



Outdoor Education Legislative Report January 2009



CONTENTS

LETTER TO COMMITTEE CHAIRS	Page 3
LEGISLATION ON WHICH THIS REPORT IS BASED	Page 4
EXECUTIVE SUMMARY	Page 5
WORKGROUP ENDORSEMENTS	Page 7
THE NEED FOR OUTDOOR EDUCATION	Page 8
The Problem	Page 8
Motivation for Outdoor Education Legislation	Page 9
WORKGROUP PROCESS	Page 9
Outdoor Education Workgroup Formed	Page 9
Defining “Outdoor Education”	Page 10
Identification of Constraints	Page 11
KEY RECOMMENDATIONS	Page 12
CLOSING THOUGHTS	Page 15
PROFILES OF WORK GROUP MEMBERS	Page 15

Costs:

Pursuant with Minnesota Statutes, Section 3.197, the approximate cost to produce this report was approximately \$13,000. This includes staff time for selecting the work group, planning, facilitating, and attending meetings, and drafting and reviewing the report. It also includes duplication costs and special expenses related to convening the workgroup meetings and reimbursement of travel expenses for some citizens who traveled significant distances (i.e, from Crow Wing and Itasca counties) to participate in the meetings.

Minnesota Department of Natural Resources

500 Lafayette Road • St. Paul, MN • 55155-4037



January 15, 2009

The Honorable Ellen R. Anderson
State Senator – District 66
120 State Capitol Building
Saint Paul, Minnesota 55155-1606

The Honorable Mindy Greiling
State Representative – District 54A
381 State Office Building
Saint Paul, Minnesota 55155

The Honorable Carlos Mariani
State Representative – District 65B
563 State Office Building
Saint Paul, Minnesota 55155

The Honorable Satveer S. Chaudhary
State Senator – District 50
205 State Capitol Building
Saint Paul, Minnesota 55155-1606

The Honorable Kent Eken
State Representative – District 2A
575 State Office Building
Saint Paul, Minnesota 55155

The Honorable Jean Wagenius
State Representative – District 62B
449 State Office Building
Saint Paul, Minnesota 55155

The Honorable LeRoy A. Stumpf
State Senator - District 1
208 State Capitol Building
Saint Paul, Minnesota 55155-1606

Dear Senator Anderson, Chaudhary, and Stumpf, and Representative Greiling, Eken, Mariani, and Wagenius:

This report presents the recommendations of the *Outdoor Education Working Group* on the teaching of outdoor education in grades seven through twelve. We present this report in fulfillment of legislation passed in 2008, Chapter 368, Article 2, Sec. 80.

Sincerely,

A handwritten signature in blue ink that reads "Mark Holsten".

Mark Holsten, Commissioner
Department of Natural Resources

A handwritten signature in blue ink that reads "Alice Seagren".

Alice Seagren, Commissioner
Department of Education



LEGISLATION ON WHICH THIS REPORT IS BASED

2008 Session Law
CHAPTER 368 (S.F.No. 2651)

Sec. 80. **OUTDOOR EDUCATION WORKING GROUP.**

(a) The commissioner of natural resources shall coordinate a working group with the commissioner of education to report recommendations to the legislature on the teaching of outdoor education in grades 7 through 12.

(b) Each commissioner shall designate members of the working group and shall include at least one parent, one representative of higher education, one outdoor educator, and one representative from a sportsman or wildlife organization. The appointments and designations must be completed by August 1, 2008.

(c) The working group must report recommendations, proposed changes, sources of funding, and draft legislation to the legislative committees with jurisdiction over kindergarten through grade 12 education policy and finance, and environment policy and environment finance by January 15, 2009. The working group expires June 30, 2009.

EXECUTIVE SUMMARY

In 2008, the Minnesota Legislature charged the Department of Natural Resources and Department of Education to form a citizen-based workgroup that would make recommendations to the Legislature by Jan. 15, 2009, on the teaching of outdoor education in grades seven through twelve.

To do this, the agencies assembled a 12-person work group that met five times between Oct. 14 and Dec. 9, 2008. The workgroup included outdoor education science teachers from three separate school districts, curriculum experts from the St. Paul and Edina school districts, a university professor of outdoor education, the director of an outdoor education learning center, the national education specialist for Pheasants /Quail Forever, the president of the Minnesota Outdoor Heritage Alliance and two outdoors industry outreach experts.

Workgroup Findings and Conclusions

In examining the teaching of outdoor education in grades seven through twelve, or the lack thereof, the workgroup determined that:

- Outdoor education efforts are inadequate.
- Outdoor education suffers from a lack of resources (funds, staff development opportunities, and transportation/access to outdoor education sites) as well as a lack of access to curriculum that integrates outdoor education into a delivery of state and locally developed standards in various subject areas.
- Outdoor education is not considered a “core” part of curriculum in Minnesota’s K-12 system of standards-based education.
- Many teachers lack expertise in outdoor education and have limited access to technical assistance or professional development targeted to meet their needs.
- Inflexible financial systems prevent funds dedicated for outdoor education to be used efficiently.
- Most current teaching methods do not incorporate outdoor education into academic literacy requirements.
- Outdoor education is undervalued and its benefits not understood by teachers, administrators, parents and policy makers.
- Legislation should be passed that provides funding and policy direction for the teaching of outdoor education in grades seven through twelve.

Recommendations

The workgroup’s recommendations are based on an analysis of existing constraints to the teaching of outdoor education and the selection of realistic solutions to overcome those barriers. They include the following actions:

Education Integration and Teacher Qualifications

- Require schools to provide opportunities to meet standards through outdoor education experiences.

- Create an online grades 7-12 standards-referenced outdoor education electronic curriculum and resource repository.
- Provide teacher support through professional development, technical assistance and financial incentives.
- Establish and fund an outdoor education staff team to implement recommendations outlined in the report and provide technical assistance to schools.

Funding Resources

- Establish annual dedicated outdoor education state funding to be used for school district activities, related staff development, curriculum development, equipment purchase, and transportation to outdoor sites. The Permanent School Trust Fund is an appropriate source of revenue for this purpose.
- Establish school district financial outdoor education accounts in which unspent funds roll forward into the next year's account.
- Authorize the Department of Natural Resources to provide and administer grants to schools for outdoor education purposes.

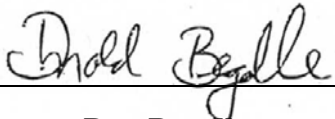
Value of Outdoor Education

- Establish a state-level advisory committee to promote and facilitate outdoor education efforts.
- Develop a marketing campaign to communicate the benefits of outdoor education.

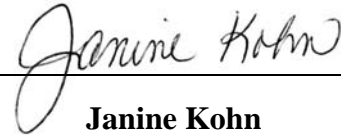
The workgroup believes that these actions will substantially increase the capacity of schools to provide high quality outdoor education while simultaneously meeting the academic goals that underpin student success.

WORKGROUP ENDORSEMENTS

The following signatures reflect the signatory's strong support
for implementing the recommendations of this
Outdoor Education Legislative Report.



Don Begalle



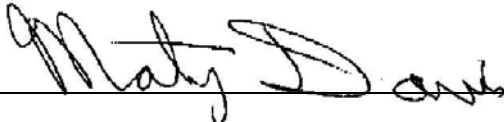
Janine Kohn



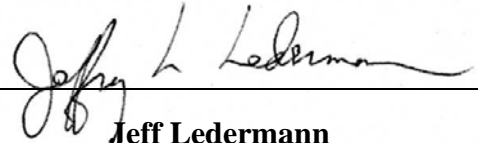
Ryan Bronson



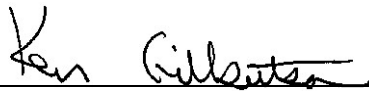
Kim Kovich



Marty Davis



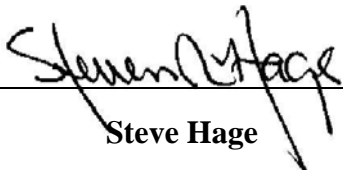
Jeff Ledermann



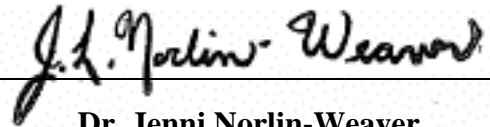
Dr. Ken Gilbertson



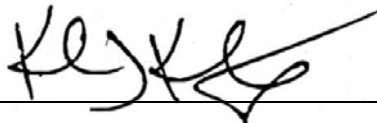
Dr. Don McMillan



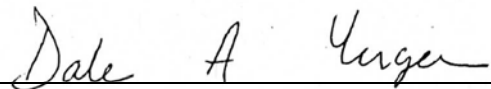
Steve Hage



Dr. Jenni Norlin-Weaver



Karl Kaufmann



Dale Yerger

THE NEED FOR OUTDOOR EDUCATION

The Problem

“I like to play indoors ‘cause that’s where all the electrical outlets are.” – A fourth-grader in San Diego

The quote above comes from “Last Child in the Woods” by author Richard Louv. It is a concise statement of a historic trend that is facing American society: Today’s youth are not participating in nature-based activities, as did previous generations. In fact, according to Louv, there is growing evidence that Baby Boomers – those born between 1946 and 1964 – may be the last generation of Americans to share an intimate and familial attachment to land and water.

No one knows if Louv’s prediction will prove true. Still, it is clear that younger generations are shifting away from the outdoors. According to a 2005 Kaiser Family Foundation study, youth between the ages of 8 and 18 now spend an average of 6 hours per day in front of a computer, television or interactive video game.

Conversely, national statistics show a trend toward less outdoor recreation. Between 1996 and 2006, national fishing participation fell 25 percent. Hunting participation fell 21 percent. National park visitation dropped 19 percent.

In Minnesota, raw numbers of hunters, anglers, park visitors and boaters have remained relatively stable. However, when adjusted for population growth, these numbers show definite downward trends in outdoor recreation. For example, in the 1980s nearly 41 percent of Minnesotans age 16 or older purchased a fishing license. Today, it is 28 percent. And of that 28 percent, there is definite decline in participation among those age 40 or younger.

Such trends are disconcerting because Minnesota’s history is inextricably linked to the natural resources for which it is famous. Typically, Minnesota has had the nation’s highest per capita participation in fishing and boating. Similarly, the number of park visitors, trail riders, wildlife watchers and hunters has been above the national average. This interest in the outdoors has direct economic implications. According to a 2006 survey by the U.S. Fish and Wildlife Service, hunting alone contributes mightily to Minnesota’s economy. The survey states hunting generated \$637 million in direct retail sales, 11,911 jobs and \$75 million in state and local tax revenues. The total economic impact from outdoor activities is in the billions.

Minnesotans’ shift to a more sedentary lifestyle is also documented in medical-related studies. A 2006 United Health Foundation study found that there has been a 132% increase in the obesity rate of Minnesotans since 1990. This is greater than the national average of 110 percent. In 2006, the federal Centers for Disease Control estimated that 20-24 percent of Minnesota adults were obese. Young people who do not get enough exercise face future health risks as a result. Outdoor recreation can be part of the solution.

Various public, private and non-profit organizations are actively addressing the need to re-engage children and youth with nature. Fortunately, schools can be a powerful ally in this mission by connecting students to nature through skill-based, academically relevant curricula and learning experiences.

Motivation for Outdoor Education Legislation

Minnesota Senator Satveer Chaudhary introduced outdoor education legislation in 2008 because of his belief in its importance for the well-being of citizens and the economy, and his recognition of schools as a logical mechanism for delivering nature-based education.

Chaudhary was introduced to the outdoors through a physical education elective while in the eighth grade. This experience ultimately led to a life of healthful outdoor activities, a commitment to conservation stewardship, and support for causes that benefit the environment. As the son of an Asian/Indian immigrant family, school-based outdoor education was particularly valuable to him because he did not have an adult mentor or peer group from which to learn these skills.

Sen. Chaudhary said nature- and outdoor-based education is increasingly important because Minnesota is becoming more ethnically diverse and urbanized. Immigrant populations will represent a significant amount of the state's population growth in the future, and many immigrant students may lack experience in, and knowledge of, the outdoors. Similarly, many urban youth do not have opportunity to take part in traditional outdoor activities. Therefore, it is in the state's best interest, he believes, to proactively provide all Minnesotans with outdoor education learning opportunities. "Providing youth with outdoor education opportunities could be the most fundamental thing we do for Minnesota's outdoor heritage," he concludes, noting schools are a logical place to do this.

WORKGROUP PROCESS

Outdoor Education Workgroup Formed

As required by the legislation, the Department of Natural Resources and Department of Education designated a work group to make recommendations to the Legislature that included at least one parent, one representative of higher education, one outdoor educator, and one representative from a sportsman or wildlife organization.

The workgroup was comprised of the following members:

- Don Begalle, outreach coordinator, REI, Inc., Bloomington
- Ryan Bronson, conservation manager, Federal Cartridge/ATK Ammunition Group, Anoka
- Marty Davis, junior high science coach, St. Paul Public Schools
- Dr. Ken Gilbertson, associate professor, Department of Health, Education and Recreation at University of Minnesota-Duluth
- Steven Hage, high school outdoor education and science teacher, School of Environmental Studies, Apple Valley

- Karl Kaufmann, high school science and outdoor education teacher, Pillager
- Janine Kohn, national education specialist, Pheasants/Quail Forever, St. Paul
- Kim Kovich, high school science and Outdoor Adventures instructor, Champlin Park High School
- Jeff Ledermann, parent and education advocate, Mahtomedi
- Don McMillan, president, Minnesota Outdoor Heritage Alliance
- Dr. Jenni Norlin-Weaver, director of teaching and learning, Edina Public Schools
- Dale Yerger, director, Deep Portage Conservation Reserve, a non-profit environmental and outdoor recreation learning center, Hackensack

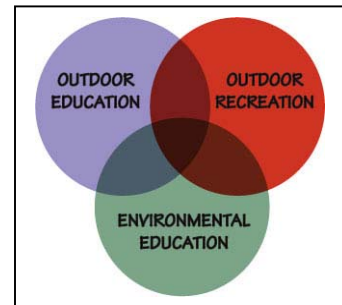
This group was supported through the efforts of C. B. Bylander, DNR Fish and Wildlife Division Outreach Section Chief, Dr. Beth Aune, director of academic standards and P-16 initiatives for the Minnesota Department of Education, and Emmett Mullin, Dawn Flinn, Amy Kay Kerber, Jay Johnson and Wayne Sames, DNR staff members with expertise in outdoor education and skills-based recreation.

The workgroup met Oct. 14, Oct. 28, Nov. 12, Nov. 25 and Dec. 9, 2008. The members agreed upon an operational definition of outdoor education, identified constraints that prevent or hinder the ability to teach outdoor education, identified solutions and strategies that address these constraints, and identified recommendations to report to the state Legislature.

Defining “Outdoor Education”

The first task of the citizen workgroup was to define outdoor education. Outdoor education is not the same as environmental education or outdoor recreation but contains elements of both.

For the purposes of this report, the work group agreed upon the following operational definition: “Outdoor education is experiential, provides a context for learning academics, and includes activities done predominately outdoors. It develops outdoor skills and an understanding of the outdoors, a natural resources stewardship ethic, a foundation for life-long learning and emotional and physical well-being.”



This definition is similar to a widely accepted definition of outdoor education (Preist, 1986) that states, “Outdoor education is the blending of both adventure and environmental approaches into a program of activities and experiences. Through exposure to the outdoor setting, individuals learn about the relationship with the natural environment, relationship between the various concepts of natural ecosystems, and personal relationships with others and with their inner self.”

National conservation agencies, the outdoors industry and the Minnesota DNR are among those concerned about the decline of outdoor skills in younger generations. In addition to the obvious implications – fewer hunters, anglers, campers, etc. – this trend could have

negative implications for personal health and the health of economic interests linked to the use and enjoyment of natural resources. A decline in outdoor recreation may also have negative implications on conservation stewardship.

Currently, the DNR has a number of individual programs – MinnAqua, School Forest, Archery in the Schools, for example – that offer outdoor education opportunities but these programs lack integration with the policies and programs implemented by the Minnesota Department of Education and local school districts. Cooperative efforts involving both agencies, K-12 and post secondary education, environmental learning centers, nature centers, and others show the greatest promise for achieving the twin goals of academic and experiential education for all students.

Identification of Constraints

The workgroup identified the major constraints to the teaching of outdoor education in grades seven through twelve through a series of large and small group exercises. Three dominant categories emerged: educational system issues relating to the integration and application of outdoor education in local school districts, a lack of resources to support and implement outdoor education, and a lack of awareness of the benefits of outdoor education.

Specifically, the workgroup identified the following constraints:

Education Integration and Teacher Qualifications

- Outdoor education is not considered a “core” part of the curriculum in Minnesota’s K-12 system of standards-based education.
- There is a lack of access to curriculum in grades 7-12 that integrates outdoor education into the delivery of state and locally developed standards in various subject areas.
- Many teachers lack the expertise or confidence to teach outdoor education and have limited access to technical assistance or professional development targeted to meet their needs.
- Confusion exists among faculty and administrators as to who can teach outdoor education in Minnesota public schools.

Funding Resources

- Resources (time and money) are inadequate to support development and delivery of outdoor education. This inhibits staff development, curriculum development, equipment acquisition and storage, and transportation/access to outdoor education sites.
- Inflexible financial policies inhibit the ability of school districts to be creative, efficient and effective in the use of existing funds for outdoor education.

- The state lacks an outdoor education funding mechanism to ensure annual delivery of statewide outdoor education in grades 7-12 on a permanent basis.

Value of Outdoor Education

- Outdoor education is misunderstood and its benefit are undervalued by many parents, educators, administrators, policymakers and non-profit organizations.
- Many teachers and school administrators are unaware of the benefits that outdoor education provides to children and youth and why it is desirable to integrate outdoor education into school curricula.

KEY RECOMMENDATIONS

To ensure successful delivery of statewide outdoor education in grades 7-12, the workgroup makes the following nine recommendations in the categories of education integration and teacher qualifications, funding resources, and the value of outdoor education.

Education Integration and Teacher Qualifications

1. Require Schools to Provide Opportunities to Meet Standards through Outdoor Education Experiences

The Legislature should require all school districts to offer their students outdoor education opportunities in grades 7-12. These opportunities must meet state or local academic standards. “Opportunities” could consist of experiences offered for a dedicated time period as part of a unit of instruction, or a series of experiences unfolding over a long time span, such as an outdoor education course.

2. Create an On-line Grades 7-12 Standards-Referenced Outdoor Education Electronic Curriculum and Resource Repository

The Legislature should appropriate funds to research, develop, and maintain a grade 7-12 electronic curriculum and resource repository. The purpose of the repository is to establish a site that teachers can easily access for curriculum and other kinds of outdoor education resources. The repository will be searchable by grade level, standard, content area, and geographic region. In order to build the repository, two tasks need to be accomplished: a) The creation and/or compilation of outdoor education curriculum activities and experiences that are integrated into mathematics, language arts, science, social studies, physical education, and other content areas; and b) The coordination of outdoor education resources including materials, learning sites, mentors, and equipment. The resources and curriculum entries in the repository will be referenced to the Minnesota Academic Standards and will facilitate the effective delivery of outdoor education in each region.

3. Provide Teacher Support through Professional Development, Technical Assistance and Financial Incentives

Many teachers are reluctant to incorporate outdoor education into their instruction due to fear or lack of knowledge about, or comfort in, the outdoors. These issues can be addressed by effective professional development and technical assistance opportunities.

A) To encourage teachers to attend appropriate professional development, the Legislature should provide financial incentives for outdoor education professional development to advance teacher comfort in, and knowledge of, outdoor education. Teachers could be compensated for participating in outdoor education training and districts should be provided funds to compensate teachers who conduct outdoor education opportunities for students outside of the regular school day. In addition, parameters for what constitutes effective outdoor education professional development will be created to help guide school districts in implementing best practices.

B) A statewide network of skilled mentors will be established to support and advance teacher knowledge of, and comfort in, outdoor education. Mentors will coach their colleagues in the “how to” of instructional methods that are proven to benefit students. Mentors will include qualified outdoor education classroom teachers and community resources experts identified for each region of the state. Teachers may consult with an outdoor education mentor for assistance in planning instructional strategies for addressing standards through outdoor education activities or in teaching specific outdoor skills. Mentors may be funded by state or local sources.

4. Establish and Fund an Outdoor Education Staff Team

The Legislature should establish and fund a DNR outdoor education staff team to implement recommendations outlined in this report and future recommendations to be identified by the Outdoor Education Advisory Committee (as outlined in recommendation 8). The team will collaborate with MDE and other state agencies as needed to carry out its mission. The purpose of this team is to provide technical assistance to schools to increase the quality and quantity of outdoor education experiences provided to Minnesota students.

Funding Resources

5. Establish a Dedicated Outdoor Education Fund

The Legislature should dedicate an annual fund that local school districts can utilize to offer outdoor education opportunities to grade 7-12 students. The fund will be used to address the following priorities: outdoor education staff development, outdoor education curriculum development or integration, outdoor education equipment acquisition and storage, compensation for outdoor education mentors and transportation or access to outdoor education sites.

Allocations from this fund will be based on a \$10/pupil unit/year formula for pupil units in grades 7-12. Based on October 2008 enrollment figures, this formula would yield approximately \$4 million per year for grades 7-12.

The workgroup recommends the Permanent School Trust Fund as an appropriate source of revenue for this new fund because its revenues (about \$20 million per year) are directly derived from natural resources (timber sales, mining royalties, etc.). By using the Permanent School Trust Fund as a funding source, the state connects revenue generated from natural resources to the delivery of natural resources-related education. Other potential funding sources are the Legislative Citizen Commission on Minnesota Resources/Environmental Trust Fund or the Future Resources Fund. Funds from the dedicated state-level annual fund will be dispersed into district level outdoor education accounts.

The workgroup discussed the importance of expanding support for funding outdoor education to the full K-12 grade range. The \$10 per pupil unit formula would yield about \$8 million per year for grades K-12. Enrollment figures in 2008 identified 826,603 K-13 students and 404,868 students in grades 7-12.

6. Establish District-Level outdoor education accounts

The Legislature should allow school districts to establish and maintain a financial account or mechanism for dedicated outdoor education funds that carries forward from one fiscal year to the next. This will enable school districts to use funds as needed to support the most appropriate outdoor education activities. It would also provide management flexibility to accommodate fluctuations in enrollment, student interest, training availability, etc.

Funds accumulated in this account could come from community grants and donations, dedicated outdoor education state funding, the sale of forest or other natural resource products from outdoor classrooms and School Forests, and other sources. Funds in this account must be utilized exclusively for outdoor education. To accommodate this recommendation, the Minnesota School Forest Statute will need to be revised to require that revenue generated from the sale of forest products on School Forest lands be allocated to the outdoor education accounts and used exclusively for outdoor education activities.

The workgroup encourages the Legislature to consider the feasibility of requiring revenues generated by school lands other than designated school forests to be used for outdoor education purposes.

7. DNR Authorization to Administer Outdoor Education Grants

The Legislature should authorize the DNR to receive and administer funds acquired from private organizations (for-profit or non-profit businesses) and other government entities (federal, state, county or city) to support outdoor education activities at the school district level. Gift accounts to support outdoor education can be established by appropriate DNR outdoor education programs. The DNR is authorized to use outdoor education gift accounts for granting and administering sub-grants to school districts to support specific outdoor education purposes.

Value of Outdoor Education

8. Establish an Advisory Committee to Promote and Facilitate Outdoor Education Efforts

The Legislature should direct the DNR to establish an Outdoor Education advisory committee made up of qualified outdoor education representatives of state agencies, local governments, non-profit organizations, formal and non-formal education, and other relevant organizations. The commissioner of the DNR will develop criteria for the selection of advisory committee members in consultation with the commissioners of MDE and the Pollution Control Agency. The criteria will guide in the selection of committee members who represent a variety of experiences, knowledge, skills and viewpoints; and reflect the geographic and demographic diversity of the state. This committee will advise the Legislature and Governor on outdoor education and/or funding issues and will assist in designing and implementing a statewide marketing campaign on the value of outdoor education (see Recommendation 9).

9. Develop a Marketing Campaign on the Benefits of Outdoor Education

The DNR, in consultation with the Outdoor Education advisory committee, will develop an Outdoor Education marketing campaign. The campaign will communicate the value of outdoor education while highlighting varied outdoor education activities and opportunities. Marketing efforts should include a focus on teachers and school administrators for the purpose of explaining the benefits of outdoor education for children and youth, and encouraging them to incorporate outdoor education into their curricula. The Legislature should appropriate funds to support the campaign.

CLOSING THOUGHTS

We, the members of the Outdoor Education Workgroup, are thankful for the opportunity to provide recommendations to the Legislature. We met regularly. We took our charge seriously. We believe our recommendations will strengthen the strong threads of nature and academic excellence that are part of the fabric of Minnesota. We look forward to the day when every Minnesota child benefits from the experiences outdoor education brings to the 7-12 grade classroom.

PROFILES OF WORKGROUP MEMBERS

Jeff Ledermann is a parent of two middle school girls that love to hunt and fish. He is a former science teacher, Camp Fish and MinnAqua instructor; and lifelong angler, hunter, gardener and birder. He has been active in his community of Mahtomedi for many years encouraging outdoor and environmental education, including the establishment of a three-acre native prairie at the local elementary school, an environmental stewardship team at his church and a fishing club for girls.

Dale Yerger is director of Cass County's Deep Portage Learning Center. He has developed and delivered outdoor and environmental education programming at camps, environmental education centers and other locations for 31 years in Maine, Vermont, Colorado, Wisconsin and Minnesota.

Karl Kaufmann is a high school science teacher for the Pillager School District. An avid outdoorsman, Kaufmann has developed forestry/greenhouse and biotechnology programs. He has received the University of Minnesota College of Biological Sciences Outstanding Science Teacher Award and the Minnesota Forest Industry Forest Educator of the Year Award.

Ryan Bronson is the conservation specialist for Federal Premium Ammunition and ATK Armament Systems Group, a Minnesota-based manufacturer of ammunition and outdoor products. Prior to joining Federal, Bronson served as the hunter recruitment and retention program supervisor for the Minnesota DNR where he initiated efforts including the National Archery in the Schools Program and youth hunting programs. Bronson has also worked for the Minnesota Deer Hunters Association and Minnesota House of Representatives.

Don Begalle is an outreach coordinator for REI, Inc., a retailer of outdoor products. His efforts aim to get youth and adults outside through non-formal education, demonstrations and partnerships with other like-minded organizations and agencies.

Dr. Donald G. McMillan is president of the Minnesota Outdoor Heritage Alliance, former president of Safari Club International, and an active member of many conservation and outdoor-related groups. A dentist and former instructor at the University of Minnesota School of Medicine, he is an advocate for hunting, conservation, and introducing youth to the outdoors.

Steve Hage teaches environmental science and directs the mentorship career program at the School of Environmental Studies at the Minnesota Zoo in School District 196. As one of the founders of the school, Steve has been active in the design and teaching of various outdoor education classes that include such activities as canoeing, kayaking, sailing, flycasting and winter survival skills. He is currently working to establish a new program called "Fishing in the Schools" in which elementary students would be taught and mentored by high school students.

Janine Kohn is the national education specialist for Pheasants Forever and the National Coordinator for the Leopold Education Project. Previously, she has served as a middle school science instructor, outdoor educator, and assistant director of an international environmental education travel program based out of south Florida. She developed the first-ever TUNE camp in Minnesota. This camp was a partnership between various chapters of Pheasants Forever and the Twin Cities Trout Unlimited to get youth involved in the outdoors and engaging in the habitat that makes many Minnesota outdoor activities possible.

Kim Kovich is a science teacher at Champlin Park High School. He teaches an Outdoor Adventures class that includes opportunities for youth to experience and learn about recreational shooting, fishing, wildlife management, and many outdoor skills.

Marty Davis is a nationally recognized science coach for Saint Paul Public Schools. An elementary and middle school science teacher for 24 years, he helped write the current science standards and helps oversee science curriculum and professional development for Saint Paul Public Schools grades K-12. He is a recipient of the Presidential Award for Excellence in Math and Science Teaching.

Dr. Ken Gilbertson is a professor of outdoor and environmental education and the director of the Center for Environmental Education at the University of Minnesota Duluth. Over the past 35 years, he has taught outdoor education in a variety of settings ranging from nature centers, schools, and Outward Bound. Ken is the founder of the UMD Outdoor Program that provides outdoor education to audiences from around the nation. He is the lead author on the book, "Outdoor Education: Methods and Strategies."

Dr. Jenni Norlin-Weaver is director of teaching and learning at Edina Schools. She has worked in curriculum and professional development for more than 20 years, during which time she has delivered presentations nationally and internationally. She is a former elementary and middle school classroom teacher; she was a researcher on the study team that made the feasibility recommendations for the Accountability System for Minnesota schools. As a member of the Minnesota Academic Standards committee, Jenni has been actively involved in the legislative process as it relates to the development of standards and related legislation. She is the Immediate Past President of the Minnesota Staff Development Council and an adjunct instructor with local graduate programs.