



Minnesota Project Learning Tree Annual Report

2019

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Minnesota PLT Mission

Project Learning Tree (PLT) exists to advance student understanding and knowledge of forestry and natural resources by developing and delivering professional development resources for Minnesota educators.

Overview of 2019 Accomplishments

PLT successes are measured by the progress achieved toward the four goals outlined in PLT's strategic plan:

1. Increase the number of educators who use PLT.
2. Develop and establish a system to assess and measure the effectiveness of PLT in Minnesota.
3. Identify and communicate PLT's value and niche.
4. Increase PLT's long-term sustainability through broader funding, increased recognition, and support.



Twelve people attended the PLT K-8 Summer Facilitator Training. Minnesota PLT facilitators represent a variety of environmental and science education institutions who present PLT professional development trainings to teachers around the state.



Teachers learn to use proportions to estimate tree height with 12-inch rulers.

Progress on goal 1: Increase the number of educators who use PLT.

In 2019, Minnesota PLT held 24 workshops and events ranging in length from 1 to 7 hours to provide educators with lessons, materials, and instruction for integrating PLT into the classroom.

Who delivered the workshops?

- Two DNR staff (the PLT and School Forest coordinator) conducted 10 workshops.
- Fourteen volunteer facilitators conducted 14 workshops, with some facilitators conducting more than one workshop. Of the facilitators, three were university instructors, and two delivered workshops under small contracts with Minnesota PLT.

Notably, five workshops were “all-school,” meaning a majority of school staff attended the workshop, forming a PLT cohort of teachers. The PLT Strategic Plan names all-school workshops as a priority audience.

To increase the number of educators who use PLT, Minnesota PLT:

- Added “Minnesota-ized” worksheets and resources to help teachers use K-8 PLT materials in Minnesota.
- Developed PLT activity kits to give away free to teachers who attend PLT workshops. Survey results from the previous year indicated that teachers desired pre-made activity kits to increase the chances of using PLT in their classrooms after a workshop. Teachers who take the kit must agree to respond to a follow-up survey six months after receiving the kit. The survey tracks how teachers use the kit and other PLT lessons after attending a workshop.
- Held one specialized training for 12 new volunteer facilitators who will deliver more PLT K-8 workshops. Volunteer facilitators are trusted educators to PLT’s teacher audience.

Progress on Goal 2: Develop and establish a system to assess and measure the effectiveness of PLT in Minnesota.

In 2017-2018, Minnesota PLT worked with two students and a professor from the University of Minnesota's Education Evaluation Program to develop a survey to evaluate Minnesota PLT. In spring 2018, PLT sent the online survey to educators who attended a workshop in the last 3 years. Some notable results include:

1. 61% of respondents attended K-8 workshops; 24% attended preschool workshops.
2. 69% of respondents attend PLT workshops that take place at a nature center.
3. 57% of respondents are formal classroom educators
4. 70% of respondents have been teaching for 10 or more years.
5. Of the respondents who use PLT (74%), 84% use more than 2 activities/year
6. 65% of respondents use PLT to teach science concepts
7. The top 3 reasons respondents reported for using PLT are: to teach environmental concepts; provide hands-on, multisensory learning opportunities; and get classes outside. These top three responses were the same from preschool, K-8, and high school teachers.
8. "Pre-made activity kits" are the most popular resource teachers identified that would help them use PLT more often. "A monthly e-newsletter with activities and resources" was the second most popular response.



Therefore, the "typical" Minnesota PLT respondent was a veteran (teaching for more than 10 years) formal K-8 educator who attended a PLT workshop at a nature center, who uses at least 2 PLT activities each year to teach environmental concepts (addressing science standards), and who would most appreciate a pre-made activity kit.

Progress on Goal 3: Identify and communicate PLT's value and niche.

Minnesota PLT maintained a presence at key conferences such as the Minnesota Education Association, Minnesota Earth Science Teachers Association, and School Forest conference. Outreach at these events often lead to future PLT workshops.

Minnesota PLT sent 10 e-newsletters to PLT-trained teachers and partners. These content-rich newsletters promote PLT workshops and highlight lessons and resources for enhancing PLT use in the classroom.

The number of users visiting the Minnesota PLT website at mndnr.gov/plt is increasing from 2018. Content-rich newsletters are designed to encourage clicks to the website, especially the teacher's calendar and the Minnesota Activity Pages.

Teachers who responded to the 2018 PLT survey identified needing Minnesota-specific resources to adapt PLT lessons for their student audiences. In response, we updated the Minnesota PLT website to include an easy-to-use tool for organizing "Minnesota-ized" student handouts and resources. In 2019, we added 45 new resources to the already existing 18 resources.

Minnesota Resource pages for activities

+ Adopt a Tree

- Can it be Real?



Overview: Students discover extraordinary plants and animals, and will gain insight on how they are uniquely adapted to environmental conditions.


Objectives: Students will 1) predict whether unusual plant and animal characteristics are real, and 2) research a plant or animal to understand how organisms are adapted to their particular environments.

Subject Areas: Science, Language Arts

Grades: 4-8

Optional supplemental resources:

- Minnesota Information – Can It Be Real?
- Minnesota [student page](#)  PDF– Can It Be Real?
- Minnesota [teacher page](#)  PDF – Can It Be Real



+ Field, Forest, Stream

+ Get in Touch with Trees

A screen shot from the Minnesota PLT K-8 activity page shows "Minnesota-ized" resources for the PLT activity, "Can it Be Real?" in 2019, 45 new resources were added to this website.

Progress on Goal 4: Increase PLT's long-term sustainability through broader funding, increased recognition, and support.

Minnesota PLT and School Forest held a specialized workshop for DNR foresters that focused on lessons and strategies for engaging students in their local communities with trees and forests. Most of these foresters specialize in working with private landowners and school forests. Teachers invite them to the classroom to work with students, help with field days, write stewardship plans for their school forest, and provide resources for completing projects in the forest.

Minnesota PLT advisory committee met twice this year to discuss the survey and strategies to promote PLT's mission.

Minnesota PLT continued to nurture partnerships with outside, related sponsors who commit to support the shared mission of advancing student understanding and knowledge of forestry and natural resources.

Sponsors

1. The Minnesota School Forest Program, a sister forestry education program within the DNR, provided four "Teaching In Your School Forest" workshops that use PLT as a primary source of lessons. In 2019, the programs reached 98 teachers.
2. The Twin Cities Hoo Hoo Club, a forest products fraternity formed in 1889, continued to donate funds to the program by paying for teachers' PLT books, providing lunches at workshops, and promoting PLT in their outreach materials. In total, the Hoo Hoos sponsored four workshops, buying books and lunches for 109 teachers. Minnesota PLT nominated this group for a DNR Division of Forestry partnership award.



Two Hoo Hoo Club members accepting a DNR Division of Forestry 2019 Partnership Award for supporting Minnesota PLT workshops. Pictured: Shannon Lotthammer, DNR Assistant Commissioner, and Forrest Boe (right), Minnesota State Forester.

3. Hennepin County Environment and Energy sponsored a workshop, buying books and lunches for 26 teachers.
4. The Northland Foundation sponsored two early childhood workshops, providing books for 44 teachers.



A local cable news station filmed teachers at a PLT workshop at Eastman Nature Center, Maple Grove.

Future Strategies

As capacity allows, Minnesota PLT may explore a few additional strategies:

1. Identifying and working with instructors of education at teaching colleges to train pre-service teachers in PLT environmental education.
2. Working with an accredited college to provide graduate credit to educators who attend in-depth PLT workshops.
3. Sending an annual or bi-annual survey to PLT teachers to evaluate how they are using PLT with their students and possible strategies for improvement.

New Developments

In 2018, PLT changed sponsors at a national level from the American Forest Foundation to the Sustainable Forestry Initiative (SFI). This transition offers much opportunity for positive new growth and partnerships. The Minnesota PLT coordinator has joined the Minnesota SFI Implementation Committee and is exploring specific ways for the group to support PLT in Minnesota.

Indian/Indigenous People Initiative

SFI is supporting Minnesota PLT to nurture relationships with teachers who work with Minnesota's indigenous students. SFI will support a contractor to write and develop background information on Ojibwe culture for six popular PLT lessons. National PLT has granted permission to post the full PLT lesson with the Indian background information on the Minnesota PLT website. Work to recruit a writer will begin in January 2020.

No Child Left Inside

In 2019, the Minnesota Legislature tasked the DNR to administer No Child Left Inside (NCLI) grants to schools working to improve outdoor recreation and education. Minnesota PLT promoted the grants through its teacher network. As a result, PLT is monitoring NCLI grants awarded to three schools to support PLT workshops or education at their school sites.

GreenSchools Redesign

National PLT and SFI have reached out to the Minnesota PLT coordinator for input on redesigning PLT's GreenSchools Program. This program consists of a series of five "investigations" that student green teams carry out to audit their school's energy use, water use, environmental quality, waste and recycling, and school site. In the process students learn about these topics and how to use scientific tools such as light meters to carry out their investigations. National PLT is evaluating how schools are using this curriculum and investigating ways to work with SFI partners that can add value to the curriculum.

Minnesota PLT by the Numbers: Jan. 1 – Dec. 31, 2019

Description	2018	2019
PLT in-person workshops and events in 2018	26	24
Attendees at PLT workshops and events	472	498
<i>Preschool</i>	<i>91</i>	<i>122</i>
<i>K-8</i>	<i>343</i>	<i>340</i>
<i>GreenSchool</i>	<i>2</i>	<i>0</i>
<i>Secondary</i>	<i>36</i>	<i>24</i>
<i>Seminars and conferences/1-3 PLT activities</i>	<i>184</i>	<i>20</i>
<i>Online (Jan – Oct)</i>	<i>62</i>	<i>39</i>
Active PLT facilitators (Presented at least one workshop or attended a facilitator training)	24	21
New PLT facilitators trained	12	12
Average length of a PLT workshop/event (hours)	3.8	3.7
Content-rich enewsletters sent to PLT-trained teachers and partners	10	10
New “Minnesota-ized” PLT student sheets and lesson resources loaded to web	13	45

Table 1 – Minnesota PLT by the Numbers: 2019

PLT Materials distributed

Description	2018	2019
<i>PLT K-8 Environmental Education Activity Guide</i>	174	279
<i>Environmental Experiences for Early Childhood</i> (book)	79	73
<i>Project WILD</i> books	11	0
PLT Secondary modules (Climate)	9	1
PLT GreenSchools	2	0
Packets of 1 to 3 PLT activities	184	20

Table 2: PLT Materials distributed



Contents of PLT's popular "How Big Is Your Tree?" kit, which includes materials needed to teach a class of 30 students how to measure tree diameter, circumference, and height with common classroom tools. Workshop facilitators distribute kits to teachers who attend workshops. Teachers who accept kits must respond to a follow-up survey. The purpose of the kits is to encourage long-term use of PLT lessons after attending a professional development workshop.

Budget: Jan. 1 – Dec. 31, 2019

Expenses

Number	Description
\$4,880	PLT books purchased from national office for 160 K-8 books and 80 early childhood books
\$2,280	PLT books provided to 76 School Forest teachers (paid by Minn. PLT program)
\$700	Workshop expenses (facilitation, sub stipends, room rental, food, materials)
\$801	Activity kit materials
	\$8,661 TOTAL

Table 3: Budget – PLT Expenses

Revenue

Number	Description
\$3,540	Workshop fees collected from attendees
\$4,585	Workshop fees collected from sponsors (donations)
\$200	Workshop fees collected from schools/districts
	\$8,325 TOTAL

Table 4: Budget – PLT Revenue

In-Kind PLT Donations Received

Number	Description
\$27,985	0.5 DNR Salary
\$3,325	In-kind workshop room fees (est. at \$75-\$200/day)
\$3,450	In-kind workshop volunteer facilitator time (est. at \$200/workshop/facilitator)
\$450	In-kind workshop meals and snacks
	\$35,211 TOTAL

Table 5: Budget – In-kind PLT donations received

Current Facilitators' Organizations

People who have facilitated a PLT workshop in 2019 or attended a facilitator training.

Bloomington Public Schools

College of Education – University of Minnesota, Duluth¹

College of Education - Winona State University¹

College of Sports and Recreation – University of Minnesota, Duluth¹

Como Zoo and Conservatory, City of St. Paul¹

Garlough Environmental Magnet School¹

Hennepin County Environment and Energy (forester)¹

Minnesota Association for Environmental Education¹

Minnesota Center for Professional Development¹

Minnesota Master Naturalist Program

Minnesota School Forest Program¹

Monticello Public Schools¹

Pine Harbor Christian Academy¹

Professional Learning Alternatives, Inc.¹

Science Museum of Minnesota¹

STEM media & education, Twin Cities PBS¹

U.S. Forest Service¹

¹ Facilitated a PLT workshop in 2019