



Pre/Post Visit Activities

Wild Watershed Field Experience

Lesson

Recommended for 4th- 6th grade

Lesson Description: Hike to the nearby Boise River (0.5 mile walk) to explore the natural, wild watershed and discover who lives in the riparian ecosystem. Students may encounter a mink, blue heron or osprey on their journey! Near the banks of the river, students will become aware of the sights and sounds of the riparian zone. Play an interactive game to learn the importance of biodiversity and the role each plant and animal (including humans) play in keeping the watershed healthy.

Objective: Students will understand the importance of the riparian ecosystem and meet some of its inhabitants.

Idaho State Science Standards Met for Grades 4-6

4: 4.S.1.1.1, 4.S.1.2.1, 4.S.1.6.3, 4.S.1.6.5, 4.S.1.8.1, 4.S.3.1.1,

5: 5.S.1.2.1, 5.S.5.1.1

6: 6.S.1.2.1, 6.S.1.2.2, 6.S.5.1.1

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For more information, please contact:

Boise WaterShed Environmental Education Center ▪ (208) 489-1284 ▪ www.BoiseEnvironmentalEducation.org



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What kind of animals can you spot in the riparian habitat?

Riparian: The banks of a natural waterway, like a river, lake or stream.

Did you know??? Riparian areas are sensitive to activities and disturbances, such as excessive livestock grazing, agriculture, road-building, urban development and recreation. Estimates of the percentage of riparian areas that have been altered in the United States range from 70-90%.

About the Riparian Zone

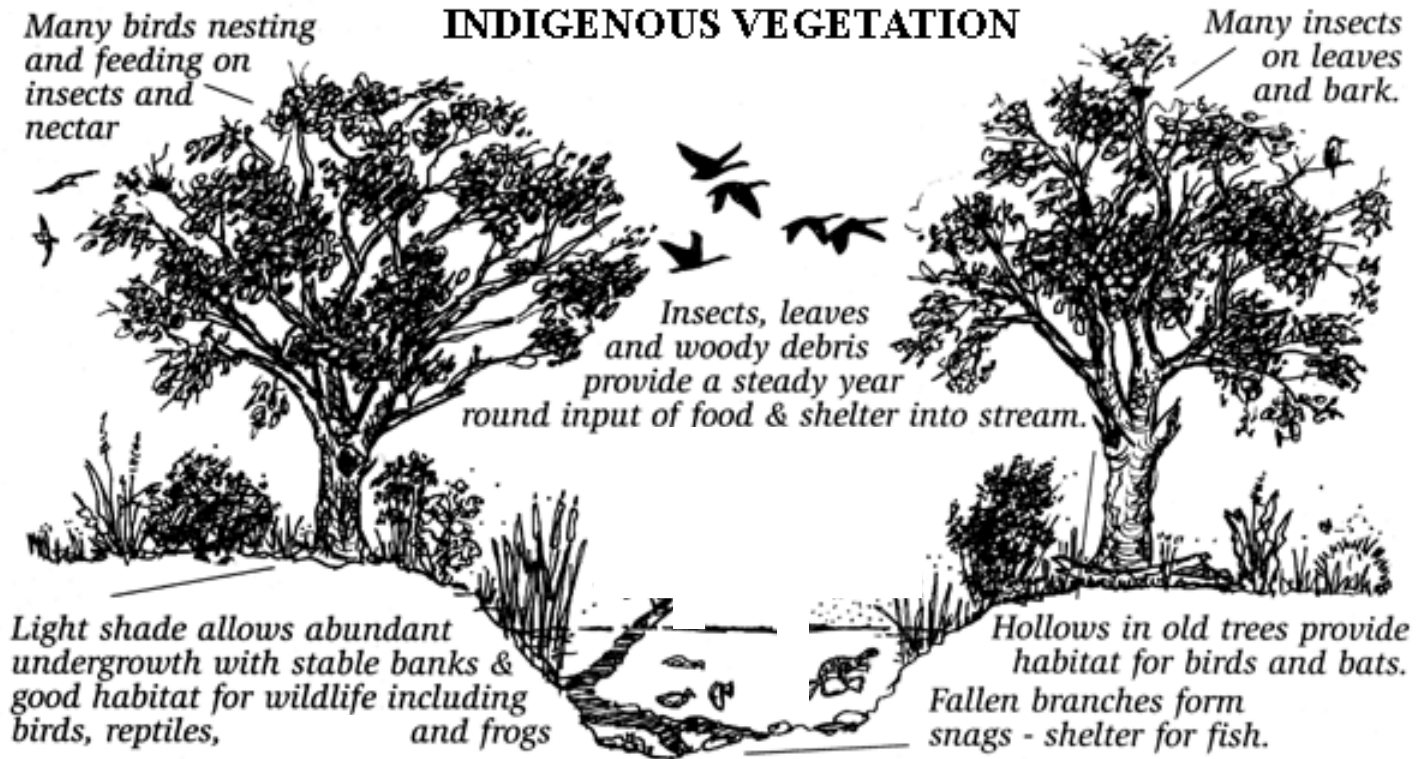


Image courtesy of www.dpi.vic.gov.au



A **riparian zone** is the green area next to the water.



Types of riparian areas include wetlands, rivers, streams, lakes, reservoirs, lakes, ponds and seasonal pools of water.



Strips of grass, shrubs and trees serve as anchors by protecting stream banks from **eroding** (wearing away) and filter **pollutants** (things that make the water unclean) out of storm water before they can reach the stream.



Trees and shrubs along stream banks also provide **shelter** from predators and **shade** to keep the water cool for plants, animals and insects.



Riparian zones are used by wildlife as a sort of **natural highway**. Forested river banks are important to mammals and birds as they journey up and down the river during **daily movements** and **seasonal migrations**.

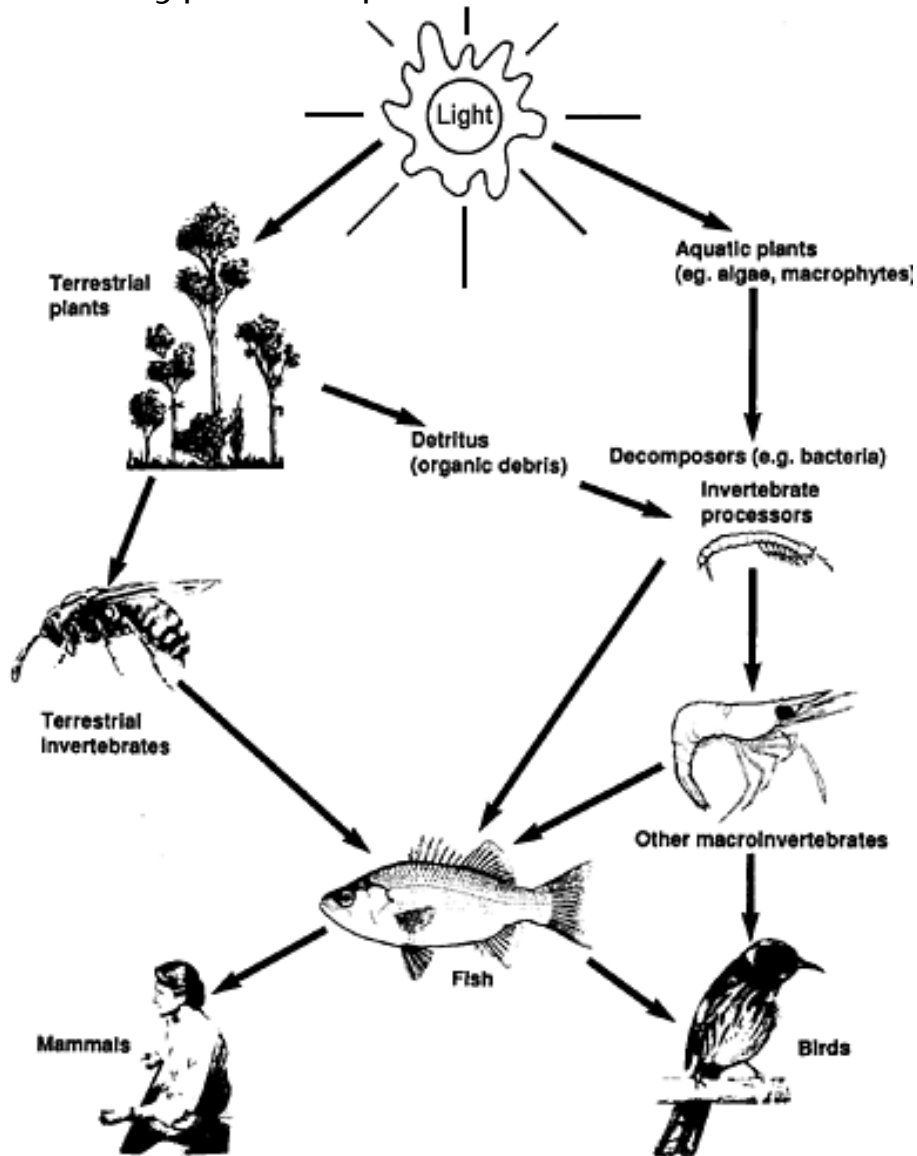


An estimated 60-70% of western bird species are **dependent** on riparian habitats.



The great number of insects found near riparian areas provides a **food source** for insectivore species including birds such as woodpeckers, shrews and bats. Riparian zones provide **breeding habitat** for many insect species. Many insects lay their eggs in leaf litter along the shore.

Typical Aquatic Food Chain



(Image courtesy of www.brookie.org. The following excerpts are taken and have been adapted from the book "River & Stream" by April Pulley Sayre, 1996.)

An **aquatic ecosystem** is a biological system located in water bodies such as rivers, lakes, streams and wetlands. Communities of **organisms** that are **dependent** on each other and on their environment live in aquatic ecosystems. They include plants, trees, animals, fish, birds, microorganisms, water, soil and people.

Everything that lives in an ecosystem is **dependent** upon other species and elements that are part of an ecological community. Look at the diagram above. Can you tell which organisms are dependent upon each other? If one part of an ecosystem is damaged or disappears, it has an impact on everything else. When an ecosystem is healthy, scientists say it is **sustainable**. This means that all elements live in balance and are capable of **reproducing** themselves. There is usually **biodiversity**, meaning that there are variety of living organisms and species in that environment.

Diversity is Good!

In praising the richness of the natural world, we speak of its great **biological diversity**. This means that it possesses a great number of different species. This is a **characteristic** of the most highly organized ecosystems, or in other words, the most stable ones. An immature ecosystem commonly has one **dominant** species that is represented in far greater number than other species. An ecosystem has great biological diversity if, instead of one dominant species with millions of individuals, there are many species with much smaller populations. Biological diversity is a guarantee for the life of our planet.

What's On the Menu?

In nature, organisms depend heavily on one another, setting up relationship chains that are so tight that when one species fares poorly another one may be threatened as a result. Plants are capable of fabricating organic matter from minerals, and they form the basis of all other organisms. These connections that link certain organisms to others are known as **food chains**.

Food chains show how energy flows through a community. Energy from the sun is used by plants to make leaves. A leaf is eaten by an insect, and a part of the leaf's energy is stored in the insect's body. A trout eats an insect, and part of the insect's body becomes a part of the trout. And so energy travels through the community, although much is lost as heat in each step of the process. A food chain demonstrates the **interconnectedness** of riparian plants and animals.

Food chains commonly are made up of four, or up to five links: **primary consumers** (herbivores, or plant-eaters), **secondary consumers** (carnivores, or meat-eaters) and **decomposers** (like fungi that help plants and animal matter to rot or decay). But these chains connect with one another to form **networks**. Generally, every species belongs to several food chains, and one prey animal has to deal with several predators.

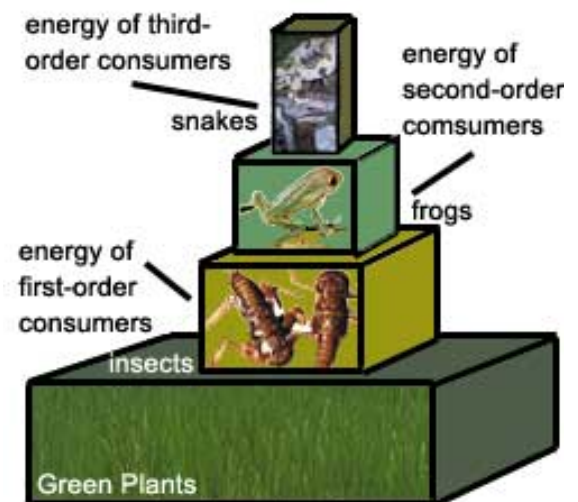


Image courtesy of www.eduweb.com

From the Mountains to the Sea

North America's rivers run through a variety of habitats, including forests, desert, grassland, taiga and tundra. Every brook stream or river drains an area of land called its **watershed**. A watershed is a basin-like landform defined by highpoints and ridgelines that move down into lower elevations. It catches rain and snow and drains or seeps into a marsh, stream, river, lake or groundwater. Drop by drop, water is channeled into soils, groundwater, creeks, and streams, making its way to larger rivers and eventually the sea. Some water bodies cross county, state, and even international borders. Watersheds come in all shapes and sizes. Some watersheds are millions of square miles; others are just a few acres. Just as creeks drain into rivers, watersheds are nearly always part of a larger watershed. No matter where you are, you're in a watershed!

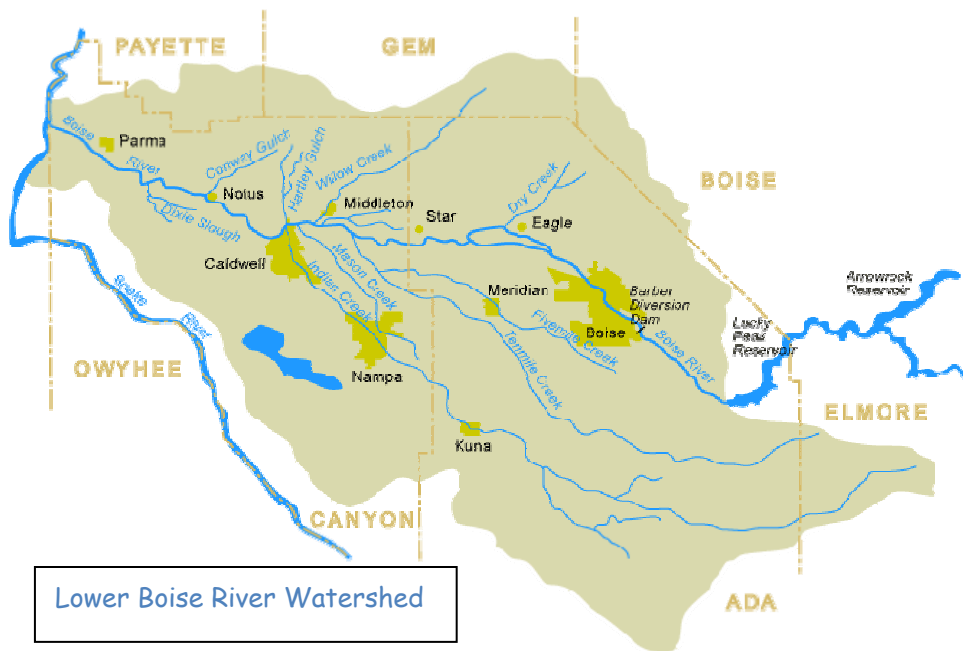
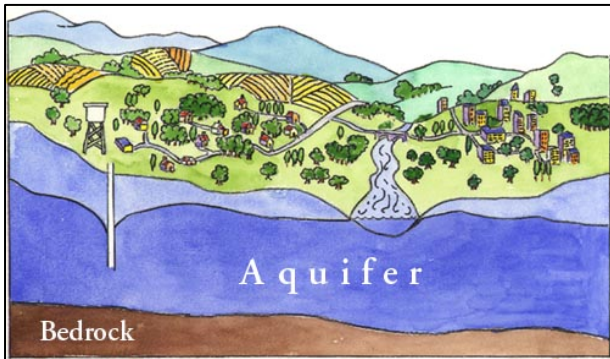


Image courtesy of www.lowerboisewatershedcouncil.org/

The Lower Boise River Basin is in the northern part of the western Snake River Plain. The Lower Boise River Watershed drains 1,290 square miles of rangeland, forests, agricultural lands, and urban areas. The lower Boise River is a 64-mile stretch that flows through Ada County, Canyon County, and the city of Boise, Idaho. The watershed also drains portions of Elmore, Gem, Payette, and Boise counties. The river flows in a northwesterly direction from its origin at Lucky Peak Dam and flows into the Snake River near Parma, Idaho. Elevation in the watershed ranges from 6,575 feet at Boise Peak to 2,200 feet at the mouth of the Boise River.

Boise River water comes from rainfall and snowmelt. Average annual rainfall ranges from about 24 inches at higher elevations to around 8-11 inches in the southernmost region. Approximately 78 percent of the runoff of the Boise River and its tributaries is from snowmelt. Lucky Peak Dam, the structure controlling flow at the upstream end of the watershed, releases water into the Boise River just a few miles upstream from Boise. Water released from the reservoir is managed primarily for flood control and irrigation. During the irrigation season, numerous diversions carry water to irrigate fields along the north and south sides of the river. Other water uses include domestic and agricultural water supply, power generation, salmon spawning, and recreation.

Groundwater from rain and melting snow soak into the soil and move downward. Eventually, this water will fill spaces in the gravel layers of porous sandstone and limestone. These water-holding rock layers are called **aquifers**. Underground, in aquifers, water can travel like a slow moving river, at a rate of only inches a day. Additionally, groundwater can flow into a river and interact with or exchange water throughout a river system.

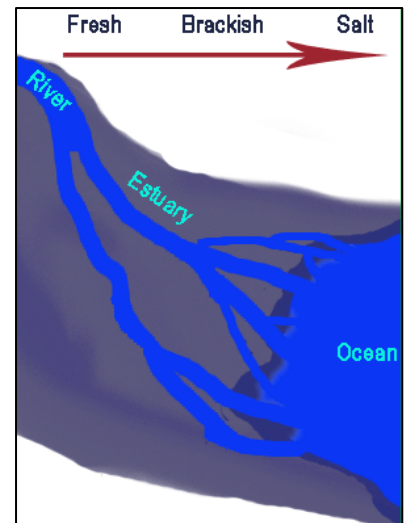


Images courtesy of www.emporia.edu

Groundwater flowing out of springs often forms the start of a river: its **headwaters**. The "classic" stream bubbles up in a mountain spring, creating a tumbling clear, rocky headwater stream. This stream's flow mixes with air, resulting in high oxygen content favorable for trout and insects, which hide in torrent moss or cling to stones.

Downstream, as **tributaries** (smaller stream branches) flow into it, the stream grows in volume and width to create a **midreach stream**. Here the streambed is less steep. The water appears calmer; although the current is swift and picks up additional sediment. Waterfalls, overhanging stream banks, sandbars, pools and shallow, turbulent areas called **riffles** create a variety of aquatic habitats.

Near a river's mouth, where river water meets the ocean, is a place called the **estuary**. Here the freshwater and saltwater mix and freshwater and saltwater species mingle. Through the estuary, the river finally reaches its destination: the wide-open ocean. Along the way, the river has made its mark on the land over which it flows.



Images courtesy of www.pc.gc.ca

Idaho River Facts

In the late 1950s, the lower Boise River was identified as one of the three most polluted waters in Idaho. Today, the Boise River is one of the true treasures of Treasure Valley thanks to wastewater treatment and other human efforts to clean up the river. The Boise River, formed by its North, Middle, and South Forks, is a tributary of the Snake River. The Boise River provides more than 20 percent of Boise's drinking water and irrigation for 300,000 acres of crops in Idaho's Treasure Valley. It is a popular destination for rafting, inner-tubing, and fishing. Additionally, it is home to a variety of fish and wildlife including bull, rainbow and cutthroat trout, elk, black bear, and wintering bald eagles.

The Boise River drains into the Snake River. The Snake River "slithers" through 1,038 miles of rugged land before it meets the Columbia River. The waters of the Snake River and its tributaries pass through the Rocky Mountains, the Grand Tetons, Hell's Canyon and Shoshone Falls before emptying into the Columbia River. The Snake River Aquifer, one of the most productive aquifers in the world, underlies an area of about 10,000 square miles in the Snake River Plain. Total groundwater storage in the upper 500 feet of the aquifer is estimated at 200 to 300 million **acre-feet**. (An acre-foot is the amount of water needed to cover an acre a total of one foot deep in water. One acre-foot is about 325,851 gallons of water!)

The Snake River drains into the Columbia River, which drains into the Pacific Ocean. The Columbia River is known for its salmon, which spend several years in the sea, traveling as far as Japan's coastal waters, before returning to their home to lay their eggs. The Columbia is the largest river flowing into the Pacific Ocean from North America and is the fourth-largest river in the United States. The river's heavy flow and its large elevation drop over a relatively short distance, give it tremendous potential for the generation of electricity. It is the largest hydroelectric power producing river in North America with fourteen hydroelectric dams in the U.S. and Canada, and many more on various tributaries. **Hydroelectricity** is electricity generated by the production of power through use of the gravitational force of falling water.

More About Rivers and Streams

A river's or stream's current shapes the lives of animals and plants within it. Mosses have holdfast roots that anchor them to the riverbed. Natural hooks, anchors, lines and suction cups help aquatic insects cling to rocks. Crayfish find shelter beneath stones, only scurrying out to snatch tidbits of food that pass by.

3 Main Types of Rivers

- **Permanent streams:** Flow year-round.
- **Intermittent streams:** Flow only during certain seasons, after storms or when snow melts in the spring.
- **Interrupted streams:** Flow above ground in some places and below ground in others.



Interrupted streams flow both above and below ground.

Image courtesy of <http://www.jedhayden.com>

Divisions

Rivers are classified according to their channel shape.

There may be several types of channels along the length of a single river. The main shapes are:

- **Straight streams:** Run in a fairly uncurved line.
- **Meandering streams:** Loop and curve.
- **Braided Streams:** Consist of several streams of water, intermingling and braiding, and separated by sand and gravel bars.



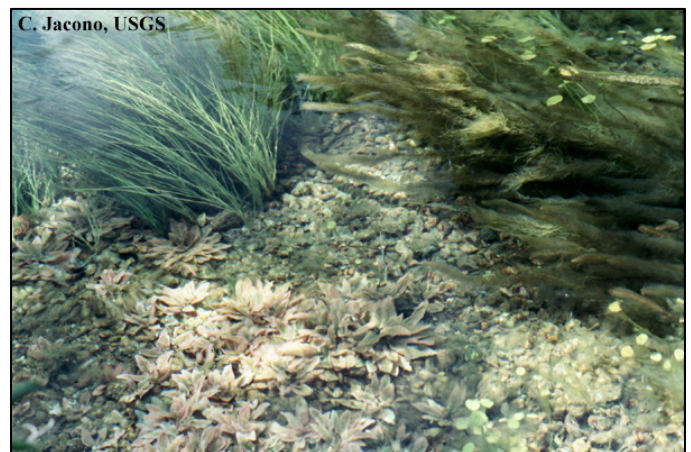
Physical Features of Rivers

- A one-way flow of water (except in estuaries, where water may flow upriver on the rising tide).
- Fresh water (except in estuaries, where the river's freshwater mixes with salty ocean water).
- A downhill course, from areas of high altitude to low altitude.
- More water at their end than their start.
- A tendency to erode, transport and deposit sediment.
- An ability to shape the land, creating landforms such as deltas, canyons and gorges.



River Insects and Animals

- Insect larvae commonly have hooks, suckers, a flattened shape and other adaptations to stay in place in fast-moving streams.
- Rivers and streams have a greater number of species than is found in lakes.
- Many animals from surrounding areas depend on streams for food and water.
- Worms, insect larvae, fish and crustaceans are common.



River Plants

- Plants, especially in fast-moving streams, are adapted to withstand water flow.
- Plants and trees help to stabilize the stream banks and prevent erosion.
- Algae, mosses and liverworts are common.

Images courtesy of flickr.com, www.water.ky.gov, www.geologyclass.org, soer.justice.tas.gov.au, <http://nas.er.usgs.gov>

Stewardship

Environmental stewardship is taking personal responsibility for the natural environment. Proper management of riparian areas can enhance the economic, social, and cultural benefits for communities. But, nearly every stream and lake has been affected to some degree by shoreline erosion and poor water quality. It is up to you and everyone on our planet to take care of our natural resources for today—and tomorrow. **Sustainability** is widely defined as the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs.



Image courtesy of computing.fs.cornell.edu

How You Can Help

Every person—including you—has the chance to make a difference by practicing environmental stewardship. Look for opportunities at home, at school, at work, in your community, and while shopping and traveling. The possibilities are endless, and the cumulative impacts of individual actions can really add up.

Watershed Stewardship Ideas

Join a citizen water monitoring group - work on water quality sampling or monitoring projects. Take a snapshot of the health of the Boise River watershed. Citizen groups, families, schools and individuals may check out a water quality testing kit throughout the year from the Boise WaterShed. Each group will be provided with a basic water quality testing kit to test the water's temperature, pH, dissolved oxygen and turbidity. Sign up today by calling the Boise WaterShed at 489-1284 or send an e-mail to BoiseWaterShed@cityofboise.org. You can also contact the Boise WaterShed to find out when they plan to host a community-wide Citizen Monitoring Day event.

Mark storm drains around town - Storm drain marking is a visible reminder that storm drains are for stormwater only. Marking involves people, educates and increases awareness about the importance of the river and the environment. Contact Aimee Hughes, Environmental Education Specialist, with Boise Public Works at 384-3901 or send an e-mail to AHughes@cityofboise.org to reserve marking kits. Aimee will assist you with selecting an area in town that needs marking, such as neighborhoods, shopping malls or parking lots.



*Image courtesy
Partners for Clean Water*

Clean up a designated area - Any day of the year, you can call the Boise WaterShed for gloves and trash bags for a cleanup. The Boise RiverSweep is an annual event the second Saturday in September designed to give back to the river that gives so much to us. Volunteers, students, and concerned citizens join together to clean up the Boise River to help provide a safe and clean Boise River for our community to use for many generations to come. The City of Boise's Adopt the Greenbelt program is designed to help keep the Greenbelt and Boise River clean and safe to use. As a participant, you can adopt a 1/2 to 2/3 mile section of the Greenbelt to inspect and care for throughout the year. This program allows you to work when your schedule allows. To find out more about Boise RiverSweep or Adopt A Greenbelt, contact Jerry Pugh at 384-4060, Ext. 319.



Image courtesy of City of Boise

Plant appropriate vegetation - to prevent erosion on banks or upland slopes. You can plan to do this with a group any day of the year, or as an event to celebrate Arbor Day or Earth Day. Join the Boise Parks & Recreation Community Forestry Unit and other volunteers, and help plant trees along the streets of Boise. ReLeaf Boise is the City's annual volunteer tree planting program which is associated with American Forest's Global ReLeaf campaign. Contact Jerry Pugh at 384-4060, Ext. 319 for additional information.

Organize a poster or poetry contest or an essay, photography or model-building contest with a watershed theme - Each year, in affiliation with The Library of Congress, River of Words, a nonprofit organization, conducts a free international poetry and art contest for youth on the theme of watersheds. The contest is designed to help youth explore the natural and cultural history of the place they live, and to express, through poetry and art, what they discover. The contest is open to any child in the world, from 5-19 years of age. There is no charge to enter. To find out more, visit www.riverofwords.org.

Start a watershed group - The U.S. Environmental Protection Agency (EPA) also has helpful resources for you to learn more about environmental issues. The Watershed Patch Project <http://www.epa.gov/adopt/patch/patch2004.pdf> is a collection of watershed activities designed for schools, science clubs, and community organizations. The Kid's Club webpage <http://www.epa.gov/kids/> is colorful cartoon that is easy to navigate and leads visitors through different sections of how-to and other insightful information. The Explorers' Club is a site designed for children, ages 5 - 12, seeking information about the state of the global environment. Students can ask an environmental question in the "Ask EPA" section.

Student Activity

Name _____

Wild Watershed Vocabulary Matching Game

Match each word to its definition below by writing the letter of the word next to its correct definition on the right.

A. Riparian

___ The portion of a stream or river closest to its source.

B. Headwaters

___ Water that is underground in spaces between particles of rock.

C. Sediment

___ Taking personal responsibility of, and caring for, our natural resources.

D. Aquifer

___ Particles of material (like dirt) that are transported by water, wind or ice.

E. Riffle

___ Stream banks or river banks, where semi-aquatic and terrestrial organisms mingle.

F. Groundwater

G. Biodiversity

___ Diversity among plant and animal species in an environment.

H. Stewardship

I. Sustainability

___ A geographic area drained by a body of water and defined by high points and ridges.

J. Watershed

___ A shallow, turbulent portion of a stream or river.

___ A porous layer of rock that can hold water in it.

___ Meeting the needs of the present without comprising the needs of future generations.

Student Activity

Name: _____

Wild Watershed Lesson Review

1. Name 3 living things that live in the riparian habitat.

1. _____

2. _____

3. _____

2. Why are trees and shrubs important to a riparian zone?

3. What is an "aquatic ecosystem"?

4. Why is biodiversity important?

5. How does energy travel through a community of organisms?

6. Where does Boise River water come from and what is the water used for?

7. Which river does the Boise River connect with downstream? Where does the water eventually lead to?

8. Which river has a huge aquifer underneath it for storing water?

9. Which river is the fourth largest in the United States?

10. Why should you practice environmental stewardship?

Three Ways I Pledge to Make A Difference:



Image courtesy of www.globalwarmingwarriors.com

1.

2.

3.

Answer Keys

Wild Watershed Vocabulary Matching Game

- A.** Riparian = Stream banks or river banks, where semi-aquatic and terrestrial organisms mingle.
- B.** Headwaters = The portion of a stream that is closest to its source.
- C.** Sediment = Particles of material (like dirt) that are transported by water, wind or ice.
- D.** Aquifer = A porous layer of rock that can hold water in it.
- E.** Riffle = A shallow, turbulent portion of a stream or river.
- F.** Groundwater = Water that is underground in spaces between particles of rock.
- G.** Biodiversity = Diversity among plant and animal species in the environment.
- H.** Stewardship = Taking personal responsibility of, and caring for, our natural resources.
- I.** Sustainability = Meeting the needs of the present without comprising the needs of future generations.
- J.** Watershed = A geographic area drained by a body of water and defined by high points and ridges.

Wild Watershed Lesson Review

1. Bear, dragonfly, fox, goose, bat, owl, coyote, lizard, deer, rabbit, fish, duck, robin, mouse, snake, heron, mink/otter, fish, people, spider, raccoon, eagle, hawk, crow.
2. Strips of grass, shrubs and trees serve as anchors by protecting stream banks from eroding and filter pollutants out of storm water before they can reach the stream. They also provide shade to keep the river temperature cool. Falling leaves provide nutrients and shelter for macroinvertebrates.
3. An aquatic ecosystem is a biological system located in water bodies such as rivers, lakes, streams and wetlands. In an aquatic ecosystem, the communities of organisms rely on water and each other for survival.
4. Biodiversity is the species richness and a guarantee for the life of our planet.
5. Food chains show how energy flows through a community. One organism eats another and the energy is absorbed by the predatory organism, and this continues on up the food chain.
6. Boise River water comes from rainfall and snowmelt. Water is used for flood control, irrigation, domestic and agricultural water supply, power generation, salmon spawning, and recreation.
7. Snake River, Columbia River
8. Snake River
9. Columbia River
10. Every person—including you—has the chance to make a difference by practicing environmental stewardship. Proper management of riparian areas can enhance the economic, social, and cultural benefits for communities.

Boise WaterShed Library Resources

Take advantage of these FREE resources available for checkout from the Boise WaterShed Library Resource Center. Call (208) 489-1284 to reserve for a two-week period.

Videos, DVDs & Software

Bill Nye the Science Guy: Wetlands, River and Streams VHS by Disney productions, 46 minutes

Precipice of Survival: The Southern Sea otter DVD by USGS, 2004, 47 minutes

RiverWebs DVD by Freshwaters Illustrated/Colorado State University, 2007, 57 minutes

Sea to Summit: A Journey Through the Watershed VHS by Surfider Foundation, 19 minutes

Educator Resources

Discover a Watershed: Watershed Manager Educators Guide by Project WET, 2002

Kids in the Creek by Bonneville Power Administration

Project Learning Tree Pre K-8 Environmental Education Activity Guide, American Forest Foundation, 2008

Project Wet Curriculum & Activity Guide, Project WET International/CEE, 2008

River Cutters by Lawrence Hall of Science/University of California Berkeley, 2003

The Jumbo Book of Outdoor Art by Irene Luxbacher, 2006

The Kids' Nature Book: 365 Indoor/Outdoor Activities & Experiences by Susan Milord, 1996

Kids Books

Animals that Travel by Jennifer C. Urquhart, 1982

Bugs: Giant magnified images seen through a microscope by Heather Amery, 1994

Busy Beavers by M. Barbara Brownell, 1988

Creatures of the Woods by Toni Eugene, 1985

Do All Spiders Spin Webs? Questions and Answers About Spiders by Melvin and Gilder Berger, 2000

Follow the Water from Brook to Ocean, Arthur Dorros, 1999

I Can Read About Reptiles by David Cuts, 1998

Let's Explore A River by Jane R. McCauley, 1988

Lizards by Claudia Schneiper, 1988

Loon's Necklace, William Toye, 1988

Plants by Catherine Herbert Howell, 1998

Plant Ecology by Jennifer Cochrane, 1987

Pond and River, DK Publishing, 2005

Professor Science and the Salamander Stumper by Donna Latham

Remarkable Reindeer by Jeff Bauer, 2007

Reptiles and Amphibians by Richard Oulahan, 1977

River & Stream by April Pulley Sayre, 1996

River Song by Steve Van Landt, 2007

Salmon Stream by Carol Reed-Jones, 2001

Spring Waters: Gathering Places by Chisholm DeYonge, 2000 Swimmer by Shelley Gill, 1995

The Maple Tree by Kathleen Cox

The World Beneath Your Feet by Judith E. Rinard, 1985

Water...the Amazing Journey by Caren Trafford, 2007

Welcome to the World of Beavers by Diane Swanson, 1999

Wetland Food Chains by Bobbie Kalman and Kylie Burns, 2007

Wetlands by Darlene R. Stille, 2000

Internet Resources

About Watersheds

<http://www.epa.gov/owow/watershed/whatis.html>

The **U.S. Environmental Protection Agency** provides an overview of a watershed, including a diagram to explain the different features. Links on the left hand side of the page provide additional watershed resources.

<http://cfpub.epa.gov/surf/locate/index.cfm>

The **U.S. Environmental Protection Agency** provides an opportunity to surf various watersheds within the United States to learn more specific information and issues about each one.

<http://ga.water.usgs.gov/edu/watershed.html>

The **U.S. Geological Survey** describes how the water cycle and a watershed are interconnected. Learn how a watershed is a "precipitation collector." Click on links to learn more about flooding, evaporation, transpiration and water storage.

About Riparian Zones, Habitat

<http://www.nanfa.org/education/carillio/riparian.htm>

Robert Carillo and Jay DeLong provide an excellent definition and description of a riparian zone. Click on various links on the top of the page to learn why streams, fish, large animals and insects all need riparian zones for their continued existence.

<http://extension.oregonstate.edu/catalog/pdf/pnw/pnw560.pdf>

Excellent brochure by **Oregon State University** titled, "Taking Care of our Streams in Washington, Oregon, Idaho and Alaska" describing why riparian zones matter, the importance - and types of - plants found in riparian zones, how people change riparian areas, what individuals can do to make a difference, and additional resources and contact information to learn more.

Types of Riparian Habitat

<http://www.epa.gov/wetlands/>

The **U.S. Environmental Protection Agency** provides a definition and description of wetlands, why it is important to protect wetlands, information on how to protect wetlands and what individuals can do to protect this vital resource.

<http://www.cdli.ca/CITE/ecowetlands.htm>

The **Gander Academy** provides detailed sections with links to be introduced to wetlands, learn the classification of wetlands, the purpose and importance of wetlands, the wildlife and wetland regions of Canada and international wetlands. There is also a list of additional links and an environmental glossary at the bottom of the home page.

<http://www.augustasprings.org/public/projects/augustasprings/Wetland+Animals>

Augusta Springs provides an excellent and comprehensive list of links of wetland animals. Click on the links to learn about an animal's geographic range, habitat, physical features, food habits, economic importance for humans and conservation status.

<http://www.kidfish.bc.ca/frames.html>

Kidfish is a web-based tool for teaching grades 5-7 about our environment, fish, insects and stewardship. Click on links listed on the top of the page to learn more about the following: our environment, our lakes, our rivers, the fishes, aquatic fish food and stewardship.

<http://www.rivers.gov/>

The **U.S. Fish and Wildlife Service** provides information about the National Wild and Scenic River System, including a list of rivers designated as wild and scenic for all 50 states, a printable table of the National Wild and Scenic River System, National Atlas of Wild and Scenic River Sites, and GIS shape files of the National Wild and Scenic River System. Scroll down the page for a list of links under "Idaho" and "Idaho and Oregon" to learn more about Idaho's wild and scenic rivers.

Free Resources and Activities

<http://water.usgs.gov/outreach/OutReach.html>

The **U.S. Geological Survey** provides multiple water-related posters free for downloading.

<http://creekconnections.allegheny.edu/Modules/modules.html>

Creek Connections has forged an effective partnership between Allegheny College and regional K-12 schools to turn waterways in Northwest Pennsylvania, Southwest New York, and the Pittsburgh area into outdoor environmental laboratories. There are multiple, excellent activity modules available for free downloading.

<http://www.ducks.org/projectWebfoot/>

Ducks Unlimited Project Webfoot offers free wetlands curriculum and materials for educators.

Environmental Stewardship

<http://www.epa.gov/stewardship/>

The **U.S. Environmental Protection Agency** provides a comprehensive overview of environmental stewardship. Individuals, communities, businesses and institutions, as well as governments can all practice environmental stewards. Tips are provided on how to practice stewardship in the home, at work, as school, in the community and while shopping.