Windows to Wildlife

Partners in Protection

How State Wildlife Grants Benefit Idaho's Species of Greatest Conservation Need and Their Habitats

Protecting our wildlife heritage through shared commitment and science

Alpine surveys in Idaho's high mountains
COVER PHOTO: Tempe Regan/IDFG

In This Issue

Volunteers document butterfly species during a regional survey in the Clearwater area. PHOTO: Joel Sauder/IDFG

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Harlequin Ducks PHOTO: Public Domain

TRACKING HARLEQUIN DUCKS
THE DUCK THAT IS GOING QUIET

The Harlequin Duck is one of North America's most eye-catching waterfowl, wearing slate blue, chestnut, and white markings that look almost hand-painted. But in Idaho's mountain streams, this vivid bird has been getting harder to find.

In 2025, Idaho Department of Fish and Game (IDFG) crews conducted four surveys between late April and mid-August, timed to catch either breeding pairs in spring or broods of ducklings in summer. The results were thin. Only two pairs totaling four birds were detected, both on Marble Creek.

> *No Harlequin Ducks were detected on the Lochsa River in 2025, a section of river where the species had been observed nearly every year since 1995.*

That absence stands out. The Lochsa had been a reliable stronghold for the species for three decades, and whether the gap reflects a true population decline, a shift in range, or a survey limitation is still unclear.

Teams searched on foot and from non-motorized rafts, scanning the water with binoculars. At least two IDFG staff worked each stretch together for safety and accuracy, with no birds trapped or handled.

One tool used in previous years, environmental DNA (eDNA) sampling, was set aside for the 2025 surveys. It works by detecting traces of genetic material animals leave behind in water, picking up species that eyes and binoculars might miss. That capability is being saved for a larger, multi-state effort planned for 2026.

A more comprehensive survey is in the works for 2026, developed with neighboring states and built around a new protocol that combines ground-based visual surveys with eDNA sampling. The approach is designed to give biologists a clearer and more reliable picture of where Harlequin Ducks actually live and where they may be disappearing from.

For now, Marble Creek remains the one bright spot in Idaho's 2025 data. Two pairs in a single location is a modest number, but it confirms the species is still present.

California Tortoiseshell PHOTO: Steve Wells

MAPPING THE FLUTTER
IDAHO'S BUTTERFLY ATLAS TAKES FLIGHT

Last summer, a small group of volunteers fanned out across Idaho with a shared mission: to start paying closer attention to the butterflies. It was the beginning of something the state had never had before, a coordinated, statewide effort to track one of nature's most sensitive indicators of ecosystem health.

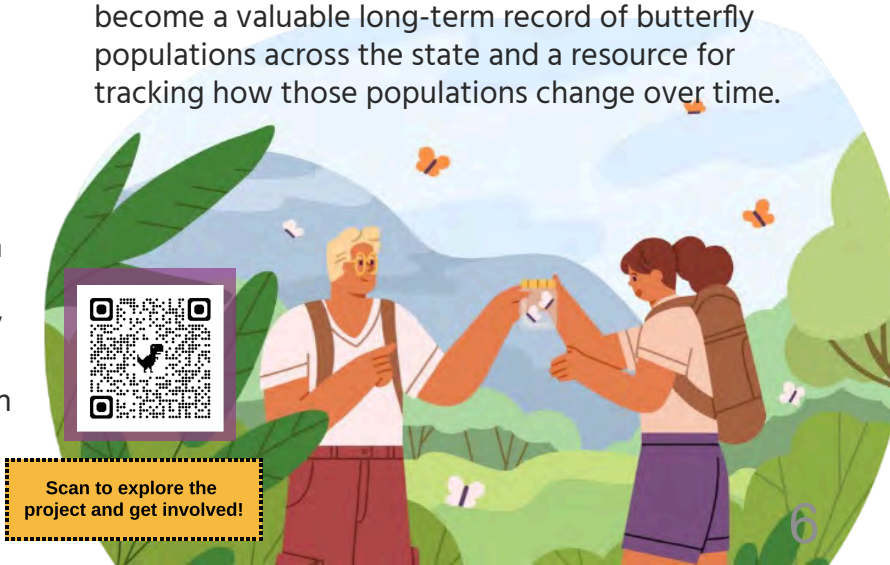
Last summer, IDFG launched the pilot year of the Idaho Butterfly Atlas, a community science initiative designed to document butterfly species across the state. Rather than starting from scratch, the team recruited nine volunteers with deep prior experience working with butterflies, meaning little formal training was needed to get the project off the ground. By the end of the season, 15 participants, including some IDFG staff, had completed 316 checklists, recorded 1,843 observations, and documented 136 different species.

The data didn't just sit in a folder. Observations were submitted to **eButterfly**, an online platform that feeds into the Global Biodiversity Information Facility, a worldwide network that aggregates biodiversity data from researchers and community scientists around the globe. The records were also added to Idaho's own Fish and Wildlife Information System, building the state's long-term wildlife database.

Among the highlights were four observations of Monarch butterflies, a species that has seen significant population declines in recent decades. The Large Marble Butterfly, another species of interest, was not observed during the pilot season.

Volunteers didn't just collect data, they also weighed in on the process. Their feedback on the survey protocol will be used to refine the program before it expands statewide this summer, pending additional funding. When that expansion happens, all new volunteers will receive formal training and be assigned specific survey areas to ensure coverage is spread consistently across Idaho.

The pilot season proved the concept works. With a stronger foundation in place, the Atlas is positioned to become a valuable long-term record of butterfly populations across the state and a resource for tracking how those populations change over time.



Scan to explore the project and get involved!

Western Grebes PHOTO: Public Domain

GREBES HIGH AND DRY
A TOUGH SEASON AT LAKE CASCADE

Known for their dramatic rushing-across-water courtship displays and floating nests woven from aquatic vegetation, Western and Clark's Grebes return each summer to Lake Cascade in Valley County to nest. IDFG biologists have been tracking these birds annually since 2004 and 2025 brought some sobering news.

Last year's surveys expanded beyond Lake Cascade to include Ben Ross Reservoir in Adams County and Island Park Reservoir in Fremont County, where biologists checked for signs of breeding activity. The bulk of the detailed monitoring, however, remained focused on Lake Cascade, where long-term data allows biologists to spot trends over time.

Between June 18 and July 14, biologists completed 15 drone flights over four breeding colonies at Lake Cascade, capturing detailed aerial imagery throughout the nesting season. The images painted a striking picture: at its peak, the lake's largest colony held over 1,000 active nests, meaning at least 2,000 breeding adults packed into a single site. It was, on paper, an impressive gathering.

But the numbers told only part of the story.

As summer progressed, water levels at Lake Cascade dropped as the reservoir was drawn down. For grebes, this is a serious problem. Their nests float at the water's surface, anchored to emergent vegetation, and the birds are built for swimming, not walking. When receding water leaves nests stranded on dry ground, adults simply can't reach them. Colonies that appeared thriving in June were largely abandoned by July.

On July 31, after adults and young had left the nesting colonies, biologists completed a boat-based survey of the entire lake, with two observers counting birds on either side. They tallied 3,425 adult grebes, but only 70 chicks. For a colony that had boasted over 1,000 active nests just weeks earlier, the number was devastating.

Western and Clark's Grebes are highly sensitive to habitat disturbance, and their breeding success serves as a kind of barometer for the health of the lakes they depend on. When a colony fails, it's rarely just bad luck, it usually points to something bigger happening in the ecosystem. This year, that something was water.

The 2025 results are prompting biologists to consider more active management strategies for Lake Cascade, such as installing floating nest platforms that can rise and fall with changing water levels, or coordinating with water managers to maintain levels during the critical breeding window. Without intervention, the lake may struggle to support a stable, productive grebe population long-term.

SOUTHWEST REGION

Columbia Spotted Frog PHOTO: Public Domain

TRACKING FROGS IN RESTORED STREAMS
MONITORING COLUMBIA SPOTTED FROGS

A closer look at Idaho's restored streams shows early signs of how wildlife responds when water slows, spreads, and starts to heal. Columbia Spotted Frogs are among the first to tell the story.

Along some of Idaho's quieter stream corridors, a small but telling experiment is underway. Restoration crews have been rebuilding beaver dams, relocating beavers, and coaxing degraded streams back toward something healthier. IDFG biologists are following close behind, net in hand, to see who shows up.

Throughout the spring and summer of 2025, project staff and volunteers surveyed a series of riparian restoration sites for Columbia Spotted Frogs, a native amphibian whose presence is a good sign that a stream system is functioning well. Surveys focused on three streams: Hurry Back Creek, Josephine Creek, and Long Tom Creek, where beaver dam analog installations and beaver translocation projects have been underway in recent years.

At each site, two observers worked through designated survey units: sheltered eddies, slack water pockets, and flooded meadow edges. Using kick nets and dip nets, they identified and counted every amphibian encountered. Eggs, tadpoles, and adults were all counted before releasing them at the same spot they were caught. Each site was surveyed twice, at least a month apart.

The results varied by stream. Hurry Back Creek had frogs present in roughly half of its survey locations, including more than 300 tadpoles. Josephine Creek showed the highest use, with frogs detected at 70 percent of survey spots, over 1,200 tadpoles, and 12 adults. Long Tom Creek had lower numbers, with adult frogs found in about a third of its locations.

These first-year results serve primarily as a baseline, a starting point against which future seasons can be compared. The real value of this work will build over time. As restoration efforts continue and surveys are repeated annually, biologists will be able to see whether frog populations are responding to habitat improvements, holding steady, or declining. For a species tied closely to the health of Idaho's stream and wetland systems, that long-term picture is exactly what conservation decisions need to be based on.

Morrison's Bumble Bee PHOTO: IDFG

INTO THE SAGEBRUSH:
IDAHO'S SUMMER BUMBLE BEE BLITZ

> *Researchers spent the summer of 2025 surveying Idaho's sagebrush-steppe landscapes for the Morrison bumble bee, capturing hundreds of bees and collecting pollen samples that will help reveal what these pollinators need to thrive.*

The Morrison bumble bee is native to Idaho's sagebrush-steppe landscape, but biologists still know surprisingly little about where it lives, what it eats, or how its populations are doing. That lack of information matters. The Morrison bumble bee is currently under federal review for possible protection under the Endangered Species Act, and the data collected last summer will directly inform those decisions.

During the summer of 2025, biologists scouted 55 potential survey sites across the sagebrush-steppe. After removing locations that lacked the right mix of vegetation, terrain, and flowers, the list was narrowed to 46 sites. Each site was visited four times over the summer, resulting in 193 surveys and 595 bumble bees captured and photographed. Species-level identification is now underway with separate funding.

595	193	46
BUMBLE BEES CAPTURED	SURVEYS COMPLETED	SITES SURVEYED 4X TIMES

Of the 46 survey sites, 26 were chosen because Morrison bumble bees had been found there within the past five years. The remaining 20 came from a more unexpected source: a vegetation model originally built to predict where deer and elk find food.

Biologists first tried to build a new habitat model using 2024 survey data, hoping it would predict where Morrison bumble bees might occur, but the attempt fell short. Bumble bees choose habitat at a very fine scale, and with limited observations, the model wasn’t reliable.

So they turned to a tool that already existed. The Fine Scale Vegetation Model, designed for managing deer and elk, predicts where ungulates are likely to find food based on detailed vegetation data. By filtering that model for plants known to host Morrison bumble bees, researchers were able to highlight areas that might support the species. It was an unconventional approach, but a practical one.

When a bumble bee visits a flower, it gathers pollen to bring back to feed the larva and stores it in a pollen 'basket' on its leg. Biologists collected some of the pollen from their pollen baskets without hurting the bumble bees. By analyzing the pollen's DNA, biologists can identify which plant species a bee has been targeting for pollen collection, even when the bumble bee was captured on a different type of plant.

Staff collected four pollen samples from captured bees. A volunteer contributed an additional 29 samples. All 33 will be processed together and the resulting data will help biologists understand which flowers Morrison bumble bees prefer to drink nectar from to fuel themselves while working and which flowers they target to collect pollen to bring back to the nest. This will hopefully provide a more complete picture of the species' floral associations and habitat needs.

HOW THE FINE SCALE VEGETATION MODEL WORKS

Idaho Fish and Game's Fine Scale Vegetation Model predicts where ungulates (hoofed animals like deer and elk) are likely to find forage plants. Researchers repurposed this model to locate areas likely to contain at least two plant species known to be used by Morrison bumble bees. From those areas, they generated 95 random candidate sites and scouted them until 20 suitable spots were confirmed.

PHOTO: lrukandji on iNaturalist (CC-BY-NC-ND)

Drone image of American White Pelican colony PHOTO: Brandon Tycz, IDFG

COLONY COUNTING
MONITORING AMERICAN WHITE PELICANS

The 2025 counts tallied 3,984 breeding adults and 1,374 fledged chicks, providing a clear reference point for future monitoring seasons.

Each summer, American White Pelicans return to a handful of nesting islands across Idaho, forming some of the largest and most visible bird colonies in the region. Bright white, broad-winged, and unmistakable in flight, they're hard to miss but understanding how their populations are faring takes more than a casual glance.

In 2025, IDFG staff visited four pelican nesting colonies: Lake Walcott on the Minidoka National Wildlife Refuge, Blackfoot Reservoir, Chesterfield Reservoir, and Island Park Reservoir. The goal was to get an accurate count of both breeding adults and surviving chicks, two numbers that together tell the story of how a breeding season went.

Nest counts were conducted during mid to late incubation, when adults are settled on eggs and least likely to scatter at the sight of approaching biologists. Later in the summer, staff returned to count prefledged chicks — young pelicans large enough to spot easily but not yet able to fly.

The final numbers painted a solid picture. Across all four sites, staff documented an estimated 1,992 nests and roughly 3,984 breeding adults. By season's end, an estimated 1,374 chicks had successfully fledged.

Those figures matter beyond this single season. Water levels, weather, and habitat quality can all shift dramatically from year to year, and each season of data adds another point to a long-term record that helps biologists spot trends and guide management decisions.

Why are we interested in monitoring pelicans? Predation impacts by pelicans have been determined to limit fish populations in several Idaho waters. Keeping track of pelicans has improved our understanding of these impacts and has allowed IDFG to implement management strategies, such as hazing pelicans from high profile waters, to reduce conflicts between birds and fish.

Idaho Point-headed Grasshopper PHOTO: Angie Schmidt

NEEDLE IN A HAYSTACK
THE IDAHO POINT-HEADED GRASSHOPPER

Idaho's high desert holds many hidden stories, but few are as mysterious as the Idaho Point-headed Grasshopper. This rare insect lives only in the Birch Creek, Big Lost River, and Little Lost River drainages of east-central Idaho, one of the smallest native ranges of any species on the state's conservation watch list. Fewer than 100 confirmed observations exist in Idaho's statewide database, making each new finding significant.

The grasshopper appears in the 2023 Idaho State Wildlife Action Plan as a species of greatest conservation need, and the Bureau of Land Management lists it as a Type 2 Sensitive Species due to concerns about declining populations and potential extinction risk. Drought, recreation pressure, and habitat loss all threaten its ability to survive season to season.

Records have always been scarce. Before 1993, only 20 observations existed. Surveys in 2002 and 2003 found nothing, likely due to severe drought. A 2010 IDFG effort offered a brief period of optimism. Fifty-five grasshoppers detected across 11 sites but more than a decade passed before anyone looked again.

That changed in the summer of 2025. Between mid-July and mid-August, biologists visited 14 sites, including 12 surveyed in 2010. Two were new locations; five older sites were no longer accessible due to private land issues or habitat loss. Biologists divided each survey area into quadrants, walking GPS-tracked paths for two hours per site and focusing on Stemless Goldenweed, the plant most closely associated with the species.

Despite the effort, only one grasshopper was found. Spotted at Pass Creek, a site with historic detections, it behaved exactly as described in earlier research: calm and still on its goldenweed perch while every other grasshopper species fled on approach. It was captured, photographed, and released. A return visit a month later turned up nothing.

The dry summer likely played a role. By early July, most vegetation was already browning, and even the resilient Stemless Mock Goldenweed was drying out during surveys. Earlier research suggests the species is especially sensitive to drought and may effectively disappear in dry years, with recovery requiring several seasons of above-average rainfall. The 2010 survey, the last time healthy numbers were found, followed two consecutive wet years.

Biologists plan to return in a wetter year, but with drought becoming more frequent and weather patterns increasingly unpredictable, the timeline for suitable conditions is uncertain. Every observation adds to a thin but growing record of a species that, for now, remains one of Idaho's most elusive.

American Pika PHOTO: Will Thompson, USGS

SURVEYING THE SUMMIT
TRACKING IDAHO'S ALPINE WILDLIFE

High above the treeline, where the air is thin and the seasons are short, some of Idaho's most elusive wildlife make their home. Each summer, IDFG biologists head into the mountains to check in on them, counting and recording for signs of life across some of the state's most remote terrain.

In the summer of 2025, biologists completed 59 surveys across five alpine basins in Idaho's Salmon and Panhandle regions. Their target list was wide-ranging: Western Toads, Columbia Spotted Frogs, Long-toed Salamanders, American Pikas, Wolverines, Rocky Mountain Goats, Bighorn Sheep, Hoary Marmots, Black Rosy-Finches, Spur-throated Grasshoppers, and a rare butterfly called the Beartooth Copper. These aren't random choices, each species is identified in Idaho's State Wildlife Action Plan as one worth watching closely, often because their populations are declining or their habitats are under pressure.

The results were a mixed bag. Biologists counted 24 Rocky Mountain Goats, 39 Bighorn Sheep, 97 American Pikas, and 35 Black Rosy-Finches across the survey sites. Two Long-toed Salamanders turned up at separate locations, and four Spur-throated Grasshoppers were spotted at one site. But some species were nowhere to be found. No Western Toads were observed. No Beartooth Coppers. And despite careful searching, biologists found no Wolverines, not even a track or a scrape.

The absence of certain species doesn't always mean they're gone, but it's the kind of data point that adds up over time.

Beyond counting animals, the team is also keeping tabs on the mountains themselves. Twelve climate dataloggers were installed across an elevational gradient in the Panhandle Region to track temperature changes at different altitudes. In the Salmon Region, biologists collected water quality samples from glacial outflow and snowmelt streams at the highest elevations, water that originates from ice and snow that has persisted for centuries, but may not always.

Alpine ecosystems are among the most climate-sensitive environments on Earth. The species that live there, pikas huddled under talus fields, finches nesting near snowpack, amphibians tied to cold, clean water, have nowhere higher to go. Long-term monitoring like this helps scientists understand not just what's living in Idaho's mountains today, but what might be struggling to hold on tomorrow.

The data collected last summer is still being analyzed, and biologists are working toward publishing findings from several years of Black Rosy-Finch research, with results already shared at two scientific conferences. Analysis of the remaining species is planned for the coming months, expanding what we know about Idaho's alpine.

Showy Milkweed PHOTO: Public Domain

TRACKING MILKWEED AND MONARCHS
A STATEWIDE VOLUNTEER EFFORT

Across Idaho's valleys and low-elevation landscapes, patches of milkweed grow along roadsides, riverbanks, ditches, and trails. These unassuming plants play a key role in the life cycle of the Monarch butterfly, and in the summer of 2025, they became the focus of a major statewide survey led by IDFG biologists and trained community volunteers.

The goal was simple: check the health of known milkweed patches, look for new ones, and document any Monarch activity. Surveyors relied on an established method first used in 2014. This noninvasive approach meant no insects or plants were collected, and surveyors simply observed and recorded what they found.

From July 1 through August 15, volunteers visited their assigned patches up to three times, usually about two weeks apart. At each site, they noted weather, location, herbivory, disturbances, patch size, and stem counts. After documenting patch conditions, they inspected at least 25 milkweed stems or all stems if the patch was smaller, looking for Monarch eggs or caterpillars. When they spotted Monarch adults, they identified their sex when possible, all without capturing or handling them. All data were entered into a smartphone app called ArcGIS Survey123.

Preparing for the season required careful planning. IDFG staff built a project website, created navigation tools for volunteers with and without GPS units, and hosted training

BY THE NUMBERS

6,000+
KNOWN MILKWEED PATCHES STATEWIDE

1,000
PRIORITY SITES RANDOMLY SELECTED

417
SITES SUCCESSFULL SURVEYED

76%
COMPLETION RATE

314
NEW MILKWEED PATCHES DISCOVERED

239
VOLUNTEERS

14,300+
MILES DRIVEN *equivalent to over **$10,000** in contributed travel*

1,200+
SURVEY HOURS *equivalent to over **$41,000** in contributed time*

materials online. A late-June webinar drew more than 150 participants. Throughout the summer, email updates, reminders, and a dedicated Facebook page helped volunteers stay connected. IDFG also promoted the project through radio interviews, social media, and recruitment videos.

Idaho has over 6,000 known milkweed patches statewide. From these, the team selected a random sample of 1,000 as priority survey sites. Volunteers adopted 546 of them, and 417 were successfully surveyed, a completion rate of 76%. In total, 239 volunteers spent more than 1,200 hours on the project and drove more than 14,300 miles to reach their patches. Their dedication provided more than $51,000 in contributed time and travel value, underscoring the tremendous impact volunteers bring to this project.

Volunteers didn't stop at the priority sites. They also surveyed 90 additional known patches and discovered 314 new ones, all of which were added to the growing statewide database.

Monarch observations were limited. Volunteers documented 41 larvae at 36 different patches and 36 adult butterflies at 18 locations. Many patches appeared healthy but showed no signs of Monarch activity. Volunteers generally identified adults and caterpillars accurately, but many confused milkweed latex droplets for eggs, and reports of dead larvae often lacked details. Because of this, the team considers egg and dead-larvae counts unreliable and plans to offer more training on these topics this summer.

Volunteers also recorded information about patch size and disturbance. Most patches were relatively small: 278 had fewer than 100 stems, and 339 had more than 100 stems. Only nine patches statewide had more than 2,000 stems. While most patches showed no disturbance, the most common issues were trampling by livestock or people, followed by mowing, spraying, and grazing.

Overall, the 2025 survey produced valuable information about Idaho's milkweed, revealing widespread and generally healthy patches across the state. Monarch data, however, remained sparse. Biologists plan to refine survey techniques, especially around egg and larva identification, and repeat the effort this summer with a new set of randomly selected sites. Afterward, they will decide whether a third season of fieldwork is needed before moving on to analyzing the results.

The effort reflects a major accomplishment for Idaho's volunteer community. With hundreds of people contributing time, travel, and enthusiasm, the project continues to grow Idaho's understanding of both milkweed and Monarchs, one patch at a time.

WHAT COMES NEXT FOR THE SURVEY

- Improved training in 2026
- Sampling of the 1,000 originally selected patches will continue
- Survey data will be compared year-over-year for trends
- Full analysis of milkweed health and Monarch population patterns will follow

Monrach Butterfly PHOTO: Public Domain

This summer, IDFG will work towards sampling all of the 1,000 originally selected patches and refine trainings.

Want to Help?

The 2026 survey will need volunteers again. No scientific background required: just curiosity, a smartphone, and the willingness to explore Idaho's outdoors.

Scan to sign up for the next project webinar on **June 2** at **5pm PST**

Belted Kingfisher PHOTO: Public Domain

Thank You

Thank you to those who made direct donations, purchased or renewed a specialty wildlife license plate, or contributed to the Idaho Nongame Wildlife Fund when completing their taxes.

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

Windows to Wildlife
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Western Long-toed Salamander PHOTO: Public Domain