

Windows to Wildlife

Click on the picture to watch a video about the project!

The holy grail: a wolverine climbs toward the bait, leaving its hair snagged in the gum brushes © IDFG

Lead author Lacy Robinson checks a remote camera © IDFG.

If You Build, They Will Come: *Multispecies Winter Bait Stations*

Written by

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Money for wildlife conservation is a dwindling resource in a time when there has never been a greater need for it. The sweat equity of eight organizations, 200 citizen scientists, and a biologist's survey tool showed what can be accomplished when the three are connected. This collaborative effort is now published for others to see and use in similar research.

There is a long tradition in wildlife management where researchers attempt to understand one species at a time. We call this "single species management." But in our quickly changing world there's an urgent need to understand more about the diversity of the wildlife we manage and we don't have the time or money to do that one species at a time.

To that end, the [Multispecies Baseline Initiative \(MBI\)](#) developed a technique to survey multiple mammals and birds at the same time including fisher, marten, wolverine, bobcats, coyotes, and more. We published our findings in the September issue of the Journal Ecology and Evolution: [Winter bait stations as a multispecies survey tool](#). This [open access](#) journal article is available free of charge for anyone to read and we summarize the results [here](#).

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“This type of community effort combined with innovative wildlife survey techniques will help move wildlife management from the single species world to a multi-species, efficient, ecosystem based discipline” says lead author [Lacy Robinson](#).

Step 1 - Winter Bait Stations

Winter bait stations are a [pretty simple concept](#). We wire a piece of meat (usually a skinned beaver) to a tree and put a remote camera on another tree. Under the beaver we put a couple rings of hair snares. So the bait attracts animals to the tree, the camera takes photos of the animals, and the snares collect DNA (hair) from animals as they climb the tree.

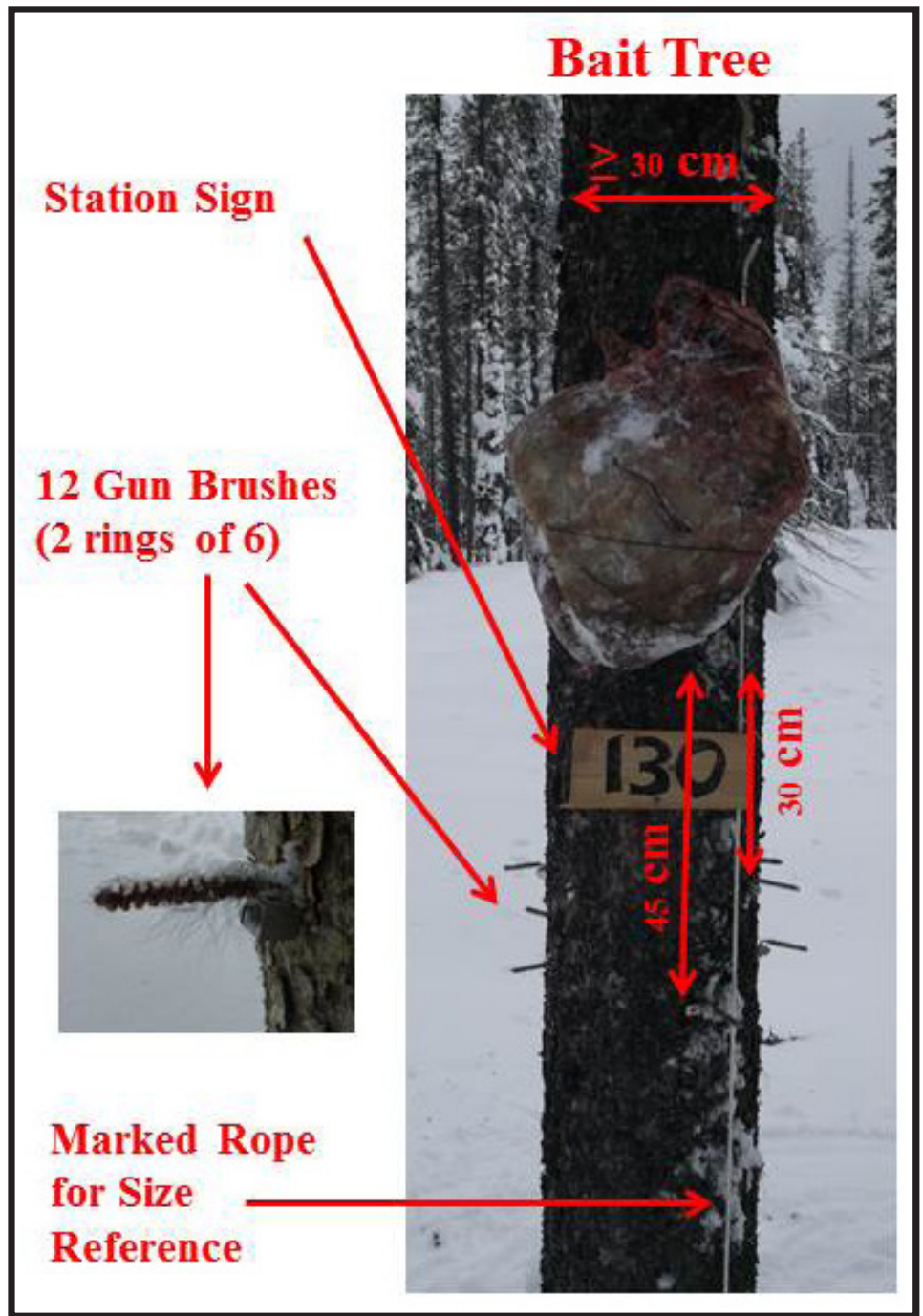
Although setting up the stations was fairly straight forward, [deploying all 497 of them across every nook and cranny of our Idaho Panhandle and adjoining mountain range study area was serious work!](#) Eight organizations and over 200 volunteer citizen scientists worked together over four winters to run bait stations across north Idaho’s rugged terrain. When it was all said and done we had collected nearly $\frac{3}{4}$ million pictures. Even after going through all those pictures (twice to check for identification errors!) we still had lots of questions.

Step 2 – Analyze the data and find out the results!

Analyzing our data and publishing our findings helped us to understand how to deploy bait stations in a multispecies framework and provide that information to other researchers.

The first thing we learned was that cameras detected more species (28 species) than DNA (14 species). DNA has a pretty solid reputation, so that might surprise you. But if you think about it, lots of animals (wolves and coyotes for example) are going to come take a look at that weird bait in the tree and not be able to climb up past the hair snares to take a bite.

Despite detecting less species DNA is still important, and critical, if you want to identify individual animals. We wondered how long the DNA would stay viable when it was left out unprotected in the winter. The one variable we found that affected DNA quality was the date we took the station down. Some stations were not taken down until May or June and the DNA was probably degraded by the spring rains.



Details of a bait tree setup for surveys © IDFG.



Above: Wildlife technician Scott Rulander digs hair snares out from deep snow © IDFG. **Right:** A Canada lynx visits a bait station. © IDFG.



The DNA from the above buried bait station was fine. The date we took the station down is the one variable that contributed to DNA viability. Elevation, set up date, and deployment date did not matter. This means the DNA in exposed hair samples can survive a north Idaho winter until the rains come.

This is important to know because low-density species like Canada lynx and wolverines may take up to two months to detect. So we can rest assured our DNA from common species will remain solid while the stations wait for more rare species to come by. We also learned that quick to the bait marten and fisher were detected at the same rate across the winter season but bobcats and coyotes were detected much more often in late winter or early spring.

Step 3 – Use limited resources wisely

We tried ‘re-baiting’ some of our stations. A common practice in wildlife research is to do repeated surveys at the same location but, in this case, we did not find that to change our results. Basically, once a fisher or marten finds a tree with a beaver on it they stick around. Bringing another beaver...just keeps them there longer. So we determined the best use of resources is to put more bait stations in more places rather than to just keep resurveying the same spot

Using limited resources wisely is what this paper is all about.

Instead of doing a wolverine survey, then a fisher survey, then a marten survey...we figured out a way to combine them into a single survey effort. This wasn’t easy and we couldn’t have done it alone.

The field work required long days traversing north Idaho’s backcountry on snowmobiles and skis. The field work was a collaborative effort of the [Coeur d’Alene Tribe of Indians](#), [Kalispel Tribe of Indians](#), [Idaho Conservation League](#), [Idaho Department of Lands](#), [Idaho Panhandle National Forest](#), and [Selkirk Outdoor Leadership and Education](#). The [Friends of Scotchman Peaks Wilderness](#) harnessed 200 local volunteers that helped deploy bait stations.

New From the Field

Building a Better Mousetrap

by Joel Sauder*,
Clearwater Wildlife Diversity Biologist, Idaho Department of Fish and Game

They say if you build a better mouse trap the world will beat a path to your door; but what about a fisher?

Remote cameras, also called game cameras, are becoming an increasingly valuable tool for today's wildlife professional. What once was a novelty is now proving to be an important tool to manage and understand the status of wildlife populations. For high density species, such as elk and deer, just putting a remote camera on a well-used game trail is good enough to detect a species is present. But for low density species, like fishers and wolverines, that have home ranges that spans tens or hundreds of square miles, adding scent or bait is necessary to increase the odds of detection. This often requires multiple visits to a site to restock the bait and scent to keep the set highly attractive. These repeat visits can take considerable time and money, and in some cases, such as wilderness areas, are practically impossible.

A few years ago, I was asked to document the distribution of fishers, a member of the mustelid family, in the Selway-Bitterroot Wilderness of Idaho. I knew that working in a wilderness area would pose some unique challenges. Using remote cameras held promise, but keeping the sets attractive to wildlife for long periods of time would be difficult. To attack this problem I partnered up with Robert Long, a conservation scientist from the Woodland Park Zoo in Seattle, who had a similar interest in surveying for wolverines in the North Cascades of Washington. Together we came up with the idea of a devise that would slowly pump out scent over the course of months to entice animals into the range of our remote cameras. To build such a devise, we enlisted the help of Mike Sinclair, an engineer at Microsoft Research, who was interested in the challenge. Together we designed, built, and tested a devise we named Steady Scent. Composed of a control board, battery pack, liquid scent reservoir, and a peristaltic pump, the device pumps out scent every day for over 6 months with no required maintenance.

So with prototypes in hand, we set out into the wilderness to see if our "better mouse trap" would actually result in more detections at our remote cameras. We used a scent lure composed of anise oil, marten lure, beaver castor, skunk, and propylene glycol (which works as an antifreeze agent).



Overall, an offensive concoction to humans, but irresistible to carnivores. During the winter of 2015-2016 we deployed remote cameras and Steady Scents in the North Cascades of Washington for wolverines, and in North-Central Idaho for fishers, and picked them up the following spring. In both areas, the scent pumps resulted in a significant increase in the number of detections of the target species. We had succeeded! To top it off, we had numerous detections of other carnivore species as well, such as bears, cougars, and wolves. During the winter of 2016-2017, Steady Scent pumps were used as part of a multi-state project to document the distribution of wolverines across Idaho, Montana, Wyoming, and Washington. Using the Steady Scents resulted in successfully detecting wolverines in areas which would have been previously impossible to sample. And now, during the winter of 2017-2018, remote cameras and Steady Scents are deployed in the Selway-Bitterroot Wilderness to finally provide answers regarding the distribution of fishers in that landscape. It is hoped that one day this new wildlife management tool will be widely used to help collect data on a wide range of species.



Previous page: The sweet smell of success. A wolverine at a bait station © Western States Wolverine Camera Survey, IDFG. **Above:** a bear takes a turn at a bait station and **(below)** mountain lions check out the irresistible smells coming from a bait station © IDFG.

How many birds will you find?

**21st Annual Great
Backyard Bird Count
February 16-19, 2018**

Join in! Count birds in your
backyard, local park, or wherever
you spot a bird, and submit your
observations online.

birdcount.org

Cedar Waxwing
Photo: Jane Tomer/GBBC



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in part by:



Winter Wildlife Events

Boise WaterShed

11818 West Joplin Rd., Boise; (208) 489-1284

<http://bee.cityofboise.org/watershed/events/calendar-of-events/>

January 20- SnowSchool Family Day

Join us for a flurry of activities from 10:00 to Noon at the BoiseWaterShed followed by a trip to Bogus Basin for afternoon of snowshoeing, courtesy of Bogus Basin SnowSchool. The morning will include activities and crafts about snow science and winter animal adaptations. At noon, registered participants will be driven to the Bogus Basin Nordic Lodge (courtesy of Caldwell Transportation Company), where snowshoes will be provided. Small groups will be led by SnowSchool leaders on family-friendly trails. Beginners welcome! Space is limited on the snowshoe trip. Registration and a \$5 per person payment is required by January 15 to reserve your place in the program. No groups please. Call 608-7300 or email BW@cityofboise.org to register. No water renewal facility tour today.

February 17- Our Prehistoric Watershed

From 10:00 a.m. to 1:00 p.m., we'll journey back in time when Idaho had erupting volcanoes, prehistoric horses, and sable-toothed cats. Meet local paleontologists and geologists, see Idaho fossil replicas, make and take a fossil cast, and dig for fossils in a sandbox. At 10:30 a.m., attend a hands-on presentation from a Hagerman Fossil Bed Ranger about Pliocene fossils, including the Hagerman horse. A public water renewal facility tour will be at 11:30 a.m. weather permitting, closed-toed shoes required, no strollers please.

March 17- Amazing Animal Encounter

Hang out with our furry friends between 10:00 a.m. and 1:00 p.m. Join Babby Farms, local 4H kids, and the Idaho Humane Society and get to know our four legged and feathered friends. Meet some local pets up for adoption, say hello to a bearcat, and learn what a cavy is. Take the dog poop pledge and get a free pet waste bag dispenser from Partners for Clean Water! It'll be a great day to celebrate animals and the joy they bring to our lives, however, please leave your four-legged friends at home. A water renewal facility tour will be at 11:30 a.m. weather permitting, closed-toed shoes required, no strollers please.

April 21- Earth Day Celebration

Meet some Wiggly Dudes (worms) and learn how you can start vermicomposting at home. Make and take a green cleaner and make earth art with artist Dyan Ferren. Help us plant the Boise WaterShed garden and bring seeds home for your own garden. Plus, pick up a free yard of City compost! A water renewal facility tour will be held at 11:30 a.m. weather permitting, closed-toed shoes required, no strollers please.

Coeur d'Alene Eagle Watch

Each winter from November through January a migrating population of bald eagles visits the Lake Coeur d'Alene area to feed on spawning kokanee salmon. The BLM began counting bald eagles around Wolf Lodge Bay in 1974. The number of eagles returning to this area varies from year to year.

From Coeur d'Alene, travel southeast on I-90 for 7 miles. Turn onto ID 97 south. Suggested viewing spots are Higgins Point, Mineral Ridge Boat Ramp, and Mineral Ridge Trail head.

Learn more and follow the action of the weekly counts: <https://www.blm.gov/programs/fish-and-wildlife/wildlife/about/idaho/lake-coeurdalene-eagle-watch>

Craters of the Moon National Monument and Preserve

18 miles West of Arco on Hwy 20/26/93; (208) 527-1335

www.nps.gov/crmo/index.htm

Loop Road is Closed but We're Open for Winter!

Winter has arrived at Craters of the Moon and the dark lava rock now wears a mantle of white. The loop drive is closed to automobile travel but is groomed for skiing and snowshoeing. Make plans to visit as there are still many excellent opportunities to explore the park.

January 6, 13, 20, 27 and February 3, 10, 17, and 25 -Snowshoe Walk

1 p.m. - 4 p.m.; Explore a cooler side of Craters of the Moon on a Ranger-guided snowshoe walk. The day begins with a short introduction to the winter environment followed by a fun loop through the park on snowshoes. Look for tracks and climb a volcano on this 2 mile trek. Snowshoes are available for complementary use (donations accepted). Reservations are required and participants need to be at least 10 years of age for this moderately strenuous walk. Group size is limited to 25. Call 208-527-1335 or email (crmo_information@nps.gov) early to sign up for these popular excursions.

January 6, 13, 20, 27 and February 3, 10, 17, and 25- Group Snowshoe Walk (BY RESERVATION)

Noon - 3 p.m.; Are you looking for a special adventure for your group or club? The day begins with a short introduction to the winter environment followed by a fun loop through the park on snowshoes. Look for tracks and climb a volcano on this 2 mile trek. Snowshoes are available for use and there is no charge for these events (donations accepted). Reservations are required and participants need to be at least 10 years of age for this moderately strenuous walk. Group size is limited to 25. Call 208-527-1335 or email (crmo_information@nps.gov) early to sign up for these popular excursions.

Cross-country Skiing/Snowshoeing-thru February (depending on snow conditions)

The 7 mile loop road is now groomed for skiing and there are no entry or user fees. Most of the Winter Trail follows relatively level terrain and can be completed in 2-4 hours. There are also excellent opportunities for snowshoeing throughout the park including our 1.5 mile snowshoe loop. Please note that pets and bicycles are not permitted on any of our winter trails.

Visit the website for maps and current conditions: www.nps.gov/crmo/planyourvisit/winter-activities.htm

January and February, Tuesdays through Friday- Snow School

Bring your students to Craters for an unforgettable and educational snowshoe trek. Snowshoe with a Ranger and learn about how wildlife adapts to winter conditions. We have enough snowshoes for about 30 students and the walks are suitable for third graders and up. Contact the park at (208) 527-1332 for more information or to schedule a field trip. Transportation assistance is available! After registering for a Snow School visit we will provide you with detailed information on what to wear and bring. Visit the website to learn more about Snow School: <https://www.nps.gov/crmo/learn/education/classrooms/snowschoo.htm>

Jim Hall Foothills Learning Center

3188 Sunset Peak Rd., Boise; (208) 493-2530

<http://bee.cityofboise.org/foothills/events/calendar-of-events/>

FOOTHILLS FAMILY DAYS: 2nd Saturdays, 10AM to 1PM

Each month we open our doors for this free, family friendly program with activities, crafts, and interpretive stations. Come and go as you please. You are even welcome to bring a picnic and enjoy our backyard when the weather is nice! No registration required.

January 13- Over and Under the Snow

Learn about animals that survive Idaho's winters both above and below the snow. Explorer our "bear den", crawl through "subnivean" tunnel as the mice do, and understand how snow can actually keep animals warm! We'll have warm drinks, Snow experts, and snowflake making.

February 10- Idaho Explorer Day

Develop your explorer skills by starting a naturalist journal, learning to identify plants, and completing our orienteering scavenger hunt. Learn about Idaho's explorer history and check out some tools used when the pioneers began moving west.

March 10- Birds of Prey Day

Falcons, hawks, owls, and eagles! Come get a close up view of a bird of prey, discover your wingspan equivalent, and dress up like an owl. Guided birding hikes will start every hour with local experts and Idaho Bird Observatory's, Heidi Ware, will be on hand to talk about bird banding! There will also be crafts and owl pellet dissection!

SUNSET LECTURE SERIES: Free, evening adult education series. 7PM to 8:30PM

January 10- Avian Adventures Abroad- Peru

From its Amazonian lowlands and coastal deserts to the high Andes and Sacred Valley of the Incas, Peru's diverse habitats host more than 1,850 bird species. Local birders Jim and Nancy DeWitt spent three weeks there in 2016 and saw over 530 kinds of birds, plus numerous mammals, amazing flora, and breathtaking scenery. Some highlights from their photo journey will include displaying cocks-of-the-rock, jewel-like tanagers and hummingbirds, parrot licks, Peruvian pelicans, and even a few species familiar to Idaho birders. Come for the Horned Screammers, stay for the Inca Kola!

February 21- Winter Tracking: Animal Signs in the Snow

Learn from Ray Vizgirdas how to investigate the scenes and signatures of animals in the snow. In winter tracking, the stories are etched by wild beings, the parchment is frozen water and the pages are both fleeting and unending. Learn this new form of "literacy" from a tracking expert who will teach you how to "read" the snow and gather a treasury of information about the furry, feathered and fascinating lives of the characters in winter's story.

BOISE BIRDING SERIES: 9 to 10AM

Our free birding program is great for experienced and novice birders alike. Terry Rich, our local ornithologist, provides information and tips on birds in the Boise area and beyond! Come to one or all sessions! Bird books and binoculars are available to borrow. No registration necessary.

February 7- What's the Overall State of the Birds Worldwide?

Which species are doing OK and which need help? Learn a bit about how populations are evaluated for conservation action, and learn about partnerships such as Partners in Flight.

March 1- Spring Migration

Birds are beginning to move back to Boise after their winter holiday in the south, but each species is on its own schedule. We will be discussing different migratory patterns and how climate change is, and may, play a role.

TOUR OF THE RESERVES- A HIKING SERIES, 5:30PM to 6:30 PM

All hikes are no more than 3 miles, free, and family friendly. Get to know your backyard as The Foothills Learning Center and Idaho Conservation League team up to offer these short hiking "tours" of City owned foothills reserves. These eleven reserves are part of a growing and interconnected system that provides environmental, social, health, and economic benefits to Boise citizens. Maybe you are new to Boise or maybe you are a frequent trail user that wants to know more. Come hike with us and learn about these treasures! [Pre-registration required! Please call Lana Weber at \(208\) 345-6933 Ext. 16.](#)

January 18- Hulls Gulch Reserve

The majority of this reserve was acquired through a citizen effort from 1991 to 1993, and many acres through citizen grassroots fundraising efforts. Home to the Jim Hall Foothills Learning Center, this reserve connects many other reserves and public lands. Join ICL and the City of Boise as we take a hike and talk about management solutions on this heavily used reserve!

February 15- Hillside to the Hollow Reserve

Revered for its abundance of trails, views into Boise and unique experiences such as steep trails and large off-leash areas. 317 acres total, the City of Boise owns 258 acres, with the Land Trust of the Treasure Valley (LTTV) owning 59 acres. Join us for a hike on the all-weather trail and hear how LTTV acquired this property!

March 15- Camel's Back Reserve

Camel's Back Park and the land connected to it was acquired by the City of Boise in 1932 from Bernard Lemp. It is home to three trailheads which act as a starting point for some of the most popular Ridge to Rivers trails in the foothills. Come hear the history of Camel's Back and take a short walk with us!



Burrowing owl © Mike Morrison

Donate Today!

Idaho Tax Form 40, Line 33

Check It and Protect It!

WANTED

Your winter hummingbird sightings



Because insects make up a large part of their diet, Anna's Hummingbirds can survive cold winter weather. Over the past decade, they have begun wintering in Idaho.

The IBO wants to study this phenomenon. By counting and tagging individuals, we will get accurate population information and track individuals over time.

More info at: <http://ibo.boisestate.edu/winter-hummers/>

Please contact us with any winter hummingbird sightings
IBO@boisestate.edu or 208-426-2223

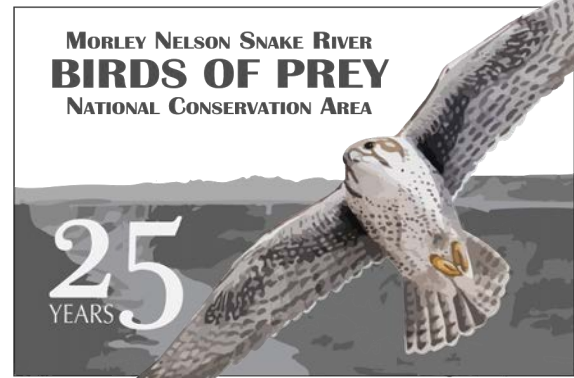
We want to map *all* sightings, plus band birds if homeowners are interested. Don't forget, you can also record your sightings at eBird.org!



BOISE STATE UNIVERSITY
INTERMOUNTAIN BIRD OBSERVATORY

Help Us Celebrate!!!

Join us for the Kick Off Party
for the 25th Anniversary of the
Morley Nelson Snake River Birds of
Prey National Conservation Area



Hosted by: **The Birds of Prey NCA Partnership**

**First Thursday, February 1st at JUMP
in downtown Boise from 5:00-9:00 pm**



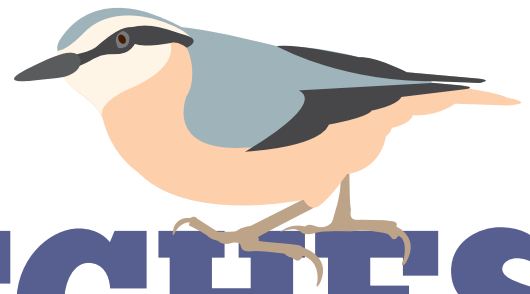
What to expect:

- Information on 25th Anniversary events planned throughout 2018
- Free food and beer from Lost Grove Brewing (while supplies last)
- Wine for sale
- Live birds of prey
- Live music
- Interactive activities for all ages
- Kids activities

Partners:

- Idaho Bureau of Land Management
- Idaho Department of Fish and Game
- The Peregrine Fund
- Intermountain Bird Observatory
- Golden Eagle Audubon Society
- Lost Grove Brewery
- Indian Creek Winery
- JUMP

MEET THE NUTHATCHES



If you spend any time in a forest, you are likely to hear and see nuthatches. Like woodpeckers, these small gray birds live in the trees. Their loud calls sound a bit like a tin horn. And nuthatches seem to like to “toot their horns!” Their nearly constant calls help you spot which tree they are in, but seeing them can be harder. Their gray backs and flattened posture helps them blend in against the bark. If they detect a nearby predator they become quiet and still, making them nearly impossible to see.

Twenty-five species of nuthatch can be found around the world. Four live in the United States and three of these live here in Idaho---red-breasted nuthatch, white-breasted nuthatch and pygmy nuthatch. All nuthatches are small, about four to six inches long. They have squared tails and the bottom half of their beak is upturned. This helps them catch insect prey hiding in bark crevices. Nuthatches eat many different kinds of insects. In the winter they also eat seeds. The name “nuthatch” comes from how they hack open seeds. People used to call them nuthacks. Over time, this word became nuthatch.



Nuthatches spend a lot of time hitching head-first down tree trunks or along branches. They have strong legs with long claws on their toes. The toe that faces backwards is larger than the three forward-facing toes. This helps the nuthatch grasp tree bark. It also uses one leg like a bicycle kickstand to prop against the tree trunk. This upside down way of moving helps nuthatches find food that woodpeckers miss when they hitch up a tree. This allows both kinds of birds to find food, sharing the same habitats.

Because they live in forested areas, nuthatches are cavity nesters. They usually excavate their own nest. White-breasted nuthatches also use natural tree cavities or old woodpecker nests. Red-breasted nuthatches have the unusual habit of spreading sticky pine sap around the entrance of their nest. Instead of sap, white-breasted nuthatches use smelly insects. It is thought that the sap and insects help keep predators away from the nest.

In the winter, nuthatches join chickadees, brown creepers and downy woodpeckers to form a mixed flock. The birds move around a habitat looking for food. Their calls are easily heard across the snowy winter landscape. Take some time this winter to look and listen for Idaho’s nuthatches.



(Reprinted with permission from Wildlife Express, December 2017. Photos from the top: red-breasted nuthatch, white-breasted nuthatch, and pygmy nuthatch by Robin Agawal, CC BY-NC-ND 2.0, Flickr)

Idaho's Nuthatches



© Catherine Zinsky, FOR IDAHOFISHANDGAME

Red-breasted Nuthatch

- Lives mainly in forests of pine, fir and spruce trees
- Just over four inches in length
- Blue-gray back with a reddish belly and chest
- Black or gray cap with a black stripe across the eyes
- Likes sunflower seeds in the winter



White-breasted Nuthatch

- Our largest nuthatch---five to six inches long
- Blue-gray back with white belly, chest and face
- Black or gray cap and neck that looks like a hood
- Lives mostly in deciduous forests, parks and backyards



Pygmy Nuthatch

- Named for its small size, this nuthatch is just under four inches long
- Lives in forests of long-needled pine trees like ponderosa pine
- During winter nights, roosts in tree cavities in large groups of up to 100 birds
- Blue-gray back with buffy belly and chest and a brown cap
- Sounds like the squeaking of a rubber ducky



Thank You for Your Support!

Thank you to those who made direct donations, purchased or renewed a wildlife license plate, or let us know of a tax check-off donation between October 1- December 31, 2017.

Your contribution provides important funding for wildlife and habitat conservation in Idaho.

Windows to Wildlife

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To submit an article, obtain a subscription, or notify us of address change, contact the Editor at the above address.

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Idaho Power
Idaho Recreation and Tourism Initiative
U.S. Bureau of Land Management
U.S. Bureau of Reclamation
U.S. Forest Service
U.S. Fish & Wildlife Service