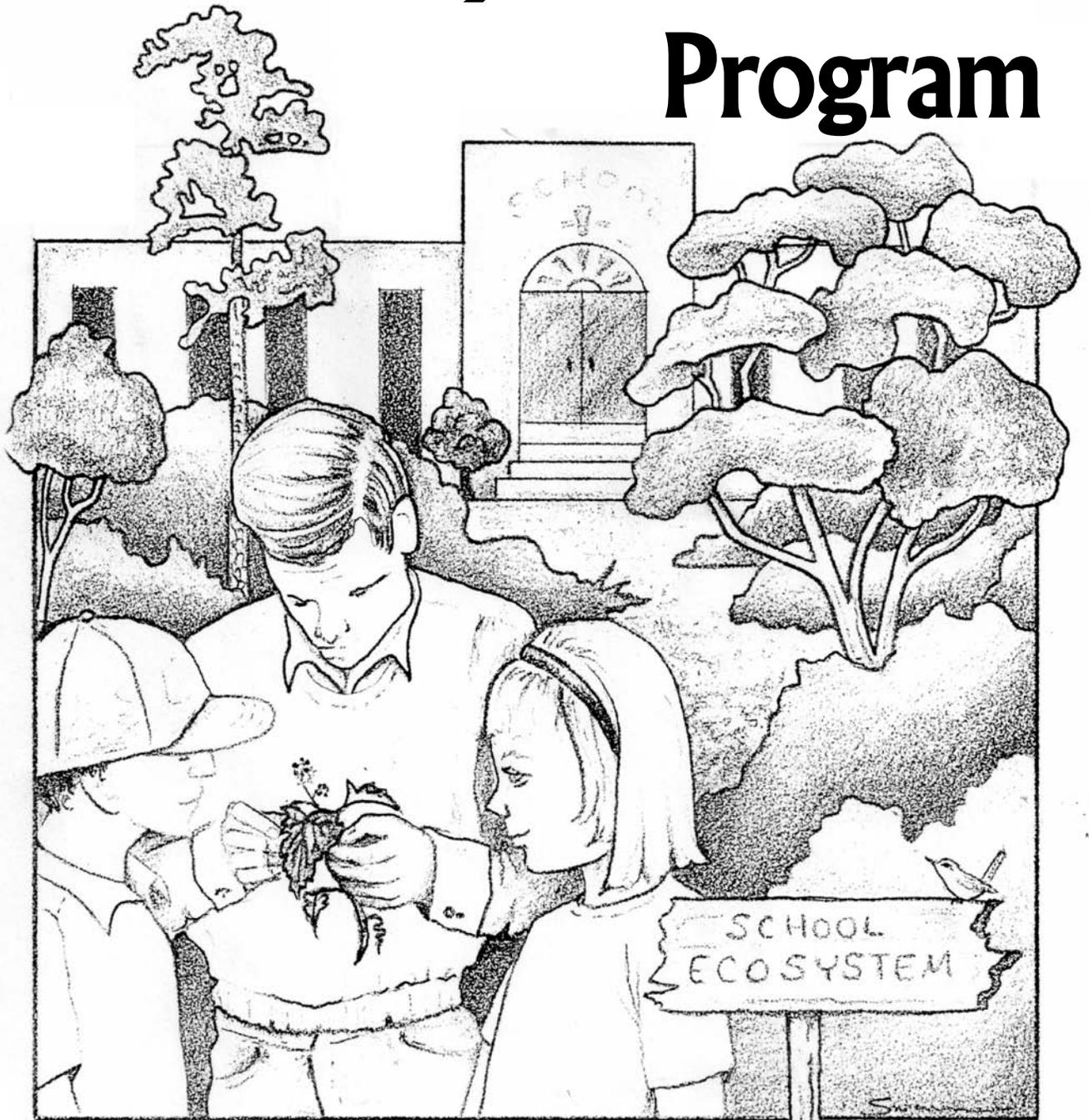


# Schoolyard Wildlife Program



## Facilitator Training Manual



Florida Fish and Wildlife  
Conservation Commission

[MyFWC.com](http://MyFWC.com)

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# SCHOOLYARD WORKSHOP TRAINING MANUAL

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# INTRODUCTION

This manual serves as a source of information and materials for both Schoolyard Activities and Schoolyard Ecosystem workshop facilitators. It is not intended to be prescriptive, but rather includes a wide variety of materials workshop facilitators may choose to use in their workshops. This manual complements the general Project WILD facilitator training manual already distributed by the Fish and Wildlife Conservation Commission. This new manual is designed to be used and distributed as part of Commission-sponsored schoolyard program facilitator training workshops.

In the late 1990s, a comprehensive evaluation of the Fish and Wildlife Conservation Commission's entire schoolyard program was conducted. One portion of this evaluation focused on the workshop component, including both facilitator and participant training workshops. Data from several thousand schoolyard workshop evaluation forms as well as several hundred facilitator reporting forms were analyzed. Two additional data sources included a telephone survey of 15% of certified schoolyard facilitators and a mail-in survey of a sample of 58 past schoolyard workshop participants. The information, instruments, materials, and transparency masters included in this manual were all developed as a result of the valuable comments and constructive feedback provided on these evaluation forms and surveys. For ease of use, this manual is divided into four sections.

**Section One** provides brief background information on the rationale, history and components of the schoolyard program.

**Section Two** contains brief summaries of support information facilitators can use to help make their workshop experiences more enjoyable and successful for participants. Sample workshop agendas and workshop materials lists are also included.

**Section Three** contains master copies and answer keys for instruments which may be used as pre and post assessment, instruction, and evaluation tools at both Schoolyard Activities and Schoolyard Ecosystem workshops. This section includes instruments for assessing the impact of the workshop experience on participants' knowledge of, attitudes toward, and behavioral intentions related to schoolyard ecosystems and their plant and animal inhabitants. This section also includes a narrative to accompany the schoolyard ecosystem workshop slide set, a set of color pictures of common wildlife for the schoolyard ecosystem surveying exercise and many other useful workshop instruments.

**Section Four** contains a set of seven blackline master transparencies. Depending on the needs, interests, and backgrounds of workshop participants, facilitators can select the transparencies they think are most appropriate for each workshop they offer.

# **SECTION ONE**

## **BACKGROUND AND OVERVIEW**

# RATIONALE AND GOALS

Currently, Florida is the third most populous state in the country and our population grows by several hundred people each day. Florida's staggering growth rate is placing heavy demands on all of the state's natural resources and is seriously threatening the future survival of many of Florida's nongame wildlife species and the ecosystems in which they live.

Like the states of California and Hawaii, Florida possesses a diversity of unique ecosystems and species. Like California and Hawaii, Florida has also experienced a recent rapid increase in urban development in sensitive ecosystems as well as a significant increase in the number of established exotic plant and animal species. As a result, Florida, California, and Hawaii all share the dubious distinction of having more species of threatened and endangered plants and animals than any other states in the U.S.

As the agency in charge of managing the state's wildlife resources, the Fish and Wildlife Conservation Commission realizes that proper management and conservation of Florida's threatened and endangered wildlife depends on proper education of the state's 21 million plus citizens. This educational process must begin at an early age, since research has consistently shown that attitudes toward wildlife and the environment are fixed and extremely resistant to change after the age of 12 years. Unfortunately, wildlife education programs are currently more prevalent in the high school grades where courses such as Ecology and Environmental Science are taught. Wildlife education programs in Florida schools are rarest in the elementary grades, even though this is where they are most needed. The Florida Schoolyard Program was specifically designed to address the need for a wildlife-specific educational program targeting elementary age students.

Environmental education research clearly indicates that wildlife education programs must focus on both content knowledge and attitudes to ensure a permanent change in behavior toward wildlife. Further, research has shown that environmental education programs are most successful when a combination of hands-on field experience and other instruction methods are used. Finally, research also indicates that wildlife education programs are more relevant and motivating to elementary students when local, familiar, accessible organisms are studied. The Florida Schoolyard Program was designed with all of these important research findings in mind. As a result, all of the educational activities developed for the Schoolyard Program include both content knowledge and attitude objectives. In addition, all of the learning activities involve an outdoor, hands-on field experience component as well as discussion, small group work, laboratory activity, and other instructional approaches. To ensure access to local, familiar organisms, all of the activities in this program focus on plants, animals, and other organisms commonly found in Florida schoolyards.

The Florida schoolyard program has four main goals: knowledge, attitudes, behavior, and conservation. Regarding knowledge, the program aims to help students, teachers, parents and the general public learn more about local natural environments and their inhabitants. In the affective domain, the program aims to help students, teachers, parents and the general public develop more positive attitudes toward local natural environments and their inhabitants. In keeping with the awareness to action continuum of successful environmental education programs, the behavior goal of the program is to provide opportunities for students, teachers, parents and the general public to take concrete, long-term action to develop, restore, and preserve local natural environments. Finally, the conservation goal of the program is to increase the amount of suitable habitat available for local native plant and animal species by creating, restoring and managing natural schoolyard ecosystems.

# ADVANTAGES OF THE SCHOOLYARD PROGRAM

The curriculum component of the Florida Schoolyard Program is designed to complement existing effective environmental education programs such as Project WILD, WILD Aquatic, and Project Learning Tree. The schoolyard program's educational approach has 14 specific advantages that make it appealing to elementary educators, namely:

1. Since all of the learning activities are conducted in the local schoolyard, the program allows students to have repeated first hand experience with their local environment;
2. The schoolyard approach eliminates the need to plan off-campus field trips which can be costly and have a greater potential for liability concerns;
3. The activities contained in the schoolyard program's curriculum are actual field investigations rather than simulation games or role playing activities. These activities use the same field research techniques as scientists do. Thus, by replicating the work of real scientists students are exposed to potential careers in field biology and ecology;
4. Rather than being a prescriptive, stand-alone curriculum, the schoolyard program's learning activities can be selected and implemented in any order or combination to match students' interests and take advantage of available schoolyard habitats and organisms;
5. The schoolyard program's activities directly address major ecological concepts outlined in the Florida Sunshine State Standards for Science and the activities can easily be integrated into any existing elementary science curriculum;
6. The activities require little teacher preparation time and use easy-to-obtain, inexpensive materials;
7. The activities can be completed in one or two elementary class "periods" of 30 to 40 minutes each;
8. The activities can easily be integrated with other academic subjects, including mathematics, language arts, and art;
9. The schoolyard program's activity guide is complemented by a reference handbook for teachers containing complete background information regarding the organisms and habitats studied;
10. Black line masters for all overhead transparencies and student worksheets are provided for every activity;
11. The activities allow students to work cooperatively in small groups, thus removing the burden of instruction from the teacher. Thus, teachers conducting these activities can serve as facilitators of learning rather than directors of instruction;
12. To ensure accuracy and effectiveness, all of the activities in the curriculum guide were pilot tested in at least three different Florida classrooms and were reviewed by at least two classroom teachers and two science content experts;
13. Unlike the "look but don't touch" approach of many educational programs, the schoolyard program provides students with opportunities for direct, non-destructive interaction with natural environments and their inhabitants;
14. Unlike national level programs or generic environmental education programs, the Florida schoolyard program uses activities that are Florida specific and relevant to the interests of elementary age students.

# HISTORY OF THE SCHOOLYARD PROGRAM

The FWC's schoolyard program is one of the oldest state level schoolyard programs in the United States. The program began with the development of the *Handbook to Schoolyard Plants and Animals of North Central Florida* in 1990. This handbook serves as an expanded field guide to the natural history, ecology, and behavior of the most common organisms found in north central Florida schoolyards. The book is distributed free to participants attending Commission-sponsored schoolyard workshops and is also available for purchase.

Response to the *Handbook* was overwhelmingly positive and educators expressed a great interest in the development of an activity guide containing schoolyard-based lessons focusing on the organisms covered in the *Handbook*. This interest led to the publication of the *Schoolyard Wildlife Activity Guide* in 1992. This guide contains 35 field-tested activities designed specifically for elementary age children. Once these two books were completed, a schoolyard activities/ecology workshop component was developed. Response to the *Activity Guide* and the workshop component was also overwhelmingly positive and educators identified the need for a third book focusing on the process of restoring and enhancing schoolgrounds as wildlife habitats. This need was addressed with the development of the *Schoolyard Ecosystems for Florida* guidebook in 1995. This book walks educators through the entire process of planning, installing, maintaining and using restored schoolyard ecosystem sites as outdoor learning centers. Once this book was completed, an additional schoolyard ecosystems workshop component was developed for dissemination of the *Schoolyard Ecosystems* guidebook. The fourth and final component of the schoolyard program arose as a result of increased concern for the proper protection and management of Florida's threatened water resources and an interest in the development of schoolyard-based lessons focusing on water-related issues. This concern led to the development of the 11-lesson *Water Resources Activity Pack* in 1996. The *Water Resources Activity Pack* is also distributed free of charge to schoolyard workshop participants.

Funding for the development of the *Handbook* and *Activity Guide* was provided by the Commission's Nongame Wildlife Grant Program. Funding for the development of the *Schoolyard Ecosystems* guidebook was provided by the Florida Advisory Council on Environmental Education and the Southwest Florida and South Florida Water Management Districts. The Southwest and South Florida Water Management Districts also provided funding for the development of the *Water Resources Activity Pack*. Printing and dissemination of all four of these books and management of the workshop components is the responsibility of the Commission's K-12 Education Program and is overseen by the state Project WILD coordinator. To date, approximately 55 certified facilitators have conducted over 440 schoolyard activities and schoolyard ecosystem workshops throughout the state and more than 8,000 educators have participated in Schoolyard Activities, Schoolyard Ecosystems, or combined workshops.

# COMPONENTS OF THE SCHOOLYARD PROGRAM

The schoolyard program consists of two major workshop components: schoolyard activities/ecology workshops and schoolyard ecosystems workshops. Ideally, classroom teachers and other workshop participants should successfully complete the schoolyard activities component before receiving schoolyard ecosystem training. Although the schoolyard activities component and the schoolyard ecosystems component are related to, and complement, each other they are distinct programs focusing on different educational and environmental goals.

The schoolyard activities workshop is designed to introduce teachers and others to the natural history of the many unique and fascinating plants, animals, and even fungi commonly found in Florida schoolyards. From an environmental perspective, this workshop is designed to promote a greater awareness, understanding, and appreciation of these organisms and the important ecological roles they play. The ultimate environmental goal of the schoolyard activities workshop is to promote more positive behavior toward all native schoolyard organisms, including snakes, spiders, frogs, worms, and native weeds. From an educational perspective, this workshop is designed to show teachers how to use their schoolyards as outdoor classrooms for the study of basic ecological concepts. The ultimate educational goal of the schoolyard activities workshop is to provide teachers with the background knowledge, activity ideas, and instructional and behavior management skills they need to successfully implement a wide variety of outdoor schoolyard activities with their own students.

The schoolyard ecosystems workshop is designed to show teachers and others how to enhance and/or restore native ecosystems on their schoolgrounds. From an environmental perspective, this workshop is designed to promote a greater awareness, understanding, and appreciation of native ecosystems and their ecological importance in our rapidly developing state. The ultimate environmental goal of the schoolyard ecosystems workshop is the restoration and preservation of viable wildlife habitat and native ecosystems on schoolgrounds. From an educational perspective, this workshop is designed to show participants how to plan, design, install, and maintain native ecosystems on schoolgrounds. The ultimate educational goal of the schoolyard ecosystems workshop is to provide participants with the information, skills, and confidence they need to successfully spearhead a school-based ecosystem development/restoration effort. The FWC's schoolyard program offers two different hands-on, interactive workshops. These workshops can be offered together or they can be offered separately. Workshops can only be conducted by qualified facilitators who have completed formal schoolyard program facilitator training.

Each participant completing a schoolyard activities workshop should receive his/her own take-home copy of the *Handbook to Schoolyard Plants and Animals*, the *Schoolyard Wildlife Activity Guide*, and the *Water Resources Activity Pack*. Each participant completing a schoolyard ecosystems workshop should receive a take-home copy of the *Schoolyard Ecosystems for Florida* guidebook. The Commission also provides additional informational materials for workshop participants, including *Skimmer* newsletters, special topics brochures and booklets, posters, and CD-ROMs. These informational supply lists are updated periodically for both workshop types and are included on the schoolyard activities and schoolyard ecosystems workshop packing lists.

When funding is available, educators who successfully complete a schoolyard activities and a schoolyard ecosystems workshop as well as a Project WILD or Aquatic WILD workshop may also apply for Project WILD action grants ranging from \$500 to \$750. These grants are intended to provide seed money for the restoration/enhancement of native schoolyard ecosystems and wildlife habitat and encourage regular use of schoolyard habitats as outdoor classrooms. A sample Florida WILD Action Grant Application Package and a sample Scoring Sheet are included in this manual.

# **SECTION TWO**

## **SUPPORT INFORMATION**

# THE ROLE OF THE SCHOOLYARD PROGRAM IN CONSERVATION

The primary mission of the Florida Fish and Wildlife Conservation Commission is the protection and conservation of all of Florida's game and nongame wildlife species and their habitats. Traditionally, these wildlife conservation efforts focused on managing populations of game and nongame wildlife inhabiting publicly-owned state and federal lands including parks, wildlife management areas and forests. As Florida's human population and the rate of habitat loss due to development increased, the Commission expanded its efforts to include a greater focus on urban wildlife management and the acquisition of additional state-owned lands providing critical habitat for threatened and endangered nongame wildlife species. These efforts included the development of backyard wildlife habitat programs for homeowners and watchable wildlife programs designed to attract more visitors to publicly-owned wildlife areas.

Although its impact may occur on a smaller, more localized level, the schoolyard program represents an additional avenue for achievement of the Commission's wildlife conservation goals. Throughout the state of Florida, school districts own millions of acres of property with tremendous potential for serving as sources of viable wildlife habitat for many species. School sites with restored schoolyard ecosystems can provide many wildlife species with a refuge of native habitat in an increasingly urban landscape. These restored ecosystems can also serve as corridors for wildlife migrating from one large area of natural habitat to another.

Although the schoolyard program was originally conceived with educational goals in mind, it has now expanded to include a significant focus on conservation goals as well. The schoolyard program's habitat restoration approach goes well beyond traditional school-based activities targeting wildlife, such as installing bird feeders or planting a butterfly garden. This program is designed to help schools restore native ecosystems on their entire school sites, including areas of the school grounds that are not used for educational purposes.

# WORKSHOP PREPARATION TIPS

## Advertising and scheduling workshops

Schoolyard activities and schoolyard ecosystem workshops will be naturally appealing to past Project WILD and Aquatic WILD participants, while also opening the door for recruitment and participation of many new educators who have not previously completed any environmental education training. For educators who are already environmentally focused, the schoolyard activities workshop complements national-level environmental education programs such as Project WILD and Project Learning Tree by providing educators with a wide variety of hands-on, interactive lessons focusing specifically on common Florida plant and animal species. In addition, the activities in the *Schoolyard Wildlife Activity Guide* are specifically designed to be conducted outdoors on school sites and focus on the thinking skills and research techniques used by actual field ecologists. The *Activity Guide's* field-based, inquiry-oriented science activities complement the wonderful role playing, debate, values clarification, social studies, language arts, art, and other types of activities found in Project WILD and Aquatic WILD.

For educators who see environmental education as an add-on to an already crowded curriculum, the *Activity Guide* can be marketed as an easy-to-implement set of hands-on science activities designed to help teachers directly address the required skills and competencies outlined in the Sunshine State Standards for Science. Rather than being an “extra” component, the *Activity Guide* provides teachers with activities and assessments that can help students better prepare for the FCAT science test.

Although the schoolyard ecosystem workshops focus more on habitat restoration than specific academic learning activities, they serve as ideal vehicles for promoting the awareness to action continuum of environmental education. Unlike many other environmental education programs that can only provide suggestions for possible individual or group actions children can take on behalf of the environment, educators participating in schoolyard ecosystem workshops receive intensive background and training regarding the skills, techniques, and resources needed to successfully implement a schoolyard ecosystem development or restoration project involving their students and the local community. This program provides teachers with an opportunity to involve their students in a significant, tangible, long-term action project that benefits both people and wildlife and promotes a sense of stewardship and responsibility.

When advertising schoolyard activities and schoolyard ecosystem workshops via flyers, brochures, newsletters, posters or media exposure, the following components should be included:

- A brief description of the *Handbook*, *Activity Guide*, and *Water Resources Activity Pack* or *Schoolyard Ecosystems* guidebook contents and sponsoring agencies
- A summary of the educational and environmental goals of the schoolyard program
- A rationale outlining the benefits of the schoolyard activities or schoolyard ecosystems training for educators and their students
- Specific information regarding workshop date and starting and ending times
- Brief summary of workshop agenda and format
- List of supplies, materials, clothing participants need to bring
- Explanation of provisions for meals, snacks, beverages
- Brief description of the workshop site including map and directions if necessary
- Registration and contact person information
- List of free materials participants will receive
- Information regarding inservice credit and potential grant/funding opportunities if applicable

## Choosing a site

Unlike Project WILD and WILD Aquatic workshops, which can be conducted indoors in a traditional classroom if necessary, successful schoolyard activities and schoolyard ecosystem workshops require access to natural outdoor learning areas and indoor or outdoor tabletop work areas. All of the lessons in the *Schoolyard Wildlife Activity Guide* and the *Water Resources Activity Pack* include a hands-on outdoor activity component and small group work requiring large flat table top work areas rather than individual desks or seats without tables. All lessons also include a whole-class data sharing and discussion component which requires all participants to have a good view of the facilitator and a visual presentation/data display area such as a blackboard, flip chart, or overhead projector. To facilitate easy distribution of workshop materials a central supply table should also be set up. Finally, in order to facilitate sharing or group work with fellow participants, wall space for displaying work products should also be available.

Ideally, both schoolyard activities and schoolyard ecosystem workshops should be conducted at a school containing a restored ecosystem and outdoor classroom area. If such a site is not readily available, both workshops can be conducted in a natural wildlife habitat with access to a covered outdoor work area or an indoor classroom work area. Finally, in order to have ready access to the organisms addressed in the activity guide's lessons, schoolyard activities workshops will be more successful if they are conducted during the fall or spring. Schoolyard ecosystem workshops can be conducted during any time of the year.

# WORKSHOP MATERIALS LIST

## SCHOOLYARD ACTIVITIES WORKSHOP

### Essential Workshop Materials

In addition to adequate copies of the transparencies and student worksheets/handouts required for each lesson in the *Activity Guide*, the following list summarizes additional materials facilitators should have on hand in order to implement each schoolyard lesson. Lessons that do not require any materials other than those on the general workshop materials list are not included in this summary. This list also outlines the materials facilitators will need to implement the suggested activities from the *Water Resource Activity Pack*. (NOTE: Lessons 18 “Animal Seed Movers,” 31 “A Real Scavenger Hunt,” 32 “Look Out for the Mob,” and 35 “Pitfalls in Ecology” are multiple day lessons and cannot be implemented during a typical one day schoolyard activities workshop.)

### GENERAL WORKSHOP MATERIALS

- Magnifying lenses, preferably with yarn or string for wearing around participants’ necks
- Golden Guides, Audubon Pocket Guides or other small field guides to plants and animals
- Small “critter containers” with magnifying lids
- Rulers, tape measures or meter sticks
- Marker flags or flagging tape
- Colored transparency markers
- Clipboards
- Colored pencils

### SCHOOLYARD WILDLIFE ACTIVITY GUIDE

Lesson 2:

- Sunflower seeds or corn on the cob

Lesson 4:

- Thermometers

Lesson 8:

- Peanut butter and jelly antwiches

Lesson 9:

- Crayons or markers
- Writing or drawing paper

Lesson 10:

- 8.5 x 11 inch pieces of cardboard or placemats
- Sharp knife

Lesson 11:

- Small cups or other collecting containers

Lesson 12:

- Tough-o-meters (see page 63 of *Activity Guide*)
- Measuring cups or beakers
- Water

Lesson 17:

- Cotton or wool tube socks

Lesson 21:

- Graph paper

Lesson 22:

- Pond, marsh, creek, stream or other aquatic habitat
- Large kitchen strainers with handles
- Long sticks or probes
- Buckets or jars
- Large rectangular plastic dishes

Lesson 25:

- Insect nets
- Jars with perforated or screen lids

Lesson 27:

- Samples of foliose, crustose, and fruticose lichens

Lesson 30

- Small plastic sandwich bags

Lesson 33:

- Tablespoons or other small digging tools
- Show boxes or other storage containers

Lesson 34:

- Aluminum pie pans

## **WATER RESOURCE ACTIVITY PACK**

Lesson 1:

- Thermometers
- 1" x 4" strips of white paper towels
- Paper clips
- Zip-lock bags

Lesson 2:

- Garden trowels
- Quart size mason or mayonnaise jars with lids
- Paper plates
- Plastic measuring cups
- Calculators
- Paper coffee filters
- Rubber bands
- Graduated cylinders

Lesson 4 :

- Small paper or plastic bags

Lesson 5:

- Bucket of water
- Clear plastic measuring cup

## **Supplemental Workshop Materials**

The following list summarizes supplemental materials facilitators may want to have on hand in order to implement particular lessons in the *Activity Guide* and the *Water Resource Activity Pack*.

### **GENERAL WORKSHOP MATERIALS**

- Binoculars

### **SCHOOLYARD WILDLIFE ACTIVITY GUIDE**

Lesson 2:

- Birdfeeders

Lesson 7 :

- Maps illustrating various scales

Lesson 8:

- Ant farm

Lesson 9:

- Sample dichotomous keys
- Sample needles, cones, and bark of common Florida pine trees

Lesson 11:

- Pictures of egg, larva, pupa, and adult stages of the acorn weevil

Lesson 12:

- Large buckets to hold tough-o-meters over if doing activity indoors

Lesson 13:

- Diagram of the life cycle of mosses
- Samples of mosses in various stages of their life cycle

Lesson 14:

- Pictures of organisms that use pine bark

Lesson 16:

- Samples of fruits and seeds

Lesson 19:

- Tennis racquet and ball

Lesson 21:

- Small tea strainers

Lesson 22:

- Key to common aquatic insect larvae and nymphs

Lesson 33:

- Pictures of cabbage palms

Lesson 34:

- Field guides to insects and other leaf litter organisms

### **WATER RESOURCE ACTIVITY PACK**

Lesson 1:

- Soil moisture meter

Lesson 2:

- Samples of sand, silt, clay, and loam soils

Lesson 5:

- Chart or diagram of the water cycle

# WORKSHOP MATERIALS LIST

## SCHOOLYARD ECOSYSTEMS WORKSHOP

### GENERAL WORKSHOP MATERIALS

- Schoolyard Ecosystems slide set and narrative
- Crayons or colored markers
- Scissors
- Glue, glue sticks, or tape
- Rulers
- Sample completed Schoolyard Ecosystem Study Site Plan and Campus-Wide Ecosystem Restoration Plan
- Marker flags or flagging tape

Available from Forestry Suppliers, Inc.

Cost: \$1.00 per roll of vinyl flagging tape; \$4.00 per set of 100 15-inch tall flags

### MAPPING/DESIGN SUPPLIES

- Sample of a Site Plan/Survey Map (A map of a school property that shows the directional orientation, property dimensions, location and dimensions of buildings and other structures, and sometimes even utilities; usually prepared by a land surveying company)

Available from individual schools and/or local school boards

Cost: should be free or at the cost of photocopying for about \$1 each

- Sample Aerial Photo of a school site (Photograph of a school property taken from an airplane)

Available from County Property Appraiser's Offices

Cost: \$2 each for 1 inch=300 feet (24x24-inch format) or 1 inch=100 feet (33.5x33-inch format)

- 50-meter measuring tape

### NON-PLANT HABITAT ENHANCEMENT SUPPLIES

- Treefrog House (4-foot long x 1.5-inch diameter, thick-walled PVC pipe often spray painted shades of brown and/or green to blend in with the natural environment)

Cost: Usually sold in 10-foot lengths for about \$3 (use a hacksaw to cut to desired length)

- Artificial Burrow (10-foot long x 4-inch diameter corrugated plastic pipe/drain tile with drainage holes)

Cost: \$2 per 10-foot section

- Bird Houses (See fact sheet in Schoolyard Ecosystems for Florida)

Local bookstores and many web sites also have information on how to build your own birdhouses.

Cost: \$10 to \$25 each

- Bat Houses

Local bookstores and many web sites also have information on how to build your own bat houses.

Cost: \$25 each

## **SURVEYING SUPPLIES**

- Dendy Plate Sampler (6 inch long and 3 inch wide pond sampling instrument constructed by stacking several square or round particle board plates with spaces in between that serve as hiding places for small aquatic animals, especially insect larvae)

Available from Forestry Suppliers, Inc., H.D. Supply Inc., and Arc Industries, Inc.

Cost: \$11 to \$17 each

- Bucket and Drift Fence Array (1-inch x 12-inch x 8-foot board standing on its side with a 4 to 6-gallon bucket buried in the ground at each end)

Cost: \$11 to \$15

- Mammal Tracking Scent Station (2-foot square sheet of 3/8-inch plywood covered with about 0.5-inch of fine dirt or cement (Quikcrete) with a cotton ball immersed in fish emulsion elevated about 3 inches above the board on a stick)

Cost: \$23

- Field Guides (See list in *Schoolyard Ecosystems for Florida*, page 159)

Cost: \$5 to \$25 each

- Sample Plants (Native grasses, grass-like plants, annual and perennial herbaceous plants, vines, shrubs, and trees)

Available from local nurseries that sell native plants or search several databases of the Association of Florida Native Nurseries at <http://www.afnn.org/>

Cost: varies by species, size of plant, and how it is sold (i.e., bare root or container)

## **PURCHASING SOURCE INFORMATION FOR SCHOOLYARD ECOSYSTEM WORKSHOP SUPPLIES**

Arc Industries, Inc.

(800) 734-7007

FAX: (614) 475-3523

<http://www.arcind.com/html/order.html>

Forestry Suppliers, Inc.,

(601) 354-3565 or (800) 647-5368

FAX: (800) 543-4203

E-mail: [fsi@forestry-suppliers.com](mailto:fsi@forestry-suppliers.com)

P.O. Box 8397, Jackson, MS 39284-8397

<http://www.forestry-suppliers.com/>

H. D. Supply, Inc.

804 Cottage Hill Way

Brandon, FL 33511-8098

(877) 658-7246 (toll free)

FAX: (888) 457-6331 (toll free)

<http://www.hdsupply.com/>

The "Store Locator" at these sites can be used to find nearby Home Depot

<http://www.homedepot.com/cgi-bin/prel80/index.jsp> and Lowe's <http://www.lowes.com/lowes/findex.asp>  
building supply stores

## SCHOOLYARD ACTIVITIES WORKSHOP AGENDA

(The following sample agenda is designed to serve as a suggested time and activity guideline for a six hour schoolyard activities workshop. The agenda should be modified as needed to suit the needs of your particular group of participants. Regardless of the exact schoolyard activities implemented in a workshop, **three to five Schoolyard Wildlife Activity Guide** lessons should be conducted in every workshop. In addition, to expose participants to the additional 11 activities in the *Water Resources Activity Pack*, at least **two** lessons from the *Activity Pack* should also be conducted.)

<b>ACTIVITY</b>	<b>SUGGESTED TIME</b>
Welcome and introductions	5 minutes
Administer Pre-Assessments	15 minutes
Overview of program rationale, goals, advantages, components	15 minutes
Complete and review Schoolyard Activities Safari	15 minutes
Awareness activity	20 minutes
Lesson 1-“It’s a “Sense-ation!”	
Microhabitat activity (Choose one)	30 minutes
Lesson 3-“Scene of the Crime”	
Lesson 4-“There’s No Place Like Home”	
Lesson 5-“Microhabitat Scavenger Hunt”	
Lesson 6-“Some Like it Hot”	
Break	15 minutes
Wildlife study/identification activity (Choose one)	30 minutes
Lesson 8-“Antwishes”	
Lesson 10-“What’s It Gall About?”	
Lesson 14-“Unusual Animal Tracks”	
Lesson 19-“Web Weavers”	
Lesson 21-“The Pit and the Antlion”	
Lesson 23-“Caterpillar Defenses”	
Schoolyard plants/fungi activity (Choose one)	30 minutes
Lesson 9-“Pine Trees as History Books”	
Lesson 12-“My Leaf’s Tougher than Yours”	
Lesson 17-“Hitching a Ride”	
Lesson 27-“Lichens, We Love ‘Em!”	
Lesson 30-“Mushroom Rally”	
Lunch	30 minutes
Plant/Animal interactions activity (Choose one)	30 minutes
Lesson 15-“Keep Your Distance”	
Lesson 24-“If You Have It, Should You Flaunt It?”	
Lesson 26-“The Leaf-Miner League”	
Lesson 28-“Will You ‘Bee’ My Favorite Flower?”	
Lesson 29-“All in the Daisy Family”	
Lesson 33-“Palm Boots, Hot and Cold”	
Lesson 34-“Litterbugs”	
Abiotic components activity (Choose one <i>Activity Pack</i> lesson)	30 minutes
Lesson 1-“The Great Paper Towel Chase”	
Lesson 2-“Down and Dirty”	
Break	15 minutes
Water resource activity (Choose one <i>Activity Pack</i> lesson)	30 minutes
Lesson 4-“Let’s Go Native”	
Lesson 5-“Runoff Roundup”	
Group discussion (concerns, suggested modifications, new ideas)	20 minutes
Complete and share Action Commitment Forms	15 minutes
Complete Workshop Evaluation Forms and Post Assessments	15 minutes

## **SCHOOLYARD ECOSYSTEMS WORKSHOP AGENDA**

(The following sample agenda is designed to serve as a suggested time and activity guideline for a six hour schoolyard ecosystem workshop. The agenda should be modified as needed to suit the needs of your particular group of participants.)

<b>ACTIVITY</b>	<b>SUGGESTED TIME</b>
Welcome and introductions	5 minutes
Administer Pre-Assessments	10 minutes
Complete and review Schoolyard Ecosystems Trek	15 minutes
Overview of workshop purpose, rationale, organization	5 minutes
Slides 1-17: Benefits, Planning, and Locating a Site	20 minutes
Outside hands-on activity: Determining ecosystem type and location	20 minutes
Slides 18-31: Plant and Animal Surveys	20 minutes
Break	10 minutes
Outside hands-on activity: Conducting plant and animal surveys	45 minutes
Slides 32-50: Preparing a Site Map/Schoolyard Ecosystem Plan	20 minutes
Lunch	30 minutes
Outside hands-on activity: Conducting mapping activities	45 minutes
Demonstrate non-plant elements	5 minutes
Inside hands-on activity: Constructing a paper map/plan	30 minutes
Break	10 minutes
Slides 51-59: Maintaining the Site	15 minutes
Groups presentations of maps/plans	30 minutes
Complete and share Action Commitment Forms	10 minutes
Complete Workshop Evaluation Forms and Post Assessments and Distribute Workshop Certificates	15 minutes