

December 23, 2010

Eye on the Environment

### 'Citizen Science' In The Swan Valley

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One of the kernels at the core of our genesis over a decade ago was a belief that local citizens possess unique and invaluable knowledge about their landscape and that this knowledge should be considered in local land management decisions.

Northwest Connections links citizens to the process of science and land management by involving them in documenting knowledge about our natural world, adding to the body of science that informs decision-making and management processes. We involve local volunteers and paid staff alike in a variety of field projects, believing that citizens have crucial roles to play as stewards, watchdogs and archivists of local natural history.

Guided by accepted scientific protocols, this "citizen science" has the potential to increase scientific knowledge while enhancing involvement of, and benefiting from the experience of, citizens most affected by local land and wildlife management decisions.



*Volunteer trackers gather information throughout the winter about carnivore distribution and abundance across the valley. Photo provided by Northwest Connections.*

Citizen science projects are happening all over the country; the range of opportunities is enormous, and growing. Many projects solicit natural history observations so that information can be compared from place to place around the country or world:

Project IceWatch gathers reports on the timing of ice-on/ice-off events ("ice phenology") or you can contribute to understandings of plant phenology by documenting timing of seasonal budding, leafing out, and flowering of local trees, shrubs or wildflowers through Project BudBurst.

Thanks to advances in technology and the advent of the Internet, citizens have an easy way to contribute to online databases which scientists can easily access; here you can be anonymous, participate when it's convenient, not have to drive to any meetings.

You don't even have to sit down at a computer to enter data: apparently Apple's new iPhones can be used in conjunction with a variety of apps (read: computer applications) to facilitate recording and reporting of phenomena such as, for example, oiled seabirds in the Gulf of Mexico (In case you're headed there over the holidays and plan to have your iPhone along, the app is called "MoGO" for Mobile Gulf Observatory).

Many citizen science projects tap the combined workforce of groups, not just individuals. The longest running ornithological citizen science project, some say the "granddaddy of all citizen science," is the Audubon Society's Christmas Bird Count (CBC).

The CBC began in 1900 with 26 bird watchers and has grown to include, as of last year, 50,000 participants. This annual census covers 1,550 locations in all 50 states, as well as Canada, the West Indies, and Central and South America. The involvement of citizen volunteers from local Audubon chapters across our hemisphere allows ornithologists to create detailed maps of species distributions as well as document temporal changes in populations.

In the Swan, there are numerous opportunities to get involved in citizen science, whether from the privacy of your own backyard and laptop, or with an organized group. The Swan has hosted its own Christmas Bird Count since 1992 and has since expanded that effort to include monthly bird counts from June through October, as well as "backyard bird counts" in conjunction with Audubon and the Cornell Lab of Ornithology at other times of the year.

During these bird counts, you can head out for a hike with a pair of binoculars or watch feeders from your living room window. While this year's

CBC was on December 18, you're not too late to join in the Great Backyard Bird Count, which happens this year from February 18-21. Please contact Jodi Wolff at [jmw4002@blackfoot.net](mailto:jmw4002@blackfoot.net) if you'd like to participate in any of these birding events.

If you missed the Bird Count, we might suggest other options for you to be involved as a local citizen scientist. This spring, plan on participating in Herp Day, a Swan Valley event that's invited volunteers for nearly a decade to slosh around in local wetlands for a day hunting for toads, frogs, salamanders and snakes. Data from Herp Day are combined with that from biological surveys across the Flathead National Forest to understand long-term trends in amphibian and reptile populations in the region.

If you're still questioning whether citizens can actually impact the scientific world, remember that it was school children in Minnesota whose discoveries of large numbers of deformed amphibians first generated global media attention about the problem in the mid 1990s. Two years after the children's discoveries, the North American Reporting Center for Amphibian Malformations was activated by the US Geological Survey to serve as an information source for research into deformities as well as an Internet-based database for citizen's and scientist's field reports.

(FYI - Records from Lake County in this database include 4 reports of multiple deformed individuals in local tree frog and long-toed salamander populations.)

Northwest Connections has been asking citizens to volunteer information for a variety of efforts over the years. We'll be calling on folks in the Swan again this winter to help with wolf track

surveys. Volunteer efforts last year helped to clarify the existence of two separate wolf packs operating in the valley. We've trained volunteers and hired valley residents both to record carnivore track data from valley-wide transects and have recently summarized our analysis of 10 years of this data. We're also interested in your wildlife sightings and have kept a database of unusual and interesting wildlife reports for 10 years.

We also host a database as part of Swan Valley Bear Resources documenting reports of bear sightings and problems around the valley. This effort supports proactive management of human/bear conflicts and allows for continued coexistence of our human and wildlife communities. Please contact us if you want to help with, or can add information to, any of these projects.

Come summer, you might want to volunteer for a project Northwest Connections has partnered on with the USGS for the last 7 years aimed at long term monitoring of grizzly and black bear populations.

The Northern Divide Grizzly Bear DNA project is looking to generate reliable data on grizzly population trends using "non-invasive" methods – meaning no bears need to be captured or handled. Volunteers need little in the way of scientific experience or training and yet the data they gather is of utmost importance in understanding and managing the threatened bear.

Interestingly, scientists writing in the current issue of *Journal of Applied Ecology* present a study showing that local citizen involvement (volunteer or paid) in ecological monitoring leads to more responsive local management of resources compared to studies initiated and

conducted solely by scientists, which are more likely to have impacts at the national or global scale.

We continue to refine our role in the process of citizen engagement and invite you to participate. Please contact us at 754-3185 to find out more about how you can get involved as a citizen scientist in your community.