

# 2016-2017 Annual School Forest Survey Results



## Response Rate:

Eighty-eight individual schools or districts provided responses to the survey out of 241 individual schools or districts that received the survey. Eighty-eight (88) district responses were received from 84 public school districts, 3 private schools, and 1 higher education institution. This is a 36% response rate. The survey was sent to 234 public schools, 6 private schools, and 1 higher education institution with registered school forests. Overall, it was distributed to over 371 contacts within the school forest database.

Interestingly only 49% of the districts that participated in the survey this year also did so last year. That means that 51% of the school districts that responded were different from last year's participants and 38 of the districts that did complete the survey last year did not fill it out this year. As a result, this survey serves as a "snapshot" of school forest activity in Wisconsin, not as a comprehensive report. Ironically, even as the district participation changes each year, the survey completion rate and responses seem to stay consistent. That consistency is seen in a few of the charts that show comparative data. However, due to the fact that not all school forests submit data and that not all of the same school forests submit data every year, we can observe general trends throughout certain questions that were asked in the survey, but do not assume that these are precise and final numbers. This report is merely a representation of Wisconsin's School Forest Program over the past year.

The schools/districts who responded include: Alma, Almond-Bancroft, Antigo, Athens, Auburndale, Baldwin-Woodville, Bayfield, Berlin Area, Black River Falls, Bonduel, Bruce, Burlington, Butternut, Cambria-Friesland, Cambridge, Cedarburg, Clintonville, Coleman, Coloma, D. C. Everest, De Soto, Evansville, Frederic, Friess Lake, G-E-T Schools, Green Lake, Greendale, Highland, Iola-Scandinavia, Ithaca, La Crosse, Lac du Flambeau, Laona, Luck, Marion, Marshfield, McFarland, Merrill, Middleton Cross Plains, Mishicot, Madison Metropolitan, Mondovi, Montello, Mukwonago, Necedah, Nekoosa, New Auburn, New Berlin, Newman Catholic Schools, Niagara, Nicolet Union, North Lakeland, Northland Pines, Oconto Falls, Pittsville, Port Edwards, Portage, Prairie Farm, Prentice, Princeton, Pulaski, Reedsburg, Rhinelander, Rib Lake, Rice Lake, Riverdale, Royall, Sauk Prairie, Siren, South Shore, Spencer, St. Paul Lutheran School, Stevens Point, Superior, Thorp, Tomahawk, Trinity Lutheran School (Merrill), Turtle Lake, UW Richland County, Wabeno, Waupun, West Bend, West Salem, Whitnall, Winneconne, Wisconsin Dells, Wonewoc-Center, Woodruff J1

## Survey Respondents:

EE/SF Coordinator = 32  
 Building & Grounds Coordinator = 3  
 Community Volunteer = 2  
 Pupil Services/Guidance Dept. = 0  
 Consultant = 1  
 Instructional Aide = 1  
 Retired Teacher = 1  
 Administrator = 22

Principal: 12  
 Superintendent: 7  
 Curriculum Director: 1  
 Foundation Director: 1  
 Assistant Administrator: 2

Teacher = 52

### GRADE LEVELS TAUGHT:

Early Childhood: 1  
 Elementary: 18  
 Middle School/Jr High: 32  
 High School: 37  
 Post-Secondary: 0

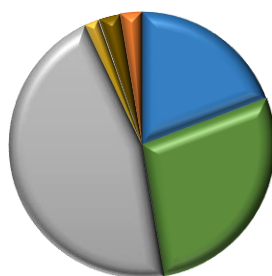
### SUBJECTS/CLASSES TAUGHT:

All subjects (elem. teachers): 10  
 Art: 2  
 Agriculture Education: 18  
 English: 2  
 Math: 1  
 Physical Education: 4

Science: 28  
 Social Studies: 3  
 Special Education: 1  
 Technology Education: 2  
 Other: 3 (PBL, outdoor education, ropes challenge course)

## Survey Respondents within Institution

n=88

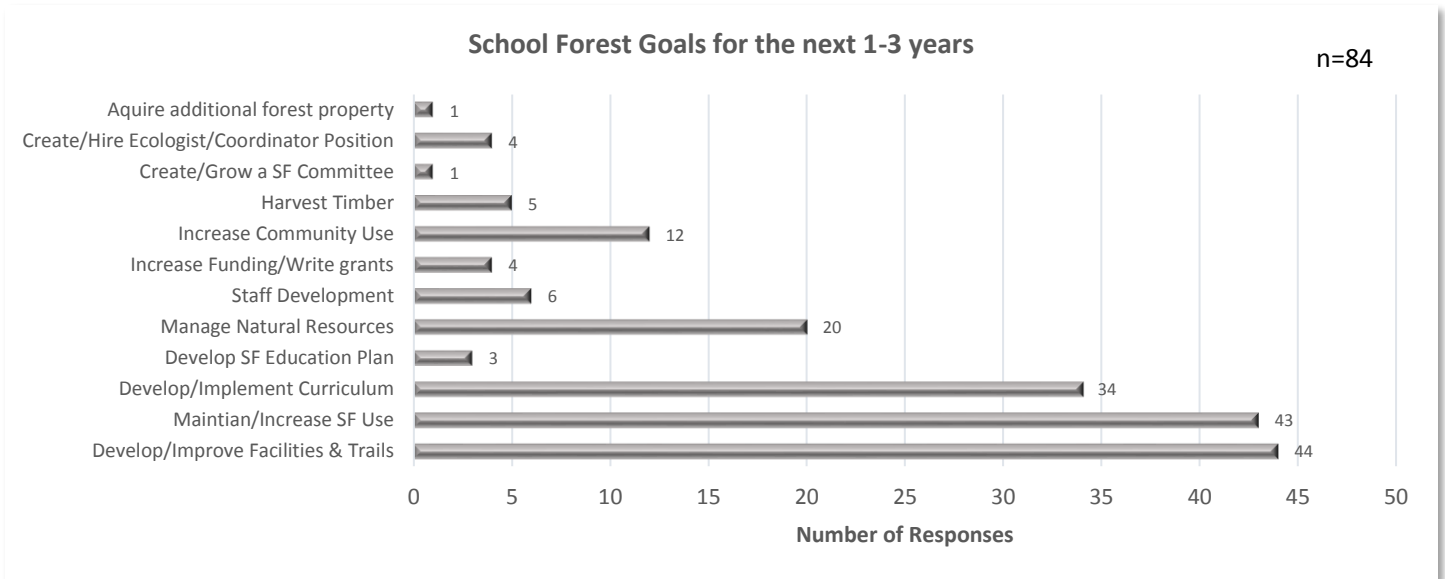


- Administrator
- Env. Ed Coordinator/SF Coordinator
- Teacher
- Community Volunteer
- Buildings and Grounds Coord.
- Other



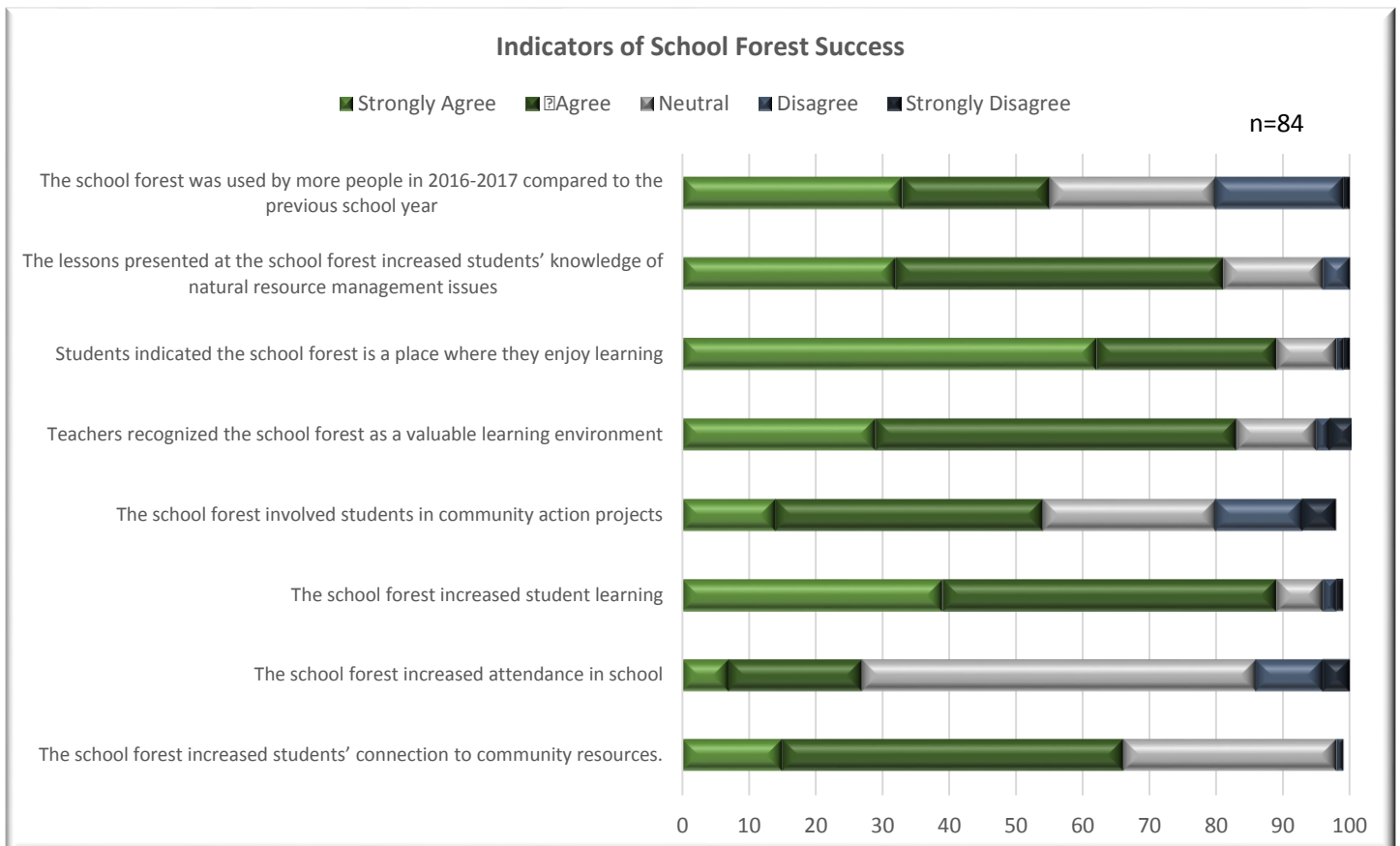
### Goals for the next 1-3 years

The main school forest goals cited by the schools for the next three years are to develop or improve the facilities and trails, to maintain or increase the use of the school forest, to develop or implement curriculum at the school forest, and manage the forest's natural resources. The chart below shows school forest goals listed in each category by the eighty-four (84) schools that responded.



### Indicators of school forest success for 2016-2017

Eighty-four (84) schools responded. Results are listed as percentages.



# School Forest Utilization during the 2016-2017 School Year:

## Student Visits

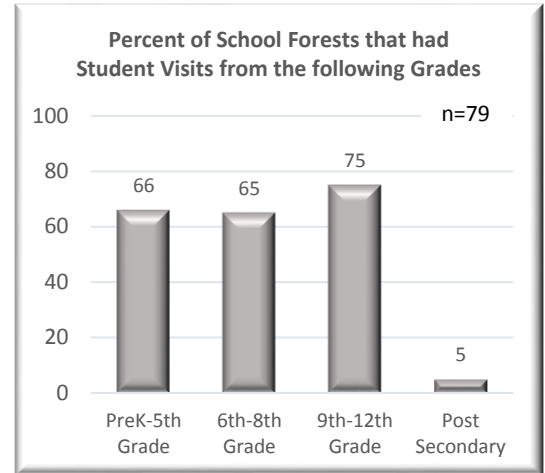
The following data has been calculated based off of the number of school districts that responded for each grade level. More comprehensive data is available upon request.

- **School Forest Use.** Respondents indicated that 66% of the forests had visits from PreK-5<sup>th</sup> grade students, 65% had visits from 6<sup>th</sup>-8<sup>th</sup> grade students, 75% had students in 9<sup>th</sup>-12<sup>th</sup> grade that visited, and 5% had post-secondary students.

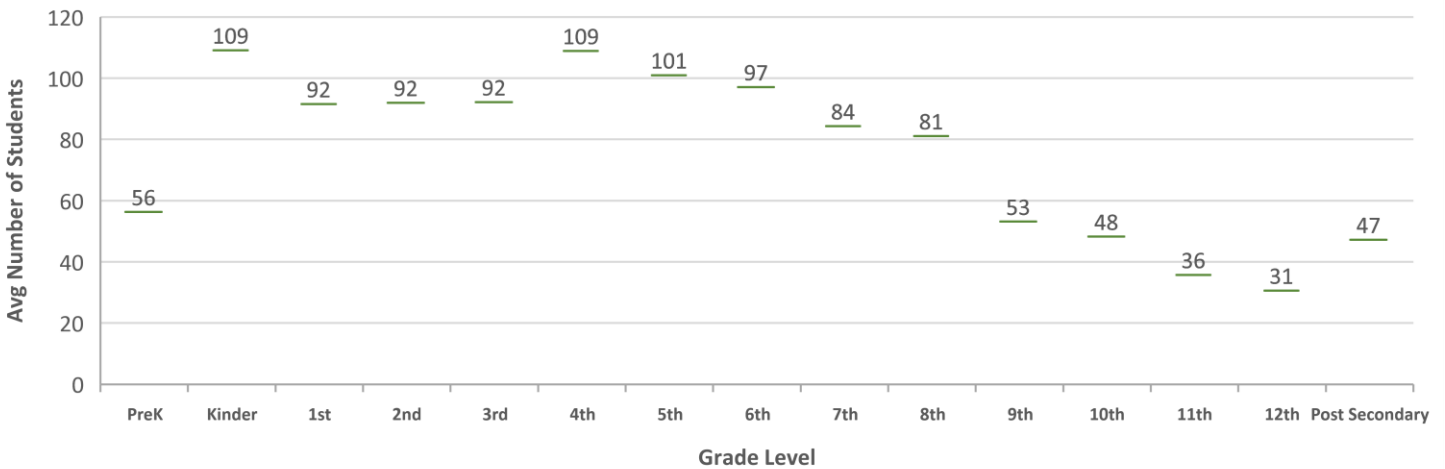
- **Number of Students.** A total of **46,081 students** visited their school forests during the last school year. The average number of students from each grade level that visited their school forest can be seen in the chart below.

\* The number of students per grade level reported is as follows: 1802 Pre-Kindergarten, 4692 Kindergarten, 3938 1st grade, 4139 - 2nd grade, 3964 - 3rd grade, 4357 - 4th grade, 4177 - 5th grade, 4273 - 6th grade, 3289 - 7th grade, 3082 - 8th grade, 3289 - 9th grade, 2268 - 10th grade, 1895 - 11th grade, 1624 - 12th grade, and 189 Post Secondary students.

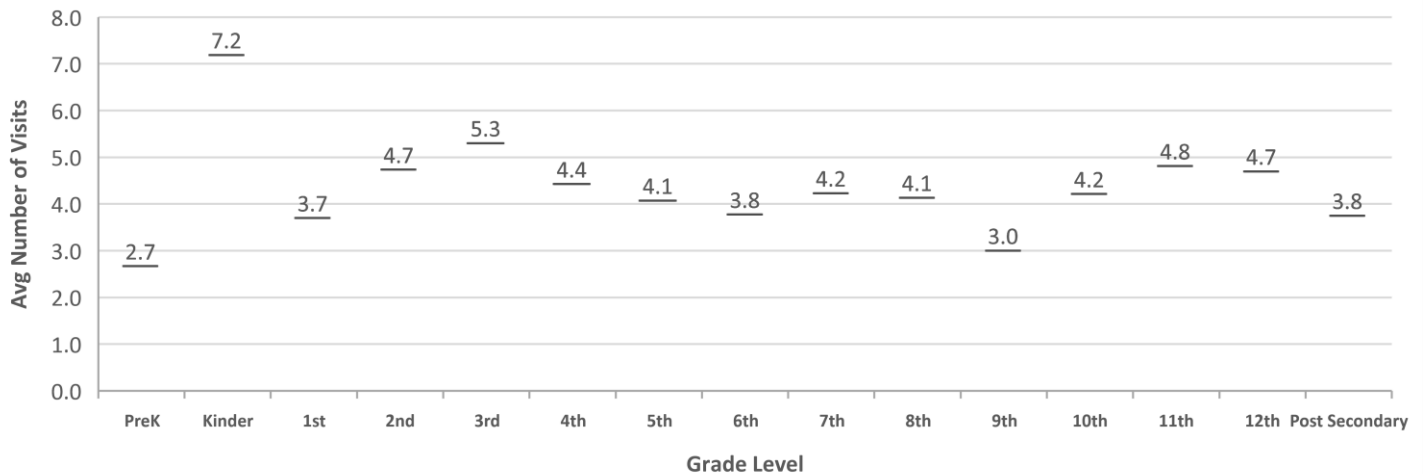
- **Number of Trips.** Respondents reported a total of **2,670 field trips** to school forests in Wisconsin. The **average number of times** (trips) each grade level visited the school forest can be seen in the chart below.



Average Number of Grade Level Students that Visited the School Forest in 2016-2017 School Year

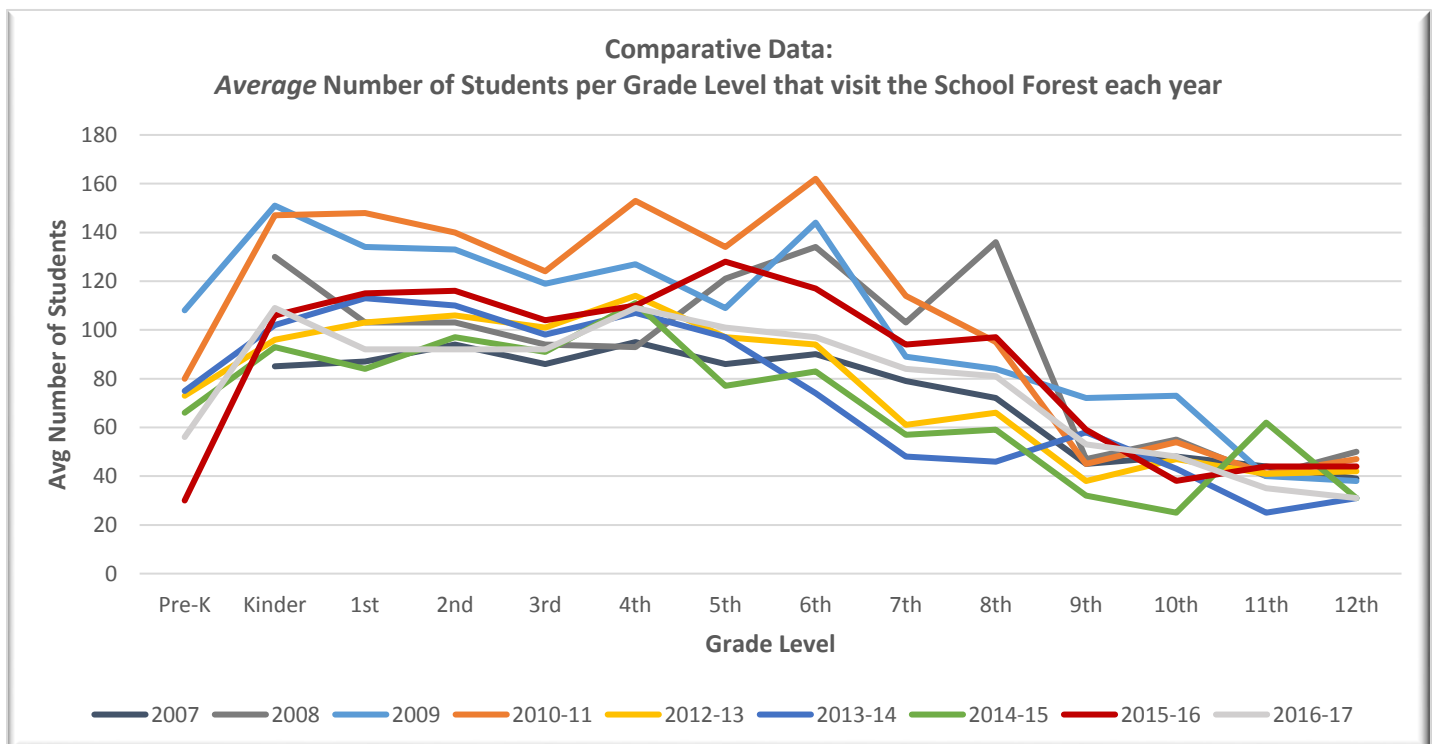
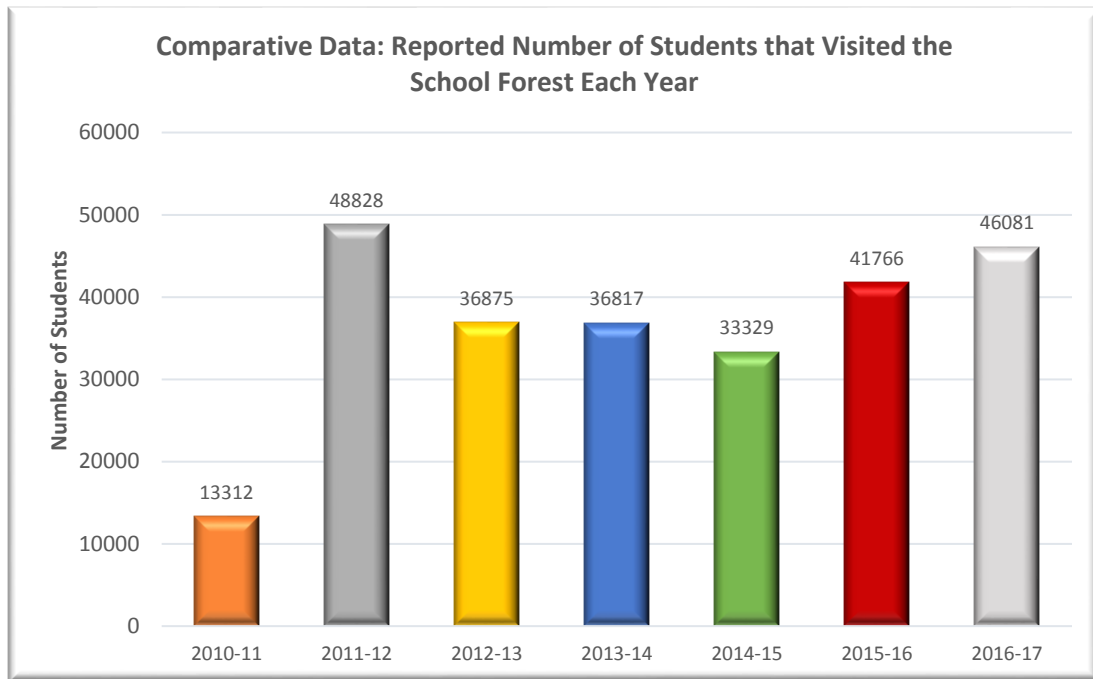


Average Number of Times Grade Level Students Visited the School Forest in 2016-17 School Year



**Comparative data** regarding the total number of students who visited school forests each year is a **minimum estimate** of the actual number of students who visited. This figure is calculated from the survey results submitted by school forest educators, however it is known that not all schools who had students at the forest completed the survey.

Comparative data shows a trend in the decrease in the number of students that visit the forest as they increase in age. There has been a consistent drop in the middle school and even more so in the high school years. Middle and high school class schedules limit the amount of time a teacher is able to spend with each student and many teachers are not able to make it to the forest and back during the bell schedule with their class. Another difference is high school students are visiting the school forest with a specific course and not necessarily as an entire grade-level as is common in the elementary grades.



## What are students learning at the school forest?

### *Evidence of Student Learning as a Result of School Forest Experiences*

The following examples were recorded by respondents as both formal and informal evidence of student learning that has taken place as a result of student field trips at the school forest.

- \* By using the school forest almost every class day students increased their knowledge of tree species, biodiversity, scientific names, and measurement.
- \* This year we logged off the school forest. Students went to see the process. They were amazed. One group of high school students returned to school saying it was the best field trip they had ever been on.
- \* Increased test scores on tree anatomy with students who attended lesson at school forest compared to those who did not attend and completed a more traditional in class lesson. Reports of students participating in activities at home with family especially related to birds and bird identification after attending classes at school forest. Teachers report increased engagement and improved writing when journaling at school forest compared to in class writing prompts.
- \* Students are more aware of the various species of trees and see the benefit of improving the pond as they catch fish now.
- \* Students engaged in informal data analysis from the Snapshot Wisconsin camera in the School Forest, including classifying photos and identifying worthwhile spots for mounting the camera.
- \* Students learned how to use timber cruising tools, as well as identify tree species in summer and winter.
- \* My students use the information gathered in their writing at school. They add details from the trip to discussions as they arise in the classroom. We have been talking about the alphabet and are approaching this learning with the names of flowers. Students connected the flowers we hunted for at the forest to the flowers in the book we were reading.
- \* ID of invasive species learned in class. Connection between our runoff system from our parking lot to river water quality. Connections to ecosystem in terms of small changes that have taken place and what impact that will have in the future of the forest. Students learned how to properly ID maple trees and tap them. Students removed invasive garlic mustard and a fungus.
- \* Letters written by elementary students telling what they did and learned. High school students completed a forest inventory.
- \* During the 2016-17 school year we have witnessed many returning students who have come back to our school forest and are using terms like habitat, nocturnal, diurnal, adaptations, etc...) without being prompted to do so. Also, it has been noted that our middle school students have taken an active role in promoting positive recycling habits at or middle school, they constructed a rain garden in front of their school, and played a major role in hosting city clean-up days to gather litter and trash.
- \* Better understanding of the management and restoration plan
- \* 6th grade students connected buckthorn and garlic mustard removal work to science curriculum about invasive species--
- \* After touring the school forest, students were quizzed on which invasive species were present. They also discussed methods of aging adult trees, as well as which species of trees are present in our forest.
- \* Students have calculated usable board feet for the trees in the forest. Students identified wildlife and recorded signs of those wildlife (scat, trails, structures, etc.).

## Sustainability through School Forests

The school forest was used to help students understand the forest's economic, social, or environmental importance in the community in 63 (or 75%) of the schools that responded. The following examples are a shortened list that indicate how the school forest was used to help students understand the economic, social, or environmental impact it has in the local community.

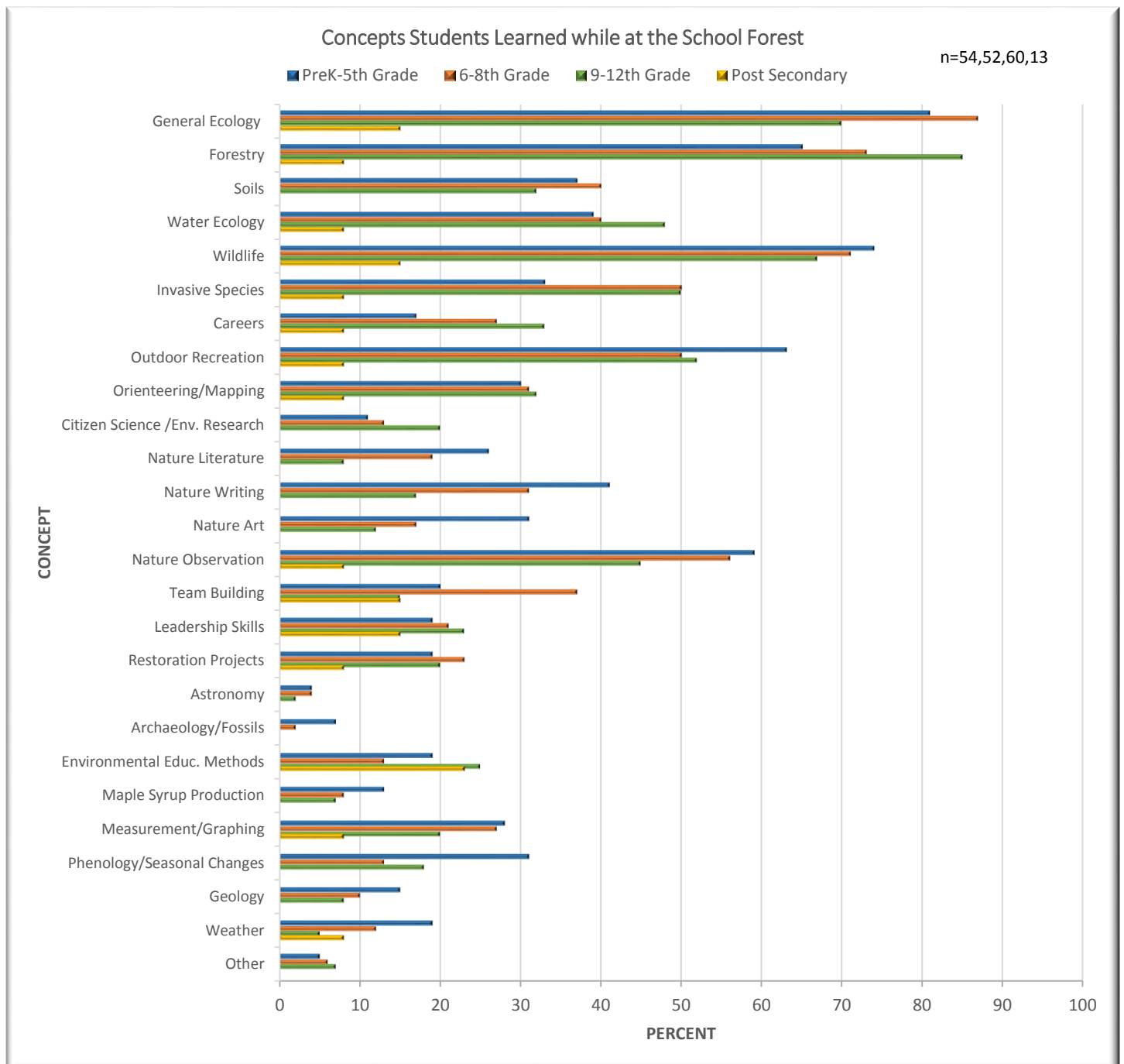
- \* High school students commented on pursuing careers in forestry. Industry experts presented lessons to 5th graders and high school students at a logging day demonstration.
- \* Students study the positive impact of trees on air quality as well as enhancement to school grounds beauty and cooling of buildings through the shade that is provided. Wood from the school forest tree pruning was used as mulch for young seedlings, stumps for our circle storytelling area and as cookies for kindergarten building blocks.
- \* Students used the school forest for healthy living activities. They also learned how to take measurements involved in forestry and the logging industry. We installed several cameras to take wildlife surveys. Students take worm samples and submit data.
- \* When we logged the forest the class calculated the profit for the school district while considering cost, profit, and other variables. Students learned in both the 8th grade exploring class and high school courses about the economic and environmental impacts of area forests.
- \* Coniferous cuttings were used to make Christmas wreaths.
- \* Elementary students plant trees on an annual basis. Middle and high school level students do work to remove invasive plants will pruning to maintain the health of wanted trees. Ski team members do trail maintenance that benefit community members.
- \* Logging of the forest and the money is going back into the school by purchasing a new greenhouse with the funds.
- \* Maple Syrup Program connects students with local sugar makers. Tree Planting project at one of the elementary school forest plots. Citizen Scientists- project Nest Watch involvement with Bluebird Monitoring
- \* Newly formed Mountain Bike Club put in many hours and recruited many volunteers to construct over 3.5 miles of trails. This has brought in many people from inside and outside our district to enjoy the school forest on their bikes.

## Products created from school forests...

Ten (10) of the school forests (or 12%) had students involved in **making value added forest products** from the school forest that are sold or donated to the community. They indicated those products included firewood, maple syrup, benches, lumber, furniture, Christmas wreaths, and bird houses.

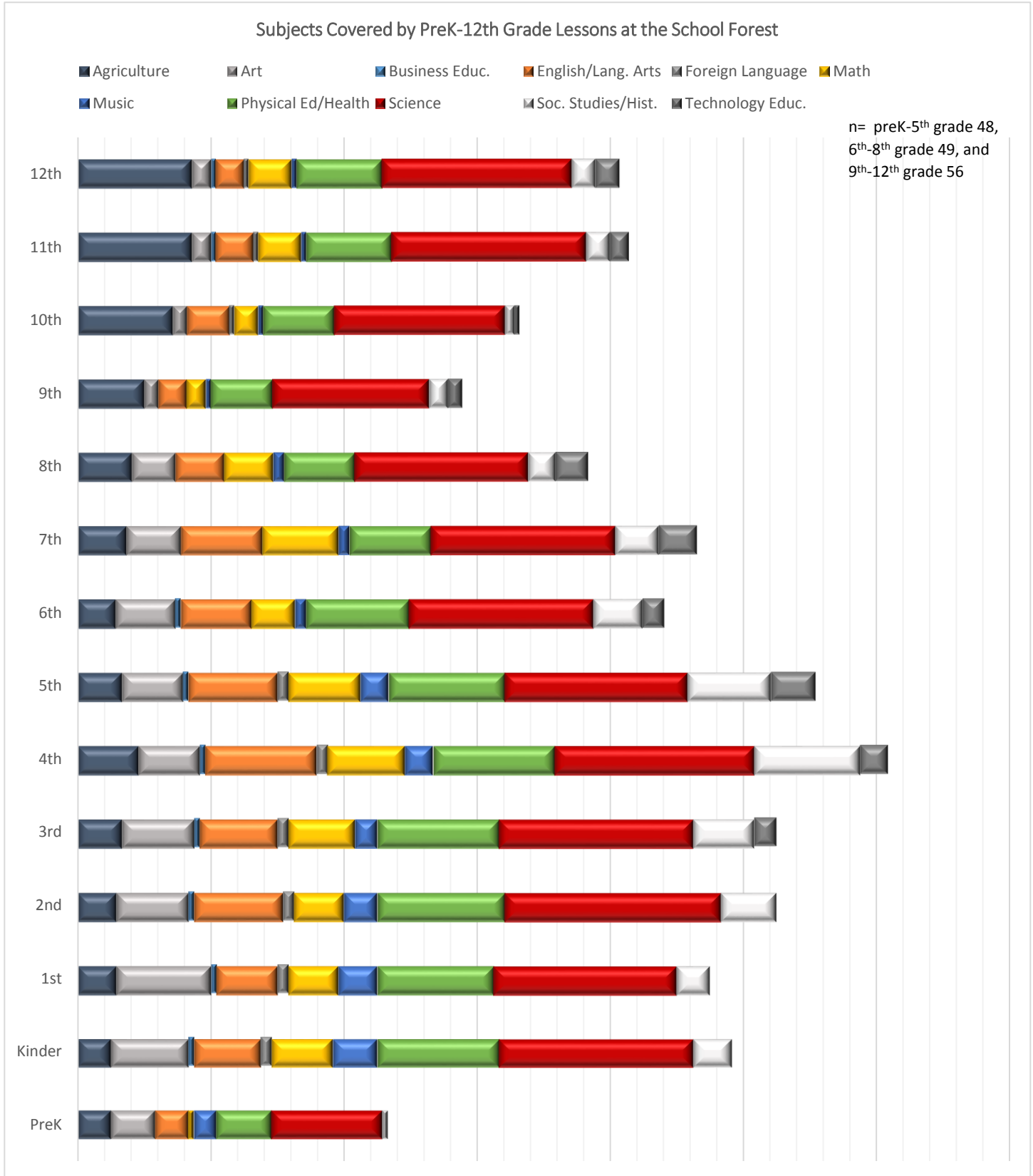
## Concepts Students Learned about while at the School Forest

Respondents were asked to identify which **ecology and non-ecology concepts** students were learning about while visiting the forest. The following chart displays the concepts learned by early elementary, middle, high school and post-secondary students at the school forest. The following concepts were grouped in these topic areas: General Ecology (adaptations, biodiversity, living/nonliving, ecosystems, habitat, energy transfer, food webs/chains, succession, etc), Forestry (trees, management, tree ID, measurement, forest history, chainsaw safety, etc), Soils (also rocks and minerals), Water Ecology (ponds, lakes, streams, etc), Wildlife (animals, species ID, management, etc), Outdoor Recreation (hike, snowshoe, ski, bike, etc), Orienteering/Mapping (compass, GPS, etc), Team Building (includes ropes/challenge course). Other concepts taught at the forest included climate change, shelter building, outdoor survival skills, music in the forest, trail improvements, and stewardship.



## Subjects Covered by Lessons at the School Forest

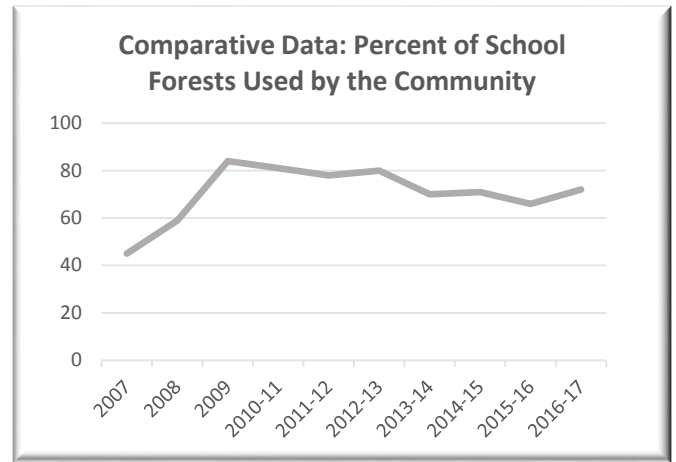
Respondents identified which **subjects were covered in lessons** students were learning about while at the forest. Respondents could choose from the options found on the charts below. The following chart compares and contrasts the subjects covered throughout each grade level. Science is the most commonly covered subject at the school forest for all grade levels. All subject areas were covered by at least one grade level! This validates that school forests are not only a place to learn about the forest resource itself, but it also serves as an outdoor classroom where students can learn about other subjects and concepts along with science and forestry.



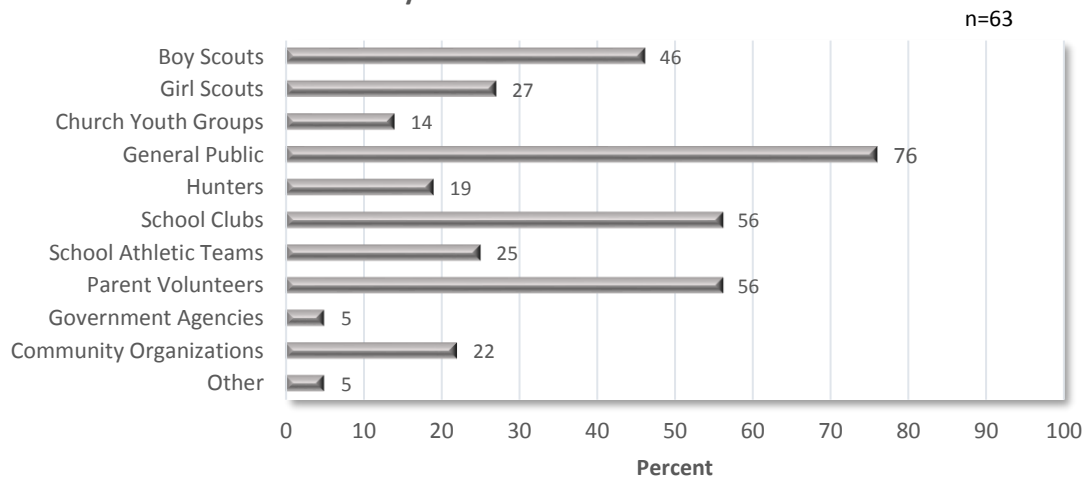


## Community Use of the School Forest

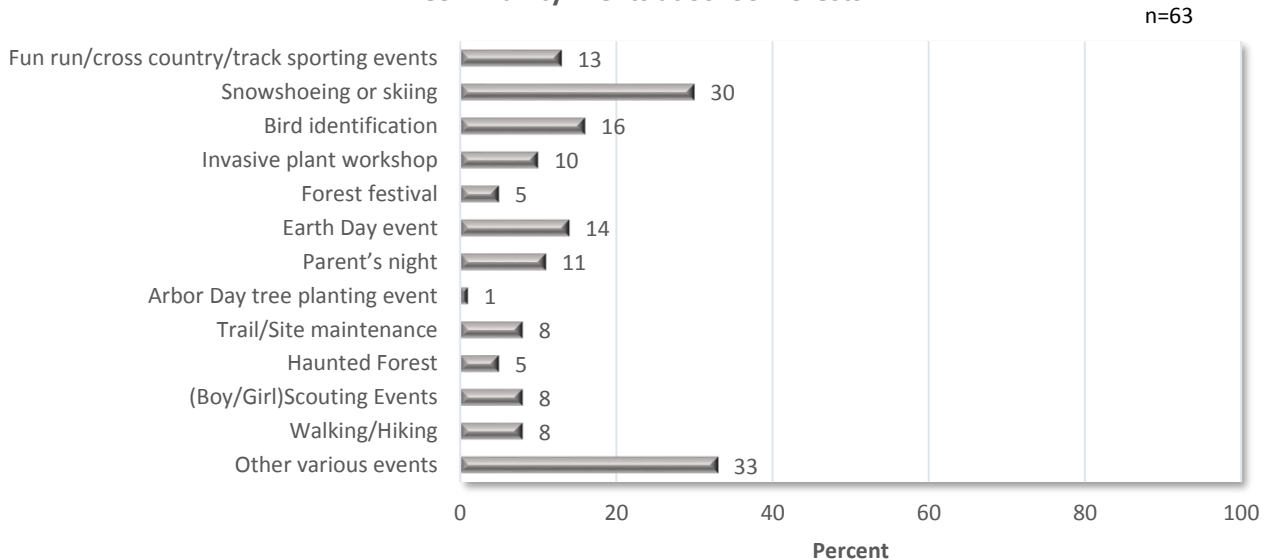
- **Community members** used 61 (or 72%) of the school forests in the school districts that responded.
- **Collectively**, 9,334 community members utilized the 61 school forests that responded to an inquiry asking how many community members used their school forest.
- The number of community members that used the school forests **ranged** from 1 to 2,000 people.
- **Utilization of the school forest** was highest from the general public, including recreationalists but not hunters. The districts indicated boy scouts, girl scouts, church youth groups, hunters, school clubs, local organizations, parent volunteers, government agencies, and school athletic teams also used the school forest.
- Community members or local community organizations were **involved in helping manage** the forest’s natural resources on 44 school forests, or 56% of the school forests that responded.
- **Community events** were hosted or provided by 35 (or 41%) of the school forests that responded. The type of community event is seen in the chart below. Other various special topic events listed: outdoor movie night, maple sugaring days, block party, fishing for kids, beekeeping sessions, astronomy nights, moon walk, school board meetings, PTO fundraiser, yoga retreat, and training for sheriff canine dogs.



### Community Members who use School Forests



### Community Events at School Forests

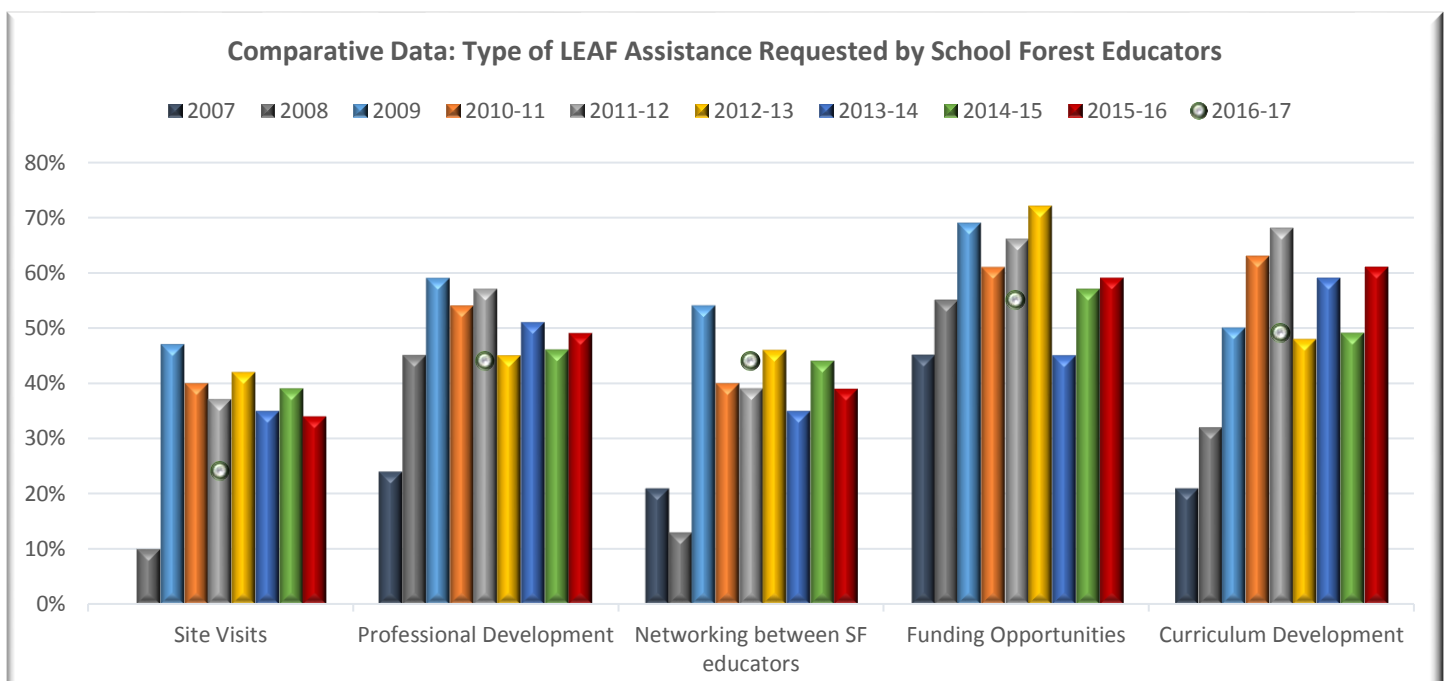
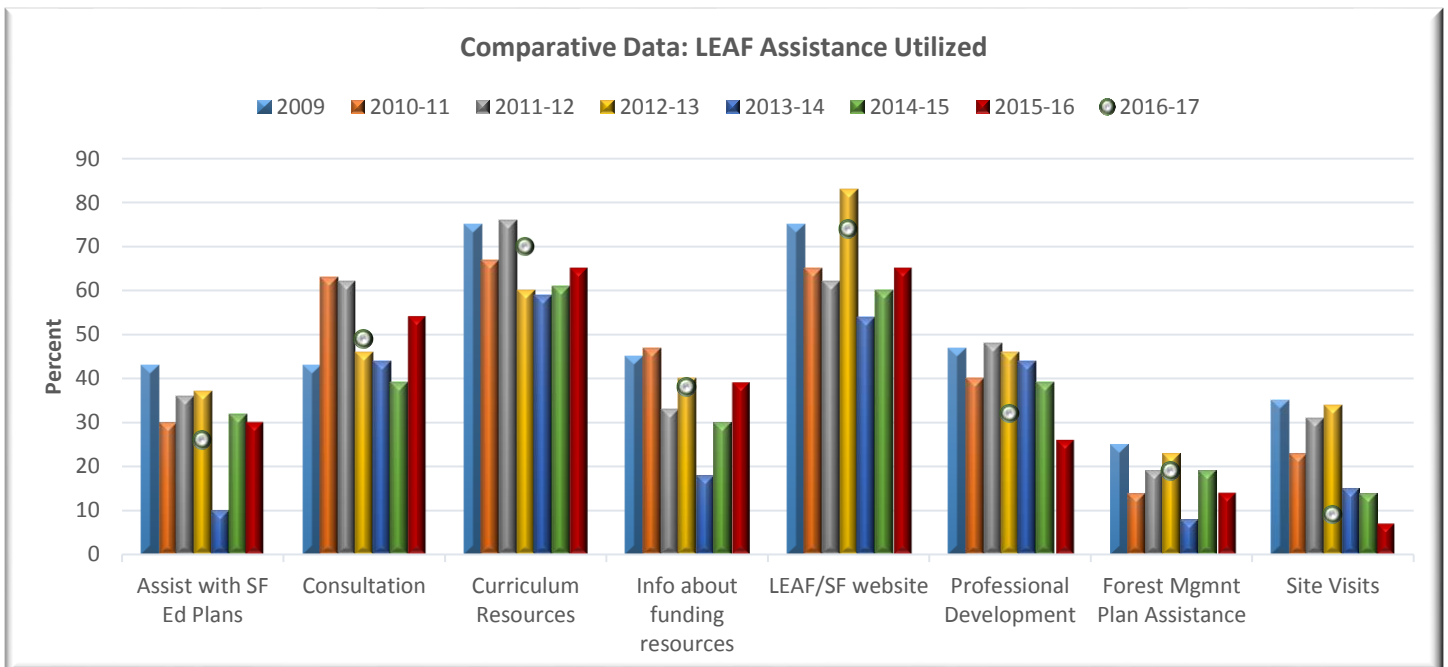




## LEAF and School Forest Assistance

- The LEAF School Forest Program **was indicated as helpful** or has provided assistance to 56% of the school districts that responded to the 2016-2017 school forest survey.
- LEAF was most commonly **stated to have helped with** curriculum resources (70%), information via the LEAF/School Forest website (74%), professional development (32%), through providing consultation services (49%), assisting with school forest education plans (26%), providing information about funding resources (38%), assisting with forest management plans (19%), and visiting school forest sites (9%).
- School districts identified **further assistance** is needed through consultation with the School Forest Education Specialist (30%), to develop curriculum resources (49%), find funding opportunities for school forests (55%), provide professional development opportunities for staff (44%), networking between school forest educators (44%), and visiting school forest sites (24%).

**Comparative data** in the charts below indicate that school forest educators rely heavily on LEAF's services and that there is still a great need for the services LEAF provides.



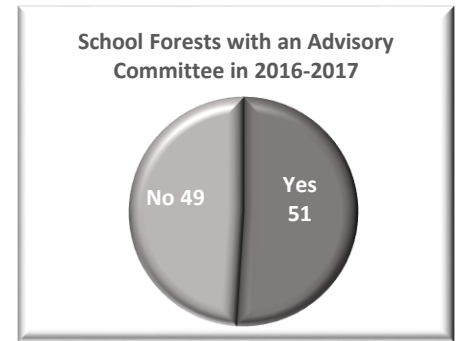
## School Forest Personnel:

### School Forest Committees:

- Found in 51% of the responding districts while 49% of the respondents did not have a committee

Does the district have an official **School Forest Coordinator** or person in charge of school forest programming?

- 54% do have a school forest coordinator while 46% do not
- Position is a full-time paid position in 10% of the school forests that responded, part-time positions in 25%, and volunteer position in 28% of the school forests.

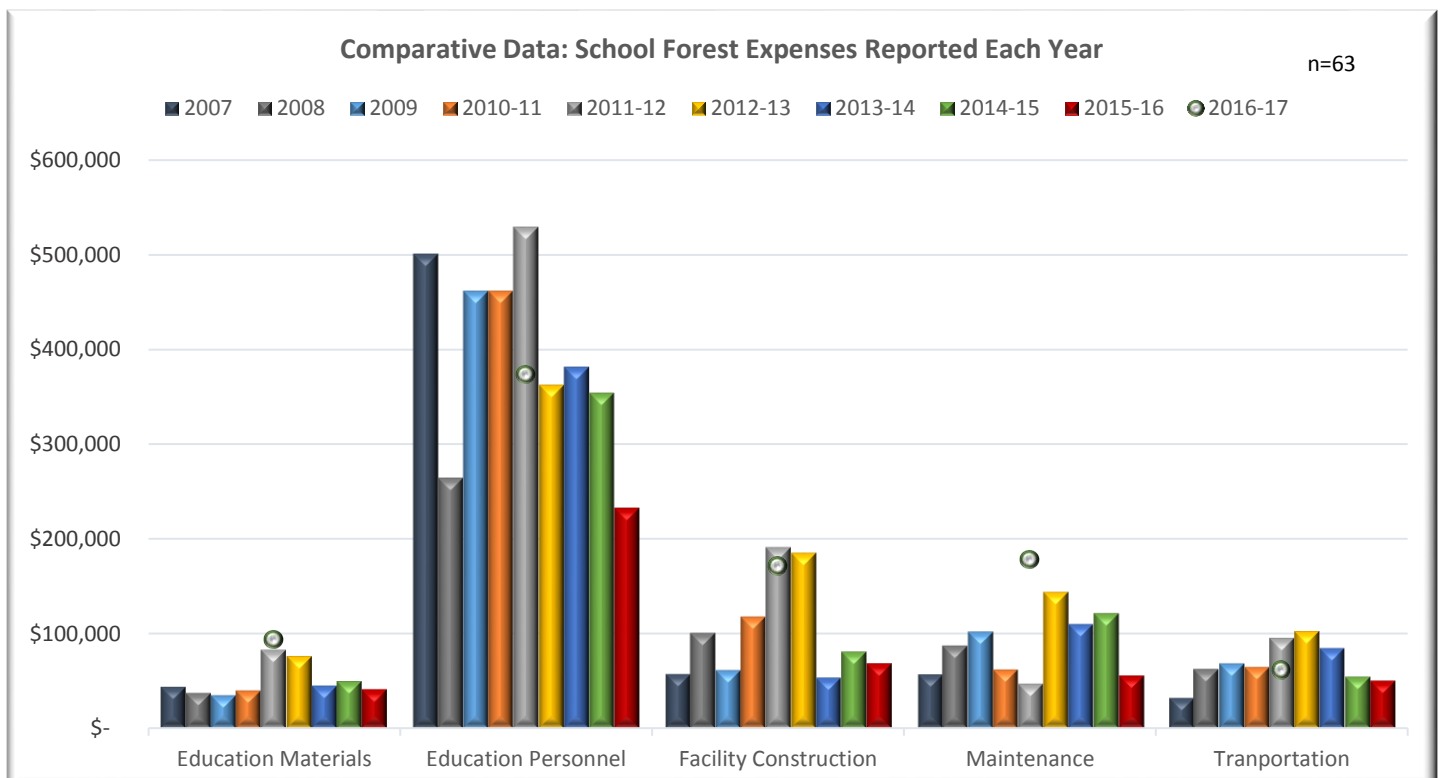


## School Forest Budgets

### 2016-2017 School Forest Expenditures

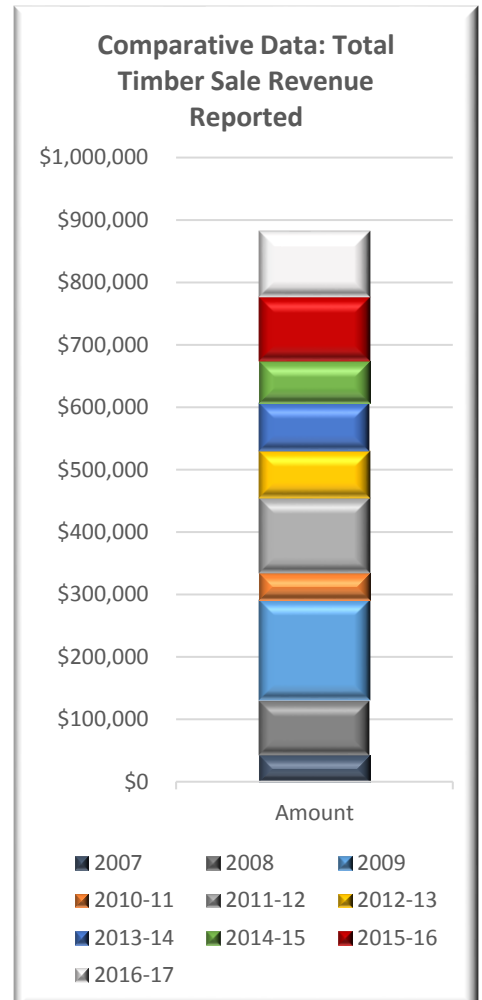
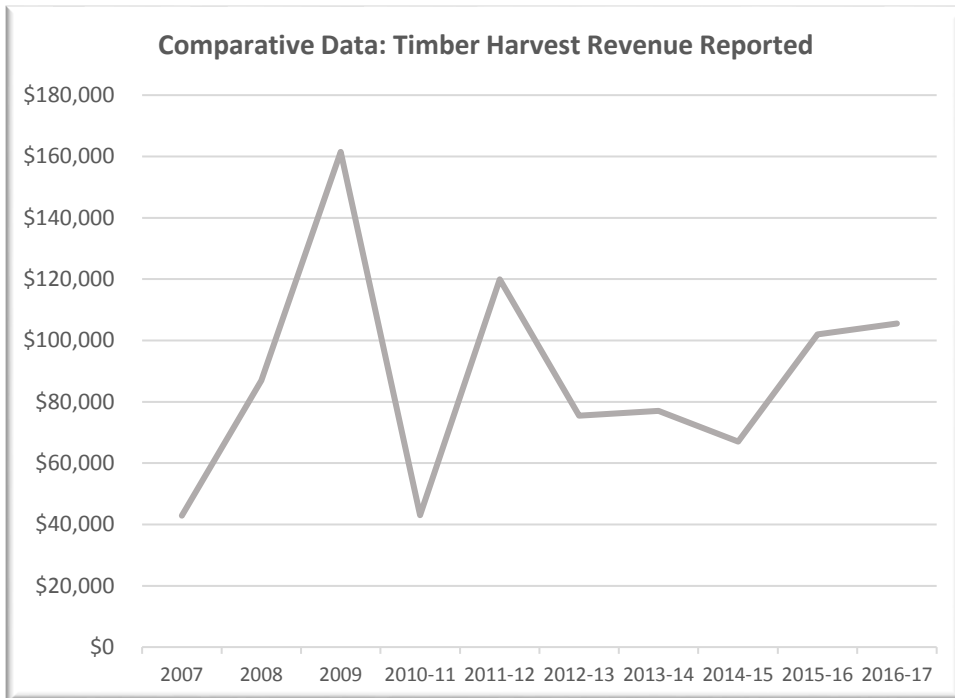
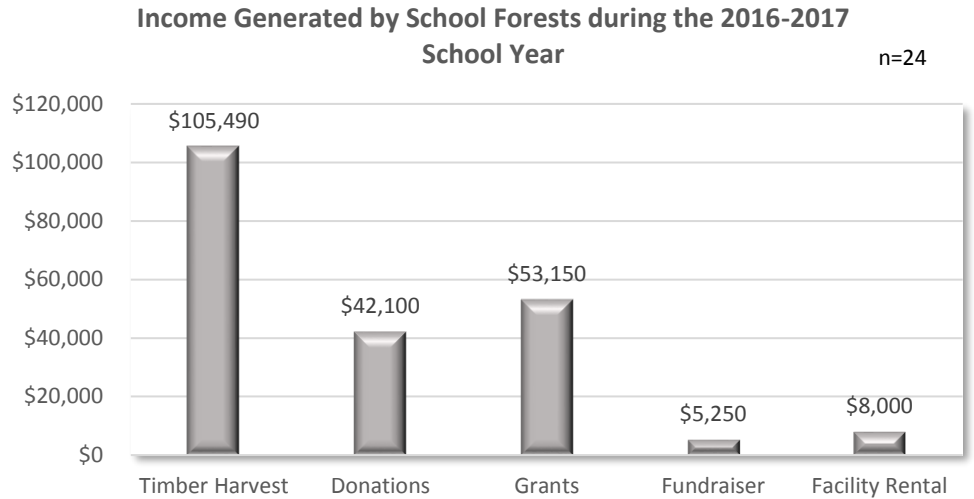
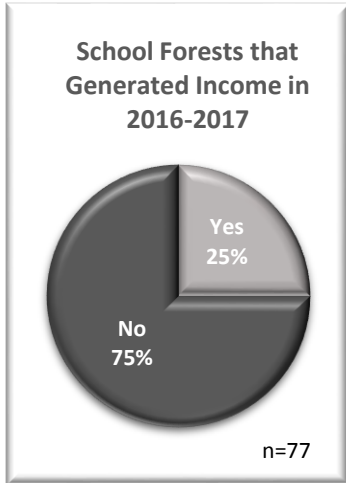
The following school forest expenditures were reported on the survey:

- School districts spent a total of \$93,145 on **education materials** for their school forest programs. This calculates to an average of \$1,757 per school district who responded. School districts indicated a range of \$0 to \$35,000 was spent on education materials for the school forest. 43% of the school districts reported that no money (\$0) is spent on school forest education materials.
- School districts spent a total of \$373,526 on **education personnel** for their school forest programs. This calculates to an average of \$6,440 per school district who responded. School districts indicated a range of \$0 to \$100,000 was spent on education personnel for the school forest. 50% of the school districts reported that no money (\$0) is spent on school forest education personnel.
- School districts spent a total of \$170,851 on **facility construction** for their school forest programs. This calculates to an average of \$3,487 per school district who responded. School districts indicated a range of \$0 to \$120,000 was spent on facility construction at the school forest. 73% of the school districts reported that no money (\$0) is spent on school forest facility construction.
- School districts spent a total of \$177,654 on **maintenance** for their school forest programs. This calculates to an average of \$3,117 per school district who responded. School districts indicated a range of \$0 to \$100,000 was spent on maintenance at the school forest. 46% of the school districts reported that no money (\$0) is spent on school forest maintenance.
- School districts spent a total of \$61,571 on **transportation** for their school forest programs. This calculates to an average of \$1,099 per school district who responded. School districts indicated a range of \$0 to \$15,000 was spent on transportation to and from the school forest. 45% of the school districts reported that no money (\$0) is spent on school forest transportation.



## 2016-2017 School Forest Income

Twenty-five percent (25%) of the school districts in the survey reported their school forest had generated income in the 2016-2017 school year. A **combined total of \$213,990 was generated** from school forest land or programming. Income from the school forest was generated from the following categories: timber sales occurred at 25% of the forests and generated a total of \$105,490; seventeen percent (17%) of the school districts generated money for their school forests through fundraisers and raised a total of \$5,250, twenty-one percent (21%) of the districts generated \$42,100 through donations, twenty-one (21%) of the districts raised \$8,000 through facility rental, and 58% of the districts reported gaining \$53,150 through grants.

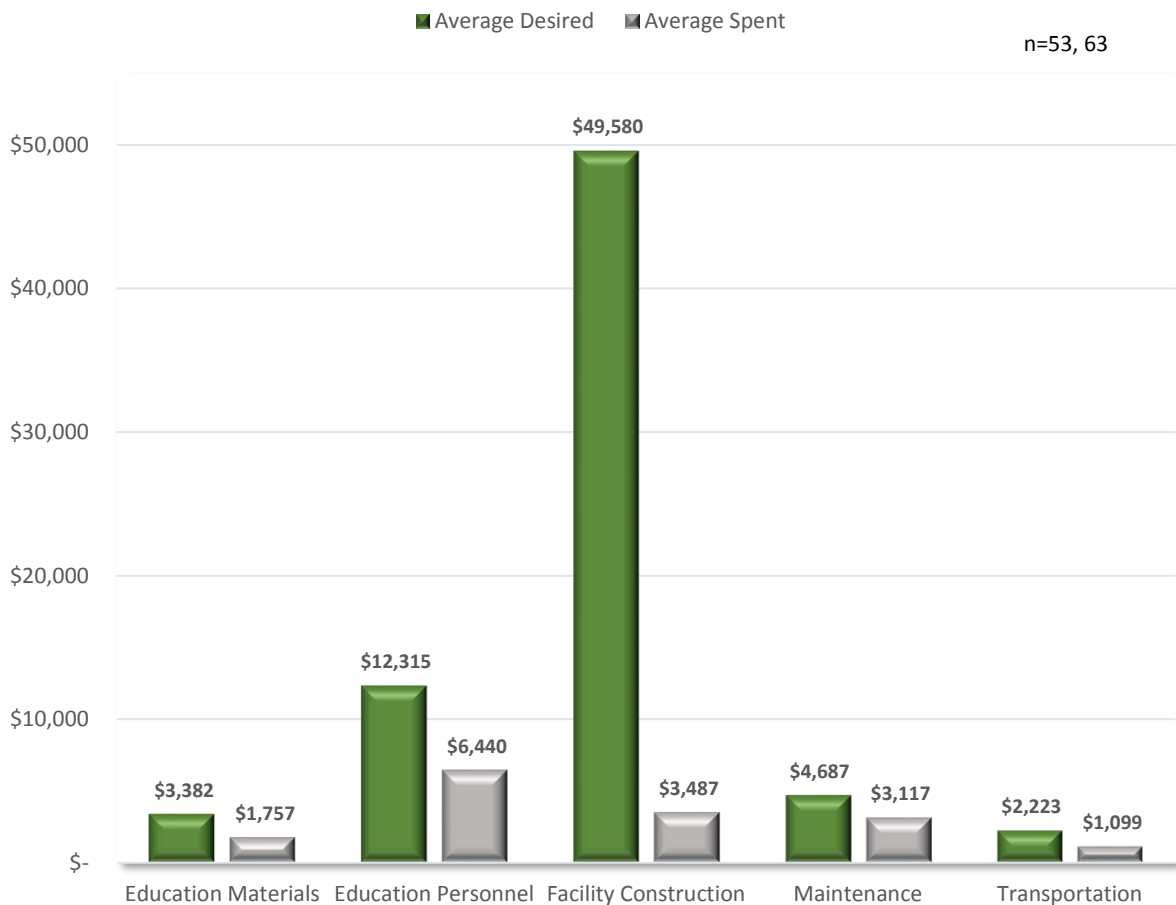


## Desired Annual School Forest Budgets

The following information is what school districts indicated would be their desired annual budget for school forest programming:

- School districts would like a range of \$50 to \$50,000 to spend on **education materials** for their school forest programs. The grand total desired for school forest education materials from all of the districts that responded is \$152,200. This calculates to an average of \$3,382 per school district that responded.
- School districts would like a range of \$0 to \$100,000 to spend on **education personnel** for their school forest programs. The grand total desired for school forest education personnel from all of the districts that responded is \$504,901. This calculates to an average of \$12,315 per school district that responded.
- School districts would like a range of \$0 to \$1.3 million to spend on **facility construction** for their school forest programs. The grand total desired for school forest facility construction from all of the districts that responded is \$1,983,200. This calculates to an average of \$49,580 per school district that responded.
- School districts would like a range of \$50 to \$50,000 to spend on **maintenance** for their school forest programs. The grand total desired for school forest maintenance from all of the districts that responded is \$201,550. This calculates to an average of \$4,687 per school district that responded.
- School districts would like a range of \$0 to \$20,000 to spend on **transportation** to and from their school forest programs. The grand total desired for school forest transportation from all of the districts that responded is \$100,050. This calculates to an average of \$2,223 per school district that responded.

School Forest Budget: 2016-2017 Average of Spent vs Desired Budget



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LEAF - Wisconsin's K-12 Forestry Education Program  
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