



United States Department of Agriculture

2018

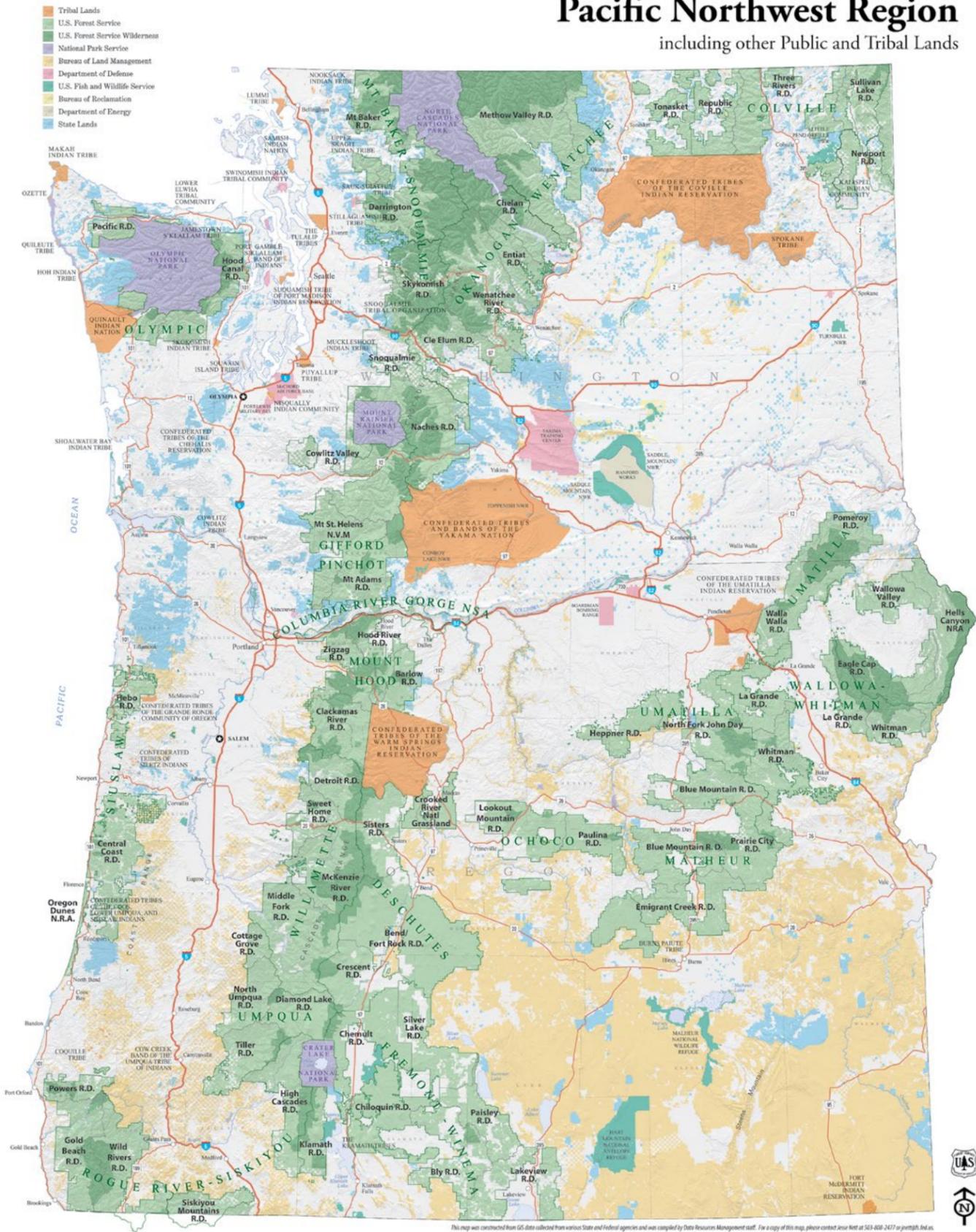
Wildlife, Threatened, Endangered, & Sensitive Species Program Accomplishments



Forest Service Pacific Northwest Region 2018

Pacific Northwest Region

including other Public and Tribal Lands



WORKING FOR WILDLIFE ACROSS THE PACIFIC NORTHWEST

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This map was constructed from US data collected from various State and Federal agencies and was compiled by Data Resources Management, Inc. For a copy of this map, please contact Sara Nett at 503-838-2477 or pnetts@dnr.or.gov.

INTRODUCTION

This document highlights the work accomplished across over 24 million acres of National Forest System lands in Washington and Oregon to benefit wildlife and terrestrial habitat improvement across 16 National Forests, one National Grassland, and one National Scenic Area in fiscal year 2018. This work was accomplished through extensive partnerships developed by our wildlife biologists and technicians with 50 different partner organizations, leveraging over \$3.7 million dollars in non-federal funds and in kind labor. The Region has just over 100 dedicated wildlife biologists and wildlife technicians who work tirelessly to build partnerships and educate the public while planning, implementing and monitoring wildlife habitat restoration projects.

The Pacific Northwest Region of the Forest Service, covering Washington and Oregon, contains a multitude of different types of habitats from old growth forests to high deserts and oak woodland habitats, and our biologists work to conserve and enhance the biodiversity of terrestrial and aquatic species that utilize them. Forest Service wildlife biologists consider the fine and broad scale habitat needs of species ranging from microscopic invertebrates on up to the animals the size of grizzly bears. You will see many different examples of how the Forest Service in Washington and Oregon are working to improve habitat to recover species, increase habitat connectivity, and partner with researchers to further our scientific knowledge of species life histories and their responses to forest management.

The projects and accomplishments shared within this document highlight integration across natural resource disciplines and they incorporate the two national flagship targets of timber production and fuels reduction work. You will see how integral wildlife habitat needs are in guiding and designing forest restoration projects across the region through the description of both projects and overall forest accomplishments. Our wildlife biologists are leaders in the agency in integrating other resource disciplines like timber, fuels, recreation, grazing, and education and outreach projects into the overarching aim of forest habitat restoration work. Our wildlife biologists work to ensure that considerations for a myriad of different wildlife species and habitats can be incorporated into projects by working with interdisciplinary teams in the planning and implementation of integrated habitat restoration projects.

Please feel free and share this report with partners, other federal agencies, or any other interested parties. At the end of this report, you will find a list of partner organizations as well as contacts for each forest and regional office program so readers can contact biologists for more information if desired. 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 multiple use forest management, wildlife habitat conservation, connectivity and species recovery in the Pacific Northwest.

Pacific Northwest Regional Wildlife Program

2018 was an incredibly busy year for the regional wildlife program. Accomplishments include the following:

Coordinated the Region 6 wildlife biologist and Pacific Northwest Research Station biologist meeting in February of 2018 to correspond with the joint Oregon and Washington Wildlife Societies, Partners for Amphibian and Reptile Conservation and Society for Northwest Vertebrate Biologist meeting in Portland. Over 50 biologists attended. This was the **first time such a meeting had occurred in over 20 years.**

Reviewed and made recommendations for Washington Office Supplemental Fuels, Challenge Cost Share, Land and Water Conservation Fund, Rocky Mountain Elk Foundation and Joint Chiefs **grant funds.**

Continued to coordinate with both Washington and Oregon Departments of Fish and Wildlife and the Bureau of Land Management (BLM) in conducting **environmental sampling for the presence of white-nose syndrome** in Washington State and baseline data for Oregon working with other regional staff. Also worked with Oregon State University College of the Cascades, National Park Service and Bureau of Land Management to **implement the first year of the Bat Hub** to conduct North American Bat Monitoring across every Forest in Region 6.

Helped organize and coordinate the **"Integrated Planning for and Management of Recreation and Wildlife Resources: Building a Shared Understanding of Obligations, Opportunities, and Challenges"** workshop.

Regional wildlife biologist Barbara Garcia worked on the **Species of Conservation Concern working group**, assisted with climate change assessments, the regional aquatic restoration EA, and provided several trainings on DecAID 3.0 to various user groups.



Participated in the LSR Workgroup, Danger and Hazard Tree Workgroup, and **coordinated a field review of the cave management programs** on the Deschutes and Gifford Pinchot National Forests.

Terrestrial Habitat Enhancement

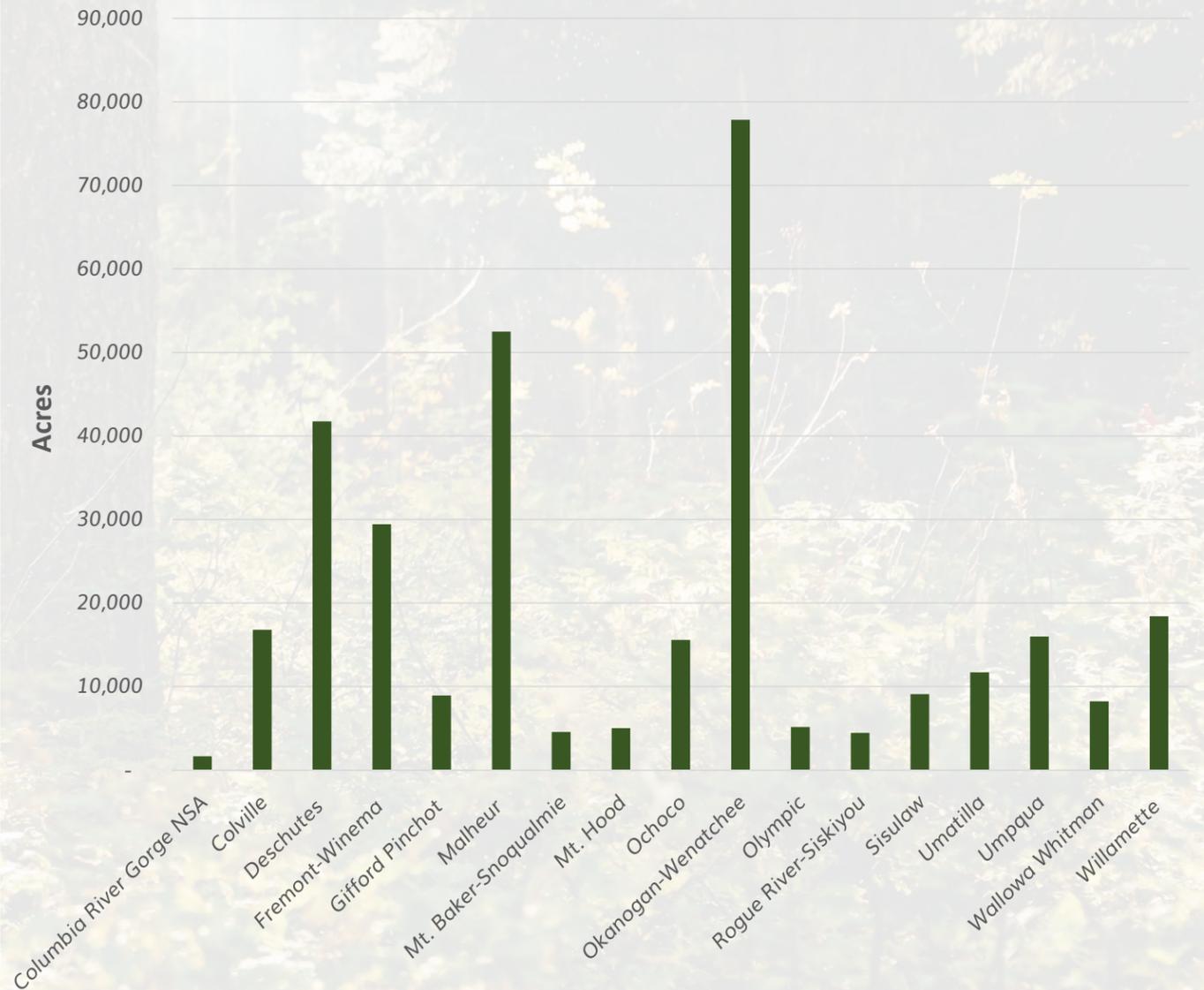
In fiscal year 2018, National Forests in Region 6 accomplished over 325,000 acres of terrestrial habitat enhancement. Fifty different partners contributed to this work, contributing over \$3.7 million in funds and in kind labor.

Habitat and Species Management Treatments	Acres
Remove-Wildlife Non-Native	41,576
Road Decommissioning	17,374
Road Storage	15,648
Wildlife Hab Improved	12,313
Mine-Cave Protection	10,003
Road Closure	9,479
Fence-Exclosure	6,241
Pipe Capping-Removal	6,089
Wildlife Hab Improved-Game	5,020
Increase Snags & Large Wood	4,711
Nutrient Enrichment	4,389
Guzzler Development	3,559
Nest-Roosting Structure	1,644
Channel Reconstruction	1,401
Fence-Removal	1,267
Structure Maintenance-Wildlife	1,264
Bear Resistant Container	1,167
Wildlife Hab Improved-NonGame	1,148
Other	698
AOP Improvement-Road	686
Wetland Restoration	573
Structure Addition-Habitat	323
Ingress-Egress Ramps	200
Beaver Introduction	77
Brush Pile Creation	59
Soil Improvement	14
Total	146,921

Vegetation Enhancement Treatments	Acres
Thinning-Commercial	36,655
Thinning-Pre-commercial	31,259
Non-native Plant Treatment	11,651
Native Plant Treatment	11,651
Invasive Species Mgmt-Plant	8,719
Planting	8,715
Thinning	8,446
Cavity Creation	2,126
Native Plant Restoration	496
Meadow Restoration	437
Riparian Thinning	433
Forage Enhancement	331
Maintain Openings	253
Tree Release	113
Aspen Restoration	82
Seeding	74
Pollinator Habitat Improvement	62
Revegetation	50
Riparian Improvement	31
Total	121,583

Fire and Fuels Treatments	Acres
Wildfire Natural	28,085
Prescribed Fire	40,978
Other Fuel Treatment	445
Total	69,508

Terrestrial Habitat Enhancement Acres Treated in the Pacific Northwest Region by Forest



Interagency Special Status and Sensitive Species Program (ISSSSP)

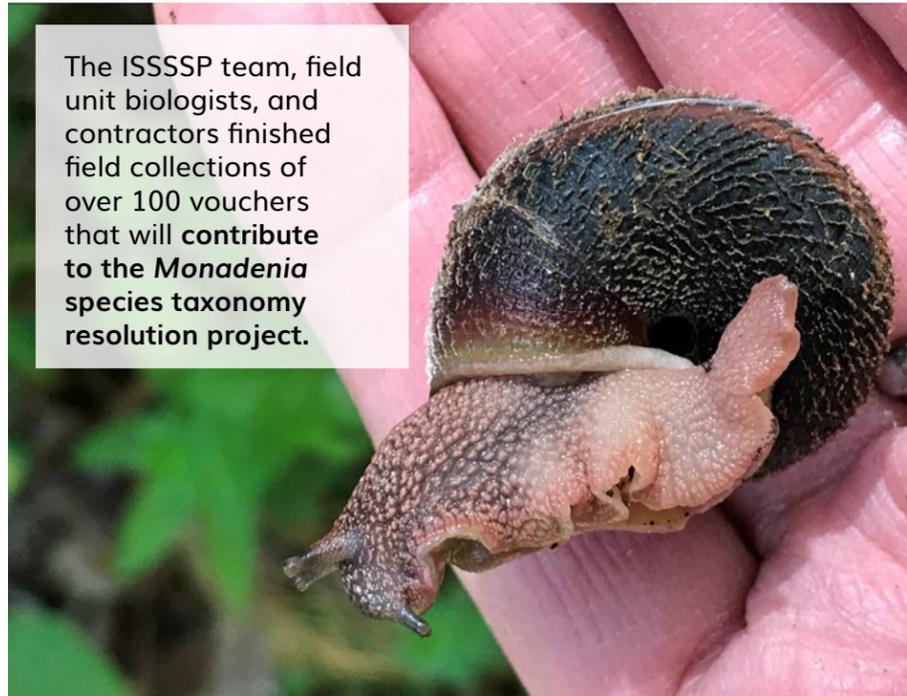
The ISSSSP continues to improve priority sensitive species conservation status through habitat restoration and enhancement and filling information gaps through conservation planning documents and inventory and monitoring efforts. Actions are accomplished through coordination and funding field unit priority species' work and leadership at the regional level. 83% of program funds were sent to sixteen Region 6 national forests funding 40 inventory and monitoring projects and 12 conservation projects.

The excellent **collaboration and teamwork** of the ISSSSP staff guides and contributes to ongoing efforts for consistent and efficient approaches to **species inventory and conservation efforts** across National Forests and Bureau of Land Management lands in Oregon and Washington.

The ISSSSP conservation planning coordinator provided excellent leadership that **guided and improved species management and strengthened NEPA analysis** through coordination, oversight, and editing of many valuable conservation tools:

- 3 conservation assessments
- 86 species fact sheets
- 1 conservation strategy

The ISSSSP conservation planning coordinator **provided for a consistent and improved response to White-nose syndrome** through participation in a national-level White-nose syndrome response team representing Region 6 of the Forest Service and Bureau of Land Management Oregon State Office.



The ISSSSP team, field unit biologists, and contractors finished field collections of over 100 vouchers that will contribute to the *Monadenia* species taxonomy resolution project.

The Interagency Special Status and Sensitive Species Program inventory coordinator collaborated with research in making progress toward an **innovative and efficient survey approach using eDNA** to determine presence in stream systems of a variety of species (lanx, mussels, lamprey, Umpqua chub, Foothill yellow-legged frog, and Harlequin duck).

Our contributions of fungi specimens over the years to **GenBank** have provided genetic evidence that there are questions to the *Rhizopogon* species identifications. The ISSSSP team began collaboration with Alija Mujic at Fresno State in regards to **confirmation of identifications and potential revision and clarification of the genus *Rhizopogon***.

Assisted field units in resolution of complex resource issues. Including sharing specialized knowledge and experience in regards to project consistency with policy and standards and guidelines. The team strives for and provides the highest level of assistance to resolve these complex issues in order to meet land management objectives.

Assisted in resolving litigation in coordination with attorneys and forest staff. Attorneys have the legal expertise, but often do not understand the intricacies of specialized resource topics. Our education provided to attorneys, review of legal documents and assistance to field units contributes to withstanding legal challenges, which results in successful implementation of our land management actions.

Improved partnerships with Oregon Biodiversity Information Center and Washington Natural Heritage Program through effective coordination meetings resulting in improved data management and data gathering on species rarity, threats, and trends. **Provided key leadership** in Oregon Department of Fish and Wildlife, Washington Department of Fish and Wildlife, and U.S. Fish and Wildlife Service meetings to increase understanding of species' data gaps, key investments, and conservation opportunities for species of common interest.



Provided and coordinated specimen identification services processing over 400 vouchers of lichens, bryophytes, fungi, and mollusks. In addition, a ten year backlog of 1,000 fungi specimen processing was completed and the vouchers delivered to Oregon State University. *Pictured: Arrhenia-lobata*

Coordinated review of the updated draft special status and sensitive species list incorporating flora, fish, and wildlife comments received from 16 out of 17 Region 6 National Forests and all Oregon and Washington Bureau of Land Management districts.

Established a Forest Service and Bureau of Land Management **Western pond turtle work group** that identified high priority information gaps and conservation needs. Funding bullfrog removal in Collins Pond on the Columbia Gorge National Scenic Area was an immediate need to reduce a known threat to the pond turtles.

Threatened and Endangered Species Program

The Threatened and Endangered Species Program makes focused investments on National Forests for the recovery of federally listed species. Accomplishment highlights include:

Made focused investments (\$1.1 million) and leveraged at least \$2.1 million through Challenge Cost Share for the conservation of listed species (Grizzly Bear, Taylor's Checkerspot Butterfly, Bull Trout, anadromous fish).

Invested \$131,000 on monitoring and integrated restoration projects for Woodland Caribou, Oregon Spotted Frog, Yellow-billed Cuckoo, Taylor Checkerspot and Oregon Silverspot butterflies, Western Snowy Plover.

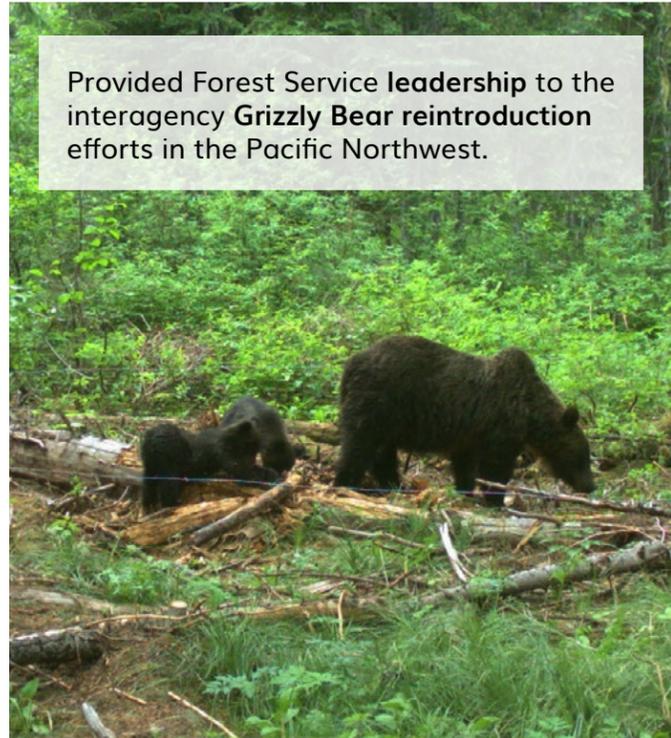
Provided \$115K for the 3rd year of the Interagency Experimental Barred Owl Removal Project on the Siuslaw and the Okanogan-Wenatchee National Forests. A total of 369 and 804 barred owls have been removed from each forest (respectively).

Provided \$10K to Pacific Northwest Research Station to support acoustic monitoring of northern spotted owl through the use of autonomous recording units (ARUs) and species recognition technology.

Supported the reintroduction of California Condor. Worked with the U.S. Fish and Wildlife Service to support the Environmental Assessment and 10(j) experimental population proposed rule.

Assisted on fire retardant consultations for anadromous species and Oregon Spotted Frog and updated maps to reflect avoidance areas.

Provided leadership for Oregon Spotted Frog by organizing the annual coordination meeting between state and federal partners.



Provided Forest Service leadership to the interagency Grizzly Bear reintroduction efforts in the Pacific Northwest.

Worked collaboratively with National Marine Fisheries Service, Fish and Wildlife Service, and Environmental Protection Agency on the development of the regional Aquatics Restoration Conservation Strategy.

Represented the Forest Service at Fish and Wildlife Service's Tri-State (CA, OR, WA) meeting. Presented the agency's vision for the bio-regional analysis and forest plan revision.

Participated on the team for the national Endangered Species Act Task Force to improve Endangered Species Act consultation efficiencies and conservation outcomes as a part of Environmental Analysis and Decision Making.

Worked collaboratively with multiple regions to complete a Biological Assessment for Bull Trout as part of the agency's remedy to the Salix lawsuit.

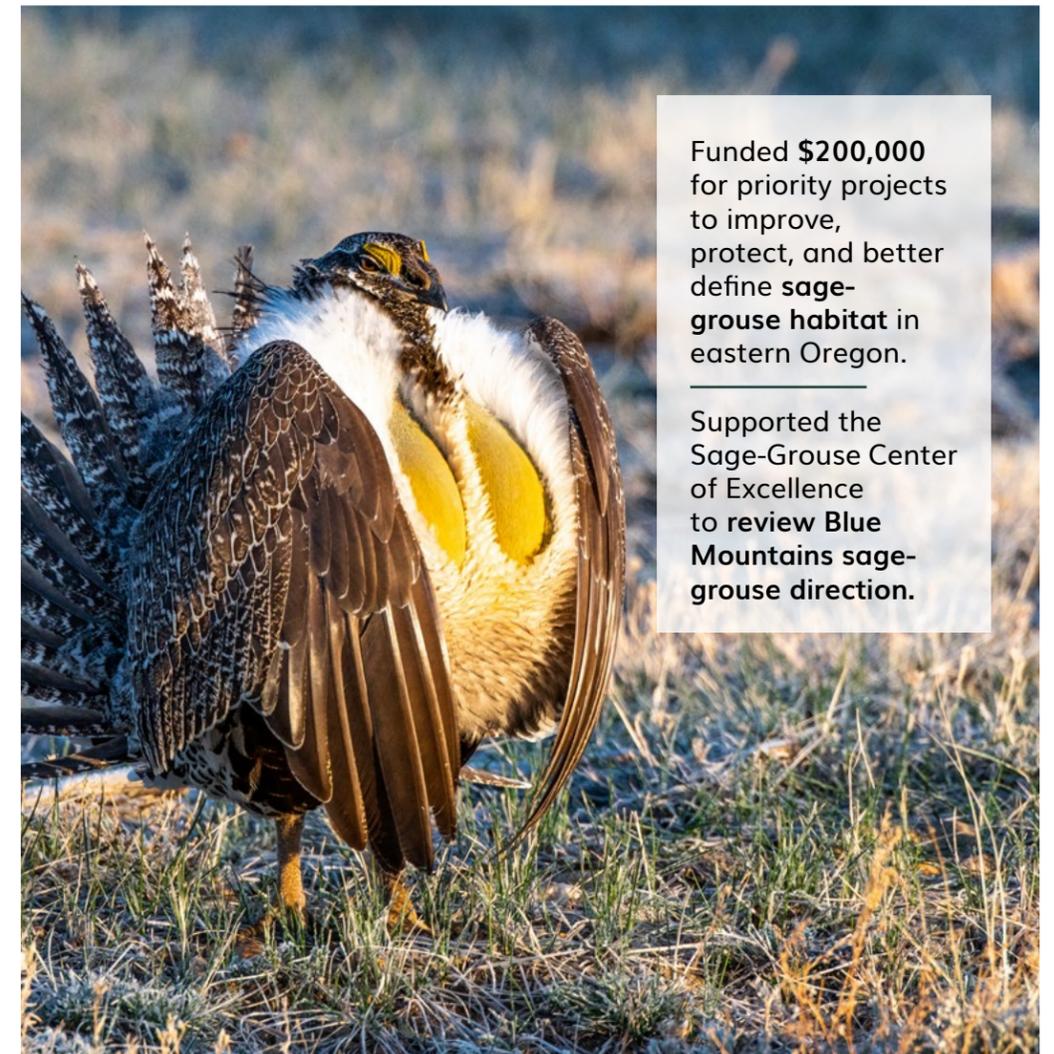
Developed course content on Endangered Species Act and consultation requirements for Environmental Analysis and Decision Making Line Officers NEPA class. Cadre members taught the advanced Biological Assessment class in support of Environmental Analysis and Decision Making.

Offered 2018 Endangered Species Act/NEPA training. Worked collaboratively with Fish and Wildlife Service staff to provide a 2.5 day course focusing on writing Biological Assessments.

Assisted national forests in the completion of the 2018 Line Managers Certification Report for the interim Pacfish and Infish Strategies.



Provided 12 Plot Watcher cameras to the Siuslaw National Forest to observe the threatened Silverspot butterfly and their host plant Viola adunca and interactions with other insects.



Funded \$200,000 for priority projects to improve, protect, and better define sage-grouse habitat in eastern Oregon.

Supported the Sage-Grouse Center of Excellence to review Blue Mountains sage-grouse direction.



CENTERS OF EXCELLENCE

The Pacific Northwest Region of the Forest Service operates many centers of excellence that develop tools for land managers. These centers work cooperatively with Federal and State agencies, universities, private firms, and independent research groups to make equipment, information, analysis tools, concepts, and ideas available to fulfill important needs. The centers make it possible for Federal and State agencies and other partners to better manage millions of acres of forests.

Partners for Amphibian and Reptile Conservation

The duties for the Amphibian and Reptile Center of Excellence include: serving as the liaison with the Northwest affiliate of Partners in Amphibian and Reptile Conservation (PARC); serving as a steering committee member for NW PARC; participating in quarterly calls with other Forest Service amphibian/reptile regional representatives; and disseminating current conservation information on amphibian and reptile species to Region 6 National Forests.

Finished term as co-chair for the Northwest Chapter of Partners in Amphibian & Reptile Conservation, and steering committee member for the Partners in Amphibian and Reptile Conservation (PARC) Joint National Steering Committee. Continued as treasurer for NW PARC.

Assisted with organizing the 2018 NW PARC annual meeting, held in conjunction with Washington and Oregon Wildlife Societies and Society for NW Vertebrate Biologist. Theme for the meeting: Research and Conservation Priorities for Reptiles.



Western toad

Organized and submitted nominations for national Alison Haskell Award.

Gave a presentation at annual meeting on "NW PARC: Where We Have Been and Where We Are Going."

Attended monthly Joint National Steering Committee calls.

Supported and organized a training course on amphibian field survey techniques and a day-long symposium on reptile conservation.

Wrote and assimilated NW chapter input to National PARC 2017 Accomplishments Report.

Organized the presentation of 4 NW PARC awards presented to individuals instrumental in amphibian and reptile conservation in the NW region.

Managed NW PARC website and quarterly newsletters to membership.

Joined Bsal Management Working Group; objective-to develop a guide for land managers on actions to be taken in the event of an outbreak of the salamander chytrid fungus, *Batrachochytrium salamandrivorans*, or Bsal, in the wild.

Participated in quarterly calls with other Forest Service regional amphibian/reptile representatives.



NW PARC Steering Committee and previous award winners with 2018 winners, Elke Wind and R. Bruce Bury, Annual Meeting, Portland, Oregon, February 2018.

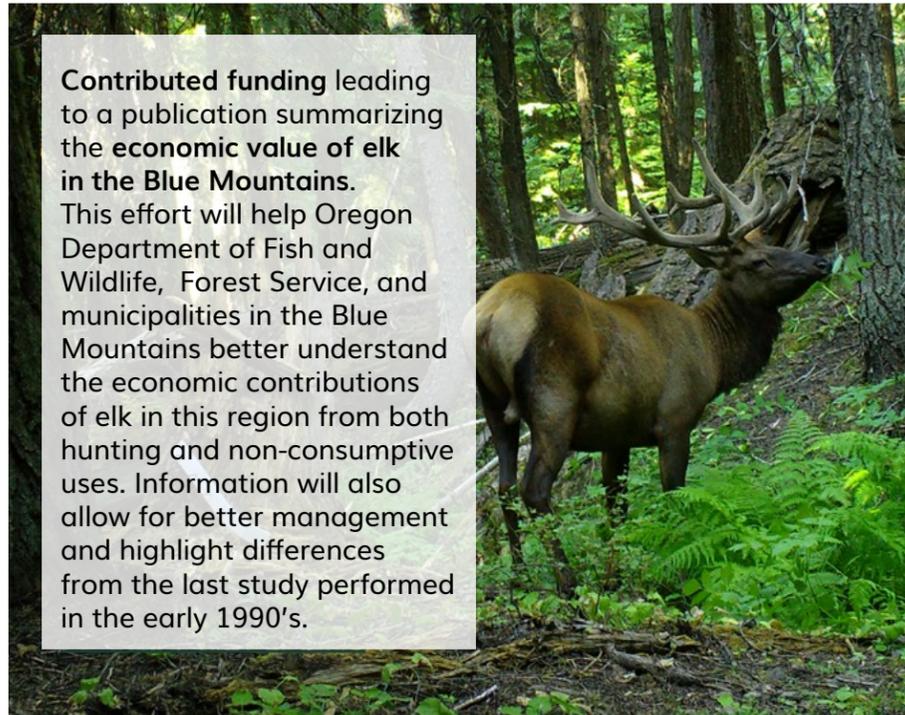


Completed rough-skinned newt surveys on Olympic National Forest.

Helped a lot of snakes, rough-skinned newts, and one western toad off the roads.

Oregon Rocky Mountain Elk Foundation & Blue Mountains Elk Initiative

In 2018, the Rocky Mountain Elk Foundation and Blue Mountains Elk Initiative funded 19 projects across the state of Oregon, putting over \$393,540 on the ground to support habitat enhancement, management, and research projects benefiting elk and other wildlife species.



Contributed funding leading to a publication summarizing the **economic value of elk in the Blue Mountains**. This effort will help Oregon Department of Fish and Wildlife, Forest Service, and municipalities in the Blue Mountains better understand the economic contributions of elk in this region from both hunting and non-consumptive uses. Information will also allow for better management and highlight differences from the last study performed in the early 1990's.

Leveraged over **\$1,244,943** of federal, state, and partnership dollars for **20,191 acres** of habitat improvement projects in Oregon.

Effectively **closed 56 miles of roads** using gates, earthen berms, and boulders to increase big game security.

Continued to **strengthen partnerships with outside agencies** including soil and water conservation districts, various youth crews, Eastern Oregon University, various tribal entities and private landowners.

Led a **field trip of 20 land managers** including biologists, scientists, silviculturists, and fuels specialists, to past and future project areas on the Wallowa Whitman and Umatilla National Forests. Efforts focused on maintaining elk on public lands and reducing conflicts to neighboring private lands while meeting the objectives of silviculture and fuels reduction efforts.

Reviewed, evaluated, and prioritized **37 habitat restoration proposals** for funding by participating on a Project Advisory Committee representing a variety of entities such as state and federal government, outfitter guides, research, and industry.

Forest	# of Projects	Funding Sources			
		BMEI ¹	RMEF ²	BMHRC ³	ODFW ⁴
Fremont-Winema	1		\$15,000		
Malheur	3	\$20,500	\$26,500		\$19,000
Ochoco	2	\$40,000	\$27,000		
Umatilla	1	\$5,500	\$15,000		\$4,500
Wallowa-Whitman	2	\$27,000	\$38,500	\$20,000	
Willamette	3		\$31,000		
Other					
PNW Research Station	1		\$9,000		
Morrow Soil & Water Conservation District	1		\$10,000		
Bureau of Land Management	3		\$51,000		
Oregon Department of Fish and Wildlife	2		\$34,040		
Total	19	\$93,000	\$257,040	\$20,000	\$23,500

¹ Blue Mountain Elk Initiative
² Rocky Mountain Elk Foundation

³ Blue Mountain Habitat Restoration Council
⁴ Oregon Department of Fish and Wildlife

Washington Rocky Mountain Elk Foundation

In 2018, the Washington chapters of the Rocky Mountain Elk foundation funded 13 projects. Four Washington forests were funded. The projects included pre-commercial thinning, weed control, planting for forest diversity, prescribed fire, forage enhancement, and road impact reduction. The four Rocky Mountain Elk Foundation priority areas include Washington Roosevelt elk west of the Pacific Crest Trail, Blue Mountains, East slope of the Cascades and the Selkirk herd in NE Washington.

THE FOLLOWING PROJECTS WERE FUNDED:

Dungeness-Jimmycomelately Young Stand Thinning, Olympic National Forest. \$25,000 funded, 207 acres pre-commercial thinning; and creating small wildlife opening. The Olympic National Forest is late successional forest managed for Northern Spotted Owl. Elk forage is a limiting factor for the herds. There are very few areas where openings are possible and pre-commercial thinning creates short-term elk forage.

Wildlife Forage and Habitat Enhancement on the Gifford Pinchot National Forest, Mt Adams RD. \$30,000 funded, 1,068 acres, invasive plant control by manual and chemical treatments. Meadows throughout the area are being surveyed and weeds treated. Skamania County is a good partner in weed treatments.

Mt St. Helens Wildlife Area and Mt St Helens National Volcanic Monument Invasive Weed Management. \$20,000 funded work in the Toutle River Flats, Hummocks Trail area, and north of Coldwater Science and Learning Center. Cowlitz County continues as a good partner in the weed eradication work.

Dry-Nelli Pre-Commercial Thinning, Okanogan Wenatchee National Forest, Naches RD. \$30,000 funded, 200 acres for pre-commercial thinning on a larger 500 acres.

Assisted in the development of habitat restoration proposals. Reviewed, evaluated, and prioritized submitted proposals. **Participated on the Project Advisory committee** representing a variety of entities including state and federal government, research, and industry.



Weed treatment crew in Skookum Meadow

Carnivore

There were several significant events regarding the status of rare carnivores in 2018 and a number of accomplishments by various forests in Region 6.

RARE CARNIVORE 2018 STATUS UPDATES:

Gray wolf populations continue to expand in Oregon and Washington with each state estimating to have 22 known packs and approximately 120-125 individuals.

The North Cascades Ecosystem Grizzly Bear Restoration Environmental Impact Statement process was stalled between the DEIS and FEIS, Project is still moving forward with additional public input.

Pacific fisher proposed Threatened after court orders U.S. Fish and Wildlife Service to reconsider the not warranted determination.

Coastal marten currently having status reviewed by U.S. Fish and Wildlife Service after the not warranted determination was remanded by a court in 2017.

Sierra Nevada Red Fox and Cascades Red Fox both listed as Sensitive in Region 6.

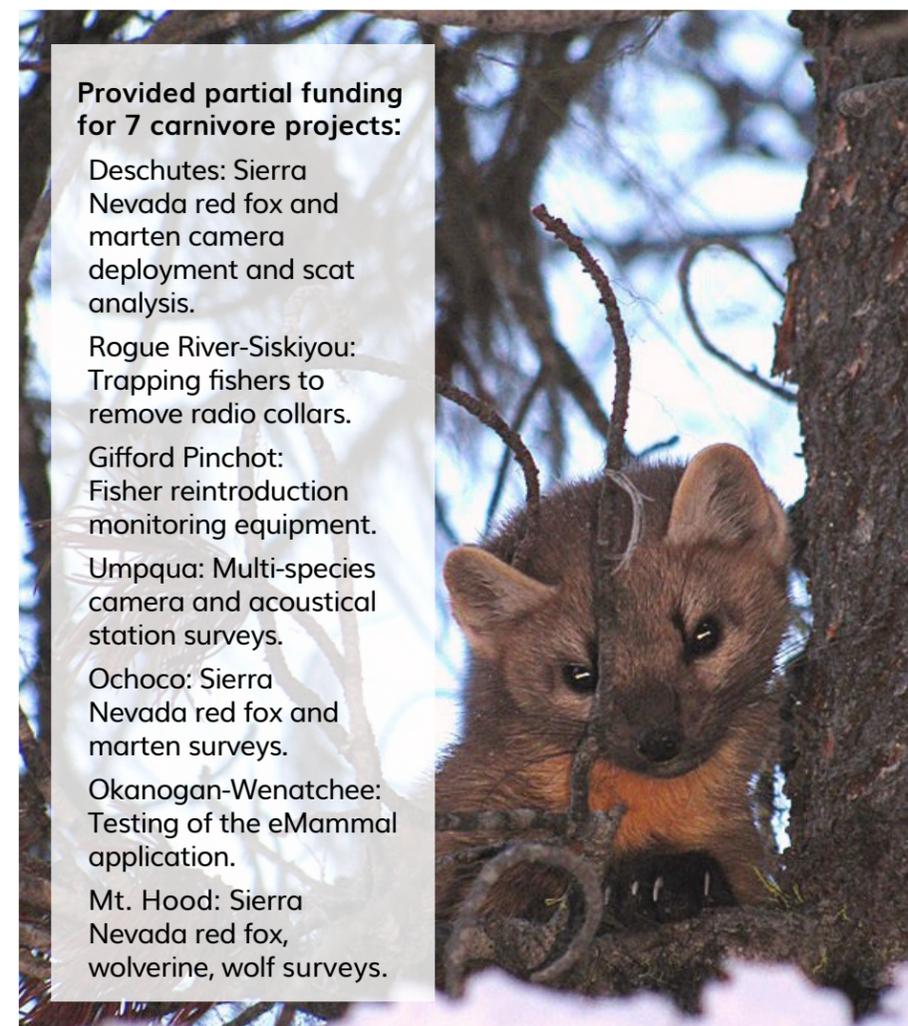
2018 CARNIVORE ACCOMPLISHMENTS:

Assisted with **documentation of wolverine natal den site** on Naches Ranger District of the Okanogan-Wenatchee. Third natal den site documented in the Washington Cascades and the first south of Interstate 90.

Participated on science team and interdisciplinary planning team for **North Cascades Ecosystem Grizzly Bear Restoration Environmental Impact Statement**.

Chaired the **Interagency Grizzly Bear North Cascades Subcommittee Technical Team**.

Assisted Washington State University with **trail/road camera survey targeting lynx**.



Provided partial funding for 7 carnivore projects:

Deschutes: Sierra Nevada red fox and marten camera deployment and scat analysis.

Rogue River-Siskiyou: Trapping fishers to remove radio collars.

Gifford Pinchot: Fisher reintroduction monitoring equipment.

Umpqua: Multi-species camera and acoustical station surveys.

Ochoco: Sierra Nevada red fox and marten surveys.

Okanogan-Wenatchee: Testing of the eMammal application.

Mt. Hood: Sierra Nevada red fox, wolverine, wolf surveys.

Provided logistical support for the second year at the **University of Washington predator/prey interaction research project**.

Assisted National Carnivore Program leader with annual **Forest Carnivore Management Class** in Yellowstone National Park.

Upland Game Bird

The Upland Game Bird Center of Excellence now resides on the Ochoco National Forest. This position serves on the National Wild Turkey Federation (NWTF) Making Tracks Steering Committee and Western Association of Fish and Wildlife (WAFWA) Western Quail Working Group. Coordinates with both the Oregon and Washington Department of Fish and Wildlife Upland Game Bird Programs. Acts as a point of contact to the Washington Chapter of the Ruffed Grouse Society.

WAFWA WESTERN QUAIL WORKING GROUP (WQWG)

Attended annual meeting in Minden, NV to discuss ongoing quail work. Collectively discussed **population censusing techniques, trans-location projects, and habitat enhancement** in each western state. **Provided input and photos** for the WQWG Guidelines for Inter-State Quail Translocations. Provided input to an all working groups WAFWA strategy process for 2019-2024 "Goals To Achieve WAFWA's Mission."



NWTF MAKING TRACKS STEERING COMMITTEE (MTSC)

The Making Tracks Program Manager was vacant most FY18, two detailers provided interim support. The new Program Manager is Kelley Reynolds and the new NWTF District Wildlife Biologist covering Region 6 is Dominic Bachman.

Updated MTSC Annual operating plan. Formalized process for outreach and review of MT award recipients. Created a committee to review nominations for MT Awards. **Formalized a process and criteria for the outreach of new steering committee members** when positions become vacant. Attended quarterly conference call and two meetings during NWTF National Convention.

Provided the committee with a **report out at the national convention** on accomplishments for the region.

Assisted with the development of a **national webinar on stewardship agreements**. Presented a case study from an active project.

Hosted the winter board meeting for the Oregon Chapter of NWTF and attended winter board meeting for the Washington Chapter of NWTF. Updated board on MTSC program of work and ongoing stewardship projects.

Reviewed, ranked, and recommended Superfund proposals for funding.

Recommended projects for **Oregon Department of Fish and Wildlife Turkey Stamp** funding.

Reviewed, ranked, and recommended college **scholarship applications**.

Provide support to the development of two **stewardship agreement proposals** for the Umatilla and Malheur Forests.

Avian Conservation Program

The Pacific Northwest Region of the Forest Service has partnered with the Bureau of Land Management on a full time shared service avian conservation program manager, Barb Bresson. Below are some of the avian conservation program's accomplishment in fiscal year 2018.

Finalized two avian conservation program webinars that provide specific guidance for utilizing eBird data in project planning and habitat analyses at the Forest/District project level. They also provide examples of other PIF tools available for assessing priority birds and habitats, and how biologists can work with silviculturists to implement the PIF Plans into their NEPA.

Assist units with grant opportunities and managing Assistance Agreements through the Bureau of Land Management (American Bird Conservancy, Oregon Eagle Foundation, Klamath Bird Observatory, U.S. Geological Society, Hawkwatch Int. and the Interagency Agreement for the Avian Conservation Program).

Applying the PIF Conservation Plans, developed habitat based conservation measures that can be incorporated into project design, planning, and implementation.

Attended Wildlife Society annual meeting and presented on "Applying a focal species approach to habitat conservation planning."



Participated on the Western Hummingbird Partnership, Steering Committee. Our committee received a **Wings Across the Americas Award for our International Cooperation in hummingbird conservation.** The committee is completing a Rufous Hummingbird Status Assessment that will inform the development of a large grant to develop guidelines for restoring hummingbird habitats and creating a high elevation meadow hummingbird highway up the west coast of the U.S.

Administer the re-write and printing of the **Oregon-Washington Bird Conservation Plans.** Completed plans include the Western Cascades, Willamette Valley, and the Northern Rocky Mountains.

Wrote position paper on the **benefits of participation** in the Western Working Group of Partners in Flight (PIF), National Public Lands Working Group, and the Western Hummingbird Working Group.

Broadened the outreach to avian conservation partners with the intent to **increase forest/district level partnerships** for on the ground habitat restoration and monitoring.

Worked with the Bureau of Land Management to **fund an Integrated Monitoring Bird Conservation Regional (IMBCR) grant** for monitoring avifauna within eastern Oregon sagebrush ecosystems. Klamath Bird Observatory will be implementing and reporting on the program.

Sage-Grouse

The Ochoco, Deschutes, and Fremont-Winema National Forests accomplished approximately 6,000 acres of sage-grouse habitat restoration. Projects included invasive weed treatments, habitat assessments, native seed collection, water ramp installation, conifer removal, and more.

Represented the Region at the 2018 **SageCon Summit** held in Ontario, Oregon.

Assisted in reviewing **sage-grouse standards, guidelines, objectives, monitoring, and other plan content** within the final draft **Blue Mountains revised Forest Plans.**

Assisted in continuing to work and align with the Forest Service, Bureau of Land Management and Oregon Department of Fish and Wildlife through two Notice of Intents issued in 2017. Particularly, how consistent our Region would be with potential revisions to Forest Plans and Resource Management Plans as they relate to the 2015 Interim Sage-grouse Guidance.

Completed **habitat transect sites** at approximately 24 sites, and participated in a **collaborative research effort on prevalence of West Nile Virus** in sage-grouse habitat with Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Bureau of Land Management and East Cascades Audubon Society.

CONSERVATION PROJECTS ON THE DESCHUTES NATIONAL FOREST

Collected and grew two species of forbs beneficial to sage-grouse habitat

Placed **60 road closure signs** to support travel management in sage-grouse habitat.

Installed **three cattle guards** in collaboration with range program to allow for better pasture rotation options in sage-grouse habitat.

Installed **escape ramps** in water troughs.

Installed **40 'stay the trail/tread lightly' signs** in collaboration with the Central Oregon Combined OHV Operations program.

Assisted with volunteer **conifer removal projects** with the East Cascades Audubon Society.

Completed **5 acres** of weed treatment



Bighorn Sheep and Mountain Goat

The Bighorn Sheep and Mountain Goat Center of Excellence (COE) exists to assist Forest Service units within the Pacific Northwest Region with issues involving these iconic, mountain species. This COE is available to review study plans, NEPA documents, minimum requirements decision guides, letters of authorization, special use permits, or any products that involve bighorn sheep or mountain goats on National Forest System lands. Additionally, technical guidance is provided, on request, to other federal and state agencies, NGOs, Tribal governments, and interested parties.

BIGHORN SHEEP



Assisted in the capture, testing, and radio collaring of 90 bighorn sheep in the Wenaha and Grande Ronde River drainages.

Represented the Forest Service on the Hells Canyon Bighorn Sheep Restoration Initiative.

Assisted the Blue Mountains Forest Plan Revision Team by authoring the bighorn sheep effects section of the FEIS, responding to public comments, negotiating management direction with state and Tribal partners, and responding to inquiries during the objection period.

Responded to inquiries regarding pack goat risks to bighorn sheep and mountain goats.

Provided technical guidance to The Nature Conservancy and a contractor on risk of contact between bighorn sheep and domestic sheep.

Remained current on disease research through communications with researchers in Idaho, Oregon, South Dakota, Alaska and Washington.

Provided technical guidance to the Okanogan-Wenatchee NF, and kept partners informed of their progress on a forest-wide risk of contact analysis.

Conducted a podcast about bighorn sheep management and conservation on *The Crucible* Podcast.

MOUNTAIN GOATS



Assisted with the annual mountain goat census of the Elkhorn Mountains, including training a new surveyor.

Responded to inquiries about mountain goats from hunters and hikers.

Presented on mountain goat biology and hunting to the Idaho Traditional Bowhunters and Oregon Traditional Bowhunters.

Conducted a podcast about mountain goats for *TradQuest* Podcast.

Provided technical guidance on mountain goats to the RO and other Forest Service units.

DecAID – Decayed Wood Advisor

The highlight of the year was the roll out of DecAID Version 3.0 for general use. With the new platform and look, the flow of information in the website is more user friendly and a stronger compliment to the relatively new Distribution Analysis method introduced last fiscal year.

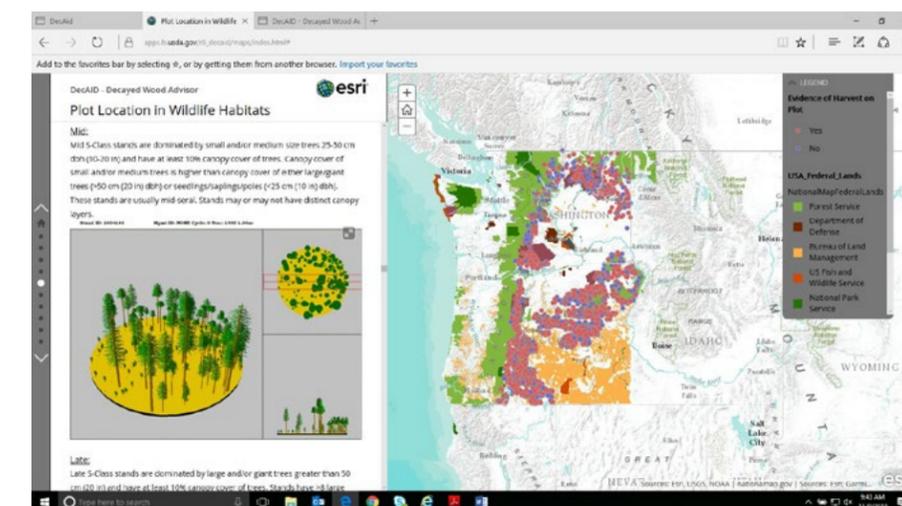
Participation on two Rapid Assessment Teams and two Objection Review Teams helped reinforce the relevance and use of DecAID as a tool to incorporate the best available science into information the decision maker can use to make his/her informed decisions. Specific issues covered included salvage opportunities and appropriate scale of analysis; tying the DecAID analysis back to LRMP Standard and Guidelines; and dead wood assumptions/goals when managing within Late Successional Reserves.

Trainings and assistance have been continuing on a one-on-one basis as well as a first attempt at Forest specific-scale (Okanogan-Wenatchee) delivering the most user-relevant information (questions and issue specific to that forest) while also in the most cost-efficient manner (Skype meeting with shared desktop and conference line). Similar trainings have been offered to other forests, with the added suggestion that a project from that forest be used for an even more hands-on training.

Outreaches to other disciplines through their region-wide meetings/webinars have proven to aid in the understanding of the DecAID website.

DecAID Version 3.0 is available and ready to use with a new platform, more user-friendly flow of information by habitat type, better pictures and graphics, and updated wildlife data through fall 2016.

Continue to work with Data Resource Management to maintain and improve the tool to use remote sensing data to update snag densities following wildfires. We also continue to work with staff from the Pacific Northwest Research Station and Oregon State University to analyze temporal trends in snag distribution for the entire Region over the last several decades.



COLUMBIA RIVER GORGE NATIONAL SCENIC AREA

In 2018, the Columbia River Gorge National Scenic Area participated in several projects to benefit wildlife. Accomplishment highlights include:



On Bridal Veil Creek, reconnected ¾ mile of floodplain, reconnected three relic stream channel segments, pulled five culverts, decommissioned a sediment-producing road, and planted riparian vegetation.

At Sandy River Delta: treated invasive plants; planted riparian vegetation for habitat, and conducted surveys with biologist and volunteers for federally listed yellow-billed cuckoo (56 stations, 4 survey visits, no detections 2018, last detection 2012).

Planted native vegetation along a mile of restored creek in Hamilton Creek, Washington.

Maintained nesting habitat for Forest Sensitive western pond turtles at Collins Creek area, WA, through mowing/spraying/seeding, and participated in invasive bullfrog control (bullfrogs eat hatchling pond turtles) with Washington Department of Fish and Wildlife.

Right: Bait entices western gray squirrels to visit this hair snag tube where its fur sticks to tape, letting biologist ID the species.



Received national Forest Service funding, partnered with the Oregon Zoo, utilized Citizen Science volunteers to **survey for pika in post-Eagle Creek wildfire areas** (112 volunteers, 995 hours, data being evaluated).

Planted pollinator attracting plants and sprayed invasives near Mosier, Oregon.

Mowed, sprayed and removed fence at Hood Pasture, Oregon.

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

In collaboration with Washington Department of Fish and Wildlife, **conducted transect surveys for Forest Sensitive western gray squirrel** in the Catherine/Major Creek area.

Created wildlife brush piles and snags; topped/slit select snags for bats.

Removed old barbed wire fence that hinders wildlife movement.

Project Highlight: Creating Yellow-Billed Cuckoo Habitat at the Sandy River Delta



On the west side of the Columbia River Gorge National Scenic Area (CRGNSA), the Sandy River Delta meets the Columbia River. Early 1900s photos show riparian areas with abundant bottomland hardwood forest. Due to subsequent agriculture and grazing interests, this habitat type was greatly reduced. The Forest Service acquired the property in 1991. Since then, CRGNSA has collaborated with many agencies/groups, and utilized hundreds of volunteers to plant thousands of trees and shrubs to restore and build on this habitat.

Now CRGNSA is enhancing this habitat for the yellow-billed cuckoo. A winter resident of South America, the yellow-billed cuckoo nests in the summer in North America in riparian areas with portions of dense deciduous brush and trees. While it is a common midwest and eastern state summer breeder, its breeding habitat is declining in western states. It was designated a federally threatened species (2014) in 12 western states, including Oregon.

Recorded detections at Sandy River Delta for the cuckoo have been few (2009, 2012). Most western state detections have been in the southwest. However, with climate change, this species may one day regularly utilize available habitat in Oregon.

In 2018, CRGNSA obtained regional funding to plant more trees and shrubs to improve habitat conditions for the yellow-billed cuckoo at Sandy River Delta. Additionally, our partner, Sandy River Basin Watershed Council, utilized retired CRGNSA biotech/expert birder, Cathy Flick, to develop yellow-billed cuckoo protocol surveys, recruit and train volunteers, and coordinate surveys. While no cuckoos were detected this past summer (56 stations, four visits), as planted habitat matures, this survey work provides a baseline to compare to future surveys.



COLVILLE NATIONAL FOREST

The Colville National Forest had a great year improving habitat, monitoring, and surveying for wildlife.

Through thinning and other vegetation treatments, **8000 acres of habitat improved** for big game, and migratory birds.

Over **5000 acres of seclusion habitat improved** through road closures and decommissionings

Outhouse vent covers placed in **1900 acres** of wildlife habitat.

600 acres of prescribed fire to improve wildlife habitat.

328 acres of habitat improved through stream and riparian restoration activities such as streambank stabilization, fencing, beaver analog installations, and large wood placement.

32 swallow nest boxes were placed at Sullivan Lake.

20 animal resistant food storage lockers placed in 900 acres of grizzly bear habitat at campsites near the recovery zone.

3 acres of Whitebark Pine planting to enhance nuthatch and grizzly bear habitat.

Environmental education events at the Mill Pond Dam Removal site and various schools.



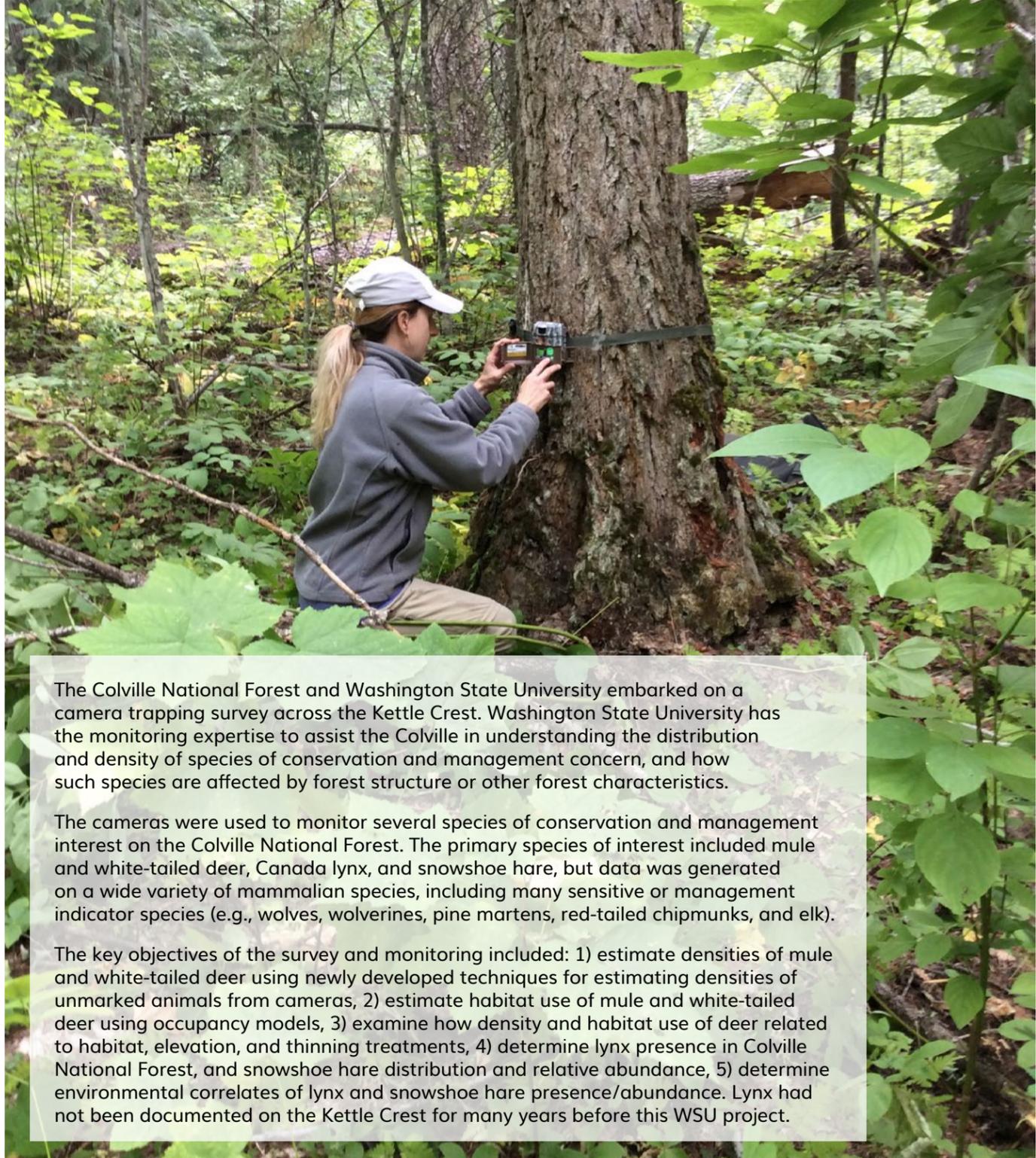
Monitored goshawks, grizzly bears, caribou, loons, bighorn sheep, and harvest effects on deer.



Conducted Kettle Crest remote camera survey.

BY THE NUMBERS	
Acres	Activity
324	Stream and riparian restoration
599	Fuel treatments
5,067	Road closures and decommissioning
7,958	Vegetation management
2,859	Nest boxes, food storage boxes, outhouse vent screens
TOTAL: 16,807	

Project Highlight: Kettle Range Remote Camera Survey



The Colville National Forest and Washington State University embarked on a camera trapping survey across the Kettle Crest. Washington State University has the monitoring expertise to assist the Colville in understanding the distribution and density of species of conservation and management concern, and how such species are affected by forest structure or other forest characteristics.

The cameras were used to monitor several species of conservation and management interest on the Colville National Forest. The primary species of interest included mule and white-tailed deer, Canada lynx, and snowshoe hare, but data was generated on a wide variety of mammalian species, including many sensitive or management indicator species (e.g., wolves, wolverines, pine martens, red-tailed chipmunks, and elk).

The key objectives of the survey and monitoring included: 1) estimate densities of mule and white-tailed deer using newly developed techniques for estimating densities of unmarked animals from cameras, 2) estimate habitat use of mule and white-tailed deer using occupancy models, 3) examine how density and habitat use of deer related to habitat, elevation, and thinning treatments, 4) determine lynx presence in Colville National Forest, and snowshoe hare distribution and relative abundance, 5) determine environmental correlates of lynx and snowshoe hare presence/abundance. Lynx had not been documented on the Kettle Crest for many years before this WSU project.

DESCHUTES NATIONAL FOREST

In 2018, the Deschutes National Forest successfully improved wildlife habitat and provided information to the public. Accomplishment highlights include:

Completed a **Fish and Wildlife Management Strategy for 7 Wildernesses** shared by the Deschutes and Willamette National Forests.

Decommissioned approximately 19 miles of road and removed one illegal bridge to increase core habitat.

With the Oregon High Desert Grotto and YCC, we **removed over 3,200 pounds of debris** from Arnold Ice Cave, enhancing cave habitat.

Completed **2,400 acres of habitat mapping**, installed **20 escape ramps** at water sources, monitored water sources for wildlife use and West Nile Virus in collaboration with partners for sage-grouse.

Installed **85 toilet vent caps** across the forest to avoid entrapment by wildlife.

With partners, **planted mountain mahogany** across 60 acres.

Enhanced approximately **60 acres of meadow habitat** by removing encroaching conifers.

Conducted White Nose Syndrome sampling, acoustic monitoring, and cave inventory for bats across the forest.



Protected aspen stands with the construction of a buck and pole fence and installed an interpretive sign to describe the importance of this habitat type.

Removed approximately **1.5 miles of fence** to enhance wildlife habitat.

Created snags and bat habitat on the Crescent Ranger District.

Conducted several presentations on the effects of recreation on wildlife.



BY THE NUMBERS	
Acres	Activity
3,716	Pre-commercial Thinning, Planting
7,326	Prescribed Burning
7,599	Road Closures
6,209	Thinning
183	Planting
9,251	Invasive Species Treatment
1,840	Fence Removal, Escape Ramps, etc.
TOTAL: 36,124	

Project Highlight: Big Marsh Restoration

Big Marsh is an over 2,000 acre marsh located on the Crescent Ranger District and has the largest population of Oregon spotted frogs within the range. This area was ditched to drain the marsh to provide pasture land for livestock and was in private ownership until the 1980's. Several small restoration projects were implemented over the past 20 years but the Marsh Restoration project took a broader look at restoring the entire watershed. One aspect of restoration included restoring natural flows by creating breaches and filling in portions of the ditches connecting Oregon spotted frog overwintering habitat with the rest of the marsh and removing encroaching lodgepole pine within the marsh. Lodgepole pine removal restored 249 acres of Oregon spotted frog habitat increasing solar exposure in summer and overwintering habitat and increasing breeding habitat. In order to manipulate the ditches, a frog "salvage" needed to occur prior to reduce the amount of "take." Folks from many disciplines across the forest and from several agencies came together to capture and move frogs prior to heavy equipment working in those areas. Over 3,000 frogs were "salvaged" over a seven day period. In addition, almost immediately water inundated the dry areas of the marsh, restoring the aquatic connection for the frog, as well as, many other species. This project was funded by OWEB and Region 6 Challenge Cost Share funds.



FREMONT-WINEMA NATIONAL FOREST

In 2018, the Fremont-Winema National Forest Wildlife Program completed several projects. Accomplishment highlights include:

Enhanced mountain mahogany and shrub-steppe habitat within 1,176 acres by thinning conifers and juniper.

Partnered with Rocky Mountain Research Station to **monitor white-headed woodpecker** nesting and habitat post-treatment of dry forest restoration.

Improved mule deer migration corridors by **thinning conifer and juniper within 317 acres** of riparian, mountain mahogany, and shrub-steppe habitat.

Partnered with Klamath Bird Observatory to **conduct landbird monitoring** on the Forest.

Participated in **nine outdoor educational events**.



Improved riparian habitat by thinning conifers within 617 acres of aspen and meadow habitat.

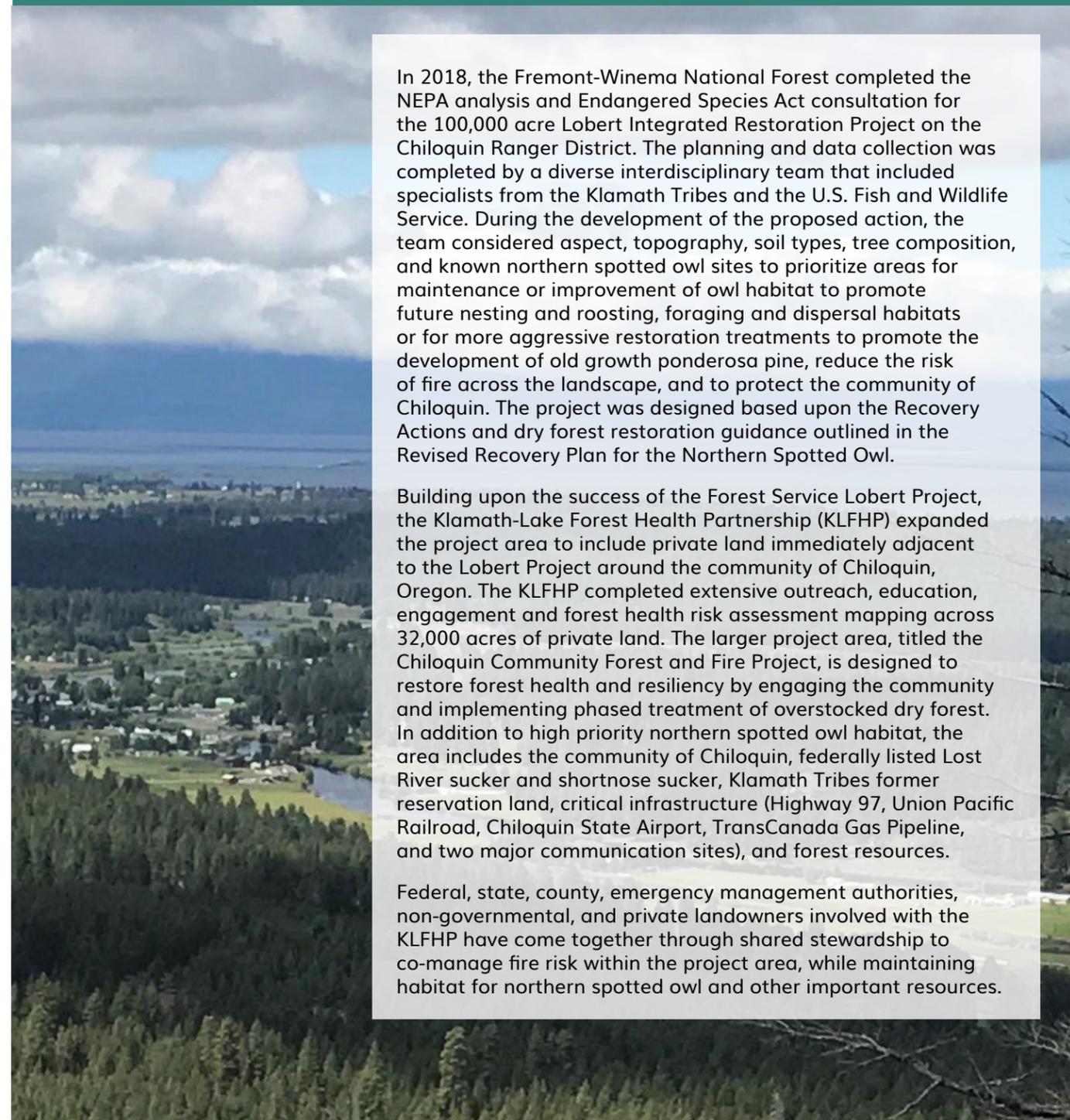
Photos show before and after treatment area within Aspen/Ponderosa Pine Habitat



Completed surveys for northern spotted owl, Oregon spotted frog, western pond turtle, western bumblebee, yellow rail, goshawk, mollusks, Leona's little blue butterfly, peregrine falcon, and bald eagles.

Partnered with private landowners and the Klamath-Lake Forest Health Partnership to **implement 2,500 acres of aspen and dry forest restoration** on private land within the North Warner Multi-Ownership Forest Health Project area and **map and inventory 32,000 acres** of private land in the Chiloquin Community Forest and Fire Project.

Project Highlight: Cross-Boundary Landscape-Scale Restoration: Balancing the Maintenance of Northern Spotted Owl Habitat with Reducing the Risk of Wildfire



In 2018, the Fremont-Winema National Forest completed the NEPA analysis and Endangered Species Act consultation for the 100,000 acre Lobert Integrated Restoration Project on the Chiloquin Ranger District. The planning and data collection was completed by a diverse interdisciplinary team that included specialists from the Klamath Tribes and the U.S. Fish and Wildlife Service. During the development of the proposed action, the team considered aspect, topography, soil types, tree composition, and known northern spotted owl sites to prioritize areas for maintenance or improvement of owl habitat to promote future nesting and roosting, foraging and dispersal habitats or for more aggressive restoration treatments to promote the development of old growth ponderosa pine, reduce the risk of fire across the landscape, and to protect the community of Chiloquin. The project was designed based upon the Recovery Actions and dry forest restoration guidance outlined in the Revised Recovery Plan for the Northern Spotted Owl.

Building upon the success of the Forest Service Lobert Project, the Klamath-Lake Forest Health Partnership (KLFHP) expanded the project area to include private land immediately adjacent to the Lobert Project around the community of Chiloquin, Oregon. The KLFHP completed extensive outreach, education, engagement and forest health risk assessment mapping across 32,000 acres of private land. The larger project area, titled the Chiloquin Community Forest and Fire Project, is designed to restore forest health and resiliency by engaging the community and implementing phased treatment of overstocked dry forest. In addition to high priority northern spotted owl habitat, the area includes the community of Chiloquin, federally listed Lost River sucker and shortnose sucker, Klamath Tribes former reservation land, critical infrastructure (Highway 97, Union Pacific Railroad, Chiloquin State Airport, TransCanada Gas Pipeline, and two major communication sites), and forest resources.

Federal, state, county, emergency management authorities, non-governmental, and private landowners involved with the KLFHP have come together through shared stewardship to co-manage fire risk within the project area, while maintaining habitat for northern spotted owl and other important resources.

GIFFORD PINCHOT NATIONAL FOREST

The Gifford Pinchot National Forest successfully improved wildlife habitat through integrated projects with partners and forest resources. The Puyallup tribe, Rocky Mountain Elk Foundation, KV, stewardship and regional special funding, provided additional implementation funding.

Completed Wind River watershed LiDAR-based **northern spotted owl cover-type map**.

Developed Middle Wind Thinning Project **amphibian linkage management plan**.

Conducted bumblebee and Oregon spotted frog **surveys**, Mardon skipper **monitoring** with Xerces Society, Mt. Saint Helens National Volcanic Monument mountain goat survey with Washington Department of Fish and Wildlife and Cowlitz tribe and Cowlitz Valley wintering bald eagle surveys.

Managed conifer encroachment at three mardon skipper meadows - Bunny Hill, Gotchen Cabin and 7a meadows.

South Cascades Fisher Reintroduction project support included assistance with fisher mortality retrieval, collection of habitat data at the first known den site in the South Cascades. A second den tree location was found in the Nisqually watershed on the CVRD in 2018.

436 down wood and 244 snags created in the Cowlitz Thin Timber Sale and the Kirk Thin Timber Sale.

Managed **wildlife winter gate closure program** and maintained wood duck boxes on forest.



Completed **Oregon spotted frog invasive treatment Biological Assessment** and second year of invasive treatment for reed canary grass, Canada thistle and hounds tongue.

BY THE NUMBERS	
Acres	Activity
446	Pre-commercial Thinning
3,176	Commercial Thinning
1,704	Road decommission and gate replacement
2,446	Invasive treatment
632	Meadow and opening treatments
524	Snags and down wood creation
TOTAL: 8,928	

Project Highlight: 7A Meadows Restoration

On the Gifford Pinchot National Forest, there are two major threats to the mardon skipper meadows, conifer encroachment, and invasive plants. Conifer encroachment on the mardon skipper meadows is a major threat to maintaining native plant communities. The major threat to the 7A meadows is conifer encroachment, 20% of the high elevation meadows have been encroached from the 1950s to 1990s.

The 7A meadow complex supports the mardon skipper butterfly, which was proposed for listing and with forest meadow management on known sites U.S. Fish and Wildlife Service did not list the butterfly as a threatened species. It is a focus species for the Gifford Pinchot National Forest. The 7A meadow system historically had the highest mardon skipper counts on the forest.

We are actively managing the mardon skipper meadows to maintain the native plant composition and size of the meadows. The ISSSSP program funded the NEPA analysis in FY15 and the project implementation in FY17 and 18.

The 7A meadows project decision document was completed in 2016. The meadows were being encroached by conifer. The high elevation meadow system is a series of smaller meadows through the timber. The project identified conifer removal within the historic meadow boundaries to restore each meadow to the original size. Starting in 2017, the district crew began removing conifers. 15 acres were completed. The conifers were piled to be burned the following year. The crews completed 7 acres of conifer removal in 2018. Piles will be burned in 2019.

The meadows are often only accessible by foot. The forest continues to survey the 7A meadow system for mardon skippers and invasive plants annually.



MALHEUR NATIONAL FOREST

In 2018, the Malheur National Forest successfully improved wildlife habitat and provided public education through partnerships. Accomplishment highlights include:

Completed **mule deer habitat enhancement work** funded by the mule deer foundation through the Oregon Department of Fish and Wildlife.

Conducted **commercial thinning** activities on 9,856 acres.

Conducted **pre-commercial thinning** work across 8,151 acres.

Completed **prescribed burning** operations across 8,504 acres.

Completed an **initial butterfly inventory** across the central portion of the forest primarily for Silver bordered fritillary and Johnson's hairstreak.

Decommissioned/closed roads for the benefit of 5,988 acres of wildlife habitat.

Reconstructed two guzzlers and conducted maintenance on 10 others for 1,830 acres of improvement.

Planted bitterbrush and Mountain mahogany and willow across 32 acres.

Did **conifer thinning** on 7 acres of aspen in Spoon creek.

Modified toilet vent pipes to restrict wildlife entry for 515 acres.



BY THE NUMBERS	
Acres	Activity
57	Aspen Restoration
9,856	Commercial Thinning
8,151	Precommercial Thinning
5,988	Road Closures
8,504	Prescribed Burning
TOTAL: 32,556	

Project Highlight:

Rocky Mountain Elk Foundation Regional Rendezvous

In July 2018, Rocky Mountain Elk Foundation (RMEF) volunteers joined the Malheur National Forest to construct an enclosure around an aspen stand on the east edge of Logan Valley. The identified stand had been thinned of encroaching conifers in the fall of 2017 by Forest Service fire crews funded by RMEF. The intent of the enclosure is to reduce browse by deer and elk and exclude cattle from the stand in an effort to protect aspen suckers in the newly open stand.

Buck and pole fence materials were moved from Crane Prairie Guard Station to the project work site on Forest Service Road 1648. Almost 1,500 buck and pole pieces were moved to the site. The fence line was also cleared of standing and dead trees and brush in preparation for construction.

RMEF volunteers, Prairie City Ranger District (PCRD) wildlife staff, Blue Mountain Ranger District (BMRD) fire staff, and a youth crew began construction of a buck and pole style fence around the aspen stand. Design sketches and a short demo on how to construct a section of buck and pole fence kicked off the event. Blue Mountain fire staff using chainsaws began to notch out bucks with the help of several volunteers. Several small crews also began working on fence sections around the stand where materials had been staged. Small crews quickly became skilled and efficient at constructing buck and pole fence and completed the 3.1 acre fence in approximately five hours!

Over 40 volunteers, seven Forest Service employees and a 5 person youth crew hosted by PCRD's wildlife department participated. In total over 470 volunteer hours were invested by RMEF volunteers to plan and implement this project. Thank you to all who helped plan and participated in the success of this project!

MT. BAKER-SNOQUALMIE NATIONAL FOREST

In 2018, the Mt. Baker-Snoqualmie National Forest successfully improved wildlife habitat and provided wildlife information to the public. Accomplishment highlights include:



Installed one bat friendly mine closure - 2,000 acres.

Habitat improvement from wildfire – 837 acres.

Capped vault toilets for birds - 1,032 acres

Wildlife information shared with over 11,000 individuals at public events: Woodland Park Zoo Bear Affair, Skagit River Salmon Festival, Stillaguamish Festival of the River, and Issaquah Salmon Days.

Participated in the Darrington Science, Technology, Engineering and Math (STEM) program –curriculum developed with middle school students.

Developed a monitoring protocol and implemented sample plots for the South Fork Stillaguamish Avian Monitoring challenge cost-share project.



Cooperated with National Park Service and Washington Department of Wildlife on the Mountain Goat Management Plan/EIS for Olympic National Park.



Cooperated with National Park Service and U.S. Fish and Wildlife Service on North Cascades Ecosystem Grizzly Recovery Plan/EIS.

BY THE NUMBERS	
Acres	Activity
2,000	Bat-friendly mine closure
1,032	Capped vault toilets for birds
837	Wildfire
TOTAL: 3,869	

Project Highlight: South Fork Stillaguamish Avian Monitoring

The challenge cost-share project applies the Partners in Flight conservation planning process and a focal species approach to habitat conservation planning for the South Fork Stillaguamish Vegetation Project by using birds as indicators of habitat objectives.

The avian monitoring for the S. F. Stillaguamish Project includes:

- Thinning conifer stands to promote stand development for old growth characteristics, biodiversity and avian habitat attributes.
- Identification of a focus area (portion of the 65,000 acre project area) with similar elevation, aspect, plant association and current and future access for monitoring.
- Establishment of monitoring transects within areas with both non-commercial and commercial thinning of trees <80 years of age.
- Treatments and transects within the Riparian Reserve where diversity of habitat is a goal.
- Monitoring for bird response to habitat changes.

Monitoring Objectives

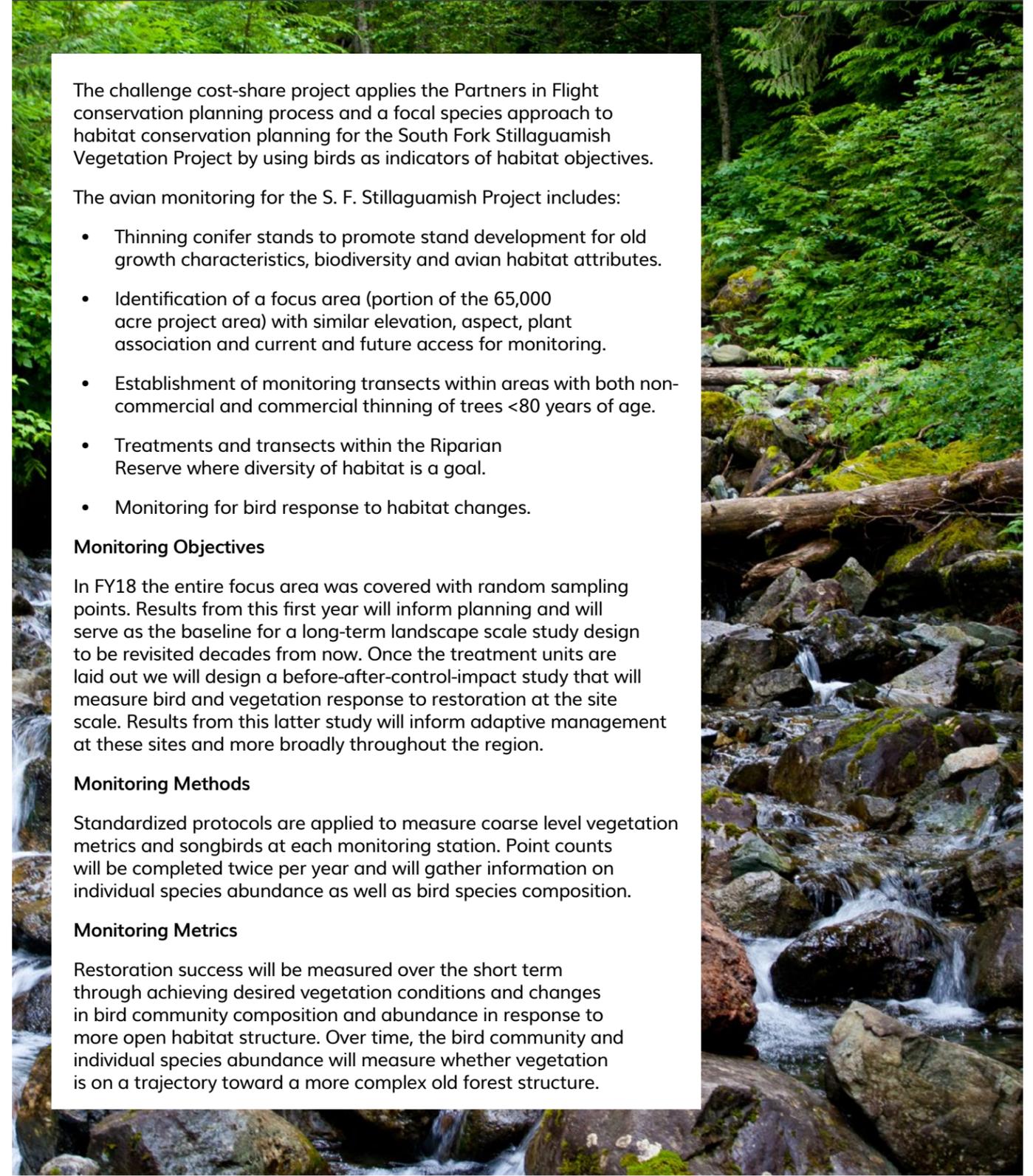
In FY18 the entire focus area was covered with random sampling points. Results from this first year will inform planning and will serve as the baseline for a long-term landscape scale study design to be revisited decades from now. Once the treatment units are laid out we will design a before-after-control-impact study that will measure bird and vegetation response to restoration at the site scale. Results from this latter study will inform adaptive management at these sites and more broadly throughout the region.

Monitoring Methods

Standardized protocols are applied to measure coarse level vegetation metrics and songbirds at each monitoring station. Point counts will be completed twice per year and will gather information on individual species abundance as well as bird species composition.

Monitoring Metrics

Restoration success will be measured over the short term through achieving desired vegetation conditions and changes in bird community composition and abundance in response to more open habitat structure. Over time, the bird community and individual species abundance will measure whether vegetation is on a trajectory toward a more complex old forest structure.



MT. HOOD NATIONAL FOREST

In 2018, Mt. Hood National Forest wildlife biologists focused on large integrated resource project planning that will generate habitat restoration opportunities in the coming years. The forest exceeded planned wildlife habitat improvement acres. Survey efforts and accomplishment highlights include:

SURVEY AND MONITORING

Continued partnership with Cascadia Wild to **survey for rare carnivores** (Sierra Nevada red fox, wolverine, gray wolf) using snow track surveys and remote cameras.

Completed **surveys** for northern spotted owl, terrestrial mollusk species, and/or red tree vole for the Grasshopper (1200 acres), Waucoma (1420 acres), and North Clackamas Integrated Resource Projects (2489 acres).

Surveyed 36 miles of six stream reaches for **harlequin duck**. Found 45 individual ducks.

Conducted peregrine falcon nest site monitoring at two known locations.

ACCOMPLISHMENTS

3,091 acres of pre-commercial and commercial thinning for forage enhancement.

1,805 acres of invasive plant control.

Increased deer and elk habitat on 2,816 acres by **decommissioning 8.8 miles of roads.**

1,232 acres of snag and down wood creation for dead wood dependent species.

10 mineral blocks placed and maintained seasonal road closures in deer/elk winter range.

Monitored and maintained **72 duck boxes** in partnership with Oregon Hunters Association.

Continued the incredibly **successful 24th year of partnership with Hawkwatch International** at Bonney Butte to monitor long-term trends in populations of raptors using this part of the Pacific Coast Flyway through the Cascade Mountains. **Second year of Hawkfest** (Government Camp museum) drew 313 participants.



BY THE NUMBERS

Acres	Activity
1,852	Pre-commercial Thinning
1,239	Commercial Thinning
1,805	Invasive Plant Control
2,816	Road Decommissioning
1,232	Snags and Down Wood Creation
280	Mineral Blocks
360	Duck Nest Box Maintenance
TOTAL: 18,534	

Project Highlight: Initiation of Camas Prairie Oregon Spotted Frog Habitat Study

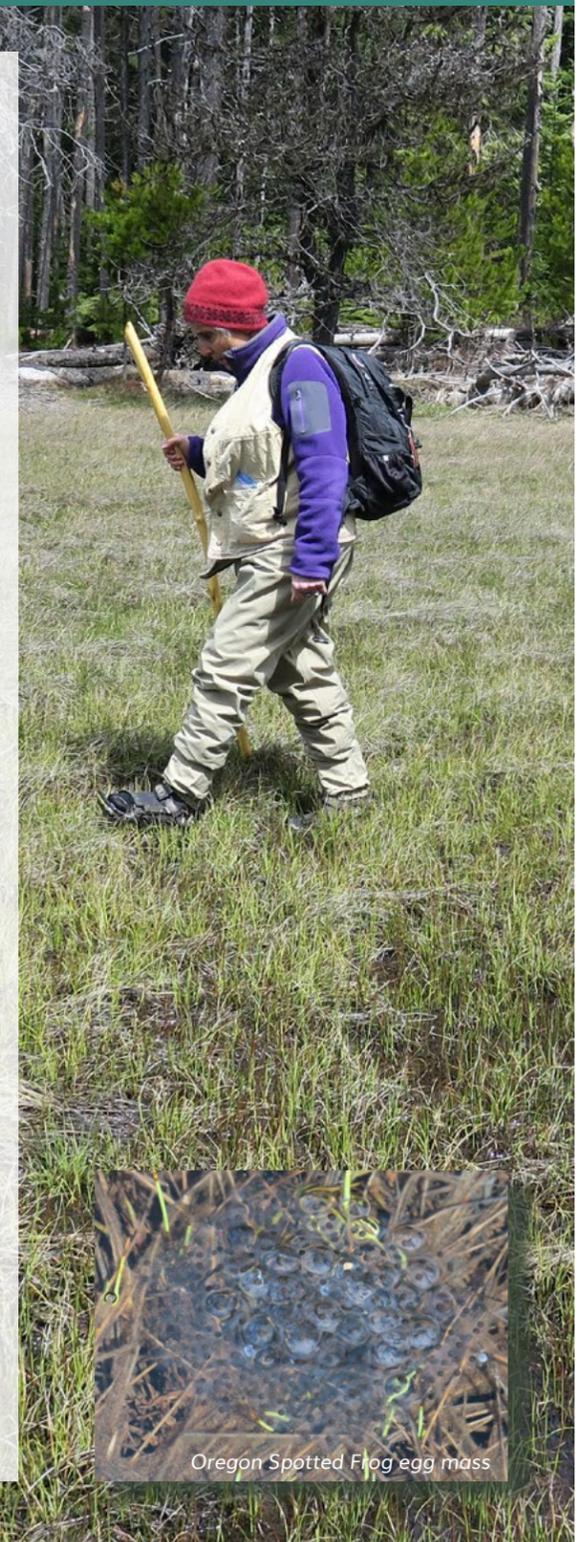
Oregon spotted frog (OSF) has disappeared from the vast majority of its historic range (SW British Columbia to NE California). This species was federally listed under the Endangered Species Act in 2014, with Critical Habitat designated in 2016. The only population of OSF on the Mt. Hood National Forest is located in Camas Prairie. This is the only extant population left in northern Oregon.

It is a high forest priority to protect and improve habitat for this small and isolated population. In June 2017, an on-site meeting with Forest Service, U.S. Fish and Wildlife Service, and our long-time partner, Char Corkran (NW Ecological Research Institute) discussed the needs for a desired site management plan. All participants agreed that baseline habitat and hydrology information was vital to success. An interplay of numerous natural springs and human-made open irrigation ditch are believed to control water quantity and quality to Camas Prairie. There is also anecdotal information that geothermal groundwater inputs may exist. To protect and manage OSF habitat, it is critical to understand the groundwater and surface water interactions, and how they affect OSF habitat.

Funding for this study in FY2018 included Forest Service Regional office funding (\$8,000) and Mt. Hood National Forest funding (\$17,500). On June 1, 2018, an interdisciplinary group of specialists met to discuss an approach to the Camas Prairie Study Design. We came up with a plan to characterize the meadow function processes, including population dynamics/ prey base, hydrology, soils, botany, geology, and terrain. On June 25, field investigations began that included soil characterization/saturation levels (core holes), plant species composition, aquatic habitat mapping, and biological sampling of existing aquatic species (macro invertebrates and all tadpoles encountered).

As led by long-time partner, Char Corkran, annual egg mass monitoring continued in 2018 with a total of 24 tallied. From 2005 to 2017 egg mass counts have ranged from a low of 16 (2008) to a high of 82 (2011).

Hydrological monitoring equipment (piezometers and staff gages) were purchased in 2018 and will be installed in 2019 as a network of monitoring points across Camas Prairie.



Oregon Spotted Frog egg mass

OCHOCO NATIONAL FOREST

In 2018, the Ochoco National Forest accomplished 15,586 acres of terrestrial wildlife habitat enhancement. The following summary exemplifies the diverse work of the wildlife program. The wildlife program continues to be highly integrated among resource areas and community engagement, as a result continues to foster relationships with a diverse group of partners and volunteers that create a highly successful program. In addition, approximately 26,020 acres of surveys, inventories, and monitoring were accomplished.

SAGE-GROUSE HABITAT MAPPING

The Ochoco completed the first year of a multi-year habitat assessment process for sage-grouse across the forest. Small-scale vegetation data was collected on over 70 acres, which we will be extrapolated to similar habitats within close proximity. In conjunction with our partners (Crook County), the Ochoco treated approximately 30 acres of invasive annual grasses within identified sage-grouse habitat. Materials were purchased for installation of a water development to improve range conditions in the east end of the Maury Mountains within identified sage-grouse habitat. Lastly, a seed grow out is being conducted for Wasatch. Desert Parsley collected in 2017, which will be planted to enhance forage.



CARNIVORE MONITORING

The forest established 14 baited camera stations paired with a hair-snare system across the Ochoco National Forest within the most suitable habitat for American marten. The cameras were operational from late March to mid-September in 2018 during the initial phase for a total of 1600+ trap nights. During that time no Sierra Nevada red foxes were caught on camera, nor were any American marten. In addition, no other photos of rare carnivores were collected (e.g. lynx, wolverine, fisher, etc.). However, the cameras did capture nearly 1,000 unique events, which included some great shots of black bears, mountain lions, bobcats, and other uncommon carnivores.

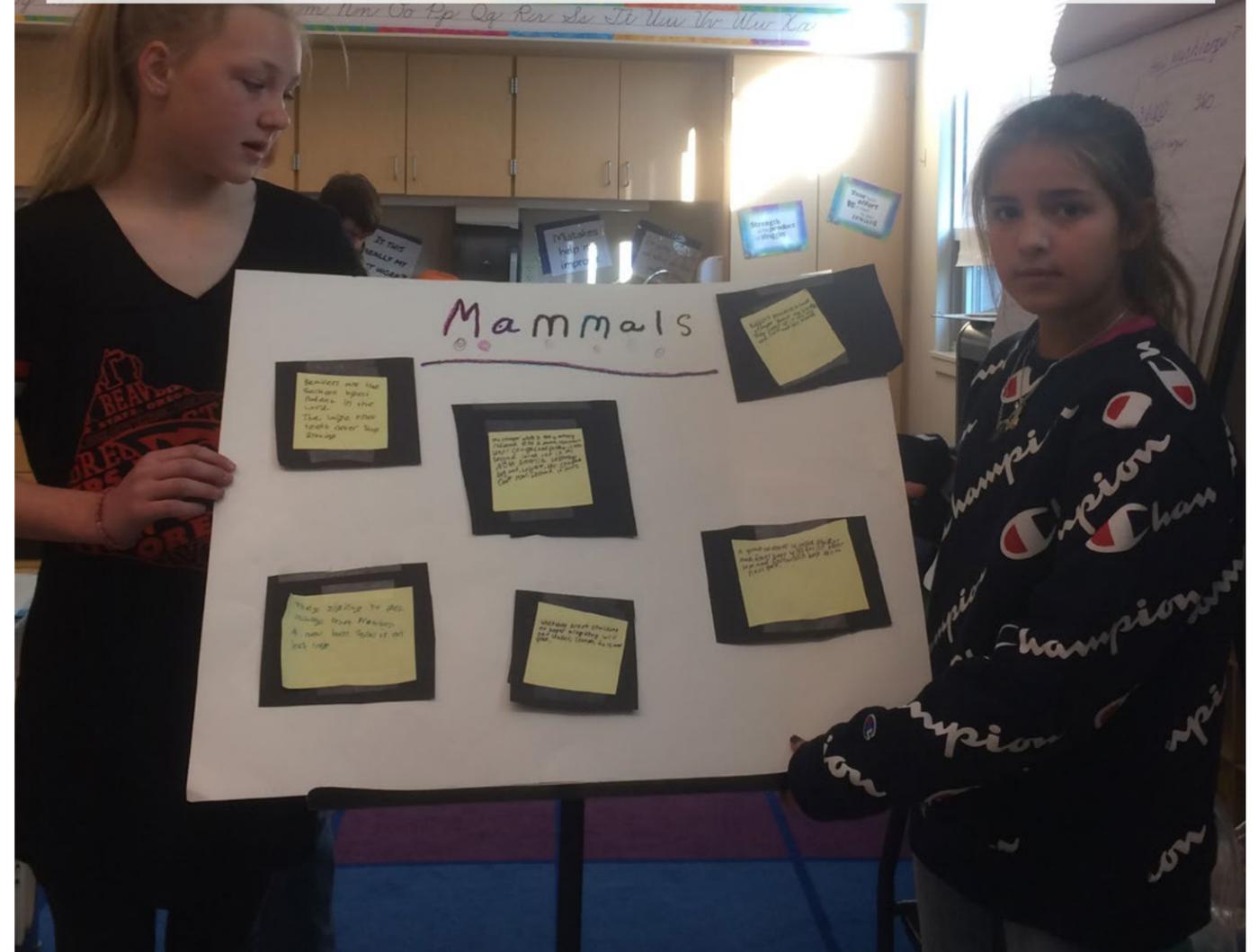
FOREST WIDE ELK SECURITY HABITAT ENHANCEMENT

In Cooperation with Oregon Department of Fish and Wildlife (ODFW), priority areas were identified across the Forest based on habitat effectiveness monitoring and population distributions collected from ODFW's annual herd census. The objective of the cooperative project was to maintain and improve elk distribution across the Forest and minimizing elk movement to private lands. A variety of closures were implemented and range between full obliteration, decommissioning and camouflaging road entrances, gate installations, and administrative closures. Labor and contracting was provided by the Ochoco while materials and supplies were provided by ODFW. Oregon Department of Fish and Wildlife monitored closure effectiveness within priority areas, using a TRAFx OHV traffic counter and associated remote cameras. Closures were reinforced as a result.

Project Highlight: Barnes Butte Elementary Story Line Teaching – Sustainable Trails Environmental Education

The City of Prineville recently acquired an undeveloped property in the urban interface that consists of a small series of buttes covered in Juniper Woodlands. The area is called Barnes Butte and is the namesake of Barnes Butte Elementary School. The elementary school is unique in that it uses Storyline Methodology for teaching. The Storyline Method is based on the theory that knowledge is complex and many layered, that learning is guided by one's prior knowledge and experience, and that learners construct their own meaning through action and experience.

Storyline teaching brings the real world into the classroom and allows the students to understand the dynamics of real world subject matter. The wildlife subject matter included multiple discussions on the species of wildlife and habitat types on Barnes Buttes and how the development of trails systems could potentially impact these animals. The storyline process allowed the students to design a recreation infrastructure that was the most sustainable and least impactful to both wildlife and their habitat.



OKANOGAN-WENATCHEE NATIONAL FOREST

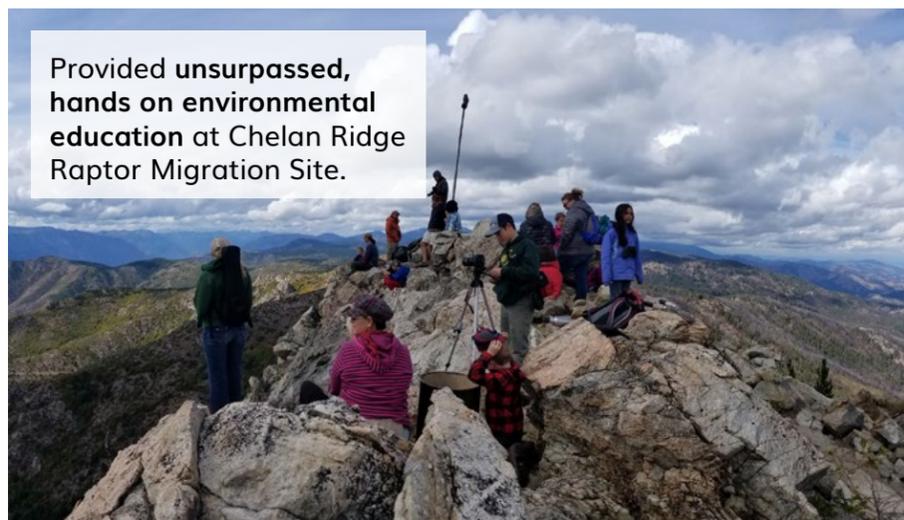
The Okanogan-Wenatchee National Forest manages over 4 million acres of diverse and complex wildlife habitat on the east slope of the Cascade Mountains in Washington, while providing outstanding environmental education opportunities to the public.

The forest excels in improvements to wildlife habitat through a variety of projects, including landscape-scale integrated resource restoration projects of which the following was implemented successfully:

2,455 acres of forest thinning for vitality and fuels reduction.

5,738 acres of prescribed burning for fuels reduction and the reintroduction of fire back into our fire-adapted ecosystems.

Removal of the non-native barred owl on the Cle Elum District for the **recovery of the northern spotted owl** resulted in 40,697 acres of accomplishments for wildlife.



BY THE NUMBERS	
Acres	Activity
264	Bear Resistant Containers
1645	Road Decommissioning
367	Fence Removal
16	Fence Exclosure
75	Beaver Reintroduction
5401	Non-native Plant Treatment
445	Unburned Piles
960	Pipe Capping
952	Planting
5738	Prescribed Fire
40697	Removal of Non-native Wildlife
2300	Pre-commercial Thinning
155	Commercial Thinning
18818	Wildfire Natural
TOTAL: 77,833	

Project Highlight: Chelan Ridge Raptor Migration Project

Chelan Ridge Raptor Migration Site is a premier watchable wildlife site in Region 6 that displays successful partnerships and conservation outreach efforts on the forest. Chelan Ridge provides some of the most valuable long-term data sets available on raptor migration trends and unsurpassed visitor experiences that set the stage for key messages of conservation of public lands. This site is part of a long-term partnership (20+ years) between the Forest Service and Hawkwatch International, and is continuously championed and supported by many local partners.

The objectives of this project align directly with several of the Forest Service Chief's goals for priority work by first, being good neighbors and providing excellent customer service to our local communities and the people that recreate in our forest. Second by promoting shared stewardship by increasing our partnerships and volunteerism. Third, by enhancing recreation opportunities by creating enriching and rewarding conservation education opportunities in our National Forests.

Regional challenge cost share funding acquired in FY18 will facilitate the continued effort to bridge this regional interpretive effort, develop a sustainable partnership/volunteer base, promote a conservation festival, and ensure the continuation of this long-term data collection site.

The site receives hundreds of visitors, not only from the public, but also from universities around the region. This year we were proud to support the following groups: Whitman College, University of Idaho, Hawkfest participants, Team Naturaleza, Chelan/Douglas Land Trust, Washington State University, North Cascades Institute – Graduate Student Course, North Cascades Institute – Adult Learning Course, Western Washington University, University of Washington, Wenatchee Valley College, Methow Valley Homeschoolers, and Chelan Roots Community School.



OLYMPIC NATIONAL FOREST

In 2018, the Olympic National Forest focused on surveys and monitoring of wildlife populations, habitat restoration, and public outreach and education. Some key highlights of the year included:



Hosted field studies for 8 Girl Scouts from across the country on pollinator ecology and collection of native plant material.

Sponsored two Student Conservation Association wildlife interns, who completed bumblebee, butterfly, and wetland surveys and education.

Participated in community events including Earth Day and Dungeness River Festival; "The Benefits of Bats" Take Your Kids to Work Day event; Career Day at Quilcene High School.

Assisted in completion of Final Mountain Goat Management Plan/Environmental Impact Statement for Olympic Peninsula and North Cascades; worked on the first phase of capture operations with Olympic National Park and Washington Department of Fish and Wildlife in Olympic National Park.

Accomplished pre-commercial thinning supported by Rocky Mountain Elk Foundation to enhance Roosevelt elk habitat with benefits to Taylor's checkerspot butterfly.

Worked with volunteer arborist to create 65 acres of wildlife trees in remote-access campground.

Surveyed 20 hectares for western bumblebee and other pollinators.

Documented the first location of the Beller's ground beetle on the Olympic Peninsula.

Completed Taylor's checkerspot population monitoring which detected new occupation of recently restored habitat; improved 50 acres of habitat.



BY THE NUMBERS	
Acres	Activity
322	Wildlife habitat restoration (pollinator/butterfly; wildlife tree creation; elk habitat enhancement)
1,023	Commercial thinning
3,182	Road decommissioning
354	Pre-commercial thinning
553	Snag and down wood creation
TOTAL: 5,434	

Project Highlight: Pacific Marten Surveys

This year efforts to better understand the conservation status of Pacific martens (*Martes caurina*) on the Olympic Peninsula expanded to incorporate new technology and methods to find what appears to be a very low density of these small mustelids. With a partnership that includes Olympic National Forest (ONF), Olympic National Park (ONP), U.S. Geological Survey, Pacific NW Research Station, and Woodland Park Zoo, as well as funding provided by the Interagency Special Status/Sensitive Species Program (ISSSSP), we were able to install 12 long-term lure dispensers with 24 remote cameras in ONP, and also to employ University of Washington's Conservation Canines to search for marten scats. Long-term lure dispensers, developed by Woodland Park Zoo and Microsoft, are able to remain on the landscape for up to one year without needing to be checked and refreshed. Additionally, Conservation Canines was able to survey 17 trails in ONF and collected 48 scats that have been sent to the lab for DNA analysis. This genetic work will help to confirm marten presence, as well as provide further information to an analysis we have done on genetic samples collected from historic Pacific marten specimens.

Finally, in summer 2017, we had installed six lure dispenser/camera stations to see how they would perform before we did the larger group in 2018. These stations were then checked in spring and summer 2018; the results included two stations in the upper Hoh watershed of ONP documenting marten (possibly the same animal), and two stations on ONF documenting fisher (two different animals, one with a radio collar and one without). Again, with generous funding from ISSSSP, we will continue this work in summer 2019 as we collect all the cameras and dispensers and see what the year has yielded in terms of marten detections!

ROGUE RIVER-SISKIYOU NATIONAL FOREST

The Rogue River-Siskiyou Wildlife Group continues maintain and restore habitats for proposed, listed, Sensitive, Survey and Manage and MIS Species across the Forest working with both internal and external partners with great success.

868 acres in commercial thinning for wildlife.

3,055 acres in fuels and wildlife enhancement.

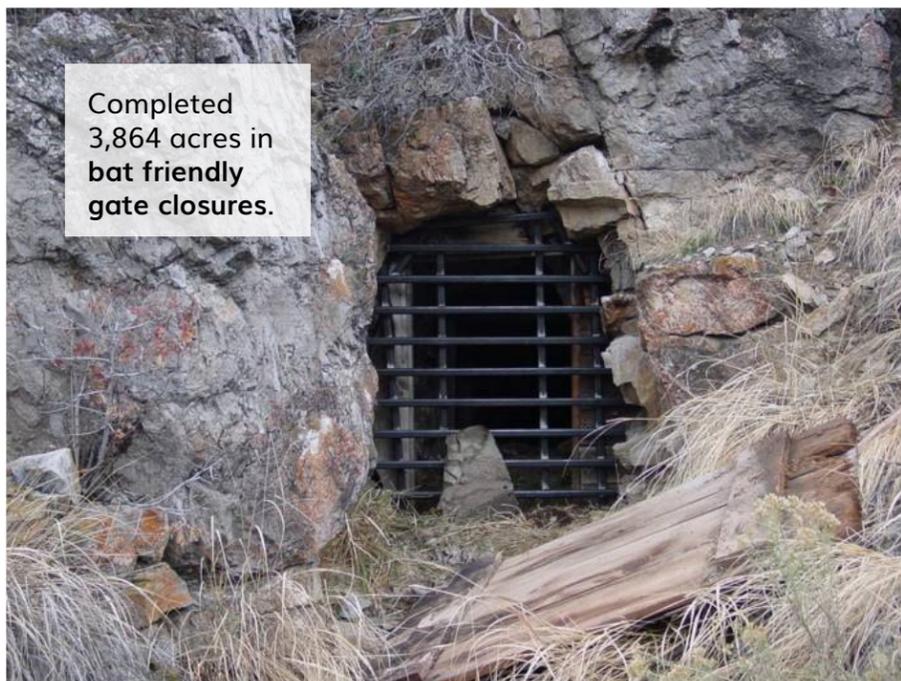
1,920 acres of the first vernal pool creation on the forest.

Monitoring of wildlife and fuels treatments effectiveness and implementation using game cameras

Continued monitoring and analysis of fisher response to fuels treatments in the Ashland watershed – a masters thesis is due out in FY19.

Cooperated with Oregon Department of Fish and Wildlife, Bureau of Land Management, Forest Service and the Regional Office on the first statewide Western Pond Turtle monitoring project.

2017 was a huge fire year, however most fires were low to moderate severity and resulted in good outcomes for many species – 65,000 acres burned at low to moderate severity.

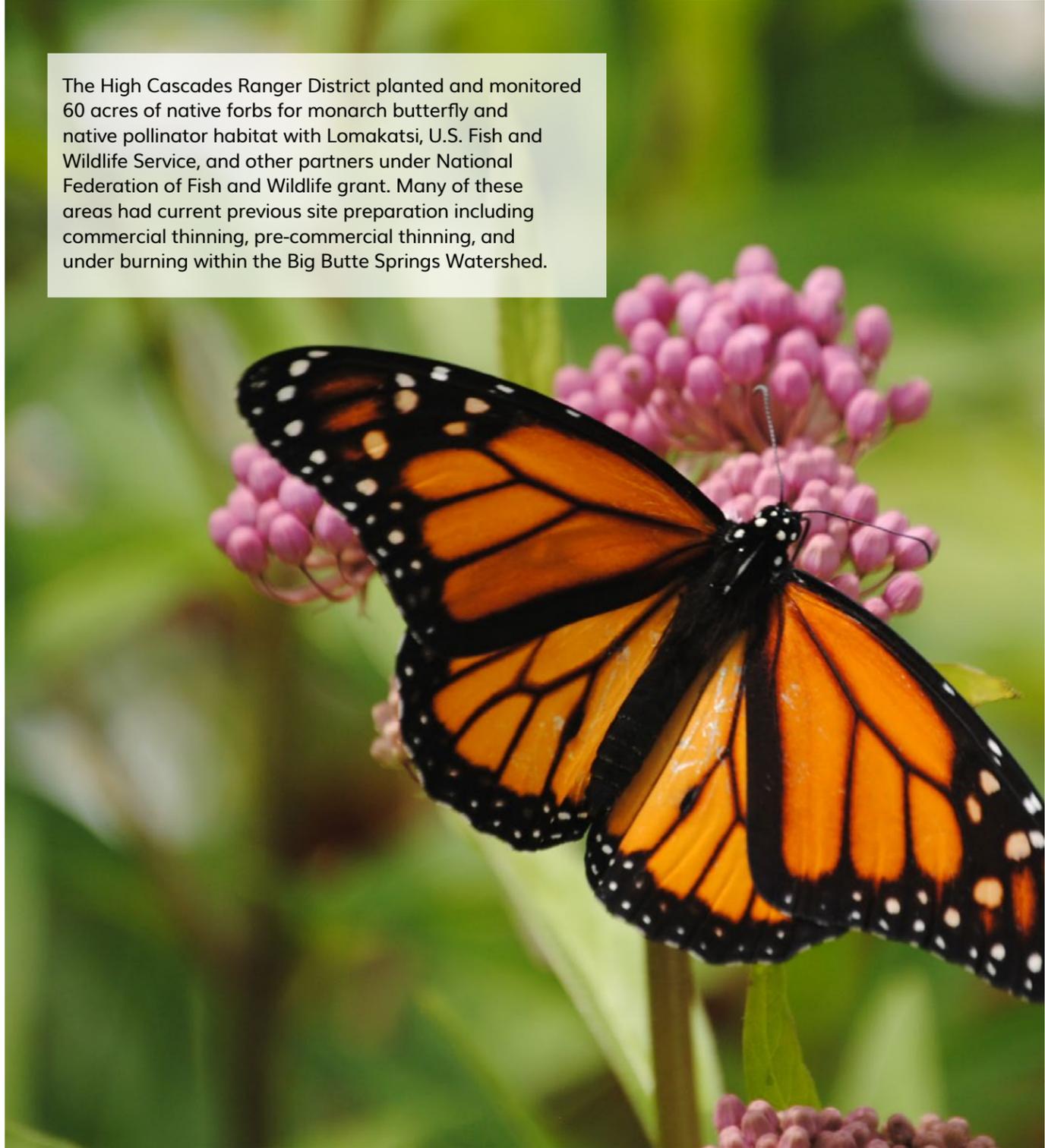


Completed 3,864 acres in bat friendly gate closures.

BY THE NUMBERS	
Acres	Activity
68	Commercial thinning
3,055	Fuels treatments
1,920	Vernal pool creation
2,820	Noxious weeds
785	Snag creation, seeding, pre-commercial thinning for hardwoods
228	Habitat enhancement and burning
160	Donomore meadow acquisition for recreation/wildlife
3,864	Bat-friendly mine closure
56,538	Wildfire
TOTAL: 67,1836	

Project Highlight: Monarch Butterfly and Pollinator National Federation of Fish and Wildlife Grant

The High Cascades Ranger District planted and monitored 60 acres of native forbs for monarch butterfly and native pollinator habitat with Lomakatsi, U.S. Fish and Wildlife Service, and other partners under National Federation of Fish and Wildlife grant. Many of these areas had current previous site preparation including commercial thinning, pre-commercial thinning, and under burning within the Big Butte Springs Watershed.



SIUSLAW NATIONAL FOREST

In 2018 the Siuslaw National Forest accelerated thousands of plantation acres toward structurally diverse and species rich late successional forest. We improved habitat for endemic species, spread the word about coastal wildlife to thousands of visitors, and we continued to implement innovative ideas through new and lasting partnerships. Accomplishments include:

1,740 acres of plantations were thinned for late seral habitat development. Concerns over short-term impacts in light of long-term goals led to many productive conversations, ideas, and new projects (stay tuned).

3,614 acres of snag and down wood was created while monitoring showed use of some creation techniques leading to innovative ideas and conversations with stewardship groups, timber and wildlife.

7 acres of early seral elk habitat created in partnership with Oregon Hunters Association and the Oregon Department of Wildlife.



The Northwest Youth Corps assisted both the Hebo and Central Coast Ranger districts in pulling weeds, planting violets and other forb species to improve habitat for Oregon Silverspot butterfly and Roosevelt elk.

Volunteers worked 2,013 hours displaying heroic verbal and social skills to help educate the public about beach rules and regulations, all while important #ShareTheBeach messages were happily delivered to over 7,000 visitors.

To help increase compliance and provide an enjoyable beach recreation experience, we partnered with Oregon State University on two social science studies that analyzed communication and education efforts on the Oregon Dunes National Recreation Area.

Battled invasive beach grass and winter storms to create 5 acres of new snowy plover nesting habitat.



BY THE NUMBERS	
Acres	Activity
1,741	Snowy plover and Oregon Silverspot Habitat restoration
1,740	Restoration thinning
816	Meadow Restoration
3,614	Snag and down wood creation
532	Aquatic Organism Passage
657	Barred Owl Removal and Plover Predator Control
TOTAL: 9,100	

Project Highlight: Sand Lake Recreation Area



The Siuslaw National Forest worked in partnership with Oregon State Parks and Portland Audubon Society to assist in monitoring federally listed Snowy Plover populations at Sitka Sedge State Park Snowy Plover Management Area. We, along with an Environment for the America's (EFTA) intern, surveyed beaches from May through August utilizing the monitoring protocol of the Audubon's "Plover Patrol."

In addition to monitoring, we conducted beach clean ups as well as engaging many members of the public on plover biology and the ecology of the Siuslaw coastal forests. Educational talks were presented to beach visitors as well as at schools, visitors centers and the Oregon Coast Aquarium. Our EFTA intern was the first wildlife and ecology intern for the Hebo Ranger District, implementing many successful programs, presentations, and guided hikes.

Throughout the season, we saw multiple plover nesting attempts with four successful hatching nests (there are generally three eggs per nest). Out of those four nests, 10 chicks were hatched and seven chicks were confirmed to have fledged (chicks that can fly). In addition to the chicks, we also found 11 individual adult plovers residing in the management area.

Sitka Sedge Plover Management Area was the only area on the North Oregon Coast to successfully hatch chicks in over 30 years. The Forest Service's Sand Lake Recreation Area is adjacent to Sitka Sedge Plover Management Area and our findings of successful nesting on the North Coast points towards future expansion onto Forest Service Lands.

UMATILLA NATIONAL FOREST

In 2018, the Umatilla National Forest successfully improved wildlife habitat and provided wildlife information to the public across the entire forest. Accomplishments listed below.

Improved 4,734 acres of wildlife habitat through **thinning and hazardous fuels reduction.**

Enhanced habitat for big game forage and other wildlife on 503 acres with **prescribed fires.**

Improved wildlife habitat by treating approximately 6,107 acres of **invasive plants.**

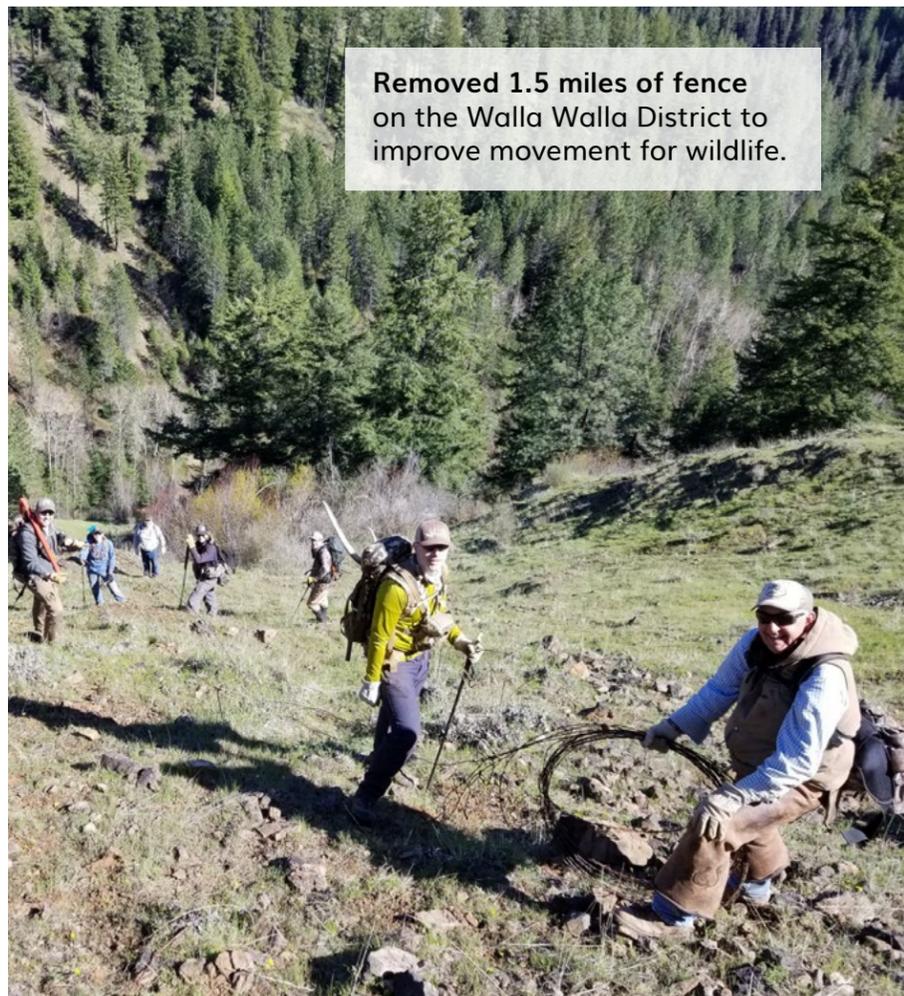
1 Golden eagle nest monitored on Heppner Ranger District.

American marten monitoring (4 camera traps).

Assisted Oregon Department of Fish and Wildlife with **bat monitoring.**

Assisted Washington Department of Fish and Wildlife with **bumblebee monitoring.**

Organized and participated in **non-lead ammunition workshop.**



Removed 1.5 miles of fence on the Walla Walla District to improve movement for wildlife.



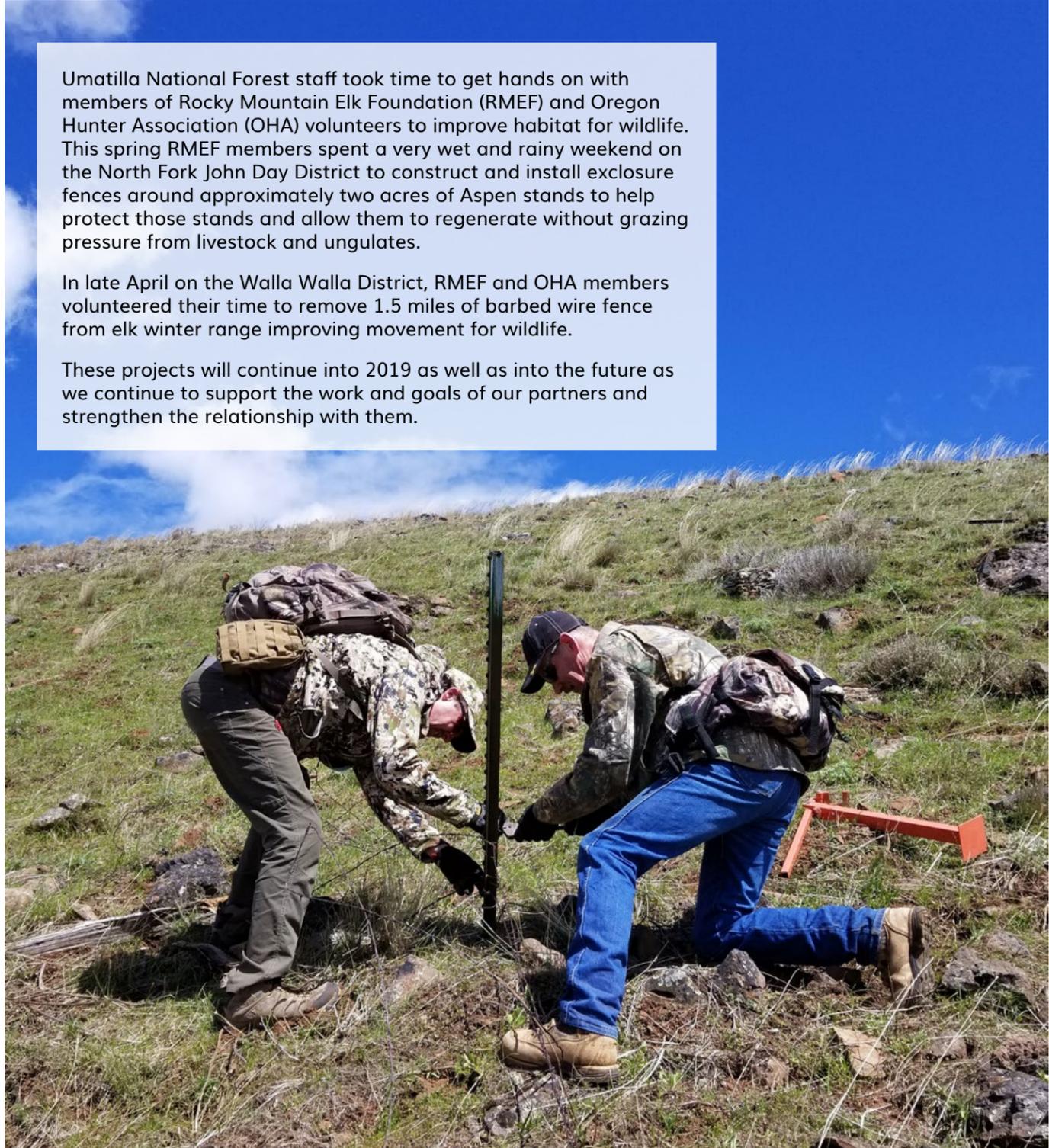
Built fence around 2 acres of aspen.

Project Highlight: Rocky Mountain Elk Foundation Partnership and Volunteer Events

Umatilla National Forest staff took time to get hands on with members of Rocky Mountain Elk Foundation (RMEF) and Oregon Hunter Association (OHA) volunteers to improve habitat for wildlife. This spring RMEF members spent a very wet and rainy weekend on the North Fork John Day District to construct and install enclosure fences around approximately two acres of Aspen stands to help protect those stands and allow them to regenerate without grazing pressure from livestock and ungulates.

In late April on the Walla Walla District, RMEF and OHA members volunteered their time to remove 1.5 miles of barbed wire fence from elk winter range improving movement for wildlife.

These projects will continue into 2019 as well as into the future as we continue to support the work and goals of our partners and strengthen the relationship with them.



UMPQUA NATIONAL FOREST

In 2017 the Umpqua National Forest successfully completed and implemented the following accomplishment, highlights include:

Along with partners and volunteers, **monitored** northern spotted owls, peregrine falcons, carnivores and western pond turtles.

Installed **three bat friendly gates** at mineshaft closures on the Tiller Ranger District.

Creating or restored **294 acres** of early seral habitat.

Monitoring past wildlife habitat improvements.

Surveyed Northern Spotted Owl and Great Grey Owl on 2 large-scale restoration vegetation projects.

Held training for Western Pond Turtle Surveys and participated in the Western Pond turtle pilot project.



Completed **1,118 acres** of snag creation.



Monitored **6 peregrine eyries** on the forest

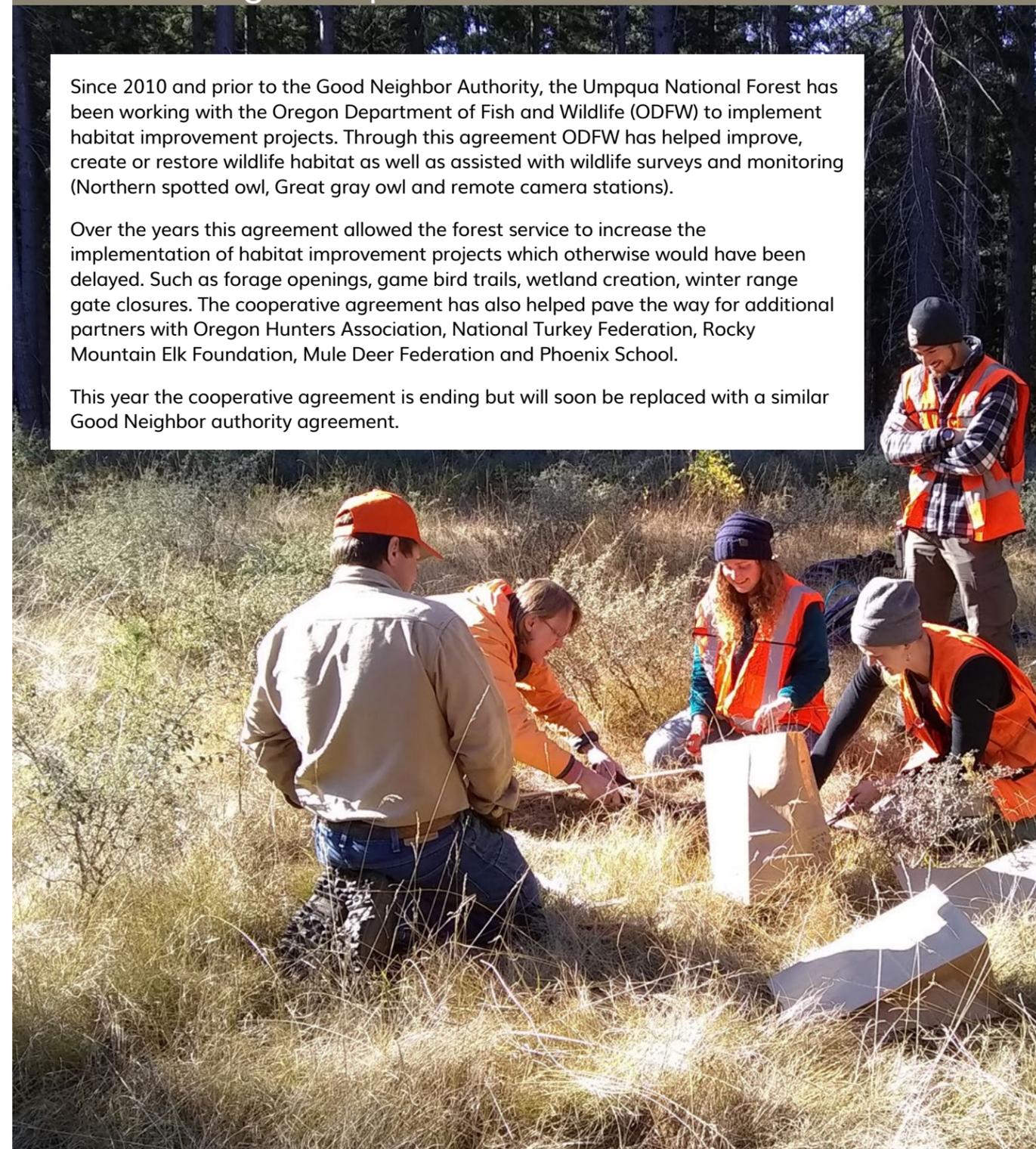
BY THE NUMBERS	
Acres	Activity
21	Opening creation
75	Shrub mowing
69	Fertilization
69	Conifer removal
29	Legume planting
28	Game bird trail maintenance
2	Aspen management
1,118	Snag creation
6,000	Bat gates/mine closures
8,413	Low severity wildland fire
TOTAL: 15,824	

Project Highlight: Cooperative Habitat Work with Oregon Department of Fish and Wildlife

Since 2010 and prior to the Good Neighbor Authority, the Umpqua National Forest has been working with the Oregon Department of Fish and Wildlife (ODFW) to implement habitat improvement projects. Through this agreement ODFW has helped improve, create or restore wildlife habitat as well as assisted with wildlife surveys and monitoring (Northern spotted owl, Great gray owl and remote camera stations).

Over the years this agreement allowed the forest service to increase the implementation of habitat improvement projects which otherwise would have been delayed. Such as forage openings, game bird trails, wetland creation, winter range gate closures. The cooperative agreement has also helped pave the way for additional partners with Oregon Hunters Association, National Turkey Federation, Rocky Mountain Elk Foundation, Mule Deer Federation and Phoenix School.

This year the cooperative agreement is ending but will soon be replaced with a similar Good Neighbor authority agreement.



WALLOWA-WHITMAN NATIONAL FOREST

Wallowa-Whitman wildlife personnel shared their skills through job details in 2018. Jamie Ratliff detailed to the Blue Mountains Forest Plan Revision Team, Trisha Johnson detailed to the Daniel Boone National Forest in Kentucky, and Mark Penninger detailed as Public Affairs Specialist on his home forest. Even with significant time allocated to these detail assignments, the wildlife program was able to accomplish the following terrestrial targets, surveys, and education/outreach efforts:

3,891 acres of **non-commercial thinning**.

4,434 acres of **prescribed burning**.

Conducted **egg mass surveys** and pit tagged Columbia spotted frogs along 5 miles of stream that are planned for restoration.

Inventoried **closed roads** and identified maintenance needs.

Surveyed **180 sites** for sensitive terrestrial mollusk species.

Monitored 4 **golden eagle** nest sites, 3 **peregrine falcon** sites, 24 **great gray owl** nest platforms, 15 **goshawk** sites, and conducted a winter **bald eagle** survey. Documented 2 new bald eagle nests.

Surveyed for **rare forest carnivores** using remote cameras in cooperation with Oregon Department of Fish and Wildlife, capturing images of montane fox, marten, and wolverine.

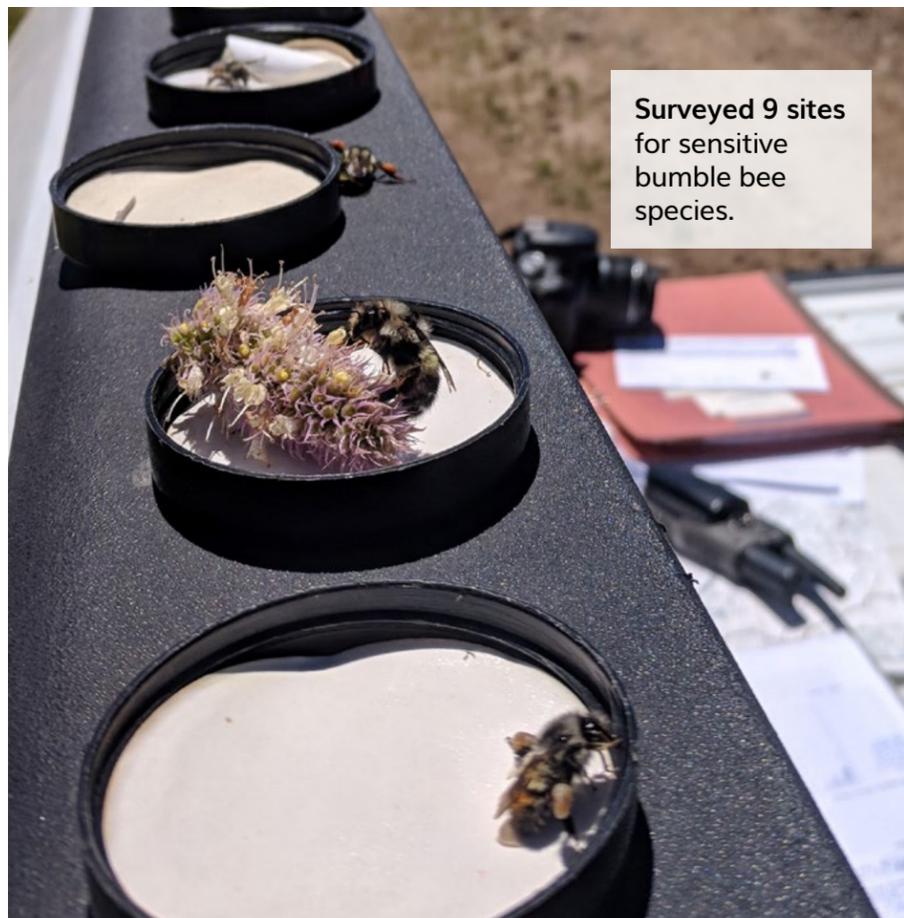
Surveyed for **sensitive butterfly species**.

Established photo points to **monitor old growth forest stands** planned for treatments.

Assisted with **7 outdoor schools**, job shadows, and outreach events.



1.5 miles of wildlife friendly fence in critical winter range for elk.



Surveyed 9 sites for sensitive bumble bee species.

Project Highlight: Natural Resources Field Crew

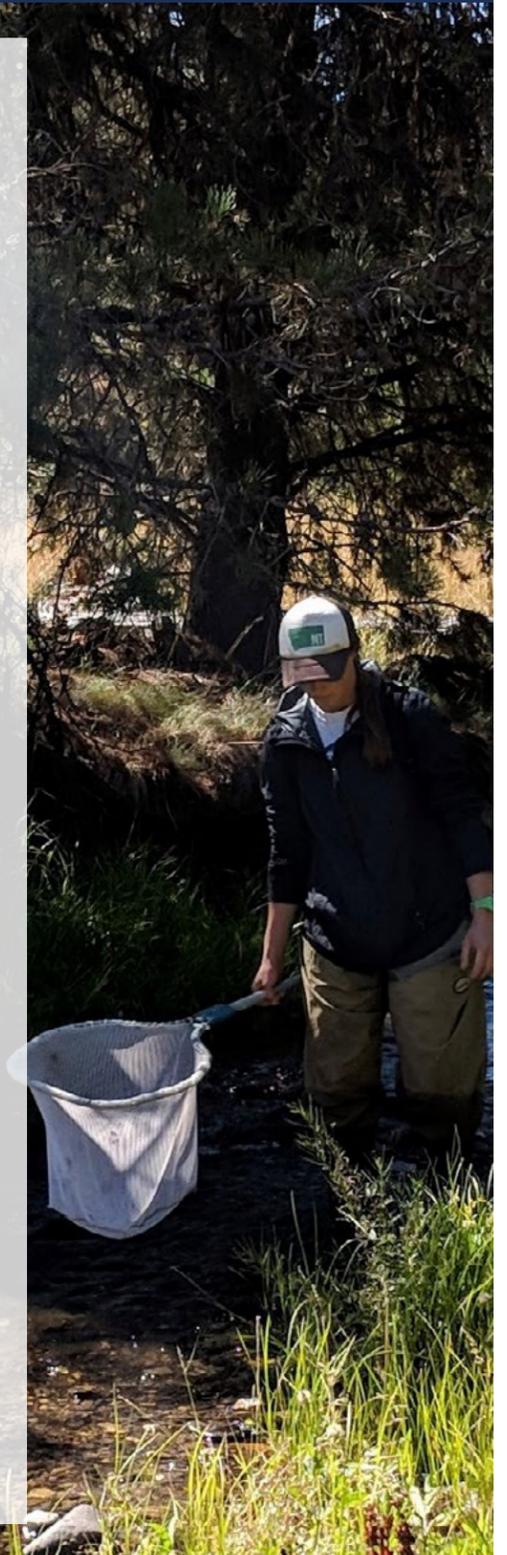
The La Grande Ranger District tried an innovative approach in the field season of 2018 to accomplish work for multiple resource areas at a time when funding and workforce were decreasing. A natural resources field crew was hired and funded with program funds leveraged with partnership funds.

Four technicians (GS-3 and 4) comprised the field crew. Their primary purpose was to conduct surveys, install and maintain structures, and assist as needed with a variety of tasks for fisheries, wildlife and range programs.

A sample of their work included:

- Columbia spotted frog and egg mass surveys, pit tagging
- Fence construction and maintenance
- Pollinator surveys
- Remote cameras used for rare forest carnivore surveys
- Inventoried closed roads and documented effectiveness of closures
- Established photo monitoring points in old growth stands
- Planted riparian vegetation, maintained pod enclosures, sprayed plant skyd to reduce herbivory
- Assisted with fish salvage associated with culvert replacement
- Constructed 1.5 miles of wildlife friendly fence to address illegal motorized access into a critical winter range area.

The Columbia spotted frog work includes several sites that Dr. Evelyn Bull worked on in the 1990's and 2000's. This species established themselves in ponds that were formed in the floodplain of the Grande Ronde River when early 1900's gold mining left the area completely transformed. This river is home to federally listed Chinook salmon, steelhead, and bull trout. Restoration of fisheries habitat is currently focusing on improving the floodplain, adding roughness elements, restoring connectivity between streams and their floodplains, and establishing appropriate riparian vegetation for the site. This means that ponds used by frogs will be affected. Some will be removed, others reconnected to the river. This will likely influence the way spotted frogs utilize these pond features. Pit tagging, egg mass surveys, and adult surveys will help inform how these features are being used currently, and help shape the restoration design to benefit spotted frogs as well as the federally listed fish species in this system.



WILLAMETTE NATIONAL FOREST

In 2018, the Willamette National Forest successfully met wildlife habitat enhancement and environmental education objectives. Program highlights include:



Completed forest plan monitoring for pileated woodpeckers documenting occupancy in 92% of the pileated woodpecker management areas.

52 acres of brush pile creation benefiting quail and small mammals.

Completed the 5-year harlequin duck monitoring which documented a continued sharp decline in breeding birds on the forest since 1990.

With the Deschutes National Forest, completed a fish and wildlife wilderness stewardship management strategy for seven wilderness areas.

Completed numerous project surveys for federally listed, sensitive, and survey and manage species. Highlights include additional detections of Sierra Nevada red fox, wilderness bioblitz surveys in the Three Sisters Wilderness, and finding two more locations of western bumblebees in high elevations of the old Cascades on the Sweet Home Ranger District.

Working as a Level 1 Team completed programmatic consultation for routine activities, including timber harvest, that are not likely to adversely affect northern spotted owls and Oregon spotted frogs.

3,190 acres of deadwood enhancement for cavity excavators and other species.

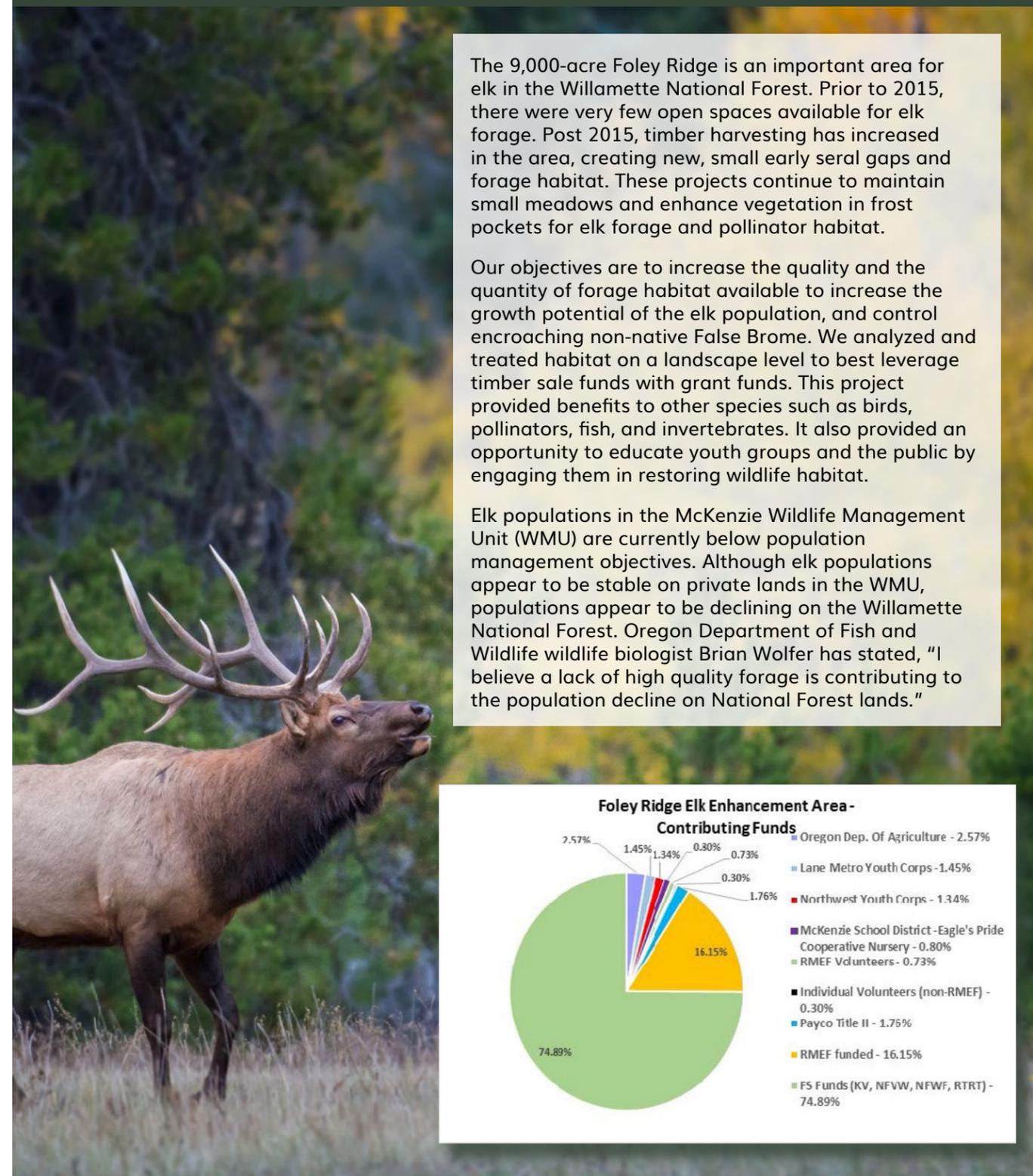
2,704 acres of forage enhancement for elk, deer, and pollinators plus an additional 6,664 acres of enhancement by management of natural wild fires.

4,700 acres of riparian and wetland enhancement benefiting bald eagles, beaver, otter and other riparian associated wildlife.

904 acre of big game security improvement by decommissioning roads.

BY THE NUMBERS	
Acres	Activity
904	Road closures
3605	KV projects
1969	Timber Harvest
4895	Wildlife Treatments
6664	Beneficial Wildfires
TOTAL: 18,419	

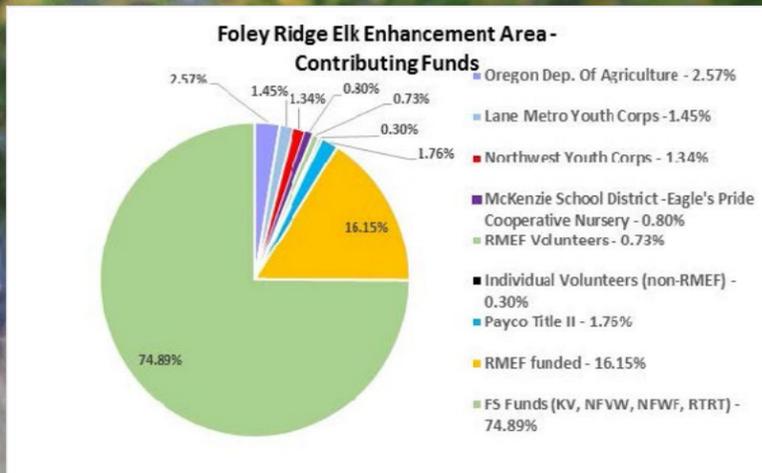
Project Highlight: Foley Ridge Elk Enhancement Area



The 9,000-acre Foley Ridge is an important area for elk in the Willamette National Forest. Prior to 2015, there were very few open spaces available for elk forage. Post 2015, timber harvesting has increased in the area, creating new, small early seral gaps and forage habitat. These projects continue to maintain small meadows and enhance vegetation in frost pockets for elk forage and pollinator habitat.

Our objectives are to increase the quality and the quantity of forage habitat available to increase the growth potential of the elk population, and control encroaching non-native False Brome. We analyzed and treated habitat on a landscape level to best leverage timber sale funds with grant funds. This project provided benefits to other species such as birds, pollinators, fish, and invertebrates. It also provided an opportunity to educate youth groups and the public by engaging them in restoring wildlife habitat.

Elk populations in the McKenzie Wildlife Management Unit (WMU) are currently below population management objectives. Although elk populations appear to be stable on private lands in the WMU, populations appear to be declining on the Willamette National Forest. Oregon Department of Fish and Wildlife wildlife biologist Brian Wolfer has stated, "I believe a lack of high quality forage is contributing to the population decline on National Forest lands."



THANK YOU TO THE FOLLOWING PARTNERS AND COOPERATORS

American Legion
 American Rivers
 AmeriCorps
 Angell Job Corps
 Ash Creek Restoration
 Audubon Society
 Backcountry Hunters and Anglers
 Backyard Birds
 BARK
 Bend-LaPine School District
 Biodiversity Research Collective
 Blue Mountains Conservancy
 Blue Mountain Elk Initiative
 Bonneville Power Administration
 Boy Scouts of America
 Bureau of Land Management
 Cape Horn Conservancy
 Cascade Carnivore Project
 Cascade Forest Conservancy
 Cascadia Wild
 Center for Eco-Dynamic Restoration
 Center for Natural Lands Management
 Central Oregon Children’s Forest
 Central Washington University
 Chelan PUD
 Chugach National Forest

Clackamas Stewardship Partnership
 Confederated Tribes of the Colville
 Confederated Tribes of the Umatilla
 Confederated Tribes of the Warm Springs
 Conservation Biology Institute
 Conservation Northwest
 Cowlitz County Noxious Weed Board
 Cowlitz Tribe
 David Douglas School District
 Defenders of Wildlife
 Discover Your Forest
 Douglas PUD
 Dunes Collaboration Council
 East Cascades Audubon Society
 East Multnomah Soil and Water Conservation District
 Environment for the Americas
 Eyes in the Woods
 Federal Highway Administration
 Friends of Columbia Gorge
 Friends of Ladd Marsh
 Friends of Sandy River Delta
 Friends of Trees
 Forterra
 Gilchrist Schools
 Girl Scouts of America
 Greater Hells Canyon Council

Hawkwatch International
 Hells Canyon Bighorn Sheep Initiative
 High Desert Museum
 Home Depot
 Hood River Stewardship Collaborative
 I-90 Wildlife Watch
 Job Corps
 Kittitas Conservation Trust
 Kittitas County
 Klamath Bird Observatory
 Klamath County School District
 Klamath County Search and Rescue
 Klamath-Lake Forest Health Partnership
 Klamath Watershed Partnership
 Klickitat County Noxious Weed Control Board
 Lake County Resource Initiative
 Lake County Watershed Council
 Legendary Tree
 Lewis County Noxious Weed Board
 Lomakatsi Restoration Project
 Lower Columbia Estuary Partnership
 Methow Salmon Recovery Foundation
 Mid Coast Watershed Council
 Mid-Columbia Fisheries
 Mount Hood Community College Youth Education and Support Services

Mountains to Sound Greenway Trust
 Mt. Adams Institute
 Mule Deer Foundation
 National Forest Foundation
 National Marine Fisheries Service
 National Park Service
 National Wild Turkey Federation
 Natural Resources Conservation Service
 NOAA Fisheries
 North American Butterfly Association
 Northern Research Station
 Northwest Ecological Research Institute
 Northwest Trek
 Northwest Youth Corps
 Ochoco Forest Restoration Collaborative
 Ochoco Trails Strategy Group
 Okanogan Conservation District
 Okanogan County Sheriff
 Okanogan Highlands Alliance
 Olympic Peninsula Climbers
 Oregon Aquarium
 Oregon Biodiversity Information Center
 Oregon Department of Fish and Wildlife
 Oregon Department of Forestry
 Oregon Department of State Lands
 Oregon Eagle Foundation
 Oregon Flora
 Oregon Grotto
 Oregon Health Authority
 Oregon High Desert Grotto

Oregon Hunters Association
 Oregon Natural Desert Association
 Oregon State Parks
 Oregon State University
 Oregon State University Human and Ecosystem Resiliency and Sustainability Lab
 Oregon Watershed Enhancement Board
 Oregon Wildlife Society
 Oregon Youth Conservation Corps
 Oregon Zoo
 Oroville Sportsman Club
 Pacific Northwest Research Station
 Pacific University
 Phoenix School
 Portland General Electric
 Portland Water Bureau
 Puyallup Tribe
 Ridgefield National Wildlife Refuge
 Rocky Mountain Elk Foundation
 Rowena Wildlife Clinic
 Sandy River Watershed Council
 Sauk-Suiattle Indian Tribe
 Skagit Fisheries Enhancement Group
 Skagit River System Cooperative
 Skamania County Noxious Weed Control Board
 Snoqualmie Indian Tribe
 Stillaguamish Tribe of Indians
 Student Conservation Association
 Swinomish Tribal Community
 The Nature Conservancy

Troutlodge Lodge
 University of Washington
 University of Washington Conservation Canines
 U.S. Army Corp of Engineers
 U.S. Border Patrol
 U.S. Bureau of Reclamation
 U.S. Environmental Protection Agency
 U.S. Fish and Wildlife Service
 U.S. Geological Service
 Wallowa Resources
 Wallowa Trails Association
 Warner Creek Correctional Facility
 Wasco County Collaborative
 Washington Conservation Corps
 Washington Department of Ecology
 Washington Department of Fish and Wildlife
 Washington Department of Natural Resources
 Washington Department of Transportation
 Washington Natural Heritage Program
 Washington State Parks
 Washington State University
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