

Windows to Wildlife



Reading plants labels is extremely important to help keep bees safe. © IDFG/Beth Waterbury

Attack of the Killer Tomatoes!

Written by Joel Sauder*

Regional Wildlife Diversity Biologist, Idaho Department of Fish and Game-Clearwater Region

Don't look now, but there may be a killer loose in your backyard and garden. It is ruthless, silent, maiming and killing day after day, for months, or even years. It invades soil, seeds, flowers and stems; and you probably don't even know it is there. No, it is not some nasty disease that crept in from another state. No, it is not some dreadful insect that hitched a ride across the ocean. It is called a Neonicotinoid (pronounced neo-nick-o-tin-oyd), and it is a class of pesticides identified as a leading cause of declines in bee populations around the world.

Neonicotinoid pesticides came on the market in the 1990's and provided an alternative to another class of pesticides called organophosphates that were dangerous to both wildlife and humans. One of the unique features of neonicotinoids is that they are systemic, which means that once applied and absorbed, they are transported to all tissues of a plant. This means they can be used in smaller amounts, last longer, and don't require reapplication. It is also why they are often applied before the consumer even buys a plant; the grower knows it will protect the plant for months, even years, from some undesirable insects like mites and aphids.

And this is where the problem for bees arises. Bees harvest nectar and pollen from plants and along with it they get a dose of pesticide. The doses are small, often measured in parts per billion, but there is growing scientific evidence of significant sub-lethal effects. A sub-lethal dose is where it doesn't kill them outright, but it impacts other things like behavior or their immune system that makes them more susceptible to other threats. And, being that it is sub-lethal, it makes it much more nefarious to detect, because you

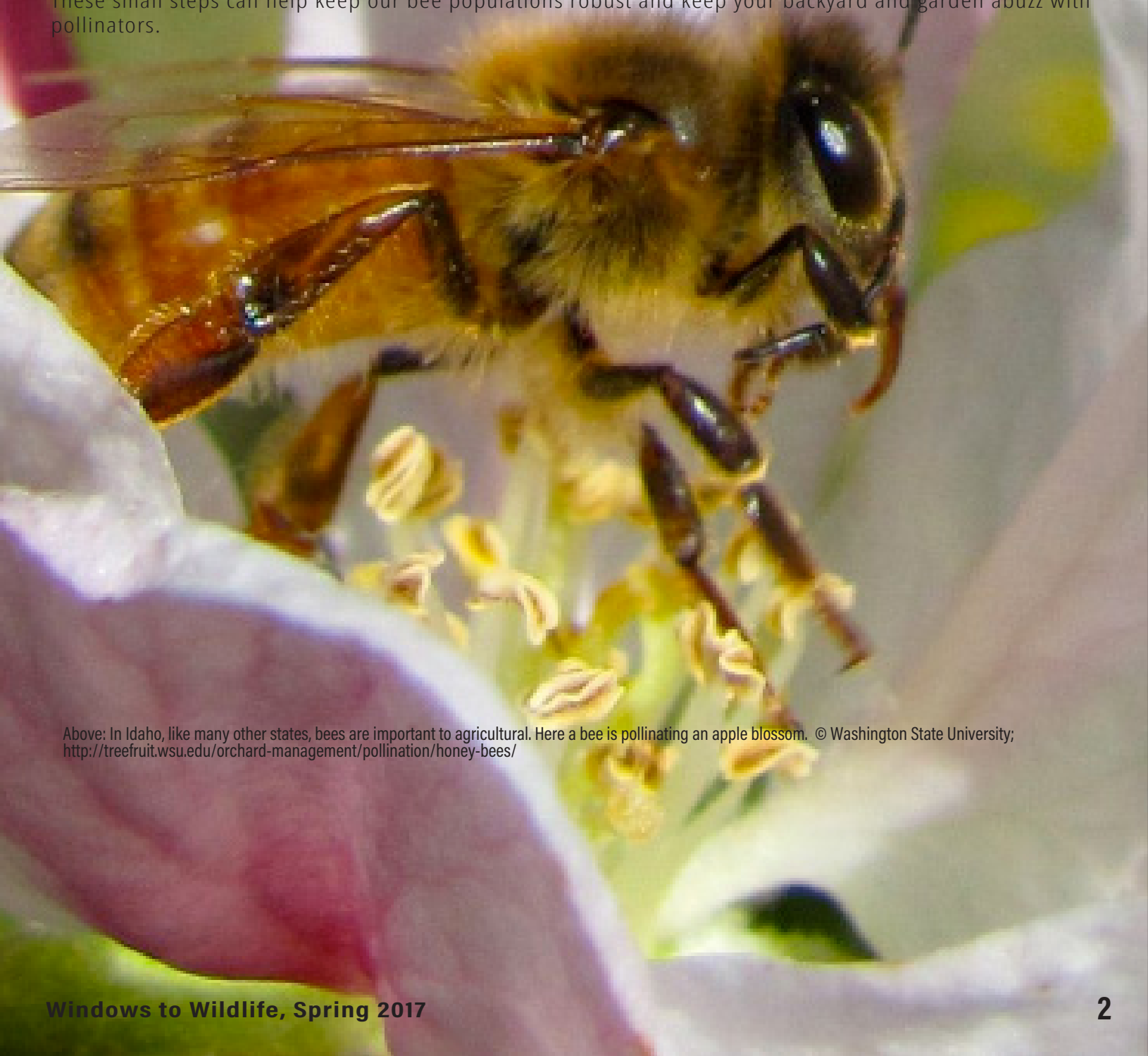
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don't see dead bees littering the ground. To top it off, the use of neonicotinoids is on the rise, up almost 500% since 2005 across the United States.

But why, you ask, should I care about bees? After all, they're mean and they sting! Well beside those flowers they pollinate in your backyard, their value to our nation's economy is estimated to be approximately \$15 billion per year. Foods like apples, almonds, blueberries, and avocados are extremely dependent on bees. It is estimated that one of every three bites of food you eat benefits from the pollination services provided by bees.

So what can you do? Look closely at the plants you buy and plant this spring. Some may be marked with "treated to resist mites and aphids," meaning a neonicotinoid has been applied already. Be careful in what pesticides you apply. Look at the back of labels for active ingredients called imidacloprid, clothianidin, and thiacloprid. Basically, if a word ends in "rid" or "din", ask a garden attendant what it is and what it does. Don't be afraid to ask questions; often small garden shops are better sources of detailed information about plants than big box stores. And remember, even seeds can come pre-treated with neonicotinoids, so consider getting your seeds from a source that has pledged to not treat seeds, such as www.seedsavers.org. These small steps can help keep our bee populations robust and keep your backyard and garden abuzz with pollinators.



Above: In Idaho, like many other states, bees are important to agricultural. Here a bee is pollinating an apple blossom. © Washington State University; <http://treefruit.wsu.edu/orchard-management/pollination/honey-bees/>



Top: A typical scene at a nursery, rows and rows of plants potentially pre-treated with Neonicotinoids. © (CC-BY-SA) Wonderlane on Flickr CC. Right: Some retailers require their suppliers to label their plants treated with Neonicotinoids to help buyers make informed purchasing decisions, but not all, so ask garden attendants questions prior to purchasing. © AButterflyTale.com

How to have a safe garden:



- 1- Buy organic plants
- 2- Grow your own. Check labels to make sure the seeds are organic and non GMO.
- 3- Support local growers- they will know what the plants have been treated with.
- 4- Buy plants that are Neonicotinoid-free. Read your labels or ask garden attendants questions prior to purchasing.

5- Download the Pesticide Research Institute's [Smart app](#) to get pesticide data on your iPhone while in the store or use their [website](#) to find out which products are toxic to bees.



Spring Wildlife Events

Boise WaterShed

11818 West Joplin Rd., Boise; (208) 489-1284
www.cityofboise.org/Bee/WaterShed/Home/index.aspx

April 15- WaterShed Weekend: Celebration and Opening of the River Campus

Join us to celebrate the opening of the River Campus! Meet the artists who have helped shape the River Campus' story about our watershed and create some art of your own. Help plant our agricultural areas with Boise Urban Garden School (BUGS). Tours will be offered throughout the day. There will be games, music, food trucks, and more! A public wastewater tour will be at 11:30 a.m. weather permitting. Closed toes shoes are required for the tour.

May 20- WaterShed Weekend: Public Works Week Celebration

Public Works – We're more than just wastewater! Join us from 10:00 a.m.– 1:00 p.m. to learn about the services you depend on every day. Learn about the new curbside composting program, the geothermal system, and Boise River monitoring. Check out aVac Truck. Compete in a recycle relay, and have fun getting wet in the River Campus. Learn about the incredible history of wastewater treatment in Boise and see some historical items from the early days. Wastewater tour begins at 11:30 a.m., weather permitting. Closed toe shoes required for the tour. No strollers, please.

Foothills Learning Center

3188 Sunset Peak Rd., Boise; (208) 514-3755
www.cityofboise.org/Bee/Foothills/index.aspx

April 6 - Tree Class: Tree Problems

Tree Problems with Debbie Cook, Boise City Arborist. Learn about some of the most common problems found on trees in the Treasure Valley. You'll learn about insects and diseases that affect our trees but also about the most common problems people create by incorrect cultural practices. You'll learn to identify the problems and will be given suggestions on how to correct them. FREE! To register, visit <https://bprwebtrac.cityofboise.org/wbws/wbtrac.wsc/wbsplash.html>
Activity Number: 335800-01

April 8 - Foothills Family Day: Spring Bird Bonanza

10am - 1pm; No pre-registration; free; please leave pets at home. Birds are beginning to return to Hull's Gulch! Join local ornithologist and bird conservationist, Terry Rich, as he shares the basics of bird identification by sight and song, and then go outside and explore! We'll have spring bird crafts and activities, as well as guided birding hikes! We may even have the chance to see the owls and hawks of the gulch as they prepare for their broods. Hoo Hoo lives in Hull's Gulch? You'll have to come and see.

April 12 - Sunset Series: Search and Rescue in Idaho's Backcountry

7-8:30 p.m.; No pre-registration; free; please leave pets at home. Do you want to hear about the harrowing experiences and epic rescues of the Idaho Mountain Search and Rescue Unit! Ron Christensen, vice president of IMSARU, and his fellow SAR members will be speaking about the "10 Essentials" for preparedness when venturing into the backcountry while also sharing some amazing stories. They will also be presenting their 24 hour packs which are essential to their backcountry rescues.

May 3 - Birding Series with Terry Rich: Bird Identification

8-9:30 a.m.; No pre-registration; free; please leave pets at home. Bird books and binoculars are available to borrow. Free! Time will be spent focusing on identifying the most common birds coming through Hulls' Gulch. There will be a short talk but most of the time will be spent outside birding.

May 10 - Sunset Series: Avian Adventures Abroad: Costa Rica

7-8:30 p.m.; No pre-registration; free; please leave pets at home. Costa Rica is an excellent place to take your first exotic birding trip. It's not too far away, has fabulous tanagers, toucans, hummingbirds, and other tropical species, and has great infrastructure. The national parks, lodges, and bird routes make it an easy starting place for the world of birding.

May 13 - Foothills Family Day: Sheep in the Foothills

10am - 1pm; No pre-registration; free; please leave pets at home.

June 10 - Foothills Family Day: Family Picnic Day

10am - 1pm; No pre-registration; free; please leave pets at home. We invite everyone to join us for yard games, face painting, live music, interpretive table talks, and more! Bring your picnic basket along with friends and family to enjoy the beautiful spring weather in the foothills!

SPRING WILDLIFE CELEBRATION

at the
MK Nature Center

600 S. Walnut, Boise

Saturday, April 29
10am - 4pm



\$3 per person (ages 3 and over)



Family Friendly Event ***

- ☀ Live Bird Presentations
- ☀ Wildlife Themed Education Tables
- ☀ Activities and Games

Burgerlicious Food Truck ☀ NOON-3:30pm



Questions? Contact Sue Dudley

sue.dudley@idfg.idaho.gov

208-287-2900



Conservation Corner

No Bull in the Panhandle

by Michael Lucid*, Regional Wildlife Diversity Biologist, Idaho Department of Fish and Game-Panhandle Region

If you ever dissected a frog in biology class it was probably a northern leopard frog. This species was, and remains, one of the more common North American amphibians throughout most of its range. But in parts of the Pacific Northwest leopard frogs population have declined dramatically in recent decades.

The last verified leopard frog observation in the Idaho Panhandle was in 1955 and declines have been so severe that there is only one known natural population left in all of northern Idaho or British Columbia (BC). The [Creston Valley Wildlife Management Area](#), about 15 miles north of Idaho, hosts a leopard frog population that has never disappeared. The extensive [Multi-species Baseline Initiative](#) (MBI) surveyed hundreds of ponds across the panhandle from 2013-14 but failed to detect a single leopard frog. What MBI did detect though was an ominous threat for the last known population in British Columbia's Creston Valley: bullfrogs.

American bullfrogs are not native to Idaho and pose predation, competition, and disease transmission threats to native amphibians. Bullfrogs will eat just about anything and stomach dissections studies have found grasshoppers, fish, crayfish, small mammals, and even entire ducklings (swallowed whole) in bullfrog stomachs. Bullfrogs real superpower though is they are cannibalistic and eat each other. What this means is they don't even need an adult food source for to colonize new ponds. Adults can lay eggs in a pond and, in a few weeks, tadpoles will emerge. The tadpoles convert plant material into protein and the adult bullfrogs eat their own tadpoles. In effect, bullfrogs just create their own ecosystem as they colonize new areas!

Northern Leopard Frog © Creston Valley Wildlife Management Area



Right now bullfrogs are colonizing Idaho Fish and Game's [Boundary-Smith Creek Wildlife Management Area \(BSCWMA\)](#), which abuts the international border and is just a few miles from the, so far, bullfrog free leopard frog colony. With hopes to recover leopard frogs in northern Idaho, and a need to protect other native amphibians like western toads, we are working with our Canadian partners to stop the northward bullfrog movement. This summer crews will be working on and around BSCWMA to remove bullfrogs by 'electrofrogging'. Crews will work at night to find bullfrogs, shine a bright light in their eyes, and use a specially designed electrofisher attachment to shock the bullfrogs. The bullfrogs will be stunned long enough to capture them and they will be humanely euthanized.

We aren't sure why leopard frog populations have declined in this portion of their range but a combination of factors is likely to blame. Disease, climate change, and non-native predators and competitors are some of the factors contributing to worldwide amphibian declines. In the Kootenai Valley, where this work is occurring, changes in valley hydrological patterns since the installation of Libby Dam is likely a compounding factor. What we do know is that a threat to an endangered population of frogs is moving steadily toward them. You can bet Idaho Fish and Game will be on the scene to deal with the problem!



Top: Non-native bullfrog; **Middle:** IDFG is working with Canadian partners to implement a bullfrog control program to protect an endangered population of northern Leopard frogs; **Bottom:** Western toad © IDFG/Michael Lucid.

News from the Field

Looking for Whitebark Pine in High Places

by Jennifer Miller*, Plant Research Ecologist, Idaho Dept. of Fish & Game

Whitebark pine is fairly common in Idaho, but populations are declining due to many factors such as catastrophic fires, climate change, infection with the non-native white pine blister rust, and damage from the native mountain pine beetle. At lower elevations, encroachment of coniferous species because of fire suppression has also led to declines in whitebark pine. In 2011, whitebark pine was designated as a Candidate for Threatened and Endangered listing in July, and as 'Vulnerable' (S3) by the Idaho Native Plant Society in October. These recent status changes led the Idaho Natural Heritage Program (part of the Idaho Department of Fish and Game) to partner with U.S. Fish and Wildlife Service to begin tracking whitebark pine in Idaho.

Whitebark pine is a long-lived and slow-growing tree that occurs in high elevations of Idaho. In fact, the oldest living whitebark pine recorded is over 1,270 years old, and is located on the Sawtooth National Forest in central Idaho! Whitebark pine is identified by its rigid bluish green needles that are in bundles of five, and range in length from 2.5 to 8 cm. The cones are unique - pollen cones are crimson, and the small egg-shaped seed cones lack prickles, range from 5 to 8 cm in length, and do not open when dry. The bark on young trees is smooth, and is whitish to grey, but becomes scaly over time. Whitebark pine often grows as stunted trees on windswept ridges.

Whitebark pine may be confused with western white pine in northern Idaho and limber pine in southern Idaho especially when seed or pollen cones are absent. Both trees have needles that are in bundles of five, but their seed cones are much larger (>8 cm long) and open when dry and the pollen cones, like most pines, are yellow to brown. Another Idaho conifer, lodgepole pine, has only two needles per bundle.

Whitebark pine is considered both a keystone and foundation subalpine species because of its role in structuring high elevation communities and stabilizing ecosystem processes. It is an important regulator of soil and snow dynamics as it stabilizes rocks and soil, protects snowpack, slows snowmelt, and modulates runoff and stream flow in high elevation watersheds. This species



Whitebark pine pollen cone. © IDFG/Lynn Kinter

provides critical habitat and is a crucial food source for many wildlife species including grizzly bears, Clark's nutcracker, and other small mammals and birds.

Whitebark pine relies largely on the Clark's nutcracker for seed dispersal and regeneration. Clark's nutcrackers are able to remove the seeds from unopened cones, fly to nearby areas, and then cache the seeds in the soil for later use when food is scarce. Cache sites are widely scattered and typically are favorable for seed germination and survival. Whitebark pine regeneration occurs when caches are not retrieved before snowmelt. As a result, whitebark pine often grows in clusters of several trees.

So if you are out and about in Idaho's high places and come across whitebark pine, we would like to know. An easy way to share your information is by accessing the Idaho Department of Fish and Game website (<https://idfg.idaho.gov/species/observations>) and filling out either a Basic Observation or Rare Plant Observation Report form.



Top: A Clark's nutcracker prying seeds from a cone of a Whitebark pine. © (CC-BY-SA) by Marshal Hedlin on Flickr CC **Middle:** Whitebark pine seed cone © IDFG/Lynn Kinter; **Bottom:** Whitebark pine. ©IDFG/Jennifer Miller



Watchable Wildlife



Help us track monarchs and milkweed across the west

Monarch populations across North America are in serious decline. To preserve and protect populations in western states, we need to better understand where monarchs and their milkweed host plants occur in the landscape.

Your help is critical in collecting data to better inform conservation efforts in the Western U.S.

About

This project is part of a collaborative effort to map and better understand monarch butterflies and their host plants across the Western U.S. Data compiled through this project will improve our understanding of the distribution and phenology of monarchs and milkweeds, identify important breeding areas, and help us better understand monarch conservation needs.

See more at: <https://www.monarchmilkweedmapper.org>

How Can You Help?

Your help is critical to the success of this project!

- Sign up for an account: <https://www.monarchmilkweedmapper.org/app/#/user/signup>
- Upload your photos of monarchs and milkweeds;
- Identify milkweeds using our milkweed key, which profiles over 40 milkweed species found in the west;
- Submit data which will help researchers determine the distribution, phenology, and conservation needs of monarchs and milkweeds in the west; and
- Learn about monarchs, their host plants, and ongoing conservation efforts for these species.

Participating in the project is simple. Once you have an account, go out and start looking! Check your local parks, natural areas, gardens, and even roadsides. We're looking for all stages of monarchs, so don't forget to look at milkweed leaves and stems to see if caterpillars or eggs are present. Snap a few photos (learn more about how to photograph milkweeds and monarchs here) and then sign in and submit your data via our Milkweed and Monarch Sightings forms. Have fun while learning more about monarchs and the special habitats they use in your area!

How to Submit a Sighting

1



Take a photo of a monarch and/or milkweed

2



Login and upload your photo(s)

3



Identify your sighting

4



Submit your sighting!!



NONGAME WILDLIFE CONSERVATION FUND

Help conserve Idaho's wildlife and their habitats.

The Idaho Department of Fish and Game receives no state tax dollars and nongame wildlife receive no revenue from the sale of hunting and fishing licenses.

By making your tax-deductible contribution, you are helping to protect over 90% of Idaho's wildlife diversity as well as supporting important conservation education and watchable wildlife programs.

Do something wild and donate today!



Burrowing owl © Mike Morrison

Donate Today!

Idaho Tax Form 40, Line 33

Check It and Protect It!

Thank You for Your Support!



Song sparrow © Mike Morrison

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



Windows to Wildlife

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