The Washington Wildlifer

Newsletter of the Washington Chapter of The Wildlife Society

Mike Hall, Editor

End of the Year 2023

See You in Coeur d'Alene!

That's the big news of the moment. We're looking forward to joining our friends and colleagues (including those from the Idaho Chapter of TWS, SNVB, and NW PARC) at the Coeur d'Alene Resort in late March!

In addition to the Save-the-Date announcement for our joint annual meeting, this action-packed edition of *The Washington Wildlifer* offers:

- A message from our Chapter President, Alex Pavlinovic
- Important information about
    - Our social media presence (*is it ironic to promote social media in an old-fashioned newsletter?*)
    - The fast-approaching deadline for grant and scholarship applications
    - Opportunities to nominate people for Chapter awards
    - Opportunities to join the WA-TWS Board
    - A call for help with website maintenance
- Ever-popular regional reports

So, with no further ado, we bring you … [*drumroll*]… the latest and greatest *Washington Wildlifer*.

President's Message

Greetings, WA-TWS!

Since the last newsletter, your board, officers, and fellow members have kept busy.

In this newsletter, you will find information about the 2024 Joint Annual meeting coming up in March. We are certainly excited about having a joint meeting of Idaho-TWS, SNVB, and NW PARC in Idaho.

We have also been working to increase involvement in the chapter through outreach to professionals and students. We have been engaging colleges, including UW, WSU, WWU, and many others across Washington, that are educating the next generation of wildlife professionals. We want to help these students and early career professionals grow and thrive. Because of this, we are working with them to figure out the best ways to do so.

I also want to remind folks to consider running for a board or officer position for the chapter. Since taking up a position, I have found it not only enjoyable but also very rewarding. By taking one of these positions, you can give back to the wildlife field.

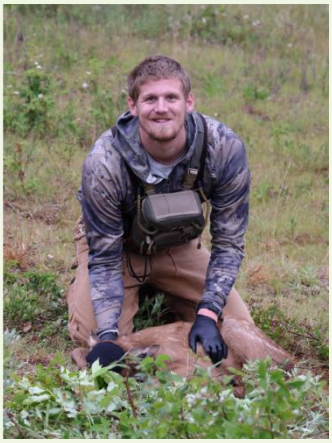
This issue of the newsletter also includes updates from our regional representatives. Thank you to all of the folks who contributed information about projects happening in our state.

With the holidays fast approaching, I am reminded that the end of every year is an opportunity to think about accomplishments and goals and how each action we take and the connections we make can help accomplish something great.

I want to mention just a few of the rewarding and positive things that the chapter has done in the last year. Early this year, the chapter and our sponsors supported 20 students to attend the JAM 2023. This opportunity allowed the students to network, eat free food, take training, and gain mentors, which they likely wouldn't have been able to do without our support. The chapter now has a Diversity, Equity, and Inclusion (DEI) committee, which is brainstorming ideas for how to make our wildlife community more inclusive and diverse. Yearly, we fund local research projects using our research grant and a scholarship to support an undergraduate student. Also, chapter members have mentored countless students and early career professionals. Thinking about all these things and many more makes me proud of our chapter.

We want to wish you all happy holidays and hope you have a wonderful and relaxing time in December.

Respectfully,
Alexander Pavlinovic
WA-TWS President



Save the Date: Joint Annual Meeting 2024

Robert Ritson, Secretary, Idaho Chapter of The Wildlife Society (via George Ritchotte, WA-TWS Pres-Elect)

The 2024 joint annual meeting of the Idaho Chapter of the Wildlife Society, the Washington Chapter of The Wildlife Society, the Society for Northwester Vertebrate Biology, and Northwest Partners in Amphibian and Reptile Conservation will be held at the Coeur d'Alene Resort (https://www.cdaresort.com/) from **March 25 through March 29**.

The call for abstracts and meeting registration information will be sent out soon. Stay tuned!

Theme

The meeting theme is **"Restoration Works! Restoration Success Stories in Wildlife Conservation."** We will be highlighting four restoration stories that have had positive outcomes for wildlife and cultural values in the Northwest.

Accommodations

A block of 134 rooms has been reserved at the Coeur d'Alene Resort—$117 per night, while supplies last. Additional rooms ($189/night) are available outside of the block.

Plenary Speakers

- Kristi Olney, Confederated Tribes of the Yakama Nation: *Bison reintroduction in the Yakama Nation*
- David Leptich, Idaho Department of Fish and Game: *Wetland restoration in northern Idaho*
- Rebecca McCaffery, United States Geological Survey: *Elwha Dam removal in Olympic National Park, WA*
- Christian Hagen, Oregon State University: *Shrub-steppe restoration in the Great Basin*

Workshops

- *Bayesian Analysis for Beginners*—Matt Falcy, University of Idaho
- *Introduction to* "R"—Matt Boone and Rob Ritson, Idaho Department of Fish and Game
- *Human Dimensions*: "*So you want to design a survey*"—Kenny Wallen, University of Idaho and Idaho Department of Fish and Game

Special Sessions (Invited Speakers)

- Measuring Microclimates
- Genomics
- Beavers
- Predator-Prey Interactions
- Traditional Indigenous Knowledge

Schedule at a glance *(subject to change)*

Tuesday, March 26

- Workshops (all day)
- Idaho Bat Working Group meeting (all day)
- Partners in Amphibian and Reptile Conservation meeting (all day)
- Society for Northwestern Vertebrate Biology meeting (all day)
- Opening Reception and Poster Session (evening)

Wednesday, March 27

- Plenary: Restoration Works! Restoration Success Stories in Wildlife Conservation (morning)
- General sessions (afternoon)
- Special sessions (afternoon)
- Student/Professional Mixer (evening)

Thursday, March 28

- Breakfast with a Biologist (morning)
- General sessions (all day)
- Banquet and Fundraiser (evening)

Friday, March 29

- Possible Carnivore/Ungulate & Private Lands Conflict Workshop (Bill Vogel)
- Wrap-up

Grants! Scholarships!

Do you need money for education, research, or conservation efforts? WA-TWS is here to help. Come to our website and check out the details. The deadline for grant and scholarship applications is **December 31st**.

https://watws.org/grow/scholarships

https://watws.org/grow/research

https://watws.org/grow/conservation

WA-TWS & Social Media

Alex Pavlinovic, WA-TWS President

Want to keep abreast of WA-TWS goings-on? You don't have to wait for the next issue of this newsletter. Our website is always worth checking out, for starters: watws.org.

Are you on Facebook? So are we! You can find information about the webinars, annual meetings, trainings, and other activities that we host. Additionally, we advertise our colleagues' events. We're at facebook.com/WA.TWS/. Please like and follow us.

Also, for our younger and hipper members[1], the chapter is planning to create an Instagram account in the not-to-distant future. Keep an eye out for that.

If you have some information you would like us to share on our accounts, please email president@watws.org.

Award Nominations

In every corner of the state, wildlifers are engaging in work that deserves to be recognized and celebrated. It's up to all of us to shine a light on their accomplishments. You can nominate a person, group, or organization for a WA-TWS award. *It's super-easy*! Just send a short note to the Awards Committee Chairperson (awards@watws.org) with the following information.

Award Category:
{see category descriptions at our website}

Nominee:

Submitted by:

Seconded by:

[1] Editor's note: Not everyone on Insta is young and hip. Some of us have children who are.

Our Website Needs You

Interested in peeking under the hood of one of the vehicles on the Information Superhighway? Alternatively, are you looking for a creative outlet for your mad html skillz? Either way, we've got a golden opportunity for you.

You can help with the design and maintenance of the evolving WA-TWS website. The Board is looking to grow the site's role in serving the communication and financial management needs of our chapter. In addition, we want to enhance our chapter's ability to maintain continuity in awareness of website management needs.

If you're interested, please send a brief message to president@watws.org. Thank you for considering this important way to help your professional organization serve its members!

Contact information for person(s) submitting nomination:

Date Submitted:

Rationale: {short description of pertinent accomplishments}

If you want, you can strengthen your nomination by providing additional statements of support or by having another member do the same or second your nomination. The Awards Committee will review all submittals and eventually make recommendations to the full Board. If the nomination is successful, we may ask for more information from you to help fully document the accomplishments and make award arrangements.

Call for Nominees

Alex Pavlinovic, WA-TWS President

I want to draw the attention of our membership toward several opportunities to gain valuable experience, network, and give back to the chapter. I am referring to the Vice President, Secretary, and two at-large positions on our Board. All of these positions need to be filled during our next election.

These roles will give you many opportunities to interact with wildlife professionals from a variety of agencies. Being in one of these positions will give you something of substance to add to your resume. They will allow you to hone your leadership, organizational, and communication skills. Also, if you run and are elected for one of these positions, you will have a chance to better the chapter for its members.

A critical part of any organization is its leadership. The leadership of WA-TWS is made up of volunteers, including those who serve on its Executive Board. That is why we need you to run for a position.

Our next elections will be held in Spring 2024. Four positions will be on the ballot:

- **Vice President** (4-year term progression)
- **Secretary** (2-year term)
- **Two board members at large** (2-year terms)

Note: Nominees must be members of TWS and WA-TWS.

If you would like to submit a nomination, or if you have any questions about the nomination process or positions, please contact the Nominations and Elections Committee at president.elect@watws.org.

Bonus Photos from JAM 2023, courtesy of Board Member Jen Syrowitz.

Regional Reports

What's going on in your part of the state? Here's what we've heard from the Northeast, Southwest, and Olympic regions. Do you know of any stories that are begging to be told? We'd love to hear them! Please contact your regional representative and/or newsletter@watws.org.

Northeast—Annemarie Prince, WDFW, Regional Representative

International Cooperation Supports Sharp-Tailed Grouse Recovery

WDFW Staff

Birds might not need photo identification to travel, but that doesn't mean transporting them across international borders is simple. Since 2018, WDFW has been working with biologists in British Columbia, Canada, and other partners to bring Columbian sharp-tailed grouse to Washington to boost endangered populations on this side of the border.

Columbian sharp-tailed grouse. Photo: WDFW

The Columbian sharp-tailed grouse (*Tympanuchus phasianellus columbianus*) is a Washington state endangered bird and the rarest subspecies of sharp-tailed grouse. Washington populations may once have numbered in the hundreds of thousands. Today, seven remnant populations comprising fewer than 600 birds occupy less than 5 percent of the species' historical range in Douglas, Lincoln, and Okanogan counties.

A population of Columbian sharp-tailed grouse in southern British Columbia is doing well, however, thanks to some unique, temporary habitat. Typically, sharp-tailed grouse favor grasslands and shrub-steppe habitat, where the abundant perennial bunchgrasses and forbs and the low density of tall vegetation support breeding, nesting, and brood-rearing. The birds are not often found in timberlands, but researchers have found sharp-tailed grouse using timber stands in the years following disturbance events—such as timber harvest or wildfire—that result in habitat characteristics more appealing to the birds. When the trees regrow 5 to 15 years later, the grouse move on and seek more suitable habitat elsewhere.

Columbian sharp-tailed grouse roosting among snags in British Columbia. Photo: WDFW

WDFW and partners are working together to bolster Washington's sharp-tailed grouse population by relocating birds from British Columbia to Washington. In addition to increasing the number of birds, bringing grouse from Canada to Washington may increase the genetic diversity of the endangered population, improving its chance of recovery. The goal is to relocate approximately 40 birds with each capture effort.

While a straightforward idea on paper, the process of relocating these birds starts many months in advance as partners work together to get necessary permits, permissions, lab connections, and equipment before any birds are transported. When it's finally time to capture the birds, biologists set a carefully choreographed process in motion to ensure the health, safety, and successful release of the grouse.

The process starts the evening before the planned capture, with the deployment of walk-in traps at leks. The biologists return the next morning to arm the traps in the cold, dark hours before dawn, before the grouse rise to perform their courtship rituals at the lek. Then, it's a waiting game to see how many birds walk into the traps.

Columbian sharp-tailed grouse standing among walk-in traps at a capture site in British Columbia. Photo: WDFW

Each captured bird is weighed, sexed, and assessed for general health and wellness. All birds are tested for avian influenza and salmonella; great care is taken not to transport these or other pathogens across borders and between populations. In addition to performing the health exam, biologists fit each bird with an identification band and a tracking collar so that the birds can be monitored after they've been released in Washington.

WDFW research scientist Mike Schroeder with a collared Columbian sharp-tailed grouse ready for transport to the United States.
Photo: WDFW

After the initial exam is complete, the grouse are placed in individual carrying crates and allowed to settle in for a comfortable, air-conditioned drive to release sites near Omak, Washington—an approximately 300-mile international trip. Biologists go through normal border crossing procedures as well as additional inspections for the transport of wildlife. Veterinarians from both nations' governments review the animals at different stages of the journey. The primary objective throughout the process remains the same: deliver healthy grouse to Washington while minimizing the time the birds spend in transit and in the care of people.

Transport containers ready to bring Columbian sharp-tailed grouse to the United States. Photo: WDFW

When the sharp-tailed grouse finally make it to their release sites at WDFW Wildlife Areas and the Confederated Tribes of the Colville Reservation, they are released from their transport carriers and eagerly make their way into their new environment. Using satellite and radio collars, WDFW biologists track and monitor the movements of the relocated birds. GPS data allows biologists to see how the birds move across the landscape, note where they decide to settle in, and track mortalities or abnormalities. Feathers collected from the Canadian birds during capture are retained to compare DNA to feathers found on leks south of the border. In addition to tracking collar data, this DNA comparison can help biologists understand where the relocated birds are on the landscape following release.

Collaborative efforts are essential to the persistence of imperiled species in Washington. This complex effort was made possible by partners from the Confederated Tribes of the Colville Reservation, funding from WDFW and Conservation Northwest, disease testing from the Animal Health Centre of British Columbia, and permitting assistance from the U.S. Fish and Wildlife Service and the U.S. Department of Agriculture.

Columbian sharp-tailed grouse. Photo: WDFW

Chronic Wasting Disease Surveillance in Washington

Melia DeVivo, WDFW ungulate research scientist

Chronic wasting disease (CWD) has now made it to the world's first National Park, Yellowstone. In November, CWD was detected in a radio-collared mule deer that had traveled from Cody, Wyoming, to the Park, where it died. This came just a week after a mule deer harvested in central Idaho tested positive, marking the first known case outside of the hunt areas where CWD had first been detected in 2021. Mule deer from the CWD-positive area near New Meadows, Idaho, are known to migrate into Montana. As CWD continues to spread through North America, areas that were once free of disease are slowly added to the long list of areas positive for the disease.

WDFW CWD Education Trailer. Photo: Melia DeVivo

While CWD has not been detected in Washington, these new cases in nearby states are concerning. The disease spreads readily, both through natural transmission and through human-assisted transport of infected materials or live animals. The emergence of CWD in Washington is predictable but not unpreventable. It might appear that we can neither slow nor stop the spread of CWD, but that is not the case. We need to stop portraying this as an inevitable and uncontrollable situation.

It will be an uphill battle that will take an army of people to fight this fatal disease in wild populations.

The first line of defense is prevention. The most effective way to prevent CWD from infecting Washington's cervids is to eliminate the risks associated with human-assisted transmission. Properly importing and disposing of all cervid carcasses, restricting live animal importation, banning baiting and feeding, and eliminating the use of urine-based attractants are all actions that can be implemented now. In 2021, to tackle one of these areas of risk, WDFW restricted importation of whole deer, elk, caribou, and moose carcasses from anywhere outside of Washington. While this was a large step in the right direction, there is a long road to travel to continue to implement actions to prevent transmission of CWD.

The second defense is surveillance. Without information about what is going on in Washington's cervid herds, we can't implement actions to effectively mitigate transmission and spread of CWD. We rely on voluntary submission of samples from hunters and roadkill salvagers.

Deer hoist collecting road-killed deer for sampling. Photo: Melia DeVivo

Unfortunately, we have not sampled enough deer and elk to confidently say that Washington is free of disease. Plenty of mandatory actions could be imposed on hunters and roadkill salvagers, but those actions may come at a cost of support for future management actions to combat CWD.

Wildlife managers are at a crossroads: On one hand, if we place bans on baiting and feeding and implement mandatory testing, we risk losing public support. On the other hand, if we don't act, we may not detect CWD until it is at a level in the population where our tools to manage the disease are futile.

Washington Department of Transportation roadkill collection drop off area. Photo: Melia DeVivo

CWD samples collected at a Washington Department of Transportation roadkill drop-off site. Photo: Melia DeVivo

Southwest—William Ritchie, USFWS, Regional Representative

Evaluating the Impacts of Burrowing Shrimp on Waterbirds and Fish in Grays Harbor and Willapa Bay

Susan De La Cruz, USGS Western Ecological Research Center

Coastal estuarine tidal flats are critically important for meeting the energetic demands of migratory waterbirds, as well as juvenile fish, whose growth, survival, and recruitment depends on high-energy, available invertebrate prey. Grays Harbor and Willapa Bay are internationally recognized as fall and spring stopover locations for migratory shorebirds and waterfowl and are vital coastal refugia and feeding areas for regional fisheries stocks. Changes in the distribution and abundance of native species such as the ghost shrimp (*Neotrypaea californiensis*) and non-native species such as Japanese eelgrass (*Zostera japonica*) and smooth cordgrass (*Spartina alterniflora*) have the potential to influence the quantity and quality of intertidal habitat for waterbirds using these estuaries.

The ghost shrimp is a burrowing deposit feeder found on tidal flats from Alaska to Baja California. There is interest in understanding the effect of ghost shrimp on the infauna of these estuaries and how they may impact the prey resources of migratory birds and demersal fish. Ghost shrimp have the potential to affect shorebird foraging habitat by modifying the benthos of high and mid-intertidal zones through the constant bioturbation of soft sediments. This bioengineering turns stable sandy substrate into a quicksand-like consistency, which can have measurable impacts on other native inhabitants. In Pacific Northwest tidelands, density and diversity of common macrofaunal taxa are reduced where ghost shrimp are highly abundant and ghost shrimp may reduce invertebrate recruitment by inhibiting microbes and biofilms.

Thirty years of long-term monitoring data have shown that ghost shrimp populations in the Pacific Northwest have gone through periods of extensive increase, punctuated by short-term decreases in some estuaries. Many studies have explored the impacts of dense ghost shrimp beds on estuarine macrofauna, eelgrass, and aquaculture industries, but few have examined the potential effects on the carrying capacity of these tidal flats to support migratory shorebirds or demersal fish. Thus, the goal of our project is to compare prey density, accessibility, and energy content among areas of low, intermediate, and high ghost shrimp densities using methods developed for sampling in Grays Harbor and Willapa Bay and evaluate the effect of ghost shrimp on carrying capacity for waterbirds and fish that rely on infaunal prey resources during key times in their annual cycles.

USGS and USFWS researchers sampling for burrowing shrimp on Willapa Bay tidelands. Photo: USGS/USFWS.

In 2024 we will complete sample processing at the USGS Invertebrate Ecology Laboratory in Menlo Park, California. The resulting data will be used to evaluate carrying capacity for benthic foraging waterbirds and fish over a range of ghost shrimp densities. Information gathered from this project can help further our understanding of threshold ghost shrimp

densities at which total prey energy may be reduced for waterbird and fish guilds of interest. Total prey energy can be used to calculate estimated carrying capacity for species or groups of species based on their daily energy requirements. Understanding threshold densities at which ghost shrimp begin to influence regional carrying capacity for key species can help resource managers make timely decisions regarding waterbird management.

Invertebrates (including bivalves, gastropods, and polychaetes), algae, and shell fragments are collected and sieved from benthic sediment. Photo: USGS/USFWS.

Streaked Horned Lark Survey and Stewardship at Leadbetter Point

William Ritchie, USFWS Willapa National Wildlife Refuge

Streaked horned lark adult breeding surveys were conducted once monthly from May through August at Leadbetter Point on Willapa National Wildlife Refuge (NWR) and at Leadbetter Point State Park. The maximum total count of males detected (the metric used for tracking population trends via standardized streaked horned lark abundance surveys) was 23. The mean number of streaked horned larks detected per survey was 21, with an average of 14 male larks observed per survey. This was the most larks counted at any coastal site in a single year.

A streaked horned lark foraging amongst beach-cast eelgrass at Leadbetter Point, Washington. Photo: Russ Lewis

Data collection for a "hot spot" cluster analysis continued in 2023. This effort combines lark detection data, nest locations, and observed lark tracks to spatially identify occupied breeding territories. This year, 4 lark nests were discovered, and hundreds of lark track locations have been recorded over the past 4 years. All nests found this year appeared to have hatched, and none showed signs of predation. Juvenile birds were observed at several locations during subsequent surveys. Streaked horned larks and their tracks are also consistently observed at Leadbetter Point during the non-breeding season. Larks can be seen foraging year-round along the high tide wrack line on the ocean beaches and in the habitat restoration area.

Regional Refuge Inventory and Monitoring staff are working with Willapa NWR Natural Resource Program staff to develop data collection and management tools. Draft survey instructions, an Access database, and an ESRI Field Maps application were developed. This year, for the first time, we used mobile devices equipped with Field Maps to collect survey data, including lark detections, lark tracks, and nest attributes. We developed a data management plan to aid in tracking the entire data lifecycle for the surveys. The plan describes the data management roles

and responsibilities and the flow of data from planning to acquisition, processing, analyzing, preservation, and publishing or sharing, and disposition. We are also piloting a new application for tracking habitat management actions in the field.

Olympic—Betsy Howell, USFS, Regional Representative

Bat Emergence Surveys and Sampling for White-nose Syndrome

Karen Holtrop, Wildlife Biologist, Olympic National Forest

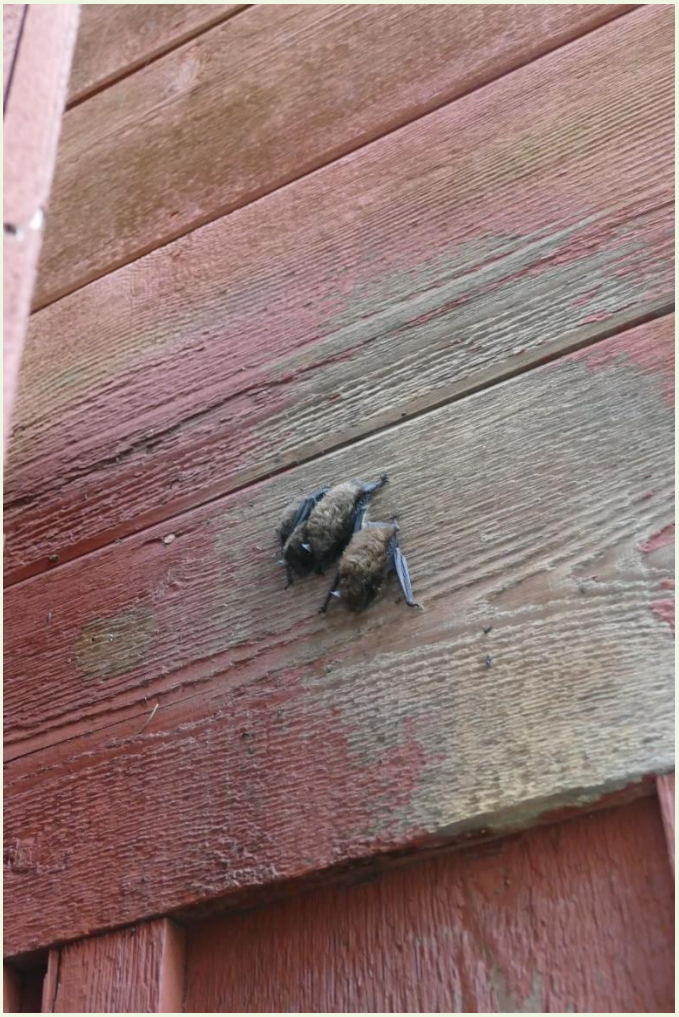
Completing bat emergence surveys at facilities with multiple exits during a narrow survey window can be challenging. But that is what successfully happened at the Olympic National Forest (ONF) in the summer of 2023. A team of ONF biologists, technicians, interns, volunteers, WDFW biologists, and WDNR foresters carried out emergence surveys at four facilities across the forest. Two of the sites included historic buildings, and at one of these 366 bats were counted exiting the building and overhead bat box—the greatest number for the season. Eighteen bats were counted at second historic structure, which was the first verification of bats roosting at this facility. At the Quilcene Ranger District, one building had 71 bats, the highest number in recent years. Finally, 8 bats were detected in 4 buildings at one of the Forest's work centers. Collecting data about temporary roosting by a few individuals at the work center may have somewhat boring for the surveyors, but the information will be valuable for management purposes.

Species detected at the structure with the highest number of bats included Yuma myotis (*Myotis yumanensis*), little brown myotis (*M. lucifugus*), and big brown bat (*Eptesicus fuscus*). Species in Quilcene included big brown bats as well as Keen's myotis and/or long-eared myotis (*M. evotis*). Identification of species at the other sites is ongoing.

At one historic structure and the Quilcene Ranger District compound, WDFW White-nose Syndrome Coordinator Abby Tobin and technician Allison Leipold worked with ONF biologists to conduct sampling for *Pseudogymnoascus destructans* (Pd), the fungus that causes white-nose syndrome (WNS). Capturing bats at the historic structure was fairly straightforward, as biologists could simply grab bats roosting behind shutters. The capturing and sampling effort at Quilcene was more complicated, involving setting up multiple triple-high mist nets. Lab results from the historic structure confirmed the presence of Pd on bats at that site, marking the second year in a row that the causative agent of WNS has been detected at that structure. To reduce human-assisted spread of WNS, a boot-washing station has been installed at that structure. Fortunately, no bats tested positive at the Quilcene Ranger District compound.

Setting up multiple triple-high mist nets. Left to right: Allison Leipold, Bryan Murphie, and Abby Tobin, all of WDFW. Photo: Karen Holtrop, ONF.

Abby Tobin (WDFW), Allison Leipold (WDFW), and Karen Holtrop (ONF) examining a captured bat. Photo: Betsy Howell, ONF.



Bats roosting behind a shutter. Photo: Betsy Howell, ONF.

Single bat behind a shutter. Photo: Abby Tobin, WDFW.

Monitoring the Responses of Stream-Associated Amphibians to Forest Management in Western Washington

Aimee McIntyre, Senior Research Scientist, WDFW

For two decades, WDFW and research partners have been monitoring stream-associated amphibians in headwater streams of western Washington. The work is part of a long-term study supported by the Forest Practices Adaptive Management Program, as described in WDNR's Forest Practices Habitat Conservation Plan (FP HCP). This experimental study is evaluating the effectiveness of riparian buffer prescriptions for timber harvest near perennial, non-fish-bearing streams in western Washington. The study is a collaborative effort; research partners included the Washington State Department of Ecology, the Northwest Indian Fisheries Commission, Washington State University, and Weyerhaeuser.

The study used a manipulative experimental design to evaluate the effectiveness of riparian buffers left in harvested watersheds, compared to unharvested control sites. The study assessed the effects of three riparian buffer strategies: one consistent with the current Forest Practices Rules (i.e., a two-sided, 50-foot buffer along at least 50% of the stream length), a more protective approach (a two-sided, 50-foot buffer along the entire stream length), or no riparian buffer. We evaluated each strategy in terms of its success in achieving the resource objectives established in the FP HCP.

Preliminary results indicate that some stream-associated amphibian species exhibit a delayed negative response to harvest in non-fish-bearing streams. For example, densities of larval coastal tailed frogs (*Ascaphus truei*) did not decrease during the first 2 years following harvest; however, densities at harvested sites 7 to 8 years post-harvest were 65% to 93% lower (depending on buffer strategy) than at unharvested stands. Densities of torrent salamanders (*Rhyacotriton* spp.) in sites harvested consistent with the current Forest Practices Rules showed a similarly delayed decline.

Olympic torrent salamander discovered during amphibian sampling in the headwaters of the Clearwater River on the Olympic Peninsula. Photo: Kylie Hackett, WDFW.

If these declines continue over the long term, they could result in decreased genetic diversity among local populations. Due to the patchy distribution of some stream-associated amphibians across the landscape, we may not be able to rely on the expectation that individuals dispersing from nearby populations will be able to enhance the genetic diversity at sites where densities have been reduced.

Coastal tailed frog (Ascaphus truei) *discovered during amphibian sampling in the headwaters of the Humptulips River, Olympic National Forest. Photo: Kylie Hackett, WDFW.*

In response to these results, the Adaptive Management Program agreed to support continued monitoring by WDFW to evaluate longer-term trends in the densities of stream-associated amphibian at these study sites. The continued effort will investigate whether amphibian densities at sites stabilize, continue to decline, or recover over time. Results from this effort will be available in summer of 2025. This

study directly informs FP HCP goals to support the long-term viability of stream-associated amphibians and to meet or exceed water quality standards.

This research has been supported over the past 20 years by multiple forestland owners and managers who have allowed access to study sites on their lands and continued to inform us of changes in ownership and management activities in and around study sites. We are grateful to Fruit Growers Supply Company, Gifford Pinchot National Forest, Green Crow, Manulife Investment Management (formerly Hancock Natural Resource Group), Longview Timber, Olympic National Forest, Rayonier, The Nature Conservancy, the Washington Department of Natural Resources, and Weyerhaeuser. The study would not have been possible without their continued support. Four of 17 study sites are located on the Olympic Peninsula, with one site on the Olympic National Forest in the Humptulips River drainage.

Olympic torrent salamanders observed in the headwaters of the Clearwater River on the Olympic Peninsula during amphibian sampling. Photo: Kylie Hackett, WDFW.

WA-TWS Leadership, 2023

Executive Board

President: Alex Pavlinovic, *president.elect@watws.org*

Immediate Past President: Matt Wilson, *past.president@watws.org*

President-Elect: George Ritchotte, *president.elect@watws.org*

Vice President: Claudine Reynolds, *vice.president@watws.org*

Secretary: Candace Hultberg (Bennett), *secretary@watws.org*

Treasurer: James Butch, *treasurer@watws.org*

Board Members At Large:

Katie Soltysiak, *boardmember1@watws.org*

Kris Ernest, *boardmember2@watws.org*

Jen Syrowitz, *boardmember3@watws.org*

Jake Verschuyl, *boardmember4@watws.org*

Committee Chairs

Grants: Tony Fuchs, *grants@watws.org*

Scholarships: Merci Clinton, *scholarships@watws.org*

Awards: Bill Vogel, *awards@watws.org*

Education and Information: Candace Hultberg (Bennett), *secretary@watws.org*

Conservation Review: Jen Syrowitz, *jen.syrowitz@watws.org*

Resolutions and Public Statements: Vacant

Nominations and Elections: James Butch, *treasurer@watws.org*

Membership: Katie Soltysiak, *boardmember1@watws.org*

Audit: James Butch, *treasurer@watws.org*

Diversity, Equity, and Inclusion: Kris Ernest, *kris.ernest@watws.org*