



Idaho Naturalist news

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Honoring Idaho's Natural Treasures

Janice Berndt, Sagebrush-steppe Master Naturalist

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I picked up a bookmark recently that featured the Idaho state tree and it led me to wonder what other state symbols existed. After a little research, I discovered that Idaho has nine official symbols honoring its many natural treasures.

The first to be chosen by the Idaho Legislature, in 1931, was the state flower, *Syringa (Philadelphus lewisii)*. Also known as Lewis's Mock-orange, it is a woody shrub with clusters of fragrant white flowers that bloom in late spring to early summer. Native Americans found many uses for the syringe. The wood was used for root digging sticks and to make pipe stems, harpoon shafts, bows, arrows, and snowshoes.



In that same year, the mountain bluebird (*Sialia currucoides*) was chosen as the state bird. It is a small thrush that prefers an open habitat. The male is an azure blue while the female is gray-brown. The female builds the nest, although the male sometimes acts as if he is helping, but either brings no nest material or drops it on the way. The nest is usually built in a hollow tree or in a crevice.

The Western White Pine (*Pinus monticola*) has blue-green needles and slender cones. Growing to 100 feet, it has fine timber qualities, such as a straight grain and an even texture. It has been heavily logged as well as being seriously affected by white pine blister rust, a fungus introduced from Europe in 1909. The largest remaining stand of white pine in the U.S. grows in northern Idaho.



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Edited by Linda Kahn and Sara Focht, and Davis Smith

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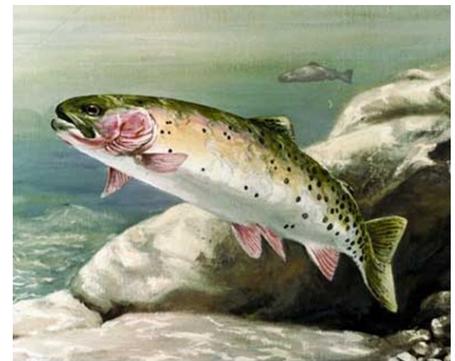
Send contributions to Linda Kahn at hcmc214@yahoo.com.

Star garnet, the state gem, is dark purple and usually has four rays in the star. Idaho is one of only two places in the world where star garnets can be found (the other is the Himalaya Mountains), and the only place six-pointed garnets have been found.



Idaho's state fossil is the Hagerman Horse (*Plesippus shoshonensis*). It is the oldest known representative of the modern horse genus. The Hagerman horse first appeared about 3.5 million years ago.

Cutthroat trout (*Oncorhynchus clarkii*) vary widely in size, coloration, and habitat selection. All feature distinctive marks on the lower jaw, which give it the name "cutthroat." Cutthroats are prized as a game fish by fly anglers. They are the only river cutthroat with a vertebrate diet. Several sub-species are currently listed as threatened, generally due to loss of habitat and introduction of non-native species.



The Monarch Butterfly (*Danaus plexippus*) is the state insect. Monarchs, noted for their lengthy annual migration, are the only butterfly that migrates both north and south on a regular basis. Monarchs are poisonous or distasteful to predators because of the presence of glycosides contained in the milkweed consumed by the larva. It is thought that its bright colors function as a warning to predators.



Wild huckleberry is our state fruit. Several species of huckleberry are native to Idaho. The most common and popular is the black huckleberry (*Vaccinium membranaceum*). The berries form in the axils of leaves on new shoots. A favorite food of bears, black huckleberries grow at elevations between 2,000 and 11,000 feet.

The peregrine falcon (*Falco peregrinus*) is the state raptor. The Peregrine has been called the fastest animal on the planet. In its hunting dive, it soars to great heights and then dives at speeds up to 200 mph. Peregrines feed almost exclusively on medium-sized birds, but they also occasionally hunt small mammals. Peregrines mate for life and their courtship flight includes a mix of aerial acrobatics, precise spirals, and steep dives. The name "peregrine" means "wanderer," and the peregrine has one of the longest migrations of any North American bird.

Syringa photo by Thayne Tuason © 2001. Mountain Bluebird photo by Dave Menke, USFWS digital library.. Star garnet photo by Bruce Reichert/Idaho Public Television. Hagerman Horse photo courtesy National Park Service. Cutthroat trout illustration courtesy Robert W. Hines, USFWS digital library. Wild huckleberries photo by Josh Olson.

Build a Bond With Birds

Jason Martin, NestWatch

Whether in a shrub, a tree, or a nest box, bird nests are all around us. By monitoring a nearby nest you can help scientists study the biology of North America's birds and how it might be changing over time. Every spring and summer, volunteers from across the country visit nests and report their findings to the Cornell Lab of Ornithology's NestWatch program. As a NestWatcher, you keep tabs on bird family life, following the progression from incubated eggs, to fuzzy chicks, to gawky youngsters ready to take their first fluttering flight. All the information you gather is submitted online to the NestWatch database.



“NestWatch helps people of all ages and backgrounds connect with nature,” says project leader Jason Martin. “The information that our dedicated citizen scientists collect allows us to understand the impact that various threats, such as environmental change and habitat destruction, have on breeding birds. Armed with this knowledge, we can take the necessary steps to help birds survive in this changing world.”

Instructions and all the materials you need to participate are available on the NestWatch website at www.nestwatch.org. You'll also get directions on how to find and monitor nests without disturbing the birds. It's fun, it's easy, and it's free.

The Cornell Lab's immensely popular NestCams are back too. Cameras broadcast live video over the web from the nests of Barn Owls, bluebirds, wrens, Wood Ducks, and many other species. Our newest camera is focused on a Great Horned Owl family in Houston, Minnesota. Check it out at www.nestcams.org. And please join us for NestWatch this season—you'll build a bond with birds and with nature in your own backyard.

The Cornell Lab of Ornithology is a membership institution dedicated to interpreting and conserving the earth's biological diversity through research, education, and citizen science focused on birds. Visit the Cornell Lab's website at <http://www.birds.cornell.edu>.

*Yellow Warbler (above). Photo by Charles Harris.
Freshly hatched flycatchers (right). Photo by Josh Olson.*



McCall Chapter Members Guide Students with Birdhouse Upkeep

Terri Bryant, McCall Master Naturalist

Snowshoeing to clean out bird houses the end of April? Yes, it happened at Ponderosa State Park in McCall, Idaho. Master Naturalists, Toni Sheldon and Connie Harris, along with 25 students from Barbara R. Morgan Elementary After School Program participated in this second annual activity and data collection. The purpose of the project was to determine which birds or other animals were using the nesting boxes, to clean them out to prevent diseases, and to use petroleum jelly to seal the top seams to prevent wasps from building nests.



Students were provided snowshoes to walk to the 10 nesting boxes that had been made and set up for the park. They are located in a sagebrush meadow with a few trees for mountain bluebirds or tree swallows. They took turns cleaning out the boxes with steel brushes and lining the seams with petroleum jelly. The first year (April 2010) half the boxes contained wasp nests. Two of the boxes contained tree swallows nests. This Spring, the students found nests in 8 boxes. Six of the nesting boxes contained last year's nests; one had an old egg in it. Another box contained a mouse nest, as the snow was to the door this past winter. Two boxes were not used. But, in one of the boxes there was a fresh nest and newly laid egg. So, they quickly closed the box and left it so the mother bird would return. There were no wasps or wasp nests found this year!

The students concluded that the application of the petroleum jelly prevented the wasps from making their nests in the bird boxes. They were also very excited about finding the 8 nests. It was a wonderful experience for all of us to realize that this project has helped the birds to establish nests. This was a learning experience that has taught the students how to care for their own backyard nesting boxes.



Master Naturalist Teach Riverside Rangers

Sara Focht, Idaho Master Naturalist Program Coordinator



Master Naturalists from the Sagebrush-steppe Chapter taught 300 students from Riverside Elementary school in Boise. The Riverside Rangers program is an ambitious environmental Education Program planned by parent RuthAnn McNelis and MK Nature Center.

Joyce Harvey-Morgan gives dynamic instructions to the 3rd graders on how to be eagles and catch the lizards in a camouflage game (above). Ron Lopez waits patiently with his students as they wait for the other team to get ready to play OH DEAR. Vicki Hawley-Olson watches students run through a maze as if they were migrating salmon. Patty McGrath helps student on the other side of the OH DEAR game.



Streamgages: Taking the Pulse of Nature's Lifeblood

Tim Merrick, Technical Information a& Report Specialist, USGS Idaho Water Science Center, and Sagebrush-steppe Master Naturalist

Streamgage on the Henrys Fork near Rexburg, Idaho. This photo was taken at flood stage, June 9, 2011 (U.S. Geological Survey).



Have you ever seen one of these structures and wondered what it was? It's a streamgage, quietly and continuously monitoring the nearby river. What exactly are streamgages, how do they work, and why are they important?

A streamgage is an automated system for measuring the level (or stage) of a river or stream. Each stage measurement is then used to calculate the rate of flow (or discharge) passing the gage at that time. Flow is measured in cubic feet per second (cfs).

The U.S. Geological Survey, a Federal earth science agency, maintains more than 9,000 streamgages throughout the United States, 210 of those in Idaho. These gages operate around the clock, generally recording measurements every 15 minutes. During floods, the frequency of measurements may increase to provide more information for first responders. The data collected by gages are uploaded via satellite to the USGS Water-

Watch website: <http://waterwatch.usgs.gov/>.

Here is how a streamgage works. A simple bubbler system forces a benign gas such as nitrogen through an underwater tube into the passing river (see diagram). As the river level rises and falls, the amount of pressure required to force the gas through the tube increases and decreases as the amount of water above the tube changes. This change in pressure is used to calculate the amount of water above the tube, and therefore the level of the river. As stage measurements are periodically collected and uploaded, computers apply a mathematical rating curve to determine the discharge for

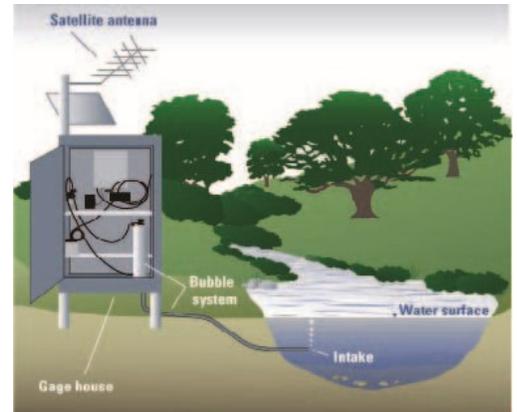


Diagram of a typical streamgage, courtesy US Geological Survey

Rivers are dynamic systems: banks erode, channels shift, debris piles up. Therefore, USGS hydrologists visit each streamgage site regularly to collect physical streamflow measurements. These physical measurements are used to make sure that the streamgage's rating curve remains accurate.

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WHY STREAMGAGES ARE IMPORTANT

Water is the lifeblood of natural ecosystems. Without water, life would be unsustainable. Therefore, it is necessary to know how much water is available and how that resource changes through the seasons and years. USGS streamgages provide long-term records of stage, flow, and other characteristics such as water temperature. This information is vital to scientists studying natural ecosystems.



Those of us who enjoy outdoor recreation such as rafting and fishing rely on streamgage data to decide when and where to go. How high the water is, how fast it is flowing, its temperature, and how much sediment it is carrying downstream all help to determine whether the fish are biting or the rapids are challenging.

Streamgage information also is critical to weather forecasters, irrigation suppliers, bridge engineers, and other professionals. Streamflow data, along with precipitation and other information, are essential to National Weather Service flood forecasting and to Federal Emergency Management Agency for floodplain mapping.

Camas NWR Education Program Expands

Mary Dolvin, Upper Snake Master Naturalist

During the summer of 2010, a program for educating young people in an outdoor setting was developed by the Upper Snake Chapter of Idaho Master Naturalist Program. Activities and instruction were designed to be utilized on site at Camas National Wildlife Refuge. Ideas for this program were presented at a Scout Round Table meeting on September 9th to an aggregate of scout leaders. Prior to the first class at Camas NWR on September 25, a training session was provided for participating Master Naturalists to teach them the curriculum. Over the course of six weeks, approximately 60 Cub Scouts toured the refuge. With the fall phase of the program complete, plans are underway to resume these activities in March, about the time the snow geese begin arriving at the refuge.

In early November, several members of the group visited the Bear River Migratory Bird Refuge in northern Utah, and plans for further expansion of the program at Camas NWR were discussed. Among these were ideas for developing additional curricula, such as areas in the fine arts - photography, history, writing, poetry; expanding the program to involve additional groups for tours, e.g. Girl Scouts and day care centers, and seeking additional help to direct tours, such as members of the Snake River Audubon Society and teachers trained in use of our curricula.

To further support our program, efforts will be made to attain grant money from groups such as Friends of Camas. We're very interested in the 'Be Outside, Idaho!' program, and we'll do what we can to aid its' growth. The Master Naturalists also participated in International Migratory Bird Day at Camas NWR in May.

A USGS hydrologic technician uses acoustic gear to measure streamflow. These physical measurements are used to ensure that streamgage rating curves remain accurate. (Photo by Nathan "Jake" Jacobson, U.S. Geological

Photo Challenge:

Name the plant or animal in the photo! Answers at the bottom!



- A. Close up photo of *Petrophyllum caespitosum* or rock mat. Photo by Eyan Tibbott.
- B. Wyoming Sagebrush. Photo by Eyan Tibbott.
- C. American Kestrel, male. Photo by Ken Coleman
- D. Killdeer chicks. Photo by Ron Lopez.
- E. Bitterroot. Photo by Martha McClay

Hagerman Butterfly Count

Ken Coleman, Sagebrush-steppe Master Naturalist

Miriam Austin, Ph.D. contacted Steve Bouffard to get help with the 2011 Hagerman zone butterfly count, that had not been done for three years. The count is an official North American Butterfly Association (NABA) count. Steve called me and we all decided on the 29th of June. A zone covers the 7 mile radius surrounding a designated survey point.

A valid survey requires at least 4 people & they must work the zone for 6 hours. We had Miriam, Barbara Austin, Steve & I.

We counted at least 12 species with more then 224 individuals (I only have numbers on what Steve & I counted). Miriam will report the final statistics to the North American Butterfly Association. The high point of the project was documentation (including several detailed photos) of a population of Silver-Spotted Skippers by Steve & I. According to Miriam this would represent a range extension. To her knowledge the Silver-Spotted Skipper has not been previously confirmed in Southern Idaho. The only down side was that the areas we worked were heavily infested with ticks, very persistent ticks! Thankfully I left my canine buddy Star back at home. The number of ticks was truly unnerving. I would do this again but better preparation for the tick issue will be required.



<http://www.naba.org/>

Silver Spotted Skipper. Photos by Ken Coleman

