

# NATURAL RESOURCES

## Entomology

### Exploring the Environment

### Fishing Sports

## Forest Resources

### Geology

### Shooting Sports / Wildlife

## Management

### Water / Wetlands

### Wildlife Biology

Natural Resources projects help young people learn the following life skills:

- learning about the environment and how to be responsible for it
- making decisions about natural resources to derive the greatest long-range benefit for everyone
- learning to appreciate woodlands as a unique ecology, as well as a source of raw materials and enjoyment
- demonstrating sound fish and wildlife conservation and enhancement

## ENTOMOLOGY

### MEMBER MATERIAL:

- \_\_\_ 4HCCS-BU-06853 Creeping Crawlies ☼
- \_\_\_ 4HCCS-BU-06854 What's Bugging You? ☼
- \_\_\_ 4HCCS-BU-06855 Dragons, Houses and Other Flies ☼
- \_\_\_ 4H-FO-06892 Collecting and Preserving Insects 📖📖📖

### LEADER MATERIAL:

- \_\_\_ 4HCCS-BU-06856 Entomology Group Activity Guide ☼

### OTHER RESOURCES:

- \_\_\_ AG-PC-07553 Beekeeping in Northern Climates & Honeybee Diseases (00) 📖
- \_\_\_ AG-PC-07554 Honey Bee Diseases & Pests: Companion to Beekeeping in Northern Climates (00) 📖
- \_\_\_ AG-BU-06711 Butterfly Gardening (96) 📖📖📖
- \_\_\_ AG-FO-01015 Carpenter Ants (97) 📖📖📖

A series of additional fact sheets is available on a variety of entomology topics. See Distribution Center catalog.

The following items are available at Books Underground, University of Minnesota Bookstore, St. Paul Campus, or at other selected bookstores:

- Insects—A Golden Guide
- Identifying Insects—Peterson Series (<98)

### AUDIOVISUAL MATERIALS:

- \_\_\_ 4HCCS-CD-07732 Lessons and More CD. See full description on page 9. ☼
- \_\_\_ AG-SS-06712 Cues for Butterfly Gardening (97) 📖

Can you identify Minnesota's waterfowl? How about Minnesota's trees? Natural Resources project activities can include shooting, fishing, studying water quality, learning wildlife management, and much more.

More than 5,000 potential activities await members in the Natural Resources project areas. From wetland rehabilitation to geology to stewardship of our forests, there is an activity for everyone's interest.

## EXPLORING THE ENVIRONMENT

### MEMBER MATERIAL:

- \_\_\_ 4H-BU-00310 Exploring the Environment (conservation member's manual) 📖

Exploring Your Environment. Youth will enjoy the challenge and excitement of exploring the ecology, science and technology of the environment.

- \_\_\_ 4HCCS-BU-07704 Echo-Wonders. ☼
- \_\_\_ 4HCCS-BU-07705 Echo-Adventures. ☼
- \_\_\_ 4HCCS-BU-07706 Echo-Actions. ☼

### LEADER MATERIAL:

- \_\_\_ 4HCCS-BU-07707 Echo-Wonders Helper's Guide ☼
- \_\_\_ 4H-BU-06064 Working on Waste Leader's Guide 📖📖📖

### OTHER RESOURCES:

- \_\_\_ 4H-AG-07448 Native Vegetation Poster 📖📖📖
- \_\_\_ AG-FO-06986 Landscaping Septic Systems 📖📖📖
- \_\_\_ AG-FS-05553 Structures for Backyard Composting 📖📖📖
- \_\_\_ AG-FO-06748 Establishing and Maintaining a Prairie Garden (97) 📖📖📖
- \_\_\_ 4H-FO-00312 Guide to Birdhouse Building (member's manual) 📖
- \_\_\_ AG-FS-03899 Backyard Composting 📖

Mud, Muck and Other Wonderful Things: An Environmental Curriculum for Five- to Eight-Year Olds. 1995. 84 pages. Order item ES003 from National 4-H Supply Service, 7100 Connecticut Ave., Chevy Chase, MD 20815, phone 301-961-2934. (98)

Energizing Your Future with Energy, Economics, and the Environment. 116 pages. Order from National 4-H Supply Service, 7100 Connecticut Ave., Chevy Chase, MD 20815, phone 301-961-2934. (98)

Teen News Network: Groundwater Update. 1993. Video and viewer's guide. Order item 4-H 0253VT from Michigan State University Bulletin Office, 10-B Ag. Hall, E. Lansing, MI 48824-1039. \$50. (<98)

The Waste Stream. 1992. Teacher guide is 4H369, 79 pages, \$7.50. Student tabloids are 4H358, five 4-page tabloids, \$3.50. Order from University of Nebraska, CIT Distribution, Room 105 ACB, Lincoln, NE 68583-0918, phone 402-472-9713. (<98)

Cycling Back to Nature Series (4 items). Order items ES1003, Cycling Back to Nature with Biodegradable Polymers (94, \$5); ES1004, Cycling Back to Nature with Food Production and Pesticides (1995, \$7); ES1008, Soils Alive from Tiny Rocks to Compost (1996, \$7); and ES0046, Biotechnology (1997, \$9) from National 4-H Council, 7100 Connecticut Ave., Chevy Chase, MD 20815-4999, phone 301-961-2800. (<98)

EM\*Power, Environmental Management Power. 1995. Curriculum packet includes leader guide, full-color EM\*Power poster, and youth journal, all in a plastic EM\*Power binder. \$15. (Poster can be purchased alone for \$3.) Order from Idaho Water Resources Research Institute (IWRRRI), Morrill Hall 106, University of Idaho, Moscow, ID 83844-3011, phone 208-885-2170. (<98)

Building Common Ground Kit. 1994. \$150 + \$9.50 shipping. Order item ES0011 from National 4-H Council, 7100 Connecticut Ave., Chevy Chase, MD 20815-4999, phone 301-961-2800. (<98) Includes:

- Facilitator Cards
- Training Guide
- Bringing a Group Together: Module I
- Communicating with a Group: Module II
- Negotiating and Creative Problem Solving: Module III
- Planning for Change: Module IV
- Three videos.

The following additional materials are available from MEEB/REEC, Box 5, 500 Lafayette Rd., St. Paul, MN 55155. No charge, but you must attend a one-day workshop to receive Guides:

- Project Wild, Leader's Guide
- Project Learning Tree, Leader's Guide
- Project Aquatics, Leader's Guide (<98)


#### AUDIOVISUAL MATERIALS:






\_\_\_ AG-VH-07229 Minnesota Gardening: Home Composting 

NOTE: Refer to sections on entomology, forestry, geology, wildlife, and plant and soil science for additional publications, slide sets, films, and videos.

## FISHING SPORTS

#### MEMBER MATERIAL:

Fishing PLUS Sheets, an introduction to the Fishing Project and a list of available resources. Contact your local Extension Office for a copy. 

- \_\_\_ 4HCCS-BU-07598 Take the Bait 
- \_\_\_ 4HCCS-BU-07599 Reel in the Fun 
- \_\_\_ 4HCCS-BU-07600 Cast Into the Future 
- \_\_\_ 4H-BU-06200 Fishing ... Get in the Habitat! 
- \_\_\_ 4H-FO-02623 Fishing Sports Advancement Program (1/career) 

#### LEADER MATERIAL:

- \_\_\_ 4HCCS-BU-07601 Sportsfishing Helper's Guide. 
- \_\_\_ 4H-BU-02975 4-H Fishing Sports Leader's Guide--Beginner Angler 
- \_\_\_ 4H-BU-03314 4-H Fishing Sports Leader's Guide--Intermediate Angler 
- \_\_\_ 4H-MI-03560 Minnesota 4-H Fishing Sports (brochure)   

#### OTHER RESOURCES:

Advanced Sport Fishing and Aquatic Resources Handbook. 135 pages. A 1997 comprehensive resource on fishing, fish biology and habitat, and the water environment. Kendall/Hunt Publishing Company, 4050 Westmark Drive Dubuque, IA 52002. ISBN#0-7872-3544-X. (99)

Fisheries Tour Packet. A 1996 complete resource packet with lesson outlines, classroom resource materials (including color fish pictures) and three reference books included. State of Minnesota, Department of Natural Resources, Section of Fisheries - MinnAqua Program. (99)


Managing Minnesota's Fish. 1989 Minnesota Department of Natural Resources. Description of a variety of fish species and their environments. From DNR, Information Center 651-296-6157. (99)







Numerous aquatic publications are available without fee from the Minnesota Department of Natural Resources. Order forms and catalogs are available from DNR Information Center, phone 1-800-652-9747. (<98)

Fishy Science. 1993. Available from Ohio State University, Extension Media Distribution, 385 Kottman Hall, 2021 Coffey Rd., Columbus, OH 43210-1044, phone 614-292-1607. \$2.50. (<98)


## FOREST RESOURCES

#### MEMBER MATERIAL:

Forestry PLUS Sheets, an introduction to the Forestry Project and a list of available resources. Contact your local Extension Office for a copy. 

- \_\_\_ 4H-BU-06201 Treetop, Forest Resources Beginner Guide 
- \_\_\_ 4H-BU-03647 Forest Resources Project, Beginner Level, Activity Book 
- \_\_\_ NR-BU-06593 A Beginner's Guide to Minnesota Trees 
- \_\_\_ 4H-BU-03408 Trees + Me = Forestry, Forest Resources Intermediate Member's Guide 
- \_\_\_ 4H-BU-03490 Forests Forever, Forest Resources Advanced Member's Manual 
- \_\_\_ NR-BU-00486 Minnesota's Trees 










#### LEADER MATERIAL:

\_\_\_ 4H-BU-03648 Forest Resources Project, Beginning Level Leader's Guide 

Project Learning Tree (PLT) Guide is free from: MEEB/REEC, Box 5, 500 Lafayette Rd., St. Paul, MN 55155. Must attend one-day training to receive materials. (<98)


Landscaping for Wildlife, by Carrol Henderson. For more information, contact Minnesota's Bookstore, 117 University Ave., St. Paul, MN 55155. (<98)

#### OTHER RESOURCES:

- \_\_\_ AG-FO-07563 Forest Tent Caterpillars in Minnesota   
- \_\_\_ NR-FO-06989 Recommended Trees for: Northern Tall-grass Prairie   
- \_\_\_ NR-FO-06945 Recommended Trees for: Northwest and Central Minnesota   

## GEOLOGY

### MEMBER MATERIAL:

Geology PLUS Sheets, an introduction to the Geology Project and a list of available resources. Contact your local Extension Office for a copy. 

\_\_\_ 4H-FO-00324 Geology (1/career) 

### OTHER RESOURCES:

Rocks and Minerals—A Golden Guide. Available at Books Underground, University of Minnesota Bookstore, St. Paul Campus, and other bookstores. (<98)

Publications from the Minnesota Geological Survey, University of Minnesota, 2642 University Ave., St. Paul, MN 55114, phone 612- 627-4784:


- Minnesota Underfoot
- The Rock Book
- Minerals
- Minnesota Geology
- A Guide to Field Identification—Minerals of the World
- Guide to Mineral Collecting in Minnesota
- Guide to Fossil Collecting in Minnesota
- 3 Mineral/3 Fossil Sample Kit. \$1. (<98)

### REFERENCES:




Lasting Impressions: A Guide to Understanding Fossils in the Northeastern United States. New and experienced natural history buffs use this book to observe fossils and learn about organisms of long ago. Activities, geared for ages 10-15, can be adapted for older or younger learners. References and graphics help them explore in-depth and understand scientific methods. Cornell University, Media and Technology Services Resource Center, 7 Cornell Business & Technology Park, Ithaca, NY 14850, phone 607-255-2080, fax 607-255-9946, e-mail [Dist\\_Center@cce.cornell.edu](mailto:Dist_Center@cce.cornell.edu). (00)

## SHOOTING SPORTS/ WILDLIFE MANAGEMENT

### MEMBER MATERIAL:


Shooting Sports/Wildlife PLUS Sheets, an introduction to the Shooting Sports/Wildlife Project and a list of available resources. Contact your local Extension Office for a copy. 




\_\_\_ 4H-BU-05762 Call of the Wild, Wildlife Biology Member's Manual, Book 1   




\_\_\_ 4H-BU-06340 Wildlife Diversity: The Links of Life, Wildlife Biology Member's Manual, Book 2   

*NOTE: Because of laws governing firearms, this project must be led by trained 4-H leaders.*


### LEADER MATERIAL:

\_\_\_ 4H-BU-02976 4-H Shooting Sports/Wildlife Leader's Guide 



\_\_\_ 4H-MI-03282 Minnesota 4-H Shooting Sports/Wildlife Project (brochure)   

\_\_\_ 4H-BU-06436 Taking Aim at Youth Development   


\_\_\_ 4H-BU-00314 Wildlife Reference for Minnesota Youth 

\_\_\_ 4H-BU-00313 Wildlife Habitat Improvement Guide for Minnesota Youth 

\_\_\_ 4H-BU-06611 Developing Environmental Citizens through

4-H Shooting Sports/Wildlife (study showing impact of this program)  

### OTHER RESOURCES:

\_\_\_ FO-07067-S Managing Your Land for Wildlife. A 12-page full-color brochure outlines soil conservation practices which also provide habitat and food for wildlife. (99) 

Three Peterson Series titles, \$4.95 per copy, are available at bookstores or from some public libraries:

- Field Guide to Eastern Birds
- Field Guide to Wild Flowers
- Field Guide to Animal Tracks

Basic Hunters Guide. National Rifle Association, Education Division, 1600 Rhode Island Ave. N.W., Washington, DC 20036. (<98)

Available from the State of Minnesota's Bookstore, 117 University Ave., St. Paul, MN 55155:

- Wild About Birds
- Landscaping for Wildlife
- Woodworking for Wildlife (<98)

## WATER/WETLANDS

### MEMBER MATERIAL:



Biological Control of Purple Loosestrife. A program joining high school students, youth leaders, educators, citizens and scientists to fight the destructive wetland plant, using its natural insect enemies. Available from Purdue University Cooperative Extension Service, phone 1-888-EXT-INFO, [www.agcom.purdue.edu/AgCom/Pubs/menu.htm](http://www.agcom.purdue.edu/AgCom/Pubs/menu.htm), 4-H MSUE Pub 1595 (01)

### LEADER MATERIAL:




Biological Control of Purple Loosestrife. Leader's Guide. Available from Purdue University Cooperative Extension Service, phone 1-888-EXT-INFO, [www.agcom.purdue.edu/AgCom/Pubs/menu.htm](http://www.agcom.purdue.edu/AgCom/Pubs/menu.htm), 4-H MSUE Pub 1595 (01)

### PRINTED MATERIALS:

\_\_\_ 4H-FO-05977 Wild Wetlands   




\_\_\_ 4H-FO-05978 Things That Go "Yuk" in the House  




\_\_\_ 4H-FO-05979 How Well Is Your Well?   




\_\_\_ 4H-FO-05980 Water Stewardship   

\_\_\_ 4H-BU-00328 Our World of Water (1/career)   




### OTHER RESOURCES:

\_\_\_ AG-MI-07040 Taking Care of Your Septic System   

\_\_\_ AG-PC-06583 Septic System Owner's Guide (97)   


\_\_\_ AG-FO-07080 Biological Control of Purple Loosestrife: A Guide for Rearing Leaf-Feeding Beetles   

\_\_\_ AG-FO-06955 Managing Aquatic Plants in Minnesota Lakes (97)   

\_\_\_ AG-FO-06796 Phosphorus Transport to and Availability in Surface Waters (97)   

### AUDIOVISUAL MATERIALS:

\_\_\_ AG-SS-07081 CUES for Biological Control of Purple Loosestrife 

\_\_\_ AG-VH-06768 Septic Systems Revealed 

4-H Wetland Wonders. A Water Quality Curriculum for Grades 4 and 5 – Leader Guide, 1998. An 84-page guide from Oregon 4-H Center/

Wetlands Program, 5390 4-H Road NW, Salem, OR 97304. (99)

Order the following two titles from Publications Distribution, University of Wisconsin, Room 170, 630 W. Mifflin St., Madison, WI 53703, phone 608-262-3346: (98)

- Give Water a Hand® Action Guide. 72 pages. A youth program guide for environmental action.
- Give Water a Hand® Leader Guidebook. 40 pages.


Comprehensive Water Education Book. 1994. 335 pages. Order from International Office for Water Education, Utah Water Research Laboratory, Utah State University, Logan, UT 84322-8200, phone 1-800-922-4693. \$8.75. (<98)

Teen News Network: Groundwater Update. 1993. Video and viewer's guide. Order item 4-H 0253VT from Michigan State University Bulletin Office, 10-B Ag. Hall, E. Lansing, MI 48824-1039. \$50. (<98)




Pond and Stream Safari: Guide to Ecology of Aquatic Invertebrates. 1996. Order item 147L24 from Cornell University, Media Services Resources Center, 7 Cornell B & T Park, Ithaca, NY 14850, phone 607-255-2080. \$14. (<98)

## WILDLIFE BIOLOGY

### MEMBER MATERIAL:


Wildlife Biology PLUS Sheets, an introduction to the Wild Life Biology Project and a list of available resources. Contact your local Extension Office for a copy. 


\_\_\_ 4H-BU-05762 Call of the Wild, Wildlife Biology Member's Manual, Book I   


\_\_\_ 4H-BU-06340 Wildlife Diversity: The Links of Life, Wildlife Biology Member's Manual, Book II   

### OTHER RESOURCES:

\_\_\_ 4H-BU-00313 Wildlife Habitat Improvement Guide for Minnesota Youth 

\_\_\_ 4H-BU-00314 Wildlife Reference for Minnesota Youth 

\_\_\_ 4H-FO-00312 Guide to Birdhouse Building (Member Guide) 

\_\_\_ FO-07067-S Managing Your Land for Wildlife. A new 12-page full-color brochure outlines soil conservation practices which also provide habitat and food for wildlife. (99) 

Available from the State of Minnesota's Bookstore, 117 University Ave., St. Paul, MN 55155:

- Wild About Birds
- Landscaping for Wildlife
- Woodworking for Wildlife (<98)

A complete national wildlife series of educational bulletins is available from the National 4-H Council, 7100 Connecticut Ave., Chevy Chase, MD 20815. List is in the National 4-H Catalogue. (<98)

**...get yours today!**



Print from University of Minnesota Extension Service  
[www.extension.umn.edu/units/dc](http://www.extension.umn.edu/units/dc)



Order from National 4-H Cooperative Curriculum System [www.n4hccs.org](http://www.n4hccs.org)



Print from Center for 4H Youth Development  
[www.mn4H.org](http://www.mn4H.org)



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[www.extension.umn.edu/units/dc](http://www.extension.umn.edu/units/dc)