

FILLING THE GAPS

2025 Annual Accomplishment Report

Ecology Program

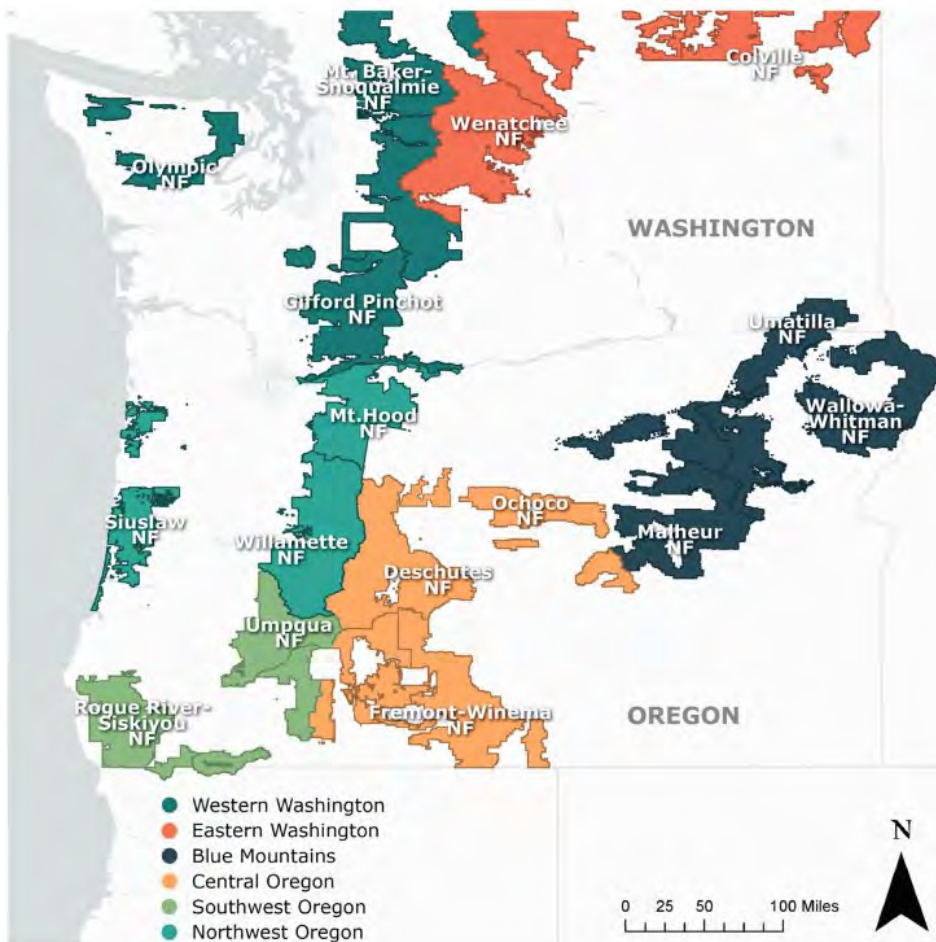
USDA Forest Service

Pacific Northwest Region

Cape Horn and Grindstone Mountain in Eastern Washington

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LAND ACKNOWLEDGEMENT

The Ecology Program gratefully acknowledges we work on the ancestral lands of many Tribes in the Pacific Northwest. We deeply respect their wisdom developed over millennia and seek to work with them as partners in land stewardship.

One recent example of partnership is as follows:

In 2025, the Ecology Program had a strong presence in collaboration and instruction at a Fire and Fuels Monitoring workshop with the Confederated Bands and Tribes of Yakama Nation's fire management staff in eastern Washington. A companion effort was going on at the same time with the Confederated Salish and Kootenai Tribes (CSKT) in Ronan, Montana. The Fire Effects Monitoring and Inventory System (FIREMON) set of protocols, which has become a standard approach, was featured.

In addition to the Yakama Nation, the Pacific Northwest Fire Science Consortium (NWFSC) organized the event. Monique Wynecoop (formerly of the Ecology Program) from Bureau of Indian Affairs also had a significant organizing role. Tom DeMeo, Regional Ecologist, has served on the managing board of NWFSC for many years. This monitoring effort follows a similar training we held two years ago with the Confederated Tribes of Warm Springs. Prior to that, Tom conducted trainings in fire regimes and ecological departure with the Confederated Tribes of the Warm Springs.



Heather Heward of the University of Idaho instructing participants on the FIREMON fine fuels monitoring protocol. Fire and Fuels Monitoring Workshop, near Yakama, Washington, May 15, 2025.

HISTORY OF THE PROGRAM

By Tom DeMeo

The Ecology Program traces its roots to the reforestation controversies of the 1970s. This was the era when timber was king, and clearcutting had led to some tree regeneration failures, notably on the Bitterroot NF in Montana and the Monongahela NF in West Virginia. Litigation against the agency, based on the Organic Act of 1897 (insuring the role of NFs in watershed protection), led to a management standstill.

After much debate, Congress passed the National Forest Management Act (NFMA) in 1976. One provision of the Act requires successful regeneration of sites within five years of logging.

It was noted that some sites were easier to reforest than others, and some proved particularly difficult because of dryness or cold. Foresters needed a way to consistently sort this out in a scientifically defensible way.

Enter the plant association (PA) concept. Ecologists, following the lead of Rex Daubenmire, Bob Pfister, and others, would collect vegetation cover data in late seral stands. Pattern analysis could then be used to assign species assemblages along gradients of moisture and elevation into consistent groups, known as plant associations or habitat types.

Working with other disciplines, management implications could be developed for each PA. PAs became a shorthand for describing environmental settings and characteristics. Each PA's ability to support regeneration, productivity, wildlife habitat, and other concerns was used to write silvicultural prescriptions with better confidence in outcomes.

In Region 6, Fred Hall had been working with these concepts in eastern Oregon since the 1950s. This led to the first published plant association guide in the Region, Fred's description of PAs in the Blue Mountains (1973).

Soon there was a network of Ecologists in the PNW, organized by Areas (groups of 2-3 Forests), collecting field data and producing plant association guides. Lenny Volland was one of these original ecologists and would later follow Fred as Regional Ecologist.

By the early 1990s, most of the forested areas in the Region had plant association guides. In 1994, the ecologists met at Fort Worden on the Olympic Peninsula. There they celebrated their achievements, and mused that they should be given a broader scope and influence.

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Assessing the 20-year post-Rx treatment response for the juniper woodland FIREMON beta test plots on the Crooked River NG.



Invasives Plot in the Deadman Project Area on the Colville National Forest located in a burn scar of the Renner Fire.

HISTORY OF THE PROGRAM *cont.*

Unfortunately, the spotted owl controversy hit the Westside and the logging industry like a [log] truck. Ecologically, concern centered on forest fragmentation and landscape pattern with less emphasis on stand (PA) scale issues. After much litigation and conflict, the Northwest Forest Plan (1994) emerged, and resource professionals spent years learning to implement it. On the eastside, the Columbia Basin assessment began a few years later. After much analysis and writing, it was never finalized.

With less logging, budgets declined. There was a sense that “all” the plant association work was done, so Ecology as a program could be wrapped up. Forests that wanted to keep their ecologist positions could do so on an individual basis.

There was a sense that ecologists were still valuable; it was just difficult to articulate and quantify that value. Alas, ecologists were perceived as less critical than foresters, silviculturists, and other disciplines. Faced with budget shortfalls, leaders had to make difficult choices.

As a program, Ecology began to decline, losing cohesiveness and, at times, struggling to find purpose. Around the year 2000, there was a realization that something needed to be done. Critically, Gary Larsen, the Forest Supervisor on the Mt. Hood NF, caucused with the other Forest Supervisors and convinced them to support a rebuilt Ecology Program. Ron Escano, Natural Resources Director in the Regional Office, was supportive and recognized a stable, dedicated source of funding at the Regional level was necessary to insure ecologist positions persisted into the future.

Hence the Ecology Regional commitment, \$2 million at the time, which supported about 15 ecologist positions in the Region. Ecologists would fit into a program of work negotiated with their Forest Staff Officers, building forest-level ownership and control of the program. Work

would go beyond PAs to meet landscape analysis, monitoring, and other needs.

Regrettably, as budgets declined, so too did the funding in the Ecology regional commitment. By 2016, the regional commitment was covering only 60% of ecologist salaries. The balance was made up with whatever funds could be found, taking an enormous amount of work to procure and sometimes leading to a distorted and cumbersome program of work.

An appeal was made that year to the staff officers to fully fund the ecologists. By this time ecologists had proven their worth as applied scientists serving the needs of the Forests, so staff officers were supportive. Full funding began the next fiscal year, and Budget Modernization soon followed, fully funding all employees.

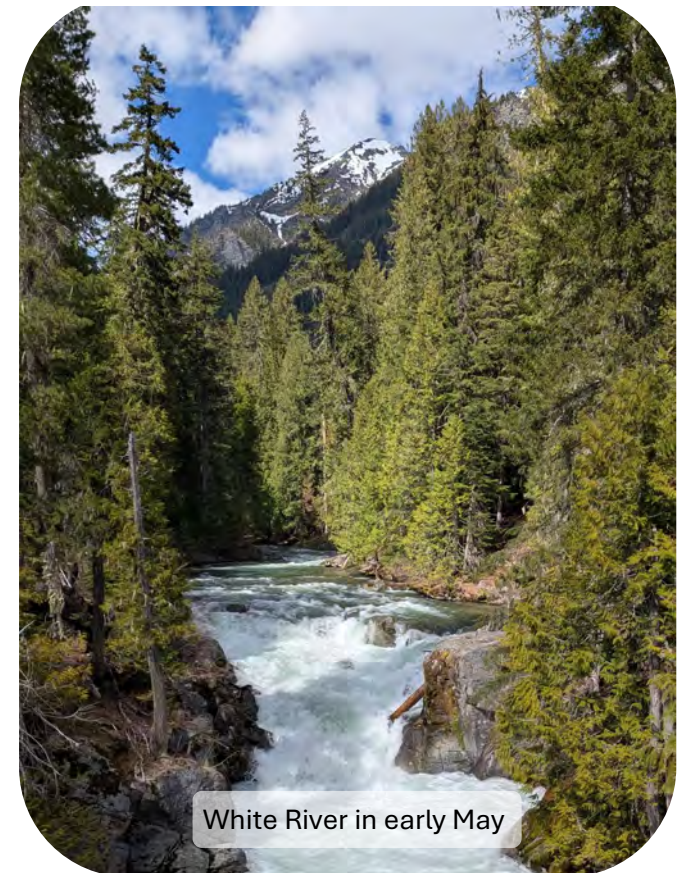
That brings us to today. A significant paradigm shift away from restoration and towards resource extraction is currently underway. This shift is coupled with overall Agency downsizing and the combining of regional-level management.

Where does the Ecology Program go from here? Some recommendations (from a retiring Regional Ecologist):

- To the extent possible, stress on-the-ground work on the forests, but maintain Regional cohesiveness of the ecologists.
- The Area concept and long tenure of ecologists means you have a network of people who know their landscapes well and are familiar with the issues surrounding their management.
- Start planning now on how ecologist vacancies will be filled 3 to 5 years out. Make the case for why ecologists are needed. At the moment, the Blue Mountains have one ecologist in place with three vacancies, and one of the heaviest work loads in the Region. Filling these vacancies will take diligence

and close attention to Forest needs. Therefore, the next Regional Ecologist should build bridges with all the staff officers as soon as possible.

- Stabilize key Regional planning projects, notably the GNN layer, the departure map, and watershed assessments by making a dedicated annual allocation. These tools have long proven their worth in a variety of planning applications.
- Combining R5 and R6 (and now R10) expands the span of control immensely. Consider having Assistant Regional Ecologists—or at least points of contact—for each of the original Regions.
- **Stay adaptable, build partnerships and allies, and above all, always be useful.**



White River in early May

MISSION STATEMENT

The Ecology Program is a network of ecologists applying science to serve the National Forests in the Region through the following core services: climate change, landscape assessment, technology transfer, monitoring, support to planning, partnerships, and products (maps, publications, and databases). Many of these services support climate change adaptation. The Area Ecologists work as equal partners with other disciplines, the PNW Research Station, Forest Health, and external partners. They work on an area basis to serve multi-forest needs and provide a landscape perspective. Ecologists are based on National Forests and are hence accountable to Forest leadership. Ecologists are a bridge between science and implementation.



Blooming lupines in a ponderosa pine plantation proposed for thinning and prescribed fire as part of the Dinkleman Fuels Project, Entiat Ranger District, Okanogan-Wenatchee National Forest.



Old Growth Larch and Designated Wildlife Tree Found in the Sherman Project Area, Three Rivers Ranger District, Colville National Forest

CORE SERVICES: *THE SEVEN PILLARS*

Climate Trends	Landscape Assessment	Technology Transfer	Monitoring	Support to Planning	Partnerships	Products
<p>Climate trends over time affect all aspects of our lives. Our program works closely with Thomas Timberlake, the Regional Climate Change Coordinator, to implement the vulnerability assessments that have been prepared for each of the areas in the Region. Specifically, we support planning teams with technical assistance in using this information in the planning process. We also work with the research community on using climate trends modeling, such as expected changes in water availability, to inform our landscape assessment.</p>	<p>Land stewardship today means looking at different scales on the landscape, and how they interact. Ecologists, working in the area (zone) framework, are well placed for a landscape perspective. We provide mapping and other tools to assess landscapes, notably the annual update of the Region-wide departure map. The assessment of how landscapes are departed from a natural (sustainable, resilient) condition has become a standard, critical tool in the assessment phase of planning. It is a core component of the Wildfire Crisis Strategy, the assessment phase of plan revision, and monitoring of the Collaborative Landscape Projects (CFLRPs). We also collaborate with other disciplines in supporting mapping of fire risk, watershed condition, and other applications.</p>	<p>The concept of technology transfer, or science delivery, has evolved over the years from a top-down delivery of information to the masses, into an emphasis on mutual learning. Our communication is varied and expanding. Areas conduct plant association trainings annual, a key building block of silvicultural prescriptions and other applications. We hold seminars on important topics and new products, such as the rollout this year of the Terrestrial Ecological Unit Inventory (TEUI) portal. We maintain an open website (ecoshare.info) for sharing information. And ecologists are always available for troubleshooting problems at the Forest, Area, and Regional levels.</p>	<p>Monitoring is a critical part of land stewardship, but often neglected. Leadership is often skeptical of monitoring, fearing its costs, complexities, and delays. Over the years, we have sought to overcome the known failures of monitoring to craft efforts that are simple, practical, and reflective of the resources available. We emphasize the continuum of evidence—realizing that not all questions require expensive, time-consuming monitoring, and mindful of the need for prompt reporting to inform leadership decisions. All these principles have been incorporated into the CFLRP monitoring process for well over 10 years, and were used to build the CFLRP Common Monitoring Strategy, now in its third year of implementation. They are also being used to influence the developing monitoring strategy for the Wildfire Crisis Strategy.</p>	<p>As ecology is an integrated science, so do many of our efforts integrate to support the planning process at project, Forest, and Regional levels. Landscape assessment is a core service in the early stages of the NEPA process. Technology transfer informs the planning process, providing a better sense of what is possible and what is not. Monitoring evaluates what we do, and informs the decision process to foster adaptive management. The Ecology program is actively supporting the planning process on many efforts, such as the Meadow Creek Collaborative Aquatic Landscape Restoration Project (CALRP), where we are closely collaborating with Tribal, hydrology, fisheries, wildlife and silvicultural colleagues to help provide the terrestrial component of this effort.</p>	<p>The Ecology Program does not survive without networking and partnerships to support the work of the Agency. The Nature Conservancy was instrumental in helping us build departure maps, and the University of Washington is a key partner in maintaining the maps and researching how climate change is affecting departure. We are collaborating with the University of Montana on what the future of potential vegetation may look like. We work closely with biometrics on old growth, wildlife on DecAid, silviculture on timber projects, soils with TEUI, hydrology on the Meadow Creek CALRP, fire on the Wildfire Crisis Strategy... The list goes on.</p>	<p>The Ecology Program has over the years generated an array of useful products to assist the Forests and others. We have the legacy of plant association and plant indicator guides covering the Region, available at ecoshare.info or on the TEUI portal. (Limited hard copies are also available.) Recently, after a multi-year effort, a new potential vegetation map was produced, covering the Region and is now available. Because PNV is the framework for Fire Regimes, this will be used to update the departure map and other applications. A General Technical Report (GTR) is also being prepared to accompany the map. Materials are available on the TEUI portal.</p>



Arrowleaf balsamroot blooms under the Stuart Range

REGIONAL OFFICE

PORTLAND, OR

Tom DeMeo

Regional Ecologist

Skye Greenler

Regional Biometrician

Claire Tortorelli

Ecologist

(joint with PNWRS)

Cheryl Friesen

Science Liaison

(Volunteer)

FILLING THE GAPS

It was a year of tumult and change, as the new Administration started off with an emphasis on downsizing, as well as an increased emphasis on timber production. We lost six ecologists from the program: Lisa Schomaker, Cameron Naficy, Paige Stephens, Bec Braisted, Karin Hernandez, and Claire Tortorelli. They are all sorely missed.

On a positive note, two of the positions (vice Schomaker and vice Naficy) made the list of critical positions to be filled, which came out later in the year. At year's end, we also have an opportunity to fill vice Schomaker and a vacant position on the Willamette NF. These are still under discussion. We are told a new reorganization plan will come out in mid-January. After that it may be possible to fill more vacant positions.

Throughout the year, we were pleased to see consistent support from Forest staff officers and Forest Supervisors. They value ecologists for our ability to see the bigger picture as well as processes and interrelationships on the landscape. Ecologists began taking a larger role in NEPA processes, and filling in work as needed, because of a reduced workforce.

At the Regional Office, Tom DeMeo also filled in gaps by supervising the biometrics unit while Skye Greenler was on maternity leave, and by getting more comprehensive partnerships with the Mule Deer Foundation and the National Deer Association started. (See Partnerships section.)

LANDSCAPE ASSESSMENT

Work continued to maintain the ecological departure map, and produce a new iteration. This map has become a critical map layer for planning processes and is being used or emulated by National Forests in the Region and Washington DNR. It is being considered for use by the Oregon Department of Forestry. The departure map is used to address two monitoring questions in the Collaborative Landscape (CFLRP) Common Monitoring Strategy, and was used in planning for the innovative Meadow Creek project on the Umatilla NF.

TECHNOLOGY TRANSFER

Our ecoshare website (<https://www.fs.usda.gov/r06/natural-resources/ecoshare>), designed for the rapid interagency exchange of ecological resource information, has ended its three year odyssey of approvals, transitioned to a .gov website, and migrated to a Drupal environment. The site is now fully functional and available, and can be edited, all at no additional cost.

A big thanks to Chris Lum-Naihe, an IT specialist with CIO, who stayed with us over the past couple of years and helped shepherd this where it needed to go. He was always patient with our delays and challenges, as well as giving sound advice on how best to proceed. Alexa Pengelly at our Regional Office, also continues to be supportive, and helped get this over the finish line. Going forward, Pek Wijayratne will be our program point of contact and in charge of website edits/additions, assisted by Cheryl Friesen, now a volunteer.

TECHNOLOGY TRANSFER CONT.

Willamette National Forest requested support to prioritize recently burned areas for reforestation while considering multiple factors including invasive species. The PNW/R6 Ecologist hosted a workshop with NW Forests and partners to identify priority weed species for management and areas most vulnerable for post-fire invasion. With this information, Ecologists developed requested invasion risk models and maps for recently burned areas on the WNF. These maps will be used to inform post-fire planning efforts by helping prioritize areas for post-fire hazard reduction, invasive species management, and reforestation. This information was included in the WNF white page report on post-fire management in NW Oregon Forests.

Additionally, Ecologists assisted in the development of fuel treatment optimization maps to prioritize areas for woody fuel reduction treatments to best mitigate local impacts with the fewest resources in high-risk sagebrush ecosystems (Day et al. 2025).

This year, Tom took over the Regional Coordinator role for Resource Advising, a key part of the Ecology Program's support to the wildland fire fighting effort. He also took over running the online N-9042 Resource Advisor course from Cedar Drake. This comprehensive and extensive effort played out over three months, culminating in three intensive days of online presentations from experts in a variety of fields. Approximately 350 students from around the country enrolled and most completed the course.

Because demand was so strong for the course, Tom also held a second, two-day online N-9042 course in June, with 300 participants. Although this course also included people from around the country, preference was given to those within Oregon and Washington.

In the late winter and spring, Tom also worked as an instructor on in-person resource advisor trainings with Tribes in California, through a partnership with the Chumash Tribe. Approximately 60 firefighters were trained in these efforts.

Finally, in May, Tom participated in a fuels monitoring session with the Yakama Nation in eastern Washington. The objective was to train participants working in fire on fuels monitoring techniques, to evaluate the effectiveness of fuels treat-



Claire Tortorelli and Skye Greenler assisting with monitoring on the Chemult Ranger District with the Central Oregon Area ecologists.

MONITORING

This was a monitoring emphasis year for the Common Monitoring Strategy. Of the Collaborative Forest Landscape Restoration Projects (CFLRPs). Tom coordinated the field invasives monitoring effort on the seven CFLRPs in the Region, and enlisted Presidential Management Fellow Claire Tortorelli to summarize the data coming in from the field. Claire developed workflows for Forests to streamline analysis and CFLRP reporting and managed data for future reports. The Ecology Program works closely with the biometrics team to leverage FIA to track forest recovery and monitor growth, condition, and trend across western forests and rangelands. Claire serves as a Range Monitoring cadre member, contributing to Forest and Regional rangeland monitoring strategies and supports the Northern Blues Restoration Partnership as a member of the Invasives Monitoring sub-team. Because of the government shutdown in October to November, reporting for our CFLRPs has been delayed until January 30.

SUPPORT TO PLANNING

During the past year, the Ecology Program has provided a support role for the development of the Amendment to the Northwest Forest Plan. Claire is actively serving as a team leader to expedite updates to Survey and Manage requirements in support of the Northwest Forest Plan Amendment. She provides leadership, writing, scientific expertise and analytical skills to develop defensible plan content that reduces barriers to meeting active management goals while continuing to provide for species persistence in a complex landscape with strong public interest. This work will accelerate timelines and reduce costs for active management on seventeen national forests in the Pacific Northwest, impacting over 19 million acres of highly productive National Forest System lands. Claire contributed to the the Blue Mountain Forest Plan Revision by evaluating and reporting on the condition and trend of Blue Mountains range vegetation and invasive species. We have provided guidance on how best to describe and organize vegetation concepts on the landscape, with a particular emphasis on how they shape fire regimes. We are using our new potential vegetation zone and subzone map, as well as crosswalks we have developed between different data sets and approaches to vegetation. Late in the year, we were approached by Kirk Acharya, a Regional planner, on how to best frame the ecology for an upcoming Eastside Screens revision. Our potential vegetation and ecological departure maps provide powerful tools for the Screens departure (Historic Range of Variation; HRV) requirements, and how these vary with ecosystems.



Eagle and Illahee Rocks viewed from Oak Flats and the power transmission corridor on the Umpqua National Forest.

PARTNERSHIPS

The Ecology Program has always depended on—and thrived on—our partnerships. We continue our strong partnerships with Washington DNR, Oregon State University, the University of Washington, the PNW Research Station, and The Nature Conservancy, to name a few.

This year, Tom also assisted the Region by getting partnerships started or enhanced with the National Deer Association and the Mule Deer Foundation. This was work to build agreements with these NGOs to have them help us increase timber production, direction from the administration. It involved a considerable amount of networking and coordinating with the Forests in the Region.

PRODUCTS

Day, M. A., Tortorelli, C. M., Ellsworth, L. M., Short, K. C., Brown, J. L., Koutzoukis, S., ... & Chambers, J. C. (2025). Optimizing woody fuel treatments to reduce wild-fire risk to sagebrush ecosystems in the Great Basin of the western US. *Journal of Environmental Management*, 392, 126672.

The big accomplishment this year was getting the potential vegetation zone/subzone GTR through review and in press. A big thank you to Pat Hochhalter, Mike Simpson, Jane Kertis, and Steve Acker for this achievement. Matt Gregory and Dave Bell at Oregon State University and the PNW Research Station, respectively, have also contributed. These map layers are the underpinning for the ecological departure map, since PNV frames fire regimes. They are also a critical organizing layer for Forest Plan revisions and efforts at a similar scale.

WESTERN WASHINGTON

GIFFORD PINCHOT NATIONAL FOREST

MT. BAKER-SNOQUALMIE NATIONAL FOREST

OLYMPIC NATIONAL FOREST

Kevin James

Botany-Ecology
Program Manager

Jessica Hudec

Ecologist

Lisa Schomaker

Ecologist
(departed in 2025)

In FY2025, the Western Washington Ecology Program supported timber and fire management programs and filled critical gaps left by vacancies. Ecologists' work continues to be integral to all levels of project planning and forest management, including Western Washington restoration prioritization planning, forest-wide Environmental Analysis for plantation thinning utilizing three-forest programmatic consultation, and specific project implementation and monitoring. Furthermore, Western Washington Ecologists provide consistent and unbiased representation between the Forest Service and state, federal, and non-governmental resource management agencies, research institutions, tribes, collaboratives, and other partners.

Sun shining through the canopy on Silver Star Mountain

LANDSCAPE ASSESSMENT & SUPPORT TO PLANNING

- Served as interdisciplinary team leader for forest-wide plantation thin EA.
- Served as interdisciplinary team co-leader for a large, ecologically-focused project with multiple partners; developed proposed action that aligns with objectives for various land management allocations, including botanical special interest area; released Draft EA for public comment.
- Prepared for REO LSR Work Group consistency review of harvest in LSR stands over 80 by analyzing silvicultural characteristics and fire risk metrics and drafting documentation.
- Submitted request for area addition to national ESD map. This was the first request approved in R6 and the second in the nation.
- Contributed ecological context to purpose and need for EAs and CEs. Reviewed literature/documentation and responded to comments as needed.
- Applied regional and national guidance on mature and old-growth forest management to local projects. Completed RO and WO review of projects with management actions proposed in old-growth forest conditions.

- Led field trips to proposed vegetation management planning areas with IDTs, collaborative groups, USFWS, WA-DNR, tribes, and other partners.
- Continued discussion on mapping old growth across Western Washington using Lidar-derived products.

FIRE MANAGEMENT

- Participated in field tours for Williams Mine and Microwave fires.
- Reviewed Top of the World escaped prescribed burn/wildfire declaration as part of a regional team.
- Completed pre-season trainings for Remote Incident Support Teams, Fire Behavior analysis, and WFDSsng.
- Helped with pile burning.
- Served as lead READ on the Twin Peaks fire and REAF on the Bear Gulch fire.
- Completed Agency Administrator trainings.



TECHNOLOGY TRANSFER & PARTNERSHIPS

- Contributed to fire refugia publications and consulted on fire refugia projects on other forests.
- Participated in a field tour of the Legacy Pines project (CRGNSA) as part of an old growth advisory team.
- Represented USFS in multi-agency community outreach meeting on wildfire risk and preparedness.
- Worked the front desk at a local Ranger District when staff shortages arose.
- Helped with required wildlife survey and manage surveys.
- Organized a field trip for NWFP amendment team to “transitional” forest areas at their request.
- Provided information to journalists on huckleberry management and old growth forest mapping, cited in High Country News and Columbia Insight, respectively.
- Supported Line Officers by working with local tribes and collaborative groups.
- Represented USFS on nature-based solutions partnership project led by Tulalip Tribe to develop an effectiveness framework for hazard mitigations at the watershed scale.
- Represented the Forest Service on a county-wide forest resiliency plan development.
- Collaborated with National Forest Foundation on the development of aquatic habitat and road interaction strategic plan for the Western Washington Restoration Collaborative Zone.



MONITORING

- Collaborated with Engineering, Botany and Unmanned Aerial System staff to develop a monitoring plan associated with a dam removal project.
- Supported a multi-agency effort to monitor and adaptively manage mature forests for resiliency and fire risk mitigation. Cascade Forest Conservancy is carrying out the monitoring using methodologies and funding from WA-DNR.
- Commenced a pilot effort to resurvey ecology plots established on the Olympic National Forest, with the goal of utilizing over 30 years of data in support of forest management, and to develop a method of digital data collection that will streamline the future monitoring, data management, and analysis process. [Suspended with Schomaker departure].
- Developed draft proposal to resurvey ecology plots in treated stands and in subalpine zones that may be more susceptible to climate change. Resurveys would take place throughout Western Washington’s three National Forest units. [Suspended with Schomaker departure].





Laying out monitoring plot for CFLRP

EASTERN WASHINGTON

OKANOGAN-WENATCHEE NATIONAL FOREST
COLVILLE NATIONAL FOREST

Kerry Kemp **Dana Chapman**
Area Ecologist Ecologist

Emily Leung
Ecologist

The Eastern Washington ecology program priorities center on providing science, leadership and high-level guidance on fire and forest ecology, special habitats, and landscape modeling and analysis to aid in project and landscape-level planning, assessments, and monitoring. In FY25, our priority work centered on (1) providing coordination for and implementing monitoring plans for two Collaborative Forest Restoration Landscape Program (CFLRP) project areas, including the collection of invasives data at 200 plots across the two forests and stand-based metrics in coordination with Washington DNR, (2) providing landscape assessments and context to active forest management projects and interdisciplinary teams, and (3) supporting local fire suppression efforts on the Okanogan-Wenatchee National Forest as resource advisors.

CLIMATE TRENDS

- Served as climate coordinators for the Okanogan-Wenatchee and Colville National Forests and submitted FY24 annual Climate Action Tracker report for both forests.
- Coordinated with Buckhorn and Meadow Lakes IDTs to complete climate and carbon analysis reports (CNF).
- Completed climate and carbon analysis reports for the Chumstick to LP and Upper Swauk EAs (OWNF).
- Participated as part of two research teams modeling future climate analogs.

LANDSCAPE ASSESSMENT

- Coordinated with contractors and WA DNR to update the terrestrial landscape evaluation for the South Fork Tieton project area to support treatment planning and implementation (OWNF).
- Completed an aquatic landscape evaluation for the Upper Methow project area to support project planning and implementation (OWNF).
- Collaborated and reviewed DNR landscape evaluation results and products for E. WA priority planning areas.
- Provided landscape and fire regime departure analysis and interpretation for large-scale project planning (OWNF).



MONITORING

- Served as monitoring coordinators for the North Central Washington and Northeast Washington Forest Vision 2020 CFLRPs. Completed FY24 CFLRP Monitoring Report for the NCW and NEW Forest Vision 2020 projects.
- Completed the 15-year monitoring report for the Tapash CFLRP (OWNF).
- Developed and finalized partner monitoring agreements with American Conservation Experience, WA DNR, the Yakama Nation, Cascade Fisheries, and The Wilderness Society.
- Developed partnership agreement with Washington DNR to facilitate the creation of two shared monitoring coordinator positions. Worked with DNR to onboard monitoring coordinators and develop a shared program of work that was implemented by the coordinators over the summer and fall of 2025.
- Developed a volunteer services agreement with the Methow Valley Citizens Council to facilitate stand monitoring data collection on the Twisp Landscape Restoration Project (OWNF).
- Coordinated collaborative volunteer monitoring days with the North Central Washington Forest Health Collaborative and Washington DNR to collect monitoring data on the Upper Wenatchee Pilot Project (OWNF).
- Assisted in annual range monitoring efforts on the Tonasket Ranger District (CNF).
- Remeasured 200 invasive monitoring plots across the North Central Washington and Northeast Washington Forest Vision 2020 CFLRPs.
- Collaborated with a research wildlife biologist from the PNW Research Stations and acquired needed equipment to prepare for 2026 ARU monitoring effort as part of the NEW Forest Vision 2020 CFLRP (CNF).
- Hosted DNR staff with forest silviculturists on Mill Creek A-Z Project discussing ongoing LiDAR work to be completed as part of a challenge cost-share agreement along with follow-up planning meetings (CNF).
- Participated in the Washington DNR Forest Health Advisory Committee quarterly monitoring meetings and the annual field day to the Cle Elum Planning Area.
- Completed and closed out contract with local photographer (John Marshall) to retake series of photos from 1994 Rat Hatchery and Tyee Fires, Osborne Panoramas, and recent forest-health treatments (OWNF).



SUPPORT TO PLANNING & FILLING THE GAPS

- Assisted timber sale administrators on the CNF walking units to complete harvest inspections on projects such as Chewelah A to Z (CNF).
- Participated in Central Zone IDT Meetings (CNF).
- Participated in IDT for the South Fork Tieton and Stampede Pass Projects to provide landscape assessment and departure analyses to inform proposed actions (OWNF).
- Completed climate specialists reports for the Upper Swauk and Chumstick to LP EAs (OWNF) and the Meadow Lakes and Buckhorn EAs (CNF).
- Completed terrestrial and aquatic landscape evaluation for the Upper Methow EA (OWNF).
- Assisted with the LSRA analysis and consistency report for the Midnight EA (OWNF).
- Provided analysis support to determine quantitative site potential tree heights for riparian reserves for use in consultation with USFWS (OWNF).
- Provided landscape and fire regime departure analyses and interpretation of historic reference conditions for stand structure for the Okanogan-Wenatchee Prescribed Fire EA.
- Supported NWFP Amendment IDT with East Cascades vegetation and historic range of variability analysis questions.



PRODUCTS

- Presentation: Chapman, D. 16 Jan. 2025. NEWFC Meeting. Presentation to NEWFC on CFLRP Monitoring Efforts.
- Presentation: Chapman, D. 12 Feb. 2025. FS + WDFW Annual Meeting. Presentation to WDFW on CFLRP Wildlife Monitoring Efforts.
- Education/Outreach: Chapman, D. 16-17 Sept. 2025. Lake Roosevelt Water Festival. Presented to 3rd-5th graders, Kettle Falls, WA.
- Education/Outreach: Kemp, K. 16 Oct. 2024 and 28 May 2025. Kids in the Forest Field Day. Taught fire ecology lessons to 6th graders from Eastmont & Wenatchee Middle Schools, Entiat, WA.
- Presentation: Kemp, K. 10 Jan. 2025. Naches Forest Partnership Meeting. Monitoring on the Okanogan-Wenatchee National Forest.
- Presentation: Kemp, K. 15 Jan. 2025. Integrated Vegetation Management Meeting, Okanogan-Wenatchee National Forest. CFLRP Monitoring – Tapash 15-year Report & North Central Washington CFLRP.
- Presentation: Kemp, K. 11 Oct 2024. USFWS Level 1 Meeting. Historical [Natural] Range of Variability: Concepts and Background
- Presentation: Kemp, K. 12 Feb. 2025. NCWFHC Quarterly Meeting. North Central Washington CFLRP Annual Progress Report.
- Presentation: Kemp, K. 7 May 2025. NCWFHC Quarterly Meeting. Upper Wenatchee Pilot Project Implementation Monitoring Field Tour.
- Publication: Yegorova, S., S. Dobrowski, S. Parks, K. Davis, K. Metlen, R. Haugo, T. Timberlake, T. Hoecker, K. Kemp, M. Wahlberg, C.E. Naficy, S. Jeronimo, K. Fitzgerald and U. Wijayratne. 2025. Changing climate may drive large shifts in vegetation zones of Oregon, USA. *Frontiers in Forests and Global Change*. 8:1637821. DOI: 10.3389/ffgc.2025.1637821
- Publication: Hoecker, T.J., K.T. Davis, C. Littlefield, J. Chandler, S. Parks, A. Maguire, K. Kemp, S. Yegorova, and S. Dobrowski. (in review) Alternative future vegetation pathways reveal potential transformations of western US ecosystems. *Global Change Biology*.



Back burn operations on the 2025 Lower Sugarloaf Wildfire



Larch regeneration in a treated unit on Sherman Pass

PARTNERS

- US Forest Service Pacific Northwest Research Station
- US Forest Service Rocky Mountain Research Station
- University of Washington
- Washington State University
- Portland State University
- Confederated Tribes of the Colville
- Confederated Tribes and Bands of the Yakama Nation
- Chelan County Natural Resources Department
- Washington Department of Natural Resources
- Washington Conservation Science Institute
- North Central Washington Forest Health Collaborative
- Northeastern Washington Forest Collaborative
- WiRe (Wildfire Research) Center
- Washington Resource Conservation & Development Council
- Klamath Bird Observatory
- The Wilderness Society
- The Nature Conservancy
- Conservation Northwest
- Cascade Fisheries
- Resilient Forestry, LLC.

BLUE MOUNTAINS

MALHEUR NATIONAL FOREST UMATILLA NATIONAL FOREST WALLOWA-WHITMAN NATIONAL FOREST

Recent themes have revolved around riparian forest thinning, range monitoring, landscape prioritization and Blue Mountain Forest Plan Revision.

Amarina Wuenschel

Area Ecologist

Departed in 2025

Cameron Naficy

Analyst

Paige Stephens

Ecologist

Karin Hernandez

Ecologist\Public Affairs

SUPPORT TO PLANNING

- Made prescription recommendations with the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and Oregon State University for the 54 North Project. (UMA).
- Analyzed shade data from the riparian forest thinning project on the Malheur for the Nov 2024 Level 1 meeting to support Endangered Species Act Consultation. (UMA, WAW, MAL)
- Designed riparian shade modeling and new snow dynamics UAS mapping at Meadow Creek to inform thinning treatments in riparian forest corridors. (MAL, UMA, WAW)
- Begin work to reconstruct fire patterns in riparian forests in the Red Cougar project area to inform treatment prescriptions in riparian corridors. (WAW)
- Sheep Creek Project. Presented at Northern Blues Field Tour on riparian thinning to build stakeholder consensus and help bring in implementation funds (WAW).
- Baker City Watershed Project. Presented at June 2025 Northern Blues Field Tour on whitebark restoration and habitat to build stakeholder consensus. (WAW)
- Morgan Nesbitt Project. Analyzed data, served on project ID team and responded to comments. (WAW)
- Walter Climate Diagram Tool redesign which informs silvicultural prescriptions using modern software. (MAL, UMA, WAW)
- Supported regional fire refugia planning which can inform treatment spatial locations and Forest Plan Revision work.
- Reviewed Historical Range of Variability attributes from published studies in the Blues in detailed report to Blue Mountain Forest Plan Revision team. (MAL, UMA, WAW)
- Planning underway to assist the Prairie City Ranger District in documenting Logan Valley Fen restoration need and pathways. (MAL)

MONITORING

- Conducted mandatory Multiple Indicator Monitoring along stream channels (WAW).
- After 2024 wildfires on the Malheur NF burned a substantial number of pastures, designed/tested/taught monitoring protocol to determine range readiness recommendations for livestock return to grazing allotments. Analyzed data and ran reports for ~30 pastures. (MAL)
- On team disseminating monitoring information to practitioners and interested stakeholders and make recommendations for adaptive management. As part of this we hired a monitoring support specialist to lead adaptive management work through Wallowa Resources. (UMA and WAW)
- Continue to serve as Northern Blues monitoring coordinator. This work involves liaising between monitoring team and USFS to make sure priority projects are monitored, analyzing data, and assisting with crew hiring. (UMA, WAW)
- Designed whitebark monitoring within two project areas to assess fuel reduction work impacts on mid-elevation whitebark pine individuals to inform reforestation mitigation. (WAW)
- Conducted field work and analyzed data to assess fire impacts to Humboldt marten habitat at request of the Six Rivers NF.
- Produced analysis of invasive species trends and treatments for the Northern Blues footprint over the last 20 years for required CFLRP reporting.





TECHNOLOGY TRANSFER

- Joined the Multiple Indicator Monitoring (MIM) training cadre for Region 6. The protocol is used to assess grazing related impacts to riparian systems. (WAW, UMA, MAL)
- Organized a multi-disciplinary field trial of to evaluate the ‘Bunchgrass Plant Association’ guides to assess the ecological health in *Silene spaldingii* habitat. (UMA)
- Municipal Watershed Projects (Tiger Mill and Baker City Watershed) - Organized the August 2025 Northern Blues Collaborative Meeting to build stakeholder consensus around watershed protection through presentations by respected scientists. (UMA and WAW)
- Co-authored a paper in *Forest Ecology and Management* which documents high levels of mortality in old growth trees on the Malheur NF and recommends active management to protect old trees in the Blue Mountain ecoregion. (MAL, UMA, WAW)
- Led two plant association trainings which inform our timber management through silvicultural prescriptions, (MAL and WAW).
- Presented on riparian forest thinning monitoring to the Malheur NF monitoring symposium to build stakeholder consensus. (MAL).
- Organized the 2025 Annual All Lands Partnership Meeting (two-day event with over a 100 participants) focused on monitoring to inform fuel, timber and restoration work around the Blue Mountain Region. (WAW, UMA)

- Consulted with Umatilla NF staff on whitebark restoration treatments in Vinegar Hill. (UMA)
- Advised staff at a Tanzanian wildlife preserve on methods for inventorying and treating invasive species through USFS International Programs.
- Prepared a stiff sagebrush and mountain mahogany restoration planting report. (UMA)
- Reported on the Kelly Prairie restoration project. (UMA)
- Presented to the Whitebark Ecosystem Foundation on the discovery, management and modeling of small whitebark pine in lower elevation mixed species stands in the Blue Mountains. (MAL, UMA, WAW)
- Donated the Blue Mountain herbarium to Oregon State University to clear space in the Baker City Office and to allow greater public access. (MAL, UMA, WAW)

FILLING THE GAPS

- Prepared the new Cooperative Ecosystem Studies Unit Master Agreement (CESU) and 26 challenge cost share agreements with each partner and serve as the technical representative. This allows R6 units to plug into the CESU network of university and NGO partners with a capped overhead rate of 17.5% to conduct field surveys, NEPA reports and analyses. (UMA, WAW, MAL)
- Organizing required CFLRP annual reporting, a program through which timber and fuel reduction work is supported. (UMA, WAW)
- Analyzed all the treatments that occurred within priority watersheds within the Northern Blues CFLRP for CFLRP reporting. (UMA, WAW)
- Served on multiple silviculturist panels for their certification process. (UMA, WAW)
- Involved with COR work and inspections for a pre-commercial thin. (WAW)
- Fire Behavior Assessment Team assignment to the Dillon Fire. Conducted plot measurements

before, during (via instrumentation) and after fire to assess how fire behavior is related to fuels and forest structure.

- Moon Complex Burned Area Emergency Response (BAER) Team GIS Support.
- Reviewed proposals for the Joint Fire Science Program (JFSP) grants related to ‘Accelerating science to action in fire-prone ecosystems: Spurring innovation in adaptation through knowledge exchange and place-based partnerships’. JFSP is a joint entity between the US Forest Service and the DOI.
- Designed the R6 Ecology Program Annual Report.
- Serving on the Northern Blues Collaborative Steering Committee. (UMA, WAW)

PRODUCTS

- Johnston, J.D., Stephens, P.N., Schmidt, M.R., Jeronimo, S.M., Brackett, A.E., Wuenschel, A.E., Ulrich, D.E., Paine, R.H., Duloisy, L.F., Greenler, S.M. and Larson, A.J., 2025. **Significant mortality of old trees across a dry forest landscape, Oregon, USA.** *Forest Ecology and Management*, 593, p.122907.
- Steel, Z. L.; Fogg, A.M.; Buzbee, R. Floreani; Wilkin, K; Collins, M.; Burnett, R.; Meyer, M. D.; **Wuenschel, A.**; Stephens, S.L. 2025. **Finding floral and faunal species richness optima among active fire regimes.** *Conservation Biology*. 2025: e70079.
- Parks, S. A, C. H. Guiterman, E. Q. Margolis, M. Lonerman, E. Whitman, J. T. Abatzoglou, D. Falk, J. D. Johnston, L. D. Daniels, C. W. Lafon, R. A. Loehman, K. F. Kipfmueller, **C. E. Naficy**, M. Parisien, J. Portier, M. C. Stambaugh, A. P. Williams, A. P. Wion, L. L. Yocom. 2025. **“A persistent fire deficit exists across most of North America despite recent increases in area burned.”** *Nature Communications*.

NORTHWEST OREGON

SIUSLAW NATIONAL FOREST
MT. HOOD NATIONAL FOREST
WILLAMETTE NATIONAL FOREST
COLUMBIA RIVER GORGE NSA

Priorities for the NWO Ecology Group include project work and planning support, particularly in filling gaps from staff loss. The Ecology Program's Special Habitat mapping has seen increased use in post-fire analyses, and modeling and support for this mapping across R6 has become one of the focal points of the NWO Ecology Area. Ecology support for planning in postfire areas and riparian reserves is another focal point. Landscape level vegetation analyses, especially in landscapes that have had large fires, continues to be a major priority. Underpinning all our work is collaboration with Forest staff, researchers, and external partners.

Upekala Wijayratne

Ecologist

Audrey MacLennan

Ecologist

Doug Glavich

Ecologist



David T. recording vegetation along a transect

CLIMATE TRENDS

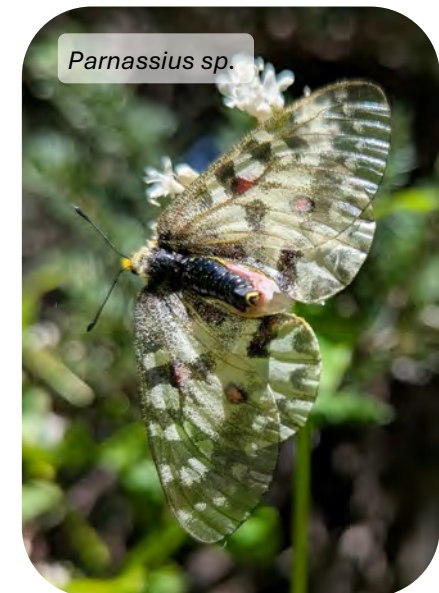
- Worked with District IDTs to incorporate climate trends into project purpose and needs, completed NEPA project analyses, literature reviews, comment responses, and climate change/carbon

LANDSCAPE ASSESSMENT

- Integrated Vegetation Management Strategy (IVMS): Developed and delivered the final project portfolio in May 2025, including a spatial dataset and accompanying trade-off analysis spreadsheet.
- ForestMAP: Partnered with the Regional and Washington Offices on the Region 6 pilot tool to prioritize areas with timber value that also reduce wildfire, insect, and disease risks.
- iLand: Collaborated with PNW Research Station and University of Washington to simulate management scenarios and assess timber and wildfire risk outcomes on the McKenzie River (Willamette) and Clackamas (Mount Hood) Ranger Districts.

TECHNOLOGY TRANSFER

- Provided a field plant association training on the Mt Hood NF for West Cascades forest types. Content included environmental setting influences on stand structure and composition.
- Provided field trip for the public group, Great Old Broads for Wilderness, where we discussed Cascades fire regimes and post-fire vegetation responses.
- Presented fire ecology of the West Cascades to teachers at Fish Lake, Willamette NF facilitated by OSU Oregon Natural Resources Education Program.



Parnassius sp.



Pek conducting a post-burn monitoring survey

MONITORING

- Completed 2nd year of Spring, Summer, and Fall vegetation measures to assess meadow seed mix efficacy in pile burned patches for the Oregon Silverspot Butterfly in support of required ESA habitat recovery efforts on the Siuslaw NF.
- In collaboration with the PNW Research Station and OSU Permanent Sample Program, completed tree and snag measurements for the long-term study in the Torrey-Charlton RNA on the Willamette NF to improve understanding of post-fire revegetation and reforestation of Cascade high elevation forests.
- Completed 3rd measure across 5 years in the Echo Mountain burn on the Siuslaw National Forest to understand revegetation and reforestation in coastal Sitka spruce forests.
- Implemented Rx meadow burn treatment monitoring on Marys Peak, Siuslaw NF.
- Collected field data for oak ecophysiological response to thinning in trailing edge forests – collaboration with East Cascades Oak Partnership

PRODUCTS

- Maps –For the R6 Special Habitat mapping project, we used the model in Google Earth Engine to produce a draft map for the Gifford Pinchot NF (Glavich).
- Completed DecAID updates (Wijayratne)
- Presentation – Special Habitat Mapping in the Oregon Coast Range – presented to the Hebo RD IDT (Glavich).
- Completed Ecology Briefing Paper on the Special Habitat Mapping (Glavich)
- Postfire management considerations white paper - draft (All)
- Co-production/author in collaboration with Svetlana Yegorova (PhD candidate, University of Montana) and other R6 Ecologists (Changing climate may drive large shifts in vegetation zones of Oregon, USA)

SUPPORT TO PLANNING & FILLING THE GAPS

- Participated as an extended member of Mt. Hood, Siuslaw and Willamette IDTs - general ecology support
- Focused hydrology NEPA support to Mt. Hood
- Focused support to Siuslaw NF Forest-wide invasives EA
- Engaged with collaborative groups on the Mt. Hood and Willamette NFs.
- Tribal engagement on the Siuslaw NF
- Supported the NWFP amendment process as ecology and fire ecology SMEs.
- Finalized the tree age/height modeling pilot to inform the NWFP amendment and briefed leadership on modeling results.
- Post-Fire Invasive Species Risk Mapping: Initiated mapping project with PNW Research Station, engaging FS staff and partners across Northwest Oregon to map post-fire invasive species risk.

PARTNERSHIPS

- USFS Pacific Northwest Research Station
- University of Washington
- Oregon State University
- UC Davis
- Cal Poly Humboldt
- East Cascades Oak Partnership (ECOP)



SOUTHWEST OREGON

UMPQUA NATIONAL FOREST ROGUE RIVER-SISKIYOU NATIONAL FOREST

Southwest Oregon ecologists adapted to shifting priorities throughout 2025, maintaining support to interdisciplinary teams and required monitoring while filling in with essential administrative duties. Umpqua priorities included finishing the Buckeye project analysis (in planning since 2015), contributing to several new timber and fuels projects, leading interdisciplinary field trips, and filling vacant roles in botany and other programs, including rent and tenant management for 66 housing units. Priorities on the Rogue River-Siskiyou included support for forest-wide restoration planning, project planning, implementation, vegetation and fuels monitoring to support the CFLRP project, reporting for the Rogue Basin CFLRP project, and partner collaboration. The general technical report for the regional Potential Natural Vegetation dataset is in the final stages of editing with PNW Research Station.

Bill Kuhn

Area Ecologist

Patricia Hochhalter

Ecologist

Devin McMahon

Ecologist

Southwest Oregon ecologists measured survival and regeneration of oaks, and understory plant composition, in an oak restoration project.

CLIMATE TRENDS

- Assisted Southern Oregon Climate Smart partner group to access available data on climate change and adaptation and continued to write a draft Douglas-fir forest climate adaptation guide for the Rogue Basin in southwest Oregon.
- Assisted ID Teams and planners on the Rogue River-Siskiyou to include robust climate change impacts into NEPA planning documents. This included a summary climate impacts analysis for the Snowy Butte restoration project.
- Fielded public comments and objections related to carbon, climate trends, and old-growth forest for the Southwest Tiller Fuel Breaks, Buckeye, and Umpqua postfire salvage projects

LANDSCAPE ASSESSMENT

- On the Rogue River-Siskiyou, conducted Vibrant Planet scenario planning analysis to validate spatial restoration priorities for the Snowy Butte planning area and for initial exploration of high priority stands within the Yellowjacket planning area
- Rogue Basin CFLRP planning, with collaboration from Southern Oregon Forest Restoration Collaborative and Vibrant Planet. Assisted in the refinement of valued resources and assets across the Rogue Basin for the Vibrant Planet restoration and scenario planning tools.
- Updated spatial prioritization analyses for the Umpqua to reflect timber-focused priorities and include operability constraints and opportunities at the stand scale
- Coordinated assessment through Great Basin Institute partnership to identify active management needs following 2020-23 fires
- Contributed fire history and future scenario information to project area analysis for Cedar Creek and other timber projects
- Assisted Forest Health Protection staff to spatially quantify the extent and severity of the recent Douglas-fir mortality over the period 2015-2024. Analysis was used to generate an economic impacts analysis. Both mapping and economic impacts analyses are being used to generate partner and stakeholder interest to pursue funding to address the crisis.

TECHNOLOGY TRANSFER

- Plant Association trainings covering three vegetation types and bringing together silviculturists, botanists, and partner staff
- Facilitated collaboration between Oregon State University researchers and FS staff to identify operationally feasible project areas that would reduce fire risk to old-growth habitat
- Continued development of a geodatabase of available geospatial data relevant to forest restoration needs and prioritization
- Promoted use of newly developed spatial datasets for restoration planning
- Assisted with several Vibrant Planet training sessions targeted for USFS staff and partner staff
- Used ecology plot data to develop DBH to tree age regression equations for all conifer trees across all plant associations in southwest Oregon, to be used as a guide to field-identify potential old-growth or legacy trees.

MONITORING

- Vegetation and fuels monitoring on the Rogue River-Siskiyou to support CFLRP monitoring goals and reporting
- Completed biennial invasive species and understory species monitoring for the Rogue Basin CFLRP project
- Assisted Forest Health Protection staff with Douglas-fir mortality monitoring and update to mortality risk rating across southwest Oregon
- Assisted NW OR ecologists and PNW researchers with long-term high-elevation postfire monitoring
- Remeasured plots from 2015 to assess oak restoration success and inform future restoration timber projects
- Assessed quarries for weeds to meet botany and engineering requirements



A vigorous liverwort on charred wood at the junction of a wet meadow and burned silver fir forest that ecologists assessed for post-fire management needs.



Devin McMahon led a field assessment of reforestation needs following multiple wildfire complexes in 2024 across the Umpqua National Forest's North Zone.

SUPPORT TO PLANNING & FILLING THE GAPS

- Rogue Basin CFLRP (RRS): worked with collaborators and contractors to develop restoration needs and analytical tools for restoration scenario planning for multiple benefits
- Snowy Butte (RRS): assisted ID Team to identify current conditions, departures, and restoration priorities, and write summary climate change analysis for the EA.
- Generated Vibrant Planet planning and implementation scenarios to assist with the Yellowjacket planning area in development of purpose and need and potential project footprint.
- Further developed a spatial database of historic forest conditions in the Rogue River basin using General Lands Office surveys, interpreting and entering data on bearing trees and forest patterns across six townships covering portions of the Rogue River-Siskiyou
- Coordinated with Forest Health, Regional Office, and Umpqua NF specialists to obtain and apply HFRA designation from 2023 and pursue additional HFRA designation and inclusion of up-to-date designation in Emergency Situation Determination map
- Performed GIS and field assessments for reforestation of 2024 fires
- Guided Buckeye project through 2024 Old Growth Review process, climate change-related public comments, and coordination with Research Station and university scientists for the South Umpqua Experimental Forest
- Continued to lead Umpqua Resilient Landscapes group to identify and prioritize future planning areas

PRODUCTS

- Updated vegetation and fuels monitoring stratification dataset for the Rogue Basin all-lands monitoring protocol using the latest version of the Oregon-wide climatic water deficit dataset
- Assisted with the refinement and expansion of Survey123 surveys for vegetation and fuels monitoring
- Compiled Umpqua National Forest staff input to Northwest Forest Plan Amendment, actively shaping the revised DEIS
- Completed Forest-wide timber and fuels opportunity maps and documentation for entire Umpqua
- Worked with DRM to complete GIS layer of existing NEPA coverage on Umpqua

PARTNERSHIPS

- Klamath-Siskiyou Oak Network Upper Rogue Oak Initiative (OWEB grant)
- Klamath-Siskiyou Oak Network Lower Butte Oak Initiative (OWEB grant)
- Rogue Forest Partners: Rogue Forest Restoration Initiative (OWEB grant)
- Southern Oregon Climate Smart
- Southern Oregon Forest Restoration Collaborative and Vibrant Planet – CFLRP restoration prioritization and scenario planning support
- Oregon Conservation Corps and Phoenix of Roseburg (weeds treatment)
- Pacific Northwest Research Station and Oregon State University (multiple projects and standing discussion group)
- Umpqua Oak Partnership
- Wild Rivers Coastal Forest Collaborative

CENTRAL OREGON

DESCHUTES NATIONAL FOREST
OCHOCO NATIONAL FOREST
FREMONT-WINEMA NATIONAL FOREST
CROOKED RIVER NATIONAL GRASSLAND

Gregg Riegel
Area Ecologist

Cristina Mckernan
Ecologist

Maximillian Wahlberg
Ecologist
(joint with FHP)

Bec Braisted
Ecologist
(departed 2025)

Jules Barab
(departed 2025)

Owen Castagnoli
(departed 2025)

The Central Oregon Area Ecology Team specializes in addressing a wide range of eastside forest, upland range, and wetland and riparian ecological management issues. Our current focus is: 1) landscape assessment to support active management and risk prioritization under 2) forest landscape vegetation and health assessments, stand analyses, and monitoring 2) drought and livestock grazing interactions, and 3) upland range inventory and monitoring.

Provide Landscape Assessment-Departure Analysis support for vegetation of Central OR National Forests & Grassland.

Provide upland rangeland, riparian, meadow, and fen ecological expertise. Conduct Multiple Indicator and Monitoring (MIM) for long-term trend evaluation of livestock grazing management, and riparian ecological site condition status assessments for Rangeland Allotment Management Plan renewal NEPA process.

Provide support for invasive weed management and monitoring.



Max Wahlberg assessing post-fire juniper reduction and changes in grass species composition at Gray Butte, CRNG.

CLIMATE TRENDS

- Climate-Adapted Dry Forest Management Workshop: Facilitated and served as the primary presenter to a broad group of internal and external stakeholders for this interactive workshop addressing climate risks and key adaptation strategies for addressing the needs of dry forest ecosystems across central Oregon.
- Direct support to project planning teams for considerations of long-term productivity in light of projected episodic and multi-decadal drought.



Jules Barab assisting with MIM surveys on the Ochoco National

SUPPORT TO PLANNING & FILLING THE GAPS

- Direct Input to Active Management Projects: Provided insights, analysis, reports and field visits with project specialists for the following active management projects in Area 4:
 - North Slopes – Ochoco National Forest
 - Upper Trout Creek - Ochoco National Forest
 - MODA – Deschutes National Forest
 - SCARP - Deschutes National Forest
 - Camp II - Deschutes National Forest
 - Bull Springs - Deschutes National Forest
- Identification of Outyear Project Areas: Worked with district IDTs to identify potential future planning areas for active management projects that produced both volume and provide data driven wildfire risk reduction
 - Sisters Ranger District – Deschutes National Forest
 - Crescent Ranger District - Deschutes National Forest
- Consulted on range and timber projects throughout the region:
 - MBS, Malheur, Deschutes, FreWin, Mt. Hood
 - Support to Region 6 Forests and Districts on all aspects of wetland and riparian restoration (Proposal Development, Proposed Action, Environmental Analysis, and Implementation).
 - Developed project design features (PDFs) to ensure the persistence of healthy fens during implementation of forest management activities.

SUPPORT TO PLANNING & FILLING IN GAPS CONT.

Supported other staff areas in delivering mission critical services following unprecedented losses in staffing. This included a wide range of activities from staffing the front desk to assisting district wildlife specialists with bat monitoring and deploying ARUs for NSO monitoring.

LANDSCAPE ASSESSMENT

- Landscape Analysis in Support of Active Management:
 - Developed statistical relationships between tree height and diameter for all Potential Natural Vegetation Sub-zones in the State of Oregon; this facilitated modeling tree size from lidar based measurements of tree heights
 - Developed and mapped updated NSO habitat elements for the Deschutes National Forest using lidar data
 - Developed lidar based estimates of timber volume to support active management objectives on the Deschutes National Forest (ongoing)
 - Produced updated wall to wall existing condition map surfaces for vegetation structure and composition on the Ochoco National Forest

Will monitoring alternative fuels treatment



Max leading discussion on dry forest adaptations



TECHNOLOGY TRANSFER

- Greater La Pine Basin All Lands Strategy: Provided multiple presentations and facilitated key dialogue across multiple public and private landowners in the Greater La Pine landscape to leverage key wildfire risk analytics to best inform appropriate fuels management strategies to reduce the risk of catastrophic wildfire loss.
- Presented at Malheur Monitoring symposium
- Training of staff for water level measurements
- Served as core member of the NIROPS leadership cadre providing training and support to the National Infrared Operations program.
- RX-310 Introduction to Fire Effects: PNW Training Center Virtual Course, Cadre.
- Interpreting Indicators of Rangeland Health: Interagency National Team, Cadre Instructor.
- National Rangelands Assessment, Inventory, and Monitoring (RAIMS) National Technical Team.
- Region 6 Range Monitoring Cadre.
- Monitoring MIM (Multiple Indicator Monitoring) Site selection decision assessment and installation instruction with Dawn Coultrap Regional Range Specialist and Rogue River Range Staff, Mark Hocken, Emily Thomas Wartenberg, Sean Anderson, and Ecologist Pat Hochhalter. Rogue NF High Cascades RD (Mirror Creek), Siskiyou RD (Mc Donald Basin) 8/29-8/31/25.
- Riparian Conservation Areas Thinning for Ecosystem Resilience draft monitoring framework Mill and McKay Creeks with Jill Welborn Botanical Consultant, Ochoco Forest Restoration Committee and Jon Kochersberger, District Hydrologist, Ochoco NF and CRNG.
- Field trips:
 - Mt. Hood: Field Assessment of Camas Prairie
 - Pek Wijayratne (NWO Area Ecologist), David Watson (Soil Scientist), Kristen Chadwick (Forest Pathologist)
 - Deschutes Riparian Treatments: Field Assessment in Upper Little Deschutes Watershed
 - Kyle Wright (Hydrologist), Caroline Beshears (Fish Biologist)
 - Fremont-Winema Riparian Treatments: Field Assessment of fens resilient to thinning and rx fire (Project Name: North End Restoration Project)
 - Graham Johnson (Botanist), Sandra Klepadlo (Botanist)
 - FreWin Range and Deschutes Monitoring in Fens: Range Monitoring, Field Assessment of fens resilient to thinning and rx fire, ESA listed species habitat and restoration monitoring
 - Amarina Wuenschel (Blue Mountain Area Ecologist)
 - OSU Cascades Fire Ecology (FES 441) Field Trip
 - Great Old Broads Fire Ecology Field Trip (in collaboration with NWO Area Ecology Program)

Ben assisting with MIM surveys at Willow Creek



Bec Braisted measuring line point cover at Gray Butte





Cristina McKernan monitoring water table depth in a fen with Dave Weixelman (retired R5 Regional Range Ecologist) and David Cooper (Emeritus Professor at Colorado State University)

MONITORING

- Fen monitoring: 1) Antelope Allotment (Fremont-Winema NF): Established monitoring plots at 12 high priority fens, 2) Oregon Spotted Frog (OSF): Established monitoring plots at four 4 fens that support OSF habitat across the Deschutes and Fremont-Winema NF and identified needs for restoration actions, 3) Deschutes Fen Monitoring: Established monitoring at three high priority fens, and 4) Support to the Deschutes and Ochoco NF's Aquatic Program on terrestrial.
- Conducted CFLR 15-year monitoring including producing vegetation structure monitoring analytics, understory fuels photo assessment, and performing field based invasive species monitoring across the DCFP landscape.
- Supported monitoring effort on threatened whitebark pine evaluating planted rust resistant stock at Crater Lake National Park.



Gregg Riegel and others assessing post-fire salvage logging treatments on the Bend-Fort Rock RD.

PARTNERS

- Pacific Northwest Research Station
- Deschutes Collaborative Forest Project
- The Nature Conservancy Oregon
- Ochoco Forest Restoration Collaborative
- Greater La Pine Basin All Lands Partnership
- Central Oregon Shared Stewardship Alliance
- Forest Health Protection
- Collaborative USFS/USFWS monitoring of Oregon Spotted Frog habitat on the Deschutes and Fremont-Winema NF.
- PSU Institute of Natural Resources - Fen Monitoring and Mapping on the Fremont-Winema NF.
- Colorado State University, Oregon State University – Cascades, USFWS, USGS – Assessing water needs of fens in Central Oregon.
- USFS Northern Research Station: Peatland Mapping on Deschutes NF.
- NRCS Redmond Major Land Resource Area (MLRA) Technical Team. Provide Ecological Site Description (ESD) and Soil Survey assistance and review.
- BLM Lakeview District – Assessment and support of the of long-term Riparian Ecologic Type Scorecard plots to track ecological status trends.

PRODUCTS

Formal Products (citation)

- Co-author: Changing climate may drive large shifts in vegetation zones of Oregon, USA
- Yegorova S, Dobrowski S, Parks S, Davis K, Metlen K, Haugo R, Timberlake T, Hoecker T, Kemp K, Wahlberg M, Naficy CE, Jeronimo S, Fitzgerald K and Wijayratne U (2025) Changing climate may drive large shifts in vegetation zones of Oregon, USA. *Front. For. Glob. Change* 8:1637821. doi: 10.3389/
- Long-term forest understory recovery and tradeoffs in response to prescribed fire return interval. B. Kerns, G. Riegel, N. Wade, D. Nemens, C. Tortorelli, G.L. Williams, D.H. Berger, M. Kennedy, S. Prichard. Final Draft submitted to *Fire Ecology* in 12/2025.

PRODUCTS CONT.

Informal Products (no citation)

- Multiple Indicator Monitoring (MIM): Reports for six Designated Monitoring Areas (DMA) for livestock grazing effects on riparian conditions for the Fremont-Winema NF, and five sites on the Ochoco NF from 2024 data our field crews collected. B. Braisted, C. McKernan, G. Riegel.
- Riparian Ecological Status Trend Report from 10 scorecard plots within four Ecological Types using our Riparian Field Guide for the Fremont-Winema National Forest and Lakeview BLM District from 2024 data our field crews collected. B. Braisted, C. McKernan, G. Riegel.
- Effects of Fuel Treatment Alternatives on Bitterbrush (*Purshia tridentata*) Population Dynamics and Understory Composition along the Eastern Slopes of the Cascade Range of Oregon and California. Claire is leading the analysis and writeup of this long term (10+ years) administrative study that spans from the Deschutes to the Modoc NFs. C. Tortorelli and G. Riegel.



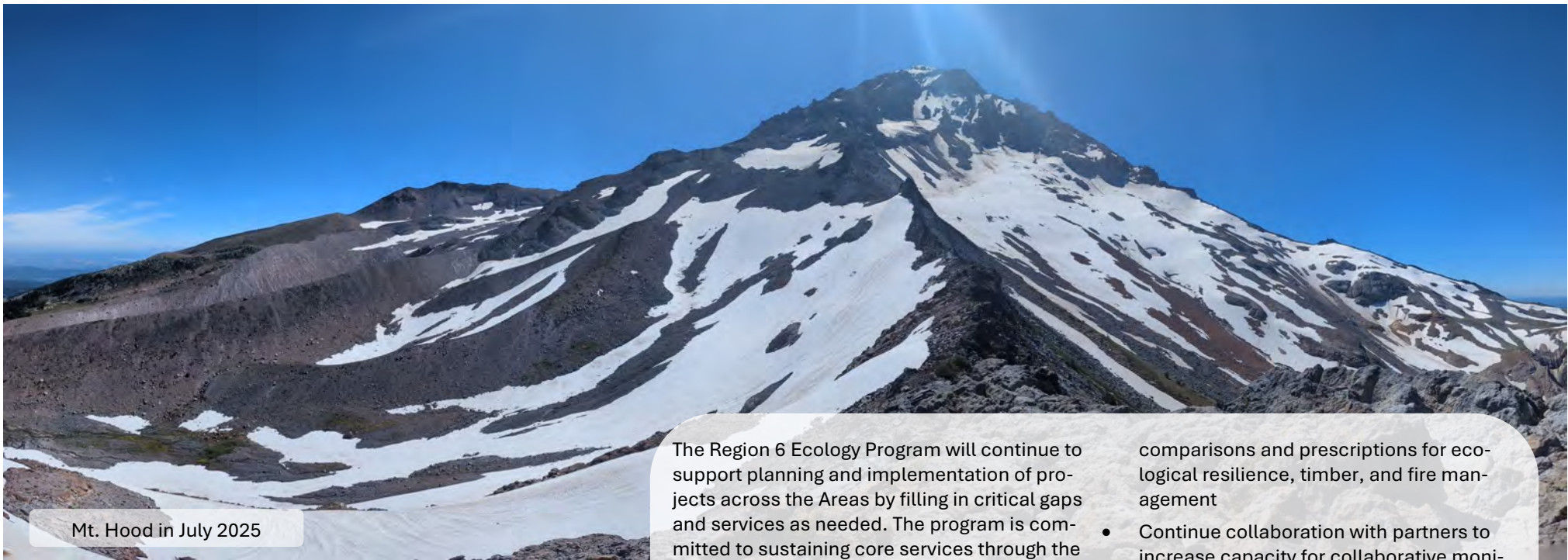
Discussing fire risk and treatment need with ODFW



Cristina McKernan, Skye Greenler, and Claire Tortorelli testing the fen monitoring protocol on the Chemult RD.



Cristina McKernan training USFWS personnel how to install water table monitoring wells in Jack Creek Meadow with early season snow.



Mt. Hood in July 2025

The Region 6 Ecology Program will continue to support planning and implementation of projects across the Areas by filling in critical gaps and services as needed. The program is committed to sustaining core services through the following:

- Deliver science-based communication and technology transfer to forest specialists, collaboratives, and other partners.
- Continue CFLRP monitoring, data analysis, and partnership coordination
- Provide data analyses and spatial monitoring to assess broad and fine-scale

comparisons and prescriptions for ecological resilience, timber, and fire management

- Continue collaboration with partners to increase capacity for collaborative monitoring accomplishments.
- Building and improving engagement with indigenous communities, USFS Research stations, state agencies, partner organizations, and academic institutions.
- Support timber and fire management programs and assist with wildland firefighting response efforts.

LOOKING AHEAD



Landscape view during the Fire Science Workshop in June 2025 with partners on the Okanogan-Wenatchee National Forest

ECOLOGIST SPOTLIGHT: TOM DEMEO



Tom is retiring from Federal service at the end of 2025. With his departure, the Agency says goodbye to a passionate advocate for “do no harm” resource management in the U.S. and abroad, with a no-nonsense attitude and a dry sense of humor. Tom has been a proven leader, an inspiring mentor, a partner, and a friend. We pay tribute to his 40+ year career by sharing his path to the PNW Ecology Program and some parting words of wisdom.

Early life

Tom was born and raised in Wilkes-Barre (Kingston), PA. Boy Scouts were instrumental in shaping Tom’s interest in being outside in the wild. Tom spent a lot of time in the library where he discovered the writings of Gifford Pinchot, John Muir, and Aldo Leopold on his own. His mother used to say he “spent his life in the library”. Tom knew in the 9th grade that he wanted to have a career in conservation based on the experiences he had in scouting and exposure to early American conservationists’ writings.

Education

1980 B.S. Forest Science, Pennsylvania State University, silviculture emphasis

1987 M.S. Forest Science, Oregon State University, minor in Integrated Agriculture Thesis: Relationships of tree growth to nitrogen and water availability in a sheep-tree-pasture system in Douglas County, Oregon: field case study and shadehouse simulation

1999 Ph.D. Forest Resources Science, West Virginia University, wildlife emphasis. Dissertation: Forest songbird abundance and viability at multiple scales on the Monongahela National Forest, West Virginia

Career Journey

Tom was hired into his first position with the Forest Service in 1979 as a seasonal GS-4 forestry technician. His primary role was a timber inventory crew member; secondarily, he assisted in firefighting efforts. Tom’s last class at Penn State was the day after Mount. St. Helens erupted.

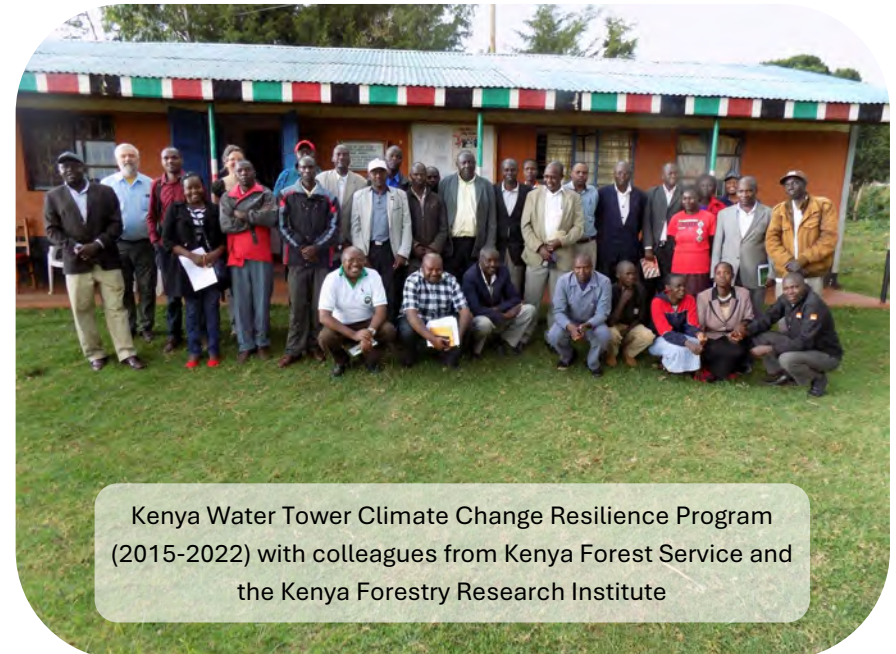
Tom decided to apply to the Peace Corps during his senior year at Penn State. He was hired in July 1980 to serve in Ghana. Tom worked closely with Ghana Forestry in agroforestry settings to help set up sheep and goat grazing programs. The Peace Corps presented Tom with opportunities to learn how to solve problems, adapt to the local culture, and address natural resource issues associated with larger societal problems. Tom continues to utilize the skills he learned with the Peace Corps in his role as Regional Ecologist. Tom’s experience working with volunteers helped instill a deep appreciation for the value and dedication of on-the-ground citizens invested in working for the common good. Furthermore, his interest in working with different cultures extends to his assignments with USFS International Programs and his personal passion for volunteerism.

1980-1982 U.S. Peace Corps Volunteer, Ghana

1982-1984 U.S. Peace Corps Volunteer, Botswana

Following his time in the Peace Corps, Tom went to OSU for his M.S. degree, focused on agroforestry. Tom worked with Bill Emmingham, who had briefly served as the first Area Ecologist for western Oregon before taking an Extension Specialist position in the School of Forestry.

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Kenya Water Tower Climate Change Resilience Program (2015-2022) with colleagues from Kenya Forest Service and the Kenya Forestry Research Institute

ECOLOGIST SPOTLIGHT: TOM DEMEO *cont.*



USDA Forest Service

Tom worked with Charlie Halpern's field crew in 1987 on the H.J. Andrews Experimental Forest before being hired as a term GS-9 Ecologist for the Tongass NF. There, he was promoted to a PFT GS-11 Ecologist (1987-1993) and tasked with developing a plant association guide for the Ketchikan Area. Tom began working with John Martin, Forest Ecologist on the Tongass NF, who became his first mentor and remains a close friend.

Next, Tom was hired as a GS-12 Forest Ecologist on the Monongahela NF (1993-1998) to develop plant associations for the TEUI project. Dave Cleland, Ecologist for the Eastern Regional Office, encouraged forest leadership to support Tom in pursuing his PhD. His dissertation research was utilized in the Monongahela NF's forest plan revision. Tom's research findings showed the forest was not as fragmented as previously thought; it acted as a source for birds rather than a sink.

In 1998, Tom found his way to the PNW when Sheila Logan hired him to detail as a wildlife biologist (Resources Technical Support Team, NRIS Terra), located on the Mt. Hood NF. Tom had first met Sheila in 1987 at a Northwest Scientific Association annual meeting in Tacoma, WA. At that time, Sheila was an ecologist working for Miles Hemstrom, stationed on the Willamette NF.

In December 1999, after a year and a half with NRIS, Tom was hired as the Regional Ecologist behind Miles Hemstrom. He has held the Regional Ecologist position for the past 26 years, during which time he has provided program leadership, served on national and regional ecological handbook teams, co-developed regional mapping and restoration products and strategies, helped implement landscape monitoring programs, and been a fervent champion of the R6 Ecology Program.



Tom near center listening to discussions in the Ecological Site Description (ESD) Workshop led by Tamzen Stringham (Univ. of Reno) and Jim David Forest Soil Scientist (not shown) on the Crooked River National Grassland, May 2017.



Tom assisting as a Fire Effects Monitor (FEMO) on one of the many prescribed fires in the Metolius RNA Repeated Fire Return Interval Study in the Metolius RNA on the Sisters RD, Deschutes NF (2013).



Tom DeMeo with Braham Doud (USFS-IP), Nikola Smith, and members of Kenja Forestry.

ECOLOGIST SPOTLIGHT: TOM DEMEO *cont.*

What's next?

Tom's retirement plans include:

- Continued involvement in fire management as an AD Resource Advisor (READ/REAF) and Fire Effects Monitor (FEMO) and participation/leadership in associated trainings.
- Volunteering in Ghana where he serves in agricultural extension and in Honduras where his wife, Phylis, currently works with the SHARE Foundation for human rights.
- Serving as Eagle Scout mentor and assistant Scout Master with Scouting America (Boy Scouts).

Parting words...

Look out for each other. The American emphasis is on the individual, which we should honor, but also remember you are standing on the shoulders of those who came before you. You therefore have an obligation to support and foster each other, as well as those who will follow you.



Area Ecologists throughout the Region gather in 2007 to celebrate Charlie G. Johnson's Jr. life (photo on mantle). Charlie was the first NE OR Area Ecologist (1979-2004). Front row, L to R: Tom Sensenig and Pat Hochhalter (SW OR), Cindy McCain (Western OR), Jennifer Ferriel (NE OR), Robin Leshar (NW WA), and Mike Simpson (Central OR). Back row, L to R: Lenny Volland (retired Regional Ecologist), Gregg Riegel, (Central OR), Jan Henderson (NW WA), Bill Hopkins (retired Central OR), Tom Atzet (retired SW OR), Terry Lillybridge (Eastern WA), Rod Clausnitzer (Eastern, WA), Jane Kertis (Western OR), Dave Swanson (NE OR), and Tom DeMeo (Regional Ecologist).

THANK YOU, TOM. YOU WILL BE MISSED!