

Environmental Leadership Program
Forest Team
10 June 2007
Annotated Bibliography

Acker, S.A., Sabin, T.E., Ganio, L.M., & McKee, W.A. 1998. Development of old growth structure and timber volume growth trends in maturing Douglas-fir stands. *Forest Ecology and Management*, 104, 265-280.

The journal article by Acker was about how scientists classify old-growth forests in relation to timber volume. This question is especially important in understanding if it is possible to mimic the characteristics of old-growth forests and transplant them to managed forest stands. In addition, it also answers if managers can reduce rotation times of timber cuts. The study itself found that there was a rapid increase towards old-growth structures until year 80 the subsequently declined. However, the study itself was inconclusive on whether rotation times could be reduced or lengthened to mimic old-growth forests.

Adams, M. 1995. *Ecosystem Matters: Activity and Resource Guide for Environmental Educators*. Washington, D.C.: United States Department of Agriculture, Forest Service, Rocky Mountain Region, Retrieved on February 10, 2007. (<http://www.eric.ed.gov/>).

As with other lesson plan collections researched, this one avoids any kind of lecture format in favor of hands-on activities, field trips, and group projects for conveying environmental concepts. The activities are broken up by grades with water activities spread throughout. The first activity devoted to water issues focuses on learning about features and processes in wetlands. The last is a role-playing game for high schoolers with the setup that everyone is on an island with limited water resources and many competing uses that need discussion, cooperation, and decision making to resolve. While the IYE lessons are designed mostly to build on the previous lesson in thematic units, these in *Ecosystem Matters* are independent of one another. However, like IYE these lesson plans are not correlated to any Oregon benchmark and would need investigation if they can be correlated.

Alt, D.D. & Hyndman, D.W. 1991. *Roadside Geology of Oregon*. Missoula, MT: Mountain Press Publishing Company.

This is a good, less specific, overview of geological features and deposits in Oregon. The first chapter is a broad background on the tectonic setting and geologic history of Oregon. From there the state is broken up into four parts and each is discussed from prominent state and interstate highways in Oregon. This is useful for pointing out features on the ride over to a field trip site. It also has very detailed maps and clear photos, so even non-geologists can use it successfully in the field. The Lookout Creek area falls under "the Cascades" as Eugene-Santiam Junction or McKenzie Bridge-Sisters.

Atwood, J., Ills. T. L. No Date Given. *The Watershed Journey of Linus Loon*. Augusta, ME: Maine Coastal Program, Maine State Planning Office, Retrieved on February 10, 2007 (<http://www.maine.gov/spo/mcp/resources/linus/index.php>).

Linus Loon is just a cool creation. It throws lectures completely out the window for gnomes, trolls, and a loon name Linus exploring basic watershed ecology concepts through a story. This text is designed for 4-8 grades. In each chapter, vocabulary and concepts are introduced with follow up questions at the end for further study. These elements are woven into the story of Linus Loon traveling through different ecosystems from a lake to the ocean and learning about them from wise gnomes along the way. These chapters could be incorporated into an ecology lesson plan as introductory readings to study of different watershed aspects. This uses storytelling as a way to incorporate the benefits of art into EE as described in the Jacobson class textbook.

Case, R.O. 1944, December 30. Big timber gets religion. *The Saturday Evening Post*, p. 14-15, 46-47.

This article was about the Tillamook fire that occurred in 1933 and how it changed the perception that lumbermen had about harvesting the forest. The fire itself burned 250,000 acres of land, which is more than twelve billion board feet of usable timber. While that was a substantial, it was insignificant compared to the 1.7 trillion board feet. The real issue at hand was the severity of the wildfire which left hills, whose sole purpose was to grow timber, blacken and unusable. It is because of this that lumbermen are being made to rethink their strategy consider allowing timber to grow back in a more sustainable fashion. Even in 1944 this kind of thinking was radical, therefore one can look at this article and see the forward thinking that existed even when knowledge of ecosystems was more limited.

Chesterman, C.W. 1979. *National Audubon Society field guide to rocks and minerals*. New York: Random House.

This source is a book that is easily transported into the field to answer questions like, “what rock is that?” and “why does it sparkle?” This is a field guide for the entire country so it is useful anywhere; however, it is broad in scope. For the McKenzie Bridge area focuses mostly on volcanic rocks and the associated minerals. It is useful as a tool to get youth actively interacting with their environment. It also is functional in the classroom to use to identify hand samples.

Cissel, J.H., Swanson, F.J., & Weisberg, P.J. 1999. Landscape management using historical fire regimes: Blue River, Oregon. *Ecological Society of America*. 9(4), 1217-1231.

The journal article by Cissel looks at the role of historical fire regimes and matrix layouts on forest management. To accomplish this, the study looked at indicators and historical data to plot data points that could be used to predict future fire regimes. The belief is by using these regimes

it will create a matrix pattern that will pose less risk to native species and ecological processes. Also by learning about the mosaic pattern that fire creates, scientists could learn how to mimic these natural occurrences to manage forests better. Finally, when comparing these fire regimes and mimicking one could use the data to provide information to base or modify current management plans.

Clark, E.E. 1953. Indian legends of the Pacific Northwest. Los Angeles, Ca: University of California Press.

The book Indian legends of the Pacific Northwest provided many examples of different types of folklore generated by the Native Americans of this area. While many of the stories were interesting, the focus of my reading was on the Santiam, Kalapuya, the Umpqua and Coos due to their proximity to HJ Andrews. The stories provided insight into beliefs and ideas that the Native Americans had on how different animals interacted with nature and their tribe. In addition, they provided idea of creation and sometimes the afterlife. While these stories add to the multicultural aspects of the reader, there should be an analysis of other different sources like actual native groups and museums.

Council of Environmental Education. 2004. Project Wild Aquatic: K-12 Curriculum and Activity Guide. Houston, TX: Council of Environmental Education.

Project Wild Aquatic deals with the wildlife of the aquatic environments filling in a niche left vacant by previous citations that focused mostly on the plant, people, and abiotic elements. These activities reverse the focus to wildlife's adaptation to environmental processes. It explains the water processes from the wildlife's point of view such as how disturbance, adaptation, niches, interdependence, and human management interact with and shape wildlife populations. This activity book can be correlated to Oregon benchmark standards.

Dyrness, T., Swanson, F., Grant, G., Gregory, S., Jones, J., Kurosawa, K., Levno, A., Henshaw, D., & Hammond, H.. 1996. Flood of February, 1996 in the H.J. Andrews Experimental Forest Preliminary Report. Blue River, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station, Retrieved February 6, 2007 (<http://www.fsl.orst.edu/lter/pubs/webdocs/reports/flood.cfm?topnav=55>).

One cannot cover the hydrology of the HJA forest without acknowledging the flood of 1996. This was an important event for the researchers. It allowed them direct insight into how large flood events interact and shape their ecosystems. The flood presented many pre/post flood research opportunities given the prior close examination and measurements of the area by researchers. They had amassed a large body of knowledge about the area and were therefore able to notice and analyze closely the effects of the flood. We will be able to incorporate into the brochure or lesson plans the most appropriate findings from research done on the floods effects.

Earth Works Group. 1989. 50 simple things you can do to change the Earth. Berkeley, CA: Earthworks Press.

This is the classic text on day-to-day action to make a difference in the environment. The book breaks down actions into topics that range from simply putting a hold on junk mail to the more committed recycling gray water in drought states. Each activity is clearly presented as an issue with background facts, followed by small actions and a list of bibliographic stories. These actions coupled with background information on watersheds or forest resources could make meaningful contributions to the environment.

Environmental Education Association of Oregon. 2004. Resources for Educators. Portland, OR: Environmental Education Association of Oregon, Retrieved February 10, 2007 (<http://www.eeao.org/>).

This is a valuable website resource for links to environmental education lesson plans and organizations. Much of my search for the above material began by browsing this website.

Environmental Protection Agency. Surf Your Watershed, McKenzie Watershed Profile. U.S. Environmental Protection Agency, Retrieved February 7, 2007 (http://cfpub.epa.gov/surf/huc.cfm?huc_code=17090004).

This website provides links and information about the McKenzie watershed in which the HJA forest is located. The most pertinent information is the daily-recorded stream flows including Lookout Creek, the creek that drains the HJA forest. This information could be incorporated into a pre-visit investigation activity of the HJA forest. The stream flow data and other information about the McKenzie watershed, including water pollution listings, could be incorporated to nest the Lookout Creek watershed within a larger and comparative scope of study.

Faustini, J.M., & Jones, J.A. 200. Influence of large woody debris on channel morphology and dynamics in steep, boulder-rich mountain streams, western cascades, Oregon. *Geomorphology*. 51, 187-205.

The journal article by Faustini looked at the long-term influence of large woody debris. To do this they used 20 year-records of stream channel change and wood. In addition to effects on morphology and channel stability Faustini also looked at sediment dynamics in a steep, boulder-rich mountain stream. In their study, they found that LWD generally provided for greater geomorphic features and retention of sediments. Due to this fact, one can ask whether the LWD helps in retention of nutrients and other organisms found in sediments in addition increasing habitat. Additionally, since other studies have been done on short-term removal of LWD, can those articles provide more insight in what is occurring in the stream when LWD is removed.

Favero, Meserve, Segretto. 2005. Graylock Glen Interpretive Trail Design. City of Adams, MA.

Available at: <http://www.williams.edu/CES/mattcole/resources.pdf>

This is a great example of a very well researched and in-depth interpretive trail design plan. It details the demographics of potential users. It discusses handicap access, trail design and layout, educational goals, sign design and much more. It was created by university students as a class project, but was done in a professional manner and actually implemented starting spring of this year. It also uses case studies of other trails to show what is and is not effective.

Federal Interagency Stream Corridor Restoration Working Group. 1998. Ch. 1 Overview of Stream Corridors, Ch. 2 Stream Corridors: Processes and Characteristics, Ch. 3 Disturbance Affecting Stream Corridors in Stream Corridor Restoration: Principles, Processes, and Practices. Federal Interagency Stream Restoration Working Group (FISRWG), Retrieved February 6, 2007 (http://www.nrcs.usda.gov/technical/stream_restoration/newtofc.htm).

This report is a government document written in collaboration by 15 agencies providing a comprehensive introduction to stream restoration. The document covers from what stream corridors are and how they work to planning, organizing, and implementing restoration techniques. I site the first three chapters because they are good general explanations of stream features, characteristics, and processes. They will be valuable as background information for instructors so that they may be more informative and accurate when leading the activities.

Gross, Zimmerman, Buchholz. 2006, (Third Edition). Signs, Trails, and Wayside Exhibits: Connecting People and Places. UW-SP Foundation Press, Inc.

This book outlines the creation of effective and informative signs, trails, and exhibits. It focuses on the kind of language, shapes and sizes of signs that will grab people's attention and actually teach them something about the place they are visiting. It outlines the key points for a leaflet and marker interpretive walk on page 142. However, it starts out by saying that it is an ineffective educational tool because the story is going on around the visitor and it is unnatural for them to be reading and looking at their surroundings at the same time. The book's key recommendation is to have a unifying theme coupled with provocative titles.

Ham, S.. 1992. Environmental Interpretations: A Practical Guide for People with Big Ideas and Small Budgets. North American Press

This is a great resource for utilizing a small budget for designing effective interpretive environmental education tools. It bases its strategy in the planning efforts. It outlines how an effective plan, which is usually not expensive to create, can save cost on materials and publication by examining key messages and educational goals. Its focus is on signs and exhibits but the themes and concepts can easily be transferred to an array of educational materials. It also emphasizes case studies and using them to see what works and what does not prior to production.

Haultsman, H.. 2001. Pathways for People: Trail Design to Minimize Environmental Damage and Enhance User Enjoyment. Cooperative Extension Service Purdue University.

This resource discusses the principles of responsible trail design. The primary focus is on the actual building of the trail. However, it does talk about what factors contribute to an enjoyable walk on a trail whether educational, interpretive, or just for pleasure. The discussion of resting points and interface with other users is pertinent for designing and interpretive trails.

Hientzman, J.. 1988. Making the Right Connections: A Guide for Nature Writers. UW-SP Foundation Press, Inc.

This book gives many amazing and helpful tips for targeting your audience in an effective and organized way. It details how to think before you write. It really gives a perspective of how important it is to have a plan, an audience, and a goal before you begin. Hientzman discusses the key difference between reading and writing, and speaking and listening. A whole section is devoted to the use of punctuations in effective writing. One of the overarching themes is to keep it simple. Knowing how to use technical words in a way that is simple to understand allows common people to access interesting and critical messages that writing is attempting to convey.

Highsmith, R.M. & Beh, J.L. 1952. Tillamook burn: The regeneration of a forest. *The Scientific Monthly*, 75(3). 139-148.

This article was broken into three major parts; the first was a description of the Tillamook forest while the second section covered the salvage that occurred after the wildfire while the last section which is the main part covered the restoration work. Following the 1945 fire the State of Oregon issued bonds to rehabilitate and reseed the forest. The reason mainly because the area was productive in growing Douglas-fir and other coastal trees. While it is true that the area is now able to support timber sale, we should further analyze the possible uses of the Tillamook forest and other burned forestlands to see if that is truly necessary.

Johnson, G.R., Sorensen, F.C., St Clair, J.B., & Cronn, R.C. 2004. Pacific northwest forest tree seed zones: A template for native plants?. *Native Plants Journal*. 5(3), 131-140.

This study documents the seed movement of various native grasses, forbs and shrubs in order to better establish seed zones and movement guidelines. In using historical data, this article hopes to be able to make suggestions for other native plants. In addition, the study hopes to use provenance traits and short-term common-garden studies to map out genetic variation. With this genetic mapping, hopefully more studies will be done to document the history of native plants and their migration patterns throughout the western cascades.

McCain, C. 2004. Riparian Plant Communities of Northwest Oregon: Streamside Plant

Communities Technical Paper R6-NR-ECOL-TP-10-04. United States Department of Agriculture, Forest Service, Pacific Northwest Region, Retrieved February 6, 2007 (<http://www.reo.gov/ecoshare/Publications/documents/fieldguides/nworiparian/index.asp>).

Understanding processes in the forest ecosystem is important, but so is knowing the who the individuals are involved in those processes. This guide will provide information about which plants live in the riparian areas of the HJA forest. We could incorporate this into our lessons or brochure as a learning objective: identify and name three riparian plants by the end of the hike.

National Park Service. 1994. Harpers Ferry Center. Washington, D.C.: United States Department of Agriculture, Forest Service, Retrieved on February 10,2007 (<http://www.nps.gov/hfc/products/waysides/>)

This website is a comprehensive guide for planning, designing, and fabrication of environmental education exhibits and signs. It discusses the longevity of projects and why they do or do not last (physically and content wise). It details accessibility concerns for wheelchairs and small children. It outlines safety concepts, which are a very legitimate concern for users and those responsible for trail design.

Orr, D.W.. 2004. Earth in mind: On education, environment, and the human prospect. Washington DC: Island Press.

This book covers a variety of topics tied to environmental education and why they are important. This serves as excellent background for teachers who may be skeptical towards environmental education or who just want to learn more about the field. The first four chapters analyze the “problem of education,” and how students spend their years discovering their careers instead of discovering themselves. This would be an interesting chapter to present in a high school humanities or science class to see what the students’ opinions are.

Orr, W. & Orr E.. 1999. Geology of Oregon (5th ed.). Dubuque, IA: Kendall/Hunt Publishing.

This is a textbook written for university students about the geology of nine separate regions of Oregon. The text has many great diagrams that could be utilized to illustrate the geologic history of the McKenzie River area. Since it is written at a higher reading level, material may need to be paraphrased for younger geology students. It serves as good background to tectonics and volcanism in Oregon. The Lookout Creek area falls into the chapter “Cascade Mountains.”

Seuss, Dr. 1971. *The Lorax*. New York: Random House.

The Lorax is a silly worded story that superficially is just a children’s story. However, at further inspection, the story is very pertinent to environmental stewardship. The Once-ler who is the

antagonist provides a perfect example of how we as a society treat the environment while the Lorax tries to voice its concern. After the Once-ler destroys the environment by over harvesting Truffula trees, it learns that there could be another way by intrusting the last Truffula Seed to a boy. While this book is intended for children, it brings up many questions about what can go wrong and how society might be able to preserve the natural environment.

Silverstein, Shel. 1964. *The giving tree*. New York: Harper Collins Publishers.

The Giving Tree is a story about a boy and a tree. Everyday the boy would walk up to the tree and ask for things. Whether it is apples, swinging from her branches to finally wood to build a house the tree gave without question. While the story itself is quite simple, it does bring to light many questions about “givers” and “takers.” It also gives a great interpretation on the capacity to give and boundless love one can give.

Smith, A.A. & Student Environmental Action Coalition. 1993. *Campus ecology: A guide to assessing environmental quality and creating strategies for change*. Los Angeles, CA: Living Planet Press.

This book, although set for a campus community, has a variety of ideas to improve environmental conditions within a school. For instance, it has guidelines for how to conduct a solid waste audit. It also has numerous other case studies that discuss how universities and colleges across the country have become more “green” through student action. The text itself is easy to read and at the end of each chapter there is an extensive list of further sources.

Swanson, F., Jones, J.A.. 2001. *Geomorphology and Hydrology of the H.J. Andrews Experimental Forest, Blue River, Oregon*. Corvallis, OR:USDA Forest Service, Pacific Northwest Research Station, Department of Geosciences, Oregon State University, Retrieved February 6, 2007 (<http://www.fsl.orst.edu/lter/pubs/webdocs/reports.cfm?topnav=55>).

This is a technical document with difficult language, but is useful because it provides a description of the hydrology specific to HJA forest. Other sources are easier to understand and focus more on explaining general watershed processes, but fail to describe specifically the Lookout Creek hydrology of the HJA forest. The combination of the two types of texts will allow for a more articulated picture of the general elements of the HJA watershed and those elements unique to the watershed. The report has sections on HJA forest’s climate, nutrient cycling, wood in streams, road impacts, disturbance response, and vegetation water use. This will be an important resource to explain general hydrology concepts with specific examples from the HJA forest.

Tsanchiifin Interpretive Walk Design Team (Holly McRae). 2003. *Design Plan: Interpretation of the Tsanchiifin Walk at Tsal Luk-wah Prairie*. West Eugene Wetlands Project.

This is an awesome local example of how an interpretive trail can be a fun, exciting and effective education tool for all ages. The plan is designed by an extensive team in which sixteen people split into four teams and used their skills to envision and create a very great trail and model for other interpretive trail planners. The key concepts from this work are a clearly defined mission or goal, an overall design concept, knowing what is unique about the site that can be emphasized and what can be inhibiting, and knowing the interpretive objectives for the site. The plan also outlines the concepts for each prospective sign. This is a great model for conceptualizing and designing. It does not really cover the material logistics or costs.

United Nations Environment Programme. 1995. Taking action: An environmental guide for you and your community (A. Rogers, ed.). Kenya: United Nations Environmental Programme.

This is a compilation of worldwide facts and case studies on environmental action, from capturing fog for water to solar cells. It is written at around a high school reading level, so it is accessible to a wide range of audiences. There are variety of graphs and charts, so it could easily be incorporated into activities that involve reading graphs. The book also has a variety of cartoon and illustrations that keep it engaging and key ideas are easily distinguished by bullet points. This book is over 10 years old, so the facts and statistics are not necessarily current, but it might be interesting to observe the change in statistics since the publication date. This is a good basic introduction to environmental action.

United States Department of Agriculture, Forest Service. 1995. Water, Riparian Environment. *Investigating Your Environment*. Washington, D.C.: United States Department of Agriculture, Forest Service, Retrieved on February 10, 2007 (<http://www.eric.ed.gov/>). p. 170-184, 355-375

Investigating Your Environment is an environmental education lesson plan series that has been in use since the 60's. The program's goal is to use hands-on activities that investigate the surrounding environment exploring natural features, processes, and interactions, to create an educated audience capable of making more informed decisions about natural resources. This is a 600+ page document full of investigative, hands-on, cooperative, and constructivist lesson plans that include two topics in my theme: water, and riparian environment. The first topic focuses on what aquatic life is present in fresh water bodies and how they can predict water characteristics and quality. The second topic identifies characteristics and benefits of riparian areas such as typically being wetter than upland areas and provides important habitat for wildlife. The lessons are not correlated to Oregon benchmark standards so we would have to investigate their worth in consideration of the standards.

United States Geologic Survey. 1983. McKenzie River, Oregon quadrangle. Denver: USGS.

This is a topographic map of the area, Lookout Creek can be found in the eastern third of the map in the center (T15S, R5E). Using a large map puts the specific area of study in context and is a good resource to have when in the area for navigation purposes. This map can be used for analyzing the watershed of Lookout Creek by identifying basin area, headwaters, and downstream waters. Stream flow data from gauging stations on Lookout Creek and the McKenzie can be used in a math or science lesson. In addition, this map can be used to teach the skills of topographic map reading or to discuss the range in township system.

United States Geologic Survey. 2003. Geologic information about Oregon. Retrieved 1/30/07 from <http://geology.wr.usgs.gov/stateinfo/OR.html>.

This bland general web page links to a bunch of valuable geologic resources like the Cascade Volcano Observatory and seismic modeling stations. The page has both resources for educators, students, and general public making it accessible to a wide variety of audiences and experience levels. There are a variety of different measuring stations that can be linked to science and math classes at both a high school and middle school level.

US DOI, National Park Service. 1994. NPS Trails Management Handbook. US Government Printing No. 576-279

This handbook is a comprehensive guide to multi-use trails and management for the national parks. It discusses the design and implementation of interpretive trails and signs. It focuses on the scale of the project in coordination with its projected usage. In other words not building an extensive and expensive trail if it is not in a high use area. It gives many straight fore concepts to those who may not have any experience in prior trail design. The bulk of it is on trail maintenance but it gives a good perspective on what federal agencies expect out of their trails, both educational and recreational.

Vance, N., Neill, A., & Morton, F.. 2006. Native grass seeding and forb planting establishment in a degraded oak savanna plant community in the Coast Range foothills of western Oregon. *Native Plants Journal*. 7(1), 35-46.

The study looked at how native plant grass seeding can help restore degraded oak savanna plant communities. To accomplish this the study evaluated two methods. The first method looked at how native grass established on graminoid cover and composition while the second method looked at three outplanted native perennial forb species and their ability to survive. Overall, the study found that species abundance increased which is helpful in the establishment of native species. While this study is important in terms of returning degraded oak savannas to pre-European characteristics it will be more important to analyze what effect this will have on the ecosystem of the Willamette valley and surrounding mountain ranges.

Wetsup. 2002. Education Trail Users: Advice for Planning Interpretive Trail Signs and Exhibits.

California State Parks Planning Division.

This short guide is an easy to use reference for anyone who is creating an interpretive trail. Perhaps the most useful part is the “Top Tips” section that gives thirteen insightful tips, which are easy to remember and implement. This piece also outlines some of the key aspects of the actual trail itself. It gives examples of ineffective ideas and provides effective alternatives.

White, R.E.. 1997. Principles and practice of soil science: The soil as a natural resource (3rd ed.). Oxford: Blackwell Science.

This is a college level textbook that has very detailed illustrations to supplement any lecture on soils. The text discusses a variety of physical processes including the weathering cycle, the water cycle, the nitrogen cycle and the phosphorus cycle. The text displays them all in the context with one another to give a broad systems approach to the soil. It also discusses soil minerals, which fit in with a geology lesson and various buffering and decomposition reactions, which fit into chemistry or biology. This book was written as part of an agricultural science course, so there is a slant towards farm application; however, the fundamentals of soil science can be applied to the forest.

Wilson-Hill, F., McCorkindale, S., Eagles, A. No Date Given. Waiora (Healthy Water): A Teacher’s Resource for Primary and Intermediate Classes. Whakatane, New Zealand: Environment Bay of Plenty Regional Council, Retrieved February 10, 2007 (<http://www.ebop.govt.nz/education/waiora---healthy-water.asp>).

This is a water education curriculum developed by a New Zealand environmental government council for the Bay of Plenty area in New Zealand. Its overall goals are in line with those from the Tbilisi declaration and it has familiar cooperative, investigative, constructionist activities that use multiple forms of intelligences that are correlated to New Zealand schooling standards. It also focuses on social issues related to water as well as activities for learning about water environments. The activities are limited to mostly to water cycle without being integrated with forest or wildlife topics. These would be useful then as introductions to the water cycle with further activities necessary to explore the role of water in the fauna and flora of the forests.

Zehr, Gross, Zimmerman 1991. Creating Environmental Publications: A Guide to Writing and Designing for Interpreters and Environmental Educators. UW-SP Foundation Press, Inc.

Creating Environmental Publications is a key work for anyone learning to appeal to the public regarding the environment. It discusses what kind of messages and images draw readers in. It states the importance of learning to write for the public, and shows ways that it differs from the writing one may be used to. It is a very pertinent resource for design. The design and layout hold the readers attention. Such things as the amount of white or empty space on a page can determine the effectiveness of a publication. Numerous other details that most people would not think of are outlined in this text. The book details non-computer based technical creation of

these publications. This will be very useful when the actual design layout and text are being created.

These are additional resources that might be helpful but were repetitive or less pertinent as the first ten chosen.

Chiras, D. D., & Regandol, J. P.. 2005. Natural Resource Conservation 9th ed. Upper Saddle River, NJ: Pearson Prentice Hall.

The Federal Interagency Stream Corridor Restoration Working Group. No date given. Stream Corridor Structure. The Federal Interagency Stream Restoration Work Group, Retrieved February 6, 2007 (www.epa.gov/watertrain).

Indiana State Department of Education, Center for School Improvement and Performance. 1994. Energy, Economics, and the Environment: Case Studies and Teaching Activities for Elementary School. Indianapolis, IN: Indiana State Department of Education, Center for School Improvement and Performance, Retrieved on February 10, 2007 (<http://www.eric.ed.gov/>).

Kohm, K. A., Franklin, J. F., eds. 1997. Creating a forestry for the 21st Century: the science of ecosystem management. Washington, D.C.: Island Press.

Missouri Department of Conservation. 1994. Trees along Streams in Forest and Wildlife Benefits on Private Land. MO: Missouri Department of Conservation, Retrieved on February 10, 2007 (<http://www.mdc.mo.gov/documents/forest/3-570.pdf>).

New England Interstate Water Pollution Control Commission. No date given. The Magnificent Groundwater Connection: Predicting Ground Water Flow. Environmental Protection Agency, Retrieved February 7, 2007 (<http://www.epa.gov/region01/students/teacher/gndwater.html>).

Northwest Center for Sustainable Resources. No date given. Special Topics II – Watersheds, Soils and Ornithology Due # 9813445. Salem, OR: Northwest Center for Sustainable Resources, Chemeketa Community College, Retrieved February 7, 2007 (www.ncsr.org).

O'Keefe, T. C., Elliott, S. R., Naiman, R. J., & Norton, D. J.. No date given. Introduction to Watershed Ecology. University of Washington, U.S. EPA Office of Water, Retrieved February 7, 2007 (www.epa.gov/watertrain).

Turner, B. 2004. Understanding Streams. Missouri Department of Conservation, Retrieved February 10, 2007 (<http://www.mdc.mo.gov/fish/streams/under/>).

United States Department of Agriculture, Forest Service. 1993. Investigating Your Environment

– Intermountain Region. Washington, D.C.: United States Department of Agriculture, Forest Service, Retrieved on February 10, 2007 (<http://www.eric.ed.gov/>).

Wai Care, National Waterways Project. No Date Given. Stream Education and Assessment Resource for Secondary Schools. New Zealand: Wai Care, National Waterways Project, Retrieved February 10, 2007 (<http://www.nwp.rsnz.org/resources/StreamKit/index.htm>).