Windows to Wildlife



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Tigers in Idaho

by Ross C. Winton*

Magic Valley Region Wildlife Diversity Biologist, Idaho Dept. of Fish & Game

Most people don't believe me when I tell them we have tigers in Idaho. They have stripes, hair, are voracious predators and they have six legs...that's right six legs. I am talking about tiger beetles. These small insects live in mostly sandy or shoreline habitats in Idaho and can be found across the entire state from mountain peaks to our southern deserts. Idaho can even boast its only species that are found nowhere else in the world. The Bruneau Dunes Tiger Beetle (*Cicindela waynei*) was first discovered in the early sixties at Bruneau Dunes State Park but it was not known to be a distinct species until 2001 when it was distinguished from its sister species, also an Idaho endemic, the St Anthony Dunes Tiger Beetle. The beetle is a bright coppery green and can be found in the spring at Bruneau Dunes state park running across open sand dune faces pursuing insect prey.

The larvae (immature) of the Bruneau Dunes Tiger Beetle also live in the sands at Bruneau but you won't find them running about, they stay put in a small vertical tunnel waiting for prey to wander by and be snapped up by long powerful jaws. After mating in the early spring female tiger beetles carefully select a site to lay eggs based on the soil moisture, pH, and sand size. She then burrows into the sand, lays a single egg and leaves. That spot she selected will be that immature beetle's home for the next 3-4 years. A few weeks after it was laid the small larvae creates a vertical burrow to the surface and waits. Imagine a hole in the ground 1mm wide and then imagine what it would take for something to fall in the hole. Not many food options are available when you are that size and the intermittent food supply is what takes the immature beetle so long to reach maturity, pupate and emerge as an adult tiger beetle. The beetles have adapted to this life cycle and have persisted at the dunes for millennia.

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In recent years the dunes have been colonized by a new species that is familiar to many across the west, cheat grass. Sage grouse, mule deer and other sage brush obligate species are not the only ones suffering from the effects of the cheat grass incursion, sand dunes across the west are disappearing due to annual grass encroachment. Most dunes in Idaho are created by sand being blown from one location to the next in a process called Aeolian deposition. When cheat grass enters into a sand dominated system it begins to stabilize the soil and increase the organic soil content of the sand and soon halts sand movement. Over time new plants are able to move in to the newly created habitat and the process of vegetation succession begins. Bruneau Dunes has seen many parts of the park completely stabilized as a result of cheat grass and many other nonnative species such as Crested Wheatgrass, Russian Thistle, and Tumble Mustard. This whole suite of non-native species in combination with regular fires has led to an extensive loss of dune habitat across southern Idaho and continues to be a major threat to the species associated with this beautiful and unique habitat.

Many of the traditional methods for combating invasive weeds don't work as effectively in sandy systems because every time the sand is opened back up and allowed to move the invasive weed seed bed is re-exposed and new plants emerge. In essence the mechanism that created the dunes is slowly destroying it and we are left to scramble to find solutions to save these unique Idaho land features. Idaho Fish and Game Diversity Program Staff have been monitoring Bruneau Dunes Tiger Beetles for almost ten years and have seen a steady decline in usable habitat and beetle populations in and around Bruneau Dunes. We haven't lost hope that we can halt the spread of cheat grass and other non-natives at Bruneau and every day new research provides us with new techniques that will allow us to preserve not just the dunes but the species that depend on them for years into the future. If you have not visited any of Idaho's dunes you are missing out on an amazing experience. The spring is often the best time of year to visit the dunes as it is cooler and the wildflowers and migratory bird activity is booming. Campground facilities, hiking & equestrian trails, and the visitors center/observatory are just many amenities that will allow you to better enjoy Idaho's dunes and wildlife species.



Bruneau Dunes tiger mating behavior @ Ross C. Winton, IDFG



Bruneau Dunes tiger beetle habitat © Ross C. Winton, IDFG



arval burrow of the Bruneau Dunes tiger beetle © Ross C. Winton, IDFG.



Bruneau Dunes tiger beetle © Ross C. Winton, IDFG

Watching Idaho's Wildlife

Hit the Road with a New Friend-The Highway 21 Wildlife Viewing Guide is Now Available!

The Idaho Department of Fish and Game and Boise and Sawtooth National Forests have developed a new Boise-to-Stanley State Highway 21 Wildlife Viewing Guide in time for National Get Outdoors Day – June 14th.

The viewing guide includes 18 locations where a traveler can stop with an opportunity to learn about wildlife, fish, wildflowers and pollinators that inhabit the foothills to high elevation forests.

"The Ponderosa Pine Scenic Byway provides the perfect backdrop for this new guide," said Edna Rey-Vizgirdas, Forest Botanist and a guide initiator. "It's exciting because of the diversity of plant communities which provide habitat for hundreds of wildlife species including moose, black bear, elk, snowshoe hare, red fox, songbirds and ospreys."

Vizgirdas added families can use the guide to help plan day trips, short hikes or even extended visits to enjoy the natural world on a deeper level.

The Idaho Department of Fish and Game has integrated the guide into their Watchable Wildlife program, said Program Coordinator Deniz Aygen.

"This is an opportunity for residents and visitors to take a beautiful drive and potentially see wildlife," Aygen said. "The guide features sites where people can explore unique wildlife habitats, see beautiful country and enrich their appreciation of nature."

The Guide is free and is available as a printed brochure at the Idaho Department of Fish and Game, the Boise National Forest, and the Idaho Parks and Recreation offices in Boise. It is also available as a downloadble PDF here: http://fishandgame.idaho.gov/explore



PONDEROSA PINE SCENIC BYWAY



Conservation Corner

The Sticky Subject of Glue Traps

by Beth Waterbury* Salmon Region Wildlife Diversity Biologist, Idaho Dept. of Fish & Game

None of us is overly fond of sharing our homes with mice and rats. These common rodents can contaminate food, gnaw through electrical wiring, and possibly transmit diseases. The two main methods of control offered by the pest control industry are trapping and rodenticide. Each method carries the risk of unintentional death of non-target wildlife. One rather under-the-radar and deadly trapping method is the glue trap, which can be especially lethal to bats.



Glue traps are manufactured and marketed worldwide by the pest control industry as an effective, non-toxic pest management tool for the control of "unwanted" pests such as insects and rodents. The traps consist of cardboard tents, fiberboard, or plastic boards coated with glue to capture and hold pests securely. Manufacturer directions tout the convenience of glue traps: how easy they are to set; no messy baits; no snapped fingers; just place and dispose. There is even a "No See" glue trap for those unable to stomach the sight or touch of a dead animal. In fact, glue trap advertising and packaging carefully uses discreet code words such as capture, hold, or secure to bypass the reality of death by dehydration, starvation, exposure, suffocation, or predation. Because of the potential for animal injury, suffering, and distress, glue traps have been banned in Ireland and Victoria, Australia, with several countries debating their future use.

A Conservation Officer in Stanley, Idaho, responded to a call reporting dead bats in a residence. The officer retrieved the bats and transferred them to me for possible rabies testing. When I opened the package to investigate, I found two dead Little Brown Bats mired in the sticky adhesive of a mouse glue trap. The traps had been set indoors to capture mice, but the bats found their way into the building through a vent pipe. They may have been attracted to the buzz and vibration of glue-trapped insects. Even set indoors, glue traps do not discriminate between species. Set outdoors, the net is cast wider to include non-target birds, reptiles, amphibians, squirrels—even pets. In fact, the incidence of glue trap accidental catch is so common, wildlife rehabilitation groups, including Bat World Sanctuary (www.batworld.org/resources/ibra.html), post instructions for safely removing wildlife from glue traps.

Awareness of the glue trap issue is a first step toward minimizing their unintentional impact on wildlife. Use your consumer power to choose more humane pest control options, such as live traps integrated with preventive measures. If glue traps are used, place them responsibly in secured indoor areas and check traps frequently for target and non-target captures. Taking personal responsibility in using glue traps and other pest control methods can make a real difference in the lives of wild creatures we treasure.

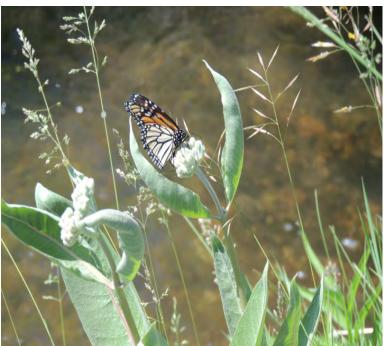


Bat stuck in a glue trap © Beth Waterbury

News From the Field

Milkweed and Migrating Monarchs- Why Milkweed is Not a Weed

by Toni K. Ruth* Wildlife Technician, Idaho Dept. of Fish & Game, Salmon Region



Monarch feeding on milkweed. © Toni K. Ruth, IDFG.

Named for the thick white sap the plant releases from a broken leaf or cut stem, milkweed is a native flowering plant of North America. While the unfortunate name conjures up images of an invasive weed requiring removal, milkweed is the required host plant for the monarch butterfly (*Danaus plexippus*) whose populations have been in decline for over a decade. Monarchs lay their eggs on milkweed and their larvae (or caterpillars) feed exclusively on this genus of plants, known as *Asclepias*. Monarch larvae feed on at least 27 different North American milkweed species. The well-known southwesterly to northeasterly migrations of monarchs follow the distribution of milkweed, showcasing a fascinating and intricate relationship developed over thousands of years. Idaho named them as the state insect in 1992.

During what is known as the longest-distance insect migration on Earth, monarchs can travel roughly 50 miles per day. In spring, summer, and fall, most monarchs breed east of the Rocky Mountains with some individuals making a fall migration as far as 3,100 miles to overwinter sites in Mexico. A smaller, less well known population of monarchs breeds in states west of the Rocky Mountains, including Idaho. In the fall, adult butterflies in the west do not migrate quite as far as their eastern relatives, spending winter in roosts along the California coast. Amazingly, monarchs make these journeys flying in masses to the same winter roosts, often to the exact same trees where thousands of butterflies cluster together to stay warm.

In late February and early March, adult monarchs depart their winter roost sites and begin their northeasterly migration in search of milkweed plants on which to lay their eggs. These butterflies are not the ones that reach our northern latitudes. Instead they die along the way, but not before first laying eggs that hatch into a new generation to continue the trip. About three to five generations of monarchs, each living about five weeks, are born each spring and summer as they move north. In Idaho and other places north of the 35th parallel, milkweed has not matured and started to bloom until early to mid-June. Depending on temperatures, monarchs start arriving in Idaho in late May through mid-June. Of course the best place to observe their arrival and watch their life-cycle play out is by visiting a local patch of milkweed.

Milkweeds are perennials that grow in grasslands, deserts, forests, and along roadside ditches, most often in full sun. They have distinct opposite leaf patterns, showy flowers, and unique seed pods. Idaho has six species of native milkweed – showy milkweed, narrow-leaved milkweed, swamp milkweed, horsetail milkweed, pallid milkweed, antelope horns – and all have a unique and fascinating pollination mechanism. The complex flower structure of milkweed, comparable only to that of the orchid family, draws the attention of hummingbirds and serves as an important nectar source for many insects including the honeybee (*Apis mellifera*). In turn, milkweed relies on various butterflies, moths, bees, ants, and wasps for pollination and seed formation.

After locating milkweed plants, female monarchs quickly get to work depositing eggs, but not all on the same plant. A single female monarch lays one egg per milkweed plant and lays over 400 eggs across a large area. Four to twelve days after an egg is laid, a small monarch larva emerges by eating through its eggshell, which provides a valuable first meal. In about two weeks, the larva grows 200-300 times its original body mass and sheds it skin five times as it develops through five instars.

The development of larvae holds another secret tied to milkweed plants. Only after it begins to eat milkweed and sequester a cardenolide toxin does the larva develops its characteristic white, yellow, and black stripes that warns would-be predators it is unpalatable. Even with toxins and warning-coloration, monarch eggs and larvae have a slim chance of reaching adulthood. Invertebrate predators, pesticides, diseases, and hot dry conditions cause high levels of monarch mortality. The roughly 10% of larvae that reach adulthood retain the toxic compounds in their wings and exoskeletons, causing birds and other vertebrates who have had a bad tasting experience to avoid the orange-black colored adult butterflies. Another small butterfly, the viceroy, mimics the monarch's color pattern. Although it does not feed on milkweed and is not toxic, this smaller monarch look-alike benefits by living where monarchs do.

At the end of the instar phases, the monarch larvae typically wander several meters away from the milkweed patch to pupate on vegetation with greater structure, such as willow. There, hidden away in the pupa or chrysalis, an astonishing transformation from caterpillar to the familiar orange-black adult occurs in nine to fifteen days. Within only three to eight days, newly emerged adults will mate as they migrate to the north in search of the next mature milkweed to deposit the next generation of eggs on.

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News From the Field, cont...

In late summer and early fall, as milkweed plants mature and die, day length decreases, and temperatures begin to drop, the last group of monarchs emerges. Such unfavorable conditions serve as cues for this last generation of adult monarchs to suspend reproductive development (a state known as diapause) and begin their migration south to overwinter roost sites. These adults are the great, great grandchildren of the monarchs that first made their way north in the spring. Unfortunately, fewer and fewer monarchs are making the trip to roost in California and Mexico. Both eastern and western populations are crashing.

Since 1997, citizen scientists have monitored California's overwintering monarchs, documenting 80% or greater declines in butterfly numbers at many sites. Several factors are implicated, including the loss of available overwintering tree groves due to development, and the aging and death of other groves. Losses of milkweed from grassland conversion and herbicide spraying are also contributing to monarch declines. Scientists believe long-term drought could further impact milkweed.

While overwintering sites of monarchs have been well-studied, very little is known about where and when monarchs breed in each of the western states. This underscores the need to better understand the status of monarchs and their habitat. The Monarch Larva Monitoring Project, Monarch Watch, and the Xerces Society reveal very few records of milkweed and monarch breeding in Idaho. This lack of records prompted Idaho Fish and Game Wildlife Diversity Biologist Beth Waterbury to initiate surveys for milkweed in the Salmon Region. As the lead for this summer's survey effort, I am working with citizen scientists, BLM and Forest Service personnel, local weed sprayers, and interns with the nonprofit Salmon Valley Stewardship to help map milkweed and document monarch presence. Data collected by volunteers are being used to raise local awareness, reduce herbicide spraying of milkweed, and contribute to the larger international citizen science effort coordinated through the Monarch Larva Monitoring Project (mlmp.org) at the University of Minnesota.

Anyone can keep an eye out for milkweed and monarchs as a citizen monitor in Idaho. Getting started is simple with several online resources. Observations can be submitted to monarchwatch.org, xerces.org, and mlmp.org. Planting native milkweed and other native flowers, as well as avoiding the use of herbicides and pesticides, are additional activities that benefit monarchs and many other pollinators.





Turn your backyard into a monarch waystation! Register at: monarchwatch.org

Monarch Larva Monitoring Project- get involved at: mlmp.org

Submit your monarch and butterfly sightings to eButterfly! e-butterfly.org

Monarch butterfly populations are on the decline.

Overuse of herbicides and loss of habitat is detrimental to butterflies.

Conservation and restoration of milkweeds can help!



Monarch tagging programs help to determine migration movements. Photo by Deniz Aygen



"A really big caterpillar" by Denny Brooks (mlmp.org/gallery)

Summer Wildlife Events

Boise Watershed

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

The Boise WaterShed is open every 3rd Saturday of each month from 10 am - 2 pm as part of the Watershed Weekend series. Join us for an outdoor walking tour of the Wastewater Treatment Plant at 1 pm. FREE admission! No pre-registration required unless indicated.

July 19 - H2o Yeah Water Games and Conservation Join us between 10:00 and 1:00 to have some fun while learning about how to conserve water this summer. Kids will love the outdoor water relay races and water gun battles on our lawn. Inside the exhibit hall, children and adults will learn all about water conservation at home: take the conservation quiz, see permeable pavement in action, and make prints of water symbols with artist Amy Nack. At 10:30, join local expert Kevin Dugan to learn how to set up a rain barrel system at home. See our rain cistern and tour the waterwise garden for ideas. Kids participating in water games should bring a towel or a change of clothes.

Bruneau Dunes State Park

27608 Sand Dunes Rd., Mountain Home; (208) 366-7919 http://parksandrecreation.idaho.gov/parks/bruneau-dunes

Star Gazing

Friday & Saturday evenings until October 11; 8pm You're invited to star gaze at the Bruneau Dunes Observatory! See the night sky as you've never seen it before. Program start-time listed is approximate and dependent on sunset. Observatory tours and solar viewing (through a specially adapted telescope) begin one hour before sunset, and are free of cost. Following that, visitors can view short orientation program and then have the chance to survey the heavens through the observatory's collection of telescopes. There is a viewing fee of \$3 per person (children 5 and under are free of cost) for this. Attend a presentation in the Steele-Reese Education Center. View a planet, nebula, the moon, or a galaxy through the "Obsession" 25-inch Newtonian Reflector telescope. Sky viewing begins after presentation.

Craters of the Moon National Monument

Arco, ID; (208) 527-1300

http://www.nps.gov/crmo/index.htm

SUMMER WALKS AND TALKS- Everyday until September 1, 2014.

Patio Talks: Visitor Center

Daily at 11:00 a.m., 2:30 p.m. and 4:30 p.m. (15 min.)

Enjoy a short presentation in a shady spot on the visitor center plaza. Check at the visitor center for topics.

Cave Walks: Caves Area trailhead

Daily at 1:00 p.m. and 4:00 p.m.; also at 9:00 a.m. Fri.-Sun. ($1\frac{1}{2}$ hours, 1 mile)

Follow the trail through seas of ropy lava into the strange underground world of a lava tube. Wear sturdy close-toed shoes, bring a flashlight, water and a cave permit but leave equipment used in other caves in your car.

Broken Top Hike: Broken Top Loop Trailhead/Tree Molds lot

Mon. - Thurs. at 9:00 a.m. (2 hours, 1.8 miles) Hike over, under and around a volcano on this fascinating hike. Bring sturdy shoes, water, a flashlight and a cave permit for exploring Buffalo Caves but leave equipment used in other caves in your car.

Evening Stroll: Campground amphitheater Nightly at 7:00 p.m. (30 min., .25 mile)
Take a short hike to a panoramic view of the North Crater Cinder Cone and the lava landscape that surrounds it.

Junior Rangers: Campground amphitheater Nightly at 8:00 p.m. (30 min.) Learn to be a Ranger! Fun activities for kids ages 6-12. Parents are welcome too.

Evening Program: Campground amphitheater Nightly at 9:30 p.m.; 9:00 p.m. in August and 8:30 p.m. in September (45 min.)

Rangers present different presentations each night on the natural and cultural history of the park. Check at the visitor center for topics. Bring a jacket and carry a flashlight for the walk back to your campsite.

Foothills Learning Center 3188 Sunset Peak Rd., Boise; (208) 514-3755

www.cityofboise.org/Bee/Foothills/index.aspx

Second Saturday Series: Programs are from 10am to 2pm. All ages welcome! Free; no registration is required. Please leave pets at home, thanks!

July 12- Wildfires in the Foothills

By now it should be hot and dry in Boise and the hills are ripe for fire. Come and learn about the history of fire in the foothills, how fires have changed in recent years, and what you can do to prevent them. Watch a mini forest fire demo ignite before your eyes! Meet a wildland firefighter, see and try on the gear they wear, and maybe even get to climb around on a brushtruck if they are not all out on fires! Watch some amazing footage of past fires in the foothills. This will be a fun and informative day for all ages.

Sunset Series: Fun, Free, Adult education! No preregistration is required. Please leave pets at home, thanks! Classes are from 7-8:30pm.

July 9- Ready, Set, Go! Wildlife is coming: are you ready?

As the wildfire season is upon us, come and learn more about how you can prepare for and reduce the risk of wildfires. Do you have your evacuation plan, emergency supply list and inventory of your household? Learn how you and your neighbors can make your homes more Firewise, hear about ongoing wildfire prevention projects around Boise, and more. This adult program is a great "warm up" for our all-ages fire program coming up on Saturday, July 12th. We hope you will join us for one or both of these timely events.

July 23- Art Dedication-Medicine Wheel

Please join us and members of the McCord family as we dedicate our third public art piece- Medicine Wheel - created by Boise artists Marianne Konvalinka and Lynn Fraley. It will be installed on the north side of the FLC and represents the Earth element. Nestled in a guiet spot under the shade of the trees, this piece will provide a place for rest and contemplation. The work was funded by the McCord family who lived on this property from 1966 - 1997. The McCord children sponsored this piece in memory of their mother and father, Carol and Joel, who loved the earth, its natural beauty and the creatures that call it home. "To wind and rain blow a kiss; gather now what you may miss." (author unknown). This quote, a favorite of Carol McCord's, is the inspiration for this piece, and will now be a permanent part of our landscape. This project is administered by the Boise City Department of Arts & History.



Wildflower Viewing Around Idaho

by Lynn Kinter, PhD* State Botanist, Idaho Dept. of Fish & Game

Idaho has many wonderful areas to see wildflowers. Here are a few favorites from around the state. These sites are at their peak in mid-to-late summer.

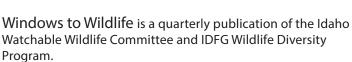
Location	County	Main bloom	Showy species sampler
Bloomington Lake	Bear Lake	late June-July	Parry's primrose, alplily, mountain sorrel, penstemon, death camas, columbine, bluebells
Bogus Basin & Mores Mountain	Boise	míd-June-August	biscuitroot, serviceberry, penstemon, paintbrush, buckwheat, gilia, wooly sunflower, horsemint
Scott Mountain Lookout	Boise	late June-mid-July	balsamroot, paintbrush, penstemon, bluebells, onion, buckwheat
Boulder Meadows	Boundary	mid-July-early August	beargrass, elephanthead, paintbrush
Roman Nose Lakes	Boundary	July	beargrass, Cascade azalea, columbine, alpine laurel, penstemon, fireweed, elephanthead, mountain sorrel
Wells Summit, north of Fairfield	Camas	July	balsamroot, buckwheat, lupine, paintbrush, penstemon, prairiesmoke, phacelia
Mount Harrison	Cassia	mid-late July	paintbrush, penstemon, sticky geranium, lupine, yarrow
Keg Springs Road	Clark/Fremont	mid-July-early August	paintbrush, lupine, small sunflower, mariposa, geranium, larkspur, wild hollyhock, aster, groundsel, fleabane
Stanley Basin	Custer	late June-July	elephanthead, camas, gentian, green gentian, monkeyflower, penstemon, bistort, groundsel
House Mountain	Elmore	mid-June-mid-July	balsamroot, buckwheat, lupine, biscuitroot, currant, scarlet gilia, mountain trumpet, monkshood, paintbrush
Trinity Lakes & Trinity Peak (Trinity Mountain)	Elmore	mid-June-July	scarlet gilia, phlox, sugarbowl, peony, penstemon, larkspur, shooting star, elephanthead, corydalis, yarrow
Harriman State Park	Fremont	late June-July	mules ears, blue-eyed grass, lupine, monkshood, elephanthead, gentian, mariposa, purple marshlocks
Sawtell Peak	Fremont	July-August	columbine, mariposa lily, paintbrush, Easter daisy, small sunflower
Heaven's Gate Lookout	Idaho	July	lupine, phlox, penstemon, buckwheat, stonecrop, paintbrush, phacelia, iris, trillium, arnica, trout lily
18-mile Wilderness Study Area	Lemhi	late June-late July	elephanthead, marsh marigold, phlox, cutleaf daisy, cinquefoil, shooting star, penstemon, sky pilot, yellowbells
Lemhi Pass	Lemhi	mid-June-late July	glacier lily, fritillary, bluebells, lupine, cinquefoil, sandwort, draba, fleabane
Ship Island & Birdbill Lakes in Bighorn Crags	Lemhi	early August	penstemon, paintbrush, spirea, elephanthead, bistort, shooting star,
Bear Valley (Forest Service Roads 579 & 582)	Valley	mid-June-July	camas, mules ears, groundsel, elephant head, shooting star, penstemon, bistort, lupine, cinquefoil
Snowbank Mountain	Valley	late June-July	lupine, paintbrush, phlox, shooting star, penstemon, sandwort, bluebells, spring beauty

^{*}Many thanks to Derek Antonelli, Sue Birnbaum, Alexia Cochrane, Wendy Hoffman, Juanita Lichthardt, Dave Lingle, Jennifer Miller, Chris Murphy, Marilyn Olsen, Kristen Pekas, Kyra Povirk, Beth Waterbury, and Ross Winton for their assistance.



Kootenai NWR © Mike Morrison

Windows to Wildlife Wildlife Diversity Program PO Box 25 Boise, ID 83707-0025



Deniz Aygen — Editor

deniz.aygen@idfg.idaho.gov 208•287•2750

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