Annotated Bibliography

Alden, P. and D. Paulson. 1998. *National Audubon Society Field Guide to the Pacific Northwest.* New York, NY: Chanticleer Press, Inc.

This Pacific Northwest field guide provides useful information for plant and animal identification. It includes brief physical descriptions and photographs of each species found in the region. In the freshwater fishes section, a narrative provides the habitat, geographical range, and breeding behavior of fish species. The book also discusses the negative impacts of disturbed river habitat on salmon populations and other endangered fish. It highlights the loss of spawning grounds, difficulties in moving through hydroelectric dams, and commercial fishing.

Allen, David. 1995. *Stream Ecology: structure and function of running waters.* New York: Chapman & Hall.

This book provides a detailed, yet simply organized description of ecological processes that take place in and around rivers. It also goes into depth about stream chemistry and the importance of maintaining a healthy water system. Included in this book is information on everything from great river systems to small streams yet it connects them all with the general processes of any running water system. This book also touches on advancements made in the 1980s and 1990s with regards to our knowledge of streams and rivers and actions we take concerning them. The role of human beings and the urgent need for conservation are also touched upon. This book includes hydrology, geomorphology, and ecology topics while relating physical and biological aspects of the river system.

Bethers, Ray. 1957. *The Story of Rivers*. New York: Sterling Publishing Company, Inc.

This children's book, although very outdated, has excellent illustrations that would be appropriate for overheads, handouts, or worksheets. The book is clearly organized and includes sections on the water cycle, rivers as transportation highways, erosion and flooding, as well as wildlife in the ecosystem. It even goes into the importance of a water table and of keeping the level and purity high. The explanation of dams and the purpose of building locks to circumvent the dams is exemplary in getting the message across to the youth population. While it does not include current issues of river use and pollution it does give information about rivers 50 years ago which can help us to understand which problems have been addressed and solved and which problems are still around and being debated today.

Burns, J.E. 1970. *The Importance of Streamside Vegetation to Trout and Salmon in British Columbia*. Nanaimo, B.C.: Department of Recreation and Conservation.

This report discusses in detail the critical role of streamside vegetation to trout and salmon ecology in Northwest America. The vegetation on the banks and away from the stream maintains ideal conditions for fish habitat. They provide shade, energy, and protection for the water. The report includes the types of deciduous trees found in stream communities such as alders, maples, and willows. The report states that the loss of productive stream habitat for trout and salmon has been greatly contributed to the removal of streamside vegetation. This has had an adverse effect on streamside canopy, erosion, sedimentation, and debris deposition.

Council for Environmental Education. 2004. *Project Wild Aquatic: K-12 Curriculum & Activity Guide.* Houston: Council for Environmental Education.

This book is an excellent source of activity ideas for youth of all ages. The book is well laid out with each activity described along with the materials needed, time estimation, group sizes, and pre-activity options. The indices in the back (topic and skills) are an excellent place to start to identify activities that would fit your situation. Some that would work for our program focusing on rivers would be "how wet is our planet" and "silt: a dirty word." With each activity the book also provides possibilities to continue the lesson by extension activities and also suggestions of ways to evaluate learning. These activities are awesome for youth of all ages and styles of learning because most incorporate many of the intelligences into one activity.

Coyle, Kevin. 2004. *Understanding Environmental Literacy in America: And Making it a Reality*. D.C.: National Environmental Education and Training Foundation.

This paper gives opinions about the state of environmental education and public awareness in our country today and where we would like to see it go in the future. It goes into topics such as how the environmental information is distributed or released to the public and suggests appropriate methods to move the public from simply environmental literacy to stewardship. Also, it provides evidence that environmental programs helps to improve student's performance in other subjects. This will be especially helpful in writing letters to teachers and principals asking for their permission to come into the classroom to teach their students.

Crisp, DT. 2000. *Trout and salmon: ecology, conservation and rehabilitation*. Oxford: Fishing News Books.

This book is about the European trout and the Atlantic salmon and concentrates on the portion of their lives that they spend in freshwater. The topics of restoration and conservation are detailed and explained in a way that is understandable to a variety of readers. Crisp believes that restoration is an essential activity for all of society to understand and he therefore defines and simplifies most of the fisheries jargon that is included in the book. In addition to the inclusion of a glossary he defines most terms on the page the word appears which aids in easy reading. Chapter five was very relevant to our project with examination of the impacts of human disruptive actions on salmon and trout.

Cushing, C.E. and J.D. Allen. 2001. *Streams: Their Ecology and Life*. San Diego, CA: Academic Press.

This book provides important ecological concepts of stream habitats. It includes discussion of the physical characteristics, abiotic factors, the biota, and energy resources of a stream. One important section of the book discusses the feeding roles and food webs of stream ecosystems. It explains how freshwater organisms acquire food and how their food requirements change over the life cycle. In addition, the book encourages citizen involvement of environmental education. It recommends volunteer monitoring as a form of experiential learning.

Earth Force. 2007. Earth Force: GREEN Program. Available at: http://www.earthforce.org/section/programs/green (last accessed January 31, 2007).

This website, run by Earth Force, a national organization working with youth to improve their communities, provides valuable information about their GREEN program: Global Rivers Environmental Education Network. Their program is geared towards middle and high-school youth and aims to increase their knowledge of their watersheds through hands-on activities and an advanced curriculum: Protecting Our Watersheds, which they form into a simple six-step process. This six step process includes a step labeled Taking Action which is essential in making the connection between the new information they are gathering and the steps that need to be taken to solving the problems. The program incorporates learning standards into the curriculum to help appeal their program to teachers.

Goetz, Delia. 1969. *Rivers.* New York: William Morrow and Company.

This is a children's book, which includes simplified stories about what rivers meant to native people, what they have become, and how we use them now. There are also many pages with illustrations and descriptions of both flora and fauna that is found in rivers around the world. The last section of the book focuses on the Potomac and its importance in the founding of our country. Useful

maps and diagrams are also included in the book and all illustrations are in black and white, which could come in handy to create a coloring book for the children or possibly for another activity.

Harcombe, E.S. 2001. *Science Teaching/Science Learning: Constructivist Learning in Urban Classrooms*. New York, NY: Teachers College Press.

This book is based on an ongoing research project called Model Science Lab Project. It was created to redefine science instruction at inner-city schools. The project was conducted at a middle school in Houston, Texas. The results have validated the success of Model Science Lab. The curriculum of the project applies constructivist theories by focusing on how children learn, construct their own knowledge, and use critical thinking skills. The book includes stories from teachers participating in the program. The teachers explain the difficulties they encountered in transitioning from traditional teaching methods, but also the success of the new constructivist method.

John Knox Center. 2002. River Ridge Environmental Education Program. Available at: http://www.rreep.org/index.htm (last accessed January 31, 2007).

This website introduces you to a program where students in grades 4 through 8 have the opportunity to take part in a 3 to 5 day camp experience that focuses on environmental education and restoration. Included in these web pages there are academic class descriptions, recreation classes, and evening activities which can each be altered and adopted to fit into the program we are planning for our project. There is also a teacher section included that provides pre-visit activities to prepare the youth for a memorable learning experience. The academic classes could be adjusted to fit into our lesson plan or could be the basis for a new activity idea.

Postel, S. and B. Richter. 2003. *Rivers For Life: Managing Water for People and Nature*. Washington, DC: Island Press.

This book addresses the change in American society's values and needs for water. Rivers have been manipulated for human utilization without consideration of the effects on freshwater ecosystems. The ecological services that rivers provide are important and human economies are dependent upon them. The book discusses methods for setting environmental flow requirements to ensure allocation of water for ecosystem support. Countries in other parts of the world have practiced these methods and they have experienced success. Current trends suggest greater ecological degradation, species extinction, and loss of natural ecological services. The book encourages the use of science, policy, and an ethic of stewardship to restore the rivers.

Rieben, Elizabeth, Shelley Davis, John Craig. *Rivers Run Through It: the Columbia River Basin*. Available at: http://www.blm.gov/education/00_resources/articles/

Columbia_river_basin/ index.html (last accessed January 30, 2007).

This website offers a great resource for easy to understand, yet detailed information specifically about the Columbia River and the Pacific Northwest. The article contains everything from random facts about the river to wildlife and plant species typically found in the area. It also includes challenges that have emerged and incorporates information about the changing land and humans' participation in the situation. There is also a classroom section with about 5 simple activities designed for teachers to use in the classroom. They include material lists and procedures for easy organization and also have a clear purpose outlined so the teacher can relate the project to current areas of study.

Saling, A. 1999. *The Great Northwest Nature Factbook: A Guide to the Region's Animals, Plants, and Natural Features*. Portland, OR: Westwinds Press.

This nature fact book provides concise descriptions of the fauna, flora, and geographic features of the Northwest. The salmon section discusses the six Northwest species and describes their life cycle. The section also addresses salmon conservation. It includes data of declining salmon populations, major problems causing decreased numbers, and remedies to save them from extinction. The book also notes that the Willamette River is the largest river in Oregon and is one of the 14 Heritage Rivers in the Unites States. It describes the drainage system of the Willamette, collecting drainage from the Cascades and emptying into the Columbia River.

Scalet, C.G., L.D. Flake, and D.W. Willis. 1996. *Introduction to Wildlife and Fisheries: An Integrated Approach*. New York, NY: W.H. Freeman and Company.

This book presents integrated introductory information concerning wildlife systems. It concentrates on the three interacting components of the system: biota, habitat, and human users. The flowing water habitat section provides information about the variability of rivers and how it relates to fish species. Rivers exhibit differences in depth, length, width area, flow volume, shoreline characteristics, stream gradient, bottom type, and water temperature. The section describes the difference between riffles and pools. These attributes of the river are vital to the survival of fish species. The book also includes a list of naturalists, philosophers, artists, politicians, and biologists who have made contributions in the history of wildlife.

Sutherland, W.J. 1998. *Conservation Science and Action*. Malden, MA: Blackwell Science Ltd.

This book concentrates on the science and practical application of environmental conservation. It states that conservation must address people's underlying

attitudes to the environment. Environmental education is an essential means to achieve long-term conservation. S. Jacobson and M. McDuff provide information in the book on the goals of conservation education. The model of responsible environmental behavior is used to illustrate how knowledge leads to action. This chapter also addresses the historical context of conservation education. Influential philosophers and naturalists throughout history are mentioned.

Weide, Janice, Jane Kirby. 2005. *Kalapuya of the Willamette Valley.* Available at: http://www.salemhistory.net/people/native_americans.htm (last accessed April 16, 2007).

This website gave me a lot of information about the history and practices of the Kalapuya Indian tribe. The most helpful section was about the foods that the Native Americans regularly ate. This site was helpful in just getting general background information about the Kalapuya tribe, especially for someone who is new to the topic of Native Americans in the Northwest area.

Westley, F.R. and P.S. Miller. 2003. *Experiments in Consilience: Integrating Social and Scientific Responses to Save Endangered Species*. Washington, DC: Island Press.

This book evaluates the integration of subjects in order to develop comprehensive understanding. Complex problems, such as protecting endangered species, require knowledge from a range of fields. The environment consists of biological, physical, and human spheres. Models for solving complex environmental issues can be greatly improved if disciplines within each of these fields were not isolated. The book includes case studies that exemplify consilience in wildlife conservation efforts.

Wickman, P. 2006. *Aesthetic Experience in Science Education*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

This book discusses the importance of aesthetics in the learning process. In particular, it focuses on applying aesthetics in academic science. Traditionally, science concentrates on rationality and conceptual thinking; whereas the concept of aesthetics is commonly associated with emotion and art. It explains that the practice of science does not rely exclusively on cognition, but also on values and aesthetics. The theoretical framework of the book emanates the writings of John Dewey. It incorporates his theory of continuity of aesthetic experience.

Wohl, Ellen. 2004. *Disconnected Rivers*. New Haven: Yale University Press.

This detailed book includes information on everything from dams to animals but the parts that I felt were applicable to the project were the sections on pesticide use and the history of water contamination. There is an overload of data from a variety of studies but along with all the numbers there are excellent diagrams,

maps, and flow charts that simply and concisely explain the main point that our water is becoming polluted and we need to help. The information presented links the impacts of the pioneers to the impacts of commercial industries today and then goes on to discuss possibilities for rehabilitation such as simply doing our part to control population growth and make a smaller impact on the Earth.