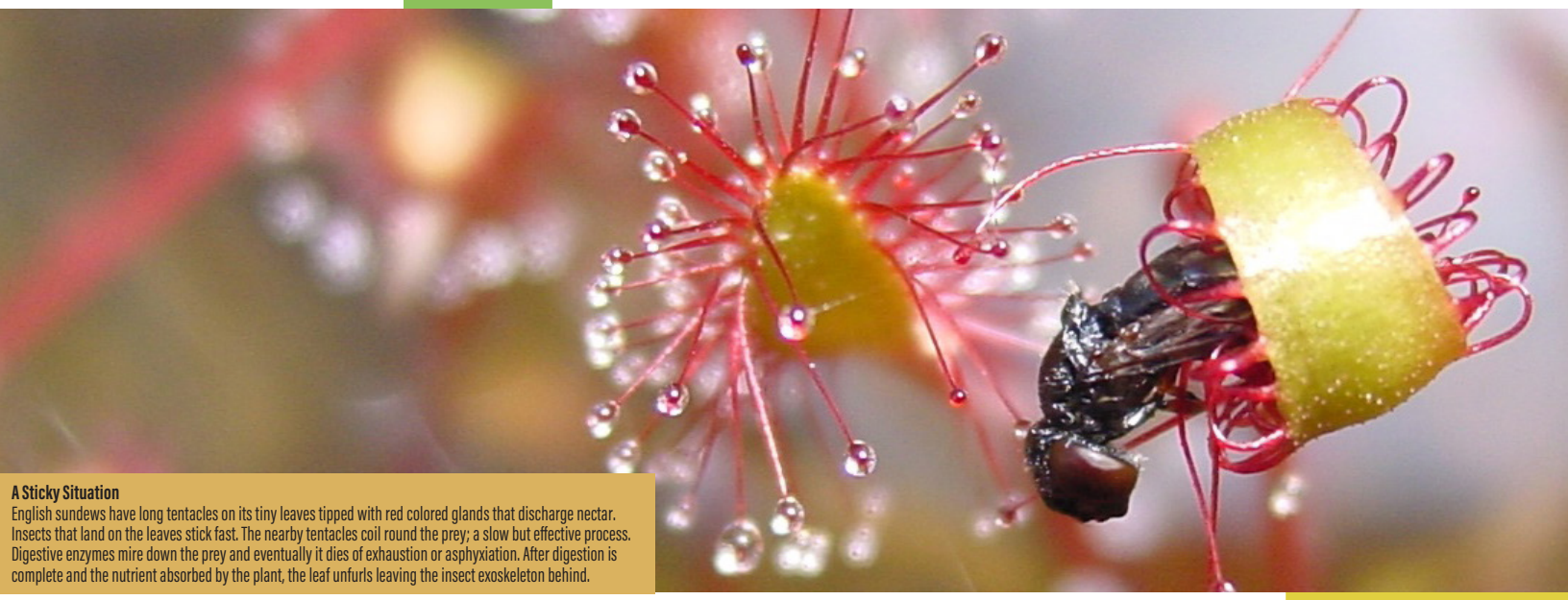
Idaho Watchable Wildlife

SPRING 2022

Windows to Wildlife

Your support at work in Idaho's landscapes



A Sticky Situation
English sundews have long tentacles on its tiny leaves tipped with red colored glands that discharge nectar. Insects that land on the leaves stick fast. The nearby tentacles coil round the prey; a slow but effective process. Digestive enzymes mire down the prey and eventually it dies of exhaustion or asphyxiation. After digestion is complete and the nutrient absorbed by the plant, the leaf unfurls leaving the insect exoskeleton behind.

Idaho's Cool Carnivorous Plants

by Lynn Kinter*, Lead Botanist
Idaho Department of Fish and Game

Many us picture carnivorous plants growing in steamy swamps, such as those of North Carolina that harbor the famous Venus flytrap (*Dionaea muscipula*). But cold, arid Idaho also has its share of cool carnivorous plants! Our state is home to at least six meat-eating species, all of which grow in wet sites such as fens and marshes. In these water-logged habitats, nitrogen and other nutrients are often not available due to low pH and leaching, so the carnivorous plants obtain nutrients from their prey.

SUNDEW *(Drosera)* in the Sundew family

Photo:Roundleaf sundew/public domain

Sundews are small forbs with spiny-looking leaves. Each 'spine' is actually a stalk with a gland on top that emits drops of 'glue' to trap an unwary insect that lands on it, much like flypaper. As the insect struggles, the sundew leaf slowly wraps around the insect. Stalkless glands on the surface of the leaf then secrete enzymes to digest the insect and absorb its nutrients.

In Idaho, sundews grow in mid-elevation fens, wet meadows, and lakeshores. They form low rosettes (< 10 cm tall) of bright green leaves speckled with red stalks, and their translucent drops of glue glisten in the sun. Plants usually produce one or two flowering stems with several white blooms. The flowering stems are markedly taller than the leaves, probably so that pollinators can reach the flowers without being trapped. The plants are perennial and form hibernacula—buds of tightly curled leaves—to survive the long, cold Idaho winters.

CONTENTS

Photo: English sundew/Lauren Studley

Two species of sundew are documented in Idaho. A third, intermediate sundew (*D. intermedia*), has been falsely reported based on a misidentification. **Roundleaf sundew** (*D. rotundifolia*) has prostrate leaves shaped like ping-pong paddles, hence the species name, which is Latin for 'round leaf'. It is known from Idaho's northern panhandle, as well as Washington and Idaho counties. It is also found on the Pacific Coast, the northern and eastern US, and across Canada, Northern Europe and Asia.

Charles Darwin used roundleaf sundew to show that plants did, in fact, eat animals. Prior to his work, most botanists did not accept that plants could be 'insectivorous'. Darwin tested various substances, including meat, sugar, urine, and olive oil, and found that sundew leaves reacted only to substances containing nitrogen.

English sundew, or great sundew, (*D. anglica*) has slender, strap-like leaves that ascend upward at an angle of >45° from the ground. It was first described in England, and is found at higher latitudes around the globe, as well as a few southern areas, including Hawaii and California. In Idaho, this beautiful sundew is known from the northern part of the panhandle, with isolated occurrences also in Valley, Custer, and Fremont counties.

As popular houseplants, sundews are susceptible to overharvest in some parts of their global range. Other threats include pollution, siltation, peat mining, and water diversion. Drought can be lethal to the plants, but populations sometimes regenerate from their soil seed bank. Fire suppression can lead to encroachment of shrubs and trees that shade out the sundews. Ants, spiders, and toads are known to steal prey from sundew leaves, and can be direct competition when insects are in short supply.

Photo: Bladderwort and duckweed/Lynn Kinter, IDFG

BLADDERWORT *(Utricularia)* in the Bladderwort family


Photo: Common bladderwort/Doug McGrady on Flickr


Photo: Lesser bladderwort/Chris Moody on Flickr


Photo: Flatleaf bladderwort/Pete and Noe Woods on Flickr

Idaho is also home to the fascinating bladderwort. Its scientific name, *Utricularia*, is Latin for 'little bag'. Its common name refers to bladders along its underwater stem, along with 'wort' — the Old English word for 'plant'. These bladders pump fluid out of their interior, and have a trap door with trigger hairs. As a prey animal swims by, the door snaps inward, allowing water and prey to rush in, then slams shut. The time span of suction itself is half a millisecond — the fastest trapping movement of all carnivorous plants, and among the fastest movements known in the plant kingdom. New Jersey botanist Mary Treat, working in the 1870s, was the first to describe their suction mechanism, which had been an enigma to researchers of that time. Suction traps are found only in bladderworts; other carnivorous plants use different mechanisms, such as snap traps and pitfalls.

While some bladderworts are terrestrial, the Idaho species float or are rooted in shallow, slow-moving waters of fens, streams, ponds, and lakes. They often band together and form large floating mats. To ride out Idaho winters, our bladderworts produce small bulb-like buds, known as turions, which sink to warmer strata at the bottom of the water column. Turions are produced by other aquatic plants, such as pondweed (*Potamogeton*), and by a few terrestrial plants, such as asparagus (*Asparagus*) and some species of willowherb (*Epilobium*).

All Idaho bladderwort species have yellow flowers that resemble those of snapdragons, with the petals fused to form an upper lip, lower lip, and spur. In field surveys, bladderworts are often found without flowers, but can be identified based on leaf, branch, and turion traits. Some of our species are perennial, others annual, or both.

Common bladderwort (*U. macrorhiza*, *U. vulgaris ssp. macrorhiza*) is Idaho's largest and most widespread species. Found throughout the northern, central, and eastern parts of the state, it is easily spotted when its bright yellow flowers up to 20 mm long rise above the water surface some 20 cm.

Lesser bladderwort (*U. minor*) is minuscule compared to common bladderwort. Its pale yellow flower is only 8 mm long, and the lower lip juts out well past the upper lip. It is known in Bonner, Boundary, Custer, Fremont, and Boise counties. Also found at low levels across the northern and western US, it is of conservation concern in many states.

Flatleaf bladderwort (*U. intermedia*), with flowers up to 16 mm long, is intermediate in size between common bladderwort and lesser bladderwort. It is reported from Boundary, Bonner, Kootenai, Teton, and Bear Lake counties. Its range across the US is similar to lesser bladderwort.

Humped bladderwort (*U. gibba*) has flowers up to 12 mm long. Its specific epithet is Latin for 'hump' or 'swelling' in reference to the inflated base of the lower lip of the corolla. This species is documented in Bonner, Custer, Fremont, and Kootenai counties, but most US reports are on the west coast, and the eastern and central states. It is on the Idaho Rare Plant List, and is ranked as 'Critically imperiled' in the state due to few occurrences and high threats, including hydrologic change, development, and fire suppression resulting in trees and shrubs encroaching and shading formerly open sites.


Photo: Humped bladderwort/Melissa McMasters on Flickr

Other Carnivorous plants

In addition to bladderworts and sundews, **California butterwort** (*Pinguicula macroceras*, *P. vulgaris ssp. macroceras*) may occur in Idaho. California butterwort was collected in northeastern Washington on the Pend Oreille River in 1969 and 1979, and in 1937 on the Kootenay River in southern British Columbia, so if you visit far northern Idaho, keep an eye out for it.


Photo: California butterwort/public domain

California butterwort grows in shady seeps and river banks. With pale to dark purple flowers, it looks at first glance like a tall violet. Its leaves are often yellow or rusty orange, and form a low rosette. The upper surface is covered with sessile and stalked mucus glands — much like sundew, however the leaves and stalked glands don't move as much as those of sundew. The common name is related to use of the leaves to curdle milk and treat udder ailments, and possibly because they feel buttery. 'Pingui' is Latin for fat, greasy, or stout.

There are no records of **pitcher plant** (*Sarracenia*) in Idaho, though it is known from central Washington. **California pitcher plant**, or cobra lily, (*Darlingtonia*) is limited to the western parts of California and Oregon. Both genera use pitfall traps — long narrow upright tubes with a pool of digestive liquid at the bottom.


Photo: California pitcher plant/Judy Gallagher on Flickr

Idaho is far from the native range of **Venus flytrap**, which is limited to a small area on the North Carolina/South Carolina border. However, this fascinating carnivore is naturalized at Summer Lake in Skagit County, Washington.

In addition to the genera described above, one other carnivorous plant is native to North America. **Powdery-strap air plant** (*Catopsis berteroniana*) looks like a giant pineapple top, and is in the same family — the bromeliad family (Bromeliaceae). Living on trees in Florida, its strap-like leaves form a tank that holds rainwater. A powdery coating on the leaves causes insects to lose traction and fall into the water, from which the plant can absorb nutrients.

Carnivorous plants are uncommon in our state in part because their wetland habitats are uncommon. Their habitats can also be hard to reach. When you happen upon one of Idaho's delicate fens or slow meandering waterways, be sure to keep an eye out for these cool carnivorous plants.

Acknowledgments: Thanks to Lauren Studley, who worked with me on a version of this article that appeared in Sage Notes in 2018. I also appreciate information from Barry Rice and Beth Salvia regarding which sundews are in Idaho.


Photo: Venus flytrap/public domain


Photo: Powdery-strap air plant/Scott Zona on Flickr

Tranquil Basin, Deadwood River, Idaho
Fens are freshwater peat-forming wetlands covered mostly by grasses, sedges, reeds, willow, and wildflowers. The thin soil found in fens contains very few nutrients so carnivorous plants like bladderwort and sundew have adapted to life in this habitat by eating insects. PHOTO: Lisa Harloe

News from the Field

Species of Greatest Conservation Need

A New Cassia Crossbill Project

by Jay Carlisle*, Research Director
Intermountain Bird Observatory - Boise State University

The Cassia Crossbill (*Loxia sinesciuris*), restricted to the Albion Mountains and South Hills in southern Idaho, is Idaho's only endemic bird species and has an estimated population size of less than 6,000 individuals. With less than 25,000 acres of potentially suitable habitat almost all within the Sawtooth National Forest, the Cassia Crossbill is increasingly recognized as a species under threat from wildfires and climate warming.

Research by Dr. Craig Benkman and students from the University of Wyoming has helped identify potential factors influencing population size in this species. Likely threats include large wildfires and increasing high summer temperatures from climate warming. Both of these factors cause lodgepole cones to open prematurely. This means that instead of storing seeds for decades where primarily only crossbills can access them, the cones drop their seeds to the ground where they are quickly eaten up by other species.

Dr. Benkman expects these impacts may decrease the Cassia Crossbill population size by as much as 75% over the next few years.

Early in 2021, we formed an informal but very engaged "working group" consisting of Boise State University's Intermountain Bird Observatory, Idaho Department of Fish and Game, Prairie Falcon Audubon Society, the Shoshone-Bannock Tribes, University of Wyoming, U.S. Forest Service (Sawtooth National Forest and the Intermountain Region), and U.S. Fish and Wildlife Service.

Concern for this endemic species grew abruptly in September 2020, when a large fire, known as the Badger fire, swept through and burned up to 25% of its forested habitat. In response, several agencies and organizations (including Boise State University's Intermountain Bird Observatory, Idaho Department of Fish and Game, U.S. Forest Service, and U.S. Fish and Wildlife Service) began discussing information and conservation needs.

PHOTO: Craig Benkman

One of the first objectives identified was to assess impacts of the fire on Cassia Crossbills and organize the most intensive survey effort to date. Thanks to funding support from Idaho Department of Fish and Game, University of Wyoming, U.S. Forest Service, and the U.S. Fish and Wildlife Service, we conducted standardized crossbill surveys, vegetation assessments, and cone counts at 224 survey points across the entire range from late July to mid-October.

We were fortunate to recruit five highly experienced biologists to help implement these surveys in 2021. We thank Jenna Boisvert, Adam Bradley, Bret Davis, David McGuire, and Kendall Watkins for their help with surveys during this effort. They all enjoyed exploring a fascinating landscape of patchy forest habitat interspersed with open shrubby/grassy areas.

The patchy nature of the forests in the Albion Mountains and South Hills was made more interesting by the mosaic of intensely burned, lightly burned, and unburned habitats left by the Badger fire. Fire can be a scary thing to behold, but its effects aren't all bad. In fact, many species thrive after fire and it can help

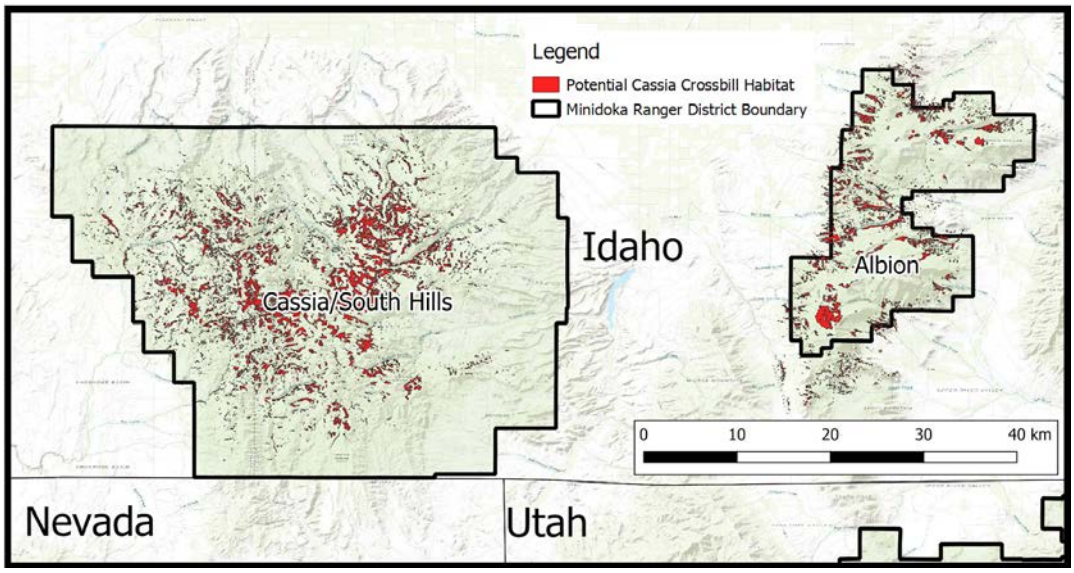
forests regenerate. For example, crossbills need mature, cone-bearing lodgepole pines now and in the near future. They also need young forests that are just starting to grow that will eventually provide suitable habitat in 30-50+ years when the patches the crossbills are currently using have died or burned.

The fear is that a combination of warming temperatures and thick understories mean we'll continue to see bigger and bigger fires that could consume much of the currently suitable habitat.

Fortunately the Sawtooth National Forest is working feverishly to plan and conduct thinning projects and other restoration activities that would act to better contain fires to smaller areas and ideally maintain crossbill habitat.

We'll be analyzing the data this winter and hope to repeat the same survey effort in 2022. These analyses will provide insight into how the Badger fire has impacted Cassia Crossbills, and can help inform habitat and recreation management efforts designed to safeguard Cassia Crossbill habitat.

We know from Dr. Benkman's monitoring from 2003-2018 the population of Cassia Crossbills has shrunk and then recovered at least once. Thus, if numbers do indeed fall over the next few years, as a result of the fire, it won't necessarily be catastrophic – if we can avoid additional massive fires in the coming years.



(Left): Map of potential Cassia Crossbill habitat (i.e. lodgepole pine) within and adjacent to the Minidoka Ranger District of the Sawtooth National Forest in southern Idaho. **(Bottom left):** Fire mosaic of intensely burned, lightly burned, and unburned habitats left by the Badger fire. **(Bottom right):** Example of lodgepole cones opened up by the heat from a wildfire.


Photo: Jenna Boisvert


Photo: Jenna Boisvert

Craig Mountain Wildlife Management Area

IDAHO BIRDING TRAIL
Site# N 43

Lewiston, ID • (208) 799-5010
idfg.idaho.gov/wma/craig-mountain

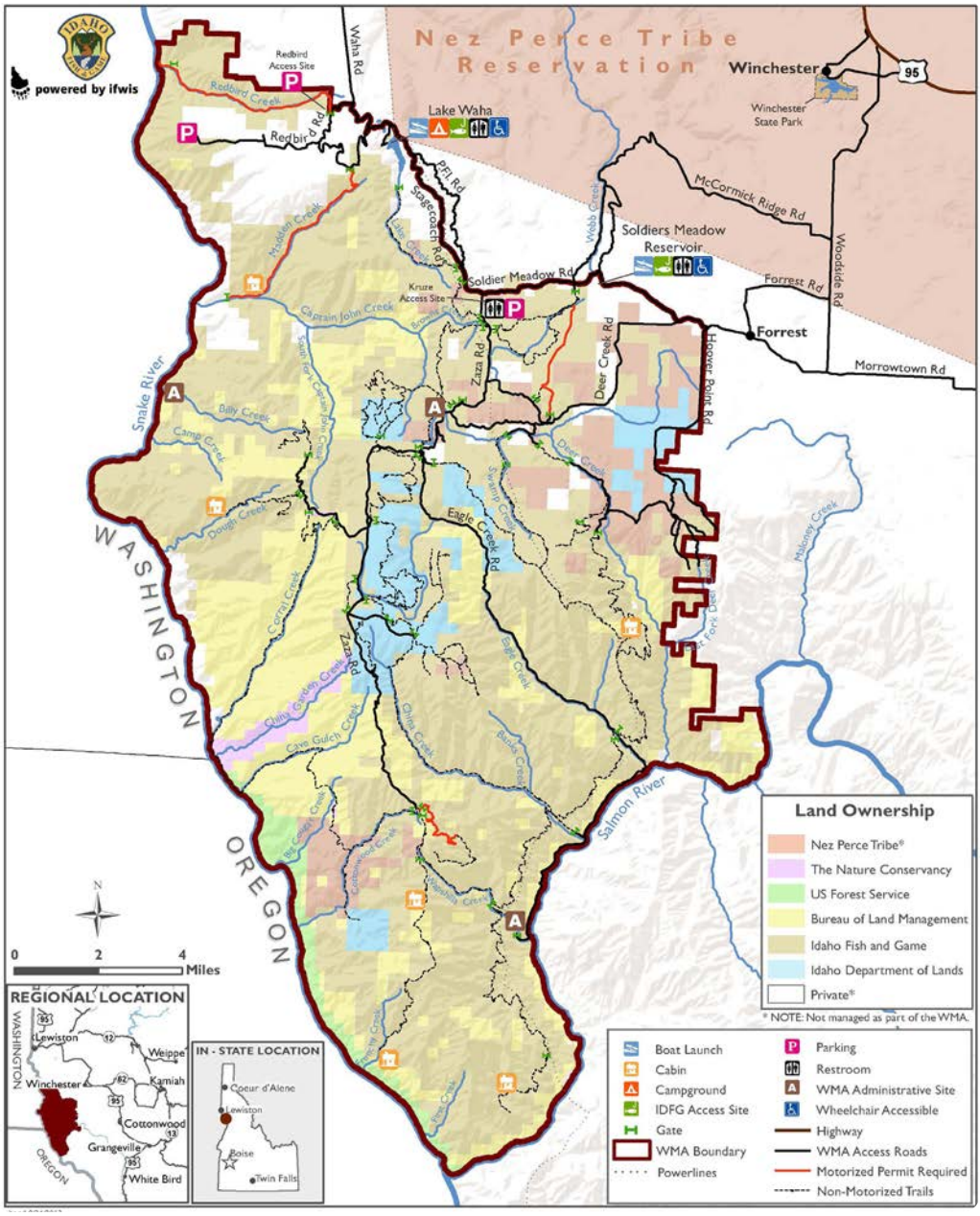
eBird
ebird.org/hotspot/L9604532
ebird.org/hotspot/L9408142
ebird.org/hotspot/L6159296
ebird.org/hotspot/L9523475

LAT/LONG: 46.209915, -116.841316
46.076897, -116.844718

DIRECTIONS: *From Lewiston, take 16th Ave and WA-129 S to 1st St in Asotin for ~7.5 mi; rd becomes Snake River Rd after bend; continue for ~16.5 mi..*

The sheer size of Craig Mountain WMA makes it home to many of Idaho's resident and migratory wildlife species, including Idaho's iconic bighorn sheep. Its proximity to Lewiston creates a rich public resource for area residents. The WMA lands are intermingled with property owned by multiple public and tribal entities. A management agreement among the different groups allows for different parcels to be managed as a single unit for the benefit of wildlife and public use.

The flora and fauna are as diverse as its habitat and terrain. At least 133 bird species have been recorded here. Game birds include Wild Turkey, Blue and Ruffed Grouse, and Chukar. These areas also host small populations of Mountain Quail. Look for Yellow Warbler, Western Wood-Pewee, Cassin's Finch, Pileated Woodpecker, Pygmy Nuthatch, Flammulated and Great Gray Owls, and Northern Goshawk.



Bird IDAHO

The Idaho Birding Trail is your guide to the best birding and wildlife viewing in Idaho!

IDAHO FISH & GAME

IDAHO BIRDING TRAIL

idahobirdingtrail.com

Spotlight Species of Greatest Conservation Need

White-faced Ibis

Species of Greatest Conservation Need

Adapted from the *Idaho State Wildlife Action Plan*

Description
The White-faced Ibis (*Plegadis chihi*) is a medium-sized, long-legged wading bird with a long, decurved bill. They are chestnut-brown with green and violet glossy tint to their underparts; from a distance they appear almost blackish. Breeding adults have a white ring around the bill and eye, and red legs. Immatures and non-breeding adults lack the white face and red color to the legs.

Range and Habitat
White-faced Ibis breeding range extends from the western US south through Mexico, as well as southern South America. About 20% of the known breeding population in the western US call eastern Idaho home! Two colonies at Market Lake and Mud Lake Wildlife Management Areas (WMAs) currently make up the largest breeding concentration of ibis in the West. White-faced Ibis forage in shallow wetlands and marshes, usually among short plants. They also frequent flooded agricultural fields with low plant cover, including alfalfa, barley, wheat, oats, and rice, along with livestock pastures and hayfields.

Diet and Habits
White-faced Ibis seek out alfalfa, barley, and native hay meadows in Idaho to feed on aquatic and moist soil invertebrates (like earthworms, insects, and crayfish) in shallowly-flooded wetlands and flood-irrigated croplands. After the nesting season, they congregate by the thousands to feed on the extensive mudflats of American Falls Reservoir.

Reproduction
White-faced Ibis are colonial breeders, generally choosing to nest in shallow marshes with dense emergent vegetation. In Idaho, most colonies are found in hardstem bulrush/cattail marshes. Nest platforms are constructed within the bulrush, using bent-over bulrush stalks and adjacent upright stalks. This type of nest construction lends itself to collapse or flooding and nest failure if water levels drop or rise dramatically during the incubation/early nestling period. Females usually lay 3-4 eggs and incubation lasts 21-22 days.

Keeping Fields Flooded
Agricultural advances turning farms from flood irrigation to center pivots cut into forage options for White-faced Ibis that prefer shallow water. Landowners willing to keep their land in flood irrigation are incentivized; a win-win for the birds and the landowners. PHOTO: Shutterstock

Conservation and Importance

Over 85,000 breeding birds have nested at six known locations in Idaho, representing over half of the western states' breeding population: Bear Lake National Wildlife Refuge (NWR), Duck Valley Indian Reservation, Grays Lake NWR, Market Lake WMA, Mud Lake WMA, and Oxford Slough Waterfowl Production Area. Although Market Lake and Mud Lake WMAs were important areas for White-faced Ibis in the West, supporting approximately 40% of the Idaho breeding population and 20% of the western breeding population, the Market Lake colony has been inactive for several years. Loss of foraging habitat is suspected, but managers continue to explore reasons for the desertion and ways to bring the colony back.

Private landowners and land managers are working together to identify opportunities to restore natural wetlands and maintain flood-irrigated agricultural fields near ibis colonies for foraging. Addionally, they are working with water managers to develop and implement water level management recommendations that reduce nest loss while meeting irrigation needs.

Photo: Shutterstock

BOISE, ID

CITY NATURE CHALLENGE

APRIL 29-MAY 2 2022

A global effort to celebrate and document biodiversity across the globe by discovering and recording the species found in our yards, neighborhoods, parks, city streets and open spaces.

HOW TO PARTICIPATE

STEP 1: Mark your calendar to get outside April 29 – May 2. Take photos of wild organisms.

STEP 2: Download the iNaturalist app and create an account.

STEP 3: Take photos of WILD plants, animals, and/or fungi anywhere in Boise or Garden City. (No people, pets, or potted plants please).

STEP 4: Upload your observations (photos) to the iNaturalist app or website to share with the iNaturalist community.

STEP 5: Help identify species or learn more as your discoveries are identified by the community May 3 - 8.

LEARN MORE at citynaturechallenge.org or contact kgnojewski@cityofboise.org, (208) 608–7609

THANK YOU PARTNERS: Boise Watershed, Jim Hall Foothills Learning Center, Boise Public Library, MK Nature Center, Intermountain Bird Observatory, US Fish and Wildlife Service, Idaho Botanical Garden, Boise River Enhancement Network, Finding Dragons in Boise, Ada County Parks and Waterways, Idaho Native Plant Society Pahove Chapter, Ada Soil and Water Conservation District

City Nature Challenge 2022

BOISE CITY OF TREES | PARKS AND RECREATION

IDAHO FISH & GAME

GOLDEN EAGLE AUDUBON SOCIETY

CALIFORNIA ACADEMY OF SCIENCES

NATURAL HISTORY MUSEUM LOS ANGELES COUNTY

The City Nature Challenge is organized by Boise Parks and Recreation, Golden Eagle Audubon Society and Idaho Department of Fish and Game

The City Nature Challenge is organized globally by the California Academy of Sciences and the Natural History Museum of Los Angeles County

Participate in the Bonner County BioBlitz!

April 29 - May 2
Take pictures of wild plants and animals.

May 3 - May 8
Identification of what was found.

City Nature Challenge: Bonner County (CNCBC) is a BioBlitz event taking place in Spring 2022, engaging people to document the biodiversity of Bonner County. A BioBlitz is a citizen-science, crowdsourcing effort to record as many species within a designated location and time period as possible.

iNaturalist

HOW TO ADD YOUR OBSERVATIONS TO THE CITY NATURE CHALLENGE.

Join in the global competition to document the diversity of species in locations across the globe by exploring and documenting the diversity of wild plants and animals in your area.

STEP 1: Download the **iNaturalist or Seek app** & create an **iNaturalist** account.

STEP 2: Take photos of WILD plants & animals to make observations. If they're not wild, mark them as captive/cultivated!

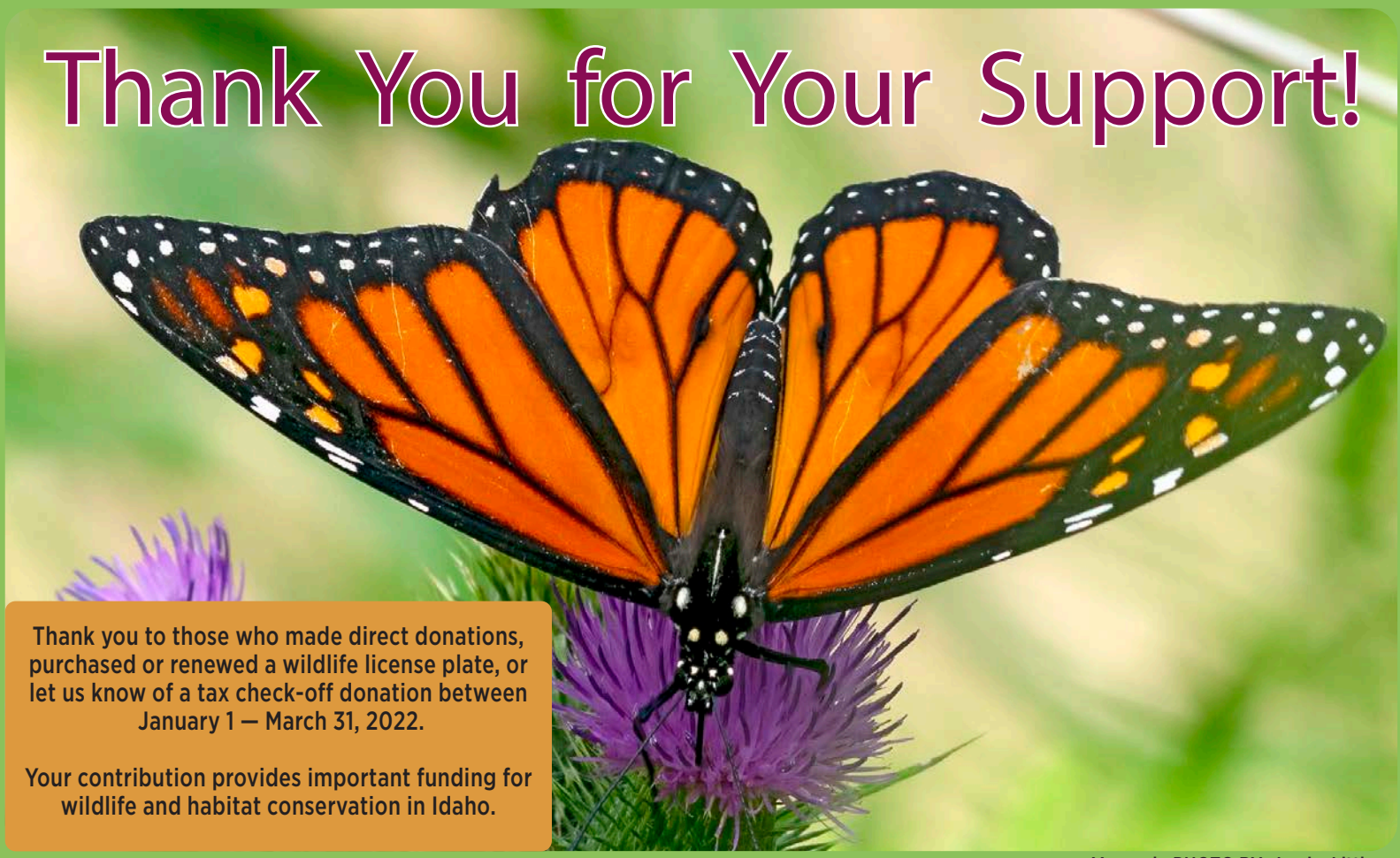
STEP 3: Upload your observations (photos and sounds) to the app & share with the iNaturalist community.

STEP 4: Learn more as your observations get identified!

VISIT: https://www.inaturalist.org/projects/city-nature-challenge-2022-bonner-county

CONTACT: cncbonnercounty@gmail.com **OR** Look for us on Facebook!

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 January 1 — March 31, 2022.

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

Monarch; PHOTO BY: Jamie Little

Windows to Wildlife

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

Forwarding Service Requested

Windows to Wildlife is a quarterly publication of the Idaho Watchable Wildlife Committee and IDFG Wildlife Diversity Program.

Deniz Aygen — Editor

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

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

* The contents of the articles in this publication are the views and opinions of the individual authors and do not necessarily represent or reflect the policies or opinions of the Idaho Department of Fish and Game or the State of Idaho.

The Watchable Wildlife Committee and the Wildlife Diversity Program grant permission to reprint uncopyrighted text, NOT artwork, provided Windows to Wildlife is credited.

The Idaho Watchable Wildlife Committee is comprised of the following agencies and organizations:

Golden Eagle Audubon
Idaho Department of Commerce & Labor
Idaho Department of Fish and Game
Idaho Department of Parks & Recreation
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