

WINTER ECOLOGY

Annotated Bibliography of K-12 Educational Resources

Wisconsin Center for Environmental Education (5/10)

The following list consists of selected resources on the general topic of Winter Ecology. Materials are also available for purchase from a variety of book stores, Acorn Naturalist, or Amazon.com. Please call or visit the WCEE for assistance or visit our web site at www.uwsp.edu/wcee/library for additional information on borrowing resources.

Teaching Activity Guides

Nature for the Very Young: A Handbook of Indoor and Outdoor Activities by Marcia Bowden, John Wiley & Sons/New York, NY. (1989).

Divided by seasons, these activities especially focus on animals and plants. The activities are mingled in with text and therefore are not always easy to find. Music, cooking, art projects, and various sensory activities are included.

Grade levels: P-4 Length: 240 pages

Available for purchase from: Amazon.com (\$16.77)

Borrowing: Check your local library or the WCEE (call number: AC ECO 10)

Knee High Nature: Winter: A Guide to Nature, Activities, and Fun by Dianne Hayley and Pat Wishart, Lone Pine Publishing/Edmonton, Alberta, Canada. (1993).

Contains descriptions of animal species that can be found in winter. Includes illustrations, poems, songs, stories, follow-up activities, and crafts. Each section also provides "Neat Notes" which give answers to often-asked questions.

Grade levels: K-6 Length: 172 pages

Available for purchase from: AcornNaturalist.com (\$7.25)

Borrowing: Check your local library or the WCEE (call number: AC EG 127)

Winter Here and Now by Joy Finlay, Aspen House Productions. (1982).

Basic information and simple activities one could use to incorporate winter ecology into lessons.

Grade levels: K-6 Length: 138 pages

Borrowing: Check your local library or the WCEE (call number: AC ECO 21)

Ecology Discovery Activities Kit by Janet R. Galle and Patricia A. Warren, Center for Applied Researching Education/West Nyade, NY. (1989).

An activity book that emphasizes the process approach to science education (hands-on). The activities have been used as part of a program in the east. Good for a busy teacher – background material and worksheets are provided; many disciplines included.

Grade levels: K-9 Length: 230 pages

Borrowing: Check your local library or the WCEE (call number: AC ECO 9)

Exploring Nature in Winter: A Guide to Activities, Adventures, and Projects for the Winter Naturalist by Alan M. Cvanara, Walker Publishing Co. (1992).

This guide looks at some of the special characteristics winter adds to nature and supplies several activities specialized for winter and snow.

Grade levels: K-9

Length: 194 pages

Borrowing: Check your local library or the WCEE (call number: AC ECO 29)

Good Earth Art: Environmental Art for Kids by Mary Ann F. Kohl and Cindy Gainer, Bright Ring Publishing/Bellingham, WA. (1991).

Great crafts resource with a section on natural crafts as well.

Grade levels: K-9

Length: 244 pages

Available for purchase from: Amazon.com (\$12.89)

Borrowing: Check your local library or the WCEE (call number: AC CRA 8)

Winter Fun by Laima Dingwall and Annabel Slaight, Greey de Pecier Books/Toronto, Canada. (1987).

A unique book of ideas, games, facts, activities, and more about winter enjoyment. Compiled by the editors of OWL magazines, this looks at animals that live in snowy climates, characteristics of snow, historic and worldwide images of winter. Includes several puzzles and reproducible pages.

Grade levels: K-9

Length: 128 pages

Borrowing: Check your local library or the WCEE (call number: AC ECO 17)

Below Zero: Below Zero Activity Guide by Canadian Wildlife Federation/Kanata, Ontario. (2006).
This is an interdisciplinary, supplementary education program on the environment and conservation in winter and frozen conditions for educators of K-12.

Grade levels: K-12

Length: 194 pages

Borrowing: Check your local library or the WCEE (call number: AC ECO 55)

Kid's Winter Eco-journal by Toni Albert, Trickle Creek Books/Mechanicsburg, PA. (1998).

This activity guide contains tips for observing nature in winter, how to keep an eco-journal, and numerous activities for exploring the season. It also includes short entries from the author's own nature journal.

Grade levels: 4-9

Length: 56 pages

Available for purchase from: Amazon.com (\$9.95)

Borrowing: Check your local library or the WCEE (call number: AC EG 228)

Videos/DVDs

Into the Outdoors: Chillin' and Thrillin' by Discover Media Works/Milwaukee (2006).

Topics include: kites, ice safety, where animals go in winter, elks, animal tracking, warden technology.

Grade levels: K-9

Borrowing: Check your local library or the WCEE (call number: AV DVD EG 16)

On The Wings of the Monarch by The Dreaming Tree/Burbank, CA (2004).

This documentary follows the lifecycle of monarch butterflies, from mating through overwintering and to tagging. It also gives many biological facts about monarchs, such as differences between male and female, lifespan, and diet.

Grade levels: 5-9, 9-12

Length: 47 minutes

Borrowing: Check your local library or the WCEE (call number: AV DVD WL IN 2)

Flight of the Whooping Crane by Operation Migration, Blackstock, Ontario, Canada (2002).

Examines the fragile history of the whooping crane and the inspiring cross-country odyssey that "teaches" a small flock of endangered birds to fly from northern nesting grounds in Wisconsin to wintering grounds in Florida, using ultra-light airplanes.

Grade levels: 9-12, adult/university Length: 57 minutes

Borrowing: Check your local library or the WCEE (call number: AV ES 9)

Books for Youth

Red Fox Running by Eve Bunting, Sandpiper/New York. (1993).

The predicament of being a starving animal in winter is shared in this poem about a red fox's search for food. Beautiful and encompassing illustrations. Also addresses the cycle of predator/prey.

Grade levels: P-4 Length: 32 pages

Available for purchase from: Amazon.com (\$6.95)

Borrowing: Check your local library or the WCEE (call number: BY WL M 16)

Under the Snow by Melissa Stewart, Peachtree Publishers, Atlanta, GA (2009)

This is a wonderful book that takes us under the snow and ice to see what different animals and insects are doing during the winter.

Grade levels: P-4 Length: 32 pages

Available for purchase from: Amazon.com (\$12.70)

Borrowing: Check your local library or the WCEE (call number: BY EG 121)

When Winter Comes by Nancy Van Laan, Atheneum Books/New York. (2000).

Rhyming text asks what happens to different animals and plants "when winter comes and the cold winds blow..."

Grade levels: P-4 Length: 40 pages

Available for purchase from: Amazon.com (\$15.29) or AcornNaturalist.com (\$17.95)

Borrowing: Check your local library or the WCEE (call number: BY ECO 28)

Snow, Snow: Winter Poems for Children by Jane Yolen, Wordsong/Honesdale, PA. (1998).

This book is a collection of winter poems for children to enjoy as well as snow lovers and for those who might love snow if only it weren't so cold and wet and sometimes inconvenient.

Grade levels: P-6 Length: 32 pages

Available for purchase from: Amazon.com (\$11.01)

Borrowing: Check your local library or the WCEE (call number: BY EG 105)

Animals in Winter by Henrieta Bancroft and Richard G. Van Gelder, HarperCollings/New York. (1997).

This book describes the many different ways animals cope with winter, including migration, hibernation, and food storage.

Grade levels: K-4 Length: 32 pages

Available for purchase from: Amazon.com (\$5.99)

Borrowing: Check your local library or the WCEE (call number: BY WL 93)

What do Animals do in Winter? by Melvin and Gilda Berger, Ideals Children's Books/Nashville, TN. (1995).

Explains what various animals do during winter; migrate, hibernate, hide, change color, grow extra fur, etc. Also explains the differences in winter throughout the world.

Grade levels: K-4

Length: 48 pages

Available for purchase from: Amazon.com (\$3.95)

Borrowing: Check your local library or the WCEE (call number: BY WL 91)

A Hummingbirds' Life by John Himmelman, Children's Press/New York. (2000).

Striking illustrations and lively storyline follow a ruby-throated hummingbird as it hunts for food, faces its enemies and interacts with humans.

Grade levels: K-6

Length: 29 pages

Borrowing: Check your local library or the WCEE (call number: BY WL B 31)

Flute's Journey: the life of a wood thrush by Lynne Cherry, Harcourt School Publishers. (1997).

This is the story of a young wood thrush's first migration from Maryland to Costa Rica. On his journey, he encounters many of the perils that threaten songbirds.

Grade levels: K-6

Length: 32 pages

Available for purchase from: Amazon.com (\$9.87) or AcornNaturalist.com (\$16.95)

Borrowing: Check your local library or the WCEE (call number: BY WL B 20)

Snowflake Bentley by Jacqueline Briggs Martin, Houghton Mifflin Company/Boston NY. (1998).

A story about Wilson A. Bentley, who had a passion for studying snowflakes. He developed a technique for photographing them. This will engage children's imaginations with the help from illustrations included in this book.

Grade levels: K-6

Length: 32 pages

Available for purchase from: Amazon.com (\$7.99) or AcornNaturalist.com (\$15.95)

Borrowing: Check your local library or the WCEE (call number: BY EB 25)

Snow Secrets by Lynn Levine, Heartwood Press, East Dummerston, VT (2010)

This book is arranged in short stories of a girl's adventures outdoors during winter. She does some "owling," wildlife tracking, and different observations activities.

Grade levels: K-9

Length: 72 pages

Available for purchase from: Amazon.com (\$7.95)

Borrowing: Check your local library or the WCEE (call number: BY EG 132)

Who Lives in the Snow? by Jennifer Jones Berry, Court Wayne Press. (2001).

Explores the world of animals in the snow such as: mites, spiders, chipmunks, foxes, and more! Main focus is on homes, habitat, and survival techniques.

Grades levels: 4-9

Length: 32 pages

Available for purchase from: Amazon.com (\$13.22) or AcornNaturalist.com (\$16.95)

Borrowing: Check your local library or the WCEE (call number: BY WL 66)

Winter Moon by Jean Craighead George, HarperCollins. (2001).

One of a four book series taking readers on a journey through the seasons of the year using the lives of animals. Winter Moon explores the lives of birds, moles, owls, and bears, among others.

Grade levels: 4-9

Length: 128 pages

Borrowing: Check your local library or the WCEE (call number: BY WL 77)

Reference/Background Books

Curious Naturalist by Cathy Johnson.

A naturalist guide to basic winter characteristics of plants and animals. A good start for anyone looking for a winter ecology topic.

Grade levels: K-9 Length: 47 pages

Borrowing: Check your local library or the WCEE (call number: BA ECO 6)

Handbook of Nature Study by Anna Botsford Comstock, Comstock/Cornell, Ithaca, NY. (1939).

Originally copyrighted in 1911, this book is a classic. It contains information, activities, and observations on a wide range of topics. These topics include: birds, amphibians, insects, wild flowers, trees, soil, and much much more. Extremely comprehensive.

Grade levels: K-Univ Length: 887 pages

Available for purchase from: Amazon.com (\$15.14) or AcornNaturalist.com (\$25.95)

Borrowing: Check your local library or the WCEE (call number: BA EG 80)

Discover Nature in Winter by Elizabeth P. Lawlor, Stackpole Books/Mechanicsburg. (1998).

This book is somewhat a cross between a field guide and an activity book for exploring nature in winter. Written at a basic level, the book offers information and activities for observing and investigating life in winter.

Grade levels: 5-Univ Length: 208 pages

Available for purchase from: Amazon.com (\$11.21) or AcornNaturalist.com (\$14.95)

Borrowing: Check your local library or the WCEE (call number: BA EG 73)

Falling for Snow by Jamie Bastedo, Red Deer Press/Calgary, Alberta, Canada. (2003).

This book discusses the beauty, mystery and magnificence of snow through stories, poems, and fictional writings about now, winter, storms and snow in cities, rural areas, childhood, and adulthood. This witty and lyrical book can be read straight through, by chapters, or by stories.

Grade levels: 9-Univ Length: 256 pages

Available for purchase from: AcornNaturalist.com (\$14.95)

Borrowing: Check your local library or the WCEE (call number: BA ECO 1)

Life in the Cold by Peter J. Marchand, University Press of New England/London. (1996).

Themes of winter ecology include snow, plants, animals, life under ice, plant-animal interactions, and humans. Pictures, sketches, graphs and tables help to explain and supplement the comprehensive text.

Grade levels: 9-Univ Length: 320 pages

Available for purchase from: Amazon.com (\$13.74) or AcornNaturalist.com (\$22.95)

Borrowing: Check your local library or the WCEE (call number: BA ECO 16)

Exploring Nature in Winter by Alan M Cvancara, Walker and Company/New York, NY. (1992).

Introduces concepts and issues for the winter season. Presents ways to appreciate, understand, and enjoy winter.

Grade levels: Adult/Univ Length: 194 pages

Borrowing: Check your local library or the WCEE (call number: BA EG 56)

Northwoods Companion by John Bates, Manitowish River Press/Mercer, WI. (1997).

This book looks at the fall and winter seasons and breaks them down week-by-week to explain the events that occur in the Northwoods.

Grade levels: Adult/Univ Length: 240 pages

Available for purchase from: Amazon.com (\$14.95)

Borrowing: Check your local library or the WCEE (call number: BA EG 71)

Field Guides/Other Resources

Ecological Field Studies by Creek Farm Education Associates. (2004).

Contains four discs, one for each season, with a collection of seasonally appropriate field activities.

Grade levels: 5-12

Borrowing: Check your local library or the WCEE (call number: COM ECO 2)

Guide to Nature in Winter by Donald Stokes, Little Brown and Company/Boston, MA. (1976).

This guide combines several field guides. Sections include: winter weeds, snow, wintering trees, evidence of insects, winter's birds and abandoned nests, mushrooms in winter, tracks in the snow and woodland evergreen plants. Line drawings and detailed descriptions are provided for common winter species.

Grade levels: 9-Univ Length: 374 pages

Available or purchase from: Amazon.com (\$11.66)

Borrowing: Check your local library or the WCEE (call number: FG EG 1)

Wildflowers and Winter Weeds by Lauren Brown, W.W. Norton and Co/New York. (1976).

Beginning with a dichotomous key and followed by text and illustrations, this guide lists over 135 common wildflowers and weeds, specifically aimed toward identification in the winter. Contains an excellent introduction, glossary and sources.

Grade levels: 9-Univ Length: 252 pages

Available for purchase from: Amazon.com (\$10.17) or AcornNaturalist.com (\$14.95)

Borrowing: Check your local library or the WCEE (call number: FG PL 18)

Websites

Great Backyard Bird Count (2009).

Though not specifically focused on winter birding, this website offers information and activities for adults and students about noticing the signs of winter and spring depending on which birds are visible from your own backyard.

Grade Levels: K-12, adult/university

Web link: <http://www.birdsource.org/gbbc/>

National Snow and Ice Data Center (2010).

A neat site for educators and students to learn about current research, programs, and projects focusing on earth's frozen ecosystems. Offers educational resources under "Publications" heading.

Grade Levels: 9-12, adult/university

Web link: <http://nsidc.org/>

Below Zero Education Program by Canadian Wildlife Federation (2009).

Below Zero is a K-12 educational program designed to promote understanding of wildlife under winter conditions. Activities are modeled after Project WILD. Site includes sample activities and information on how to obtain the complete program.

Grade Levels: adult/university

Web link: http://www.wildeducation.org/programs/below_zero/belwzero.asp

Educator's Science and Math Series: Winter Ecology Lesson Plans by Michigan Technical University (2001).

This site provides access to a wide variety of lesson plans focused on winter ecology concepts. Lesson plans are designed for K-12 teachers.

Grade Levels: adult/university

Web link: <http://www.ed.mtu.edu/esmis/id88.htm>

Winter Ecology Lessons by Central Wisconsin Environmental Station (2010).

The Central Wisconsin Environmental Station in partnership with the University of Wisconsin-Stevens Point offers two downloadable winter ecology lessons. Works well for middle school grade levels.

Grade Levels: adult/university

Web link: <http://www.uwsp.edu/cnr/cwes/PreandPosts/Winter%20Ecology%20Pre-Visit%20Activities.pdf> and

<http://www.uwsp.edu/cnr/cwes/PreandPosts/Winter%20Ecology%20Post-Visit%20Activities.pdf>

Community Collaborative Rain, Hail and Snow Network (2010).

Provides nationwide up-to-date information on precipitation. Also offers background information on rain, snow, and hail. Opportunities to help volunteer to collect measurements for the database are also available.

Grade Levels: adult/university

Web link: <http://www.cocorahs.org/>