



United States Department of Agriculture



**FOREST SERVICE
PACIFIC NORTHWEST REGION
WILDLIFE, THREATENED,
ENDANGERED &
SENSITIVE SPECIES
2019
ACCOMPLISHMENT REPORT**

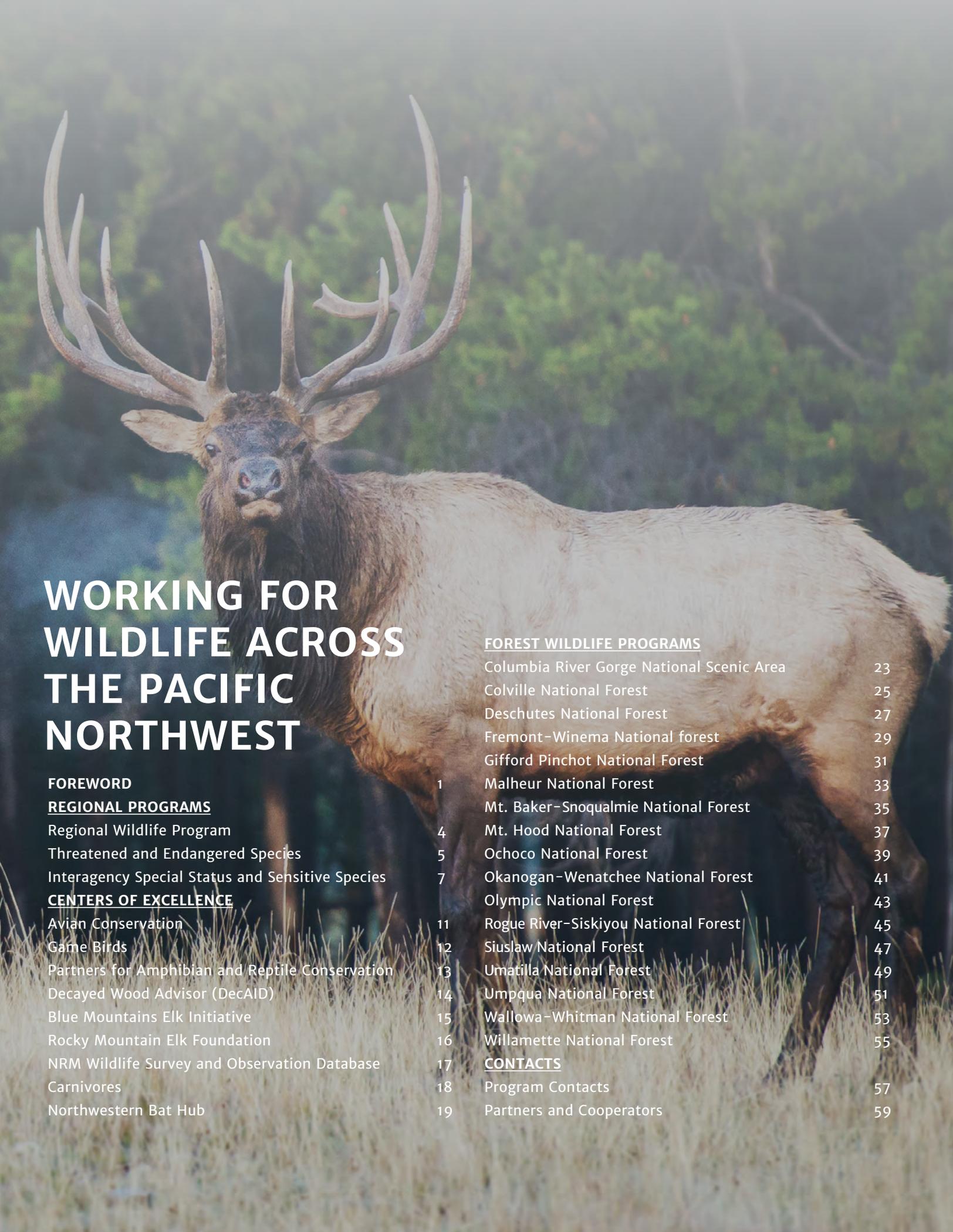


Forest Service

Pacific Northwest Region

January 2020





WORKING FOR WILDLIFE ACROSS THE PACIFIC NORTHWEST

FOREWORD

REGIONAL PROGRAMS

Regional Wildlife Program 4

Threatened and Endangered Species 5

Interagency Special Status and Sensitive Species 7

CENTERS OF EXCELLENCE

Avian Conservation 11

Game Birds 12

Partners for Amphibian and Reptile Conservation 13

Decayed Wood Advisor (DecAID) 14

Blue Mountains Elk Initiative 15

Rocky Mountain Elk Foundation 16

NRM Wildlife Survey and Observation Database 17

Carnivores 18

Northwestern Bat Hub 19

FOREST WILDLIFE PROGRAMS

Columbia River Gorge National Scenic Area 23

Colville National Forest 25

Deschutes National Forest 27

Fremont-Winema National forest 29

Gifford Pinchot National Forest 31

Malheur National Forest 33

Mt. Baker-Snoqualmie National Forest 35

Mt. Hood National Forest 37

Ochoco National Forest 39

Okanogan-Wenatchee National Forest 41

Olympic National Forest 43

Rogue River-Siskiyou National Forest 45

Siuslaw National Forest 47

Umatilla National Forest 49

Umpqua National Forest 51

Wallowa-Whitman National Forest 53

Willamette National Forest 55

CONTACTS

Program Contacts 57

Partners and Cooperators 59



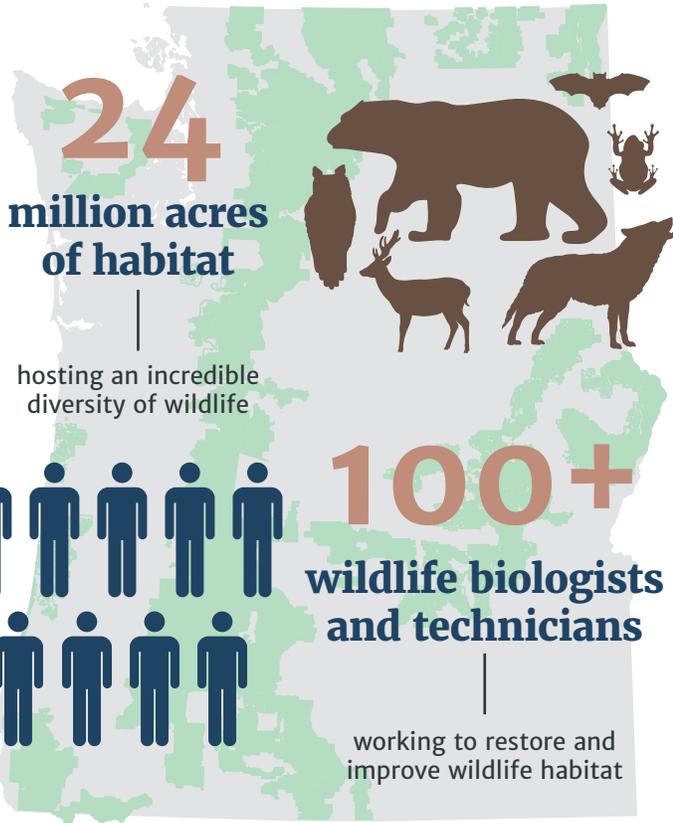
PROVIDING FOR THE DIVERSITY OF ANIMAL COMMUNITIES ON NATIONAL FOREST SYSTEM LANDS

The Pacific Northwest Region of the Forest Service consists of 16 National Forests, one National Grassland and one National Scenic Area that stretches across over 24 million acres of habitat that hosts an incredible diversity of wildlife. The Pacific Northwest Region has just over 100 wildlife biologists and technicians who work tirelessly on behalf of the American people to restore and improve wildlife habitat. In Fiscal Year (FY) 2019 there were over 350,000 acres of terrestrial habitat enhancement projects that leveraged almost \$25 million in partner dollars coming from 72 different partners.

This year, the Forest Service revised their reportable targets to two categories, timber volume sold and acres of hazardous fuels reduced. In FY2019 **8,047 acres of terrestrial habitat enhancement** came from commercially sold forest thinning projects and **79,315 acres of terrestrial habitat enhancement came from hazardous fuels reduction projects**. Nationally, the Forest Service is also emphasizing closer coordination with our State partners under the spirit of shared stewardship. This shared stewardship initiative compliments the strong partnerships our forests have with the states of Washington and Oregon's Departments of Fish and Wildlife, resulting in ten supplemental project agreements using the Good Neighbor Authority (GNA) with the Oregon Department of Fish and Wildlife. This resulted in over 200 acres of habitat restoration, closure of 39 miles of roads and monitoring for the presence of white-nose syndrome in bats and monitoring western pond turtles at 14 different sites. We hope to develop wildlife habitat restoration GNA projects with the state of Washington in 2020.

Please feel free and share this report widely with partners, other federal agencies, or any other interested publics. At the end of this document are contacts for the forest biologists who are available to provide more information if desired on the projects highlighted. It is our hope that this report can be used to emphasize and celebrate the critical role National Forests in Oregon and Washington play in wildlife habitat conservation, multiple use forest management, habitat connectivity and species recovery in the Pacific Northwest.

RESTORATION & PARTNERSHIPS BY THE NUMBERS



- WILDFIRE**
249,868 acres
- FUELS REDUCTION**
79,315 acres
- VEGETATION MANAGEMENT**
77,134 acres
- ROAD DECOMMISSIONING/CLOSURE**
56,984 acres
- WILDLIFE**
41,986 acres
- BARRED OWL REMOVAL**
39,232 acres
- WHITE-NOSE SYNDROME PREVENTION**
26,528 acres
- AQUATIC RESTORATION**
24,951 acres
- COMMERCIAL THINNING**
8,047 acres

REGIONAL PROGRAMS



N.R.



REGIONAL WILDLIFE PROGRAM

The Pacific Northwest Regional Wildlife program primarily focuses on three areas of emphasis: 1) support to forests and districts in terms of training, advice, and information sharing; 2) support and lead regional initiatives like the Challenge Cost Share program, Decayed Wood Advisor website (DecAID), the Late-Successional Reserve Working Group, the Species of Conservation Concern working group, Danger and Hazard Tree working group; 3) coordinate with the Washington Office and other state, federal agencies and non-governmental organizations working on wildlife habitat, species and the forest management activities that span multiple forests across Oregon and Washington.

This year, the Regional Wildlife Ecologist Barbara Garcia focused her work assisting the Colville National Forest on forest plan revision finalization and roll out, leading a species of conservation concern (SCC) invertebrate working group with Carol Hughes to begin to draft a list of potential SCC in preparation of plan revision, served as the main liaison with the Pacific Northwest Research Station on wildlife research in the region and coordinated with her fellow regional wildlife ecologists on interpretation and roll out of the 2012 planning rule. Barbara also acted as the Regional Wildlife Program leader and led the Wildlife Program Managers meeting in Hood River with Brett Carre, the Fish and Wildlife program manager for the Columbia River Gorge National Scenic area.

Photos from left to right: 1) Mountain goat captured on Olympic National Forest being fitted for a telemetry collar prior to being driven to the Mount Baker Snoqualmie National Forest for release. 2) Forest Wildlife Biologists at the annual meeting held in April 2019 in Hood River.

Josh Chapman, the Regional Wildlife Program leader worked on a variety of projects across the region including co-authoring a literature synthesis on the effects of recreation on wildlife (to be published as a General Technical Report in 2020), participated in wildlife habitat connectivity working groups in both Washington and Oregon, worked with Oregon State University, the Bureau of Land Management, National Park Service and the Oregon Department of Fish and Wildlife in implementing the North American Bat Monitoring Program through the Bat Hub (see the Center of Excellence section for more information), and he graduated from the Forest Service Senior Leader Program. The highlight of the summer was working on the Olympic National Forest helping to process nonnative mountain goats on the Olympic Peninsula and augmenting mountain goat populations on the Mt. Baker Snoqualmie and Okanogan Wenatchee National Forests.



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THREATENED AND ENDANGERED SPECIES

The Regional Threatened and Endangered Species (T&E) program supports listed species recovery under the Endangered Species Act through focused investments (\$544,000) to forests using regionally managed challenge cost share, T&E recovery, centers of excellence, and delisting funds. Forests leverage funds through partnerships to synergistically increase recovery outcomes for listed species.



RECOVERY OF NORTHERN SPOTTED OWL

Recovery of Northern spotted owl remains a top priority for the region. Through an interagency agreement with U.S. Fish and Wildlife Service and U.S. Geological Services, \$155,000 was leveraged to remove non-native barred owls on the Siuslaw and Okanogan-Wenatchee National Forests. Over 1,495 barred owls have been removed since 2015. We tested barred owl carcasses for anticoagulant rodenticides which resulted in a better understanding of rodenticide exposure in west coast forests. Increasing innovation and the use of technology was supported by providing \$10,000 to the Pacific Northwest Research lab to pilot automated recording units to passively detect owls. This research paves the way for less invasive and more precise detection.

MODOC SUCKER MONITORING

Funding was provided to support delisting monitoring of Modoc suckers (\$15,000) and Oregon chub (\$11,000). Through a partnership agreement with the U.S. Fish and Wildlife Service, the Fremont-Winema National Forest completed reconnaissance surveys of Thomas Creek for Modoc sucker. Funds will also be used to complete Modoc sucker surveys and acquire sampling gear in 2020. The Willamette National Forest monitored Oregon chub populations at Shady Dell pond and Buckhead Wildlife Area. They also removed non-native brush that encroached Oregon chub pond habitat.



BEAVER DAM ANALOG

With \$3,000 the Gifford Pinchot National Forest installed a Beaver Dam Analog (BDA) at an occupied Oregon spotted frog oviposition site that had dewatered due to a dam blow out after beavers left the area. Egg mass counts have continuously diminished over the last few years and this BDA should improve habitat suitability for reproduction.



CHALLENGE COST SHARE AND RECOVERY FUNDS

Challenge Cost Share and T&E recovery funds leveraged over \$2.3 million partnership dollars for conservation of Grizzly Bear, Taylor's Checkerspot and

Oregon Silverspot Butterflies, Woodland Caribou, Oregon Spotted Frog, Yellow-billed Cuckoo, Western Snowy Plover, Bull Trout, and anadromous fish. Ongoing grizzly bear monitoring is conducted in the Selkirk Mountains in cooperation with the U.S. Fish and Wildlife Service through "hair snag corrals" with remote cameras, and permanent "rub posts" to better understand population trends and genetic diversity.

ENVIRONMENTAL ANALYSES DOCUMENTATION

The program streamlined environmental analyses documentation by: (1) developing guidance for Regional Forester Sensitive Species Pre and Post project surveys; (2) developing a streamlined Biological Evaluation template for special uses Categorical Exclusions; and (3) developing a new national course focused on streamlining biological evaluations and assessments that includes small groups coaching, mentoring, and working through real-life analysis scenarios.

Spotlight: Nurturing Future Conservationists

Nurturing future wildlife conservationists and sharing successes in threatened and endangered species recovery was one of the focuses for the Regional Threatened and Endangered Species (TES) program. Throughout the year, TES biologists provided environmental education programs with our partners: Forest Service Office of Communications and Community Engagement, U.S. Fish and Wildlife Service's Interpretive and Environmental Education and Portland Metro's Oregon Zoo. These programs were conducted at Portland Metro's Oregon Zoo and surrounding public schools. On May 18 at the Oregon Zoo's annual "Endangered Species Day", we connected with over 1,000 children and their families in a couple of hours from the surrounding Portland area. Throughout the remainder of 2019 summer, TES staff provided staffing at the Oregon Zoo reaching on average 200 - 400 children and their families daily. Programs ranged from talking about the successful recovery of the American Bald Eagle, recovery of salmon and lamprey populations in rivers of the Pacific Northwest, the importance of butterflies as pollinators to forest ecosystems, and reversing the decline of the Western Bumble Bee. Families learned about how the Endangered Species Act is applied on National Forest System Lands, and how their actions contribute to conservation of imperiled species.



Through the "Every Kid Outdoors" Program we engage directly with 4th grade students and their families at local elementary schools, providing a year-long free pass to all federal public lands. We also provided personal use tree harvest tags during November and December, so that families can enjoy and harvest their own Christmas tree for free from a National Forest. We reached over 125 under-served families, making access to national forests more equitable and inviting for all. Students learned about responsible use of the national forest and why getting outside is great for young people. By encouraging exploration of our National Forests, we hope that young people will become the next generation of national forest visitors, advocates and future stewards of our national resources.



INTERAGENCY SPECIAL STATUS AND SENSITIVE SPECIES

The Interagency Species Status and Sensitive Species Program (ISSSSP) improves species conservation and inventory efforts across Region 6 through development of a variety of tools, providing specimen identification services, coordinating with forests, state and federal agencies and other partners on priority species and actions, and evaluating and funding field unit priority species' work.

BOTANICAL SURVEY BLANKET PURCHASE AGREEMENT

In terms of tools, the Botanical Survey Blanket Purchase Agreement was renewed for five years. The contract is available for use by the Forest Service and Bureau of Land Management on lands across Oregon and Washington. It provides for more efficient, effective and timely contracting of flora surveys. The previous 5-year contract was used for more than 40 projects. In terms of conservation planning tools, ISSSSP guided and improved species management and strengthened National Environmental Policy Act (NEPA) analysis through coordination, oversight and editing of 84 species facts sheets, eight conservation assessments, and one conservation strategy covering five species.

SMITHSONIAN INSTITUTION PARTNERSHIP

A partnership with the Smithsonian Institution led to the taxonomic resolution (morphological and molecular treatments) and published manuscripts for pebblesnails (*Fluminicola* species) from the upper Klamath Basin and Juga species in western North America. Both papers have resulted in an understanding that there are fewer species in the Pacific Northwest than previously hypothesized. Citations: Strong, Ellen E. and Whelan, Nathan V. 2019. Assessing the diversity of Western North American Juga (*Semisulcospiridae*, *Gastropoda*). *Molecular Phylogenetics and Evolution* 136:87-103 and Liu, Hsiu-Ping and Hershler, Robert. 2019. A new species and range extensions for three other species of pebblesnails (*Lithoglyphidae*, *Fluminicola*) from the upper Klamath basin, California-Oregon. *ZooKeys* 812:47-67.

SPECIMEN IDENTIFICATION

Timely specimen identification services supported field unit project work. 392 bryophyte, lichen and fungi vouchers and 75 terrestrial mollusk vouchers were processed and more than 800 lichens and bryophytes were curated for accession at the Oregon State Herbarium. This service results in firm identifications returned to the unit for the specialist to then evaluate project effects and provide needed protections to the Regional Forester Sensitive or Survey and Manage species.

REGIONAL SENSITIVE SPECIES LIST

We have provided for improved species conservation through the Regional Forester Sensitive species list update by removing species that no longer warrant protection under agency policies or adding species that are now recognized as needing conservation considerations and consideration during project planning.

After 15 years of implementing the program, we conducted a review of program components and implemented adaptive management changes. These changes focus funding habitat restoration and management where our actions can have a greater influence on improved species conservation and focusing actions on a smaller number of priority species.



PACIFIC NORTHWEST BUMBLE BEE ATLAS

The ISSSSP initiated a collaboration with the Pacific Northwest Bumble Bee Atlas and encouraged forests to adopt grid cells on Forest Service lands in Oregon and Washington. Through this work we are leveraging state agency work for a State Wildlife Grant they received. We will also gain a better understanding of the distribution of bumble bees throughout the region and where bumble bees are thriving in the Pacific Northwest, plus gather information about what habitat features are contributing to productive bumble bee communities. We are excited to be contributing to this broad-scale survey effort that will ultimately help to manage lands throughout the region to support a healthier ecosystem.

FOOTHILL YELLOW-LEGGED FROG CONSERVATION STRATEGY

The ISSSSP worked collaboratively with the U.S. Fish and Wildlife Service (USFWS) and Oregon Department of Fish and Wildlife (ODFW) on developing an Oregon-wide Foothill yellow-legged frog conservation strategy (not yet complete). Taking proactive approaches, such as developing a conservation strategy and applying actions identified in the strategy on federal lands, may prevent federal listing under the Endangered Species Act (ESA). The ISSSSP contributed to species information gathering through environmental DNA (eDNA) and visual encounter surveys at historic sites in Oregon. The data resulting from these surveys will contribute to the USFWS species' knowledge as they consider the species for ESA listing.

INTERAGENCY SPECIAL STATUS AND SENSITIVE SPECIES

The Pacific Northwest Regional Office of the Forest Service and Oregon/Washington State Office of the Bureau of Land Management established an interagency program for the conservation and management of rare species.

This interagency collaboration focuses on regional-level approaches for species that meet agency criteria for inclusion on sensitive and special status lists. This includes those species that are not federally listed as Threatened or Endangered, or Proposed for federal listing.



85% of the budget was provided to **15** National Forests to fund inventory and conservation projects and participation in work groups

Funding supported **28** inventory and monitoring projects across the Pacific Northwest



Provided funding and support for o **15** restoration and educational projects

Supported participation of **8** Forest Service personnel on fungi and Western pond turtle work groups





CENTERS OF EXCELLENCE

Wildlife Centers of Excellence (COE's) serve as an extension of and are funded by the Regional Office Wildlife and Threatened, Endangered and Sensitive Species Programs and are a resource for District and Forest wildlife biologists to reach out to for technical advice and coordination with partner organizations around individual species, groups of species or specific technical aspects of being a Forest Service biologist. These biologists serve as information conduits and represent the Forest Service with non-governmental organizations, as well as other state and federal partners related to their area of expertise.



Fisher being released on the Mount Baker-Snoqualmie National Forest.



AVIAN CONSERVATION

The Avian Conservation Center of Excellence now resides on the Wallowa-Whitman National Forest. This position assists units with grant applications, avian monitoring development, and avian policy questions; conducts education and engagement activities; and serves on the Partners in Flight Western Working Group and the Western Hummingbird Partnership Steering Committee.

PROJECT WAFLS

Provided support to the Western *Asio flammeus* Landscape Study (WAfLS) project. Project WAfLS engages citizen scientist volunteers across eight states to gather critical survey data, enabling a rigorous assessment of the population status, trends, and threats against the Short-eared owl (*Asio flammeus*). This data helps influence conservation actions by state and federal agencies.

WESTERN HUMMINGBIRD PARTNERSHIP

In 2019 The Western Hummingbird Partnership went live with a new interactive website called The Hummingbird Highway (<https://westernhummingbird.org/hummingbird-highway/>). The site connects hummingbird researchers, educators, and pollinator gardens across the western United States, Canada and Mexico.

Sarahy Contreras of The University of Guadalajara was awarded a grant from the Neotropical Migratory Bird Conservation Act program. The grant will support research on habitat restoration for migratory hummingbirds.

The committee, in conjunction with the University of Guadalajara, is planning a 2020 workshop on hummingbird conservation at Sierra de Manantlan Biosphere Reserve. The workshop will include banding techniques, conservation issues, and public engagement. The workshop will be followed by the 2nd annual Hummingbird Festival in Ahuacapan, Mexico, focused on public education and community engagement.

PARTNERS IN FLIGHT

Attended spring meeting in Fort Collins with a focus on grassland bird conservation, some of the most steeply declining species in North America. Grassland

bird conservation is highly compatible with good range management and forage production that rural ranching communities and economies rely on.

Reviewed the East Cascades Bird Conservation Plan. These Partners in Flight Conservation Plans include habitat based conservation measures that can be incorporated into project design, planning, and implementation.

PUBLIC LANDS DAY

In conjunction with the Partners in Flight Steering Committee, the Klamath Bird Observatory hosted a Public Lands Partner Engagement Day to showcase examples of how Partners in Flight tools are being used by partners across the country to support avian conservation in the context of public land management.

Throughout the day, partners presented examples of how they have used policy relevant science as a catalyst for improving ecosystem management. Examples demonstrated how Partners in Flight tools can be used to ensure the effectiveness of accelerated forest restoration efforts, reduce the risk of uncharacteristically severe fire, protect threatened and endangered species, manage for sustainable timber yields, maintain functioning ecological processes, conserve at risk migratory birds in western fire adapted forests, and build social license for active management on public lands.

Each presentation was followed by a discussion during which we explored how elements of various efforts might be used to address conservation challenges in other regions and ecosystems. Conversations focused on how we can help land managers understand how Partners in Flight tools can be used for plans, projects, and monitoring of ecosystem management and avian habitat development.

Contact: Jamie Ratliff, Jamie.Ratliff@usda.gov, 541-523-1338

GAME BIRDS

The Game Bird Center of Excellence serves as a point of contact to game bird conservation organization as well as the upland game bird programs for both the Oregon Department of Fish and Wildlife and Washington Department of Fish and Wildlife. The major role of the center of excellence is to facilitate communication between agencies and organization with the Forest Service wildlife biologists in the Region. In addition, due to the Center of Excellence's experience with partnership, assistance is often provided with partnership development, grants and agreements, or implementing specific authorities.



MAKING TRACKS STEERING COMMITTEE

Brett Carre, the Wildlife Biologist on the Columbia River National Scenic Area received the Making Tracks Partnership Program Award. The award was received for the outstanding work Brett has accomplished, for the benefit of wild turkey habitat, through the use of various partners including National Wild Turkey Foundation (NWTF).

Participated in updating the Steering Committee Charter. Participated in a marketing effort to get the word out about the partnership to both NWTF and Forest Service. Assisted with ranking and selection of Forest Service recipients of Making Tracks National Awards process.

WILD TURKEYS

Reviewed and ranked NWTF superfund proposals. Assisted the Malheur National Forest with finalizing their first Stewardship Agreement with NWTF. Provided input and feedback on the Oregon Department of Fish and Wildlife Wild Turkey Management Plan.

QUAIL AND GROUSE

Provided mountain quail recommendation to Oregon Department of Fish and Wildlife (ODFW) for harvest units and regulation changes. Attended and assisted with the ODFW Westside Forest Grouse and Mountain Quail wing bee. Attended the Washington Department of Fish and Wildlife upland game bird program management meeting, discussed roles and opportunities of Forest Service to assist with forest grouse work.



NATIONAL LAND STEWARDSHIP AWARD

The National Wild Turkey Foundation presented the Forest Service with the prestigious national Land Stewardship Award for its long history of collaborative conservation across its 154 national forests and 20 national grasslands. National Wild Turkey Federation Chief Executive Officer Becky Humphries presented Chief Vickie Christensen with the award at the NWTF National Convention.

The Forest Service received the award in recognition of its conservation ethic and commitment to management of the land resources through both active forest and habitat management.

NWTF and the Forest Service have worked together to promote land stewardship since the late 1970s. Recent efforts between the agencies include stewardship projects valued at nearly \$40 million dollars across more than 72,000 acres of habitat across the country. Other jointly-funded efforts address capacity limitations and more than 110 Challenge Cost Share Agreements have improved habitat across the National Forest System. A national liaison position has also focused on maximizing strategic collaborative conservation and heritage hunting efforts.

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PARTNERS FOR AMPHIBIAN AND REPTILE CONSERVATION

The Amphibian and Reptile Center of Excellence is the region's liaison with the non-profit organization, Partners in Amphibian and Reptile Conservation (PARC). Since the Northwest Chapter of PARC formed in 2008, this Center of Excellence lead has been involved as a steering committee member and treasurer (since 2014) and co-chair (2015-2018). This position also provides support to Oregon and Washington Forest Service biologists and may serve on special task teams. Northwest PARC works with other organizations to host an annual conference, sponsor workshops and symposia, recognize leaders in herpetofauna conservation, participate on the national steering committee, and promote the values of the organization, which include conservation of herpetofauna and their habitats.

ANNUAL MEETING

In February 2019, NW PARC held its annual meeting in Grand Mound, Washington, in conjunction with the Society for Northwestern Vertebrate Biology and the Washington Chapter of The Wildlife Society. The symposium included 14 talks on current environmental DNA methods, pathogens, and western pond turtle biology and conservation. NW PARC honored the achievements of regional herpetologists with annual awards.



Dr. Marc Hayes of the Washington Department of Fish and Wildlife (WDFW) received the Luminary Award for his extraordinary leadership in Northwest amphibian and reptile conservation. Co-winners of the Unsung Hero Award were Jamie Bettaso, Six Rivers National Forest, California, and Charlie Justus, Idaho Fish and Game. In June 2019, NW PARC held an Oregon Priority Amphibian and Reptile Conservation Areas (PARCAs) workshop to propose conservation areas of various spatial extents throughout the state which overlap critical habitats of focal species.

VAN DYKE'S SALAMANDER

2019 saw the beginning of an effort headed by Aimee McIntyre of WDFW to evaluate the presence of Van Dyke's Salamander (*Plethodon vandykei*) at historically occupied sites throughout the entire known range (including the Olympic, Willapa Hill and Cascade regions). This work involved partnering with private timberland owners, state and federal agencies, and the Olympic National Forest. The objectives included documenting species presence, stand age information and environmental conditions, and collecting genetic tissue. Three historic areas on the Olympic National Forest were surveyed, documenting a juvenile Van Dyke's at one site.

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DECAYED WOOD ADVISOR (DecAID)

Decayed wood elements (snags, down wood, and live decaying trees) are habitat for many organisms that live in terrestrial ecosystems, and contribute to other aspects of ecosystem productivity and diversity. Maintaining an adequate level and mixture of these habitat elements can be a challenging task for any forest land manager. DecAID is a planning tool intended to help advise and guide managers as they conserve and manage snags, partially dead trees, and down wood for biodiversity.



INVENTORY DATA

Continuing a two-pronged approach with development and implementation, collaborated on an update of the inventory data feeding into the Distribution Analysis, as well as work with Pacific Northwest Research Station, Oregon State University, and the Regional Office on a manuscript for publications regarding trends in snags and large trees since the initiation of the Northwest Forest Plan.

DECAID VERSION 3.0

With the help from Data Resources Management, the file structure within ArcGIS for DecAID implementation was improved as we move to DecAID Version 3.0 (https://apps.fs.usda.gov/r6_decaid/views/index.html).

Added studies and articles concerning dead wood and the species using it to the DecAID website in keeping with the goal of being a repository of the best available science.

On call availability continued to be offered to help in the interpretation and use of DecAID continued virtually and in-person was provided to specialists on eight forests and the Regional Office.

SIUSLAW NATIONAL FOREST MEETING

The importance and desire to understand the management implications of DecAID and the information it contains was in full view at the April 2019 meeting at the Siuslaw National Forest where a white paper was introduced providing comprehensive context for dead wood analyses; including ecological importance, guidance, trends and current conditions, and effects of common management treatments.

Although the meeting was specific to the Coast Range and western Oregon forests; it was attended by ecologists, silviculturists, biologists, NEPA planners, and line officers.

Particular topics of note were discussions of climate change impacts to forest management in the Coast Range; landscape disturbance history; and how these influence challenges to restoration treatments as well as late-successional habitat development. There was frank and open discussion on the challenges of management confined to Late Successional Reserves and constraints in the Northwest Forest Plan. Dead wood provisions and management were a particular concern when these forests face an existing

condition of little dead wood and then trying to provide it short-term (i.e. snag creation) and long-term (old growth development).

Discussions on land allocations and their impacts/challenges on restoration goals was a noted topic to which many forests can relate. In context of this meeting it was centered on the mixed ownership of private timber company lands, state lands, private inholdings, wildland-urban interface and federal ownership in a landscape where fires were infrequent but over a large area (overlapping multiple ownerships) and ranging severities (including high severity). How to manage to restore ecological functions in which species evolved in this kind of mixed ownership landscape is a known challenge here and likely one elsewhere in the region.





BLUE MOUNTAINS ELK INITIATIVE

The Blue Mountains Elk Initiative (BMEI) efforts have primarily focused on improving elk habitat and security on public lands to help address elk distribution issues and minimize impacts to adjacent private lands. In 2019, the BMEI contributed \$115,700 to seven projects to benefit elk and other wildlife. This funding was used to leverage Rocky Mountain Elk Foundation (RMEF) and other partner dollars to improve habitat in the Blue Mountains.

HABITAT IMPROVEMENT

The BMEI funded 11,980 acres of habitat enhancement through prescribed burning, thinning, invasive species treatments, water developments, and road closures on the Ochoco, Malheur, and Wallowa-Whitman National Forests

ELK COLLARS

BMEI funds purchased 11 elk collars that will be fitted on cow elk in the Gurdane area where there are damage claims on agricultural lands; collars will be used to determine seasonal use and migration patterns.

MAINTAIN WILDLIFE SECURITY

A major emphasis of the BMEI is to support projects that retain elk on public lands, therefore we designed signs and a brochure for roads closed to motorized use to help with messaging, increase effectiveness of the closures, and maintain wildlife security. These signs are intended to be strategically placed on closed roads experiencing illegal motorized traffic and in areas where elk distribution is an issue. The signs can be used on National Forests, Bureau of Land Management, and State lands in Oregon or Washington. This was a cooperative effort between the BMEI Operations Committee, Oregon State Police, Forest Service law enforcement, engineering, and public affairs.

ALL HANDS, ALL BRANDS

The Ochoco National Forest and the Bend Chapter of Oregon Hunters Association (OHA) hosted a weekend work party in the spirit of the “All Hands, All Brands” approach to conservation. The federal and state agencies, and non-governmental organizations who participated in this event are all partners who have signed on to support the Blue Mountains Elk Initiative which provides a nice umbrella for working together to achieve common goals.

There were 79 people who participated in the event; representatives from six organizations, Oregon Department of Fish and Wildlife, and the Forest Service; a total of 754 volunteer hours, and approximately 3,200 feet of fence was built to protect aspen habitat. In addition, the group had a potluck dinner, raffle, archery and .22 shoot, and presentations. Monty Gregg (Forest Wildlife Biologist on the Ochoco National Forest) presented the concept of “All Hands, All Brands” model to work together and leverage partners for their strengths to achieve common goals and desired conditions on the ground. His vision became a reality that weekend!

Contact: Elizabeth Berkley, elizabeth.berkley@usda.gov, 541-278-3814

ROCKY MOUNTAIN ELK FOUNDATION

In 2019, the Rocky Mountain Elk Foundation (RMEF) contributed \$661,796 to benefit elk and their habitat in Washington and Oregon alone, leveraging over \$3.5 million to fund a variety of projects that improve elk distribution on public lands and minimize impacts to adjacent private lands.



HABITAT RESTORATION

Numerous habitat restoration efforts were completed by treating noxious weeds, restoring meadow, aspen, and riparian areas, and increasing forage for big game species including elk and mule deer on over 14,466 acres. Through RMEF Project Advisory Committee grants numerous research projects focused on identifying movement patterns, seasonal use areas, and the annual survival of elk. This research will allow land managers and state game departments to better allocate tags to specific hunt units and offer more hunting opportunities to the public.

PLANNING INTEGRATED PROJECTS

To provide for a better understanding of the planning involved for highly integrated projects and experience the outcomes of previously funded projects, a two-day field trip was held on the Ochoco National Forest. Biologists from multiple agencies attended and discussed elk management issues affecting natural resource managers now and into the future.

In conjunction with the BMEI coordinator we developed a webinar for Forest Service wildlife biologists on how to develop high quality, well integrated project proposals.

FALLS CREEK LAND ACQUISITION

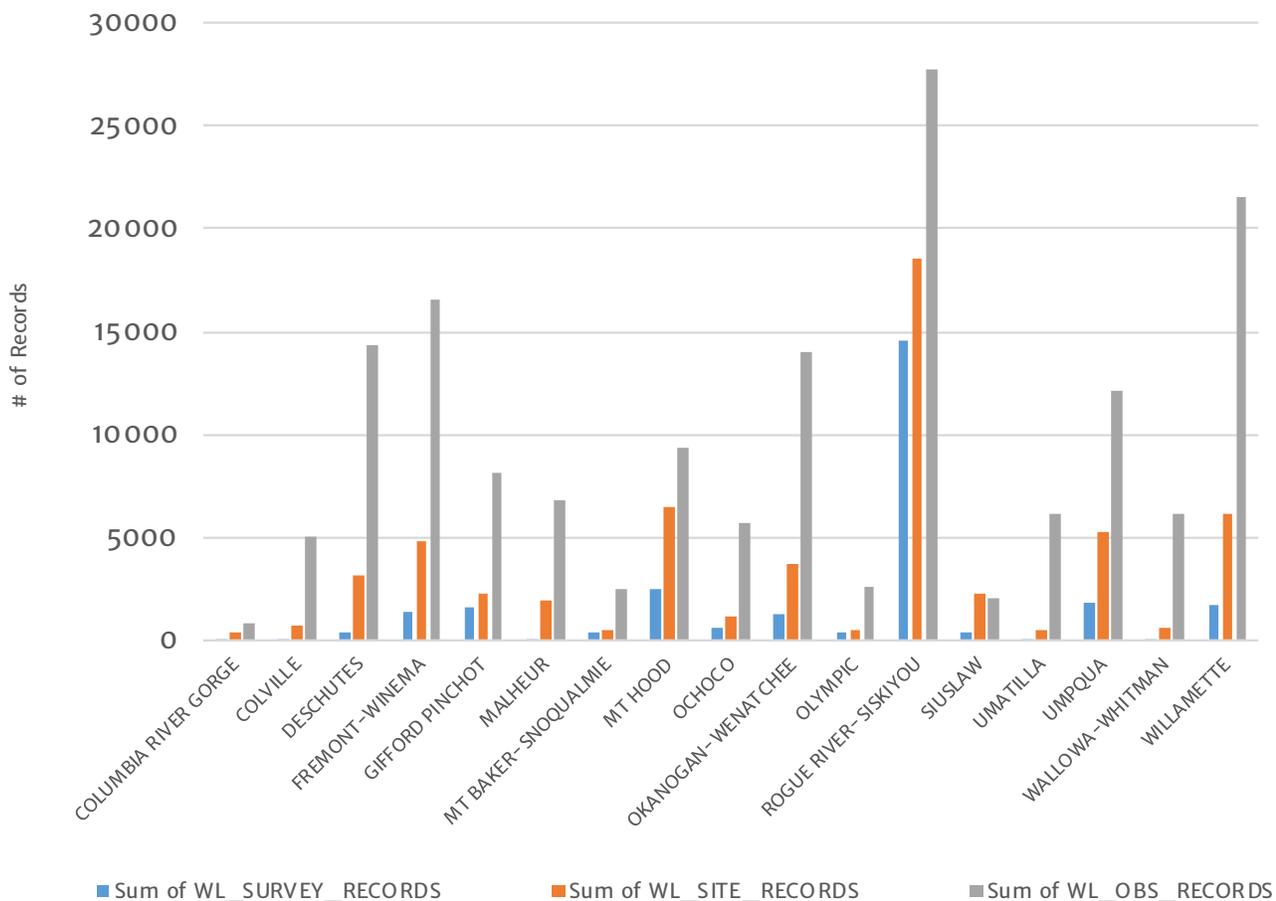
Presented awards to the Conservation Alliance based out of Bend, Oregon on behalf of the Helena-Lewis and Clark National Forest and the Rocky Mountain Elk Foundation. The award was to commemorate the Falls Creek land acquisition that purchased 442 acres of land that created new access to 26,000 of public land.

IMPROVING FORAGE CONDITIONS

The Rocky Mountain Elk Foundation promotes habitats that support historic disturbance processes, native wildlife and plant species, resulting in increased forage for big game. Additionally, these efforts contributed to the flagship target of hazardous fuels reduced on 4,197 acres by means of thinning, hand-piling, burning of slash generated from treatments, and prescribed under-burning. Dense overstocked stands that were thinned

in previous years by RMEF, were underburned in 2019 by the Forest Service.

The reintroduction of fire into these areas will improve forage conditions by reducing forest litter, opening canopies, and allowing more sunlight to reach the forest floor. Prescribed burning is just one of the tools supported by the Rocky Mountain Elk Foundation to help redistribute the public resource, elk, back on public lands. Overstocked stands and the encroachment of conifers into meadow and riparian areas continues to be an issue throughout the Region. On the west-side, important meadow and riparian areas are becoming homogeneous stands of timber and aren't providing the much-needed calving habitat as they once were. On the east side, juniper and fir continue to threaten winter range habitats by out competing native bunch grasses, bitterbrush, and mountain mahogany. Through the efforts of biologists and partners such as the Rocky Mountain Elk Foundation, overstocked stands continued to be a priority for treatment, to manage the land, and provide for quality elk habitat.



NATURAL RESOURCE MANAGER WILDLIFE SURVEY AND OBSERVATION DATABASE

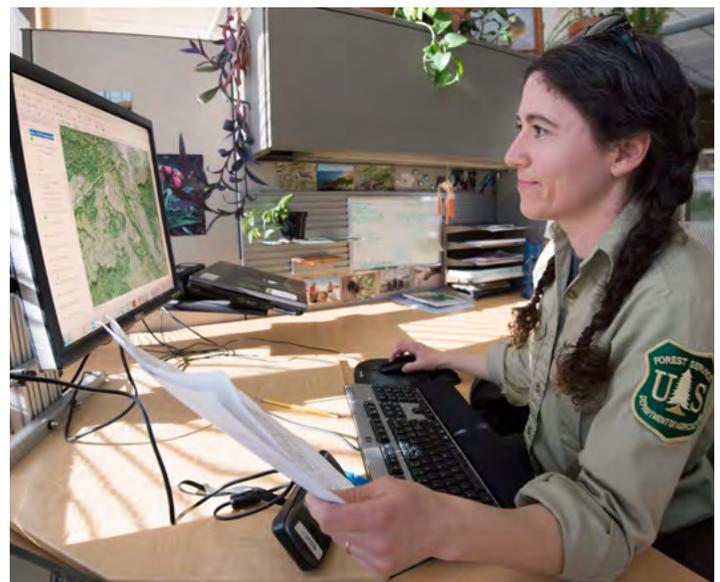
The Natural Resource Manager (NRM) is a system of database tools for managing agency data across the Forest Service. The Wildlife NRM database provides information and support for data collection and analysis products and supports terrestrial animal observations and site inventories.

NATURAL RESOURCE MANAGER USER MANAGEMENT APPLICATION MANAGER

The NRM User Management Application manager for the Pacific Northwest region provides direction on how forest biologists requested roles to enter data into the corporate database. Modified or requested the roles for the database if the profile was already established, reactivated a biologist's profile if it was archived, approved requests, and re-authorized user roles.

As a result of maintaining user profiles and working with the forest biologists to enter data, there are a total of 27,234 surveys, 59,207 sites, and 161,666 observation records for Region 6. The figure above shows the breakdown by forest.

As a member serving on the national NRM Wildlife User Group, participated in the monthly conference calls and provided input and counsel. Developed suggestions for the next generation of this database, which will be a web enabled geospatial platform.



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CARNIVORES

The Carnivore Center of Excellence serves as a regional expert on carnivore biology, survey efforts and helps coordinate regional participation in listed carnivore species conservation efforts. John Rohrer serves as a carnivore subject matter expert for all biologists across the Pacific Northwest Region, and he makes a portion of the Carnivore Center of Excellence funds available for Forests to apply to supplement local monitoring or research on carnivore distribution or habitat use at various forests across the region.



WESTERN LYNX BIOLOGY TEAM

Participated on two regional planning teams for Canada lynx. The Western Lynx Biology Team re-formed after a several year hiatus with goals to review recent lynx research results and make recommendations on any necessary updates to existing lynx management direction, including the 2013 Lynx Conservation Assessment and Strategy. The U.S. Fish and Wildlife Service formed a western region team to develop a Post Delisting Monitoring Plan for lynx. Lynx are still scheduled to be proposed for delisting in the lower 48 states. A monitoring plan would be part of the delisting process and would be designed to detect deterioration in the species status.

NORTH CASCADES GRIZZLY BEAR RESTORATION

Work on the North Cascades Grizzly Bear Restoration project continued in 2019, but at a slower pace than in previous years. A second public comment period on the draft environmental impact statement was opened in July for 90 days and a public listening session was held in October. Continued work on the project depends on direction from the Department of Interior.

MULTI-SPECIES CARNIVORE MONITORING TECHNIQUE

Work continued with Washington State University, Woodland Park Zoo, and Washington Department of Wildlife to develop a multi-species monitoring technique for the North Cascades Ecosystem.

PARTIAL FUNDING FOR 9 CARNIVORE PROJECTS

Carnivore Center of Excellence funds supported the installation and maintenance of grizzly bear hair-snare stations on the Colville National Forest.

Baited camera stations targeting fisher were set up on the Deschutes, Fremont-Winema, Gifford Pinchot, Rogue River-Siskiyou and Umpqua National Forests.

Camera stations and on and scat surveys were also deployed across the region targeting gray wolf, Sierra Nevada red fox, and marten.

Developed and dispersed informational fliers on anticoagulant rodenticide impact to wildlife.

NORTH CASCADES FISHER REINTRODUCTION

North Cascades fisher reintroductions commenced in 2019 with 26 adult fishers being released on the Mount Baker-Snoqualmie National Forest and North Cascades National Park. This represented the beginning of stage two of recovery of fishers in the Cascades Recovery Area of Washington state. Stage one of the recovery occurred in 2016 and 2017 when 73 fishers were reintroduced in the South Cascades on the Gifford-Pinchot National Forest and Mount Rainier National Park.

Each of these reintroduced fishers was equipped with a VHF radio transmitter that was surgically implanted at the Calgary Zoo. Monitoring during the spring and summer indicated that at least 20 of the reintroduced fishers were still alive and inhabiting the dense forests of the North Cascades.



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NORTHWESTERN HUB FOR BAT POPULATION RESEARCH AND MONITORING

The Northwestern Hub for Bat Population Research and Monitoring (NW Bat Hub) serves as a center of gravity for interagency collaboration to answer questions of common interest regarding Pacific Northwest bat population status and trends to guide conservation and is jointly funded in part by the Forest Service, National Park Service and Bureau of Land Management among other partners. We strive to inform evidence-based conservation decision-making. This cooperative research hub facilitates the pooling of resources and technical knowledge, allowing for thorough, large-scale monitoring, timely data analyses and reporting, and rapport-building among partners, including both public and private landowners. All of this serves to support regional conservation knowledge and action.

SUPPORT AND INFRASTRUCTURE

In 2019, the Northwestern Bat Hub continued to provide support and infrastructure to facilitate information flow between field offices, contributors, and the national North American Bat Monitoring Program (NA Bat) Coordinating Office at the U.S. Geological Survey in Fort Collins, CO. The Bat Hub facilitated transfer of high-quality data and communication with the NA Bat Coordinating Office and local stakeholders and provided regional customization of survey design and analysis.

FIELD SURVEYS

Two Bat Hub field crews surveyed over 70 sample units in Oregon and

Washington. This effort, combined with Forest Service and other partner contributions, resulted in 202 NA Bat sample units surveyed in 2019. Every National Forest in the region was included in the survey.

WHITE-NOSE SYNDROME

Bat Hub members assisted the Deschutes National Forest in mist-netting known roost sites in the spring and fall to test for white-nose syndrome, a fungal disease responsible for large bat population declines in the eastern United States

ACOUSTIC MONITORING

The Northwestern Bat Hub began the establishment of a network of year-round acoustic monitoring stations co-located with the summertime NA Bat

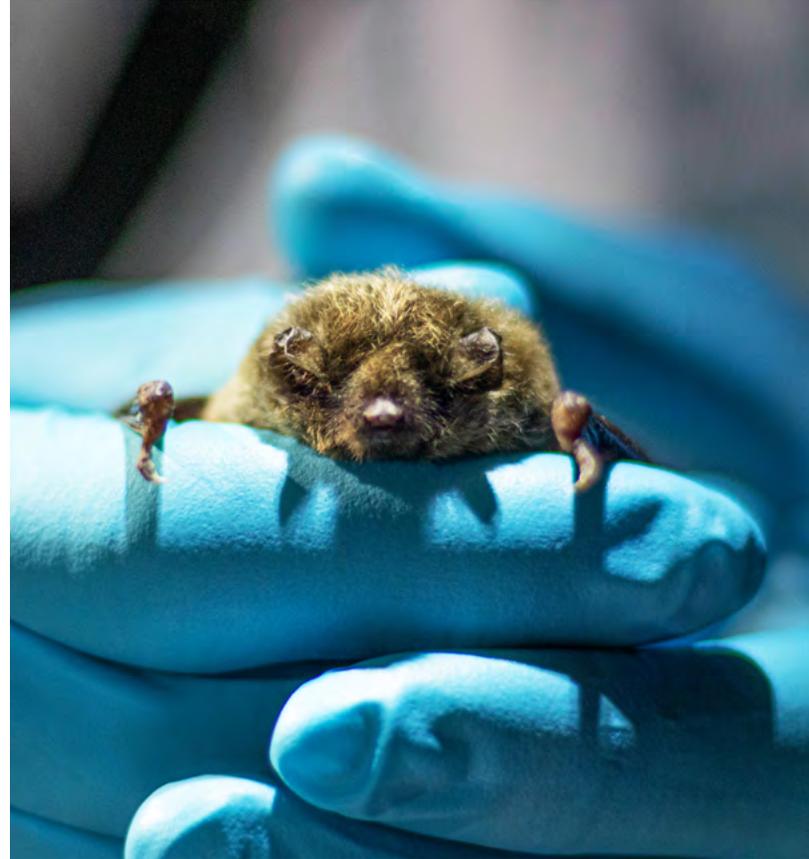
sample units. Two pilot sites for this network were established in 2019; one on the Siuslaw National Forest and one on the Deschutes National Forest. This will inform our understanding of seasonal activity and including migration.

CITIZEN-SCIENCE

The Hub established a citizen-science-driven search for the spotted bat, the region's most elusive bat species. The Bat Hub's Spotted Bat Project provides members of the community an opportunity to contribute to our understanding of spotted bats. The Bat Hub provides training for volunteers to listen for these audible bats and report their findings via the iNaturalist App.



Photos from left: 1) Forest Service and NW Bat Hub employees examine a bat in the Deschutes National Forest, Photo credit: Sara Rose. 2) Oregon Bat Hub crew members set up acoustic monitoring equipment at Smith Rock State Park, Photo credit: Joe Kline. 3) A young, male myotis (spp unknown) with deformed ears at Lassen National Volcanic Monument, Photo Credit: Sara Rose.



PROJECT PLANNING AND IMPLEMENTATION

The Bat Hub continued to assist the Forest Service and other partners in project planning and implementation of studies on impacts of forest management on bats. These studies range from fuels and habitat creation to integration with spotted owl demographic study areas and revisions to the Northwest Forest Plan.

NA BAT PROTOCOL

The Northwestern Bat Hub developed the nation’s first region-specific North American Bat Monitoring Program (NA Bat) protocol. The protocol establishes cohesive methods for population trend monitoring across Washington, Oregon, Idaho, and Northern California. It also ensures collaboration among regional partners,

including Region 6 of the Forest Service, National Park Service, Oregon Department of Fish and Wildlife, the Bureau of Land Management, U.S. Fish and Wildlife Service, Idaho Department of Fish and Game, and California Department of Fish and Wildlife.

As part of the Northwestern Bat Hub collaborative effort, Region 6 of the Forest Service and many other organizations and individuals also participated in protocol implementation, with central coordination, training, and guidance provided by Bat Hub staff.

The scope and scale of coordinated NA Bat monitoring in the Pacific Northwest allows for greater understanding of both local and regional trends in bat populations.

“Bats are very difficult to study and doing strategic conservation of bats is greatly impeded by lack of basic information about the status and trend of populations across large regions,” – Tom Rodhouse, Ecologist, National Park Service and Courtesy Faculty, Oregon State University.

Utilizing data from the first three years of this regional effort, coupled with data from the original Bat Grid (2003–2010), the Bat Hub found a significant decline in hoary bat populations throughout the region.

The Northwestern Bat Hub is currently the only bat hub in the country, and as such provides efficiencies in allowing regional wildlife managers and stakeholders to participate in and benefit from this unprecedented collaborative effort.



American Pika, photographed
on the Columbia River Gorge
National Scenic Area

FOREST WILDLIFE PROGRAM ACCOMPLISHMENTS



COLUMBIA RIVER GORGE NATIONAL SCENIC AREA



The Columbia River Gorge National Scenic Area maintained nesting habitat for forest sensitive western pond turtles at Collins Creek area through mowing/spraying/seeding, and participated in invasive bullfrog control (bullfrogs eat hatchling pond turtles) with Washington Department of Fish and Wildlife and Friends of Columbia Gorge.

Conducted transect surveys for the Sensitive Western gray squirrel in the Catherine/Major Creek area.

In collaboration with Washington Department of Fish and Wildlife, created wildlife brush piles and snags; topped/slit select snags for bats

Burned and reduced hazardous fuels at Courtney Road, Tracy Hill and Rowena Dell in order to improve habitat for deer, elk, wild turkeys and western gray squirrels.

Partnered with Underwood Conservation District and Bonneville Power Administration to restore 0.5 miles of riparian habitat on the Little White Salmon.

Treated invasive plants and mowed meadows at Sams Walker.

We received competitive funding and partnered with the Oregon Zoo, along with citizen science volunteers to survey (for the second year) pika in the 2018 Eagle Creek wildfire.

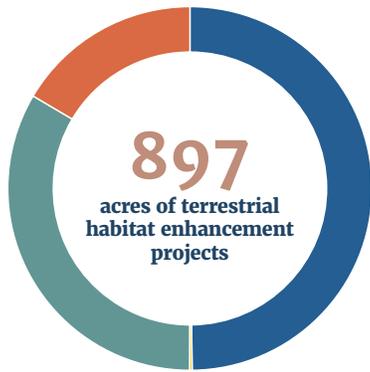
Planted native vegetation that benefits wildlife species at Hood Pasture, OR, and Balfour Klickitat, WA.

At the Sandy River Delta, treated invasive plants and planted riparian vegetation to improve bottomland hardwood forest habitat for migratory birds and other wildlife.

Worked with county weed control programs to improve native wildlife habitat (e.g. Woodard Creek, WA).

Controlled invasive plant species, and planted pollinator attracting plants and milkweed for monarch butterflies, at Moorhead Fischer, near Rowena, OR

Monitored breeding success of the Cape Horn peregrine falcon (1 fledged).



VEGETATION MANAGEMENT
447 acres

FUELS REDUCTION
148 acres

INVASIVE SPECIES
300 acres

ROAD DECOMMISSIONING/CLOSURE
2 acres

SPOTLIGHT: OREGON ZOO'S CASCADE PIKA WATCH

Columbia River Gorge National Scenic Area (CRGNSA) has a great partnership history with the Oregon Zoo. CRGNSA has partnered with the zoo to determine if condors were historically present in the Columbia River Gorge, and continues to work with the zoo and the Washington Department of Fish and Wildlife on promoting western pond turtles in the mid-Columbia River Gorge, in part, through the Oregon Zoo's Head Start program which enhances a turtle hatchling's survival in the wild.

In 2017, the Oregon Zoo's Cascade Pika watch program and associated pika researchers and CRGNSA sought and received national funding through the U.S. Forest Service's Citizen Science program. The grant is being used to monitor pikas in the Columbia River Gorge in an effort to understand whether the 2017 Eagle Creek fire impacted pika there.

American pikas are small mammals from the rabbit family that live amongst fields of jumbled rock called talus. Normally found at higher mountain elevations, Columbia River Gorge pikas are unique in that they live at a much lower elevation. In the summer of 2018 and 2019, volunteers were trained by pika researchers and Cascade Pika Watch to be, in effect, citizen scientists, and survey for pika presence in the Gorge. Some select volunteers also assisted pika researchers by walking talus field transects in an effort to get an estimate of pika abundance.

In the summer of 2019, Citizen Science participation was outstanding (155 volunteers participating; 245 site visits making up 1,620 hours). Preliminary data shows pika were detected at 40 out of 55 sites with volunteers carefully walking transects across talus fields. Citizen science volunteer training and pika data collection will continue in 2020.



Photos from left: 1) Volunteers pulling invasive ivy at Sams Walker. 2) Improving riparian habitat by adding large wood, activating side-channels, and planting native vegetation on the Little Wind River (Phase IV). 3) Citizen Science Volunteers Conducting Pika Surveys. 4) Pika munching vegetation.

COLVILLE NATIONAL FOREST



The Colville National Forest Wildlife Biologists work with cooperators to improve habitat, reduce threats, and understand our wildlife populations.

INTERAGENCY GRIZZLY BEAR COMMITTEE

Rodney Smoldon, Forest Supervisor for the Colville National Forest, is taking a turn as the chairperson of the Selkirk / Cabinet-Yaak Ecosystem Subcommittee of the Interagency Grizzly Bear Committee (IGBC). The forest took the lead in scheduling subcommittee meetings and compiling annual reports for the IGBC. We continued to take part in a multi-agency effort to assess the population size and genetic variability of grizzlies in the Selkirk Mountains Ecosystem. The highlight of this year was collecting hair samples and photos of an adult grizzly bear at one of our "hair snag corrals". Information and education efforts related to grizzly bears included presentations to campground hosts, campers, school kids, and employees. We also completed one-on-one contacts with several hundred hunters and other visitors in the grizzly bear recovery zone.

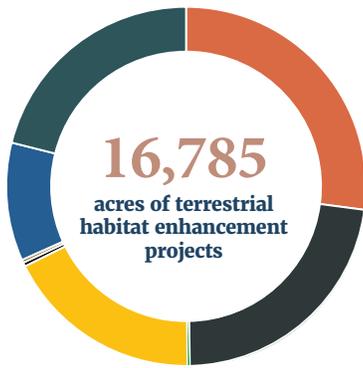
LYNX HABITAT

The Kettle Crest contains lynx habitat, but the population is sparse. The forest has a number of efforts underway to address lynx. We are assisting WSU grad student (Paul Jensen) with live snowshoe hare trapping for his project in assessing the density on the Kettle Crest in which the ultimate goal of assessing the hare density is to inform the potential carrying capacity for Lynx within the Kettle Crest. We also have a Washington State University camera trapping survey which has documented lynx on the crest in the past few years.

GOSHAWK MONITORING

This is the second to last year for our goshawk monitoring of the effects of vegetation treatments to goshawks movements. The goshawks are fitted with a GPS tracker.

We are also monitoring goshawk territories. This year, 2019, 27 territories were active and successfully fledged young out of 57 territories that were monitored this year.



FUELS REDUCTION
4,382 acres

COMMERCIAL TIMBER SALES
3,676 acres

WILDLIFE IMPROVEMENTS
3,410 acres

ROAD DECOMMISSIONING/CLOSURES
2,882 acres

AQUATIC RESTORATION
608 acres

VEGETATION MANAGEMENT
447 acres

SOIL DECOMPACTION / IMPROVEMENT
57 acres

TRAIL DECOMMISSIONING
44 acres

MEADOW RESTORATION
6 acres

SPOTLIGHT: LOON MONITORING

The forest is home to approximately half of the mated common loon pairs in the state. The forest participates with loon monitoring and banding on our lakes to further our knowledge of migration, occupancy, and fledging success.

This monitoring of loons is a coordinated effort between citizen scientists, Washington Department of Fish and Wildlife, Colville Confederated Tribes, the United States Forest Service, Biodiversity Research Institute, and the Loon Preservation Committee.

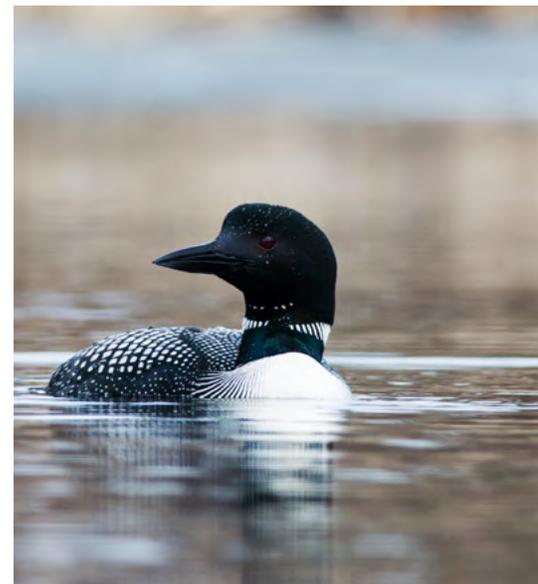
Annual surveys of the known nesting territories in the Columbia Mountain region of northeast Washington are done each year. Ginger and Dan Poleshook contract and volunteer with the Forest Service. They have done this work for 24 seasons since 1996. Their monitoring identifies issues such as fishing tackle

and lead sinker deaths. Loon occupied lakes now have prohibitions on lead sinker use.

They have also identified increasing mortalities from bald eagles. Ginger and Dan also provide education to campers and anglers using our lakes. They provide a yearly report to the partners. In addition to annual surveys, the loon chicks and unbanded adults are banded.

This year, the Biodiversity Research Institute, Dan and Ginger Poleshook, Forest Service wildlife biologist Kelsey Retich and Forest Service contractor Kalei Rose banded 9 adults and 6 juveniles. A GPS tracker was also recovered from 1 loon. Recreationists love listening to the loon call while enjoying the lakes.

Due to the continued efforts of this partner group that call will be around for many more to enjoy.



Photos from left: 1) Wildlife technician holding a snowshoe hare for the Kettle Crest Snowshoe hare survey. 2) An adult goshawk. 3) Wildlife Biologist Kelsey Retich holding a loon for banding. 4) Common Loon

DESCHUTES NATIONAL FOREST



The Deschutes National Forest focus for wildlife enhancement accomplishments for 2019 revolved around reducing impacts from human use. The forest receives approximately 3.8 million visitors per year. This results in disturbance during all seasons and times of day, habitat degradation, and impacts to animal movement. Wildlife enhancement accomplishments improved habitats for a variety of species from big game to pollinators and occurred in a number of different habitat types from meadows and aspen stands to the sage steppe. We also forged partnerships with new organizations and built upon long-standing, existing partnerships to achieve results across the landscape.

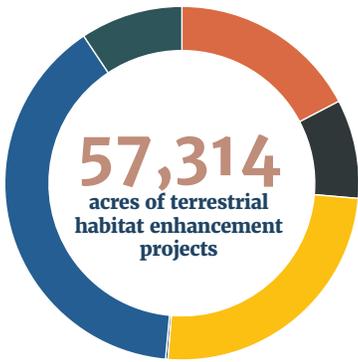
Approximately 48 acres of conifer encroachment were removed from meadows, aspen stands, and sage grouse habitat using Heart of Oregon and Youth Conservation Corps (YCC) crews. In addition, fences were built and modified around aspen stands to allow for wildlife passage while 1.5 miles of non-functioning fence was removed to reduce hazards to wildlife. These treatments enhanced special habitats where species diversity is greatest.

In concert with Oregon Department of Transportation, Oregon Department of Fish and Wildlife (ODFW), and Protect Animal Migration worked with Oregon Wildlife Heritage Foundation to raise funding for fencing to

accompany a new wildlife crossing on Highway 97. Many groups, including Oregon Hunters Association, contributed funding. This stretch of highway has some of the highest mortality numbers and is a priority for wildlife passage. In addition, this group is educating the public on the decline of mule deer populations and issues migratory deer face.

Approximately 22 miles of road were closed and 6.5 miles decommissioned with the help of both internal and external partners. In addition, a gate was placed to reduce disturbance to a known Northern spotted owl territory. These activities improved core or refuge habitat for all wildlife species resulting in reduced disturbance.

The Deschutes National Forest is home to over 700 caves including one show cave. White-nose syndrome screening and surveillance is ongoing with the aid of partners, including the Bat Hub at Oregon State University, Oregon Department of Fish and Wildlife, and the Oregon High Desert Grotto. In addition, a variety of monitoring activities are occurring to determine where bats occur, monitoring cave conditions to determine if they possess the conditions needed for white-nose syndrome to persist, and monitoring human use of cave environments. Increased employee presence and associated activities has led to less habitat degradation at our cave sites.



VEGETATION MANAGEMENT
22,452 acres

ROAD DECOMMISSIONING/CLOSURES
14,267 acres

FUELS REDUCTION
9,936 acres

WILDLIFE IMPROVEMENTS
5,357 acres

COMMERCIAL TIMBER SALES
5,181 acres

AQUATIC RESTORATION
121 acres

SPOTLIGHT: MIDDLE FLAGLINE TRAIL WILDLIFE CLOSURE

Every year until August 15, a closure for calving elk occurs on the Middle Flagline Trail within the Phil’s Trail area west of Bend. Unfortunately, in years past, hikers and bikers have ignored the closure resulting in harassment of elk cows and their young calves, which has reduced calving success.

This year a partnership to educate hikers, runners, and bikers about the importance of respecting the closure, through increased signage and messaging made a significant difference in reducing the disturbance of the elk.

In 2018, monitoring by Oregon Hunters Association and Oregon Wild for a one-week period during the closure showed 111 mountain bikers and 6 runners or hikers ignoring the closure during that week. In 2019, with the increased educational messaging about the closure, only 8 mountain bikers and no runners or hikers ignored the closure during the same week

of monitoring. The change between the two years demonstrates a 93% reduction in the number of people disturbing the calving elk.

Erik Fernandez, of Oregon Wild had this to say about the project, “I was cautiously optimistic that the collective efforts this year would be a success. I wasn’t sure how much of a success. This is far better than I had hoped.”

The partners in the educational project include the Central Oregon Trail Alliance, Deschutes Trail Coalition, Mt. Bachelor, Oregon Hunters Association, Oregon Wild, Visit Bend and the Deschutes National Forest. The partners will continue their efforts to increase the public’s understanding of the importance of the closure and the impact disturbance has on the elk cows and calves in the hope of maintaining the critical elk habitat into the future. With our partners’ dedication and assistance to this issue, we were more successful than trying to tackle this on our own.



Photos from left: 1) Bend Ft. Rock wildlife crew reestablishing the cave floor at Hidden Forest Cave. 2) Acoustic bat detector deployed to determine what bat species are using the area. 3) Elk calf at the side of the trail. 4) Bend Ft. Rock Wildlife Crew hauling materials to seasonally restrict the Flagline Trail for elk calving.

FREMONT- WINEMA NATIONAL FOREST



PARTNERSHIPS

The Fremont-Winema National Forest places a major emphasis on partnerships. In 2019 we worked with the Rocky Mountain Elk Foundation to enhance aspen and meadow habitat on 893 acres by thinning conifer and juniper. Treatments are adjacent to or in vicinity of commercial harvest and non-commercial thinning work, contributing to a large-scale landscape restoration and fuels reduction over a 51,000 acre project area.

We continued our work with the Rocky Mountain Research Station (RMRS) to monitor white-headed woodpecker nesting and habitat use post dry forest restoration. This is part on an ongoing study by RMRS that will continue for one more year of data collection.

Partnered with Klamath Bird Observatory to conduct landbird monitoring. This adds to the research providing big picture knowledge of landbird populations.

Partnered with Northwest Youth Corps (NYC) for the fifth season on aspen and meadow enhancement. A five person young adult saw crew spent eight weeks on the forest, thinning encroaching conifer from a meadow and aspen stand in the Mud Creek area of the Crooked Mud Honey project area. NYC also sent additional Pacific Northwest crews out to the site the first week for saw training, giving the forest additional work time on the unit.

SURVEYS, HABITAT ENHANCEMENT, EDUCATION

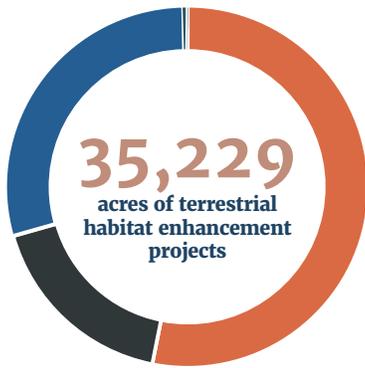
Surveyed for sensitive bumble bee species and participated in the Pacific Northwest Bumble Bee Atlas survey, surveying 13 cells and 26 sites across the forest. Almost 1,000 bumble bees were collected, identified, and released, including new locations of western bumble bee. *Bombus suckleyi* and *Bombus morrisoni* remain at large.

Surveyed for Northern spotted owl, Oregon spotted frog, mollusks, fisher and other carnivores, western pond turtle; western, Suckley, and Morrisons bumble bee; yellow rail, goshawk, and bald and golden eagle.

Enhanced western pond turtle habitat for the only known population on the forest by placing basking structures, planting willows, and installing an exclusion fence to reduce harassment.

Installed beaver dam analogues to repair a series of headcuts along a reach of Jack Creek, on both Forest Service and privately-owned lands. The project is expected to improve approximately ten acres of riparian and Oregon spotted frog habitat on the Chemult Ranger District.

Participated in several education events including the forests annual Fishing Derby, Westside School's Outdoor School teaching ages K-6 about predator-prey relationships, and Read with your Hero Program at a grade school in Klamath Falls.



FUELS REDUCTION
18,718 acres

VEGETATION MANAGEMENT
10,252 acres

COMMERCIAL TIMBER SALES
6,154 acres

WILDLIFE IMPROVEMENTS
99 acres

AQUATIC RESTORATION
6 acres

SPOTLIGHT: GOODLOW POND HABITAT IMPROVEMENTS

Goodlow Pond and nearby Pankey Reservoir on the Bly Ranger District have the only known western pond turtle population on the Fremont-Winema National Forest. This small population also represents the eastern-most known population of western pond turtles in Southern Oregon. For almost two decades, concerned locals, Bureau of Land Management, and Forest Service personnel have talked about “doing something” for the turtles at Goodlow Pond. Located off a county road between Bonanza and Gerber Recreation area, it’s a popular spot for dispersed camping, recreation, and target shooting (sometimes at turtles).

Goodlow Pond is a man made, well-fed pond built to retain water for fire fighting support that pond turtles colonized around 1988. Banks surrounding the pond had extensive trampling and limited riparian vegetation from livestock use, and the pond lacked any type of cover, protection from harassment, or good basking structures. Turtles generally water basked or used a grass covered island in the center of the pond. The island has limited solar exposure and didn’t provide quick access back into the water when turtles were disturbed or harassed.

In September of 2019, the forest began the first phases of the enhancement project installing several basking logs in the pond, restoring banks, planting willows along the main road side of the pond, and installing an exclusion fence around the perimeter. Large ponderosa pine snags were placed in the pond and resident turtles used the new basking structures almost immediately. Several juniper adjacent to the pond were also added and used for basking structure. Pushed over juniper maintained root wads, and some limbs were left to provide cover as well as basking structure for smaller turtles. The new structures allow for basking as well as a quick return to the water if disturbed. Wildlife and Fire crews installed a buck and pole fence of juniper cut from surrounding areas along the county road, with the rest of the 2.5 acre area fenced off using wire. Fence installation will be completed in early 2020 along with additional willow planting and extensive juniper encroachment removal on over 500 acres around the site. Collaboration between the wildlife, fisheries, timber, and fire staffs made the project possible, and though small in scale, the Goodlow project has been a long time coming for the forest’s only known population of western pond turtle.



Photos from left: 1) Bear chewing on carnivore bait station PVC tube. 2) Beaver Dam Analogue on Jack Creek, post water release. 3) Juniper buck and pole enclosure around Goodlow Pond. 4) Western pond turtles enjoying a sunny September afternoon on their new basking log at Goodlow Pond.

GIFFORD PINCHOT NATIONAL FOREST



VAN DYKE'S SALAMANDER SURVEYS

In partnership with Habitat Unlimited, the Washington Department of Fish and Wildlife, the Forest Service's Pacific Northwest Research Station and Interagency Special Status/Sensitive Species Program, surveys were conducted for Van Dyke's salamanders (*Plethodon vandykei*) at 26 historic sites. This species is a Forest Service Special Status Species, a Survey and Manage Animal Species and also considered to be perhaps one of the rarest vertebrate species in North America. The surveys resulted in 48 site records for Van Dyke's salamander and Cascade torrent salamander (*Rhyacotriton cascadae*; Forest Service Region 6 Regional Forester Special Status Species) and one new record of Cope's Giant salamander (*Dicamptodon copei*). Data collected by these surveys will contribute to the development of habitat models by the Washington Department of Fish and Wildlife that should increase our understanding of the habitat requirements for and potential distribution of this cold water amphibian.

WHITE-NOSE SYNDROME SURVEYS

In cooperation with the Washington Department of Fish and Wildlife and the U.S. Geological Survey - National Wildlife Health Center, we conducted bat surveys and surveillance for white-nose syndrome and *Pseudogymnoascus destructans* (the fungus that causes white-nose syndrome). Early detection of the expansion of white-nose syndrome or newly established epicenters are critical for the development and implementation of management strategies to combat this disease.

NORTHERN SPOTTED OWL SURVEYS

In cooperation with the Skamania Economic Development Council and the U.S. Fish and Wildlife Service, we conducted surveys for the Federally Threatened Northern spotted owl (*Strix occidentalis caurina*) in the Upper White Salmon Forest Restoration and Resilience Project Area. This species is also a Management Indicator Species for the Gifford Pinchot National Forest. With data collected from these surveys, we may be able to remove Northern spotted owl timing restrictions for project activities (e.g., thinning, fuel reduction, fuelbreak maintenance) and provide partners, purchasers, and contractors with longer operating seasons in which to accomplish their work.



- VEGETATION MANAGEMENT**
3,736 acres
- COMMERCIAL TIMBER SALES**
1,986 acres
- ROAD DECOMMISSIONING/CLOSURES**
1,800 acres
- AQUATIC RESTORATION**
307 acres
- WILDLIFE IMPROVEMENTS**
194 acres
- MEADOW RESTORATION**
42 acres
- BOTANY**
2 acres

SPOTLIGHT: OREGON SPOTTED FROG HABITAT IMPROVEMENTS

A beaver dam analog was constructed to improve Critical Habitat for the Federally Threatened Oregon spotted frog (*Rana pretiosa*) at the only site for this species on National Forest lands in the state of Washington. Surveys for this species began in 1997 and this site has supported as many as 234 adults (2001). When the beaver dam that created the pond was breached during the winter of 2015–2016, the site largely dewatered, with only a 0.07-acre perennial pond remaining. In 2016, no egg masses were detected. Given the site’s degraded condition for Oregon spotted frog habitat and the decline in the number of egg masses, in 2017 the forest developed a restoration plan involving invasive plant species control and a potential hydrologic fix, complemented by annual egg mass surveys, was developed and implemented. Invasive plant species control has been critical, as with the site largely dry, invasive reed canarygrass (*Phalaris arundinacea*) would likely have quickly made the site unsuitable for Oregon spotted frog.

Surveys in 2017, 2018, and 2019, detected 35, 19, and five egg masses, respectively. We had hoped that beaver

would return to the site and increase water retention, but that did not happen. In 2019, with the low number of egg masses and invasive plant species largely under control, we constructed a beaver dam analogue to improve habitat for the 2020 breeding season. The beaver dam analog would plug the breached section of the historic beaver dam and restore habitat by facilitating the formation of a larger, perennial surface pond. To estimate the extent of water inundation at the site expected upon completion of the beaver dam analog, we used a Light Detection and Ranging (LiDAR) digital elevation model. Construction of the analog used a medium-sized excavator and methods described in Pollock et al (2015). Construction of the analog took one day and cost \$2,500. Site visits after completion of the analog confirmed that the LiDAR digital elevation model estimate of about 0.7-acres inundated was fairly accurate. Thus, the beaver dam analog had resulted in a ten-fold increase in suitable spotted frog habitat. We plan to continue invasive vegetation plant species control and annual egg mass surveys and are also considering relocating beaver to the site.



Photos from left: 1) Van Dyke’s salamander found in the Tilton Watershed. 2) View of completed beaver dam analog from the undamaged historic beaver dam with the newly inundated wetland to the left. 3) View of the completed beaver dam analog. 4) Downstream view of the breached section of the historic beaver dam.

MALHEUR NATIONAL FOREST



The Malheur National Forest's wildlife program continued to support an increased pace and scale of habitat restoration, improved forest health and resiliency and ultimately forest products and recreation opportunities important to local economies. Much of the work accomplished would not have been possible without important partnerships and an integrated ways of doing business.

ROCKY MOUNTAIN ELK FOUNDATION REGIONAL RENDEZVOUS

The Rocky Mountain Elk Foundation's Regional Rendezvous once again occurred on the Malheur National Forest. Through coordinated volunteer work associated with the event, the program was able to install sections of buck and pole fence to protect important riparian habitat and remove excess old fence material from the landscape. Most importantly, the relationship between RMEF, event participants and the Malheur National Forest continues to grow.

OUTREACH AND EDUCATION

Program-sponsored public outreach and education centered on the importance of the work we do, biodiversity on the landscape and highlighting opportunities provided on local public lands continue to increase. Specifically, we installed and maintained multiple pollinator gardens. This provided opportunities to local youth and helped to educate and answer

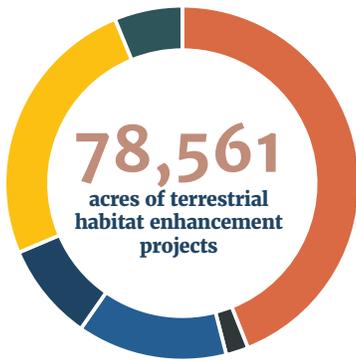
questions about the importance of pollinators. Biologists were also able to participate in numerous public events in local schools and youth camps to further educate and instill the importance of wildlife resources. Further, biologist attended classrooms in local schools to present fun facts and information about wildlife like bats and raptors.

ELK DISTRIBUTION

One of the more challenging endeavors of the year included leading and participating in forums and conversations with the local public about the importance of maintaining elk distribution of elk on the forest and the science around managing for secure elk habitat. This involved close coordination and communication with the Blue Mountain Forest Partners, the Harney County Restoration Collaborative, county commissioners, Oregon Department of Fish and Wildlife biologists and researchers from the Starkey Experimental Forest and Range.

POST-WILDFIRE SALVAGE LOGGING STUDY

The Rocky Mountain Research Station completed the final year of a four year-study in the Malheur National Forest on the effects of post-wildfire salvage logging that focused on monitoring the response of woodpeckers to different intensities of post fire salvage treatments in order to balance habitat needs with the need to recover the economic value of burned stands of timber.



FUELS REDUCTION
34,551 acres

VEGETATION MANAGEMENT
10,742 acres

ROAD DECOMMISSIONING/CLOSURES
19,809 acres

AQUATIC RESTORATION
7,017 acres

WILDLIFE IMPROVEMENTS
4,859 acres

COMMERCIAL TIMBER SALES
1,600 acres

SPOTLIGHT: DAMON ASPEN GOOD-NEIGHBOR AUTHORITY AGREEMENT

In July 2019, the Blue Mountain Ranger District and the Oregon Department Fish and Wildlife Department successfully completed the Damon Aspen Good-Neighbor Authority Agreement (GNA), a partnership that restored 166 acres of aspen. The Damon aspen project is within the Bear Valley area and falls within the ODFW Mule Deer Initiative area in the Murders Creek Game Management Unit. The project also is within a Forest Service Terrestrial Restoration and Conservation Strategy (TRACS) priority watershed (Headwaters Silvies River), one of the top 12 in the region for aspen habitat. Partner funding was provided by the Rocky Mountain Elk Foundation, Blue Mountain Elk Initiative and the Collaborative Forest Landscape Restoration Program.

The Damon Aspen project involved the felling of competing conifers to increase aspen plan vigor and stand health. Jackstraw and hinging of conifers created a natural barrier (i.e. hingeing and jackstrawing) to reduce ungulate browse pressure to aspen suckers. This natural protection is expected to last between five to

ten years, when the larger conifer material will slowly degrade and allow new aspen to grow above browse height. Natural protection will also provide a reduction of hazard for wildlife costs savings since stands will not require fencing or fencing maintenance. In addition, a new photo-monitoring program was established in Damon Aspen in July of 2019 to determine the effectiveness of treatment methods. Monitoring results will help inform the wildlife program and interested partners in future aspen restoration projects using natural barriers instead of fencing.

Restoring aspen benefits many wildlife species including elk, deer, wild turkeys, grouse, black bear, cavity and excavating birds, as well as neotropical migratory birds, and is critical for successful calf and fawn recruitment. Restoring aspen also improves palatable forage in the riparian areas and surrounding meadows and provide a unique area of biodiversity. This project will also increase opportunity for wildlife viewing and hunting opportunities on public lands.



Photos from left: 1) AmeriCorps and Youth Conservation Crew crew after a days work preparing for the Rocky Mountain Elk Foundation Rendezvous. 2) Malheur National Forest wildlife biologist educates local students with a bat presentation. 3) Damon aspen treatment unit with natural barriers.

MT. BAKER-SNOQUALMIE NATIONAL FOREST



In 2019 the Mt Baker-Snoqualmie National Forest successfully improved wildlife habitat, worked with cooperating agencies to reintroduce and translocate species to the North Cascades, and provided wildlife information to the public.

LATE-SUCCESSIONAL HABITAT

Worked with the Darrington Collaborative to commercially thin 70 acres to accelerate development of late-successional habitat for Northern spotted owl and marbled murrelet.

OUTREACH AND EDUCATION

Wildlife information shared with over 10,000 individuals at public events: Woodland Park Zoo Bear Affair, Stillaguamish Festival of the River, and Issaquah Salmon Days.

BEAR AWARENESS

Attended and presented at the Bear Awareness in the North Cascades Workshop. This event was attended by numerous representatives from federal, state and local agencies, tribes, business and agricultural groups, and non-profit organizations.

BAT FRIENDLY MINE CLOSURE

Installed one bat friendly mine closure to protect overwintering bats from human disturbance.

MOUNTAIN GOAT RELOCATION

In cooperation with the National Park Service, Washington Department of Wildlife, and local tribes on the translocation of mountain goats from the Olympic Peninsula to the Forest. One hundred seventy-seven mountain goats were relocated from the Olympic Peninsula to the North Cascades

REINTRODUCTION OF PACIFIC FISHER

In cooperation with the National Park Service, Washington Department of Wildlife, and local tribes to continue the implementation of the reintroduction of Pacific fisher in the North Cascades. Twenty-eight Pacific fisher were reintroduced to the North Cascades in early 2019.



WILDLIFE IMPROVEMENTS
2,360 acres

COMMERCIAL TIMBER SALES
575 acres

SPOTLIGHT: FISHER REINTRODUCTION IN THE NORTH CASCADES

A diverse group of partners came together to make fisher restoration possible. In addition to the Washington Department of Fish and Wildlife (WDFW), National Park Service (NPS), Conservation Northwest (CNW), Calgary Zoo, U.S. Fish and Wildlife Service, U.S. Forest Service, Washington's National Parks Fund, Defenders of Wildlife, and the U.S. Geological Survey supported the reintroduction project, including the monitoring and research efforts that occur once fishers are released.

The Mt. Baker-Snoqualmie National Forest cooperated with partners to move forward with the second year of a multi-year fisher reintroduction project on federal lands in the North Cascade Mountain Range in Washington. During the winter of 2018-19, the first 26 fishers were released in North Cascades National Park Service Complex and Mount Baker-Snoqualmie National Forest. Ten more fishers were released in October 2019.

Fishers are a mid-sized member of the weasel family that once occurred in the forested ecosystems of Washington; however they disappeared from Washington State by the early to mid-1900s, largely as a result of over-trapping, incidental mortality and habitat loss.

This is the third phase of fisher recovery in Washington. This reintroduction effort, led by WDFW, NPS, CNW, Calgary Zoo, and other partners, will reintroduce approximately 80 fishers into the North Cascades.

Phase one and two of fisher recovery in Washington, resulted in the reintroduction of 90 fishers from British Columbia to Olympic National Park in western Washington from 2008 to 2010, and another 73 fishers to Mount Rainier National Park and Gifford Pinchot National Forest from 2015 to 2018. These reintroductions and reestablishment of fishers on the Olympic Peninsula and in the South Cascades were the first steps for fisher recovery as outlined by the Washington State fisher recovery plan.



Photos from left: 1) Misty day before the August Mountain Goat capture operations in the Southeast portion of the Peninsula, photo credit: Bill Baccus, NPS. 2) Washington Department of Fish and Wildlife biologist, Ruth Milner, releasing as fisher. 3) Preparing to release fisher on the Darrington Ranger District. 4) Transporting fisher-filled carriers to the release site.

MT. HOOD NATIONAL FOREST



In 2019, wildlife biologists on the Mt. Hood National Forest continued to focus on large integrated resource project planning that will generate habitat restoration opportunities in the coming years. Maintaining and building new partnerships is also a priority.

INTEGRATED RESOURCE PROJECTS

Large integrated resource projects continuing from 2018 include restoration treatments from the North Clackamas (2,489 acres), Waucoma (1,420 acres), and Grasshopper (1,200 acres) projects. Surveys for Northern spotted owl, red tree vole, and/or mollusk surveys were completed for these projects. In 2019, the forest also initiated field work and surveys to support ZigZag Integrated (2,700 acres) and Crystal Clear Restoration (249 acres) projects. The forest also initiated its first insect and disease categorical exclusion projects, Pollywog (2,600 acres) and South Pen (2400 acres). All of these projects will result in terrestrial habitat enhancement.

DARNER SURVEYS

In partnership with the Willamette and Deschutes National Forests, and the Xerces Society, the forest conducted dragonfly surveys. These surveys focused on two Regional Forester sensitive species, the Zigzag damner (*Aeshna sitchensis*) and the Subarctic damner (*Aeshna subarctica*), both of which were known historically to occur on the forest. Surveys confirmed the continued presence of the subarctic damner at Camas Prairie.

OREGON SPOTTED FROG

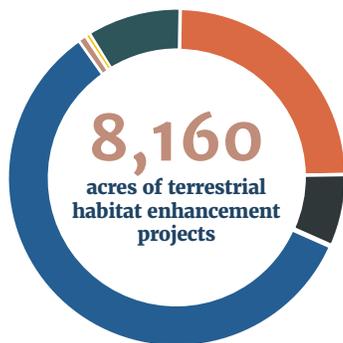
Monitoring of the Federally listed Threatened Oregon spotted frog (*Rana preteosa*) at Camas Prairie has occurred intermittently since 1993. This year, volunteers completed over 40 hours of surveys, including four egg mass surveys and one tadpole survey. This area is known to be important to a variety of wildlife and botanical. Plans to develop a resource management plan for Camas Prairie are underway for the next year.

EDUCATION AND OUTREACH

The forest also continued its wildlife public education and outreach efforts. This included the annual HawkWatch Festival hosted up at Government Camp. This festival provides the public an opportunity to interact with biologist from the forest, HawkWatch International, and other participating agencies. They are provided the opportunity to participate in the annual raptor survey effort up at Bonnie Butte. Classroom education efforts on various wildlife related topics also took place at Ron Russell Middle School in Portland, and Naas Elementary School in Boring reaching over 170 kids.

LiDAR

As of 2019, the forest now has full LiDAR coverage for the forest. This data is currently undergoing inspection for data quality and should be available for use in wildlife habitat analysis and modeling in early 2020.



VEGETATION MANAGEMENT
4,747 acres

FUELS REDUCTION
2,008 acres

WILDLIFE IMPROVEMENTS
733 acres

COMMERCIAL TIMBER SALES
559 acres

BOTANY
44 acres

ROAD DECOMMISSIONING/CLOSURES
15 acres

SPOTLIGHT: CARNIVORE SURVEYS

The joint Cascadia Wild and Mt. Hood National Forest carnivore monitoring efforts continued for the 2018-2019 season. The project has three objectives - to collect data on the occurrence of target rare carnivore species on the Mt. Hood National Forest, to get people involved in their local national forest, and to teach participants about wildlife and the natural world.

Primary target species are wolverine, wolf, Sierra Nevada red fox, and marten. Information is also collected on all mammal species recorded, with emphasis on carnivores. Annually, three types of surveys are carried out: camera trap surveys (year-round), snow tracking surveys (during the winter), and scat surveys (summer). There was a minimum of 16 camera traps deployed with over 4,798 survey days completed. Genetic samples of red fox were collected when encountered during all surveys.

Tracking surveys covered 55 miles, at 16 different locations within the snow zone around Mt. Hood. Twenty-two trips in total were carried out. Forty-eight miles of trail was hiked in search of red fox scat. Two samples collected had the potential to be from red fox.

A total of 211 people were involved with the effort this year, volunteering over 3,700 hours; almost 1,000 tracking surveys hours, over 2,600 camera survey hours, and approximately 78 hours for the scat surveys. Participants additionally donated over 28,700 miles of driving.

A camera detected two wolves traveling together inside the Mt. Hood National Forest boundary in July. These photos added important confirmation to growing evidence that a new pack, now called the Warm Springs pack, has established residence. This is the first pack in this area since wolves were reintroduced to the western United States.

Sierra Nevada red fox were detected at five locations. Marten were detected at Lemiti Creek, near the Ollalie Lakes Wilderness area at an elevation of 4,220 ft, an unexpected find. They also visited all the cameras above 5,000 ft around Mt. Hood, in their typical habitat. Wolverine were not detected, but the project continues to provide a monitoring system to detect if they disperse back in. Many non-target species were also recorded including, black bear, coyote, bobcat, cougar, river otter, weasel, striped skunk, spotted skunk, raccoon, elk, deer, snowshoe hare and small rodents. This project will continue into 2020.



Photos from left: 1) A male subarctic darter, a sensitive species, is recorded at Camas Prairie as a part of darter surveys. 2) The public partakes in the annual raptor surveys at Bonney Butte with HawkWatch International and Mount Hood National Forest volunteers. 3) A wolf is caught on camera near the Warm Springs area a part of the carnivore project. 4) A Sierra Nevada red fox is caught on camera searching for prey as a part of the carnivore project.

OCHOCO NATIONAL FOREST



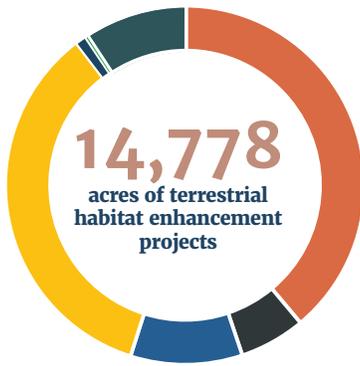
The Ochoco National Forest Wildlife Program has a long history of partnership development. For the past two decades, the biologists on the forest have done an outstanding job of developing partnerships with many different conservation organizations. The wildlife program continues to gain momentum with habitat restoration by further integrating our program with other resource areas on the forest, specifically; Timber, Silviculture, Fuels, Recreation, Fisheries, and Hydrology. At the national level, the Forest Service has provided some great tools to improve our efficiency of how we work across large landscapes. These tools come in the form of various authorities and initiatives that consist of but are not limited to; Stewardship Authority, Challenge Costs Share Authority, and Shared Stewardship/Good Neighbor Authority. The Ochoco Wildlife Program has fully embraced the use of these tools and we have used Stewardship Agreements, Challenge Cost Share Agreements, Shared Stewardship, and Good Neighbor Agreements to complement our highly integrated projects that use a diverse group of partners. In 2019, we developed our first Good Neighbor Agreement with the Oregon Department of Fish and Wildlife to improve elk security across the forest.

As we move into the next era, the Ochoco will continue to develop highly integrated projects that strategically use our partners in conservation. As a result of the Forest Service's national emphasis on partnerships, our program will focus on continuing to innovate our conservation financing by

working with our partners collaboratively, unifying all of our partners in conservation. We will identify and utilize our partners for their strengths, and collectively work with them to assist with implementing our restoration work. The programs focus and energy will be associated with entire watershed restoration, using the "All Hands, All Brands" model of restoration.

The following is a list of the various accomplishments from our program:

- Burrowing Owl Citizen Science Project
- Grizzly Road Closure Elk Security Improvement Project
- Rooster Rock Aspen Restoration
- West Fork of Mill Creek Big Game Fence
- Willow Creek Grassland Burn
- Pacific Northwest Bumble Bee Atlas Monitoring – Capture and identified 272 bees
- Derr Meadow Riparian Enhancement
- Rare Carnivore Camera Monitoring – 40 locations
- Wild-Fest Environmental Education Day
- Blue Mountain Elk Initiative/ Rocky Mountain Elk Foundation Field Trip – Review of project and investments



- FUELS REDUCTION**
5,750 acres
- ROAD DECOMMISSIONING/CLOSURES**
5,132 acres
- VEGETATION MANAGEMENT**
1,489 acres
- WILDLIFE IMPROVEMENTS**
1,370 acres
- COMMERCIAL TIMBER SALES**
876 acres
- AQUATIC RESTORATION**
144 acres
- MEADOW RESTORATION**
17 acres

SPOTLIGHT: “ALL HANDS, ALL BRANDS”

The Ochoco National Forest created the “All Hands, All Brands” event to unify our partners in conservation to increase the pace and scale of wildlife habitat restoration.

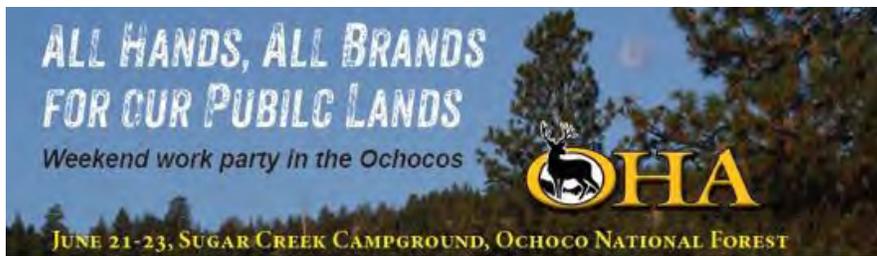
It has been a long-term goal of the Ochoco wildlife program to unify the strengths of each partner organization, to improve the efficiency of restoration work on the land. The goal became a reality this year, when the Forest Service and Oregon Hunters Association hosted the inaugural “All Hands, All Brands For Your Public Lands” event.

Members of the National Wild Turkey Federation, Oregon Hunters Association, Backcountry Hunters and Anglers, Rocky Mountain Elk Foundation, Theodore Roosevelt Conservation Partnership, Pheasants Forever and Mule Deer Foundation attended the event. A large

potluck dinner was provide and prizes were raffled off by conservation organizations. Approximately 79 people attended the event and over 700 hours of volunteer time was logged. Volunteers accomplished guzzler maintenance, conifer removal around aspen stands, and approximately 3,200 feet of fencing was constructed to protect aspen.

Presentations were given by each organization who attended, and a summary at the end was given by the Ochoco National Forest describing how the “All Hands, All Brands” model will be used to unify partners to accomplish watershed scale restoration.

This event was a huge success, and the 2020 event has already been planned, and will be even larger!



Join us for this cooperative aspen fencing, juniper thinning and guzzler maintenance project supported by many organizations and agencies, including OHA chapters and members statewide!



Guzzlers provide water sources for wildlife where water scarcity is a limiting factor.

Project Partners:
OHA, NWTF, USFS, BHA, TRCP, MDF, RMEF, ODFW and others.



Potluck dinner & raffle Saturday night.



Photos from left: 1) Juniper removal grassland restoration prescribed burning. 2) Conifer removal aspen restoration. 3) All Hands, All Brands work weekend flier. 4) Wild-fest environmental education.

OKANOGAN- WENATCHEE NATIONAL FOREST



Ecological restoration, partnerships, and wildlife monitoring, education, and outreach, continue to be the key components of the Okanogan–Wenatchee National Forest wildlife program that is responsible for managing the diverse ecosystems on the east slope of the Cascades in Washington State. Approximately 84,111 acres of terrestrial wildlife habitat was enhanced across the forest either through integrated resource management, such as prescribed fire, or direct actions to improve wildlife habitat, such as installing a nest platform.

WILDLIFE MONITORING SURVEYS

Wildlife monitoring surveys continued with the help from various partners and included surveys for a variety of species like the Mardon Skipper, Chelan Mountain Snail, and Cascade Red Fox. The program completed the sixth year of surveys for Mardon skipper at Conrad Meadows (a regional sentinel site for this species) and implemented habitat enhancement actions here to reduce conifers encroaching into the meadow.

WILDLIFE PROJECTS

Other highlights from the year included the I-90 Snoqualmie Pass Project which continues to implement important wildlife projects through stream and wetland restoration and the innovative Keechelus Lake Wildlife

Crossing. Our wildlife biologists worked closely with forest pathologists to protect over 25,000 acres of wildlife habitat from an escalating Douglas–fir Tussock Moth outbreak through aerial applications of a biocontrol agent. Barred owl removal continued on the forest in an effort to protect the last few Northern spotted owls remaining on our forest. An abandoned beaver dam complex was restored through the successful implementation of Beaver Dam Analogues through partnership with the Methow Beaver Project. Implementation was immediately successful in holding water and filling the pond completely thus restoring key headwaters of the Beaver Creek drainage. Habitat improvements were also made at rare whitebark pine habitat located at high elevation sites.

EDUCATION AND OUTREACH

Our environmental education efforts served many members of the public across the diverse communities that surround the Okanogan–Wenatchee National Forest. Biologists spent 3 days at the remote Holden Village, teaching over one-hundred 7th graders about wildlife ecology. Other events included an annual “Snake Search” in the Methow Valley, Bonaparte Lake Kids Fishing Day, and environmental education at Chelan Ridge hawk migration station



BARRED OWL REMOVAL
39,232 acres

WHITE-NOSE SYNDROME PREVENTION
26,528 acres

VEGETATION MANAGEMENT
6,501 acres

WILDLIFE IMPROVEMENTS
4,661 acres

FUELS REDUCTION
4,321 acres

ROAD DECOMMISSIONING/CLOSURES
2,863 acres

AQUATIC RESTORATION
5 acres

SPOTLIGHT: PROTECTING BOULDER CAVE

Boulder Cave is a premier visitor destination on the Naches Ranger District which hosts over 30,000 visitors annually. Not only is this unique geological treasure an attraction for the public, but it also serves as one of the largest known Townsends big-eared bat hibernacula east of the Cascade Crest in Washington. In March of 2016, white-nose syndrome, a potentially fatal pathogen affecting bat populations, was first detected in the state of Washington, approximately 50 miles from Boulder Cave. Recently, in 2019, another white-nose syndrome detection occurred near Cle Elum, the first detection in Washington east of the Cascades. These detections created a sense of urgency to protect known bat hibernacula here in Washington.

Immediately it was recognized that bats that use Boulder Cave were at risk from human transport of the fungal spores that cause white-nose syndrome into Boulder Cave. Visitors would frequently get off the designated trail and wander throughout the cave thus increasing the risk of spreading white-nose syndrome to bats that

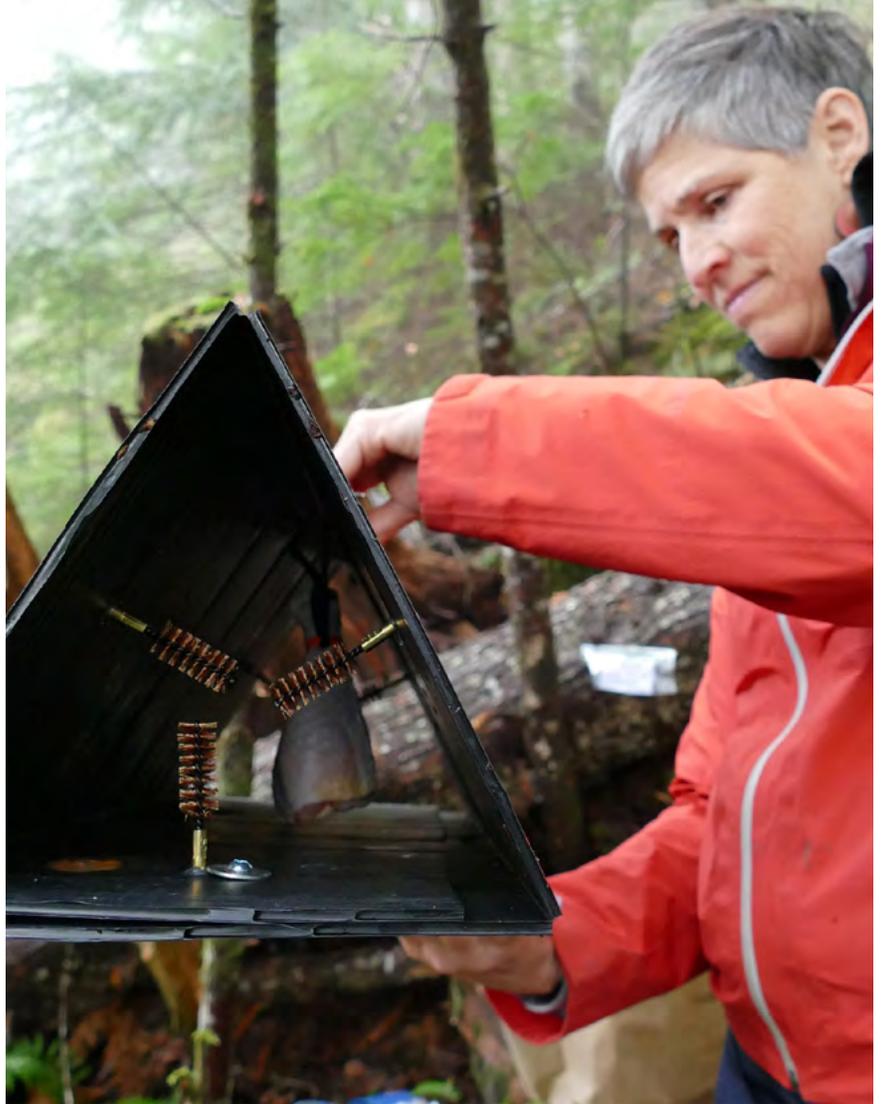
use the cave. Following the completion of the Cave Management Plan in 2018, a boot cleaning station was installed to prevent fungal spread by visitors, an interpretive display was installed, and an interpreter position was staffed on site during the high visitor use months to educate the public about the risk white-nose syndrome poses to bats.

In 2019, a Title II grant was secured to address the visitor use access area. With the help of the Washington Conservation Corps, a viewing platform was erected at the entrance of Boulder Cave. This viewing platform allows the public to fully appreciate the cave, while minimizing opportunities to spread the fungal pathogen. Furthermore, investing in the opportunity to reach the 30,000 visitors by staffing a seasonal interpreter, gives us the opportunity to spread knowledge about the importance of bat populations in Washington, the threats they face, and what the public can do to protect these important species.



Photos from left: 1) Snake Search Education Day. 2) Methow Beaver Ponds. 3) Boulder Cave viewing platform. 4) Boulder Cave District biologist Joan St. Hilaire and Washington Conservation Corps.

OLYMPIC NATIONAL FOREST



A focus for the Olympic National Forest included surveying and monitoring wildlife species of special status to expand knowledge of the presence of species, identify suitable habitat and potential threats, and outline strategies for enhancing their habitat. A majority of the work was funded through internal sources such as the Regional Sensitive Species and Challenge Cost-share programs, and external partnerships with academic, state and federal agencies, and non-governmental organizations.

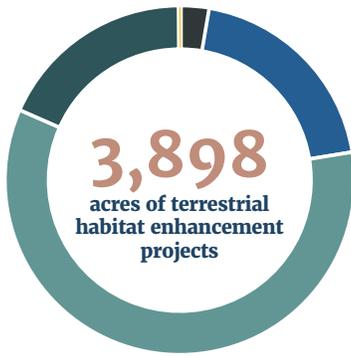
PACIFIC MARTEN

The Pacific marten (*Martes caurina*) remain common in montane regions of the Pacific states, yet their distribution and status on the Olympic Peninsula is uncertain. Carnivore surveys since 1991 suggests martens are absent from the lower elevation regions they once occupied and occur at exceedingly low densities at higher elevations. To understand the trend in marten populations on the Peninsula was developed and includes using appropriate conservation strategies, an interagency distribution study for Pacific marten on the Olympic Peninsula has included using scent-detection dogs, camera and lure dispensers. Survey results in 2019 documented marten at 11 remote camera stations. In 2019, the team, including Betsy Howell, Olympic National Forest wildlife biologist, published a paper "Status of Pacific Martens (*Martes caurina*) on the Olympic Peninsula, Washington" in the peer-reviewed

journal Northwest Science. Continued surveys across land ownerships on the Peninsula are essential for (1) understanding distribution and residency, (2) genetic diversity and connectedness, and (3) habitat associations. This information will help inform wildlife managers and conservationists if augmentation or other management actions on the Olympic Peninsula are deemed appropriate.

SPHAGNUM BOG ECOSYSTEMS

The Beller's ground beetle (*Agonum belleri*) and the mariposa copper butterfly (*Lycaena mariposa charlottensis*) a subspecies of the Makah copper butterfly are associated with acidic Sphagnum bogs in forested areas. With limited information on Sphagnum bog distribution on the forest, along with status and distribution of these two insects, inventories were conducted at wetlands across the forest. Only two bog-associated wetlands were found: Pat's Prairie and Cranberry Bog Botanical Areas in the Dungeness watershed. Surveys for each species, along with other bog-associated invertebrate and vertebrate species were conducted and included the first known verified records of Beller's ground beetle on the Olympic Peninsula at Cranberry Bog. The ecological uniqueness of the Sphagnum bog ecosystem and its sensitivity to habitat disturbance, including changing climatic conditions will facilitate future opportunities for additional surveys and establishing monitoring actions.



MOUNTAIN GOAT RELOCATION
2,306 acres

VEGETATION MANAGEMENT
769 acres

WILDLIFE IMPROVEMENTS
713 acres

COMMERCIAL TIMBER SALES
105 acres

ROAD DECOMMISSIONING/CLOSURES
5 acres

SPOTLIGHT: MOUNTAIN GOAT TRANSLOCATION PROJECT

One of the most unique and ecologically significant projects for the Olympic National Forest was the mountain goat capture and translocation. After years of planning and extensive public review, the National Park Service and U.S. Forest Service signed a Record of Decisions in 2018 to remove non-native mountain goats (*Oreamnos americanus*) from the Olympic Mountains and re-establish them in the Washington North Cascades. The Olympic National Park served as the lead agency, with Washington Department of Fish and Wildlife (WDFW) and the Forest Service as cooperating agencies.

The objective is to remove an estimated 725 mountain goats in the Olympic Mountains through live captures of about 50% of the population, followed by lethal removal through WDFW authorized special hunts on the Olympic National Forest, and citizen assistance in the Olympic National Park.

The forest provided the Hamma Hamma gravel pit for use as one of two staging areas for the project. Forest engineering, fire and wildlife staff, Washington Conservation Corps, and an all employee annual work party transformed the site to prepare it for safe use as a helispot and processing center for arriving goats.

The 2019 capture efforts in the Olympic Mountains occurred in two bouts (July 8-19 and August 16-29). A total of 211 mountain goats were removed from the Olympics and 177 were translocated to the Cascades. On the forest, 31 goats were captured from the Buckhorn, The Brothers and Mount Skokomish Wilderness areas. Dedicated National Park Service and Forest Service law enforcement officers were assigned during operations to assist with staging area security, implement the area closure of the highly popular Mt. Ellinor trail system during August operations, and patrol the Hamma Hamma watershed anticipating high interest from the public. Extensive public outreach efforts were coordinated through the forest wildlife and public information staff with assistance from the Olympia Mountaineers and two Student Conservation Association interns. Trailhead and campground signs, and evening campground presentations were developed by the Student Conservation Association interns and Olympic National Forest staff. Over 2,000 visitors were reached at hiking trails leading to goat areas on the forest. Overall, the outreach efforts resulted in more positive interactions with visitors and the community than anticipated. This project was awarded funding from the Region 6 Challenge Cost Share Program.



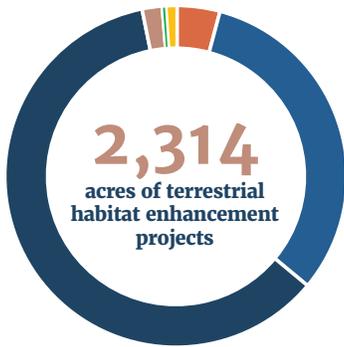
Photos from left: 1) Olympic National Forest intern with Western Washington University at Cranberry Bog Botanical Area. 2) Installing hair snare cubby for Pacific marten surveys. 3) Receiving mountain goats at the Hamma Hamma Staging Area, photo credit: Logan Weyand, WSU Veterinary School. 4) Forest Service Law Enforcement Officer bringing a mountain goat kid from helicopter to the veterinary team for examination, photo credit: Hannah Jacobsen, Student Conservation Association.

ROGUE RIVER- SISKIYOU NATIONAL FOREST



The Rogue River-Siskiyou accomplished over 210,000 acres of habitat enhancement acres in 2019. The primary target was from natural fires that burned in 2018 and 2019, however we did accomplish wildlife targets, primarily in lock step with fuels.

Other important work included multi-agency work monitoring meso-carnivores, bats, pollinators, and western pond turtle, which are not tracked as habitat enhancement but is equally important work and constitutes up several thousand acres per year. We continue to do that on an annual basis.



AQUATIC RESTORATION
1,406 acres

VEGETATION MANAGEMENT
738 acres

FUELS REDUCTION
96 acres

BOTANY
44 acres

ROAD DECOMMISSIONING/CLOSURES
24 acres

MEADOW RESTORATION
5 acres

SPOTLIGHT: DASHER MEADOW

The Dasher Meadow project was funded through a Region 6 challenge cost share project in order to restore a 5-acre meadow with funds from the Forest Service, Oregon Department of Fish and Wildlife, Oregon Hunters Association and Oregon Watershed Enhancement Board. The objectives were to remove conifer encroachment from the meadow, repair hydrologic damage (rutting) from a user-created road through the meadow, block access to the user-created road, treat reed canary grass in the meadow, collect seed from native sedges in the meadow to plant in the area treated for reed canary grass.

Hand crews cut and piled the tree saplings and decadent brush in the meadow. Three large Douglas-fir trees in the meadow were girdled for snags. An excavator was used to repair the ruts and place boulders at the ends of the user-created road. Sedge seeds were collected by the botany crew, and the piles and the reed canary grass were burned by hand crews. Reed canary grass infested areas will be covered with plastic for solarization in Spring 2020, with follow-up planting of natives happening in fall of 2020 or later.

Nearly half of the 5-acre meadow was fully covered by pine and Douglas-fir seedlings and saplings from the surrounding forest, so the sapling removal and pile burning resulted in immediate re-establishment of the meadow boundary. An Oregon Department of Fish and Wildlife Pittman-Robertson grant and monetary donation from the Oregon Hunters Association paid for the encroachment cutting. Piling was completed by volunteer help from the Oregon Hunters Association, Southern Oregon University Biology Club and Backcountry Hunters and Anglers. In addition, Wild Rivers District fire personnel and Grayback Forestry crews provided guidance and assistance with pile construction to ensure the piles will ignite and burn efficiently when conditions are favorable for burning them. The piles were burned by the Wild Rivers District fire personnel. Funds from an Oregon Watershed Enhancement Board grant will pay for the plastic and crew time to cover the reed canary grass.

The road repair and boulder placement are expected to reduce ponding of water on the roadbed and allow water to more naturally infiltrate into the meadow and prevent future access by motorized vehicles.



Photos from left: 1) Conifer encroachment. 2) Pile burn. 3) Pile volunteers. 4) Road ruts before work. 5) Boulder barrier.

SIUSLAW NATIONAL FOREST



In 2019, the Siuslaw National Forest focused on enhancing our timber production program into something that produces timber while also maximizing our ability to benefit wildlife. Engaging current and new partners and applying creative problem solving has increased our capacity to benefit multiple species from pollinators to Northern spotted owls.

RESTORATION AND THE BENEFIT TO SPECIES

We implemented a survey designed to bridge the gap between restoration thinning and the benefit to species that are not anticipated to occupy the habitat for 50-100 years. By highlighting how different bird species utilize different habitat conditions and structures opens up new dialogs with partners and ensures that harvest activities are meeting late seral species management goals. Additionally, a partnership with Forest Service Pacific Northwest Research Station and the Oregon Marbled Murrelet Project is documenting the relationship between our harvest restoration treatments and marbled murrelet nest success.

BAT MONITORING

Acoustic recording units were deployed in partnership with the North American Bat Monitoring Program to understand impacts of white-nose syndrome on bat populations as well as the utilization of our treated stands by various bat species. By monitoring use of additional dead wood created during harvest activities we have been able to implement species specific projects such as creating bat crevices and promoting tree cavity development. We also began monitoring of specific types of damage caused

during forest thinning activities that can create allow for establishment of natural pathogens that can increase suitability for cavity creation.

NATIVE MEADOWS

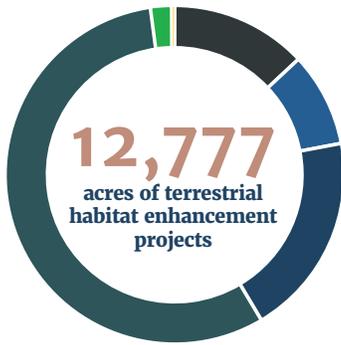
We continued our work in native meadows and forest openings in partnership with Oregon Department of Fish and Wildlife, Rocky Mountain Elk Foundation and the Oregon Hunters Association to maintain and enhance meadows which are critical for ungulates, pollinators, and songbirds.

OREGON SILVERSPOT BUTTERFLY

The Siuslaw has the last remaining self-sustaining population of Oregon silverspot butterflies in the world. Along with the Oregon Zoo and the U.S. Fish and Wildlife Service, we released captive reared silverspot caterpillars to bolster numbers in other recovery areas. We also enhanced and restored habitat by removing invasive grasses and planting native forbs. We partnered with Rogue Detection Dogs and Pacific University to develop a detection protocol for wild caterpillars. All of these activities combined to document egg laying with detection of caterpillars and emergence of adults, giving a 'survival' map to aid in the recovery of the species.

COASTAL SOLUTIONS FELLOWS

We were thrilled to host the first generation of Coastal Solutions Fellows from Mexico and Chile. We had engineers, landscape architects and biologists all learning and sharing ideas about solutions to issues common to coastal areas across the world.



WILDLIFE HABITAT IMPROVEMENT
7,212 acres

AQUATIC RESTORATION
2,483 acres

COMMERCIAL TIMBER SALES
1,664 acres

VEGETATION MANAGEMENT
1,150 acres

MEADOW RESTORATION
258 acres

ROAD DECOMMISSIONING/CLOSURES
9 acres

SPOTLIGHT: WESTERN SNOWY PLOVER

In 1994 the Western Snowy Plover population on the Siuslaw National Forest was below 30 birds. Today we have over 300 birds and have one of the highest nesting success rates throughout their range. We have achieved this success through a wonderful working group of partners, strong leadership and public support. The basis for our success is a four pronged approach that includes monitoring of nest and adult survival, management of recreation disturbance, creation and maintenance of habitat, and predator control.

While lethal predator control is not desirable, over the last 15 years some level of predator control has been shown to be crucial to the recovery of the plover. Recognizing the need to continue to recover the plover, the Siuslaw has partnered with USDA Wildlife Services, U.S. Geological Survey and U.S. Fish and Wildlife Service on a novel approach that hopes to achieve increased conservation for multiple species while non-lethally deterring avian predators from eating plover eggs, young and adults. To accomplish this we look to another species of conservation concern, the purple martin.

Purple martins depend on snags with nest cavities adjacent to large openings where they employ aerial acrobatics to capture insect prey. These types of snags adjacent to large openings are limited in coastal areas on the Siuslaw, leading to low numbers and concern about the conservation of purple martins. An interesting component of purple martin social life is that they like to form large colonies and participate in group defense of their homes against predators, especially avian predators. Last year we implemented a pilot project where we installed nest boxes for purple martins surrounding plover nesting areas. Preliminary observations demonstrated groups of purple martins successfully evicting several avian predators. Future plans include implementing an experimental research design and increased numbers of test areas to determine how effective this method of non-lethal predator control is in continuing to aid the recovery of the western snowy plover.



Photos from left: 1) International partners working together for solutions to issues common on coastal lands. 2) Bats vocalize at higher frequencies than birds, requiring a different recording device to track their use of forested stands. 3) Chicks born in newly installed martin boxes are identified with unique leg bands. 4) The start of a new fighter squadron of purple martins protecting Western snowy plover nests.

UMATILLA NATIONAL FOREST



In 2019, the Umatilla National Forest improved wildlife habitat on approximately 14,665 acres as part of an integrated effort. Activities such as thinning, prescribed fire, treatment of invasive plants, and planting native vegetation were used to increase ecosystem resilience and enhance habitat for a variety of wildlife species across the Forest. In addition, there were approximately 10 miles of stream passage improvements that provided benefit to aquatic wildlife species such as Rocky Mountain tailed frogs.

SURVEY AND MONITORING

Survey and monitoring efforts included goshawk and eagle nest monitoring and continued work on identification of terrestrial mollusk species that were collected in 2018 surveys. The mollusk surveys and identification were in cooperation with the Wallowa-Whitman National Forest.

PARTNERSHIPS

We continued to strengthen partnerships through the Blue Mountains Elk Initiative and Hells Canyon Initiative (bighorn sheep).

OUTREACH AND EDUCATION

There were several efforts to increase public awareness around potential impacts of motorized disturbance to elk and other wildlife species. This included development of a brochure as an insert into the forest's Motor Vehicle Use Maps; an informational sign to improve effectiveness of road closures and encourage elk and deer use of public lands; and three public workshops for the Ellis Integrated Vegetation Project with a presentation by Starkey Project researchers, Mike Wisdom and Mary Rowland. The presentation was focused on the science behind effective management of elk habitat by coupling vegetation treatments with road closures to improve habitat and security.



VEGETATION MANAGEMENT
4,323 acres

FUELS REDUCTION
2,702 acres

COMMERCIAL TIMBER SALES
2,455 acres

SPOTLIGHT: DARK CANYON PRESCRIBED BURN

The Umatilla National Forest partnered with the Rocky Mountain Elk Foundation and Washington Department of Fish and Wildlife to implement the Dark Canyon prescribed burn in 2019. This project resulted in the successful burning of 1,750 acres of ponderosa pine, dry mixed-conifer and grass in elk winter range in southeast Washington.

Historically, this area experienced low intensity fire and frequent fire return intervals (5 to 15 years).

Reintroducing fire in this area reduced timber stand densities, created snags, improved forage for big game species, and reduced shrub and small tree encroachment in grasslands. These actions enhanced habitat for many wildlife species and improved important winter range for elk. For the next couple years, this effort will help encourage elk use of public lands and potentially reduce impacts on nearby agricultural lands.



Photos from left: 1) Bull elk in meadow. 2) Spraying invasive plants with horses in the Wenaha Wilderness. 3) Firefighters on the Dark Canyon prescribed burn to improve wildlife habitat and reduce fuels.

UMPQUA NATIONAL FOREST



In 2019 the Umpqua National Forest continued to integrate the needs of wildlife into integrated forest restoration projects and partnerships. Treatments include maintaining forage openings for early seral dependent species, forest thinning for structure diversity and resiliency and wetland restoration work.

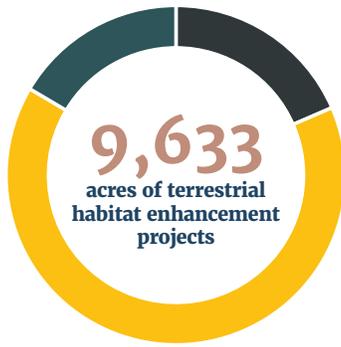
SEASONAL ROAD CLOSURES AND ROAD STORAGE

Managing the forest's road system is a critical part of our wildlife program. The forest protected 6,263 acres of Wildlife habitat through some form of seasonal or road storage.

The funding for this project supported the Forest Service Region's goals for road decommissioning, improved watershed condition class as well as wildlife and fish habitat management. The forest was

able to accomplish multi-resource needs through interdisciplinary team discussions.

As deer and elk numbers continue to decline in the national forest, it becomes increasingly important to provide safeguards where possible, to assist in recovering their numbers. The Umpqua National Forest utilizes seasonal road closures and road storage to reduce disturbance to wintering wildlife during the most stressful time of year. When animals flee due to disturbances caused by people, they unnecessarily consume calories that would otherwise be used to survive harsh winter conditions. Therefore, closing areas to human activity allows deer and elk to conserve their energy and survive the winter as well as improves watershed condition class and allows non-motorized recreational opportunities.



- ROAD DECOMMISSIONING/CLOSURES**
6,263 acres
- COMMERCIAL TIMBER SALES**
1,781 acres
- WILDLIFE HABITAT IMPROVEMENTS**
1,589 acres

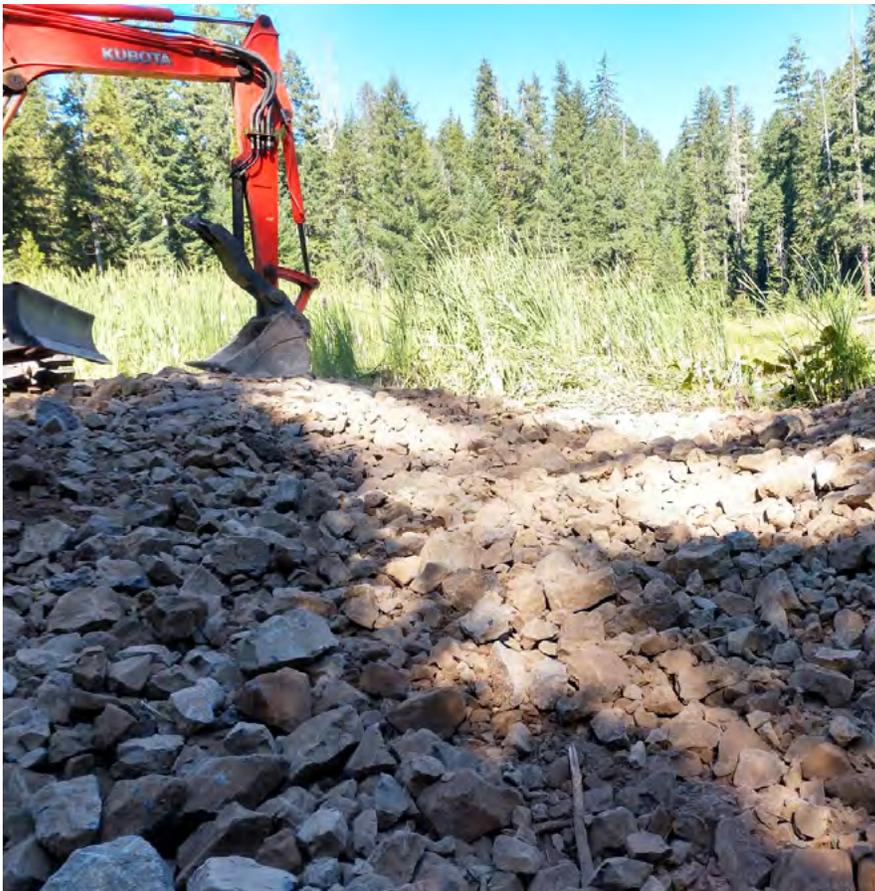
SPOTLIGHT: CARMEN LAKE RESTORATION WORK

Carmen Lake on the Tiller Ranger District is a constructed lake, which was built by damming a stream on the site of a wetland. It is currently being used by Western pond turtles.

Maintenance of the dam was essential to protect the lake from draining. Beavers had excavated several holes in the dam, including one that went all the way through the dam where initial dam construction did not adequately armor or lengthen the dam to tie in with the upland. The result from this beaver excavation was the creation of a gully that was actively down – cutting, and contained 2 head – cuts that were migrating upstream. Had the head-cuts reached the lake, the water level would have been lowered drastically, resulting in the loss of wetland habitat and recreational opportunities. Conifer trees up to 12 inches in diameter were also growing in the dam and the engineered spillway was obstructed with woody debris placed there by beavers and humans. To protect the lake from draining, the gully was filled, the dam was extended to tie in with the upland, and the surface of the dam was armored with rock to prevent future beaver excavations. The spillway was cleaned of

debris, re-contoured and rocked to make a more stable and effective outflow channel. The trees growing in the dam were removed to prevent damage to the dam from root growth and eventual toppling. These trees were placed into the lake to provide wildlife habitat, including basking logs for turtles, and hunting and resting perches for birds and dragonflies. A small ephemeral pond was also constructed near the new dam extension to add complexity of habitat.

Other work to improve turtle habitat included removal of small conifers and shrubs that were encroaching on a known turtle nesting area. Turtle nest sites need to be open to receive sunlight to incubate the eggs, and free of too much vegetation so that nest holes can be dug. Removal of the larger trees from the dam will allow more sunlight and seedlings and shrubs were scraped off with an excavator. As it was not known whether turtles would prefer the soil to be loosened or kept in its compacted condition, so during the scraping, half the site was lightly ripped to loosen the soil, and half was not. Monitoring will be conducted to see which half is preferred.



Photos from left: 1) Opening maintenance. 2) Installing Road Closure for non-motorized recreation opportunity. 3) Guzzler installation assistance from Oregon Department Of Fish and Wildlife, Photo courtesy of Tod Lum. 4) Installing vertical control to stop headcut draining. 5) Western Pond Turtle using newly rolled log previously covered in carex

WALLOWA- WHITMAN NATIONAL FOREST



TERRESTRIAL MOLLUSK SURVEYS

In partnership with the Xerces Society and the Umatilla National Forest, the forest completed 200 site surveys for terrestrial mollusks across the two forests. Snails are valuable indicators of ecosystem health and management activities can have long lasting negative effects to mollusk communities. However, our extremely limited knowledge of their occurrence and habitat associations in Northeast Oregon can lead to viability uncertainty when planning restoration activities. Surveys resulted in finding 30 separate snail species across the forests including locating all seven regionally sensitive species, many of which were only previously suspected. These locations will be used to develop species distribution models utilizing soils data and other habitat attributes to achieve a better understanding of sensitive terrestrial mollusk habitat in Northeast Oregon.

ENHANCING ROAD CLOSURES

The Dry Beaver/Ladd Canyon Cooperative Travel Management Area and elk security area was formed in 1993 as a partnership between the Wallowa-Whitman National Forest and Oregon Department of Fish and Wildlife in an attempt to redistribute elk numbers to enhance hunting opportunities and alleviate problems on private land. The original effort was successful but over time closure methods (berms and gates) have started to

erode and become breached. Utilizing our Good Neighbor Authority agreement with Oregon Department of Fish and Wildlife, nine problem roads were bermed impacting approximately 14 miles of road behind the closures.

GREAT GRAY OWL PUBLIC OUTREACH

In the late 1980's, the Pacific Northwest Research Station installed artificial nest platforms on the forest to investigate great gray owl use. 25 years later, many of these platforms are still in use. This offers a unique opportunity to view these beautiful, rare birds and engage the public in raptor ecology and conservation education. Together with partners, field trips and presentations were made available to over 300 people.

WHITEBARK PINE ENHANCEMENT

110 acres of lodgepole pine was thinned out of whitebark pine habitat to reduce stress and encourage growth of the sensitive tree species. This project is an ongoing effort and previous thinning resulted in many small burn piles on the landscape. These burned areas have trouble recovering in high alpine environments and so, in partnership with the Native Plant Society, pollinator associated forbe seeds (lupine, penstemon, and asters) were collected on site at the end of the season and seeded into over 100 burn piles.



WILDLIFE IMPROVEMENTS
6,176 acres

VEGETATION MANAGEMENT
5,897 acres

FUELS REDUCTION
5,207 acres

ROAD DECOMMISSIONING/CLOSURES
3,897 acres

AQUATIC RESTORATION
642 acres

SPOTLIGHT: COLUMBIA SPOTTED FROG HABITAT RESTORATION

The majority of Columbia spotted frog (*Rana luteiventris*) habitat within the La Grande Ranger District of the Wallowa-Whitman National Forest overlaps with an intensive multi-agency, multi-partner stream restoration effort designed to recover Endangered Species Act-listed fish populations. These restoration efforts have resulted in high areas of disturbance in the form of small diameter trees and large quantities of smaller slash being placed in ways that simulates the function of beaver dams in backing up water on the floodplain, which directly impacts and potentially enhances spotted frog breeding habitat within the floodplain. The La Grande Ranger District is trying to track long term impacts to the frogs through egg mass counts and frog surveys utilizing partnerships with Oregon Department of Fish and Wildlife, Eastern

Oregon University and the local watershed council Grande Ronde Model Watershed. Through this project, the partnership with Grande Ronde Model Watershed evolved into a successful citizen science grant in FY19 that also includes partnerships with the Confederated Tribes of the Umatilla Indian Reservation, the La Grande school district and Portland State University. Interest in the impact of stream restoration activities has expanded to include macroinvertebrates and native mussel species. In a time of decreasing budgets and personnel, partnerships and citizen science have the potential to generate long-term monitoring data that will not only inform management decisions but can also provide the surrounding communities a greater sense of ownership and stewardship of their natural resources.



Photos from left: 1) Photo of *Anguispira kochisnail* taken during terrestrial mollusk surveys. 2) Photographing owls as part of the great gray owl public outreach project. 3) Measuring Columbia spotted frogs. 4) Female Columbia spotted frog in egg mass.

WILLAMETTE NATIONAL FOREST



LATE SERAL HABITAT

A major focus of the Willamette National Forest's wildlife program is to utilize timber harvest treatments to thin mid seral forests, create gaps and retain areas of unthinned patches (called skips) to accelerate the development of late seral habitat to benefit Northern spotted owls.

RIPARIAN RESTORATION

Riparian restoration projects were highly integrated and enhanced habitat for pond turtles, bald eagles, harlequin ducks and other riparian dependent species.

WILDLIFE PROJECT FUNDING

Funds collected from timber sale receipts support many wildlife projects including snag and downed wood creation, browse cutback for big game, road closures, and revegetation.

MEADOW AND SAVANNAH RESTORATION

Meadow and savannah restoration projects were done across the forest and involved partnerships with Rocky Mountain Elk Foundation, Oregon Department of Fish and Wildlife via the Good Neighbor Authority, Oregon Hunters Association, Walama Restoration Project, and many individual volunteers.

INVENTORYING AND MONITORING

Biologists were active inventorying and monitoring for federally listed species including Northern spotted owl, Oregon spotted frogs, and gray wolves which recently have re-established on the forest after a 70 year absence.

XERCES SOCIETY PARTNERSHIP

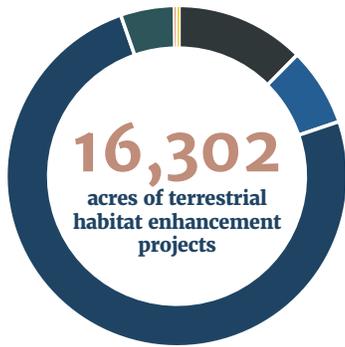
A highlight of the year was working with The Xerces Society to train biologists to identify new Forest Service sensitive dragonfly species and conducting darter surveys in potential habitat across the forest.

INDIGENOUS FISH AND WILDLIFE MANAGEMENT STRATEGY

With the Deschutes National Forest and numerous partners, we completed development of and continued to implement The Indigenous Fish and Wildlife Management Strategy for Seven Wilderness Areas.

BIOBLITZ

A bioblitz survey was conducted in Diamond Peak Wilderness that confirmed the presence of the Forest Service sensitive western bumblebee at two sites, found likely wolf scat (too old to genetically test), and confirmed numerous locations of Cascades frogs which will help inform a consideration to federally list this species.



AQUATIC RESTORATION
12,201 acres

COMMERCIAL TIMBER SALES
2,023 acres

VEGETATION MANAGEMENT
1,207 acres

WILDLIFE IMPROVEMENTS
851 acres

ROAD DECOMMISSIONING/CLOSURES
15 acres

FUELS REDUCTION
4 acres

SPOTLIGHT: CONSERVATION EDUCATION

The Willamette National Forest has wide and varied programs promoting conservation education and outreach that work with numerous partners and directly involved over 12,000 people in 2019.

The Detroit Ranger District has a Wildlife Volunteer Weekend that is a family event hosted with the Oregon Hunters Association, Rocky Mountain Elk Foundation, Akzo Nobel Coatings, and Mid-Valley Crawlers 4-Wheel Drive Club. This year they removed weeds and litter and cut encroachment in open meadows to support big game and pollinators.

Sweet Home Ranger District participated in a 2-week Outdoor Education School with the Sweet Home and Lebanon School Districts. Their students dissected owl pellets and learned about wildlife in their backyard, natural resource management, track identification, and predator-prey relationships.

The McKenzie River Ranger District provides conservation education as part of their Youth Conservation Corps and had a conservation booth at the McKenzie Chainsaw Arts Festival. They also have an outdoor camping trip with the Girl Scouts called “Girls in the Woods”. Each year they host an International Visiting Biologist that does conservation education outreach at local events.

The Middle Fork Ranger District participated in conservation education with the Oakridge and Springfield Outdoor Schools which targets upper elementary and middle school students in an outdoor setting. Students learned firsthand about owl and pond turtle ecology, bird identification, and kokanee spawning behavior. The district also annually hosts Campamento Exploradores (Explorers Camp) with Lane County School District. Children of migrant families camp for a week on the forest and learn about things such as owl and pollinator ecology, butterfly and insect identification and careers in the Forest Service.



Photos from left: 1) Collecting voucher photos of dragonflies during surveys. 2) Stage 0 Restoration on South Fork of McKenzie River. 3) Girls In Woods-Three Sisters Wilderness Backpack Adventurers. 4) Northwest Youth Corps cutting conifer encroachment in Ridgon Meadow.

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THANK YOU TO THE FOLLOWING PARTNERS AND COOPERATORS

REGIONAL PROGRAMS

THREATENED AND ENDANGERED SPECIES PROGRAM

U.S. Fish and Wildlife Service
U.S. Geological Survey
Portland Metro Oregon Zoo

FOREST PROGRAMS

COLUMBIA RIVER GORGE NATIONAL SCENIC AREA

Oregon Department of Wildlife, Washington Department of Wildlife, Skamania and Klickitat County Noxious Weed Control Boards, Youth Education and Sports Services, Washington Department of Natural Resources, Oregon Zoo, Sandy River Watershed Council, Lower Columbia Estuary Partnership, Friends of Trees, Friends of Sandy River Delta, Friends of Columbia Gorge, Ash Creek Restoration, Bonneville Power Administration, Inter-Fluve, Cape Horn Conservancy, World Salmon Council, Yakama Nation, National Wild Turkey Federation, Underwood Conservation District, Mid-Columbia Fisheries Enhancement Group, Oregon Department of Forestry, U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Geological Service, The Nature Conservancy, Oregon Watershed Enhancement Board, Washington State Salmon Recovery Funding Board, Oregon State Parks, Washington State Parks, Washington Department of Natural Resources

COLVILLE NATIONAL FOREST

Defenders of Wildlife, Conservation Northwest, Washington State University, Washington Dept. of Fish and Wildlife, Idaho Fish and Game, U.S. Fish and Wildlife Service, British Columbia Ministry of the Environment, Biodiversity Research Institute, Idaho Panhandle National Forest, Seattle City Light, Rocky Mountain Elk Foundation, Selkirk Conservation Alliance, Kalispel and Kootenai Tribes of Indians, Scenic Canyons Recreational Services Inc., U.S. Department of Homeland Security, Washington Department of Transportation, Pend Oreille Utility District, U.S. Fish and Wildlife Service, various individuals.

DESCHUTES NATIONAL FOREST

Oregon Department of Fish and Wildlife, Oregon Department of Transportation, Protect Animal Migration, Oregon Wildlife Heritage Foundation, Oregon Hunters Association, Oregon High Desert Grotto, HERS Lab, Northwestern Bat Hub, Oregon State University, National Forest Foundation

FREMONT-WINEMA NATIONAL FOREST

Rocky Mountain Elk Foundation, Rocky Mountain Research Station, Klamath Bird Observatory, Northwest Youth Corps, Pacific Northwest Bumble Bee Atlas, Oregon State University

GIFFORD PINCHOT NATIONAL FOREST

Cascade Forest Conservancy, Cowlitz County, Cowlitz Indian Tribe, Discovery Team, Klickitat County, Lewis County, Mount St. Helens Institute, Northwest Youth Corps, Oregon State University, Puyallup Tribe of Indians, Rocky Mountain Elk Foundation, Skamania County, Skamania County Economic Development Council, Skamania County Sheriff's Department, South Gifford Pinchot Collaborative, U.S. Fish and Wildlife Service, Forest Service Pacific Northwest Research Station, U.S. Geological Survey - National Wildlife Health Center, Washington Conservation Corps, Washington Department of Fish and Wildlife, Washington State University, Xerces Society, Yakama Nation

MALHEUR NATIONAL FOREST

Rocky Mountain Elk Foundation, Oregon Department of Fish and Wildlife, Blue Mountains Elk Initiative, Blue Mountains Forest Partners, South Fork John Day Watershed Council, AmeriCorps

MT. BAKER-SNOQUALMIE NATIONAL FOREST

Defenders of Wildlife, Darrington Collaborative, Woodland Park Zoo, Stillaguamish Tribe of Indians, Snoqualmie Indian Tribe, Sauk-Suiattle Indian Tribe, Western Wildlife Outreach, North Cascades National Park, and Washington Department of Fish and Wildlife.

MT. HOOD NATIONAL FOREST

U.S. Fish and Wildlife Service, Bureau of Land Management, U.S. Geological Survey, Cascadia Wild, Northwest Ecological Research Institute, HawkWatch International, Xerces Society



OCHOCO NATIONAL FOREST

National Wild Turkey Federation, Oregon Hunters Association, Youth Conservation Corp, Rock Mountain Elk Foundation, Blue Mountain Elk Initiative, Theodore Roosevelt Conservation Project, Back Country Hunters and Anglers, Oregon Department of Fish and Wildlife, Pheasants Forever.

OKANOGAN-WENATCHEE NATIONAL FOREST

Chelan PUD, Audubon Society, HawkWatch International, WA Dept. of Transportation, WA Dept of Natural Resources, WA Dept of Fish and Wildlife, Yakima Nation, The Nature Conservancy, Kittitas Conservation Trust, Conservation Northwest, Cascade Carnivore Project, Forest Service Pacific Northwest Research Station, I-90 Wildlife Watch, Forterra, Mountains to Sound Greenway Trust, WA Dept of Ecology, U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, WA State Parks, Central WA University, Federal Highway Administration, NOAA Fisheries, Yakama Basin Fish and Wildlife Recovery Board, Mid-Columbia Fisheries, American Rivers, U.S. Environmental Protection Agency, Kittitas County, U.S. Army Corps of Engineers, Methow Salmon Recovery Foundation, Confederated Tribes of the Colville Nation, Backcountry Hunters and Anglers, WA State University, University of WA, WCC, Wild Sheep Foundation, Mule Deer Foundation, Okanogan Conservation District, Job Corps, U.S. Border Patrol, Home Depot, American Legion, Oroville Sportsman Club, Douglas PUD, Okanogan County Sheriff, Okanogan Highlands Alliance, Rocky Mountain Elk Foundation, Troutlodge Lodge

OLYMPIC NATIONAL FOREST

National Park Service, Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, U.S. Geologic Survey, Quinalt Indian Nation, Skokomish Indian Tribe, Point No Point Treaty Council, Student Conservation Association, Western Washington University, Washington Department of Ecology-Washington Conservation Corps, Olympia Mountaineers, Forest Service Pacific Northwest Research Station – Olympia, Woodland Park Zoo, National Council for Air and Stream Improvement, Eyes in the Woods, Rocky Mountain Elk Foundation.

ROGUE RIVER-SISKIYOU NATIONAL FOREST

Oregon Department of Fish and Wildlife, Oregon Health Authority, Oregon Watershed Enhancement Board, SOU, Grayback, Backcountry Anglers and Hunters

SIUSLAW NATIONAL FOREST

Oregon State University, National Council for Air and Stream Improvement, North American Bat Monitoring Program, United States Department of Agriculture Wildlife Services, United States Geological Survey, United States U.S. Fish and Wildlife Service, Portland Zoo, Rocky Mountain Elk Foundation, Oregon Hunters Association, Rogue Detection Dogs, Pacific University, Pacific Northwest Research Station, Oregon Marbled Murrelet Project, USDA International Forestry, Coastal Solutions

UMATILLA NATIONAL FOREST

Confederated Tribes of the Umatilla Indian Reservation, Oregon Department of Fish and Wildlife, Oregon Hunters Association, Oregon State Police, Oregon State University Extension, Rocky Mountain Elk Foundation, Washington Department of Fish and Wildlife

UMPQUA NATIONAL FOREST

Oregon Department of Fish and Wildlife, Pacific Corp, Umpqua Community College, Southern Oregon University

WALLOWA-WHITMAN NATIONAL FOREST

Xerces Society, Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Portland Audubon, Washington Audubon, Native Plant Society, Eastern Oregon University, Grande Ronde Model Watershed, Confederated Tribes of the Umatilla Indian Reservation, La Grande School District, Portland State University

WILLAMETTE NATIONAL FOREST

Boy/Girl Scouts of America, Rocky Mountain Elk Foundation, Oregon Department of Fish and Wildlife, Oregon Hunters Association, U. S. Geological Service, Northwest Youth Corps, North American Butterfly Association (Eugene/Springfield Chapter), U.S. Fish and Wildlife Service, Bureau of Land Management, Akzo Nobel Coatings, Mid-Valley Crawlers 4-Wheel Drive Club, The Xerces Society, Walama Restoration Project, Lane County School District, Springfield School District, Oakridge School District, Sweet Home School District, Lebanon School District, Confederated Tribes of the Grand Ronde, Confederated Tribes of Siletz, Confederated Tribes of Warm Springs, numerous watershed councils, other schools and businesses, numerous individual volunteers



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