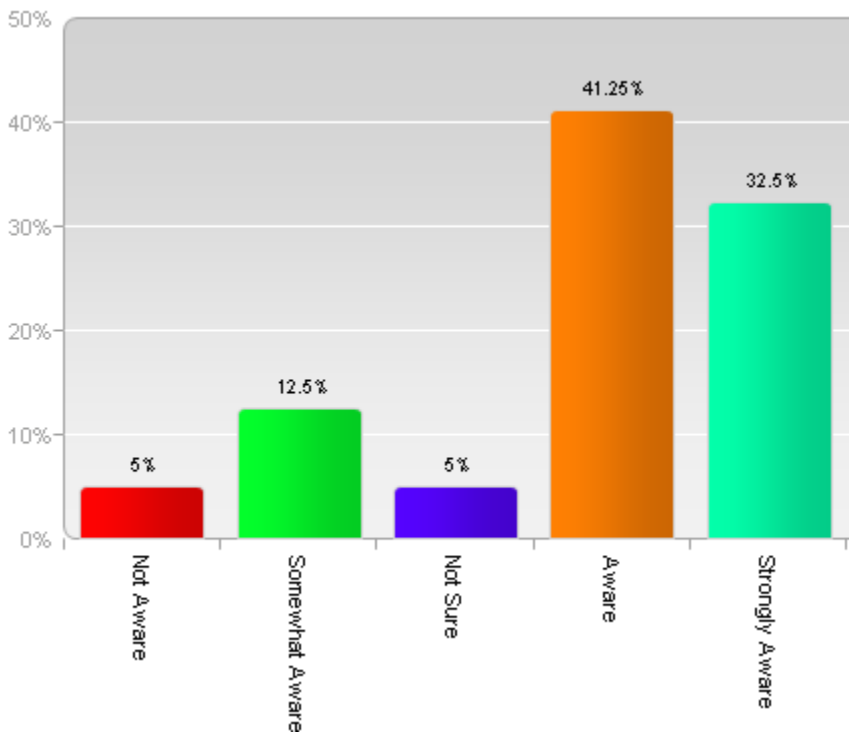


Figure 4. Have observed classroom/school forest program being used.

**I am aware of the value to students’ overall education that our school forest has on learning outcomes in all content areas (Figure 5 below).**

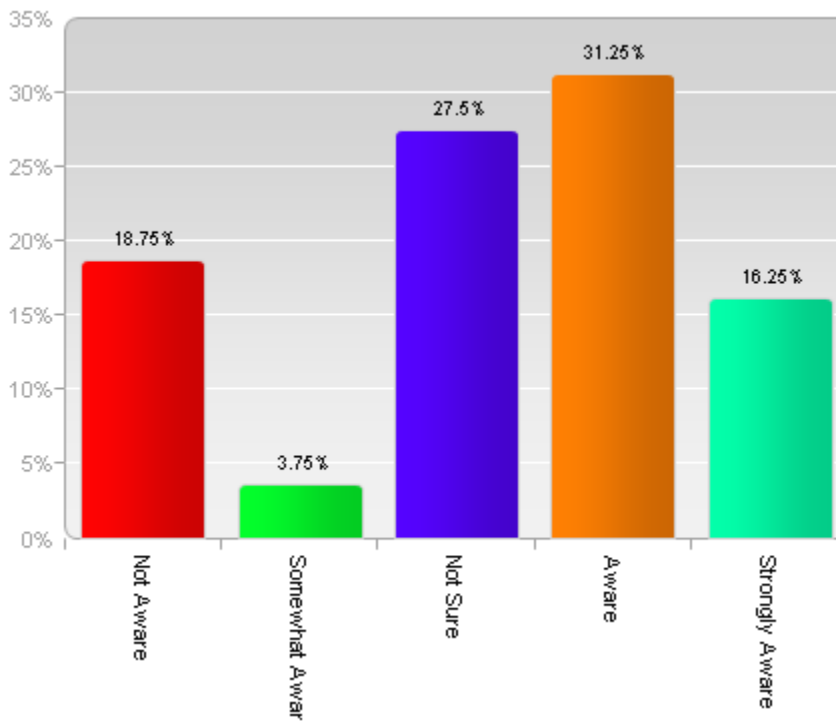
Fifty-nine (73.75%) stated that they were aware or strongly aware of the value to students’ overall education, 5% (n=4) were not sure, while 17.5% (n=14) were somewhat aware or not aware of the value school forests have on student education (see Figure 5). Seven (8.75%) made written comments on the statement. To demonstrate the varying degree of comments, here are some examples: “Aware of benefits of school forest—not being utilized well in our district due to distance.”, “The question implies that the forest has an impact on learning outcomes in all content areas. I do not believe it does.”



*Figure 5.* Aware of the value to student’s education that our school forest has on learning outcomes.

**I am aware that school forest-based education improves student behavior outcomes across the curricular spectrum (Figure 6 below).**

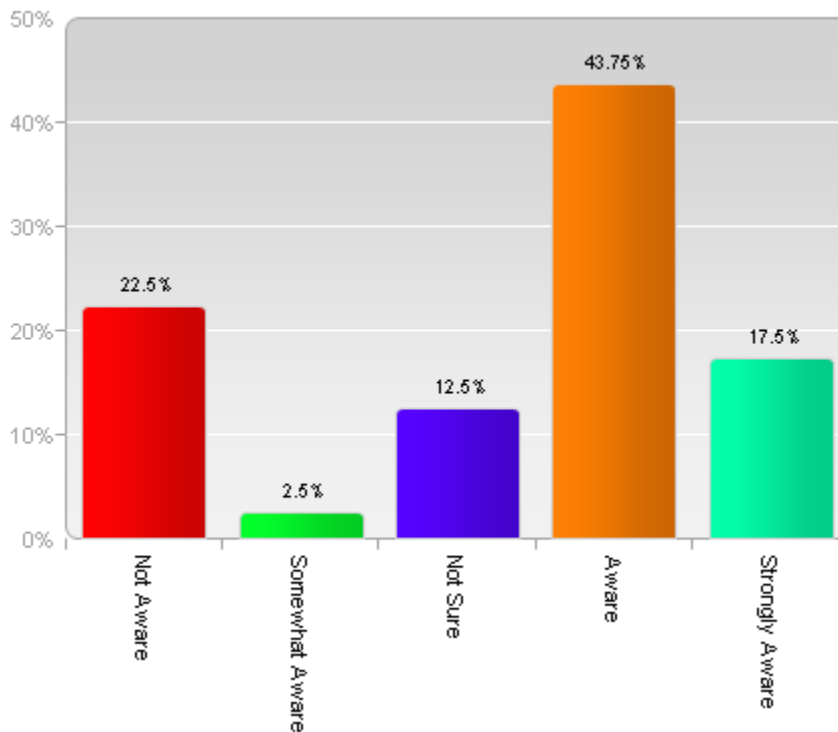
Yet, in contrast to the majority of respondents who were aware of the value that school forests have on learning outcomes, only 47.5% (n=38) were aware or strongly aware that school forest-based education improved student behavior outcomes across the curricular spectrum. Another 27.5% (n=22) were not sure, while 22.5% (n=18) were somewhat aware or not aware that school forest-based education improves student behavior outcomes (see Figure 6). Five (6.25%) respondents made written comments. For example, “Haven’t seen that correlation before.”



*Figure 6.* Aware that school forest-based education improves student behavior outcomes.

**I am aware that research shows that school forest-based education improves learning outcomes for students of all abilities and demographics including English Language Learners, special education, and gifted and talented students (Figure 7 below).**

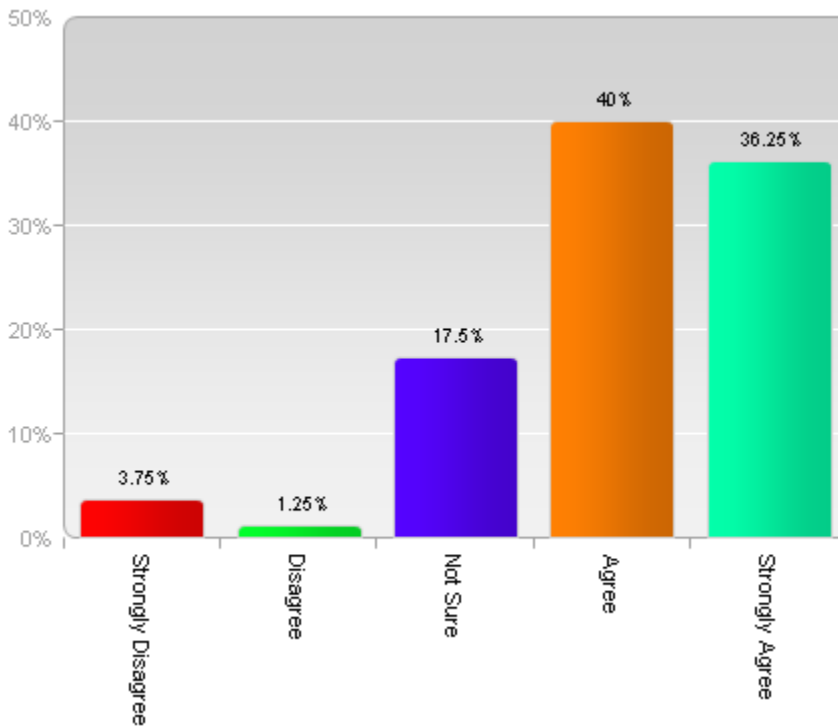
Forty-nine (61.25%) were aware or strongly aware that school forest-based education improves learning outcomes for students of all abilities and demographics, 12.5% (n=10) were not sure, while 25.0% (n=20) were somewhat or not aware that school forest-based education improves learning outcomes for students of all abilities and demographics (see Figure 7). Three (3.75%) respondents provided written comments on the statement. For example, “I am not aware of this research.”



*Figure 7.* Aware research shows that school forest-based education improves learning outcomes for students of all abilities and demographics.

**Students look forward to their time in the school forest (Figure 8 below).**

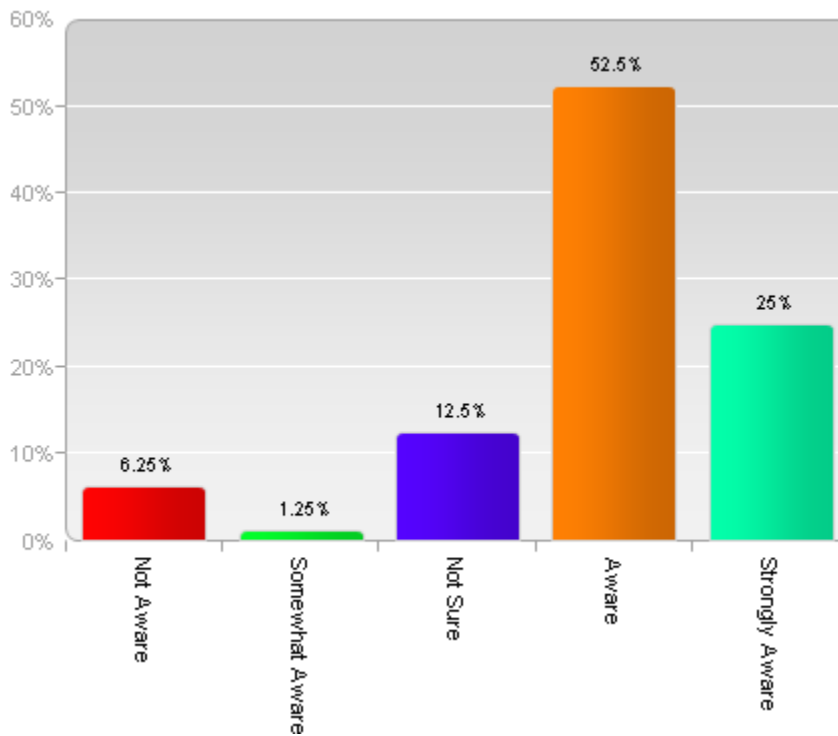
Sixty-one (76.25%) agreed or strongly agreed that their students do indeed look forward to their time in the school forest, 17.5% (n=14) were not sure, while 5% (n=4) disagreed or strongly disagreed that their students look forward to their time in the school forest/s (see Figure 8). Seven (8.75%) respondents offered written comments. Here are two examples of comments to demonstrate the variability of respondents’ comments: “I am so impressed with the excitement kids display when they are going to the forest.”, “They never use it.”



*Figure 8.* District Administrators’ perceptions that students look forward to their time in the school forest.

**I am aware of the varying confidence levels that teachers taking their students to the school forest have (see Figure 9).**

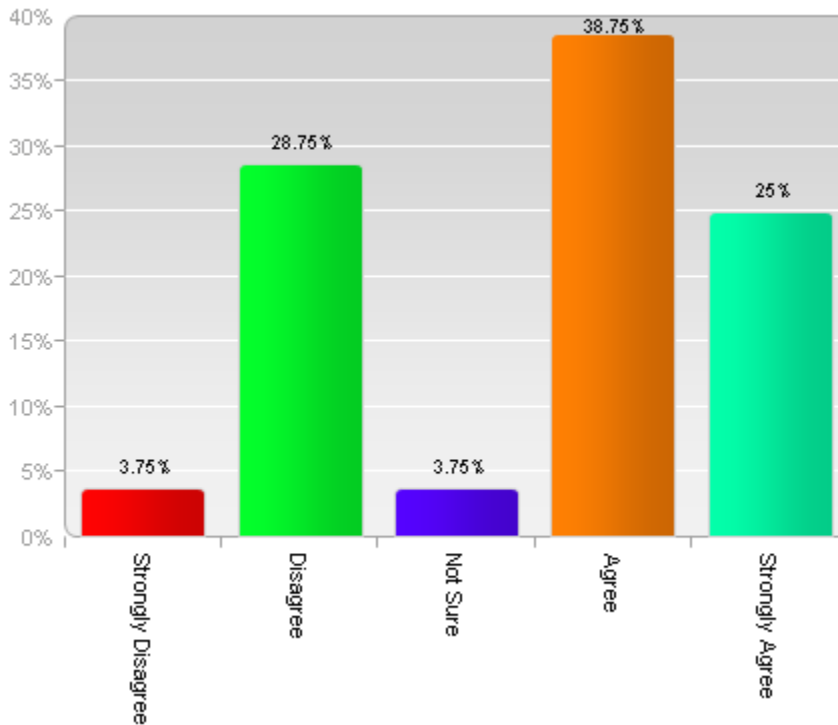
Sixty-two (77.5%) were aware or strongly aware of the varying confidence levels that teachers taking their students to the school forest have, 12.5% (n=10) were not sure, while 7.5% (n=6) were not aware or only somewhat aware of the varying confidence levels teachers taking their students to the school forest have (see Figure 9). Six (7.5%) respondents made written comments. Here are a few examples to demonstrate the degree of variability of respondents' comments: "Our school forest has strong support by administration and staff.", "Confidence in what?", "When kids know and understand new information, they want to share."



*Figure 9.* Aware of the varying confidence levels that teachers taking their students to the school forest have.

**The school forest location is convenient (Figure 10 below).**

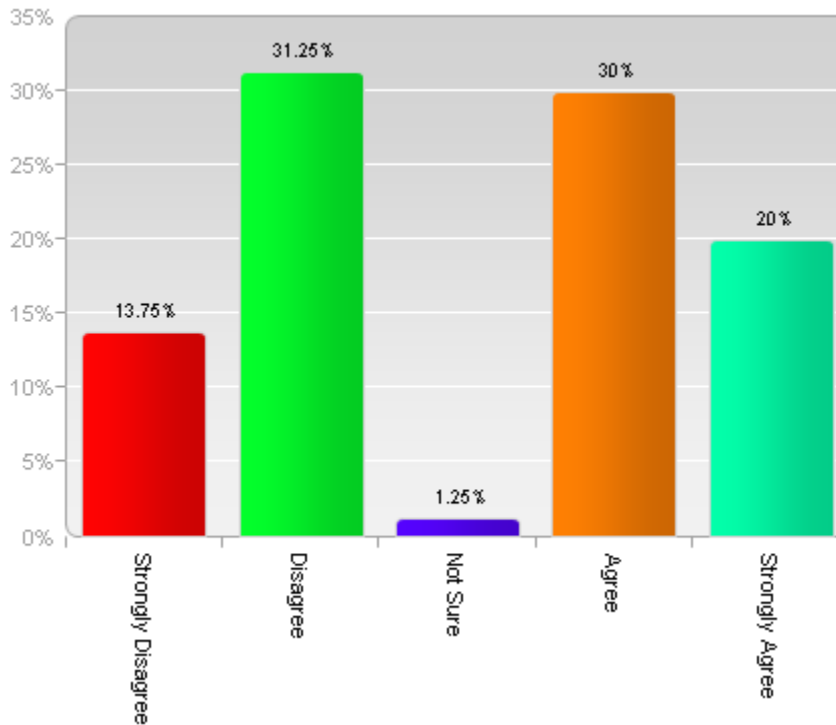
Fifty-one (63.75%) respondents agreed or strongly agreed that the location was convenient, 3.75% (n=3) were not sure, while 32.5% (n=26) disagreed or strongly disagreed that the location was convenient (see Figure 10). Nine (11.25%) respondents made written comments. Here are a few examples to demonstrate the varying degree of comments: “10 miles away from the school grounds.”, “Location is not bad, but it is at least 8 miles from the nearest school. Travel time for a short session at the forest is a challenge.”, “Right outside our doors and easy access to the community.”



*Figure 10.* The school forest location is convenient.

**Our school forest has supporting facilities on site (see Figure 11).**

Forty (50%) respondents agreed or strongly agreed that their school forest has supporting facilities on site, while 45% (n=36) did not agree or strongly disagreed, and one (1.25%) was not sure (see Figure 11). Five (6.25%) made written comments: “Literally out the back door of our building, so not necessary.”, “No buildings.”, “None.”, “One of three forests does.”, “We have 3 school forests and two have facilities, the other does not.”

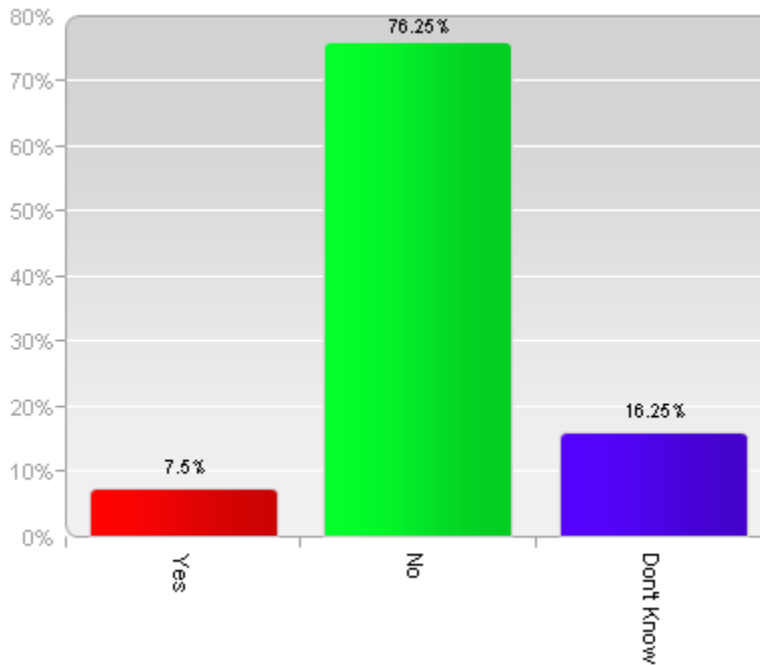


*Figure 11.* Our school forest has supporting facilities on site.



**Our district includes a Wisconsin “Green Ribbon” school (see Figure 12).**

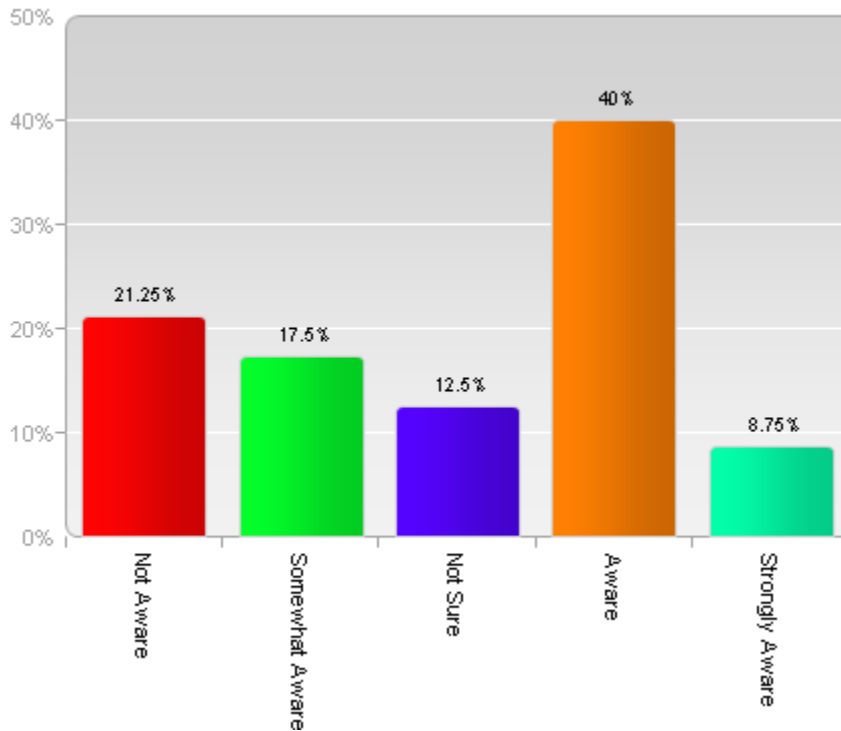
Six (8%) responded yes, 76% (n=61) responded no, 16% (n=13) did not know (see Figure 12). Four (5%) respondents made written comments: “2 schools are Green Ribbon Schools”, “3 of 4 schools are Energy Star Rated, the fourth qualifies to make the entire district an Energy Star District.”, “Blue Ribbon.”, “But we do many energy and environmentally sound activities.”.



*Figure 12.* Our district includes a Wisconsin “Green Ribbon” school.

**I am aware of the resources available through Learning, Experiences, and Activities in Forestry (LEAF), Wisconsin’s K-12 Forestry Education Program, offered in partnership with the WDNR (Figure 13 below).**

Thirty-nine (48.75%) were aware or strongly aware, 12.5% (n=10) were not sure, while 38.75% (n=31) were not aware or only somewhat aware of the resources available (see Figure 13). Two (2.5%) made written comments: “It isn’t anything I would be involved in. My teacher may very well be aware.”, “Minimally aware.”



*Figure 13.* Aware of the resources available through the Learning, Experiences, and Activities in Forestry (LEAF), Wisconsin’s K-12 Forestry Education Program, offered in partnership with the WDNR.

**I would like to learn more about school forest education (see Figure 14).**

Fifty-one (63.75%) agreed or strongly agreed, 13.75% (n=11) were not sure, while 20% (n=17) disagreed or strongly disagreed that they would like to learn more about school forest education (see Figure 14). Eight (10%) made written comments. Here are some examples to demonstrate the varying degree of comments made by respondents: “I don’t know that I need more than I already have.”, “We should always be interested in learning more about our natural resources.”, “The key is informing teachers and principals.”, “I would like to be aware to share this information with school staff.”, “We already work with LEAF.”

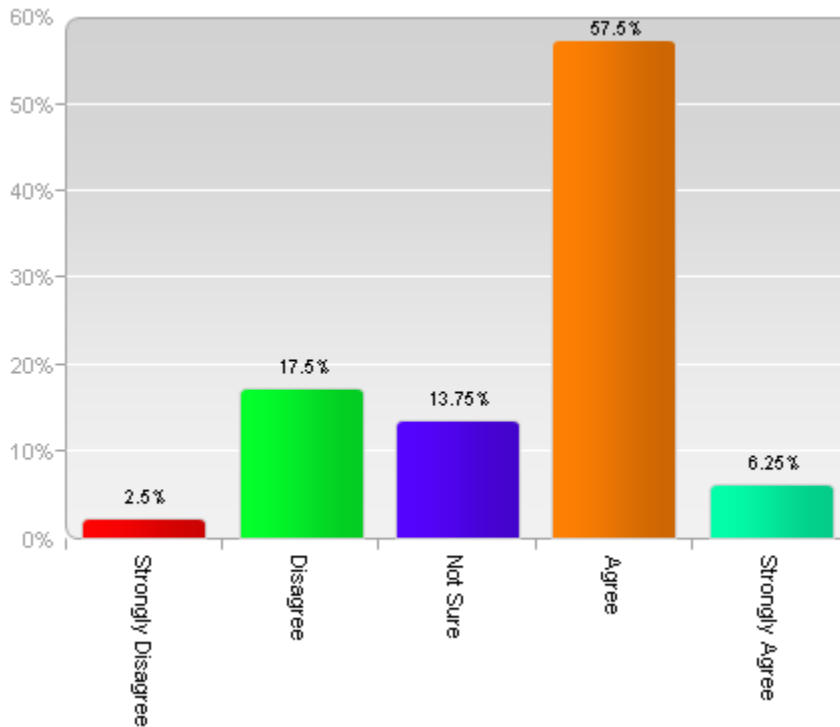


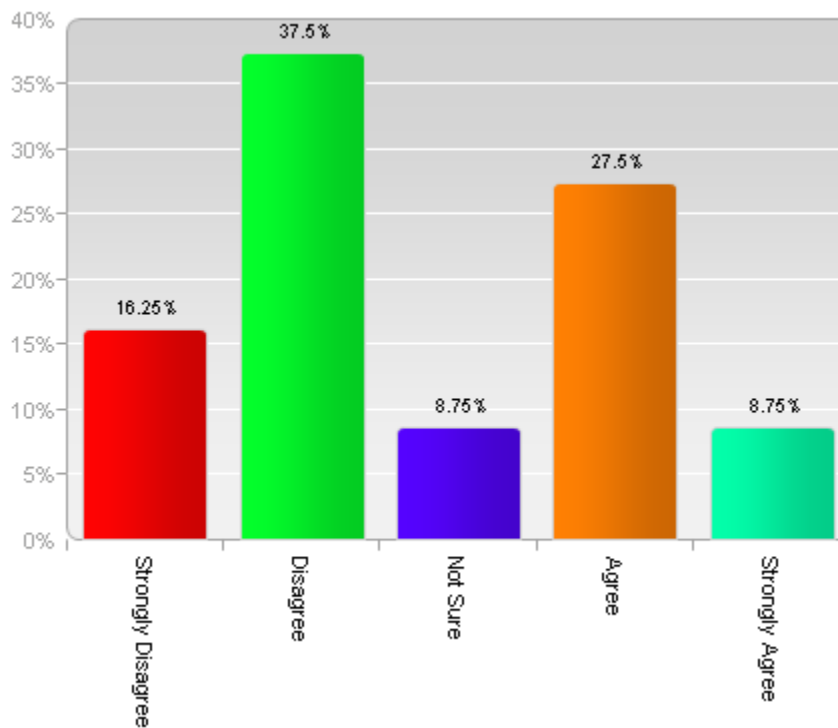
Figure 14. Would like to learn more about school forest education.

## Curricula

Survey respondents were asked to respond to the following statements regarding their understanding of curricula used at the school forest/s:

### **My school forest has a formal school forest education policy in place (see Figure 15).**

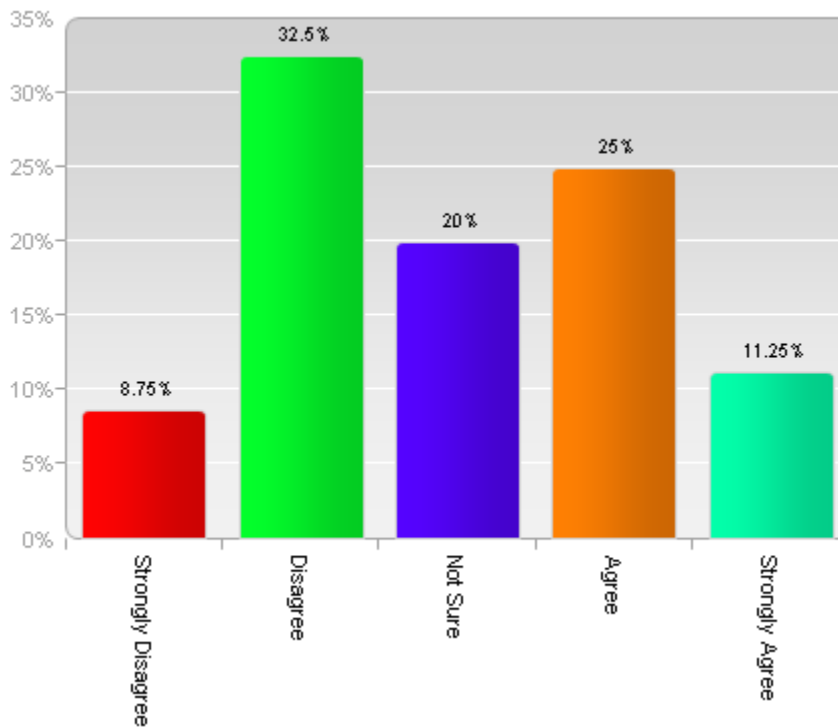
Twenty-nine (35.25%) agreed or strongly agreed, 8.75% (n=7) were not sure, while 53.75% (n=43) disagreed or strongly disagreed that their school forest has a formal school forest education policy in place (see Figure 15). Five respondents made written comments. Here are a few that demonstrate the varying degree of comments made: “The last thing we need is another mandated policy.”, “We are currently going through our policies.”, “We do not have a policy, but rather curriculum and procedures.”



*Figure 15.* School district has a formal school forest education policy in place.

**My school district has a formal K-12 school forest site-based curriculum that is tied to the Wisconsin academic standards in place (see Figure 16).**

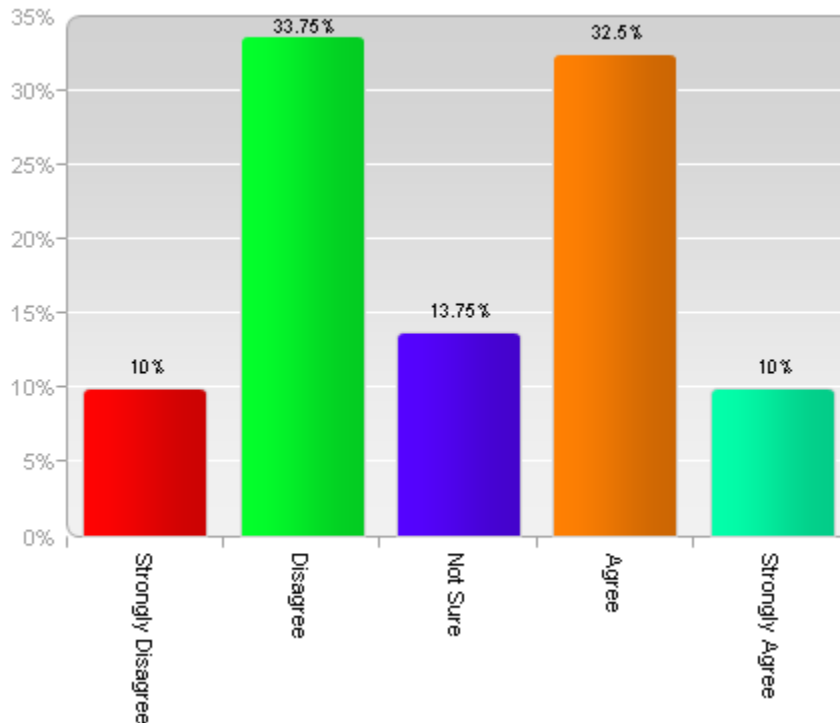
Twenty-nine (36.25%) agreed or strongly agreed, 20% (n=16) were not sure, while 41.25% (n=33) disagreed or strongly disagreed that their school district has a formal K-12 school forest site-based curriculum that is tied to the Wisconsin academic standards in place (see Figure 16). Thus, just over 61% of respondents were not aware of the benefits of having their school forest registered, because LEAF will provide curriculum that is tied to the Wisconsin academic standards if a district requests it.



*Figure 16.* School district has a formal K-12 school forest site-based curriculum that is tied to the Wisconsin academic standards in place.

**My school district has a formal forest education plan in place (see Figure 17).**

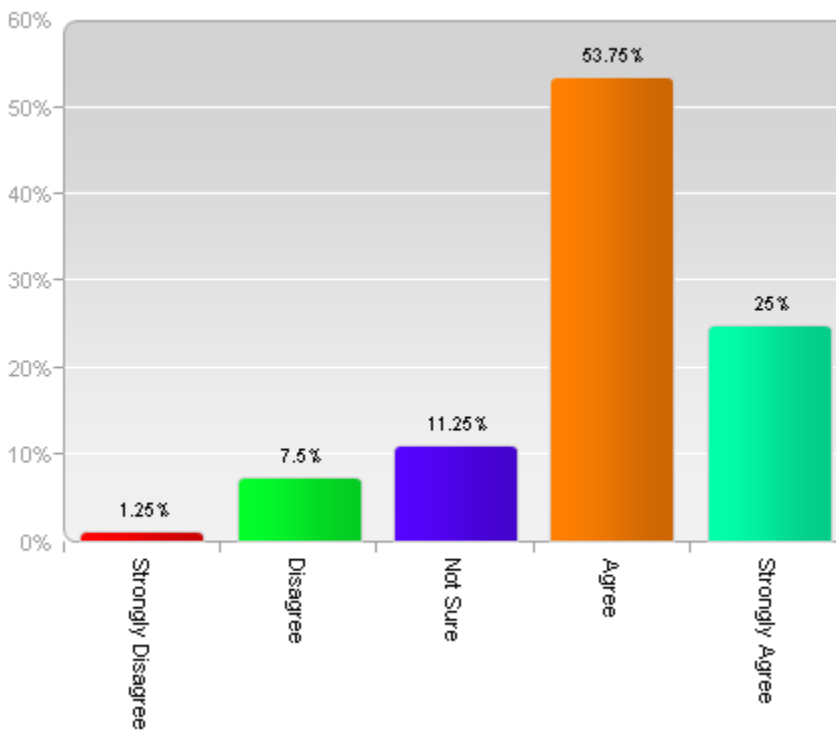
Thirty-four (42.5%) agreed or strongly agreed, 13.75% (n=11) were not sure, while 43.75% (n=35) disagreed or strongly disagreed that their school district has a formal forest education plan in place (see Figure 17). Four (5%) respondents made written comments. Here are a couple of examples to demonstrate the varying degree of responses: “Not sure what you mean by this. We don’t need another mandate about how and when to use our forest if that is what you are asking.”, “Working on our plan now.”



*Figure 17.* School district has a formal school forest education plan in place.

**I place a high priority on outdoor education or environmental education as a part of our school district curricula (see Figure 18).**

Seventy-three (78.75%) agreed or strongly agreed, 11.25% (n=9) were not sure, while 8.75% (n=7) disagreed or strongly disagreed that they place a high priority on outdoor education or environmental education as a part of their school district’s curricula (see Figure 18). Seven (8.14%) respondents made written comments. Here are a couple of examples to demonstrate the varying degrees of respondents comments: “Every school is required to have an outdoor learning environment.”, “Would not say high priority, but would like to improve the utilization of outdoor education and school forest.”



*Figure 18.* Place a high priority on outdoor education or environmental education as a part of our school district curricula.

## Support

Survey respondents were asked to respond to the following statements regarding their support of the use of school forest/s as an education tool:

### **I support individual teachers' requests to use the school forest (Figure 19 below).**

Seventy-seven (96.25%) respondents agreed or strongly agreed, two (2.5%) were not sure, while one (1.25%) strongly disagreed with supporting individual teacher's requests to use the school forest (see Figure 19). Eight (10%) respondents made written comments. Here are a couple of examples: "I have never been asked to use it.", "We need to do a better job creating times for teachers and their classes to use the forest...if we collaborated with teachers outside our school, we could have better use of our designated school forest. That is a goal we need to attend to."

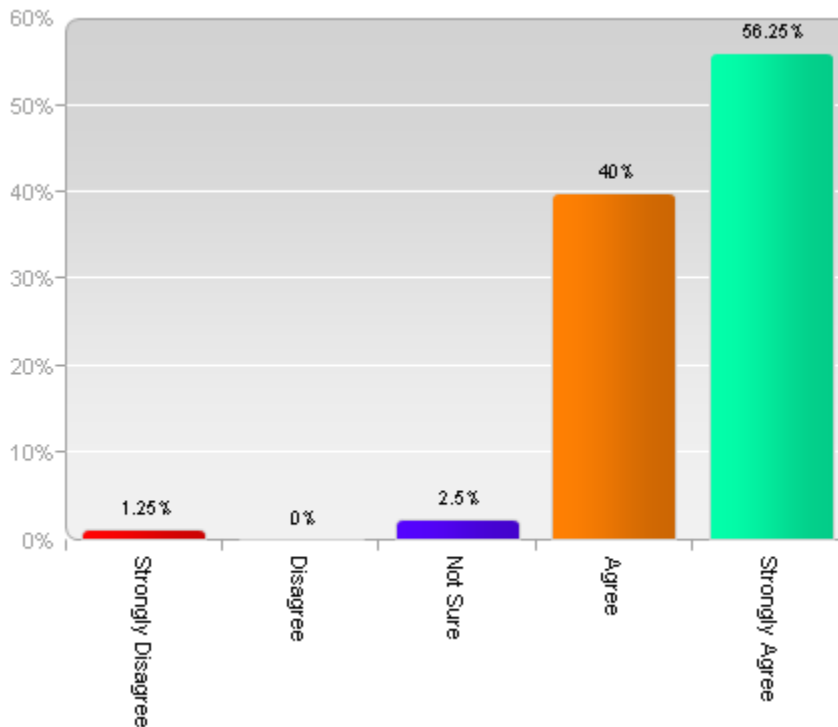
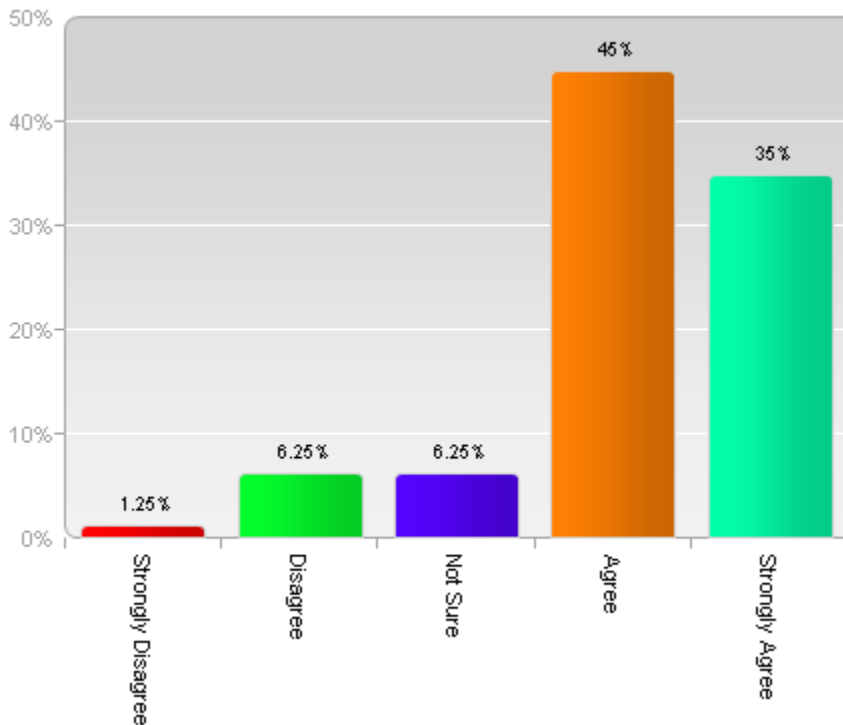


Figure 19. Support individual teachers' requests to use the school forest.



**I encourage building principals to encourage teachers to use the school forest as an education tool (see Figure 20).**

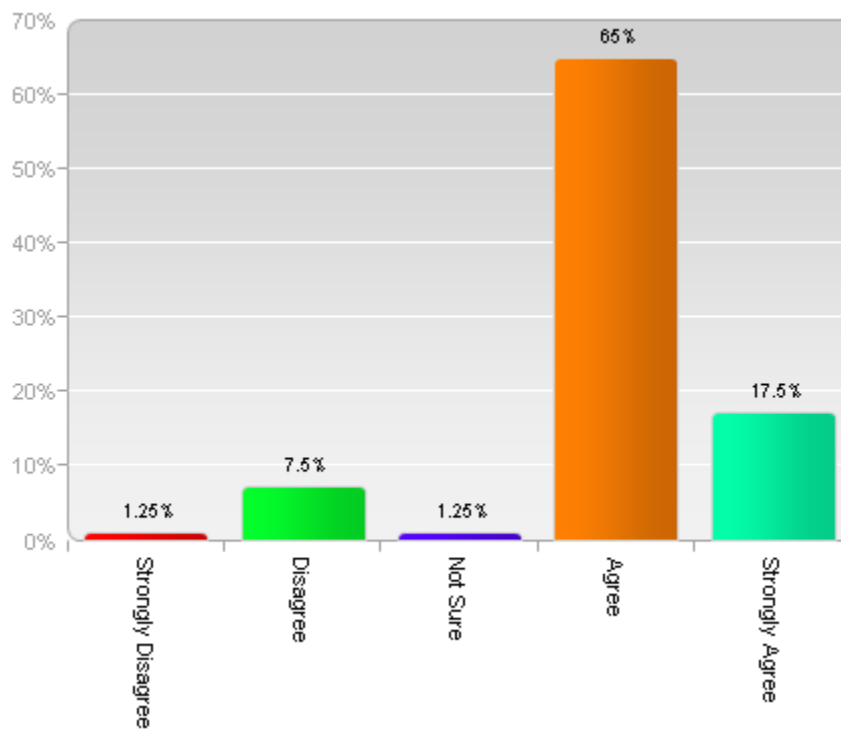
Sixty-four (80%) agreed or strongly agreed, 6.25% (n=5) were not sure, while 8% (n=6) disagreed or strongly disagreed with encouraging building principals to encourage teachers to use the school forest as an education tool (see Figure 20). Six (7.5%) respondents made written comments. Here a few examples to demonstrate the variability of responses: “I don’t direct them to do so. I am comfortable if they do encourage the use.”, “No.”, “That costs time and \$ and we have neither with all of the other mandates. Teachers may be using on-site ‘forests’ if they have them and I would encourage them to fit it into their curricular studies if it makes sense.”



*Figure 20.* Encourage building principals to encourage teachers to use the school forest as an education tool.

**I make room in the budget to fund the use of the school forest for education (see Figure 21).**

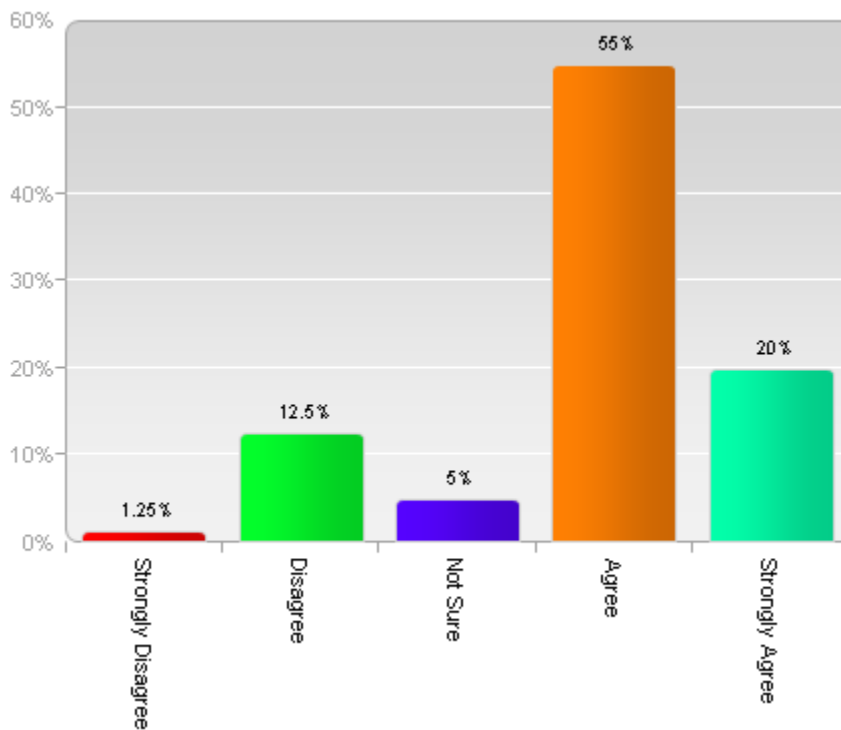
Sixty-one (89%) agreed or strongly agreed, 1% (n=1) was not sure, while 10% (n=7) disagreed or strongly disagreed that they make room in the budget to fund the use of the school forest for education (see Figure 21). Nine (11.25%) respondents made written comments on the subject. Here are a few examples: “No budgeting set until requests are made.”, “Not necessary.”, “Our individual budget is very small. Our needs are fairly basic and we are able to use the school forest as is. We have discussed specific structures that would provide for better outdoor classroom experiences. Our funding would have to come from grants at this point in time.”



*Figure 21.* Make room in the budget to fund the use of the school forest for education.

**I communicate the value of school forests as an education tool to appropriate personnel (see Figure 22).**

Sixty (80%) agreed or strongly agreed, 5% (n=4) were not sure, while 15% (n=11) disagreed or strongly disagreed that they communicate the value of school forests as an education tool to appropriate personnel (see Figure 22). Six (7.5%) of respondents made written comments. Here are three examples of comments to demonstrate the varying degree of responses: “We communicate the value of environmental education by creating other spaces such as community gardens, nature trails, and outdoor education classes.”, “I have not pushed the school forest specifically.”, “Environmental ed (sic) is not limited to school forests.”



*Figure 22.* I communicate the value of school forests as an education tool to appropriate personnel.

Table One below provides a brief overview of respondents’ comments. This demonstrates the variability of district administrators’ views and values of school forests.

**Table 1***A summary of written comments by respondents*

Suggests lack of support or understanding of the value of school forests to student learning	Suggests support or understanding of the value of school forests to student learning
<p>“The location of our school forest makes it difficult for use during school days due to busing time.” (Question #4)</p>	<p>“I see great benefit to the forests as living classrooms but we truly do not utilize them as much as we could . . . [Two] of our elementary schools have school forests on their property. [One] has been identified as a green, environmental, and agricultural school. Our purpose and curriculum demonstrate these interests. Other schools in the district take field trips to assist their students’ learning in these areas [but] seeking out the designated school forests has not been their choice.” (Question #5)</p>
<p>“The question implies that the forest has an impact on learning outcomes in all content areas. I do not believe it does.” (Question #5)</p>	<p>“I have actually seen enthusiasm in kids and also an incident with troubled students get motivated by working in the forest and their behavior change....” (Question #6)</p>
<p>“Haven’t seen that correlation before.” (Question #6)</p>	<p>“I am so impressed with the excitement kids display when they are going to the forest.” (Question #8)</p>
<p>“I am not aware of this research.” (Question #7)</p>	<p>“Our school forest has strong support by administration and staff.” (Question #9)</p>
<p>“Location is not bad but it is at least 8 miles from the nearest school. Travel time for a short session at the forest is a challenge.” (Question #10)</p>	<p>“We should always be interested in learning more about our natural resources.” (Question #14)</p>
<p>“Rather than being on campus, students have to drive there. It isn’t far but again, not on campus.” (Question #10)</p>	<p>“Our Green and Healthy Coordinator is updating our K-12 curriculum this summer.” (Question #17)</p>
<p>“I don’t know that I need more that [sic] I already have.” (Question #14)</p>	<p>“I place a high priority on having enough funds to do all the things we are mandated to do.” (Question #18)</p>
<p>“The last thing we need is another mandated policy.” (Question #15)</p>	<p>“We pay a coordinator, trips are funded through building budgets.” (Question #21)</p>
<p>“It would involve transportation... That costs time and \$ and we have neither with all the other mandates.” (Question #20)</p>	

## **Summary of Results**

The data indicates that the respondents very positively support the use of their school forest/s and value their school forest/s as an educational tool. They are aware of their school forest/s, and provide financial support, as well as encouragement, for the use of the school forest/s for educational purposes. Still, a number of district administrators were unaware of the value and use of their school forest/s.

## **Chapter 5**

### **Discussion**

The purpose of this study was to determine district administrators' awareness, perspectives, and values of the use of school forests using survey research. Only those districts having a school forest registered with the Wisconsin Department of Natural Resources (WDNR) were surveyed. Wisconsin was chosen because it is reputed as being progressive in its use of forests compared to other states in the nation (Marshall, 2013).

### **Subjects**

The WDNR has 222 districts and 402 parcels registered as a school forest. Among the 222 districts, 198 emails were successfully delivered to district administrators having current and/or valid email addresses. Because responses were anonymous, I was not able to identify or follow up with non-respondents to discern possible reasons for not opting to participate in the survey. Likewise, due to the survey being administered anonymously, reasons for non-responses were not established. The survey had a response rate of 40.4% (n=80), which is considered an acceptable response rate with electronic surveys (Dillman, 2009).

### **Findings**

#### **Awareness**

Of the total respondents, 79 (98.5%) were aware that their school district has a school forest registered with the WDNR, and 86.25 percent (n=69) of respondents responded that their school district's Board of Education are also aware of their district's registered school forest/s (in some cases, a school district had more than one school forest). Fifty-seven (71.25%) respondents reported that they had observed the school being used for educational purposes.

As for school forests playing an integral role in the education of students, 77.5% (n=62) of respondents agreed that school forests play an integral role in the education of the students in their district. None of the five (6.25%) written comments expanded on whether or not respondents felt school forests play an integral role in the education of their students. Fifty-nine (73.75%) respondents were aware of the value school forests had on their students' overall learning outcomes in all content areas, and seven (8.75%) respondents made written comments, e.g., "Aware of benefits of school forest—not being utilized well in our district due to distance.", "The question implies that the forest has an impact on learning outcomes in all content areas. I don't believe it does." Yet only 48% (n=38) of respondents were aware that school forest-based education improves student behavior outcomes across the curricular spectrum. Six percent (n=5) of respondents made written comments on behavioral outcomes, e.g., "Haven't seen that correlation before.", "I have actually seen enthusiasm in kids and also an incident with troubled students get motivated by working in the forest and their behavior change." On the other hand, 61.25% (n=49) of respondents were aware that research shows that school forest-based education improves learning outcomes for students of all abilities and demographics. Four percent (n=3) of respondents made written comments, e.g., "I am not aware of this research."

The perceptions of 76.25% (n=61) of respondents agreed that they felt their students looked forward to their time spent in the school forest. Seven (8.75%) respondents offered written comments on their thoughts on whether or not students looked forward to their time in the school forest, e.g., "I am so impressed with the excitement kids display when they are going to the forest.", "Everyone enjoys noticing what's different in the woods during all the seasons." Further, 77.5% (n=62) respondents were aware of the varying confidence levels that their teachers had taking students to the school forest/s, 7.5% (n=6) of whom made written comments

on the varying confidence levels of their teachers, e.g., “Our school forest has strong support by administration and staff.”, “Confidence in what?”, “We only have one. I think he is quite confident.”

On the issue of the school forest/s location being convenient, 63.75% (n=51) agreed that the location was convenient. Nine (11.25%) respondents made written comments on the location of the school forest/s, e.g., “Location is not bad but it is at least 8 miles from the nearest school. Travel time for a short session at the forest is a challenge.”, “Right outside our doors and easy access to the community.” When asked if the school forest/s had supporting facilities on site, 50% (n=40) agreed that their forest/s had supporting facilities on site. Five (6.25%) made written comments, e.g., “Literally out the back door of our building, so not necessary.”, “No buildings.”, “We have 3 school forests and two have facilities the (sic) other does not.”

The Green Ribbon Schools initiative is a nationally run program through the US Department of Education, in partial fulfillment of certification; schools must demonstrate that they are teaching environmental education in an outdoor classroom such as a school forest (U. S. Department of Education, Fact Sheet, n.d.). Six (8%) respondents had knowledge that their school district had a Wisconsin “Green Ribbon” school and four (5%) respondents made written comments, e.g., “2 schools are Green Ribbon Schools.”, “3 of 4 schools are Energy Star Rated, the fourth qualifies to make the entire district an Energy Star District.”, “But we do many energy and environmentally sound activities.” When asked if respondents were aware of the resources available through Learning, Experiences, and Activities in Forestry (LEAF), Wisconsin’s K-12 Forestry Education Program, offered in partnership with the WDNR, thirty-nine (48.75%) respondents were aware of the resources available. Two (2.5%) respondents made written responses, e.g., “It isn’t anything I would be involved in. My teacher may very well be aware.”,



“Minimally aware.” The last statement under the category of awareness that respondents were asked to respond to, was, “I would like to learn more about school forest education.” Fifty-one (63.75%) agreed that they would like to learn more about school forest education, and eight (10%) made written comments of varying degrees, e.g., “I don’t know that I need more than I already have.”, “We should always be interested in learning more about our natural resources.”, “We already work with LEAF.”

## **Curricula**

Twenty-nine (36.25%) agreed that their school forest has a formal school forest education policy in place, and five (6.25%) made written comments, e.g., “The last thing we need is another mandated policy.”, “We are currently going through our policies.” When asked if their school district has a formal K-12 school forest site-based curriculum that is tied to the Wisconsin academic standards in place, again twenty-nine (36.25%) agreed that their school district has a formal K-12 school forest based-curriculum that is tied to the Wisconsin academic standards in place. Thus, over 61% of respondents were not aware of the benefits of having their school forest/s registered, because LEAF provides curricula for the district. In a related statement, thirty-four (43%) of respondents agreed that their school district has a formal education plan in place, with four (5%) respondents commenting, e.g., “Not sure what you mean by this. We don’t need another mandate about how and when to use our forest if that is what you are asking.”, “Our Green and Healthy Coordinator is updating our K-12 curriculum this summer.” When asked if they place a high priority on outdoor education or environmental education as a part of their school district’s curricula, n=73 (92%) agreed, and n=7 (8.75%) made written comments, e.g., “I place a high priority on having enough funds to do all the things we are mandated to do.”,

“Would not say high priority, but would like to improve the utilization of outdoor education and school forest.”

## **Support**

When asked if they support individual teacher’s requests to use the school forest/s, n=77 (96.25%) of respondents agreed that they support individual teacher’s requests to use the school forest. Eight (10%) respondents made written comments, e.g., “I would if teachers requested using the school forest.”, “No request is necessary. Teachers have full access.” Sixty-four (80%) agreed that they encourage building principals to encourage teachers to use the school forest as an educational tool, and six (7.5%) respondents made written comments, e.g., “I don’t direct them to do so. I am comfortable if they do encourage the use.”, “No.” Sixty-one (89%) agreed that they make room in the budget to fund the use of the school forest for education. Nine (11.25%) respondents made written comments on the subject, e.g., “No budgeting set until use requests are made.”, “We are in the process of thinning our school forest to provide additional funds.” Sixty (80%) agreed that they communicate the value of school forests as an educational tool to appropriate personnel. Six (7.5%) of respondents made written comments, e.g., “We communicate the value of environmental education by creating other spaces such as community gardens, nature trails, and outdoor education classes.”, “No.” In the next section, I will discuss what recommendations I have, based on this research.

## **Recommendations**

Based on the findings of this study, the following recommendations are being presented as the next step of application of these results:

1. Include district administrators in aspects of training on how to use a school forest with school curricula. The reason for this is to illustrate research findings that show

how school forests can be helpful to improve test scores and student behavior toward learning.

2. Present these findings to district administrators, principals, and teachers, to indicate the extent of district-wide support of school forests.
3. These findings are supported by the Krause 2012 study, Sharon Krause, M.E.Ed.

### **Future Studies**

No single study ever completely answers a question. Therefore, there is a need for further study on this topic. In order for school forests to be recognized as integral to student learning, school forests and environmental education need to be both systemic and systematic in their support and delivery. Thus, the following are suggestions for future studies to further answer the questions on the efficacy of school forests:

1. Comparison studies to other states are warranted to allow for comparison, and to allow for comparisons through time of similarities and differences in data collected.
2. Survey teachers to determine their perceptions of support from district administrators.

### **Conclusion**

The findings from this study confirm the extent to which school forests in Wisconsin are valued and supported district-wide, specifically by district administrators. In addition, these findings may explain why the state of Wisconsin is considered a leader in the use of school forests.

## References

- Association for Experiential Education. (n.d.). What Is Experiential Education? Retrieved from <http://www.aee.org/about/whatIsEE>
- Bartosh, O., Ferguson, L., Taylor, C. & Tudor, M. (2006). Improving test scores through environmental education: Is it possible? *Applied Environmental Education and Communication*, 5, 161-169.
- Children, Youth and Environments Center for Research and Design.  
<http://www.cudenver.edu/cye>
- Comstock, A. (1939). *Handbook of nature-study* (E. L. Gordon, Ed.) Ithaca, NY: Comstock publishing company, Inc.
- Creswell, J. (2009). *Research Design* (3<sup>rd</sup> ed.). Thousand Oaks, CA: SAGE Publications, Inc.
- Dillman, D., Smyth, J., Christian, L. (2009). *Internet, mail, and Mixed-Mode Surveys: The Tailored Design Method*. Hoboken, NJ: Wiley & Sons.
- Eells, E. (1986). *History of Organized Camping: The First 100 Years*. Martinsville, IN: American Camping Association.
- Ernst, J. (2009). Influences on US middle school teachers' use of environmental-based education. *Environmental Education Research*, 15(1), 71-92.
- Green and Healthy Schools Wisconsin. (n.d.). GHS WI Focus Area: School Site. School Site Resources. Retrieved from <http://eeinwisconsin.org/net/content/go.aspx?ran=8936&s=111093.0.16.2209>
- Lieberman, G., Hoody, L. (1998). *Closing the Achievement Gap: Using the Environment as An Integrating Context for Learning*. San Diego, CA: State Education and Environmental Roundtable.

- Madison Area School District. (n.d.). School Forests: Their Origin in Wisconsin, The Birth of the School Forest Idea. Retrieved from <https://envedweb.madison.k12.wi.us/forest/edwischf.htm>
- Marshall, G. (2011). 2010-2011 Annual School Forest Survey Summarized Results. Retrieved from <http://eeinwisconsin.org/Files/eewi/2011/ResultsofSchoolForestSurvey2010-2011-1274.pdf>
- Marshall, G. (2013). Wisconsin School Forest Program 2013 Annual Report. Retrieved from [www.uwsp.edu/cnr-ap/leaf/Documents/School Forest Annual Report 2013.pdf](http://www.uwsp.edu/cnr-ap/leaf/Documents/SchoolForestAnnualReport2013.pdf)
- Peacock, A. (2006). *Changing Minds: The lasting impact of school trips* (A study of the long-term impact of sustained relationships between schools and the National Trust via the Guardianship scheme, p. 21). Exeter, England: National Trust.
- Priest, S. (1986). Redefining outdoor education: A matter of many relationships. *Journal of Environmental Education*, 17(3), 13-15.
- Rotman, M. (n.d.). "Cuyahoga River Fire," *Cleveland Historical*. Retrieved from <http://clevelandhistorical.org/items/show/63#.U3EIpfldWSp>
- Smith, R. (2007). "Saving the Dust Bowl: "Big Hugh" Bennett's Triumph over Tragedy. *History Teacher*, 41(1), 65-95.
- Sobel, D. (2008). *Childhood and Nature: Design Principles for Educators*. Stenhouse Publishers.
- Stapp, B. (1969). *Journal of Environmental Education*. 1,1, 34.
- UNESCO-UNEP International Workshop on Environmental Education at Belgrade. (1975). The

Belgrade Charter: A Global Framework for Environmental Education. Retrieved from <http://unesdoc.unesco.org/images/0001/000177/017772.eb.pdf>

U. S. Department of Education. (n.d.). Fact Sheet: Green Strides and the U.S. Department of Education Green Ribbon Schools Recognition Award. Retrieved from <http://www2.ed.gov/programs/green-ribbon-schools/factsheet.pdf>

U. S. Department of Education. (2014). U.S. Department of Education Green Ribbon Schools Awards. Retrieved from <http://www2.ed.gov/programs/green-ribbon-schools/index.html>

U. S. Department of Education. (2001). No Child Left Behind Act: Title I—Improving The Academic Achievement Of The Disadvantaged; Sec. 1001. Statement of Purpose. Retrieved from <http://www2.ed.gov/policy/elsec/leg/esea02/index.html>

## APPENDIX A

### Letter To District Administrators With School Forests

Dear District Administrator,

My name is Max Bockes (Masters candidate) with the University of Minnesota-Duluth, and I am conducting research on public school districts with school forests that are registered with the Wisconsin Department of Natural Resources (WDNR). Your district has been selected from a list compiled by the WDNR for school districts that have registered school forests. The purpose of this study is to determine how you, as a School District Administrator, view and value the use of your school forest(s).

I would appreciate your participation in completing a short online survey. It contains a set of 27 questions and takes about 5 to 10 minutes to fill out. Your participation in this survey will remain anonymous and the results will be shared with the University of Wisconsin-Stevens Point's Learning, Experiences, and Activities in Forestry (LEAF) School Forest Coordinator.

**You will receive an e-mail with the survey on Wednesday June 25<sup>th</sup>, 2014.**

No benefits accrue you, but your responses will be used to make recommendations concerning the future use of school forests. Your decision whether or not to participate will not prejudice your future relationship with the WDNR, LEAF, nor the University of Minnesota-Duluth. **Your responses will be anonymous; therefore, no one will be able to identify you or your responses.**

If you have any concerns or questions, you may contact me or my advisor, Ken Gilbertson using

the contact information provided below. Thank you for your time and consideration.

Sincerely,

Max Bockes

**Contact Information:**

Max Bockes-Masters Candidate:

UMD Center for Environmental Education

1216 Ordean Court

Duluth, MN 55812-3032

E-mail [bock0025@d.umn.edu](mailto:bock0025@d.umn.edu) Phone (715) 216-2690

Dr. Ken Gilbertson-Advisor:

UMD Dept.; HPER

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1216 Ordean Court

Duluth, MN 55812-3032

E-mail [kgilbert@d.umn.edu](mailto:kgilbert@d.umn.edu) Phone (218) 726-6258



## APPENDIX B

### District Administrator Survey

Dear District Administrator,

You have been selected to take part in a survey because your school district has a school forest registered with the Wisconsin Department of Natural Resources (WDNR). I am interested in your knowledge of how the school forest/s in your district are utilized. My hope is that your answers will help the Wisconsin School Forest Program (through the WDNR) better understand how to assist your district in the utilization of your district's school forest/s. If you wish to learn more about this study, please email me at [bock0025@d.umn.edu](mailto:bock0025@d.umn.edu) or my advisor, Dr. Ken Gilbertson, at [kgilbert@d.umn.edu](mailto:kgilbert@d.umn.edu). Thank you for taking the time to complete this survey. Your feedback is important to me. A note on privacy: **You and your responses are anonymous.** The record kept of your survey responses does not contain any identifying information about you. By choosing to take this survey, you are giving your consent.

1. I am aware that our school district has a school forest certified by the Wisconsin Department of Natural Resources. **(Please check your response)**  
Yes  No  Don't Know  Comment Below \_\_\_\_\_
2. Members of my school district's Board of Education are also aware of our school forest.  
**(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree  Comment

Below \_\_\_\_\_

3. School forests play an integral role in the education of the students of our district. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly agree  Comment

Below \_\_\_\_\_

4. I have observed the district's outdoor classroom/school forest education program being used. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree  Comment

Below \_\_\_\_\_

5. I am aware of the value to students' overall education that our school forest has on **learning outcomes** in all content areas. **(Please check your response)**

Not Aware  Somewhat Aware  Not Sure  Aware  Strongly Aware

Comment Below \_\_\_\_\_

6. I am aware that school forest-based education improves **student behavior** outcomes across the curricular spectrum. **(Please check your response)**

Not Aware  Somewhat Aware  Not Sure  Aware  Strongly Aware

Comment Below \_\_\_\_\_

7. I am aware that the results of research show that school forest-based education **improves learning outcomes** for students of all abilities and demographics, including English Language Learners, special education, and gifted and talented students. **(Please check your response)**

Not Aware  Somewhat Aware  Not Sure  Aware  Strongly Aware

Comment Below \_\_\_\_\_

8. Students look forward to their time in the school forest. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree  Comment

Below \_\_\_\_\_

9. I am aware of the varying confidence levels that teachers taking their students to the school forest have.

Not Aware  Somewhat Aware  Not Sure  Aware  Strongly Aware

Comment Below \_\_\_\_\_

10. The school forest location is convenient. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree  Comment

Below \_\_\_\_\_

11. Our school forest has supporting facilities on site. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree  Comment

Below \_\_\_\_\_

12. Our district includes a Wisconsin “Green Ribbon” school. **(Please check your response)**

Yes  No  Don't Know  Comment: \_\_\_\_\_

13. I am aware of the resources available through the Learning, Experiences, and Activities in Forestry (LEAF), Wisconsin's K-12 Forestry Education Program, offered in partnership with the WDNR. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree  Comment

Below \_\_\_\_\_

14. I would like to learn more about school forest education. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree  Comment

Below \_\_\_\_\_

15. My school district has a formal school forest education policy in place. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree  Comment

Below \_\_\_\_\_

16. My school district has a formal K-12 school forest site-based curriculum that is tied to the Wisconsin academic standards in place. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree  Comment

Below \_\_\_\_\_

17. My school district has a formal school forest education plan in place. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree  Comment

Below \_\_\_\_\_

18. I place a high priority on outdoor education or environmental education as a part of our school district curricula. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree  Comment

Below \_\_\_\_\_

19. I support individual teachers' requests to use the school forest. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree  Comment

Below \_\_\_\_\_

20. I encourage building principals to encourage teachers to use the school forest as an education tool. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree

Comment Below \_\_\_\_\_

21. I make room in the budget to **fund the use of** the school forest for education. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree

Comment Below \_\_\_\_\_

22. I communicate the value of school forests as an education tool to appropriate personnel. **(Please check your response)**

Strongly Disagree  Disagree  Not Sure  Agree  Strongly Agree

Comment Below \_\_\_\_\_

Thank you very much for taking the time to complete this survey. Your responses, while anonymous, will be helpful in guiding a more comprehensive use of Wisconsin School Forests.