



Summer 2001

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Sell subscriptions to *Northern Woodlands* and complete your fund-raising in a hurry.

For every new \$18 subscription your students sell, we'll donate \$9 to your class.

Call Catherine Tudish at 802-439-6292 for details.

Project Learning Tree Coordinators

Maine: Pat Maloney 207-626-7900, meplt@gwi.net

New Hampshire: Esther Cowles 603-226-0160, info@nhplt.com

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NORTHERN WOODLANDS MAGAZINE

802-439-6292

www.northernwoodlands.com

Editorial Mission

To inspire landowners' sense of stewardship by increasing their awareness of natural history and the principles of conservation and forestry that are directly related to their land.

To encourage loggers, foresters and purchasers of raw materials to continually improve the standards by which they utilize the forest's resources.

To increase the public's awareness and appreciation of the social, economic and environmental benefits of a working forest.

To raise the level of discussion about environmental and natural resource issues.

Please allow your students to keep their copy of each edition of the magazine, and encourage them to share what they have learned with their families.

Teacher's Guide

A Note to Teachers

Welcome to the Summer 2001 issue of *Northern Woodlands*. Summer in the Northern Forest—a leafy canopy above, cadences of warbler and thrush cascading through the trees, blackflies on the wing, the scent of fern and pine pitch in the air. This issue of *Northern Woodlands* offers plenty to contemplate during the last, busy weeks of school and the long days of summer, including articles on the Maine North Woods National Park debate and several compelling, personal essays in which the authors explore their connection to the natural world.

This teacher's guide serves as a companion to *Northern Woodlands* magazine. In it are several in-class and outdoor activities that expand upon ideas presented in some of the magazine's articles. For each activity, we offer recommendations of related publications, contacts, and websites, as well as Project WILD and Project Learning Tree activities that build upon each activity theme. We also indicate the state curriculum standards each activity fulfills.

We'd like to extend special thanks to the sponsors of this project. As a result of their support, over 6,500 students throughout the Northeast receive four issues of *Northern Woodlands* each school year. The sponsors are: Vermont Department of Forests, Parks and Recreation; USDA Forest Service—State and Private Forestry; Maine TREE Foundation; Mill River Lumber; the Rondo Club; Forest Resources Association; and Warren and Barry King.

We would love to know your thoughts about our teacher's guide. If you have comments or suggestions, or if you need more (or less) copies of the magazine for your students or would like additional copies of this guide, just call or e-mail Ghostwriters Communications at 802-287-4284 (e-mail: tharvey@gwriters.com). Visit our *Northern Woodlands* Goes To School website at www.northernwoodlands.com/goestoschool.html.

Noteworthy News

Helpful website: The Vermont Agency of Natural Resources' website offers many helpful links to web resources for students (K-12) and teachers: www.anr.state.vt.us

Resources for forest education: The National Community Forestry Center's booklet, "School-based Forest Education in the Northern Forest," lists descriptions and contact information for a number of regional programs and education centers that offer curricula and/or field trip opportunities. To order a copy, contact NCFC, Northern Forest Region, at 1-800-727-5404 or visit their website at www.ncfcnr.net.

View-worthy video: "Challenging Careers In Wood Manufacturing," an engaging, 8-minute video produced by the Vermont Wood Manufacturers Association, encourages high school students to explore a career in wood manufacturing. To order this free video, contact Tina in the VWMA office at 802-287-4284.

Correction: In our last teacher's guide, we misstated the name and website of the Small Woodland Owners Association of Maine. Their correct website is www.swoam.com.



The Framework identifies fields of knowledge considered necessary in the public school curricula of Maine, New Hampshire, and Vermont.



Project WILD is a national conservation education program designed to prepare students to make decisions affecting people, wildlife, and their shared home, Earth. Project WILD is administered by your state's fish and wildlife department.



Project Learning Tree (PLT) is a program of the American Forest Foundation and the Council for Environmental Education. PLT provides a series of educational activities focused around forests and forest issues. Contact your state forester's office for more information on PLT activities.



Websites are increasingly critical as a research tool. The Teacher's Guide includes web addresses that we hope will help to increase your students' learning opportunities.



Suggested books and readings are also included in the Teacher's Guide to help teachers and students get the most benefit from each edition of the magazine. These references focus on enhancing the concepts featured in the activities.



Where applicable, the Teacher's Guide offers helpful information or resources to supplement activities.

Suggested Activities

1. "Whose Woods?" (Current Events)

Essays by Bernd Heinrich and David Field (page 23)

- Explore what National Park designation means. What protections and regulations does it put into place? Who administers National Parks? What other kinds of designations are possible for public lands and what protections and limitations do they create? What is the purpose of public land?
- Have your students identify the public lands in their state and explore the history of their creation. They can research the public discourse and debate surrounding the land's public designation by looking at period newspaper articles.
- Have your students work in small groups to create their own reasoned, well documented proposal for Maine's North Woods. Vote to see which proposal the students think will best suit the region.
- Bernd Heinrich notes that National Park designation in northern Maine may actually decrease local populations of some plant and animal species. Help students explain this paradox in terms of what they know about succession.



Who Owns America's Forests (*Focus on Forests* module, grades 9-12)
Balancing America's Forests (*Focus on Forests* module, grades 9-12)
Story of Succession (*Focus on Forests* module, grades 9-12)
Nothing Succeeds Like Succession (grades 5-8)



History of Wildlife Management
Cabin Conflict
Forest in a Jar



The Northern Forest, by David Dobbs and Richard Ober.
Chelsea Green Publishing Co.:
White River Junction, VT, 1995.



Hands on the Land: A History of the Vermont Landscape, by Jan Albers. MIT Press:
MA, 2000.



For a seemingly balanced overview of the Maine Woods National Park debate: www.mdf.org/leadme/zeta/brown.htm



For a complete listing of federal public lands and their administering agencies, as well as links to those agencies: www.publiclands.org/html/frame_agency.htm



This organization also offers a fun and informative "interactive timeline" on public lands history: www.publiclands.org/html/museum/entrance



National Public Lands Day: September 29, 2001. This event promotes community involvement in state and federal public lands. For activities in your state: www.neetf.org/publiclands/index.htm



6.4 Historical Connections
6.6 Being a Historian
6.17 Governments and Resources
7.13 Organisms, Evolution, and Independence



Science: 3b
Civics and Government: 2

Geography: 14
History: 16, 17



Science and Technology: B
History: C
Civics and Government: B

2. States Rights and Forest Policy (Current Events)

by Jon Margolis (page 50)

This article will raise students' awareness of the politics surrounding public lands administration and how it affects them.

- Have students explore the various federal departments that oversee public lands. Who is Gale Norton and what does she do? Who is the new Secretary of Agriculture and what lands in your state does she oversee?
- Take an deeper look at Maine's National Park debate by mapping the disputed lands. Obtain a copy of the proposed park boundaries from RESTORE, and overlay these boundaries on a Maine map that indicates other state and federal public lands (most road maps will work). Students can color-code the existing and proposed public lands by managing agency. Such mapping allows them to determine which communities might be affected by the park proposal, measure the park's distance to metropolitan areas, and see the proposed park's location in relation to other public lands.



Democracy in Action
Balancing America's Forests (*Focus on Forests* module, grades 9-12)



Who Pays For What?
History of Wildlife Management



Department of Agriculture
www.usda.gov
Department of Interior
www.doi.gov
www.publiclands.org
The Northern Forest Center
www.northernforest.org/
For a map and information about the proposed Maine Woods National Park:
www.restore.org



6.7 Geographical Knowledge
6.17 Governments and Resources



Civics and Government: 2
Geography: 10



Civics and Government: B
Geography: A

CAREER

CONNECTION

Downhill Trend for Ski-Area Salamanders (page 36)

During the summer, researchers from universities, science centers, and government natural resources agencies are hard at work on their field studies. Encourage your students to volunteer as research assistants to learn firsthand what scientists do.



Youth Corps, Agency of Natural Resources (each state), local Natural Resources Conservation District/Soil and Water Conservation District (www.nacdnet.org), The Nature Conservancy (www.nature.org), Student Conservation Association, US Forest Service, Vermont Institute of Natural Science.



3.15 Career Choices



Science: 1a, 2a



Career Preparation: B, C

Suggested Activities

3. Steps Toward Understanding (Communication Skills)

by Matt Schlobohm & Ethan Miller (page 39)

In their travels through the Northern Forest, the authors often heard people make simplistic characterizations and assumptions about those with opposing points of view—what the authors refer to as caricatures. In their words, “Caricatures limit our ability to listen to one another, to engage in productive and respectful dialogue, and to collectively imagine more just and sustainable futures for this region.”

- Have your students consider their own opinions about the Maine Woods National Park proposal and notice the caricatures they create “on the other side.” Have each student adopt the point of view of one of their caricatures, so that they can represent that person’s interests in a group discussion/debate on the issue. They can also write a reasoned, well-supported newspaper opinion piece about the Park debate, taking on the persona of one of their caricatures.
- Your students may connect with the authors’ youth and spirit of adventure. Summer’s here! Encourage your students to follow their example and think of creative, unconventional ways to explore the human and natural world surrounding them this summer.



We Can Work It Out
Squirrels vs. Scopes
(*Focus on Forests* module, grades 9-12)



Philosophical Differences
Ethi-Reasoning



*Making Collaboration Work:
Lessons from Innovation in
Natural Resource Management*,
by Julia M. Wondolleck and
Steven L. Yaffee. Island Press:
Washington, DC, 2000.



The Appalachian Trail Conference
offers information about hiking
the trail, as well as summer
volunteer positions: www.atconf.org



1.12 Personal Essays
6.3 Analyzing Knowledge
6.14 Forces of Unity and Disunity
6.18 Nature of Conflict
6.19 Identity and Interdependence



English Language Arts: 2
Conflict and Cooperation
(History: Vital Theme)



English Language Arts: E,G,H
Civics and Government: A
Geography B

4. Kids, Trees, and a Boat that Floats (Arts and Craftsmanship)

by Chris Granstrom (page 46)

- Ask your students to imagine that they are building a boat. Have them brainstorm as a group: What qualities would they look for in wood to make the best possible vessel? What kinds of trees would meet these requirements and in what habitats would they grow?
- Invite a forester and/or a boat builder into the classroom to hear their insights into these questions. Ask them to consider the questions from different points in history—what kinds of boats did Northeastern Native Americans make 1000 years ago, and from what woods? What about early explorers?
- Visit a museum that offers boat-building history (Adirondack Museum, Blue Mountain Lake, NY; Lake Champlain Maritime Museum, Ferrisburg, VT; Penobscot Marine Museum, Searsport, ME).

- VFF founder David Brynn notes that a carefully managed forested landscape yields high-quality water. Why? How? What forest management practices might yield low-quality water? What members of the forest community are affected by low-quality water?



Water Wonders, Part B (grades 5-8)



Riparian Zone



The Nautical Research Guild
offers a state-by-state listing of
nautical museums, with weblinks
www.naut-res-guild.org.



7.13 Organisms,
Evolution, and Interdependence
7.16 Natural Resources



Geography: 14



Science: B, J



CALENDAR

CONNECTION

“A Look at the Season’s Main Events” (page 4)

The summer *Northern Woodlands* calendar is filled with fascinating natural history details—pollinating blackflies, aggressive hummingbirds, arboreal gray foxes. Ask your students to choose one plant or animal species to observe over the summer. Ask them to make weekly recordings of their observations, questions, hypotheses.



The Plant Observer’s Guidebook, Charles E. Roth. Prentice-Hall:
New Jersey 1984.



The Wildlife Observer’s Guidebook, Charles E. Roth. Prentice-Hall:
New Jersey 1982.



4.6 Understanding Place
7.1 Scientific Method



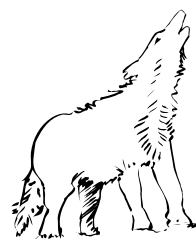
Science: 1a, 2a



Science and Technology: B



Suggested Activities



5. Book Review: *The Return of the Wolf: Reflections on the Future of Wolves in the Northeast* (Current Events)

by Catherine Tudish (page)

Have your students read essays from *The Return of the Wolf*. Explore wolf ecology and proposals for wolf reintroduction to the Northeast. Ask your students to ponder the questions posed in the book review:

- What would we gain by reintroduction of wolves to the Northeast?
- What would be the benefit to wolves?
- What would the ecological impacts of wolves be on the Northeast forest community?
- How would you feel about living in a landscape inhabited by wolves?



Life On The Edge



Wildlife Issues:
Community Attitude Survey
Planting Animals
Changing Attitudes
First Impressions
Here Today, Gone Tomorrow



For a listing of web links related to Northeastern timber wolf recovery: www.hometown.aol.com/sunwolf78/index.html



The International Wolf Center offers great resources for students and educators: www.wolf.org



Of Wolves and Men, by Barry Lopez. Scribner: NY, revised 1982.



The Wolf: The Ecology and Behavior of an Endangered Species, by L. David Mech and Ian McTaggart. U. of Minnesota Press: MN, 1985.



1.12 Personal Essays
7.13 Organisms, Evolution, and Interdependence



English Language Arts: 2
Science: 3b



English Language Arts: E, G, H
Science and Technology: B

6. Woodland Connections Take Root in Childhood (Communication Skills)

by David Clarkson (page 75)

After describing his formative experiences in Vermont's woods, David Clarkson exhorts his readers: "Get to know your neighbors, human and wild, and share these experiences with the next generation."

- Invite community elders to the classroom or to a field site to share their experience of the local landscape with your students—describing how they and/or their parents interacted with the land, how the landscape has changed during their lifetime, their connection to the land.
- Have your students team up with an elementary school classroom. Your students can design and develop an outdoor learning experience (leading a hike, planting native shrubs to attract birds, exploring a meadow or wetland for insects), which they then share with the younger children.



In the Good Old Days (grades 5-8)
Then and Now (grades 5-8)
VT-PLT supplement: What's a Forest to Vermonters?



Hands-On Nature: Information and Activities for Exploring the Environment with Children, edited by Jenepher Lingelbach and Lisa Purcell. University Press of New England, 2000. See book review, current issue of *Northern Woodlands*.



Build Your Own Six-Hour Canoe. No woodworking experience necessary to participate in the Adirondack Museum's workshop June 16 and 17. \$350 covers instruction and all materials. 518-352-7311, ext. 130, or e-mail: lsullivan@adkmuseum.org



4.5 Continuity and Change
4.6 Understanding Place
5.15 Design and Production
6.4 Historical Connections



English Language Arts: 5
Geography: 14
History: 17



History: B
Science and Technology: L

WILDLIFE

CONNECTION

Attractive Flies (page 29)

What better way to encourage your students to spend the summer outdoors than to hook them on fly fishing? June 9th is free fishing day in Vermont, during which the state offers fishing clinics and license-free fishing. Contact your state fish and wildlife department for information about free fishing clinics in your state. Encourage students to ask a relative, neighbor, or member of a local angling group to teach them how to fish. Invite a representative from your state fisheries department to visit the classroom and talk about fish ecology and the state's stocking program.



For a listing of state fisheries departments: www.fieldandstream.com/links/states/



7.13 Organisms, Evolution and Interdependence



Science: 3b

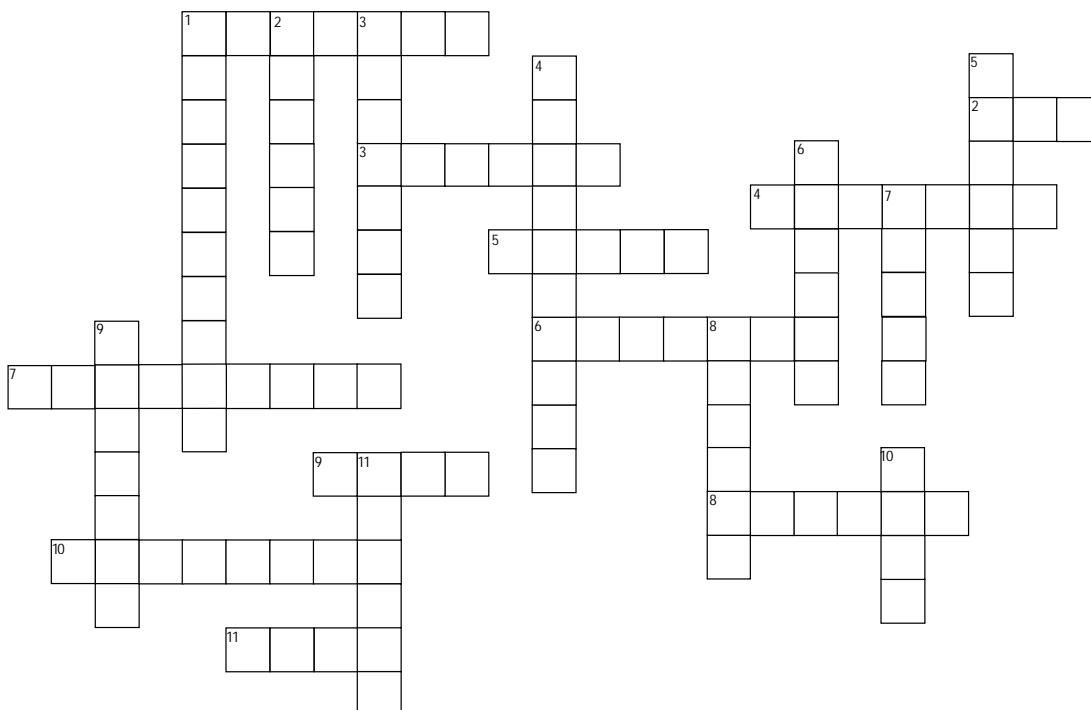


Science and Technology: B



Crossword puzzle

Summer Calendar (page 4), “Species in the Spotlight” (page 35), and “*Downhill Trend for Ski-Area Salamanders*” (page 36)

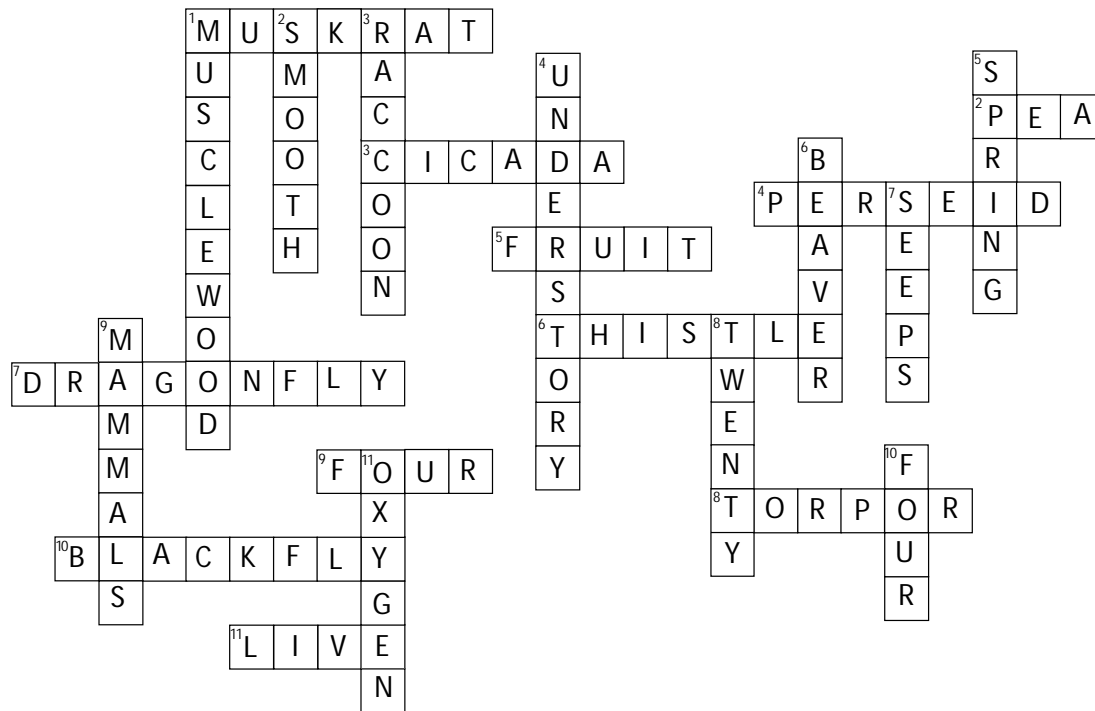


Across

- Animal whose primary food is cattail.
- Size of a hummingbird egg.
- This insect lives underground for 13-17 years as a larvae before emerging as a winged adult.
- Meteor shower in August.
- Preferred food of cedar waxwings.
- Goldfinches' favorite seeds.
- Insect clocked at 60 mph.
- Also known as “adaptive hypothermia,” this state allows hummingbirds to conserve energy while they sleep.
- Number of eyes on a whirlygig beetle.
- One of the insects that pollinates blueberry flowers.
- Garter snakes give birth to _____ young.

Down

- Another name for American Hornbeam.
- Texture of Hornbeam bark.
- Mammal that eats salamanders.
- Level of the forest canopy in which American Hornbeam grows.
- One species of salamander studied in Hagen's research project.
- Mammal that eats American Hornbeam bark.
- Preferred habitat of northern dusky salamanders.
- Average maximum height of American Hornbeams, in feet.
- Biomass of Northeastern salamanders equals that of _____.
- Number of years spring salamanders live as larvae before transforming into adults.
- The greater the plant growth in a stream, the lower the level of _____.



Telling the Story of Your Place

“A Place in Mind” by Willem Lange (page 76)

Willem Lange is quick to let us know that his “place”—the place he lives and loves—“isn’t much of a place, really.” As you’ll see in reading his story, a rich story doesn’t require grand subject matter—the richness lies in the vivid details of ordinary experience. Write about your place—the place you live or the place you connect with most. Use vivid sensory details to bring your place to life.

Note to Teachers:

Willem Lange is a regular commentator on Vermont Public Radio every Friday at 8:25 A.M. and 4:30 P.M. Contact VPR at www.vpr.net for permission to record one or two for your class. Listen to these with your students. Then have students tape themselves reading their own stories. Contact your local public radio station to see if they’d be interested in airing any of the pieces. Or, simply ask for volunteers to read their stories aloud in class.

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A Life Well Lived: Crafting a Personal Vision Statement

"Donella Meadows, 1941-2001" by Jim Schley

Author Jim Schley describes Dana Meadows' character and accomplishments in tribute to her exemplary life. What do you consider to be the elements of a life well lived? What do you most want to accomplish in your life? What kind of person do you want to be? How would you like your grandchildren to describe you?

Note to teachers:

Another way to help students create a vision for their life is to have them write a newspaper article about their life. Have them imagine that it is 50 years from today and that they have become exactly the kind of person they most want to be. Ask them to write in the 3rd person, as if they were a journalist writing a profile.

Stephen Covey's *7 Habits of Highly Effective People* is a useful reference for this exercise. Covey also offers guidance for writing personal vision statements on his web site, www.covey.com/, through a free online exercise called, "mission formulator."

You and/or your students may also be interested in reading Donella Meadow's most recent book, *Beyond the Limits: Confronting Global Collapse, Envisioning a Sustainable Future*, by Donella Meadows, Dennis Meadows, and Jorgen Randers. Chelsea Green: White River Junction, VT, 1993.

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