

# Outdoor Skills Education Handbook

A Guide for Developing and Implementing School-Based Outdoor Skills Education



A Project of the Association of Fish and Wildlife Agencies'  
North American Conservation Education Strategy

Funded by a Multistate Grant of the  
Sport Fish and Wildlife Restoration Program

September 2011

Association of Fish and Wildlife Agencies

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## A Guide for Developing and Implementing School-based Outdoor Skills Education

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Prepared by the Conservation Education Strategy Outdoor Skills Education Sub-committee  
With assistance from DJ Case & Associates



ASSOCIATION *of*  
FISH & WILDLIFE  
AGENCIES

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Developed for the Association of Fish and  
Wildlife Agencies' North American  
Conservation Education Strategy  
[www.fishwildlife.org](http://www.fishwildlife.org)



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## A Message from Jeff Rawlinson

*Chair, AFWA Outdoor Skills Education Sub-committee*

In 2004, conservation educators from fish and wildlife agencies met at the National Conservation Training Center in West Virginia to develop a conservation education plan for the twenty-first century. Facing growing conservation challenges, the directors of fish and wildlife agencies directed the assembled educators to prepare a visionary plan for state agencies to implement to sustain the future of wildlife, through stewardship and recreation. The directors recognize conservation education as a mission-critical management component of every fish and wildlife agency. As expressed by Corky Pugh, Director of Wildlife and Freshwater Fisheries Division for the Alabama Department of Conservation and Natural Resources, **“An educated, informed and involved citizenry is imperative for effective management and protection of natural resources.”**

The purpose of the *Outdoor Skills Education Handbook*, (Handbook) is to address the Association of Fish and Wildlife Agencies’ priority to develop and implement a nationally agreed upon strategy for integration of conservation education in grades K-12 that builds upon the Association’s Conservation Education Strategy Core Concepts. In particular, the Handbook addresses the goal to include outdoor skills in the education process as a tool for team building, stewardship, personal health, and lifelong recreation.

The Handbook is designed to help fish and wildlife agencies and non-governmental organizations (NGOs) interested in working with their state departments of education, school districts, school administrators, and teachers to include wildlife-related outdoor skills as part of the physical education curriculum. It includes a discussion of challenges identified by agency personnel and physical education professionals, strategies agencies and schools have used to effectively meet those challenges, guidelines for effective programs, and a tool agencies and NGOs can use to create, evaluate and/or adapt existing programs for health, physical education or agricultural education classes.

The Handbook has been developed by members of the Outdoor Skills Education Sub-committee, including state fish and wildlife agency outdoor skills educators and physical education teachers, with input from school administrators, state education department specialists, and teachers from around the country.

I would like to express my appreciation for all their dedication and hard work on behalf of conservation and outdoor skills education.

*– Jeff Rawlinson,  
Assistant Division Administrator, Nebraska Game and Parks Commission  
Chair, AFWA Outdoor Skills Education Sub-committee  
September 2011*

## Members of the Outdoor Skills Education Sub-committee:

Jeff Rucks, Colorado Division of Wildlife (retired)  
Jeff Rawlinson, Nebraska Game and Parks Commission  
Andrea Faas, Nebraska Game and Parks Commission  
Barb Gigar, Iowa Department of Natural Resources  
Beth Gunn, North Carolina Wildlife Resources Commission  
Bob Deschaine, Pound Middle School, Lincoln Public Schools  
C.B. Bylander, Minnesota Department of Natural Resources  
Cindy Etgen, Maryland Department of Natural Resources  
Ellie Horwitz, Massachusetts Division of Fisheries and Wildlife (retired)  
Ernie Gammage, Texas Parks and Wildlife Department (retired)  
Judy Gillan, Florida Fish and Wildlife Conservation Commission  
Justin Marschall, Oklahoma Department of Wildlife Conservation  
Ken Daley, Iowa Association for Health, Physical Education, Recreation and Dance  
Kevin Holladay, New Mexico Game and Fish Department  
Laura Ryder, New Hampshire Fish and Game Department  
Patty Allen, Maryland Department of Natural Resources  
Rosemary Barta, Curriculum Coordinator (retired)  
Steve Hall, Texas Parks and Wildlife Department  
Theresa Cross, Louisiana Department of Wildlife  
Tim Spice, Texas Parks and Wildlife Department  
Werner Barz, U.S. Fish and Wildlife Service, National Conservation Training Center

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- Dr. Lisa Flowers, Boone and Crockett Club, and Ginny Wallace, DJ Case & Associates, authors of *Alignment of Outdoor Skills with National Learning Standards and the Framework for 21st Century Learning*
- Dr. Stuart Cottrell and Dr. Jana Raadik, Cottrell & Associates Environmental Consulting, authors of *Benefits of Outdoor Skills to Health, Learning and Lifestyle: Literature Review*

These two documents are foundational to the preparation of the Handbook.

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# I Introduction

This *Outdoor Skills Education Handbook* (Handbook) is designed for state fish and wildlife agency outdoor skills educators, to help you increase your effectiveness in working with schools and NGO partners to conduct outdoor skills education in schools.

State fish and wildlife agencies help citizens learn about, use and enjoy fish and wildlife resources. Agencies offer a wide variety of outdoor skills education for people—expos, youth hunts, programs like Becoming an Outdoor's Woman, Hunter Education, fishing clinics, and more—most of which engage youth and families after school and on weekends.

There is another opportunity. Concerns about childhood obesity, and an interest in connecting people with the outdoors, have raised the interest in lifelong recreation that gets people outdoors. Increasingly, schools are including outdoor skills in their physical education classes, or otherwise incorporating outdoor activity into the school day. The National Archery in the Schools Program (NASP) continues to grow into thousands of schools across the United States. In 2008, the Minnesota legislature passed legislation requiring the departments of Natural Resources and Education to develop an outdoor education report and recommendations. Based on that report, the Minnesota state legislature enacted special funding to implement school-based outdoor education – including a full-time position at the Department of Education, regional specialists to design and implement teacher training, and grants to schools.



Photo courtesy Nebraska Game and Parks Commission

This Handbook is designed to help state fish and wildlife agencies, and their NGO partners, capitalize on the opportunity to integrate outdoor skills education into the formal education system through health, physical education and agricultural education. The guidelines include:

- Challenges to in-school outdoor skill education identified by fish and wildlife agencies and physical education professionals
- Strategies for successful implementation of outdoor skills in schools
- Criteria for outdoor skills education as quality physical education
- Examples of how agencies have applied the strategies
- An assessment matrix for measuring your outdoor skills education programs

In this Handbook, you will find answers to questions such as: “How do I...

- ...convince school administrators that outdoor skills belong in their health, physical education, or agriculture education programs?
- ...find out what agencies or organizations coordinate physical education in the state?
- ...find out if my state has standards for physical education, and if it does, what they are?
- ...correlate my programs to standards?
- ...adapt my programs for delivery in schools?

There is no one “right” outdoor skills education program or approach. Each region, state, school district and school has different needs and capabilities. This handbook does not prescribe a program, nor does it advocate for a national outdoor skills education curriculum. It does lay out steps you can take to provide high quality, outdoor skills education that meets the needs of your agency and schools, and it provides real world examples of what is working.

## Background

The information on which this handbook is based comes from several sources. In late 2009 and early 2010, the Association of Fish and Wildlife Agencies (AFWA) conducted a survey of state fish and wildlife agencies to assess aspects of their conservation education programs, including school-based outdoor skills education (DJ Case 2010). Agencies identified a number of challenges, and when asked what resources would be helpful to support in-school outdoor skills education programs, identified “messages to use with school administrators,” and “connections of skills activities to health and/or PE standards.”

Challenges identified in the survey came from agencies’ perspectives. In order to determine educators’ and schools’ perspectives, members of the AFWA Outdoor Skills Education Sub-committee conducted interviews with teachers to identify their interests, experiences and challenges. AFWA also convened a meeting of outdoor skills and physical education professionals in August 2010, to discuss the survey and interview findings, and further explore challenges and opportunities related to school-based outdoor skills education.

In addition, AFWA commissioned two pieces of research: a literature review of the benefits of outdoor skills to health, learning and lifestyle; and an alignment of selected outdoor skills education materials to national health, physical education and agriculture education standards, and the Framework for 21st Century Learning (see References, p 36). This research further confirmed the important roles outdoor skills education can play in schools, and the roles schools play in outdoor skills education delivery.

## Organization of the Handbook

The Handbook is organized by section. In Section II (p 4), we review the concepts of standards and benchmarks. We discuss standards and why they are important, and examine the conservation benchmarks for outdoor participation. The information in this section provides background important to several of the strategies.

The most significant challenges identified by agencies and educators are described in Section III (p 6).

Strategies for success are discussed in Section IV (p 7). These are grouped into six general areas: understanding and communicating with administrators, correlating materials to standards, training for teachers, sustaining programs over time, overcoming discomfort with consumptive-oriented skills, and access. We also provide a step by step guide for approaching a school to add an outdoor skills program. As you read through these you will note that many of the strategies address multiple challenges.

In Section V (p 20), we identify criteria for developing quality outdoor skills education lessons and materials that meet the needs of most teachers and schools. These include information from the National Association for Sport and Physical Education (NASPE) on quality physical education.

Section VI (p 24) contains success stories – examples of ways in which state fish and wildlife agencies and NGOs have used successfully implemented school-based outdoor skills education. Many of these stories address more than one strategy. As a result, we have listed the examples in alphabetical order by state, and identified each strategy addressed under the title of the example.

Section VII (p 31) is a resources section that includes messages for agency administrators, a matrix for evaluating skills education programs and the complete Benchmarks for Conservation Literacy.

Finally, in Section VIII (p 36), we point to references used to develop the Handbook in case you want to dig deeper.



Photo courtesy Linda May, Georgia Department of Natural Resources



## II Standards and Benchmarks

When working with schools it is important to be familiar with standards and benchmarks. Standards identify what children need to know and be able to do in order to prepare for their futures. There are standards for every subject, including science, social studies, language arts, health, physical education, and more. Teachers, and particularly school administrators, are accountable for making sure their students obtain the knowledge and skills identified in standards for all subject areas. Statewide testing is done in a number of subjects to see whether or not standards are being achieved. It is easy to see, with limited budgets and time, why education programs that help teachers meet key standards receive priority.

**S**tandards identify what children need to know and be able to do in order to prepare for their futures.

Standards are set at the state level by the state's Department of Education. Many states have adopted, or adapted for their state, the National Standards for Physical Education developed by the National Association for Sport and Physical Education (NASPE). Many of the National Standards for Physical Education apply to outdoor skills education. The Conservation Education Strategy identified five AFWA K-12 Conservation Education standards which are outlined in the K-12 Scope and Sequence. Standard four addresses outdoor skills, and includes language that is very similar to the national physical education standards.

### **AFWA Conservation Standard 4:**

Students should understand and accept, and/or lawfully participate in hunting, fishing, trapping, boating, wildlife watching, shooting sports, and other types of resources-related outdoor recreation.

- 4.1. Regulated hunting, fishing and trapping are important tools for managing some wildlife populations and habitats.
- 4.2. Fish and wildlife-based resources provide recreational benefits directly to participants and increase advocacy for conservation.
- 4.3. Responsible users of fish, wildlife and the out of doors respect the rights and property of others.
- 4.4. Demonstrates competency in motor skills needed to participate in a variety of nature-related outdoor recreational activities.
- 4.5. Demonstrates understanding of movement concepts, principles, strategies and tactics as they apply to the learning and performance of outdoor recreational activities.
- 4.6. Participates regularly in nature-related outdoor recreation.
- 4.7. Responsible users of fish, wildlife and the out-of-doors exhibit responsible personal and social behavior that respects self and others.
- 4.8. Values outdoor recreation for health, enjoyment, challenge, self-expression, and/or social interaction.

**AFWA Conservation Standard 4:** Students should understand and accept, and/or lawfully participate in hunting, fishing, trapping, boating, wildlife watching, shooting sports, and other types of resources-related outdoor recreation.

When you align your materials with AFWA's standards, you will know you are addressing core conservation concepts. In addition, aligning your materials with your state's health and physical education standards will make it easier for teachers and school administrators to adopt your programs because they know their standards are being met.

AFWA has aligned 12 outdoor skills education curricula to national health, physical education and agriculture education standards, and the Frameworks for 21st Century Learning. You can use that information as a reference, and you can use the spreadsheet to correlate your own materials to those standards. The report, Alignment of Outdoor Skills with National Learning Standards and the Framework for 21st Century Learning, is on AFWA’s web site, [www.fishwildlife.org](http://www.fishwildlife.org).

**A**ligning your materials with your state’s health and physical education standards will make it easier for teachers and school administrators to adopt your programs because they know their standards are being met.

Benchmarks are “mileposts” for measuring what a student knows and is able to do. They are concrete indicators that a standard is being met. The Conservation Education Strategy has developed a set of outdoor participation benchmarks for conservation literacy:

Concepts of learning that all students should know and be able to do.	Conservation Benchmarks		
	5 <sup>th</sup> Grade	8 <sup>th</sup> Grade	12 <sup>th</sup> Grade
Outdoor recreational pursuits have many benefits and impacts (such as health, economic, ecological, etc.)  <i>Outdoor Participation</i>	Identifies nature-related outdoor recreation opportunities for health, fun, challenge, self expression, and/or social interaction.	Describes the role of nature-related outdoor recreation for health, fun, challenge, self expression, and/or social interaction.	Creates an individual plan for lifelong nature-related outdoor recreation for health, fun, challenge, self expression, and/or social interaction.
	Identifies nature-related outdoor activities and their impact on the natural environment.	Describes impacts that nature-related outdoor recreation activities can have on the local natural environment and community.	Calculates the benefits, costs, and obligations associated with regular participation in nature-related outdoor recreation beyond the local level.
Demonstrate competency in motor skills needed to participate in a variety of nature-related outdoor recreational activities.  <i>Outdoor Participation</i>	Demonstrates mature forms of locomotor and non-locomotor skill combinations used in nature-related outdoor activities.	Demonstrates competency in modified versions in at least one nature-related activity from three of the following categories: aquatics (water-based activities), shooting/archery, traversing (hiking, tracking, walking, etc.).	Demonstrates competency in basic and advanced skills in at least one nature-related activity from three of the following categories: canoeing, archery, fishing, shooting, tracking, camping, and hiking.
Participate regularly in nature-related outdoor recreation.  <i>Outdoor Participation</i>	Sets a short-term goal to participate in a nature-related activity and make a plan for achieving it.	Sets personal nature-related outdoor recreational activity goals independently to meet needs and interests.	Cultivates interest and strengthens desire to independently maintain an active lifestyle in nature-related outdoor activities.
Exhibit responsible personal and social behavior that respects self and others in nature-related outdoor recreation.  <i>Outdoor Participation</i>	Understands and follows activity-specific safe practices, rules, procedures and etiquette during nature-related outdoor activities.	Participates cooperatively in nature-related outdoor activities with persons with diverse abilities and backgrounds.	Initiates responsible behavior, functions independently and responsibly, and positively influences the behavior of others while participating in nature-related outdoor activities.

You can use these benchmarks to determine the age-appropriateness of your outdoor skills education materials. In other words, to make sure you are teaching the right skills at the right developmental stages for students.

## III Challenges to Delivering Outdoor Skills Education in Schools

The AFWA survey of fish and wildlife agencies, as well as interviews and meetings with health and physical education professionals identified seven challenges common to both schools and agencies. These challenges are numbered for reference; the numbers do not indicate level of importance or emphasis.

### 1. Teacher Comfort Level with Material

Teachers who don't have experience with outdoor skills are concerned about their ability to instruct their students and may be reluctant to include skills in their physical education classes.

### 2. Correlation to Standards

In today's education climate, any school-based program must help teachers and administrators achieve education standards. This is as true for physical education as it is for science, social studies and other subjects.

### 3. Sustaining Program Over Time

Often, outdoor skills education is initiated by a teacher with a strong interest and/or background in outdoor skills. The program is successful as long as that person is there to champion and support the program. However, when the champion leaves, the program often comes to an end.

### 4. Lack of Training Programs for Outdoor Skills Education

Outdoor skills training is not widely available in physical education curricula at the college level, and training for teachers, while available, is not widespread. This relates directly to teacher comfort level with material.

### 5. Administrative Concerns

School physical education programs have very small budgets and are not able to purchase equipment or train teachers without outside funding. In addition, safety is a concern expressed by teachers and administrators alike.

### 6. Discomfort with "Consumptive" Outdoor Skills Such as Shooting Sports, Hunting, Hunter Education, etc.

Discomfort with consumptive skills can stem from values differences, where teachers, administrators, school board members, and/or parents do not agree with hunting or other consumptive activities and do not feel it is appropriate to teach those skills in the school setting. Safety is also a concern, especially for school administrators.

### 7. Access to Outdoors/Natural Resources

Educators may not have access, or funding for travel, to locations for teaching outdoor skills such as fishing, canoeing or kayaking.



Photo courtesy Iowa Department of Natural Resources

## IV Strategies for Developing/Implementing Outdoor Skills Education in Schools

If you have worked with a school to implement an outdoor skills program, you may have encountered one, or both, of the following experiences.

A teacher comes to you wanting to set up a program. You work with them to get everything set up for the program including acquiring equipment (sometimes through grants) and training several teachers, only to have the principal, parents, school board, or other influential group effectively put a halt to the program before it even starts. This ends up costing agency staff many hours of work, as well as funding if the agency provided the equipment grant.

You have a school where everyone (teachers, parents, administration) is excited about the outdoor skills program and wants to be involved. The program takes on a life of its own and becomes an established part of the curriculum that will never fade away.

Integrating and sustaining outdoor skills education in school physical education classes isn't easy. But it is doable, and this section highlights strategies to help increase the likelihood of the second scenario. These strategies will help you communicate effectively with state departments of education, school districts, administrators and educators, and increase opportunities for successful partnerships and delivery of outdoor skills education. Most of these strategies have been used by fish and wildlife agencies and NGOs to successfully implement in-school outdoor skills education, and we highlight some of those real-life examples in Section VI (p 24).

Integrating and sustaining outdoor skills education in school physical education classes isn't easy. But it is doable.

The strategies fall into six major categories and are presented in this order:

- A. Understanding the needs of, and communicating with, administrators
- B. Aligning materials to standards
- C. Training
- D. Sustaining programs over time
- E. Overcoming discomfort with consumptive-oriented skills
- F. Accessing the outdoors

In addition, we include a step-by-step guide for approaching a school to add an outdoor skills program.

It is important to note that in many, if not most states, curriculum taught in a given school is determined at the school district level. In other words, state departments of education do not mandate statewide curricula. That means outdoor skills education has to be introduced one school, or school district, at a time. It is labor intensive and there is no short cut. However, the most successful programs are based on relationships, and those are best cultivated at the local level.

### A. Understanding the Needs of, and Communicating with, Administrators

Being aware of, and addressing the needs, concerns and priorities of school administrators is one of the most important factors in successfully integrating outdoor skills education into schools.

The first step is to identify the key administrator(s) and/or decision-makers. This will vary depending on the size of the school district. “Administrator” does not always equal school principal. In a small school district it might be the superintendent. In a large district there may be a district-wide physical education coordinator. Your local staff can help identify decision-makers, particularly if they have children in school. In addition, find out if your state department of education has a physical education coordinator. In some states the go-to group for health and physical education is the state Alliance for Health, Physical Education, Recreation and Dance (AHPERD, pronounced A-ferd). AHPERD is a non-profit education organization that promotes and supports healthy lifestyles through high quality programs.

Once you have identified the key administrators/decision-makers, you need to identify their needs and priorities. Following is a general overview of administrator priorities. Note: these are general and must be vetted with formal education partners in your state to determine specific priorities/concerns in your area, and the best ways to address them for your program. Be sure to incorporate basic information addressing these priorities in all communication/promotional efforts for your program.



Photo courtesy Minnesota Department of Natural Resources MinnAqua Program

### Administrator Priorities

Administrators use general filters to determine whether or not curriculum/activities are appropriate for their school(s).

#### 1) Does it align with formal education goals and objectives?

- a. Is it a “quality” curriculum?
  - i. Based on sound educational theory/practice
  - ii. Aligns with educational standards and benchmarks
  - iii. Developmentally appropriate for age/grade level
    1. Benefits of outdoor activities on the “whole child” and overall wellness
    2. Includes appropriate safety precautions and risk management based on developmental stage of target audience (The National Safety Council rates outdoor skills programs such as archery to be safer than many ball sports)
  - iv. Includes assessments that demonstrate attainment of standards/benchmarks (tied to core curriculum measures/achievement)
  - v. Addresses needs of diverse learners
- b. Is it relevant – to subject area and to students?
  - i. Activities are reasonable in terms of helping students learn core content; activities are ones that students can utilize/have access to outside school

Well-designed programs should follow educational best practices. Consult with individuals who are knowledgeable in curriculum development to design resources for formal education. Many of the concerns expressed by administrators are based on the lack of an explicitly described relationship of outdoor skills programs to sound educational pedagogy, and risk assessment/management for classrooms.

Refer to Section V (p 20) for more information about criteria for quality physical education programs, and to Section VII (p 31) for a matrix to evaluate your programs.

## 2) What does it cost the school?

- a. Equipment
- b. Teacher training
- c. Field trips/off-site experiences

Schools are always concerned about costs, especially for adding programs. Successful programs have a plan for addressing the cost of developing/sustaining an outdoor skills initiative in the school setting. The average school budget for physical education in the United States is less than \$1,000 per year.

## 3) Do the teachers want it?

- a. Are they comfortable teaching the skills in question?
  - i. Training
  - ii. Experience
  - iii. Ongoing support if needed
- b. What is the potential for controversy/community support?
  - i. Teachers (and administrators) may resist teaching something they perceive to be controversial – good programs provide options that supports multiple skills areas, even if specific components cannot be taught in the school.

While administrators can be stumbling blocks if they do not support a program, they seldom commit teachers to taking on new initiatives. They must see that it appeals to the teachers responsible for implementation. Identify teachers who are already interested and support the program before talking with administrators.

## Key Messages for Communicating with Administrators

The following key messages will help you address administrators' concerns and demonstrate to them that you are aware of their priorities. These messages have been developed by the AFWA Conservation Education Strategy Outdoor Skills Committee members through interviews and meetings with leaders in formal education, as well as review of successful efforts from around the country.

NOTE: Be sure to adapt these messages to your specific agency, state and location.

## 1) Does it align with formal education goals and objectives?

- Many outdoor skills education materials correlate well to national health, physical education, and agriculture education standards. The Conservation Education Strategy has worked with national and state leaders in health, physical education, agriculture, and science to determine that outdoor skills can and do support education in these areas.
- A sample of 12 outdoor skills programs have been aligned to national education standards in relevant content areas (physical education, health, agriculture, 21st Century skills).
- Outdoor skills are relevant to and tie into other subject areas, improving overall instruction. For example, when learning how to fish, students also need to learn about different kinds of fish, aquatic habitats, water quality, and more.

- All students can participate and be successful in outdoor skills. (According to *Appropriate Practices for Elementary School Physical Education* (2000), “in a quality physical education class teachers involve ALL children in activities that allow them to participate actively, both physically and mentally.”)
- Outdoor skills education helps schools make the case for increasing the amount of physical activity during the school day by getting kids outdoors and by laying the foundation for lifelong recreational activity.
- Outdoor skills programs encourage family and community involvement with schools’ physical education programs.

## 2) What does it cost the school?

- Agency-sponsored programs often provide support that helps offset the cost of equipment to schools. Sometimes that includes grants for equipment purchase. The agency may provide free loan equipment. For example, Iowa provides loaner fishing equipment through partners across the state, with at least one site per county.
- Some programs, such as NASP, make arrangements for equipment for program start-up.
- Most state agencies provide in-service teacher training free of charge. Training often includes college credit, the cost of which may be reimbursed in some cases (but not always). Training is generally offered in the summer or on weekends, and may include reimbursement for substitute pay.
- Many outdoor skills programs provide activities that teach skills without going off-site (i.e. NASP, target shooting, casting contest).
- Some agencies provide grants to schools for field trips. Missouri provides grants to schools enrolled in their Discover Nature Schools program. Iowa has had a very positive response to fishing trip grant opportunities distributed via email directly to administrators.
- Agencies can help schools develop partnerships to provide funding and/or equipment.



Photo courtesy SpiderJess.org

## 3) Do the teachers want it? What is the potential for controversy?

- Many teachers do want to include outdoor skills education. They recognize that outdoor skills:
  - Are lifelong recreational pursuits
  - Provide new opportunities for many students, and motivate students who may not be engaged by other topics or activities, and
  - Often engage community partners, and these partners may not otherwise be involved with the school.
- Training/experience/support is available (see above).
  - Assess what resources are available to teachers/schools and provide a good framework to facilitate support

- Communicate the value of participation to wildlife conservation. Most people don't know that participation in archery, fishing, hunting, and boating, etc. support fish and wildlife conservation through federal excise taxes (Pittman-Robertson (PR) and Dingell-Johnson (DJ) wildlife and sport fish restoration funds). Let them know that every student participating in an archery program is contributing – and that **all** wildlife benefit, not just those that are hunted or fished.
- Good outdoor skills education programs provide options that support skills areas, even if specific components (such as target shooting) cannot be taught. These programs provide a progression of skills or level of involvement which enable schools to incorporate those skills/activities they are comfortable with. For example:
  - Basic outdoor skills: outdoor dress, safety, map reading
  - Boating: water safety – canoe/kayak (paddling) – motor boating
  - Fishing: basic casting (in gym) – basic spincasting with catch and release fishing experience – fishing unit with cleaning and cooking section
  - Archery: basic target skills – 3D targets – introduction to bowhunting
  - Hunting: basic gun safety – target shooting with lasers or air rifles – basic shotgun skills – Hunter Education

### Strategies for Delivering Messages and Communicating with Administrators

While you need to meet with the formal education practitioners in your state and provide your own examples, here are some ideas for delivering the above messages.

- Attend a school administrator's conference – demonstrate a skill and provide short informational pieces that address priorities. If you are able, recruit another administrator or teacher to attend with you.
- Recruit administrators/teachers who are outdoors enthusiasts to pilot efforts, then share the results in educational publications, or have them share it or do a presentation at their professional meetings. Be sure to address priorities in the development and implementation of your program.
- Recruit Veterans as volunteers. They can talk with schools about the importance of being able to survive out-of-doors.
- Invite local media to cover outdoor skills outings – use the opportunity to share how the program meets educational goals and objectives. If appropriate, let the students and teachers share how the program impacts them. You could also do a YouTube video.
- Work with a teacher who is excited about outdoor skills programs. The greatest support can come from a quality and respected teacher who has a passion for a particular skill set, program, etc. They can help overcome administrative concerns and fears, work with parents, and provide the best approach to an already great outdoor skills program.
- Work with school district curriculum coordinators. Such personnel provide teachers with overall direction for programming, funding, and help jump through administrative hoops. In Nebraska, the NASP was greatly enhanced when curriculum coordinators in larger school districts became involved.
- If your state department of education has a health and/or physical education coordinator, they can help coordinate school districts across regions and can help market quality endeavors.

## B. Align Materials to Standards

In Section II (p 4) we talked about standards and benchmarks, and why they are important in the formal school setting. If you have read through the section on understanding and communicating with administrators, you will know that correlation to standards is an essential step in getting your program into schools.



There are a number of steps involved in aligning or correlating your materials. These are not difficult, though they can be time consuming.

- Locate and obtain copies of the standards used in your state. You can often find them on your state department of education's web site. If you don't see them there, contact the department of education health and/or physical education coordinator, or a representative from your state AHPERD group.
- If your agency has a Project WILD coordinator or other conservation education coordinator, that person most likely already has a relationship with the science coordinator at the department of education. Ask them for an introduction.
- While your initial focus may be health and physical education, don't limit yourself to just those standards. Many outdoors skills also teach content that fits in science, math, social studies, even language arts. Get copies of those standards and include them as well.
- Again, your agency's Project WILD or other conservation education coordinator likely has copies of these standards. In addition, they may have already correlated agency conservation education programs to those standards, and they can help you through the process.
- Evaluate your programs against the standards. How well do they match up? If you are developing a new program, what elements will you need in order to meet the standards you want to align with?
- Work with a teacher to help you do this, and be prepared to pay them! Often, retired teachers are great resources for aligning education programs to standards.



Photo courtesy Minnesota Department of Natural Resources MinnAqua Program

As noted in Section II (p 4) – Standards and Benchmarks, the *Alignment of Outdoor Skills with National Learning Standards and the Framework for 21st Century Learning* can serve as a reference. It includes a spreadsheet of lesson and unit correlations. The spreadsheet is available electronically at [www.fishwildlife.org](http://www.fishwildlife.org), focus area: conservation education. You can use the correlations in that document as an example.

You can use the spreadsheet to assist in your own standards correlations process as follows. (A teacher can really help with this process!).

- First, identify the relevant standards and benchmarks for your state, and in the spreadsheet, put those in place of the national standards. (If your state uses the national standards, half of your job is done!). Note that many standards include benchmarks for grade bands, such as K-2, 3-5, 6-8, and 9-12, or some variation.
- Look at each unit or lesson to determine if it is outdoor skills related (lessons in many fishing education programs include material appropriate to science standards).
- Look at each lesson or unit in relation to each standard. If the lesson relates to a standard place an "X" in the cell under that standard.

- It is important that your outdoor skills program does a quality job of aligning with this standard. This may require changing the development of a new program or tweaking an existing program so that it does a quality job of helping students reach that particular standard.
- If you haven't involved a teacher or curriculum professional in the process, be sure to have someone review the alignments to make sure they are consistent with how teachers interpret the connections. Deciding which standards are met by a given lesson involves an element of subjectivity due to people's various levels of experience and expertise. This can be challenging but probably leads to a deeper and more agreed upon understanding of the standards overall.

There are other options for getting your program materials aligned.

- Coordinate with passionate teachers to provide alignments for your programs
- Contract with retired or existing teachers that understand the program to conduct a quality alignment
- Develop a small committee of teachers, state fish and wildlife educators, volunteers, etc. to do the alignment, or to review an alignment draft you provide them.

The process for correlating materials to standards is well worth the effort involved if you want schools to adopt and implement outdoor skills education. We can't promise that demonstrating alignment will get your programs adopted. But it's pretty certain they won't be adopted if you DON'T demonstrate the connections.

**We can't promise that demonstrating alignment will get your programs adopted. But it's pretty certain they won't be adopted if you DON'T demonstrate connections.**

## C. Training

Training teachers in outdoor skills is essential to establishing a school-based program. Many teachers may not have experience with outdoor skills, and therefore be reluctant to include them in their physical education classes. Teacher training will help them overcome concerns about their ability to instruct their students. From an agency's standpoint, it's best to train teachers to the point they have the confidence and knowledge to teach the courses themselves. To the extent possible, work with local organizations to assist with teacher training. Volunteers can also assist teachers in the classroom and with field outings such as taking students fishing at a nearby pond. Train teachers to do their own instruction so you can be free to provide more specialized outdoor skills training.

If your agency already includes outdoor skills in teacher education workshops then you may want to focus your efforts on marketing. Make sure teachers, curriculum coordinators, and school administrators are aware of the training opportunities you offer. You may want to specifically invite one or two key people to observe, or better yet, participate in one of your agency's courses.

In many states, Project WILD teacher workshops are a perfect place for education staff to incorporate outdoor skills training. The OREO (Outdoor Recreation Education Opportunities) project in Wyoming is a great example. They offer the basic Project WILD 7 to 8 hour training in a natural outdoor camp setting. The basic Project WILD training is held on the first day, followed by specific on-site instruction in outdoor skills. Instructors demonstrate that many outdoor skills help with, and are part of, Project WILD activities. Project WILD offers many classroom activities and meets many standards and benchmarks. It is a valuable 'carrot' for many teachers to attend Wyoming's OREO program.

Provide enough training and experience for teachers to acquire the knowledge and skills they will need for effective instruction. Include both skill and content, and include time during the training courses for participants to develop lesson plans for use in their classrooms. Provide resources that

include specific information on teaching a skill – classroom management and safety, developmentally appropriate teaching approaches, and skills development. (While mastering a skill themselves is helpful, teachers need instructional resources to be able to teach the skill in their classes.)

## D. Sustaining Programs Over Time

While working with an enthusiastic and influential educator (champion) helps implement an outdoor skills education program, the program can suffer or die when that person retires or moves to another school. Programs can also be impacted by changes in administration (in schools or agencies) or when a key agency person moves or retires. This can be exceedingly frustrating for agencies and schools alike.

The most important factor in sustaining programs over time is relationships, relationships, relationships. It bears repeating. The most important factor in sustaining programs over time is relationships. Recruit partners and develop support networks: What other agencies, organizations, or individuals can help support school programs? For example, Iowa partners with local conservation clubs, county conservation boards, local park and recreation offices, and others to develop local support for schools. This allows a very small staff to support programs across the state.

**The most important factor in sustaining programs over time is relationships.**

Stay in touch with the school or local champion, and make yourself available when needed. This can be done by picking up any paperwork they need to send in so you can talk to them about the program and how it's going. Or schedule a day or two at least every couple of months to visit the class to see it in action and meet with those involved about how things are going. This will allow you to troubleshoot any issues they may be having before they become problems. If you stay involved, you will know when a champion is leaving and be able to make sure it doesn't become an issue that may undermine the program and all the work you have put into it. Also, highlight key fish and wildlife staff that can support these relationships with schools across your state. As programs expand, you will need such agency support. Remember, it's not a job it's a commitment!

The second most important factor in sustaining programs over time is making sure you lay a good foundation in starting a program (see Pulling it all together, p [insert page #]). Consider a requirement that a minimum of two teachers per school be trained in a given program. If one leaves, the other will be able to hold down the fort until a new teacher can be brought on board. Involve parents and volunteers from the community. When everyone (teachers, parents, administration) is excited about the outdoor skills program and wants to be involved, the program takes on a life of its own and becomes much more sustainable in the long run.



Photo courtesy Alabama Department of Conservation and Natural Resources

## E. Overcoming Discomfort with Consumptive-oriented Skills

In the discussion of understanding the needs of administrators, we noted that administrators are reluctant to adopt programs they perceive to be controversial. You may have experienced resistance to teaching shooting sports or Hunter Education in some areas or communities, where in other areas those programs are welcomed. In some cases this resistance stems from concerns about safety; in others it may result from a lack of familiarity with the skills in question. Here, we are talking about the discomfort that comes from values differences, where teachers and/or administrators, school board members, or parents do not agree with hunting or other consumptive activities and do not feel it is appropriate to teach those skills in the school setting.

This may go without saying, but it is important to be sensitive to local values related to consumptive wildlife-related outdoor recreation. Society is changing; while the majority of Americans accept regulated hunting as a wildlife management tool, increasing numbers of Americans do not. Agencies may encounter resistance to adopting outdoor skills education that focuses on consumptive recreation. Values are at the core of who we are. They are deeply held, and not easily changed. The following strategies will help you when you encounter resistance based on values differences.

- First and foremost, do not try to change peoples' values or give them the impression you think they are wrong. As educators and outdoors enthusiasts, we are passionate about the things we love to do, and we tend to think everyone should have the same passion. Accept that not everyone thinks the way we do or values the same things. They don't.
- Develop relationships. Get to know the department of education employees who work with schools in health and physical education. They know many of the needs and interests – and people – in local school districts. Get to know local school educators and school officials. Who in your agency has children in school? Consider asking them to make first contact with their children's physical education teacher, coach, and/or school administrator.
- Start with where they are. Meet with local school officials and teachers to determine what they are already doing and identify ways in which outdoor skills will fit into their physical education programs and at the same time, meet the needs of your agency.
- Focus school-based programs on skills that get youth comfortable with being outdoors. Work with partners who can teach the consumptive-related skills in non-school settings. Traditional outdoor skills such as hunting develop over a lifetime. School physical education programs are well-suited to teach skills that lay a foundation for a variety of lifelong wildlife-related outdoor recreation activities that get people outdoors and enjoying our natural resources.
- Invite them to participate in an agency program such as Becoming an Outdoors Woman or to a general program targeted to educators, such as Wyoming's OREO Workshop.



Photo courtesy Minnesota Department of Natural Resources Archery Program

- As noted in Section C (p 13), teacher training is an important factor in providing teachers the knowledge and skills that will overcome their concerns about their ability to instruct their students. However, some teachers may not be ready to make that kind of commitment. Let them know about your agency's outdoor skills programs and invite them to participate. A course that offers “non-consumptive” activities alongside shooting, archery and hunting will give them some choices they may feel comfortable with.
- Communicate the value of participation to wildlife conservation. Most people don't know that participation in archery, fishing, hunting, and boating, etc. support fish and wildlife conservation through federal excise taxes (PR/DJ funds). Let them know that every student participating in an archery program is contributing – and that all wildlife benefit, not just those that are hunted or fished. Helping people understand our North American Model of Conservation can create lifelong advocates and program support.

## F. Accessing the Outdoors

As with many agencies and organizations today, schools have limited budgets and resources. Field trips required to complete educational programs can be cost prohibitive. Although outdoor skills are best experienced in the outdoors, the opportunity exists to introduce participants to a variety of outdoor skills indoors, and still provide them with information and a strong foundation of knowledge and experiences they can apply in the outdoors in the future. Most programs and skills can be provided in a classroom, school gym or school field. However there may be some activities that, in order for experiential learning to occur, require access to areas that are not normally available on school grounds.

- Target oriented skills such as 4-H shooting sports and NASP use equipment designed for safe, indoor use. Backstops, pellet traps, and instruction in proper handling and aiming all provide student experience in a safe, controlled indoor environment.
- Partners may be able to help when outdoor access is needed but not available on school grounds. Community park and recreation departments, youth organizations, local hunting and fishing clubs and other organizations may have property within a close commute. They may even have trained staff to help in program delivery. Discussion early on with contacts from these types of groups can provide not only access to outdoor areas, but could also potentially lead to support in additional areas.
- Although experience in the outdoors and natural areas cannot be replaced, using on-line resources in areas where a field trip may not be feasible is a better solution than not completing a portion of an activity. Many state and federal agencies have live streaming video of natural areas or nesting birds. The Minnesota Department of Natural Resources' Taking Action Opportunity “Connecting Kids to Wildlife with Trail Cameras” curriculum provides an alternate opportunity for access to a protected natural area by posting photos from a local natural area, allowing students to compare wildlife in their school yard to wildlife in a protected area.
- Using technology to bring the outdoors in – weather stations, trail cams, streaming video, and Smartphone applications – is very popular with students and can get them interested in skills that will take them outdoors.
- Some activities however may require “outside the box” thinking when it comes to implementation. For example, if a field trip to a river or stream is not possible, a simple inexpensive water table could be built and used as part of the experience. This would allow youth to interact directly with the flow of water and see how moving objects around or on the water table affect the flow of water and erosion. It also provides an opportunity to engage parents or volunteers in constructing the table.

- Perhaps a local community swimming pool could be used for teaching canoeing, kayaking or boating safety activities when travel to a river is not feasible.
- Liability is a big concern when asking a parent or private organization for access to, or use of their land. Most states have limitations on liability to landowners who open their lands for wildlife-related recreational use. Review your state's laws and have a copy of the law or statute available when you speak to landowners. <http://www.nationalaglawcenter.org/assets/recreationaluse/index.html>
- Finally, teachers, students and even community members may not be aware of local outdoor areas and natural resources. Point teachers to your agency's web site and other sites such as <http://www.ohranger.com/app/parkfinder> that provide locations of parks, wildlife areas, state forests and other public land.

In an ideal situation all outdoor skills would be taught outdoors. However we all know this isn't always possible, particularly in urban settings. Building partnerships with local organizations, and finding creative ways to provide skill experiences to students, can make implementation of outdoor skills education programs more feasible for many schools.

### Pulling It All Together: Getting a Program Off the Ground

You have identified key decision-makers, developed communication messages, correlated your materials to standards, instituted teacher training, identified a champion and looked at access issues. Now what?

The following step-by-step process will help you get a sense of the big picture and how the pieces fit together. This is the process used by outdoor skills specialists with the North Carolina Wildlife Resources Division. They offer this note: it takes a lot of time to get a program going in a school and you have to be committed to giving the time it takes – to get it started, to be available when questions arise, and to keep in touch to handle any issues before they become problems (such as the champion leaving without you knowing about it).

**I**t takes a lot of time to get a program going in a school and you have to be committed to giving the time it takes.

1. Teacher comes to outdoor skills specialist or specialist goes to teachers at a school to discuss interest in the program. Make sure you go to the right teacher for each program, for example, in North Carolina NASP is taught in physical education and Hunter Education is taught in Agriculture. It's time to sell, sell, sell your product (program) so be sure to show them all the wonderful features it has to offer them. (Remember-know your audience).

When meeting for the first time have on hand the programs' correlations to their curriculum and any other information on the importance of this program to students, schools and communities. If it's possible, bring a teacher from another school that already has the program to explain things in "teacher speak." Now is also the time to be sure to let them know if there are any liability or safety issues involved and if you have any personal rules for getting a program started. For example, several Hunter Education specialists in North Carolina require that two teachers/volunteers have to be trained/certified in the school at all times. That way, if one teacher leaves, the other teacher can keep teaching, and contact the Hunter Education/Outdoor Specialist instructor to arrange for additional training. If the program costs the school money it's important and helpful to have available the information on any current grants, donors or partnerships

**B**ring a teacher from another school that already has the program to explain things in "teacher speak".

available to them. If the teacher you approach is interested but can't get another teacher, parent, resource officer, etc. at the school to become involved, be ready to give them contact information for local sportsmen, groups or clubs that may be able to volunteer their time to help.

2. After you have teachers/volunteers interested and committed, it's time to get the students involved. Set up a day at school to come and speak with the students about the program to get them on board. It's best to demonstrate an activity in the program so the students have a fun hands-on experience so they can understand the program better and become excited about it. If the students are interested and enthused, then the parents will be more willing and interested to learn about it and help get it started. Some may even end up as volunteers. This may be the time to get the PTA involved-some try at this time but some wait until after the principal is on board with it, and some don't do this at all. (The teacher will know whether you will have trouble getting the principal to say yes. If it will be a problem, then get the PTA involved now). In addition to their influence on the principal and school officials, another reason to involve the PTA is that they can help integrate the program into the school by passing by-laws, and that may make your job easier.



Photo courtesy CC King, North Carolina Wildlife Resources Commission

3. After teacher, students and parents are behind the program, it's time to talk to the principal. It may seem like you should talk with him/her first. But if you do, and they say no, then you are cut off from ever talking with the teachers there about the program. Be sure to have teacher/teachers, any parents and students available to accompany you to your meeting. The more groups he/she sees interested in the program the more likely he/she is to listen to what you have to say and try it at the school. Be sure to bring all of the information about the program, including standards correlations, costs, safety precautions, and where it supports other subject areas. In addition, be sure to bring information about positive impacts of the program on students and/or in the community. Tell the administrator everything you told the teachers so they won't be blind-sided by something later. The last thing you want is for them to shut the program down because of knowledge they should have had in the beginning (especially liability and cost).

Agreement by the principal may be all you need to start training. However, in some cases you may need to go higher – to the superintendent or the school board. If you have to go higher, be sure to bring everyone with you again. Actually, this is a good time to show by doing. Agree on a day that everyone can meet at the school and show them the activity/program instead of telling them about it. Have everyone participate including the students. This type of show and tell

with everyone involved helps to really establish ownership of the program within the school or school system and all the different groups involved. If the whole school community is behind the program it will live forever and make your job a lot easier.

4. The Outdoor Skills/Hunter Education specialist will now need to be able to supply training and educational workshop opportunities for the teachers and volunteers. Be sure to hold trainings and workshops on days that are best for the teachers. Poll the people involved and find out when is best for them. Don't assume you know what will work for them, or try to fit it into a 40 regular hour week. Workdays or weekends may be the favorite, but it may also be that afterschool works the best for most of them. Make yourself available!! If the training involves a certification process, be sure to look into the teachers being able to get Continuing Education Units or college credit for it.
5. Have available support materials or trainings easily accessible to the teachers. The materials may be on-line, as printed copies, or easily emailed document. Training that doesn't involve teachers actively doing something could be offered on-line. Any training the teachers need to attend should be held several times a year at convenient locations nearby to or at schools that have the program.
6. As the program takes off get the PTA involved if you haven't already. They can pass some by-laws that would help with program continuation such as requiring that two teachers be trained/certified at all times.
7. Make sure to empower other fish and wildlife staff to become involved and help with trainings and program support. This will be important as your programs take off. Remember...there is only one of you!

As you can see, each school the Outdoor Skills/Hunter Education specialist comes in contact with involves a lot of time and legwork, especially to get programs started. But even after the program takes off you need to keep in touch and make yourself available when needed to insure that the program will continue to run smoothly. This can be done by picking up any paperwork they need to send in so you can talk to them about the program and how it's going, or by having set days at least every couple of months when you come to the class to see it in action and meet with those involved about how things are going, and to troubleshoot any issues they may be having before they become problems. If you stay involved, you will know when a champion is leaving and be able to make sure it doesn't become an issue that may undermine the program and all the work you have put into it. Remember, it's not a job it's a commitment!



## V Criteria for Quality Physical Education Programs

There is one more step for developing and implementing school-ready programs – making sure the programs are “quality” curriculum, based on sound educational theory and practice. The NASPE identifies three components for a quality physical education program: opportunity to learn, meaningful content, and appropriate instruction.

### Opportunity to Learn

- Instructional periods totaling a minimum of 150 minutes per week for elementary and 225 minutes per week for middle and secondary school.
- Qualified physical education specialists providing a developmentally appropriate program.
- Adequate equipment and facilities.

### Meaningful Content

- Instruction in a variety of motor skills that are designed to enhance the physical, mental, and social/emotional development of every child.
- Development of cognitive concepts about motor skills and fitness.
- Opportunities to improve their emerging social and cooperative skills and gain a multicultural perspective.
- Promotion of regular amounts of appropriate physical activity now and throughout life.



Photo courtesy Iowa Department of Natural Resources

### Appropriate Instruction

- Full inclusion of all students.
- Maximum practice opportunities for class activities.
- Well-designed lessons that facilitate student learning.
- Out-of-school assignments that support learning, practice, and establishing lifelong habits.

### Well-planned and Well-implemented Programs Need to Include

- Skill development – development of motor skills that allow for safe, successful, and satisfying participation in physical (outdoor recreation) activity.
- Regular, healthful physical activity – a wide range of developmentally appropriate activities for all children and youth.
- Support for other subject areas – reinforce knowledge learned across the curriculum and serve as a laboratory for application of content in science, math and social studies.
- Self-discipline – facilitate development of responsibility for personal health, safety and fitness.
- Improved judgment – influence moral development. Students learn to assume leadership, cooperate with others, and accept responsibility for their own behavior.
- Strengthen peer relations – help children and youth socialize with others successfully and provide opportunities to learn positive social skills.
- Improve self-confidence and self-esteem – instill a stronger sense of self-worth in young people based on their mastery of skills and concepts.
- Goal setting – give children and youth the opportunity to set and strive for personal, achievable goals.

Keep the following in mind when you develop or adapt outdoor skills programs for delivery in schools.

### **Program is Developmentally Age Appropriate (physically, cognitively, and emotionally) and Follows a Logical Progression**

Activities should match the developmental stage of the students involved. The focus for early (K-2) elementary students should be on large motor skills. Activities should provide opportunities for students to walk, run, etc, and instruction should focus on basic skills such as walking – and staying – on a trail, and observing nature in the outdoors. Upper elementary (3-5) students are ready for more advanced motor skills and hand-eye coordination. Activities involving targets – casting or archery – are good at this age.

Instruction of any skill should move the student toward skillfulness, building on basic skills to more advanced forms. Lessons and activities need to be different for each grade level. Recall that skill development is cumulative. Students need to be learning advanced forms of skills they have mastered, as well as new skills. In other words, if basic fishing is taught in 5th grade, the same lessons and skills should not be repeated in the 6th grade. Rather, instruction for students who have completed basic fishing should build on what they learned, teaching new skills and applying skills they have learned in different ways. For example, a short introductory program on basic paddling will provide students with the basics they will need for canoeing or kayaking, and give them an opportunity to experience initial success. This might be followed by an outing to put their newfound skills to use.

At the same time, any program needs to allow for a variety of skill levels in any given class, since students develop skills at different rates. Instruction should be such that all students can participate and experience success (improvement or mastery) regardless of their level of development.

Instruction needs to include meaningful content – knowledge about the motor skills they are learning, as well as opportunities to use and improve their social and cooperative skills.

- Work with state departments of education and school district health and physical education coordinators to ensure outdoor skills materials are age and developmentally appropriate.
- Develop programs that are tailored to specific grade bands (K-2, 3-5, 6-8 and 9-12) and avoid using materials developed for one grade band for instructing older students.
- Contract with teachers or curriculum experts to assist in review and development of lessons and units.

### **Program Connects with and Supports Other Subject Areas**

Outdoor skills education is ideal for connecting physical education with other subject areas. Learning to use a map and compass involves an understanding of landscapes, as well as geometry. Learning to track animals includes learning something about their biology and life histories. Learning about fishing involves learning about aquatic habitats. Any outdoor recreational activity requires an understanding of the natural resources in which that activity occurs, as well as the ethics involved.

- Include related subjects in outdoor skills lessons and units, and highlight those connections.

### **Program Provides Opportunities for Students to Learn Basic Skills and Try a Variety of Activities**

A program that teaches basic skills for a variety of activities and provides a variety of experiences for students to experience sets a good foundation for more advanced skills. Students will have an opportunity to discover what they are good at and what they enjoy. In addition, it gives them options for incorporating those activities into their daily lives as their skills and interests mature.

Many students may have little experience with the outdoors. The most basic outdoor skills education should include topics such as dressing for the outdoors, understanding direction, basic outdoor safety, and more. Many of these are topics and skills that can be introduced at an early age, and built upon in subsequent grades. In addition, they are foundational to any wildlife-related outdoor recreational activity.

A challenge to the delivery of basic skills is lack of coordination among outdoor skills programs within many fish and wildlife agencies. Outdoor skills programs are often housed in different divisions within an agency; aquatic resource education is often housed in the fisheries unit, hunter education in the law enforcement unit, and hunting skills in the wildlife or law enforcement units. These may or may not coordinate with each other or with other agency conservation education efforts. As a result, teachers are frequently contacted by multiple personnel, each with a different education resource. This is frustrating to teachers who don't have a good idea of where they should start.

- Coordinate communication of outdoor skills and conservation education courses when approaching educators.
- Develop a basic outdoor skills course that teaches skills such as dressing for the outdoors, using map and compass, outdoor safety and other skills necessary to safe outdoor recreation.
- Develop a comprehensive “series” for outdoor skills with suggestions for skill groupings and progressions, as well as target audiences and venues. Identify which skills are best taught in a formal education setting and how those skills can be complemented by after school and weekend events, programs and courses.

### Program Encourages Family and Community Involvement

Quality physical education programs encourage out-of-school practice to help students become proficient enough to enjoy an activity and establish life-long habits. This is an area where outdoor skills programs can really shine! Enlist the support of local organizations to help students engage in wildlife-related recreation outside of the classroom. Many schools that have adopted the NASP have also developed after school archery clubs where students can practice and even participate in archery competitions. If local fishing opportunities are available, find organizations whose members will mentor kids and take them fishing. In addition to contacting youth groups and sportsmen's organizations, check with other community groups. Sometimes community organizations such as Lions Clubs, Rotary, Jaycees or other groups will want to become involved.



Photo courtesy Nebraska Game and Parks Commission

- Identify and suggest local organizations and community groups whose members may be interested in mentoring students and/or conducting after school programs or events. It is the school's job to make those contacts, but agencies can assist by making introductions.
- Include in lessons and units, suggestions for out-of-school extensions. For example in a fishing education program, provide information on local fishing opportunities and suggest participation in local fishing clinics or other events.

## Program Uses Equipment That is Either Readily Available or Provided at Little to No Cost or Through Grants

Classes need enough equipment for each student to have adequate practice time during the class period. Cost of equipment can be a significant limiting factor. Find creative ways for schools to purchase or borrow equipment.

- Encourage schools to find local organizations or businesses that might be willing to provide grants to subsidize equipment costs.
- Partner with non-governmental organizations and/or businesses to develop grants to schools for equipment.
- Partner with local entities to create locally-based equipment loan programs. Many tackle loaner programs have successfully provided fishing equipment to schools for aquatic resource education and fishing program.

When you can show school decision-makers how your program helps them achieve their goals, and meets criteria for high quality physical education, you will increase your chances of having your program adopted.

## VI Case Studies

### IOWA

#### ***Fish Iowa! Angling Education Program***

This is a multi-pronged approach designed to introduce youth (and novice adults) to angling. The focus is on building local capacity to develop local support networks to support/sustain fishing education. Major components include a basic spincasting module designed for use in physical education courses and other recreational programs; grants programs for development of longer-term initiatives through after school, youth group, and parks and recreation programs; a spincasting contest held in conjunction with the Iowa Sports Foundation; and support for local fishing education events targeted to youth and families. Ice fishing and fly-fishing modules are available to local partners who want to offer additional fishing education opportunities. The Iowa Department of Natural Resources provides training and teaching resources. Local partners house some 3,000 rods and reels at over 100 locations around the state. They may also provide instructors, volunteers, and even funding for local programs. More than 3,000 educators and youth leaders have been trained since the inception of the program in 1990. Estimated participation in school and community-based fishing programs is more than 180,000 youth and novice anglers annually.

### MICHIGAN

#### ***Archery and Bowhunting Education***

The Michigan Department of Natural Resources (MI DNR) is currently working on a multi-program approach to introduce both youth and adults to the sport of target archery and bowhunting. Currently, three programs are being used to engage more people into the sport: The NASP, Recreational Archery program, and the Explore Bowhunting program. The NASP is designed to introduce target archery to students in 4th through 12th grade physical education classes during the school day. To date, over 470 schools representing 75 counties statewide have adopted the program. It is estimated nearly 100,000 students per year experience target archery because of this program. The MI DNR provides free basic archery instructor certification for teachers and equipment grants to schools. Students who participate in NASP often seek next step programs such as recreational archery or bowhunting.

The Recreational Archery program is designed to provide community archery and bowhunting education opportunities for any organization looking to provide introductory or next step archery opportunities for youth, adults and families. The program is available to municipal parks and recreation program leaders, nature and outdoor education staff, school teachers, non-profit youth serving organizations such as YMCA, Boy and Girls Scouts, 4-H and many more. The MI DNR currently provides a two day archery training academy to ensure recreation leaders obtain archery instructor certification and training on how to implement all the various archery programs available. Instruction is also provided on how to develop community archery parks, in an effort to mainstream archery with other popular sports at public recreation areas. This program provides the community with accessible shooting sports opportunities and makes the sport of archery more visible to non-traditional users. To date, nearly 15 communities in Michigan participate in the program. The MI DNR currently provides equipment grants to municipal parks and recreation programs.

For students and adults who want to take their archery skills to the next level, the Explore Bowhunting program is a great fit. Explore Bowhunting is an outdoor conservation education program focusing on interaction with people and wildlife. The curriculum contains 22 chapters that teach students how

to interact with the natural world by developing basic skills used to bowhunt, which focus on getting close to animals. Not only does Explore Bowhunting teach students how to interact with nature using ageless hunting skills, but it also teaches an appreciation of what is around them and enhances their encounters with the outdoors. Students who participate in this program are encouraged to take Hunter Education and to participate in their first mentored hunt. Currently the MI DNR provides this program to educators at no cost and loaner equipment trunks are available statewide. The program is available to both schools and other organizations. Hartland Middle School teacher Robert Jellison liked this program so much he created a Youth Outdoors Club. According to Jellison, the club currently has 150 student participants and has resulted in 71 new hunting license purchases and 31 “first” deer have been taken by these new hunters. In addition, the kids also have tried their hand at fishing resulting in 187 new fishing license purchases.

## NEBRASKA

### *Nebraska Archery in the Schools Program*

The Nebraska Game and Parks Commission (NGPC) implemented the NASP in 2004. At this time, Nebraska did not have statewide Physical Education Standards in place. In 2008, the Nebraska Department of Education did develop standards. While the NASP program was aligned to national Physical Education Standards, the program was not aligned with the new state standards. In an effort to expedite this process, the NGPC contracted with a retired curriculum coordinator who had collaborated with the agency when the NASP in Nebraska was started. Within a few months, the program was aligned with the new Nebraska Physical Education Standards.

### **Key Lessons**

1. Having a relationship with our Department of Education helped the agency learn about the newly developed standards and their importance
2. Having a relationship with a curriculum coordinator for one of the larger schools districts in Nebraska gave the agency an outstanding opportunity for a quality alignment completed by a professional
3. The alignment project has helped the NASP program become established in several schools in Nebraska where such an alignment was important

### *Outdoor Discovery Program*

For several years, the NGPC searched for an educational venue that would compel schools to actively involve their students and teachers in outdoor skills programming that included the hunting and shooting sports. Several school districts have not allowed or shown comfort with outdoor skills programs focusing on hunting and shooting sports. In 2007, in an effort to expose these and other schools to such programs, NGPC developed the Outdoor Discovery program which consists of a two day event in which schools from various regions are invited to bring their 4–6th grade classes to participate in a variety of outdoor skills programs. These two day regional events are like an Expo in format but developed specifically for Nebraska schools, grades 4–6. In the fall, teachers are sent a packet outlining 40 outdoor skills programs and are asked to register their class for five. Although hunting, shooting sports (shotgun, archery, air gun) and fishing are key focus workshops offered, Outdoor Discovery is also infused with softer outdoor skills such as wildlife viewing, wildlife biology, camping, Orienteering and GPS, outdoor cooking and much more.

The Outdoor Discovery program has allowed NGPC to offer a quality outdoor skills program to nearly 6,000 youth annually in various regions of the state. When developing the small educational workshops that make up this large event, all educators were asked to develop a small curriculum and

align it with one or more appropriate educational standards for that grade band (state standards). Educators then took the concept of their program, such as shotgun shooting, archery, game tracking, fishing, etc. and developed their curriculum around an education standard or several. The alignment proved very important as a significant number of teachers surveyed stated that having the alignment done was an important element in their being able to attend the Outdoor Discovery program. In their fifth year, the programs are proving to be a valuable first introduction for thousands of Nebraska youth in the areas of outdoor skills, opening the world of outdoor skills and conservation to thousands of new students annually. Because each program is aligned with state teaching standards, teachers feel the outdoor skills programs are a great way to meet academic standards and expose their kids to quality outdoor skills programs that would not be possible in a school setting.

### **Key Lessons**

1. Taking the initiative to make a simple alignment when developing a new program can be important down the road
2. Taking a large program and breaking each activity into smaller components helped spread the alignment effort by each educator and make aligning programs to one or two standards much easier
3. All educators learned how simple aligning outdoor skills programs to education standards can be by taking part in a small portion of the alignment process
4. If taking the outdoor skills program to the school is not possible, bringing the school to a quality outdoor skills program/facility can make educators comfortable with the offerings
5. Mixing consumptive and non-consumptive outdoor skills program offerings can help with the teacher comfort level as well as attract teachers and students to various programs they see or hear during the event.

## **NEW MEXICO**

### ***Incorporating outdoor skills into Project WILD training***

In New Mexico and many other states, various types of workshops in the Project WILD ‘family’ are well suited to provide outdoor skills training for teachers. New Mexico and other states conduct multi-day Advanced Project WILD workshops that take place at nature centers, wildlife areas or state parks. These workshops offer a unique blend of outdoor skills training in archery, wildlife viewing, angling, and outdoor cooking and tent-camping. The New Mexico Game and Fish Department (NMDGF) includes a strong field investigation component to these workshops. The agency demonstrates wildlife inventory and monitoring techniques that teachers can often readily recreate at their schools. For example, training held at a U.S. Forest Service campground included sessions on fly-tying, fly-fishing, bird-watching, and elk stalking skills, as well as fisheries monitoring techniques. The closing session demonstrated Project WILD activities that tie in with the outdoors skills they learned. In other advanced Project WILD workshops NMDGF has introduced archery range practice and the use of dart guns on 3D bear and lion targets.

Many other state wildlife agencies conduct similar trainings that incorporate Project WILD and Aquatic WILD activity guides as well as Project WILD: Science and Civics Sustaining Wildlife and Flying WILD: An Educator’s Guide to Celebrating Birds. These activity guides all have commonalities that are pertinent to teacher training in outdoor skills.

1. They have a nationally recognized distribution system through a partnership with the Council for Environmental Education and most state fish and wildlife agencies (largely).
2. They have a long-term, successful track record in reaching teachers with valuable training opportunities.

3. They have numerous activities that incorporate outdoor skills or are supported and strengthened when facilitators consciously blend in outdoor skills.

This last point is where agency administrators can ask the existing education staff to look for creative ways to blend in outdoor skills training.

Many states reach into schools for outdoor skills training through their Aquatic Resource Education program. Many schools receive angling skills training by an agency staff person or contractor. In New Mexico, angling skills training is delivered to a variety of K-12 and adult audiences by a contractor. The primary target audience is elementary school students, parents, and teachers. To qualify for free training schools have to commit to at least three days of training and instruction that ends in an actual fishing trip. The angling skills project is especially popular because the training specifically targets and is correlated with New Mexico standards and benchmarks in math, science, and language arts. Teachers consistently rank the training as valuable for their students. Thus, although the target audience is students the training also benefits the teachers as well.

Lastly, NASP has proven to be very popular in New Mexico since its introduction in 2008. Many school districts have openly embraced the program and actively participate in the end of the school year state tournament. Again, this program is directed towards students but the teachers must receive the training as well.

## **NORTH CAROLINA**

### ***Youth Hunter Skills Tournament***

North Carolina has a Youth Hunter Skills Tournament, conducted by the Hunter Education program of the North Carolina Wildlife Resources Commission (NCWRC). The competition is an incentive component of the state Hunter Education program, provided as an opportunity to showcase outdoor skills and demonstrate safety, with events in rifle, shotgun and archery marksmanship, as well as an orienteering challenge and a wildlife knowledge test. Teams are organized within public and private schools, while home-schooled students and teams representing organizations such as 4-H or FFA also can compete, provided they meet eligibility requirements. In 2011, nearly 600 students from 52 schools participated in the tournament, which determined state champions in team and individual categories. Teams and individuals qualified for this event during nine district-level tournaments held across the state in March, with thousands taking part.

## **OKLAHOMA**

### ***Oklahoma Department of Wildlife Conservation (ODWC) Outdoor Education Initiative***

The Oklahoma National Archery in Schools Program (OKNASP) is currently in 250 schools across the state. This popular program has opened doors for other ODWC education programs. In 2010 ODWC unveiled its new state specific Hunter Education curriculum which was authored in conjunction with the University of Central Oklahoma, College of Education. A Hunter Heritage Partnership Grant made it possible for the ODWC to recruit 100 current OKNASP teachers to be Hunter Education instructors. In the fall of 2010, 73 of those teachers certified 3,096 students as part of their in-school curriculum. This resulted in a record year for hunter education with 17,600 total students certified. Besides OKNASP and Hunter Education, the ODWC was selected as a pilot state for the Archery Trade Association's new Explore Bowhunting program. Ten OKNASP and newly trained Hunter Education teachers were selected to pilot the program in their schools. The program was a huge success and the ODWC plans to train and provide Explore Bowhunting kits to an additional 40 schools in 2011.



The success of all of these programs has led ODWC to developing a school specific aquatic education supplies grant which will accompany a new curriculum being developed along with the University of Central Oklahoma. Fifty schools that teach OKNASP, Hunter Education and Explore Bowhunting will receive the initial supply kits and training. This four pronged approach will lead to students receiving a minimum of eight weeks of outdoor related courses as part of their classroom instruction. Last year the following was the result of the above mentioned format:

- Students that received OKNASP Training: 16,904
- Students that received OKNASP and Hunter Education: 3,096
- Students that received OKNASP, Hunter Education and Explore Bowhunting: 1,000

OKNASP teachers were the foundation for this design. ODWC plans to continue to grow OKNASP, but funds are also being allocated for OKNASP teachers to be Hunter Education certified, Explore Bowhunting certified and Aquatic Education certified. By 2016, ODWC anticipates that 34,000 students a year will be receiving eight weeks of outdoor related training (two national programs and two Oklahoma specific). In a survey of Hunter Education school students, 85-88% of pre/post students said they had someone that would take them hunting if they wanted to go. ODWC's emphasis is to provide them with adequate training so they feel comfortable simply ASKING that person to take them. Repeated experiences with fun outdoor related activities is the key to getting students to ASK not just once, but maybe ten or more times until that person takes them. ODWC believes that repeated experiences is the key to recruiting new hunters and anglers as well as creating all around better stewards of our wildlife resources.

## TEXAS

### *Hutsell Elementary School fishing program*

Keiko Davidson, Principal of Hutsell Elementary School, Katy Independent School District, and her dedicated staff, "The Dream Team," bring together families and the community for the benefit of their kids by "engaging their hearts and minds." They believe that their fishing program is a perfect tool for doing just that.

Hutsell Elementary School is a Title One School, with over 70% of their students designated by Texas Education Agency (TEA) as "at risk". In 2008, after incorporating the interdisciplinary fishing program in the art, science and PE curriculum, 97% of Hutsell Elementary third-graders passed the TAKS test (Texas' statewide assessment test) the first time they took it, while 95% of their fifth-graders passed it the first time.

The spirit of fun, cooperation and dedication to the kids is key to their program. All staff members have a monogrammed polo shirt that they wear on certain "fishing" days. They do morning announcements that capture the kids' interest and have small giveaways and prizes that keep everyone guessing who will be the next winner. They get the local Rotary Club and the PTA involved. Each of those organizations provides volunteers and some funding for transportation to fishing venues, bait and prizes. Banners and posters announce special fishing events and keep their fishing program "top of the mind."

Hutsell Elementary was awarded a grant from the Future Fisherman Foundation that they used to help them purchase the fishing equipment they needed. Of course, Texas Parks and Wildlife Department (TPWD) played a role, too. TPWD staff provided continued support at events and helped with logistics while game wardens provided safety checks before fishing. The Sport Fish Restoration Act funds were spent to provide literature, pins and certificates for the students and their families. With

over 24 of the school staff trained as TPWD Volunteer Angler Education Instructors, Davidson's staff also relied on the district's P.E. and Health Curriculum Specialist, Kathy Cammarata, to support them with substitute teachers when they needed them during field trip days.

Today the program is still going strong. At the recent December 2010 Texas Partnership for Children in Nature state-wide conference, Davidson participated in the speakers panel and explained, to the amazement of other formal educators, how as principal she encouraged a campus-wide fishing field trip the day before the administration of the TAKS test and the students still achieved superior test scores. The school is now an exemplary school. Davidson also delightfully shared that, when interviewing new teachers, they are asked, "So, how do you feel about fishing?"

### ***Community Outdoor Outreach Program***

The Community Outdoor Outreach Program (CO-OP) grant began in January 1996 and to date has introduced more than 500 organizations to the outdoors TPWD style. These funds are generated from the sporting goods sales tax and issued to applicants through a competitive scoring system based on criteria determined by TPWD and outdoor constituent-based organizations.

- Programs must be TPWD-related and offer hands-on experiences for applicants.
- Funds must be spent on program materials such as supplies, transportation/fuel costs, staff, liability insurance, etc. No construction is allowed.
- Points are awarded for applications with focus on the following criteria:
  - Target Audience – ethnic minorities, females, youth, inner city and rural communities, and physically/mentally challenged
  - Programs/Activities – TPWD-related activities, programs or staff resources used
  - Partnerships
  - Educational curriculum
  - Outdoor service related projects
- Grant amounts range from \$5,000 to \$50,000. A total of \$1.25 million is available annually for the program. ***Due to state budget cuts, the CO-OP Program is currently suspended (2011).***
- It is a reimbursement program and quarterly reports and evaluations are required.

Examples of projects funded:

1. Middle school kids and their families participate in a series of day camps allowing them to learn about endangered species, camping etiquette, plant identification and more.
2. A state university will offer five one-week outdoor/environmental education summer camps and three one-day kayaking events for nearly 300 participants.
3. 150 students from Boys and Girls Club will visit state parks and learn about wildlife, plants, forestry, hiking, canoeing and fishing.
4. A religious organization will allow 150 students to attend a four-day environmental stewardship camp to participate in activities such as mountain biking, angler certification, Project WILD and archery.
5. Non-profit groups will bring the rehabilitative aspects of kayaking and angling to veterans and their families who have suffered injuries while serving our country.

## **WISCONSIN**

### ***Wisconsin Outdoor Education Expo***

This event is aimed at capturing the outdoor spirits and minds of nine and ten year old students. The "Outdoor Youth Expo" as it is often called, is conducted on a county fairground within one or two hours of Wisconsin's major metropolitan areas. The Expo takes place over a two day period. School busses begin arriving around 8 a.m. and children spend the day, leaving by 3 p.m. Small groups of

children, led by teacher or parent chaperones, visit a variety of “camps” where they participate in a wide variety of traditional outdoor recreation activities including archery, firearm safety, wildlife calling, wildlife habitat management, bird and mammal identification, trapping, camping, trail recreation, fishing, and team building. They also learn about wolves and raptors, and about Native American conservation heritage.

The Expo has reached nearly 25,000 children, teachers, parents, and volunteers in six years of operation.

While Wisconsin hosts a variety of sporting shows (Deer and Turkey Show, Milwaukee Sports Show, Green Bay Deer Classic, and more) these events are geared toward adults. The Outdoor Youth Expo is the only statewide event where children can learn, through hands-on activities, a wide variety of traditional and outdoor recreational skills, as well fish and wildlife conservation topics. Introducing nine and ten year olds to a wide variety of outdoor recreational activities is the first step in arousing their interest in pursuing these activities at home and into adulthood.

## WYOMING

### ***Wyoming WILD about Outdoor Recreation Education Opportunities (OREO)***

The OREO project in Wyoming is a great example of an agency blending Project WILD training and outdoor skills. Their approach is to offer the basic Project WILD seven to eight hour training in a natural outdoor camp setting. The basic WILD training is a stand-alone training that is offered before specific on-site instruction in outdoor skills. Instructors show how many of the outdoor skills classes help with and are part of Project WILD activities. As Project WILD offers many classroom activities and meets so many standards and benchmarks it is a valuable ‘carrot’ for many teachers to attend OREO in Wyoming.

## VII Resources

### A. Benefits of School-based Skills Programs to Agencies – Messages for Agency Administrators

There's no doubt about it – developing and delivering quality outdoor skills education is time consuming and labor intensive. In days of budget cutbacks and staff reductions, it can be difficult to justify the effort. State fish and wildlife agencies have much to gain by working with schools to incorporate outdoor skills education. Here are a few bullet points to help you make the case to your administration.

- In-school programs have the potential to expose every young person – regardless of background – to fishing, archery and other wildlife-related recreation, as well as convey the principles of conservation and the North American Model of wildlife conservation. In a 2009 study of youth participation in the outdoors, Hispanic, African American, and Asian/Pacific Islander respondents indicated school programs were a factor influencing their decision to participate in outdoor activities – ahead of community youth programs (Outdoor Foundation, 2009).
- In its May 2010 report to the US President, the Task Force on Childhood Obesity cites the importance of outdoor education through the Department of the Interior:

*“Another strategy for getting kids physically active is to involve them in environmental education programs that involve outdoor activity. Interpretive programs and alternative PE lessons involving activities such as hiking, biking, wildlife watching, and kayaking can make outdoor education good for the*

*body and brain, and at the same time, enhance young Americans' exposure to and appreciation of our nation's cultural, historic, and environmental resources. Additionally, the Fish and Wildlife Service and the National Park Service offer curriculum-based teacher training by field stations to classroom teachers and other educators to prepare their students for field trips to national parks, wildlife refuges, fish hatcheries, and other public lands. However, more can be done on the national level to encourage outdoor education on public lands as part of school-based curriculum. These programs also facilitate healthier lifestyles by emphasizing indoor and outdoor activity and exercise.”*

- While school-based outdoor skills are an education process and not a focused recruitment and retention process, there is evidence to suggest agencies will benefit in future license sales. Recently, Southwick Associates® estimated a return on investment for the NASP. Using data from the USFWS National Survey of Shooting, Hunting and Wildlife Watching, the Sporting Goods Manufacturers Association Survey, National Shooting Sports Foundation (NSSF) and the US



Photo courtesy SpiderJess.org

Census, Southwick identified the following crossover of archers to hunting and fishing: 17.4% of archers will bow hunt, 32.7% will hunt with a shotgun, 38% will hunt with a rifle, and 56.3% will fish (NASP report to Association of Fish and Wildlife Agencies, March 2011).

- Many of the skills used in adult recreational activities are learned during the school years. According to the NASPE, “people who do not learn these skills early in life are less likely to learn them and even less likely to use them than skilled people, and, for this reason, they will be less likely to reap the health and wellness benefits associated with lifelong physical activity”
- Schools, and community partners such as parks and recreation departments, 4-H and others, can work together to provide opportunities for students and their families to try a variety of outdoor skills-related activities through after school and weekend programs and events. In addition to exposing youth to a variety of activities, these opportunities have the added benefit of building the local social support networks necessary to nurture and sustain participation.
- Teaching basic skills through physical education classes allows agencies to focus their efforts on advanced skill development, specialization and training in areas that may be less acceptable to some schools, such as hunting, through youth hunting clinics and other programs.

## B. Outdoor Skills Education Programs Assessment Matrix

Use this matrix to assess how your outdoor skills education programs fulfill criteria for quality physical education. Mark the box that most closely describes your program/materials. Score 5 points for each mark in the left hand column, 3 points for each mark in the center column, and 0 for each mark in the right hand column.

Scores: 35-45 Excellent; 20-34 Good; 10-19 Needs work; 0-9 Unacceptable

<b>Developmental age appropriate; logical progression of information</b>		
Skills and concepts appropriate to student's age and level of physical development. Activities are not repeated from one year to the next	Skills and concepts are age appropriate but the same materials are used for multiple grades within a grade band (e.g. 3-5)	Skills and concepts are not matched to developmental level and are not age appropriate. One set of lessons is used for multiple grade bands (e.g. 3-5 and 5-8)
<b>Support for other subject content areas</b>		
Lessons include connections to multiple subject content areas	Lessons include connections to one or two content areas	No connections to other subject content areas are included
<b>Student opportunity to learn basic skills and experience variety of experiences</b>		
Includes basic skills as a foundation. Delivery of courses is coordinated across agency programs and is built on the basic skills foundation	Includes basic skills as a foundation. Additional courses build on basic skills foundation but are not coordinated with each other.	There is no coordination in the delivery of various units by the agency
<b>Correlation with state and/or national standards</b>		
Lessons and units are correlated with relevant state and/or national standards in more than one subject area	Lessons and units are correlated with relevant state and/or national physical education standards	Lessons and units are not correlated with standards
<b>Instructional materials</b>		
Instructional materials are well designed and include background information, complete list of resources needed, and step by step instructions	Instructional materials include some background information, some of the resources needed, and general instructions	Instructional materials are incomplete and/or are copied from another source
<b>Teacher training</b>		
Teacher training is provided in all skill areas at times that are convenient for teachers	Teacher training is provided in a few skill areas; training is not always available at times convenient for teachers	Teacher training is not provided
<b>Family and community involvement</b>		
Agency helps school identify community partners and materials include suggestions for involving friends and family	Agency provides general suggestions for community partners and materials do not include suggestions for family involvement	Agency does not provide suggestions for local partnerships or family involvement
<b>Program equipment and cost</b>		
Agency/organization works with local community to develop equipment loan programs and works with sponsors to provide grants	Agency/organization provides equipment through loan programs and/or works with sponsors to provide grants	Schools are on their own to find funding and equipment
<b>Local opportunities and values</b>		
Courses are offered based on accessible resources and community values	Courses take into account accessible resources	Courses are taught regardless of whether or not students have an opportunity to practice outside of school

## C. Benchmarks for Conservation Literacy

Concepts of learning that all students should know and be able to do.	Conservation Benchmarks		
	5 <sup>th</sup> Grade	8 <sup>th</sup> Grade	12 <sup>th</sup> Grade
Ecological systems are dependent upon the interactions between living and nonliving systems.  <i>Conservation Literacy and Systems</i>	Identifies the basic needs of plants and animals. Describes how the basic needs of plants and animals are met.  Describes a local ecosystem and identifies its living and nonliving components.	Examines the environmental factors that influence the number and diversity of species in an ecosystem.  Examines energy flow through the food web in each ecosystem.	Predicts how a change in an environmental factor can affect diversity of species in an ecosystem.  Investigates the health of a local ecosystem by researching, gathering and analyzing the biological, geological, chemical, and physical data of that system.
The health and well-being of humans is dependent on fish, wildlife and the natural environment.  <i>Conservation Literacy and Systems</i>	Identifies natural resources that help humans meet their basic needs.	Assesses the importance of the role of fish, wildlife and the natural environment in sustaining human populations.	Compares and contrasts how the health and well-being of humans is currently and has historically been dependent on fish, wildlife and/or the natural environment.
Science process skills are utilized to conduct fish and wildlife field investigations  <i>Conservation Literacy and Systems</i>	Conducts a descriptive field study of an outdoor natural area using multiple observation skills.	Conducts a comparative field study involving fish and wildlife and their habitat using multiple observation skills.	Conducts a field study that involves collecting and reporting fish and wildlife related data to biologist, community professional, and/or other stakeholders.
Demonstrate decision making skills related to fish and wildlife conservation efforts.  <i>Civic Participation and Stewardship</i>	Writes 5 rules people should follow when participating in nature-related outdoor activities.	Describes how cultural influences and values affect outdoor ethics, stewardship behavior and wildlife rules and regulations.	Writes a personal ethics or stewardship statement related to fish, wildlife, and/or natural resources in their community.
Volunteer and participate in natural resource-related decision-making opportunities.  <i>Civic Participation and Stewardship</i>	Participates in a natural resource conservation opportunity at school or in local community.	Works with others to plan and conduct a natural resource conservation action at school.	Selects and participates in a natural resources conservation action with a local community partner.
Human actions impact fish, wildlife and natural resources, and fish, wildlife and natural resources impact humans.  <i>Civic Participation and Stewardship</i>	Identifies examples of the relationship between human activity and fish, wildlife and natural resources.	Explains and gives examples of the interrelationships and interdependencies of humans and natural resources.	Examines and analyzes a current event or issue considering potential environmental, economical, social and cultural impacts.
Citizens have a right and responsibility to be aware of and engaged in fish, wildlife and habitat issues.  <i>Civic Participation and Stewardship</i>	Identifies how people have specific rights and responsibilities related to fish, wildlife, and habitat in their local community.	Researches and evaluates the consequences of taking or not taking stewardship actions on fish, wildlife and habitat issues.	Analyzes our rights, privileges, responsibilities and opportunities to influence public policy, laws and regulations pertaining to fish, wildlife and natural resources.

Concepts of learning that all students should know and be able to do.	Conservation Benchmarks		
	5 <sup>th</sup> Grade	8 <sup>th</sup> Grade	12 <sup>th</sup> Grade
Outdoor recreational pursuits have many benefits and impacts (such as health, economic, ecological, etc.)  <i>Outdoor Participation</i>	Identifies nature-related outdoor recreation opportunities for health, fun, challenge, self expression, and/or social interaction.	Describes the role of nature-related outdoor recreation for health, fun, challenge, self expression, and/or social interaction.	Creates an individual plan for lifelong nature-related outdoor recreation for health, fun, challenge, self expression, and/or social interaction.
	Identifies nature related outdoor activities and their impact on the natural environment.	Describes impacts that nature-related outdoor recreation activities can have on the local natural environment and community.	Calculates the benefits, costs, and obligations associated with regular participation in nature-related outdoor recreation beyond the local level.
Demonstrate competency in motor skills needed to participate in a variety of nature-related outdoor recreational activities.  <i>Outdoor Participation</i>	Demonstrates mature forms of locomotor and non-locomotor skill combinations used in nature-related outdoor-activities.	Demonstrates competency in modified versions in at least one nature-related activity from three of the following categories: aquatics (water-based activities), shooting/archery, traversing (hiking, tracking, walking, etc.).	Demonstrates competency in basic and advanced skills in at least one nature-related activity from three of the following categories: canoeing, archery, fishing, shooting, tracking, camping, and hiking.
Participate regularly in nature-related outdoor recreation.  <i>Outdoor Participation</i>	Sets a short-term goal to participate in a nature related activity and make a plan for achieving it.	Sets personal nature-related outdoor recreational activity goals independently to meet needs and interests.	Cultivates interest and strengthens desire to independently maintain an active lifestyle in nature-related outdoor activities.
Exhibit responsible personal and social behavior that respects self and others in nature-related outdoor recreation.  <i>Outdoor Participation</i>	Understands and follows activity-specific safe practices, rules, procedures and etiquette during nature-related outdoor activities.	Participates cooperatively in nature-related outdoor activities with persons with diverse abilities and backgrounds.	Initiates responsible behavior, functions independently and responsibly, and positively influences the behavior of others while participating in nature related outdoor activities.



## VIII References

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