Oregon Conservation & Recreation Advisory Committee
Meeting Materials for July 20, 2020

This packet contains the full text of the 18 proposals received by the Committee through Wednesday, July 15, 2020.

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#1 – Succor Creek and Beaver

Succor Creek and Beaver:

Documentation, Reclamation, and Recreation

A funding proposal from Friends of the Owyhee to the Oregon Conservation & Recreation Fund

Contact Person:

Tim Davis, Executive Director, Friends of the Owyhee

owyheefriends@gmail.com 541-212-1907

Abstract: In this proposal, we seek funding to develop and execute a short-term, detailed beaver survey along Succor Creek in the Owyhee sub-region of the Basin and Range Ecoregion. This collaborative effort will set precedence for similar future studies along Owyhee drainages. This stream is a priority because of accessibility and preliminary data. The end of the project will be marked by a significant data bank for decision making with a keystone educational public presentation, publication, and/or guided hike.

Lead Organization and Partners Involved:

Friends of the Owyhee (FOTO) is the lead on this project.We intend to partner with the Oregon Natural Desert Association (ONDA), a close local ally in desert conservation and make use of their expertise in beaver ecology and BDA installation. We have an adopt-a-park agreement with Oregon Parks and Recreation Department (OPRD) for the Succor Creek State Natural Area in the Owyhee sub-region and anticipate working closely with OPRD. As well as the Vale District Bureau of Land Management. We will consult other professionals relating to Beavers about this project who may provide consultation services on beaver habitat, data collection and BDA design. The local Natural Resource Conservation Service (NRCS) and Malheur County Soil and Water Conservation District has partnered with local landowners to install BDAs so, finally, we expect to continue this relationship..

Program Priorities Met:

Documentation: Using the guidance from the Monitoring page of The Oregon Conservation Strategy webpage, we will begin by developing an acute data collection action plan followed by field work. We will walk the stream from headwaters (which are in Idaho) to mouth, compiling data that may be useful to understanding beaver impacts, current or future. List of attributes will be

created in collaboration with partnering organizations to ensure adequate data coverage. Qualitative and visual data will be recorded via field notes, photographs, and video camera.

Reclamation: We are aware that the installation of Beaver Dam Analogues (BDA) can help vegetation reclamation and water retention efforts in an area. From preliminary data, it is our observation that Succor Creek may benefit from such projects, but there is not adequate data to target installation efforts. With the data collected in the initial phase of this project, we can both identify areas already used by beaver and areas that may benefit from a BDA. Between the two, we will also identify areas where vegetation reclamation is the priority. We intend to target at-least two such locations and build at-least one BDA and one vegetation reclamation project with the collaboration of land management agency or landowner.

Recreation: We have an amazing infrastructure for offering outdoor recreational and educational activities. We would like to engage the public in two on-site educational hikes, one before reclamation (either BDA or vegetation) and one after. There will be many in the public who cannot make such an experience, so a short pamphlet publication will be produced to ensure the information on the project is available. The local Chamber of Commerce likes to carry such pamphlets and would be happy to distribute to local businesses. In collaboration with Oregon State Parks and Recreation, we are pursuing the creation of a hiking trail in Succor Creek State Natural Area that is surveyed to extend near some of the current beaver habitat. As a part of this project, we will release a digital version of the trail. When the trail is completed, we would like to include an information sign discussing beaver habitat in desert riparian areas, and design funding is requested here.

Geography / Ecoregion: Basin and Range ecoregion, in Malheur County

Connection to Oregon Conservation Strategy:

The Oregon Conservation Strategy identifies this region as the Basin and Range ecosystem, of which the study is focused on the Owyhee-subregion. A strategy habitat (Flowing Water and Riparian Habitat) this project is focused on one of the top identified conservation Key Issues, 'Water Quality and Availability', while also addressing 'Climate Change' and 'Disruption of Service Regimes'. The region is high risk for fire permanently damaging the desert riparian ecosystem and replacement by invasive species. By creating a small wetland (either slowly by vegetation projects or more quickly with BDA), holding water to increase infiltration rates, the riparian area adjacent sagebrush habitat benefit and act as a potential fire break. Furthermore, this project may re-create wetlands where they once existed. These efforts will undoubtedly result in an increase in reptiles (frogs, toads and turtles) populations in the wetlands, but will also likely result in an increase in water resources for desert mammals, an increase in riparian flowering plants or insects, fish habitat, and an increase in waterfowl.

Funding Amount Requested: **$8,066**

Total Project Cost (table):

Category				FOTO Cost	ORCF Cost
Travel	2,700 Miles	@ $0.58 mile			$1,566
Supplies	Rental Equip. $1,000	BDA Supplies $2,000	Signage $1,000		$4,000
Printing	Maps $200	Advertising $100	Printed Info $700		$1,000
Consulting Services	BDA Consulting $1,000	3rd Party Data Review $1000	Riparian/Beaver Ecological Training $500		$3500
Wages	500 Hours	@$20 / hr		$10,000	
				$10,000	**$9,066**

OCRF Cost: $9,066

FOTO Cost: $10,000

Total Project Cost: $19,066

What will Oregon Conservation Resource Fund dollars be spent on:

Friends of the Owyhee will cover $10,000 of anticipated $19,066 project cost. OCR funds are requested to pay for travel, supplies, printing, and additional consultation services.

Timeline:

While preliminary work is underway, FOTO will immediately begin project work when funding is approved. We anticipate completing most work by November, including a public awareness presentation / publication / and/or guided hike.

Methods:

In the documentation stage, the main survey will be conducted by Friends of the Owyhee staff. The field area will be covered largely by foot, but some areas may require additional motor vehicle support. Mapped data will be incorporated into COMPASS. Both digital mapping via tablet and QGIS (or similar) and use of paper topographic maps will be utilized. Field measurements can be taken with a variety of tools from tape to stadia rod. Water temperature and other attributes may be required. Reclamation projects will be small group efforts of solicited volunteers, partners, and FOTO staff. Methods may depend on recommendations from partners for consultants, and what is learned during data collection. Recreation hike, public presentation and/or publication will be led by one or more FOTO staff using standard methods.

For contextualizing data, we will conduct one compare / contrast data survey along regional streams, one with significant restoration efforts (West Little Owyhee) and one with fewer efforts (Dry Creek). These preliminary data will allow us to chart the Succor Creek changes in context.

Reporting / Outcome Measurement:

The goal of the project is to recognize the potential of beaver habitat in the Owyhee and offer educational resources on the benefits of beaver to the local population. We think that beaver habitat may not only enhance our conservation efforts in the Owyhee along Succor Creek, but will also enhance the recreation quality of the region.

We will (deliverables):

1) Make every effort to integrate data into existing databases
2) Transmit a detailed report of all activities to the Oregon Conservation Board
3) Engage the public in the project, concluding in a public presentation / publication / activity.

Other Media / Information sources on the project:

FOTO maintains an adopt-a-park agreement for Succor Creek SNA with OPRD and we have invested considerable resources in stewarding this creek / watershed by running trash clean-ups, noxious plant removal, public engagement, and most recently assisting with park maintenance (regular bathroom checks and campsite cleanups).

"Beaver Ecology in Bridge Creek, a tributary of the John Day", 2013, M.Sc. Thesis by Julie L. Maenhout from Oregon State University, and other Bridge Creek data will serve as a learning tool for the project.

"In Oregon, Beaver Dams are being used to restore habitat" by Matthew Burks, Wallowa-Whitman National Forest, U.S. Forest Service, 2017, is an article that sets the tone of the work proposed here.

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#2 – Grande Ronde Model Watershed Community Science

GRANDE RONDE MODEL WATERSHED

1114 J Ave.
La Grande, Oregon 97850

(541) 663-0570
Fax: (541) 962-1585

http://www.grmw.org

July 14, 2020

Oregon Department of Fish and Wildlife
Oregon Recreation and Conservation Fund
4034 Fairview Industrial Drive SE
Salem, OR 97302

To Whom It May Concern,

The Grande Ronde Model Watershed (GRMW) is interested in funds made available through the Oregon Recreation and Conservation Fund to help build upon a citizen science program that is in its infancy.

What dollars would be used for and type of public involvement: GRMW partnered with the US Forest Service, Wallowa-Whitman National Forest, on a citizen science grant application in 2019 with the goals of: (a) to provide long term monitoring data of the effects and impacts of stream restoration activity on stream and riparian habitat, (b) to engage the local community with meaningful data collection on their National Forest and foster a greater sense of stewardship, and (c) provide outdoor education opportunities to local schools, potentially sparking interest for a career path for some students. The application was selected for funding, with implementation to be in 2020. The Grande Ronde Model Watershed and partners are fortunate to get implementation funds for many projects, but lack funds for monitoring and public outreach so citizen science seemed like a good tool to pursue. One of our partners on the grant, Pat Edwards, a professor from Portland State University, was going to come teach a two-day

macroinvertebrate sampling training this summer for forty natural resource professionals, educators, and interested citizen scientists, ultimately to use with students. With current COVID-19 restrictions many of those people are not allowed to attend trainings this summer or have opted out, and that was the only time frame that Pat could come over to the Grande Ronde with his busy teaching schedule. Pat's salary is an in-kind contribution for the grant, but we are seeking funds for additional travel expenses so he can make two trips over here, once in 2020 and once in 2021.

Furthermore, the grant awarded did not include any funds for outreach or materials for classrooms. We are seeking funds to engage with our public and students, to provide them with informational material such as brochures, social media, field identification books, and staffing for informational booths at events to recruit citizen scientists from the communities of northeast Oregon.

Organization: Grande Ronde Model Watershed Foundation
Contact Information: Kayla Morinaga, Monitoring Network Coordinator, 1114 J Avenue, La Grande, OR 97850, (541) 663-0570, kayla@grmw.org
501(c)3 status: Registered as a 501(c)3 non-profit
Amount requested: $2,000 total ($1,000 travel + $1,000 outreach)
Existing partners: On this specific grant the partners are: US Forest Service, Wallowa-Whitman National Forest; Portland State University; Confederated Tribes of the Umatilla Indian Reservation; and La Grande School District.

Please reach out to me with any questions or concerns. Thank you for your time.

Sincerely,

Jesse Steele
Executive Director
Grande Ronde Model Watershed

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#3 – Link Creek Project

Trout Unlimited and Caldera Proposal for Link Creek Project for the Oregon Conservation and Recreation Fund

Title: "Missing Link: A Service Learning Project"

Contact person: Darek Staab, Trout Unlimited, Pacific Northwest Education Coordinator

Email and Phone: Darek.Staab@tu.org, 541-480-6976 **Mailing Address**: 16 NW Kansas Ave, Bend, OR, 97703

Lead Organization & Partners: Lead is Trout Unlimited (TU) with Caldera and Deschutes National Forest

We will work with our project partner Deschutes National Forest and educational partner Caldera to engage 3rd – 8th grade students from several regional communities and provide service-learning connections for a restoration project on Link Creek which flows through Caldera's property. TU has been leading service-learning projects in Central Oregon for the past 10 years, and Caldera has been leading outdoor education for diverse, regional students near Suttle Lake for 25 years. Through this project, TU and Caldera will engage public school students from Central Oregon and urban youth from Portland, with the strong technical expertise for implementation of the restoration work from the Forest Service. Each student will have two field experiences available to study Link Creek and the Metolius River and support a project to improve habitat for Sockeye and spring Chinook salmon (seasonal field trips during fall, summer and spring provided). In the event a virtual learning option is required due to continued school closures, we are committed to creating 3 seasonal virtual field experiences connected to the project. We will be launching an online GIS Story Map this fall season to provide an engaging way for students to still explore the watershed and share their observations. The Story Map will provide interactive maps, project description, videos and background to support virtual learning. If students and teachers can attend a field trip, the Story Map will provide important information to prepare them for their field experience. If students need to lean on online learning this school year, it will serve as a hub for virtual learning and discovery. We will integrate and share with public school students from local communities, and Caldera students from Portland and Central Oregon, including youth from Warm Springs who may otherwise not be able to access this private land. For this project, we will serve at least 200 students each year, and work with five diverse communities (Warm Springs, Madras, Sisters, Camp Sherman and Portland).

Program Priorities (Our project will meet a mix of Conservation and Recreation priorities):

1. **Conservation**: Habitat restoration and improving habitat connectivity related to implementing the recommendations in the Oregon Conservation Strategy and evolving science.
2. **Recreation**: Enhancement of trails and access to waterways in a way that preserves or enhances sensitive habitat or that resolves impacts related to informal or dispersed recreation in sensitive habitat.
3. **Recreation**: Opportunities to engage and expand the number and diversity of Oregon's outdoor users.

Geography/Ecoregion:

Link Creek is in the Suttle Lake watershed and upper Metolius Basin. Ecoregion is East Cascades.

Connection to Oregon Conservation Strategy:

As a Metolius Basin headwater stream, Link Creek connects Blue Lake to Suttle Lake (see project map on final page), and as connectivity in the entire Metolius River system has been improved, salmon can once again return to this important spawning and rearing habitat. The Metolius River system is a true ecological stronghold and holds the best water quality for a river in our state. This project supports multiple strategy habitats, multiple strategy species, and is located just upstream of a Conservation Opportunity Area. Fish species of concern for

this project are Sockeye salmon, spring Chinook salmon, and bull trout. Though Sockeye salmon is not currently listed as a strategy species, Link Creek is historic spawning habitat for 1 of our only 2 populations of native Sockeye in Oregon, and currently serves as rearing habitat for spring Chinook. Salmon have been reintroduced into the Metolius River after 50 years, and spring Chinook and Sockeye are slowly growing in number and returning higher into the river system to utilize this diverse basin and a reconnection with Suttle Lake. We have been working with the Forest Service to protect the upper 15 miles of the Metolius River, just up from where the ownership shifts from Warm Springs reservation to Forest Service land and up into pockets of private land. Young Chinook salmon have been released into Link Creek, and adult Sockeye salmon have been working up the Metolius River toward Link Creek to utilize this historic spawning habitat. In addition, through recent eDNA work, bull trout are expanding their use of Suttle Lake and Lake Creek just downstream. By restoring the large woody habitat needed to protect young salmon and trout, and hold the gravel needed for spawning, we have an inspiring hands-on project which can be studied right on the property of an educational facility and easily accessible from private and public land. In conditions allow, students will be able to plant the access points along Link Creek after the wood placement is completed, and track how the habitat improves and is used by multiple species of salmon and trout, as well as additional wildlife in the area.

Funding Amount Requested: 8,800 **Total Project Cost:** 27,800

What will OCRF dollars be spent on:

- Salary for TU's Education Coordinator = 3,418.00 and Seasonal Educator = 1,220.00
- Contract for Caldera for Staff Support = 2,500
- Travel for Staff for Field Trips or Field Visits for Virtual Programming = 600
- Indirect Costs for TU (13.74%) = 1,062.00

Timeline: September 2020 – Aug 2021, Program also intended for 2021 and 2022 School Year

Abstract:

Our project will inspire regional youth by offering multiple hands-on and virtual field experiences along Link Creek and Suttle Lake to build a greater understanding about stream restoration and living with salmon in the northwest. This project blends two efforts, restoration of 20 wood placement sites in Link Creek and improvement of habitat for juvenile and returning adult salmon, and the integration of our service-learning curriculum for local youth from regional community schools and seasonal experiences for Caldera's participants. We have secured funding from the Pelton Fund to start and cover the majority of the project's expenses, but this funding will be key for engaging the community educationally. Our goals for the program are: 1. Increase the number of leaders, diverse youth, and volunteer mentors who are introduced to Link Creek and the Suttle Lake Watershed and promote stewardship in our community (200 youth, 10 teachers, 10 educators, and 5 mentors); 2. Students will receive a positive experience (in person or virtual) from our service-learning project and choose to join us for future lessons; 3. Students will increase understanding of our river ecosystem connections and solutions needed to care for our river ecosystems. In the event a virtual learning option is required due to continued school closures, we are committed to creating online resources for all our students.

Reporting/outcome measurement:

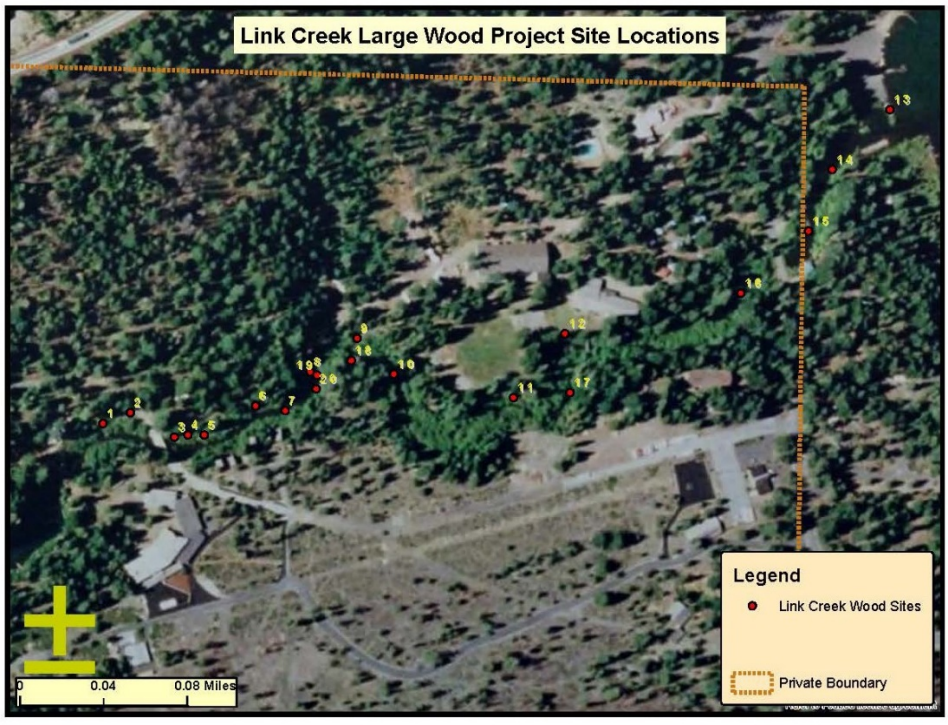
We will measure our impact through site work completed, planting accomplished, and the number of teachers and youth we can engage. We will share brief surveys with leaders and teachers, and students if possible. Surveys will include questions and activities, allowing us to also assess content knowledge at the end of the

program, by asking participants to draw a picture or diagram of a healthy stream. Teachers and Educators will also evaluate the program for feedback on strengths and weaknesses.

Other media/information sources on the project:

TU and Caldera each have extensive websites and strong support from our communication teams (www.tu.org and www.calderaarts.org), and our new online Story Map is being designed for local teachers and students and will help us expand our information for the public. For the project, we have shared our vision and plans through press releases and presentations thus far, and we have plans to broadcast the effort more broadly during the next two years. For the Metolius Basin, TU and Deschutes National Forest created a short film available online entitled "A Better Path: Stewardship of the Metolius River" to promote best practices for recreating along the Metolius River. Our partner Caldera has a strong track record for engaging youth and the public through the arts and film. A good example for Caldera's work can be found through their online film "Caldera 20th Anniversary Stories of Change". When schools closed in spring of this year, each organization quickly adjusted their field trips and communication to be online. TU crafted 4 virtual field trips for river sections in the Deschutes Basin, and Caldera engaged students through online discussions and activities and designed a virtual summer camp. As we prepare for the upcoming school year, we are ready to be flexible as we complete implementation of our restoration project, and find the best way to engage students and volunteers in the project. With the diversity found in our participants, partners, and staff, we are confident that we can continue to create interesting and engaging media for the project and river system. **Here are a few key links and project map for context:**

- TU website: www.tu.org and Caldera website: www.calderaarts.org
- TU Short Film for responsible recreation use and Metolius project: https://vimeo.com/81766072
- Caldera Short Film for 20th Anniversary: https://www.youtube.com/watch?v=zEsESueNEOI
- TU Virtual Field Trips: https://www.tu.org/blog/take-a-virtual-field-trip-with-trout-unlimited/



Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#4 – Gilchrist Underpass Wildlife Directional Fencing

OREGON HUNTERS ASSOCIATION
Protecting Oregon's Wildlife, Habitat and Hunting Heritage
P.O. Box 1706, Medford, OR 97501 • (541) 772-7313
oha@oregonhunters.org • oregonhunters.org

To: Oregon Department of Fish and Wildlife July 10, 2020

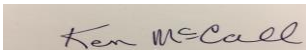
Re: Oregon Conservation and Recreation Advisory Committee
Subject: OCRF project Proposal "Gilchrist Underpass Wildlife Directional Fencing"

Oregon Hunters Association hereby submits the attached project proposal titled "Gilchrist Underpass Wildlife Directional Fencing" for consideration. OHA is a 501 (C) (3) non-profit founded in the state of Oregon in 1983 dedicated to Wildlife, Wildlife Habitat and Hunting Heritage. OHA is part of a larger partnership of agency anda

If funds are approved by the committee and department processes, OHA has a formal funds transfer agreement in place with Oregon Department of Transportation. The agreement allows OHA and ODOT to do a simple modification to move the funds through OHA directly to the project account at ODOT. We offer that option not knowing what the fund transfer mechanism may be but knowing setting up the formal fund transfer between OHA and ODOT was somewhat time consuming.

I will be the OHA contact for all matters related to this project proposal. OHA looks forward to the OCRF review process and stands ready to answer any questions of provide clarification on the proposals as needed.

Thank You,



Ken McCall
Vice President
Oregon Hunters Association
541-602-1819
kenemccall@gmail.com

Oregon Conservation and Recreation Fund Project Proposal

Gilchrist Underpass Wildlife Directional Fencing

Prepared for the Oregon Conservation and Recreation Advisory Committee

The following proposal is submitted by Oregon Hunters Association (OHA) on behalf of Oregon's wildlife and the partnership of wildlife advocates engaged in supporting the Gilchrist animal undercrossing fencing project on Oregon's Highway 97. The project is just north of Gilchrist in a newly widened section of highway 97 expansion to four lanes in Oregon Department of Transportation (ODOT) 2019 and 2020 highway reconstruction.

The project title is simply stated as "Gilchrist Underpass Wildlife Directional Fencing". OHA point of contact is Ken McCall, Vice President, Oregon Hunters Association. This project requests $10,000 of OCRF funds with a hoped-for matching amount from the Oregon general fund.

Project Proposal Abstract.

The proposed project provides funding for directional wildlife fencing needed to guide animals to the newly constructed Gilchrist under pass. For background, Oregon Department of Transportation chose to construct the underpass as an opportunity to replicate the wildlife passage success of the Lava Butte underpass completed in 2012. Unfortunately, ODOT was not able to fund the necessary directional fencing to make the underpass an effective migratory barrier solution. Data provided by Oregon Department of Fish and Wildlife in a seven-year mule deer collaring study identified the Gilchrist location as a key migratory crossing site. ODOT data collected at Lava Butte underpass showed an 87 percent decrease in wildlife/vehicle collisions. Since ODOT was unable to identify a fund source, a collation of wildlife advocacy and hunter-conservationists organizations joined with state and federal agencies to raise the funds for fence construction. Funds raised since early 2018 total 70% of the estimated $1,000,000 project cost estimate. The effort overall has been rewarding though a fund gap $300,000 remains. The benefits of barrier free animal passage include reducing wildlife loss, economic loses due to animal/vehicle collisions and less human injury or death. In addition to large ungulates, Lava Butte videos have documented a suite of over forty animal species using that crossing. With full funding we can replicate the success of Lava Butte.

The Gilchrist Animal Passage Partnership.

Following the animal passage need identified by Oregon Department of Fish and Wildlife (ODFW) deer collaring studies and ODOT records of animal/vehicle collisions, both agencies reached out for partners with an information campaign about the need for unfunded directional fencing and the potential to greatly improve the plight of animals trying to cross highway 97. Simply put, the level of traffic on highway 97 had become real barrier to animals, especially as the roadway is being expanded to four lanes to accommodate traffic.

The core of the partnership began with agency personnel from ODOT, ODFW and the United States Forest Service (USFS). Two wildlife advocacy organizations, Oregon Wildlife Foundation (OWF) and Protect Animal Migration (PAM) were quickly added. Hunter conservation organizations including the Theodore Roosevelt Conservation Partnership (TRCP), Oregon Hunters Association (OHA), Rocky Mountain Elk Foundation (RMEF) and the Mule Deer Foundation (MDF) soon joined. Our two most recent partners are the Oregon Department of Forestry (ODF) and Coastal Farm and Ranch. Project grants have been received by a number of these organizations plus the Oregon Watershed Enhancement Board and the National Fish and Wildlife Foundation.

Funds to date are listed below:

Organization	Amount $
Rocky Mountain Elk Foundation	20,000.00
Mule Deer Foundation	20,000.00
Oregon Hunters Association	113,500.00
Oregon Wildlife Foundation	75,000.00
US Forest Service - Deschutes NF	30,000.00
Oregon Watershed Enhancement Board	85,000.00
National Fish and Wildlife Foundation	187,069.00
Oregon Department of Fish and Wildlife (Materials Match)	20,000.00
Pittman-Robertson Funds	150,000.00
Total	700,569.00
Fencing Estimate	1,000,000.00
Remaining Funds Needed	299,431.00

Connection to the Oregon Conservation Strategy (OCS).

The project is directly connected to the Oregon Conservation Strategy by maintaining some level of connectivity through the highway 97 corridor's barrier to animal movement between winter and summer range. The Gilchrist underpass is shown in the OCS as an example of ongoing projects and programs to reduce barriers to animal movement across the landscape. The Gilchrist project is included in "TERRESTRIAL ANIMAL MOVEMENT: GOALS AND ACTIONS; ACTION 2.2".

The project is within the East Cascades Ecoregion. The Gilchrist underpass serves to connect winter and summer mule deer ranges. While technically within the East Cascades Ecoregion the underpass also functions as a safe passage link to the Northern Basin and Range Ecoregion. This new safe wildlife passage infrastructure adds a second underpass designed with characteristics similar to the existing Lava Butte underpass, providing barrier free wildlife passage designed for large ungulates while creating opportunity for use by a wide a suite of terrestrial wildlife.

It is apparent additional wildlife passage infrastructure will be needed on the highway 97 corridor. As noted in the OCS, another underpass is scheduled for construction in 2021 near the Sunriver development. Plans are being considered for additional installations as reconstruction of the highway

proceeds. In addition, highway 97 is shown as a wildlife passage action priority in both ODFW's State Action Plan and the Oregon Action Team for Ungulate Migration in response to Secretarial Order 3362 (2018). ODFW's efforts in the Oregon Connectivity Assessment and Mapping Project (OCAMP) and ongoing data collection along with highway collision data from ODOT will help inform the number and locations of future wildlife passage structures. OCAMP and ODOT data will help meet the intent of Oregon HB 2834 (2019) in development of the Oregon Wildlife Corridor Plan.

Project details, Funds transfer and Timeline.

Please Note: OCRF contributions, if approved, will be used exclusively for fencing materials and construction costs. OHA has a project funding agreement in place with ODOT which allows OHA to transfer all OCRF contributed funds to ODOT. There will be no impacts to contributed funds in the transfer process, 100% of contributions will be directed to the project. OCRF will be listed as a partner along with the partnership entities listed previously.

The overall projects plan is directional fencing on 5.5 miles on each side of highway 97 to guide wildlife to the underpass structures, a total of 11 miles. The fencing project was initially planned for fall of 2019, construction delays have resulted in moving the project to fall 2020. ODOT had to fully complete the highway widening and underpass then remove all construction operations prior to allowing a second contractor into the highway right-of-way for fence construction operations. The construction steps simply stated are:

- Surveying, locate and flag the fence lines, clearing trees and brush, and some grubbing of stumps, treatment of cleared vegetation.
- Design fence mark infrastructure locations such as deer guards for installation. Prepare contract for bid, advertise, and administer contract.
- Install fence and all associated infrastructure.
- Inspect, accept and pay for contracting.

Monitoring and media, maintenance.

OHA volunteers form the Bend Chapter have completed regular patrols and maintenance of the directional fencing at the Lava Butte underpass since completion of the passage structure in 2012. Oha will also preform maintenance on the Gilchrist passage with members of the Klamath Chapter assuming the maintenance role. Maintenance of the underpass infrastructure will be conducted under ODOT's regular maintenance schedules.

While not listing specific written and social media to date, there have been press releases, at least three on site video releases, social media posts by ODFW, OHA, TRCP, PEW and others explaining the need for this project and highlighting the success of similar underpasses while emphasizing the need for additional support among the public. Two recent videos showing highway construction completions and the underpass structure plus a recent ODFW press release explaining the NFWF grant are good examples.

Monitoring of animal (and human) use in and around the structure will be done via by on-site cameras. ODOT will continue to monitor and record statistical data on wildlife/vehicle collisions and ODFW data collection on ungulates using the crossing to access connected habitats safely will continue. There are

good opportunities to engage the public and NGO's with the project data collection as a citizen science exercise.

A last note.

Wildlife crossings are difficult to get approved and constructed, Oregon and Oregonians are behind other western states in recognizing and correcting wildlife passage barriers. We are finally waking up to the idea it's not acceptable to see dead wildlife of all forms along our roadways. Each new effort for wildlife habitat connectivity adds to safe wildlife passage recognition in our great state. Given the new safe wildlife passage emphasis coming from wildlife and land management agencies, wildlife advocates, hunter-conservationists, and Oregon's public momentum for change is building. According to a recent poll conducted for The Pew Charitable Trusts, registered voters in Oregon were overwhelmingly in favor of migration corridor conservation and stronger funding for the wildlife bridges and underpasses that allow big game animals to cross busy roadways.

Poll results summarized.
*86% of Oregonians support the implementation of new conservation measures to safeguard wildlife migration corridors.
*88% of Oregonians would like public land managers to maintain open migration corridors so herds can move across public lands unimpeded.
*86% of Oregonians support the installation of additional highway overpasses and underpasses to protect migrating wildlife.
*75% of Oregonians see a need for increased public funding for wildlife crossing structures.
*The Oregon Department of Transportation (ODOT) estimates that there are more than 7,000 wildlife-vehicle collisions in the state. Including medical bills, emergency responder resources, and losses in productivity, the agency suggests these accidents cost more than $44 million in 2018.

OHA and the growing partnership effort to fund fencing for the Gilchrist underpass look forward to your review of this brief proposal with the hope OCRF can join with our partners in directly providing project funds. OCRF participation in funding will be greatly appreciated by the public, our wildlife and the partnership. A true win-win-win scenario for all.

Thank you for your consideration and actions,

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#5 – Monitoring Efforts for Rare Carnivores

Title: Wolverine Tracking Project

Contact person

- Teri Lysak (Cascadia Wild; email: info@cascadiawild.org)
- Sristi Kamal (Defenders of Wildlife: email: skamal@defenders.org)

Lead Organization & Partners involved:

- ***Lead organization***: Cascadia Wild
- ***Partners:*** Defenders of Wildlife; Mt Hood National Forest; Oregon Department of Fish and Wildlife; US Fish and Wildlife Service; Cascades Carnivore Project

Program Priorities met: This project will meet four of the five program priorities:

- ***Priority 1: Promoting the health of Oregon's ecosystems and fish and wildlife species by implementing conservation programs and strategies identified in the Oregon Conservation Strategy, including conservation programs and strategies for the nearshore identified in the marine component of the Oregon Conservation Strategy*** : this project is directly related to the Oregon Conservation Strategy as the target species for monitoring is guided by the Strategy Species List. Additionally, information from the project feeds into the management and conservation actions for the target species
- ***Priority 2: Improving engagement of the public in wildlife watching, hunting and fishing opportunities and in other outdoor recreation opportunities related to and in support of healthy fish, wildlife and habitats***: This is a volunteer driven project that focuses on engaging local communities in wildlife watching and learning to spot evidence of wildlife in nature.
- ***Priority 3: Improving educational outreach and engagement of the public, including diverse and underserved communities, related to and in support of healthy fish, wildlife and habitats:*** The project has predominantly worked with local communities – individuals with no background in science or wildlife conservation. It is a great tool to educate people on the importance of wildlife in an ecosystem and the role of healthy ecosystems in supporting healthy human communities. The project has also actively tried to engage with underserved communities and communities that have been historically excluded from interacting and recreating in nature.
- ***Priority 4: Other conservation, management, research, habitat improvement, enforcement, outdoor recreation or education activities:*** The information, including genetic and biological information, collected in the project is shared with decision making agencies responsible for the management of the natural areas as well as the wildlife species that live in it. Evidence from the project is scientific information on

presence/absence of a species, habitat use and range, habitat suitability for potential new species (such as reintroduction programs) as well as threats to habitat and the species.

Geography/Ecoregion

Mt Hood National Forest Area (East and West Cascades ecoregion)

Connection to OCS

Each year, Cascadia Wild , in collaboration with its partners, identifies target species that the project will monitor from the Oregon Conservation Strategy's Strategy Species and the data is fed back to the partner agencies to be used in management and decision making for the species

Funding Amount Requested (prefer under $10,000)

The request for funds from OCRF is for $9,000

Total Project Cost

The total budget of the project in 2019-2020 was $40,000, which is the same budget planned for does not have any full time staff – the only paid staff are a part-time program coordinator (every year) and a part-time volunteer and outreach coordinator (position and salary based on fund availability). Expenses in the project include part time salary for the program coordinator and the volunteer outreach coordinator, survey supplies and sample processing; new equipment and gear needs, and volunteer events. If awarded, *the funds from OCRF will be used to expand outreach efforts by partially funding the outreach coordinator position as well as any outreach events; and to expand the scope of research and possibly geographic coverage within Mt Hood National Forest by funding survey supplies and processing, and new equipment and gear needs*.

As of 2019-2020 below are the main funding sources with the amount of funds received from each source:

Defenders of Wildlife	$14000
ODFW	$9000
US Forest Service	$5500
Patagonia	$5000
Membership and donations	$4000
Tracking training fees	$2500
Total budget	$40000

Because of COVID-19 crisis and the resulting uncertainty in funding opportunities, the project expects funding cuts and the loss of some funding sources this year.

What will OCRF dollars be spent on

- **On outreach to reach a more diverse audience, especially targeting underserved communities:** The project will hire a part-time outreach coordinator who will help with volunteer recruitment, monitoring and management. Special focus will be to spread the word among underserved communities and communities that have historically lacked the opportunity to interact and engage with wilderness and wildlife
- **Project equipment and research needs**: Funds will also be used to purchase additional gear that will help expand the land area covered by the trail cameras. Additionally, some funds will be directed toward conducting research on gathered biological materials such as hair and scat to make species/sub-species assessments of target species (particularly Sierra Nevada Red Fox)

Timeline

There are two seasons each year: summer (starting around May) and winter (starting around Nov). Trails cameras operate during both seasons, scat surveys during the summer, and snow tracking during the winter. We are hopeful that the funds will be able to support the project starting November 2020 through end of summer season 2021 (September 2021)

Abstract (~200 words)

The Wolverine Tracking Project was launched in 2000 by Cascadia Wild and in 2003 the project entered a formal partnership with the Mt. Hood National Forest to take over their volunteer monitoring efforts for rare carnivores. Defenders of Wildlife became a financial and outreach partner since 2016. As a community science initiative, the project is designed to address two critical needs

a. conduct long-term monitoring of rare carnivores that supports and informs better wildlife conservation and management practices, and
b. connect Oregonians to the wildlife and wild places that make Oregon such a special place to live.

Over the years, the project's success has been significant. 2019-20 saw 225 volunteers, over 4225 volunteer hours, 18 trail cameras, and 212 miles of scat and track surveys. As part of engagement and outreach, we started new working relationships with two organizations that help disadvantaged youth develop job skills. We have also initiated collaboration with RISE (Refugee

and Immigrant Student Empowerment) program to connect high school students with wilderness areas – for most of them, it is their first experience spending time in nature.

The trail cameras have captured important species, including gray wolves (before the White River pack was officially established) and the only recorded evidence of Sierra Nevada red fox in the area (photos from trail cameras). Genetic samples collected by the project have established the distribution of SN red fox in the northern Oregon Cascades. This project therefore provides critical information about habitat use and biological information of the target species to wildlife decision makers.

Reporting/outcome measurement

There will be project report at the end of one project year cycle (that is, a winter and summer season cycle). The report will include the following measurable parameters:

- **In outreach**
  - *Number of outreach events and opportunities*
  - *Number of volunteers/season*
  - *Coordinator position report*
  - *Number of day trips organized for non-regular volunteers (e.g. students)*
  - *Social media engagement and outreach efforts*
- **In research and conservation**
  - *Number of trail cameras set up per season*
  - *Miles of track and scat surveys completed*
  - *Number of biological and genetic samples collected/season*

Other media/information sources on the project

- Project description: https://www.cascadiawild.org/wolverine-tracking-project.html
- Project video by volunteers: https://vimeo.com/332288398
- Media coverage: https://kpic.com/outdoors/new-photos-show-oregons-only-wolves-in-northern-cascades

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#6 – Restoring Sea Otters to the Oregon Coast

Restoring Sea Otters to the Oregon Coast:

A Vision of Thriving Ecosystems, Communities, and Cultural Connections

Contact
Board President, Bob Bailey, bob@elakhaalliance.org. PO Box 704, Siletz, OR 97380.

Lead Organization
The Elakha Alliance

Partners
Coquille Indian Tribe
Confederated Tribes of the Siletz Indians
Oregon Community Foundation
Oregon Chapter of The Wildlife Society
Oregon State University, Department of Fisheries & Wildlife
OSU Port Orford Field Station
Oregon Shores Conservation Coalition
Oregon Wildlife Foundation
Oregon Zoo Foundation
Seattle Aquarium
UC Santa Cruz / USGS Cooperative Research Station
U.S. Fish & Wildlife Service

Program Priorities met
Conservation: 1) Restoration of an iconic native species (extirpated) strongly associated with resilient nearshore ecosystems; 2) promoting the population health of ~20 marine fish species identified in the Oregon Conservation Strategy (See Appendix I.); and 3) supporting the natural resource interests and cultural heritage of an underserved coastal community (Oregon coast tribes).

Recreation: 1) Prospective presence of sea otters on the Oregon coast will improve wildlife watching and fishing (increase in kelp-associated fisheries) opportunities.

Geography/Ecoregion
Oregon Nearshore and Coast Range

Connection to OCS
Sea otters are a keystone species that enhance kelp habitat and associated species, by consuming kelp herbivores such as sea urchins. Oregon's kelp habitat is renowned as a nursery of marine diversity and productivity. The Oregon Conservation Strategy and Nearshore Strategy combined list of marine Strategy Species include 40 fish species, 14 invertebrates, 6 marine mammals, and 4 plant/algae species. Of those approximately 21 fish species, 7 invertebrates, and 3 marine mammals depend on bull kelp

habitat. Thus, 31 of the 65 Strategy Species in the Oregon's nearshore ecosystem depend on kelp (47%), and bull kelp is itself as Strategy Species. Of notable mention are approximately 15 species of rockfish and at least 3 salmonid species, that collectively represent a large percentage of Oregon's commercial and recreational fisheries. Arguably, no other single nearshore marine habitat in Oregon is as ecologically and economically important as kelp habitat, yet few conservation measures are in place to protect it.

As such, the successful reintroduction of sea otters to the Oregon coasts is fundamental to a thriving kelp ecosystem and dozens of associated Strategy Species (See Appendix 1. kelp-associated Strategy Species list).

Funding Amount Requested
$15,000

Total Project Cost
Context of current funding needs:

1. Complete the scientific assessment and public policy analysis necessary to determine the feasibility and impacts of potential methods of restoring and protecting a healthy sea otter population in Oregon.
2. Build regional consensus that a restored, healthy sea otter population is an important goal worth pursuing.

Work to restore sea otters will only begin if Strategic Initiatives 1 and 2 are successful.

Immediate needs for 2020-2021 = $168,000

- $50,000 to complete our Feasibility Study with a robust Economic Impact Assessment. We hope to fund and instigate the Economic Assessment no later than fall 2020.
- $60,000 by early 2021 in order to fully fund the second year of our 2 year public engagement strategy, which we launched in early 2020.
- $20,000 by spring 2021 to cover the planning for and costs of our 2021 Sea Otter Science Symposium (may be virtual), which would bring together sea otter scientists, tribal leaders, and other stakeholders to discuss the information generated by our Feasibility Study and Economic Assessment.
- $38,000 to cover core operational costs for the remainder of 2020 and all of 2021.

What will OCRF dollars be spent on?
Two thirds of the OCRF funds will be spent on the Economic Impact Assessment to bolster our Feasibility Study.

One third of the OCRF funds will be spent on our outreach and public engagement strategy focused on coastal tribal communities and fisheries stakeholders.

Timeline 8/2020-12/2020

Abstract
The Elakha Alliance is a non-profit organization, founded by the late David Hatch, a dynamic cultural leader of the Siletz Tribe, and a passionate conservation advocate. The Elakha Alliance is dedicated to investigating, planning, and implementing the translocation of sea otters (*Enhydra lutris*) to the Oregon Coast. We are seeking funds to complete a plan to assess and design a thoughtful reintroduction of sea otters to Oregon.

Around the globe and in Oregon, a growing body of evidence suggests climate change and its ecological consequences are threatening the persistence of kelp. While the long-term declines in kelp followed the historical loss of sea otters, the recent collapse of the urchin predator, the sunflower sea star (*Pycnopodia helianthoides)*, has resulted in an accelerated loss of kelp, and an expansion of "urchin barrens" in Oregon.

Since time immemorial, sea otters were a key cultural, and material resource for the indigenous tribes of Oregon's coastal region. Furthermore, decades of research demonstrate conclusively that sea otters maintain and increase kelp habitat, due to their persistent predation of kelp herbivores such as sea urchins.

However, some key stakeholders have expressed concerns about the local effects of sea otter restoration on shellfish harvest. Rigorously evaluating and thoughtfully addressing these concerns is a critical step in advancing sea otter and kelp restoration in Oregon.

Reporting/outcome measurement

1. December 2020: Summary of kelp/sea otter education and outreach achievements with Oregon Coast tribal partners
2. June 2021: Feasibility Study Delivered to ODFW and OCRF Committee
3. June 2021: Economic Impact Assessment delivered to ODFW and OCRF Committee

Other media/information sources on the project
To learn more about the Elakha Alliance please visit www.elakhaalliance.org and explore sea otter science, indigenous perspectives, our vision, and plan. Also, explore our podcast archive containing over 10 episodes with leading experts on the ecological and cultural dimensions of sea otters, kelp and other associated marine life.

Appendix 1. Oregon Conservation Strategy, list if Strategy Fish Species Associated with Bull Kelp (Nereocystis luetkeana) at one or more life history stages:

1) black rockfish (*Sebastes melanops*)
2) blue rockfish (*Sebastes mystinus*)
3) brown rockfish (*Sebastes auriculatus*)
4) cabezon (*Scorpaenichthys marmoratus*)
5) canary rockfish (*Sebastes pinniger*)
6) China rockfish (*Sebastes nebulosus*)
7) Chinook salmon (*Oncorhynchus tshawytscha)*
8) chum salmon (*Oncorhynchus keta)*
9) Coho salmon (*Oncorhynchus kisutch)*
10) copper rockfish (*Sebastes caurinus*)
11) deacon rockfish (*Sebastes diaconus*)
12) grass rockfish (*Sebastes rastrelliger*)
13) kelp greenling (*Hexagrammos decagrammus*)
14) lingcod (*Ophiodon elongatus)*
15) pile perch (*Rhacochilus vacca*)
16) quillback rockfish (*Sebastes maliger*)
17) rock greenling (*Hexagrammos lagocephalus*)
18) topsmelt (*Atherinops affinis*)
19) vermillion rockfish (*Sebaste miniatus*)
20) yelloweye rockfish (*Sebastes ruberrimus*)
21) yellowtail rockfish (*Sebastes flavidus*)

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#7 – Northwestern Pond Turtle Habitat Enhancement

- **Title –** Northwestern Pond Turtle Habitat Enhancement

- **Contact person –** Reilly Newman, Projects Coordinator, Coast Fork Willamette Watershed Council, 541-767-9717, reilly@coastfork.org

- **Lead Organization &; Partners involved -** Lead Org: Coast Fork Willamette Watershed Council; and Project Partners: City of Cottage Grove (landowner), Oregon Department of Fish and Wildlife, and US Army Corps of Engineers.

- **Program Priorities met –**

  (1) Promoting the health of Oregon's ecosystems and fish and wildlife species by implementing conservation programs and strategies identified in the Oregon Conservation Strategy, including conservation programs and strategies for the nearshore identified in the marine component of the Oregon Conservation Strategy;

  (2) Improving engagement of the public in wildlife watching, hunting and fishing opportunities and in other outdoor recreation opportunities related to and in support of healthy fish, wildlife and habitats;

  (3) Improving educational outreach and engagement of the public, including diverse and underserved communities, related to and in support of healthy fish, wildlife and habitats; and

  (5) Other conservation, management, research, habitat improvement, enforcement, outdoor recreation or education activities.

- **Geography & Ecoregion** – South Willamette Valley, within the City of Cottage Grove UGB, Row river floodplain, Coast Fork Willamette Watershed.

- **Connection to OCS** - The Oregon Department of Fish and Wildlife has listed the Northwestern Pond Turtle on their Sensitive Species List and it is a OR Conservation Strategy "Strategy Species" within the Willamette Valley ecoregion.
  - **OCS "Big Picture" Recommended Voluntary Actions for Conserving Strategy Species (for Reptiles) addressed in this proposal:**
    - Provide basking structures such as logs or rocks.
    - Maintain and restore off-channel aquatic habitats and grasslands.
    - Maintain and restore nesting areas.
    - Protect important nesting and hibernating sites from human disturbance during critical times.
    - Prevent the introduction of non-native turtles. Control invasive turtles and bullfrogs at priority sites.

- **Funding Amount Requested (prefer under $10,000) -** $6615

- **Total Project Cost -** $8500

- **What will OCRF dollars be spent on** – Project Management ($1500), Live Trapping ($1050), 2 seasons of Yellow Flag Iris & Knotweed Treatment ($1000), Interpretive Sign Design & Manufacturing ($2000), ODFW Scientific Take Permit ($115), Reporting & Monitoring ($350), Indirect Costs ($600).

- **Timeline** – 1 year, September 2020 – 2021

- **Abstract (~200 words)**

This project will enhance Northwestern pond turtle (NWPT) habitat at Row River Nature Park located in Cottage Grove, Oregon and is significant to the conservation efforts of NWPT because the park has a naturally reproducing population that could be sustained for generations if current issues are addressed. As the sole native turtle species found at the park, enhancement of turtle habitat is the most cost effective and ecologically beneficial approach. NWPTs spend much of their lives in water but require terrestrial habitats for nesting. Yellow Flag Iris (YFI) and Japanese knotweed threatens open water and side channels within the pond complex resulting in greatly reduced natural basking and nesting areas, and overall suitability of aquatic habitat. This project proposes to (1) treat 0.25 acres of YFI and 3 patches of knotweed using a 1% imazapyr foliar application in and around the affected ponds (September 20/21) throughout the 56 acre park; (2) Design and install an interpretive sign near a popular walking path (September 2020) to address the lack of public awareness regarding the NWPT, their usage of various habitats, and the lasting effects of releasing non-native "pet" turtles within the park; (3) Live trapping NWPTs and non-native turtles (May/June 2021) with non-native turtles to be removed and transported to the local ODFW office while NWPT's will be marked and scientific data collected then returned to capture location; and (4) work with the City of Cottage Grove to develop site-specific Best Management Practices for maintaining NWPT turtle nesting habitat within park boundaries (September 2020).

- **Reporting/outcome measurement**

The project's success will be measured by (1) an elimination or largely reduced percentage of yellow flag iris and knotweed, and improved aquatic habitat connectivity to be monitored with set photo points; (2) installation of interpretive sign; (3) basking structures (# of logs) installed; (4) one season of non-native turtle trapping completed with OR Scientific Take Permit Report submitted and all data sheets submitted to Springfield ODFW office; (5) final BMP's developed for City of Cottage Grove Public Works Dept for NWPT nesting area maintenance.

- **Other information sources on the project**

Lead Org: Coast Fork Willamette Watershed Council – has a proven track record of successful large scale restoration projects in the Coast Fork Willamette watershed, including a previous enhancement effort at the park. Completed in 2012, the project resulted in 18 acres of native planting, 8 acres of invasive species removal including 1.09 acres of YFI treatment, the creation of three nesting sites, 35 basking logs placed in four ponds, and radio telemetry confirming year-

round turtle use of the park. Since completion, the terrestrial invasive plants have been even further reduced by CFWWC volunteer efforts. In 2017, NWPT presence/absence surveys were completed. In 2018 and 2019, the Council worked with ODFW to conduct turtle trapping and data collection in the park.

Project Partners: City of Cottage Grove (landowner) –City staff will participate in development of BMP's for maintaining turtle nesting habitat. Public Works staff will maintain turtle nesting habitat by timed mowing, and review and install interpretive sign. Will fund YFI and knotweed treatment following the completion of this proposed project.

Oregon Department of Fish and Wildlife – Springfield ODFW Wildlife staff will participate in live trap placement and review of methods prior to trapping, will receive non-native turtles, will provide data collection sheets and equipment for data collection, review of the City's BMP's.

US Army Corps of Engineers – will provide turtle traps.

- **Media/ Outreach:** The Coast Fork Willamette Watershed Council will share this work with our ~1700 subscribers in our monthly eNewsletter. When we can begin again (Currently suspended due to COVID-19), information related to this project will be shared at our monthly Science on Tap event, attendance is ~75 people. Information will also be shared on our social media accounts including the 'Rivers to Ridges Partnership' Facebook page.

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#8 – Powder Basin Watershed Council Beaver Educational Materials

Powder Basin Watershed Council

2034 Auburn Ave., Ste. B
Baker City, Oregon 97814
(541) 523-7288

June 8, 2020

Dear Oregon Recreation and Conservation Fund,

Below is the information that was requested regarding our funds request:

Organization: Powder Basin Watershed Council

Contact information: Christo Morris, Executive Director, 2034 Auburn Ave, Ste. B, Baker City, OR 97814, (541) 523-7288, pbwced@qwestoffice.net

501c 3 status: Registered as a 501(c)3 non-profit

Amount requested: $3,000

What dollars would be used for (brief description only): These funds would be used to provide educational materials to the general public regarding the benefits of beaver activity to the health of a watershed. In particular, we will be focusing on their ability to store and hold water in the watershed to increase summer stream flow. This is considered the most economical and efficient way to mitigate effects from climate change. We will be using a combination of pamphlets distributed to the public, presentations to the public, newsletter articles delivered to about 4,000 households in the community and field tours to highlight areas where beaver have benefited a watershed.

Any existing partners (list): ODFW has expressed interest in supporting this effort, but has been unwilling to commit funds due to the current budget uncertainties. Ducks Unlimited and the USFS have also both expressed interest in providing a letter of support for this project.

Amount and type of public involvement if any? In addition to being at the receiving end of an educational campaign, our plan is to include the public in the educational process by recruiting landowners to host demonstration projects that highlight some of the technology that has been developed to mitigate beaver damage. This is based on the understanding that innovation in rural communities is often passed between peers. By showing that a neighbor has used the technology

and that is has been effective at reducing beaver damage, there is a much higher likelihood that it will be adopted.

Sincerely,

Christo Morris

Executive Director

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#9 – Applegate Northwestern Pond Turtle Habitat Restoration Project

APPLEGATE NORTHWESTERN POND TURTLE HABITAT RESTORATION PROJECT

CONTACT PERSONS

Susan Applegate
Landowner – Applegate Pond
541-391-1285
susapple54@gmail.com

Lee Russell
Chairman – North Douglas Betterment
541-836-7206
541-784-8058 (cell)
russell.leland@gmail.com

Jade Keehn
Biologist – Oregon Dept of Fish and Wildlife
541-826-8774 x 232
541-670- 3277 (cell)
jade.e.keehn@state.or.us

ABSTRACT

The Applegate Northwestern Pond Turtle Habitat Restoration Project is a collaborative effort between ODFW, Umpqua Community College, and North Douglas Betterment. The project goal is to improve habitat for northwestern pond turtles at a private pond in the Umpqua Watershed near Yoncalla, OR. We request funding for the restoration component of our project which addresses deficiencies in basking, nesting, and foraging habitats in the 5-acre pond area. Basking improvements include placement and anchoring of log structures in the pond; nesting improvements include microsite soil amendments and vegetation control measures; and foraging improvements will consist of aquatic and emergent vegetation plantings. In addition to our request for funding through OCRF, partners are in-review for additional funding to support hand removal and pond draining efforts to eliminate non-native species (bullfrogs, bass, and nutria) that prey on juvenile turtles or compete with turtles for food. Removal efforts will also control invasive bryozoans, which are a host for a parasite that causes kidney disease in salmonids. Expected outcomes include increased use of pond features by native turtles and other wildlife, and enhanced awareness of wildlife resource values in the community through implementation and monitoring projects that involve local biology students and volunteers.

LEAD ORGANIZATION & PARTNERS INVOLVED

The project will be administered through a local non-profit, the North Douglas Betterment (501(c)(3), EIN 26-1739404). The mission of this organization is to contribute to the quality of life in North Douglas County. Current projects include the development of an 80-acre wetland mitigation bank in Yoncalla, OR with opportunities to restore wildlife habitat for northwestern pond turtles and other species. The Applegate Northwestern Pond Turtle Habitat Restoration Project ("Applegate Project") fits within the objectives of this organization because it addresses public-trust resource needs by restoring habitat for sensitive wildlife species while reducing potential threats to salmon-bearing streams which are critical biological and economic resources for the local community. Project activities will provide educational opportunities for local students, and engage volunteers to help implement restoration goals. Funding will also supporting local contractors who will implement restoration actions.

The project proponent, Susan Applegate, is a highly motivated landowner who is passionate about the critical role of private landowners in successful wildlife conservation. Susan owns and manages a ranch east of Yoncalla which includes the Applegate Wildlife Pond, a 2-acre pond inside a 5-acre fenced area which supports a variety of wildlife species including northwestern pond turtles, northern red-legged frogs, beavers, migratory songbirds, and waterfowl. She is involved with planning, project development, coordination, and implementation. Susan has prior experience with using grants to achieve successful wildlife habitat restoration in partnership with county, state, and federal partners.

Cindy Haws is an Assistant Professor of Science at the Umpqua Community College. As an educator, Cindy has experience with outreach and community engagement, and her participation in this project will include recruitment of local science students and groups who will participate in restoration and monitoring activities. Cindy assisted with project design and will supervise implementation and monitoring of project objectives related to northwestern pond turtle nesting habitat improvements.

Jade Keehn is the Wildlife Conservation Biologist for southwestern Oregon. Jade assisted with planning and technical assistance, and will help with implementation and monitoring for project activities involving wildlife handling. Jade is an experienced herpetologist and will also advise on project activities affecting northwestern pond turtles.

Lee Russel is the Chairman of the North Douglas Betterment organization, as well as the Executive Director of the Elk Creek Watershed Council. Lee will assist with grant administration, project planning, technical assistance, contracting, and implementation.

Name	Organization	Primary Roles	Address	Phone/Email
Susan Applegate	Landowner	Coordination, Implementation, Monitoring	4739 Elkhead Rd, Yoncalla OR 97499	Susapple54@gmail.com 541-391-1285
Cindy Haws	Umpqua Community College	Outreach, Volunteer Recruitment, Technical Support	1140 Umpqua College Rd, Roseburg OR 97470	Cindy.haws@umpqua.edu 541-863-7375
Jade Keehn	Oregon Dept. of Fish and Wildlife	Technical Support, Implementation, Monitoring	1495 E Gregory Rd, Central Point OR 97502	Jade.e.keehn@state.or.us 541-670-3277
Lee Russell	North Douglas Betterment	Grant Administration, Technical Support, Implementation	P.O Box 540 Yoncalla OR 97499	Russell.leland@gmail.com 541-784-8058

Program Priorities Met

This project will target the OCRF short-term prospect of "western pond turtle community science and nesting habitat creation." We will address the following OCRF program priorities:

- Habitat restoration and improving habitat connectivity related to implementing the recommendations in the Oregon Conservation Strategy and evolving science; and

- Science, research, and monitoring directly related to implementing the recommendations in the Oregon Conservation Strategy, especially through community science activities.

GEOGRAPHY/ECOREGION

The Applegate Pond is in Scotts Valley, east of Yoncalla, Oregon. Scotts Valley is at the intersection of the Klamath Mountains, West Cascades, and Willamette Valley Ecoregions. The restoration site is listed as Klamath Mountains Ecoregion in Flowing Water and Riparian and Wetlands Strategy Habitat.

CONNECTION TO OCS

The Applegate Pond is adjacent to Elk Creek which flows from its eastern headwaters through the Scotts Valley. As a tributary to the Umpqua River, Elk Creek provides critical habitat for Chinook salmon, steelhead, and the endangered coho salmon (OCS Strategy Fish Species). Project actions to control and eliminate non-native species (One of the Oregon's 7 Key Conservation Issues) will help to protect the biological integrity of Elk Creek. Habitat restoration actions will also benefit waterfowl, migratory songbirds, and may improve habitat for northern red-legged frogs (OCS Strategy Amphibian Species).

The primary goal for our project is to restore habitat for the northwestern pond turtle. As one of 5 Strategy Reptile Species in the Oregon Conservation Strategy, northwestern pond turtles are vulnerable to habitat loss and alteration at nesting sites, road mortality, predation, and competition with invasive turtles. By implementing our project, we will address the following Conservation Actions identified for this species in the OCS:

- Provide basking structures and nesting habitat,
- Control invasive plants and animals, and
- Implement ODFW's Turtle Best Management Practices.

By working with Susan Applegate to develop this restoration project, we're also navigated through some of the challenges that limit successful conservation action on private lands. Numerous barriers to private landowner engagement with conservation are identified under Key Conservation Issues in the OCS, and our project demonstrates the importance of collaborative projects that create meaningful relationships to better facilitate conservation action on private lands.

FUNDING AMOUNT REQUESTED

Partners are requesting $4,090 to fund turtle habitat restoration work. The cost of turtle habitat restoration is $5,989, including $1,899 (32%) in-kind match, not including in-kind time on project development and coordination.

TOTAL PROJECT COST

Northwestern pond turtle habitat restoration is one objective in a larger project including invasive species removal ($29,810) and additional monitoring of project outcomes ($9,100) for a total project cost of $36,744. A grant application for the full project (Table 2) has been submitted to the Yoncalla Spill Fund; if awarded, the grant would be administered through the Elk Creek Watershed Council or the North Douglas Betterment organization. Elk Creek Watershed Council will review the project proposal in

July of 2020, and the Yoncalla Spill Fund will review the project during their next coordination meeting. In the event that we are not awarded Yoncalla Spill funding, project components through OCRF are ready to implement. Partners will still be able to implement monitoring and outreach activities through volunteers and in-kind contributions.

Table 1. Estimated costs for OCRF grant activities. See Table 2 for total costs of the Applegate Project.

Itemize projected costs under each of the following categories:	**Units**	**Unit Number**	**Unit Cost**	**OCRF Request**	**In-Kind Match**	**Total Costs**
CONTRACTED SERVICES. Labor, supplies, and materials to be provided for implementation.						
Spray Turtle Nesting Area (Landowner)	Hr.	8	$ 45.00		$ 360.00	$ 360.00
Construct Turtle Nesting Area	Hr.	16	$ 45.00	$ 720.00		$ 720.00
Excavator (with Operator)	Hr.	8	$ 100.00	$ 800.00		$ 800.00
Re-seed Turtle Nesting Area	Hr.	6	$ 45.00		$ 270.00	$ 270.00
Construct and Install Basking Logs	Hr.	16	$ 45.00	$ 720.00		$ 720.00
Planting Turtle Forage Species	Hr.	16	$ 45.00	$ 720.00		$ 720.00
SUBTOTAL (Contracted Services):				$ 2,960.00	$ 630.00	$ 3,590.00
MATERIALS/SUPPLIES. Refers to items that are "used up" in the course of the project. Costs must be directly related to the implementation of this grant.						
Herbicide for Turtle Nesting Area	Gal.	1	$ 60.00		$ 60.00	$ 60.00
Amphibian Funnel Traps	Each	10	$ 15.00	$ 150.00		
Rock (delivered)	10 yds.	1	$ 300.00	$ 300.00		$ 300.00
Native Grass Seed	Lbs.	2	$ 40.00	$ 80.00		$ 80.00
Water Plants	Each	300	$ 0.80	$ 240.00		$ 240.00
Seeds (Pollinators)	Various	1	$ 200.00	$ 200.00		$ 200.00
Hardware for Basking Log Anchors	Each	4	$ 40.00	$ 160.00		$ 160.00
Basking Logs	Each	16	$ 50.00		$ 800.00	$ 800.00
SUBTOTAL (Material & Supplies):				$ 1,130.00	$ 860.00	$ 1,990.00
TOTAL DIRECT COSTS:				$ 4,090.00	$ 1,490.00	$ 5,580.00
INDIRECT COSTS. 10% Federal *de minimus*.						
North Douglas Betterment					$ 409.00	
SUBTOTAL (Indirect costs):				$ -	$ 409.00	$ 409.00
TOTAL PROJECT COSTS:				$ 4,090.00	$ 1,899.00	$ 5,989.00

WHAT WILL OCRF DOLLARS BE SPENT ON

OCRF funds will be used to meet nesting habitat improvement objectives for the Applegate Project. This includes excavating and constructing 10 to 12 improved micro-nesting sites, placement of four log basking structures, and foraging and upland plantings for turtles and other native wildlife. Additional grants have been submitted to request full project funding (see Table 2).

TIMELINE

Nesting habitat work (spraying, micro-site soil amendments, basking structure placement) will be done in late September through October of 2020. Partners will recruit volunteers to assist with implementation, to include students in the UNLSH program (https://umpquascience.org/) as well as individuals and other volunteer groups. If funding is awarded through additional grants, we will also begin efforts to eliminate invasive species (netting bryozoans, draining the pond to eliminate bullfrogs, bass, and nutria) in mid- to late July, extending into early September. Planting of native species to expand food supplies for pond turtles will be completed later in the fall.

In spring of 2021 and 2022, we will monitor turtle nesting habitat use by setting up game cameras. Plantings will be monitored with repeat-visit photo points annually. In late spring thorough early summer, we will work with Umpqua Community College to implement a "field day" that will teach students about restoration ecology and allow for hands-on participation with monitor efforts for hatchling turtles, bullfrogs, and native amphibians. This information will be part of the final monitoring report. In 2021, we will also create a restoration-themed post for ODFW's Conservation Instagram to share project outcomes with a broader audience.

REPORTING/OUTCOME MEASUREMENT

A monitoring report will be submitted in 2022 documenting baseline and post-project results. However, we would be happy to provide preliminary reports or project demonstration visits on request. Additional information on project monitoring and reporting is provided in the full project proposal.

The following metrics have been identified for measuring project outcomes:

Western Pond Turtle Nesting Habitat: Documented juvenile pond turtles during post-implementation pond trapping; documented female turtles or turtle nests within the nesting area (monitored with a game camera); reduced invasive vegetation cover relative to pre-implementation (photo points).

Western Pond Turtle Basking Habitat: Documented use of new basking structures during incidental monitoring from March through September; increased maximum basking activity (>7 turtles per observation).

Western Pond Turtle Forage Species: Documented native wildlife use of planted sites (migratory birds, beavers, turtles, frogs); >50% survival of planted nursery plugs after Year 3; established populations of seeded plants.

Community Engagement and Project Monitoring: > 3 volunteers recruited; > 40 volunteer hours contributed; ODFW social media post completed; > 10 students participate in monitoring field excursion.

Other Media/ Information Sources on the Project

Table 2. Itemized budget of total project costs (excluding in-kind project development and coordination contributions). Project items associated with OCRF grant are listed in green.

APPLEGATE NORTHWESTERN POND TURTLE HABITAT RESTORATION PROJECT

PROJECT BUDGET

Itemize projected costs under each of the following categories:	**Units**	**Unit Number**	**Unit Cost**	**OCRF Funds**	**Project Match**	**Match Source[a]**	**Total Costs**
CONTRACTED SERVICES. Labor, supplies, and materials for project implementation.							
Collect & Destroy Bryozoan Colonies[1]	Hr.	54	$ 45.00		$ 1,620.00	Yoncalla Spill Fund	$ 2,430.00
					$ 810.00	In-Kind	
Pump Pond[2]	Hr.	128	$ 45.00		$5,760.00	Yoncalla Spill Fund	$ 5,760.00
Capture & Destroy Invasive Species[3]	Hr.	180	$ 45.00		$ 5,400.00	Yoncalla Spill Fund	$ 8,100.00
					$ 2,700.00	In-Kind	
Net & Destroy Remaining Fish & Invasives[4]	Hr.	32	$ 45.00		$ 1,440.00	Yoncalla Spill Fund	$ 1,440.00
Spray Turtle Nesting Area (Landowner)	Hr.	8	$ 45.00		$ 360.00	In-Kind	$ 360.00
Construct Turtle Nesting Area[5]	Hr.	16	$ 45.00	$ 720.00			$ 720.00
Excavator (with Operator)	Hr.	8	$ 100.00	$ 800.00			$ 800.00
Re-seed Turtle Nesting Area	Hr.	6	$ 45.00		$ 270.00	In-Kind	$ 270.00
Construct and Install Basking Logs[6]	Hr.	16	$ 45.00	$ 720.00			$ 720.00
Planting Turtle Forage Species[7]	Hr.	16	$ 45.00	$ 720.00			$ 720.00
Monitoring Species[8]	Hr.	192	$ 45.00		$ 8,640.00	Yoncalla Spill Fund	$ 8,640.00

SUBTOTAL (Contracted Services):				$ 2,960.00	$ 27,000.00		$ 29,960.00
TRAVEL. Mileage, per diem, lodging, etc. Must use current State of Oregon rates.							
Implementation and Monitoring[9]					$ 460.00	In-Kind	$ 460.00
SUBTOTAL (Travel):				$ -	$ 460.00		$ 460.00
MATERIALS/SUPPLIES. Refers to items that are "used up" in the course of the project. Costs must be directly related to the implementation of this grant.							
Herbicide for Turtle Nesting Area	Gal.	1	$ 60.00		$ 60.00	In-Kind	$ 60.00
Amphibian Funnel Traps	Each	10	$ 15.00	$ 150.00			$150.00
Geotech Filter Fabric	Roll	1	$1,015.00		$ 1,015.00	Yoncalla Spill Fund	$ 1,015.00
Polyethylene Ground Cloth	Roll	1	$ 115.00		$ 115.00	Yoncalla Spill Fund	$ 115.00
Straw Bales	Each	30	$ 10.00		$ 300.00	Yoncalla Spill Fund	$ 300.00
Rock (delivered)	10 yds.	1	$ 300.00	$ 300.00			$ 300.00
Capture Nets: (2)	Each	2	$ 30.00		$ 60.00	Yoncalla Spill Fund	$ 60.00
Native Grass Seed	Lbs.	2	$ 40.00	$ 80.00			$ 80.00
Water Plants	Each	300	$ 0.80	$ 240.00			$ 240.00
Seeds (Pollinators)	Various	1	$ 200.00	$ 200.00			$ 200.00
Hardware for Basking Log Anchors[10]	Each	4	$ 40.00	$ 160.00			$ 160.00
Basking Logs[11]	Each	16	$ 50.00		$ 800.00	In-Kind	$ 800.00
SUBTOTAL (Material & Supplies):				$ 1,130.00	$ 2,350.00		$ 3,330.00
TOTAL DIRECT COSTS:				$ 4,090.00	$29,810.00		$ 33,750.00
INDIRECT COSTS. 10% Federal *de minimus*.							
OCRF Grant Administration					$ 409.00	In-Kind from North Douglas Betterment	$ 409.00

Yoncalla Spill Fund Grant Administration					$ 2,435.00	Granted to Elk Creek Watershed Council	$ 2,435.00
SUBTOTAL (Indirect costs):				$ -	$ 2,829.00		$ 2,829.00
TOTAL PROJECT COSTS:				$ 4,090.00 (11%)	$32,654.00 (89%)		$ 36,744.00

Notes:

(1) Bryozoans - 3-Person crew; 3 times @ 6 hrs.
(2) Pumping - 2-Person crew; 8 days @ 8 hrs.
(3) Invasive Species - 3-Person crew; 5 days @ 8 hrs.
(4) Fish & Invasives - 2-Person crew; 2 days @ 8 hrs.
(5) Nesting Area - 2-Person crew; 1 day @ 8 hrs.
(6) Basking Logs - 2-Person crew; 1 day @ 8 hrs.
(7) 2-Person crew; 1 day @ 8 hrs.
(8) Monitoring - 2-Person crew; 1 day @ 8 hrs. (12 times)
(9) Travel - 6 trips x 250 mi @ 0.17/mi, 6 trips x 60 mi @ 0.57/mi
(10) Pier blocks; cable; clamps; 4 structures @ $40.
(11) 4 Structures @ 4 logs @ $50.
(a) Yoncalla Spill Fund - Submitted, In Review; Elk Creek Watershed Council - Submitted, In Review

Full Project Narrative

Background

The Applegate Wildlife Pond is located in Scotts Valley, which was once an extensive pre-settlement wetland. In 1974, Frederick Applegate excavated the naturally occurring wetland and vernal pools to create a 2-acre, 30 foot deep watering and irrigation pond. By capturing rainfall and groundwater, the pond allowed for irrigation during even the driest months.

In 1991, Frederick's daughter Susan Applegate expanded the pond to include an island and shallow wading area for waterfowl. The pond was fenced to exclude livestock and repurposed to provide habitat for a variety of wildlife. The approximately 5-acre fenced area includes a corridor for the overflow from the pond to Elk Creek running 400 feet to the west. Today, the pond is home to diverse wildlife including beaver, wood ducks, migratory ducks, Canada geese, chorus frogs, kingfisher, herons, hawks, and redwing blackbirds.

In 2010, the antiquated water pipe installed in the 1970's by Frederick Applegate that transported water from uphill springs into the pond was replaced by new pipe and a better water capturing process. Today, water enters the pond during the wet season from three springs upland and east of the pond, with one piped source contributing water throughout the year.

Since the 1990's, the pond has been a documented home to northwestern pond turtles. Turtles have been observed frequently at this pond, with up to seven adults basking at a time (documented in 2013). While the pond supports a few areas suitable for basking behavior, additional basking structures are needed to support the current population. Within the cattle exclosure protecting the pond, nesting habitat for northwestern pond turtle is present on the east shore on a gentle southwest-facing slope. The area has no canopy cover and direct sunlight to support thermal conditions necessary for turtle nesting. Current soils is well-drained and comprised of a mix of gravel and clay, which may not be adequate for nest excavation by gravid females. The area has also been recently invaded by bindweed and other annual forbs, and is in need of maintenance to allow for adequate soil exposure.

Despite the consistent use of the pond by adult turtles, there are a number of risks to the local population. Documented invasive species that may affect pond turtles include American bullfrogs (*Lithobates catesbeianus*) and largemouth bass (*Micropterus salmonoides*) which prey on young pond turtles and other smaller sensitive amphibians such as red-legged and yellow-legged frogs. Nutria (*Myocastor coypus*) have also been documented and will compete for forage with northwestern pond turtles, waterfowl, and beaver. As an invasive species, nutria have few predators and can easily decimate aquatic emergent forage to the detriment of native species.

In the late 2010's, surveyors from BLM documented the magnificent bryozoan (*Pectinatella magnifica*) in the Applegate Wildlife Pond. Bryozoans are a colonial fresh-water invasive native to Asia; they may carry a parasite which affects organ function in salmonids, often with fatal outcomes. Keeping the bryozoan out of Elk Creek is critical to protecting the survival of coho and steelhead populations in Elk Creek Watershed. Because dispersing statoblasts (asexually produced bud cells) can survive in dry conditions for long periods of time, it's important that control efforts address both the colonial adults and any soil or water that may be contaminated by statoblasts.

Over the course of three years, this project aims to improve habitat for northwestern pond turtles and other native wildlife by eliminating large-mouth bass and nutria, and controlling bullfrogs and bryozoans. Habitat enhancement projects will increase the suitability of the Applegate Wildlife Pond for native turtles through improvements to nesting, foraging, and basking habitat. All habitat improvements will follow standard protocols established in ODFW's BMP for Native Turtles. Expected outcomes include increased use of pond features by native turtles and other wildlife (beavers, birds, amphibians, etc.). By involving local community organizations and students in implementation, this project will also enhance awareness of natural resource values.

Project Location

The Elk Creek Watershed, located in the Umpqua Basin, is an 187,000 acre fifth-field hydrologic unit in northern Douglas County. Elk Creek is a tributary to the Umpqua River, flowing from head walls some six miles upstream east to its confluence near the town of Elkton. Elk Creek runs the width of Scotts Valley, near the town of Yoncalla. It is a large valley, rimmed by mountains and fed by numerous smaller tributaries. The valley historically supported coho and Chinook salmon, steelhead, and several species of lamprey. See Figure 1 for an aerial image of the project site.

Project Objectives

A. Invasive Species Removal

- Eliminate or control non-native species that either prey directly upon northwestern pond turtles and their young, or compete with turtles for available food. Target species are bullfrogs, large-mouth bass, and nutria.
- Control magnificent bryozoans, (*Pectinatella magnifica*) that might enter nearby Elk Creek. These Bryozoans harbor a parasite that can be lethal to young Salmonids, and could affect coho salmon populations in the Elk Creek Watershed.

B – D. Improvement of Western Pond Turtle Basking, Nesting, and Foraging Habitat

- Place log structures in the pond to encourage basking behavior
- Develop nesting habitat including suitable vegetation and soil conditions.
- Plant vegetation to improve forage and to develop hiding cover, providing additional support to native pond wildlife and pollinators.

E. Community Engagement and Project Monitoring

- Implement a monitoring program to measure restoration objectives, and involve students in monitoring and implementation.

Project Implementation Narrative

A. Invasive Species Removal

Capture and elimination of invasive species will be completed by the landowner, local contractors, and volunteers. In consultation with USFWS and USGS, we established that bryozoan removal can occur any time after water temperatures in the pond are warm enough to support colonies (mid-April to mid-September). Bryozoan colonies will be collected at least once before initiating pond draining and again during the draining. They will be netted from a small boat or canoe, placed in containment areas, and treated with a pesticide solution (the specific formula will be selected in consultation with bryozoan experts at the USGS).

To eliminate bullfrogs, bass, and nutria, we will start by redirecting spring water that currently flows into the pond using existing water management infrastructure. This will help to reduce the volume of water entering the pond over the course of the draining project. Starting in early September, two gasoline powered trash pumps with 3" diameter inlet and outlet hoses will be used to drain the pond. Because the pond is below groundwater level, it's unlikely that the entire pond will be drained and additional monitoring will be needed to ensure that all invasive species are removed from the remnant pool.

During pumping, any organisms that are able to pass through the pump will be captured at the affluent end as it dumps onto a raised geo-textile cloth to prevent statoblast-contaminated water from washing directly onto the pasture. The geo-textile fabric will allow water to pass through but will filter out any statoblasts within the sediment or water column. Any contaminated material will also be treated with a pesticide to reduce the risk of further bryozoan spread.

Nutria will be eliminated using a .22 caliber firearm as they emerge from the receding pond waters. Bullfrogs will be removed through hand-nets, gigging, or spotlighting. Any captured frogs will be humanely euthanized using a ventral application of Oracle, as recommended in the ODFW Bullfrog Factsheet. All participants will be educated on identification of native frogs and mammals to ensure that no other species are affected during removal efforts.

Large-mouth bass will be confined to the receding as water is pumped out. Bass will be removed with nets and euthanized. There are no native fish in the pond; however, biologists will be onsite to ensure that all fish removed are identified appropriately.

During the pumping process, turtles will most likely be in estivation as August and September are the hottest months of the year. Any turtles encountered in upland estivation sites will be documented so that they can be avoided during project activities (e.g. planting). Biologists will be on-site during the pumping process to ensure that any turtles estivating under the pond are safely relocated into suitable habitat within Susan Applegate's ownership. The Applegate Wildlife Pond is adjacent Elk Creek and will provide suitable habitat for displaced riparian wildlife during pond draining.

The project budget includes funding to support a second pond draining the following autumn. A second year of draining may be more effective at interrupting life cycles of bullfrogs; additionally, it will allow for the project partners to review monitoring outcomes from Year 1 and make any protocol modifications necessary to ensure that remaining invasive issues are adequately addressed.

B. Improvement of Western Pond Turtle Nesting Habitat

Nesting habitat will be improved by treating vegetation and augmenting soil microsites. Bindweed, annual grasses and other unsuitable ground cover will be controlled with a fall application of herbicide. To address the inadequate nesting substrate, we will use an excavator to dig approximately 10 to 12

shallow holes (3 to 4' diameter x 1' to 2' deep) within the 0.58 acre nesting area. These will be filled with an amended mix of fine clay (<25%), loam (25%), sand (25-50%), and small aggregate (<25%). Remaining aggregate will be placed around the nesting site to help control invasive weeds. Perennial bunchgrass will also be planted around the nesting site boundary to help reduce the visibility of the nesting area to predators.

C. Improvement of Western Pond Turtle Basking Habitat

Four basking structures comprised of cedar and fir logs fitted with a cement anchor will be constructed and placed in the pond to allow for additional turtle basking opportunities. Two structures will be placed in the main pond and an additional two structures will be placed in the channel near the nesting area.

D. Planting of Western Pond Turtle Forage Species

The following forage plants will be purchased and planted in the fall to improve both aquatic and upland (non-nesting) foraging opportunities for local wildlife. Upland forage will help combat invasive plants which can impede turtle movements, while also providing benefits for local pollinators.

- Wetland: arrowhead (*Sagittarius latifolia*), water plantain (*Alissa*), wocus lily (*Nuphar polysepalem*), floating pondweed (*Potamgeton nathans*), cattail (*Typha latifolia*), softstem bullrush (*Sirpus tabernaemontani*), and native willow (*Salix* sp.)
- Upland: yarrow (*Achillea millefolium*), diamond clarkia (*Clarkia rhomboids*) spring madia (*Madia elegans*), large-flowered collomia (*Collomia grandiflora*), slender cinquefoil (*Potentilla gracilis*), Hall's aster (*Symphyotrichum hallii*), native mallow (*Sidalcea* sp.), milkweed (*Asclepius grandiflora*), Roemer's fescue (*Festuca roemeri*), and Lemmon's needlegrass (*Achnatherum lemmonii*)

E. Community Engagement and Project Monitoring

Community engagement will be an important tool to help with implementation and monitoring objectives. During implementation, Cindy Haws will work with the Umpqua Natural Leadership Science Hub to create a hands-on learning opportunity for local student volunteers during implementation of activities A through D. Additional volunteers will be recruited through Elk Creek Watershed Council, Umpqua Community College, Yoncalla High School, Oregon Backcountry Hunters and Anglers, and ODFW's volunteer opportunities website.

Monitoring will be implemented by the landowner, project partners, and volunteers for 3 years after the initiation of the project. Photo points will be established to monitor changes in vegetation over time, game cameras will be installed to monitor the turtle nesting area, and target native and invasive wildlife surveys will establish pre-treatment conditions and post-treatment response.

Students will also be involved with northwestern pond turtle and bullfrog monitoring objectives. During spring of 2020 and 2021, students will visit the pond for a field day to learn about restoration monitoring and reptile and amphibian capture techniques. Funnel traps will be used to collect turtles and amphibians, which will inform monitoring results for outcome reporting (number of hatchlings captured, number of bullfrogs and other native amphibians trapped).

Project implementation and monitoring activities will be shared in a social media post through ODFW's Conservation Instagram to communicate project outcomes with a broader audience. Partners will also generate a monitoring report which will including the following success metrics:

A. Invasive Species Removal: Decline in number of bryozoan colonies in Years 3 and 2 relative to Year 1 and pre-implementation; Fewer bullfrogs encountered in Year 2 than Year 1 or pre-implementation; Fewer bass encountered in Year 2 than Year 1 or pre-implementation; no new nutria tunnels documented; no bryozoans documented in Elk Creek.

B. Improvement of Western Pond Turtle Nesting Habitat: Documentation of juvenile pond turtles during post-implementation trapping effort; documentation of female turtles or turtle nests within the nesting area (monitored with a game camera); reduced invasive vegetation cover relative to pre-implementation (photo points).

C. Improvement of Western Pond Turtle Basking Habitat: Documented use of new basking structures during incidental monitoring from March through September, increased maximum basking activity (>7 turtles per observation).

D. Planting of Western Pond Turtle Forage Species: Documented native wildlife use of planted sites (migratory birds, beavers, turtles, frogs); > 50% survival of planted plugs after year 3; establishment of seeded plants.

E. Community Engagement and Project Monitoring: > 3 volunteers recruited; > 40 volunteer hours contributed; ODFW social media post completed; > 10 students participate in monitoring field excursion.

Project Timeline:

2020 July - August: Set up bryozoan collection area including geo-textile statoblast filter and pumps. Net and collect bryozoans; contain and apply eradication treatment.

July - October: Spray turtle nesting area to remove invasive vegetation.

July - September: Document turtle use of the project area and record any invasive species observed and total bryozoan colony density. Set up photo-points for the pond and nesting area.

September - October: Divert water coming into the pond into the overflow channel at the northwest end of the pond and pump out the pond. ODFW onsite to relocate native wildlife as needed. Coordinate volunteers to eliminate nutria and bullfrogs. Document invasive populations and capture and euthanize large-mouth bass. Place basking logs with cabled anchors into the pond area. Plant water plants in the drained area of the pond. Plant seeds in nesting area.

October: Begin refilling the pond.

2021 March – July: Document use of basking logs and turtle nesting area. Conduct a "field day" with UCC to trap turtles and demonstrate principles in restoration ecology. Complete ODFW Instagram post.

July – October: Spot-treatment of invasive plants as needed. Re-drain pond and address any residual invasive populations. Document conditions and report on outcomes.

2022 March – October: Continue to monitor, conduct outreach, and report on results.

Key References:

Oregon Department of Fish and Wildlife. 2015. Guidance for Conserving Oregon's Native Turtles including Best Management Practices. Accessed 7-13-20, https://www.dfw.state.or.us/wildlife/living_with/docs/ODFW_Turtle_BMPs_March_2015.pdf

Oregon Department of Fish and Wildlife. Bullfrog Invasive Species Fact Sheet. Accessed 7-13-2020, https://www.dfw.state.or.us/conservationstrategy/invasive_species/docs/bullfrog_fact_sheet.pdf

Project Map:

Figure 1. Map of project features.

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#10 – PIT Tagged Juvenile NW Pond Turtles to Determine Effectiveness of Small Woody Debris

NORTHWEST ECOLOGICAL RESEARCH INSTITUTE
NERI
130 NW 114th Ave.
Portland, OR 97229

Contact: James Holley
(503) 320-5544
jamespholley@gmail.com

13 July 2020

PIT Tagged Juvenile NW Pond Turtles to Determine Effectiveness of Small Woody Debris Habitat

Northwestern pond turtles (NWPT, *Actinemys marmorata)* are listed as a species of concern in the Oregon Conservation Strategy. Juvenile age classes of turtles are highly vulnerable to depredation and have been identified as a key limiting factor in native turtle population recruitment. These creatures are difficult to study due to the small size of young turtles and their elusive lifestyles. The small animals are wise to remain hidden as the survival rates for 1-3 year old animals are estimated to be between 8-67% per year (Parrott & Logan 2010). Ideal features of juvenile habitat are calm, shallow water with relatively dense aquatic vegetation and small woody debris for them to easily emerge to bask, and, just as easily, abscond to the safety of complexity in shallow water. This habitat has largely been lost in much of the Tualatin River Basin primarily due to habitat loss via channelization of the river for flood control and agriculture.

Commented [CC1]: Is that correct?

Commented [J2R1]: Yes. Northwestern

In 2019, turtle nesting surveys were performed throughout the Portland region as part of Portland State University graduate student James Holley's research project. A NWPT was observed nesting on 3 June 2019 at the Spring Hill Natural Area, a Metro property in Gaston, OR located in the Upper Tualatin River Basin in the Willamette Valley Ecoregion. The nest was excavated in September 2019 and nine hatchling NWPT were removed by Oregon Department of Fish and Wildlife (ODFW) and raised indoors.

ODFW proposes to install PIT (Passive Integrated Transponder) tags in the 9 hatchlings prior to their release during the summer of 2020. In preparation, Metro, in coordination with Holley and ODFW, has installed juvenile habitat structures at the release site incorporating small woody debris in a range of shallow waters around the perimeter of the pond. The built habitat consists of multiple, complex branches from local wood sources 16-40cm diameter, 0.5-4m long. These are staked into the substrate with 3-10cm diameter branches, about 1m long. The structures were established in shallow water to include depth variation between 0-1.5m at mid-June water levels. The area will be planted with native aquatic vegetation from local sources in a future project to create hypothetically ideal juvenile habitat.

This project proposes to obtain a PIT tag reader to monitor habitat preferences of the released hatchlings and determine if the built habitat successfully increases survival rates. A wildlife camera will also be deployed to verify wildlife use of the structures. The site will be monitored monthly through 2023 (36 months) by the Northwest Ecological Research Institute (NERI) to gather data on how animals use the site in order to increase knowledge of their habitat preferences and fine-tune the most effective built juvenile habitat for future restoration efforts.

Budget:

Item	Quantity	Cost ($)
Monitoring	2 Hours/month @$50/hour for 36 months	3600
PIT tags	9	0 (ODFW)
Handheld PIT Reader & Accessories	1	1000
Wildlife Camera	1	200
Data Analysis	20 Hours @$50/hour	1000
TOTAL		5800

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#11 – Yamhill Community Science Herptile Surveys

NORTHWEST ECOLOGICAL RESEARCH INSTITUTE

NERI
130 NW 114th Ave.
Portland, OR 97229

Contact: James Holley
(503) 320-5544
jamespholley@gmail.com

13 July 2020

Yamhill Community Science Herptile Surveys

Herptile (amphibian and reptile) populations are in decline worldwide. Some data are available for herptile populations in Oregon state but there are large gaps in our knowledge. Amphibian egg mass surveys have been performed in the Portland Metro area since 2003. Surveys to determine turtle occupancy have been performed in the Lower Willamette Basin since 2011 to better understand current native turtle distributions and population sizes.

In 2014-2015 herptile surveys were performed to establish baseline data on native amphibian and reptile populations in Clackamas county. Outreach was performed to private landowners and agencies working with the Clackamas Soil and Water Conservation District and Oregon Department of Fish and Wildlife (ODFW). A large community science effort was utilized to involve local volunteers and to assist in performing the surveys near to their homes. The data resulted in advanced understanding of local populations, more educated community members, and identifying connectivity issues and restoration opportunities.

This proposal would continue to establish baseline herptile data in all counties in Oregon beginning with Yamhill County. Yamhill County, situated in the Willamette Valley Ecoregion, was selected because there are many historic reports of Northwestern pond turtles (NWPT, *Actinemys marmorata)*, which are listed as a species of concern in the Oregon Conservation Strategy (OCS). The county is also home to other OCS species including: Western painted turtle, Western toad, coastal tailed frog, red-legged frog, and torrent salamanders, among others.

An initial list of sites to be surveyed has been compiled using historic reports, aerial photos, and local knowledge in a coordinated effort with the Greater Yamhill Watershed Council (GYWC). Additional priority sites can be added throughout the state, in coordination with local Soil and Water Conservation Districts, watershed councils, and other agencies once the project begins.

NERI will coordinate with ODFW, GYWC, and other agencies throughout the project. Funds for this project will be used to complete a final site list, coordinate landowner and agency permissions to survey, train community science volunteers according to the latest Center for Disease Control guidelines, perform quality assurance and quality control surveys, analyze the data collected, and organize the data in a format desired by ODFW. Surveys would commence in the Winter/Spring of 2021.

Commented [CC1]: Give the name of CDC.

Budget:

Item	Quantity	Cost ($)
Site Identification/Permission	40 Hours @ $50/hr	2000
Volunteer Recruitment and Training	40 Hours @ $50/hr	2000
Survey QA/QC	50 Hours @ $50/hr	2500
Data Analysis	40 Hours @ $50/hr	2000
Write Report	40 Hours @ $50/hr	2000
TOTAL	210 Hours	10500

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#12 – Crooked River National Grasslands Sustainable Trails Project

CROOKED RIVER NATIONAL GRASSLAND
SUSTAINABLE TRAILS PROJECT

CONTACT INFORMATION

Shelby Knight, Coordinator/Facilitator of Ochoco Trails
shelbymarieknight@gmail.com
541-279-3898

Darlene Henderson, Ochoco Trails Chair
darlene.henderson@cotamtb.com

Rika Ayotte, Executive Director of Discover Your Forest, Ochoco Trails Fiscal Sponsor
rika.ayotte@discovernw.org
541-301-2844

LEAD ORGANIZATIONS AND PARTNERS

Ochoco Trails is a community-based coalition dedicated to building and maintaining sustainable non-motorized trail systems in the Ochoco National Forest and Crooked River National Grassland. We aim to develop trail networks that offer a desirable range of experiences while protecting and enhancing wildlife habitat and natural resources.

Our members include hunters, hikers, mountain bikers, equestrians, ranchers, trail volunteers, and environmentalists. We came together in 2016 to assist the Ochoco National Forest in addressing non-motorized trail issues in the fastest-growing recreational region in the State. Our partners include:

- Discover Your Forest
- Oregon Hunters Association
- Sawyers With Attitude to Spare
- Central Oregon Trails Alliance
- Back Country Horsemen of Oregon
- Oregon Equestrian Trails
- Oregon Wild
- Interested citizens/landowners

Our vision is to create sustainable trails networks in the Ochoco National Forest and Crooked River National Grassland that make the nearby small towns more attractive places to live and work, allow local residents to reap the health benefits of outdoor recreation, encourage visitors to come to enjoy our beautiful area, connect locals and visitors to public lands, and reduce trail conflicts while protecting wildlife habitat and our natural resources for generations to come.

We have built a strong partnership with the US Forest, which manages the Crooked River National Grassland and the Ochoco National Forest. We regularly consult with the Oregon Department of Fish and Wildlife.

PROGRAM PRIORITIES MET

The Crooked River National Grassland Sustainable Trails Project is seeking funding for Phase 1 of a three-phase project aimed at protecting the wildlife habitat provided by the Grassland while creating healthy recreational opportunities for residents of and visitors to the rural communities nearby. The Trails Project supports the OCRF's program priorities for recreation projects in the following ways:

***Opportunities to engage and expand the number and diversity of Oregon's outdoor users*.**

The proposed trail system for the Crooked River National Grassland will provide thoughtfully-planned recreational opportunities in this unique Oregon landscape, in the fastest-growing recreational mecca in the State. Because recreation on the Grassland is somewhat underdeveloped, the proposed trails plan will provide new opportunities to connect users to these public lands. Additionally, the diversity of our members engaged in this process means a diversity of recreation opportunities will be planned. From mountain biking to horseback riding to interpretive hikes, the project offers something for all users.

Opportunities to introduce Oregonians to wildlife-associated recreation.

To appreciate a landscape and the wildlife that inhabits it, people need to experience it. And once they experience it, they grow to love it and want to protect it. The proposed Grassland trail system will connect users to wildlife viewing opportunities, helping them build a deeper appreciation for the wildlife that calls the Grassland home.

The proposed trail network will also offer a unique opportunity for the group and our agency partners to engage the local community and visitors in recreational and educational experiences and workshops. While the bulk of this work will take place in Phases 2 and 3, Phase 1 will lay the critical foundation for this public outreach. The group has established that providing opportunities for youth and marginalized populations is a top priority.

Educational materials and opportunities related to responsible recreation, ecology, and wildlife conservation for kids and adults in multiple languages.

Building stewardship-related education into our model is critical to the mission and vision of the Ochoco Trails and the sustainability of the proposed trails. Our outreach plan aims to provide materials and opportunities related to responsible recreation and stewardship that are both accessible and digestible. While this work would mainly commence in later Phases 2, 3 and beyond, Phase 1 will lay the essential foundation for this work.

Research or planning that supports responsible recreational opportunities.

Phase 1 of our proposal includes both research and collaborative community-driven planning that support responsible recreation. By hiring a biological contractor to collect baseline wildlife and recreation data, we can ensure future monitoring efforts are informed and backed by data. Additionally, our community-based collaborative approach to the planning process, which has proven successful in the past, supports responsible use and responsible recreation. By proactively addressing the growth of recreation and visitation in the area, and by listening to a diversity of voices early and often in the process, we can avoid wildlife and habitat concerns, minimize potential user conflicts, and ensure the sustainability of the plan and the system. Our iterative and adaptive approach means we can address concerns and issues as they arise and adapt our work accordingly.

Enhancement or restoration of trails and access to waterways in a way that preserves or enhances sensitive habitat or that resolves impacts related to informal or dispersed recreation in sensitive habitat.

The Crooked River Grassland currently has few official trails, but it is laced with a network of roads that provide easy access. The Grassland's fragile habitat is getting "discovered" by the recreation-seeking public. By planning and developing an attractive network of trails, we intend to channel public access to the areas where it will have the least impact on wildlife, avoiding habitat fragmentation and disruption.

GEOGRAPHY/ECOREGION

The Crooked River National Grassland is located in rural Oregon, spanning Crook and Jefferson Counties. It has a land area of 173,629 acres and contains two National Wild and Scenic Rivers: the Deschutes River and the Crooked River. The Ochoco National Forest manages the Grassland.

The Grassland consists of juniper woodlands, sagebrush steppe vegetation, and a few wetlands/marshes. It is home to deer, coyotes, rabbits, bats, reptiles, amphibians, birds of prey, songbirds, and wading/shorebirds. Seasonal wildflowers abound. In addition to providing rich habitat for a wide variety of species, the Grassland offers sustainable cattle-grazing opportunities for local ranchers.

The Grassland lies between Prineville (population 10,900) to the east, Madras (population 6,900) to the north, Powell Butte (population 2,400) to the south, and Redmond (population 30,900) to the west.

CONNECTION TO OCS

The Crooked River National Grassland Sustainable Trails Project supports the Oregon Conservation Strategy in several ways:

Education and Outreach

The Conservation Strategy identifies education and outreach as key to implementation when linked strategically to other actions: "*depends on expanding involvement from a wide range of people, agencies, and groups across the state."*

Central Oregon is a recreational mecca in the western US. This proposal highlights a new and unique opportunity in this region. First, it offers opportunities for wholesome exercise. Second, it provides opportunities for people to experience the ecologically unique Crooked River National Grassland.

"*The Conservation Strategy will build on existing situations to conduct outreach and conservation education, expanding reach through partnerships…*"

The Crooked River Grassland proposal is based upon partnership and collaboration among diverse groups. As this proposal progresses through the 3 Phases, it will gain an ever-increasing connection with the Crooked River National Grassland by providing a platform for interpretation, appreciation, education, and citizen science (plant, bird, mammal, geological documentation – just a few topic areas). Both ODFW and the USFS will play crucial advisory roles. This will be especially apparent once we have developed the infrastructure to provide interpretive presentations, campground talks, nature walks, skills workshops, hunter and angler programs, and children's programs and exhibits. Subsequent phases will also offer opportunities for informational signage, brochures, videos, and other public materials housed at agency offices, trailheads, or area campsites.

The Conservation Strategy aims to: "*Establish media relationships such as Oregon Public Broadcasting's Oregon Field Guide.*"
This is a perfect match for hallmarking the Crooked River National Grassland and illustrating how unique this area is in Oregon and the west. The area has breathtaking panoramic views. It is home to deer, coyotes, rabbits, bats, reptiles, amphibians, birds of prey, songbirds, and wading/shorebirds. During all phases of the project, conservation-based podcasts or webinars may be used to establish an awareness of the new recreation and conservation opportunities the Grassland provides.

Conservation Opportunity Area
The Crooked River National Grassland lies within a Conservation Opportunity Area highlighted by the OCS and identified as having high conservation-effort appeal. The Grassland's proximity Bend, a regional population hub whose economy is based on active outdoor recreation, makes this project area especially well-suited for enhancing conservation appreciation. It offers a high probability for extensive citizen science – everything from maintaining records on seasonal bird observations to plant occurrence and phenology during this time of climate change.

Collaborative Connection to the Land
The Grassland Trails proposal brings a diverse group of stakeholders to the project area. Representatives from a variety of user groups and outdoor conservation organizations have been involved with the proposal. Collectively, this group began

discussing the proposal design, benefits to neighboring communities, and the experiences for each user group. However, the forefront of our interest is the natural resources surrounding the area and developing a proposal that will minimize any effect on flora and fauna.

Our Forest Service and ODFW partners brought forward the importance of the landscape to wildlife, helping the group to identify sensitive areas and understand how wildlife use the grassland habitat. A map was then developed to identify all existing roads and both motorized and non-motorized trails. All motorized routes were buffered by 200 meters, and all non-motorized routes were buffered by 100 meters. As a result of the mapping, an analysis was completed to identify Core Habitat. Based on road and trail density, those pieces of habitat that were unfragmented by roads and trails were categorized by their overall size. High-quality habitat is those areas greater than 100 acres in size, medium quality is 50-100 acres, and low is 0-50 acres. This map provided the group an opportunity to visualize how their trails proposal could potentially diminish habitat and habitat effectiveness. The group is now working on a proposal that will maximize habitat effectiveness and security for wildlife, while minimizing fragmentation by identifying opportunities for road closures, keeping trails and motorized roads together in the same prism, braiding trails where trail densities are highest to keep systems compact, and avoiding sensitive habitats. The Grassland Trail Project is based on a collaborative process that creates ownership and appreciation for this grassland ecosystem.

Ultimately, this proposal has great potential for addressing several critical elements within the guidelines for the Conservation Strategy. We just need the financial boost to begin implementing the three phases identified in this proposal. The ORCF could provide the foundation for this vital project.

FUNDING REQUEST

The development of the Grassland Trails Proposal will be an adaptive process that will take place in three phases. OCRF funding through this proposal would support Phase 1~~,~~ specifically facilitator/coordinator time, hiring a biological contractor, and logistical support for members and partners. This work will then lay the foundation for subsequent work in Phases 2 and 3.

Phase 1: Planning and Coordination (January 2020 – December 2021)

- Support facilitator/coordinator time to:
    - Coordinate and facilitate regular monthly meetings to draft the proposal
    - Facilitate and coordinate subcommittee meetings as appropriate for mapping and outreach
    - Support the group in soliciting broad input on the draft proposal early in the process, coordinating and engaging with multiple interested stakeholders, partners and agency staff
    - Support the group in planning and conducting public meetings in 3 communities; Prineville, Redmond, and Madras

    - Support the group in shepherding the proposal with the Forest Service and ODFW, from submitting the first draft and soliciting agency feedback, to prioritization and finalizing the proposal
- Provide logistical support/mileage to:
    - Support member and volunteer ground-truthing of trail corridors, specifically where areas of habitat fragmentation have been identified to reduce fragmentation and provide a positive user experience
        - Full group field trips, pending the lifting of COVID-19 restrictions, would support this effort
- Hire local biological contractor to:
    - collect baseline data on existing wildlife and livestock use that will inform our plan and provide us essential baseline data to use in future monitoring
    - collect baseline data on human and recreational uses that will inform our project and provide us necessary baseline data to use in future monitoring

Phase 2: Public Outreach and Trail Development (January 2022 – December 2030)

- Work with Forest Service to identify priorities and a realistic timeframe for accomplishing these priorities
- Continue the iterative and adaptive process to shepherd the Trails Proposal through the Forest Service process to ensure various aspects of the proposal are included in the annual Forest Service Program of Work and to assist with solving problems and removing barriers that occur
- Participate in securing funding or recruiting volunteers for various aspects of trail development and construction
- Engage the communities of Redmond, Prineville and Madras and other stakeholders through hosting public lectures, supporting interpretive opportunities, field trips, citizen science opportunities and workshops
    - Sponsor other partner and community events that align with Ochoco Trails mission and values
    - Engage and provide opportunities for marginalized and underrepresented groups, such as youth and the Latinx community

Phase 3: Monitoring, Maintenance and Continued Outreach/Education (January 2022 – Ongoing)

- Conduct monitoring of use and condition before and after implementation
- Conduct monitoring of wildlife use and impacts
- Support volunteers and member organizations in trail building and maintenance
- Continue to engage the community and stakeholders in educational opportunities through hosting public lectures, supporting interpretive opportunities, field trips, developing citizen science opportunities, and workshops.
    - Sponsor other partner and community events that align with Ochoco Trails mission and values
    - Engage and provide opportunities for marginalized and underrepresented groups, such as youth and the Latinx community
- Engage with other organizations in other geographies working on the same issues – be a part of a joint voice on National Forest sustainable recreation

TOTAL PROJECT COST/OCRF DOLLARS WILL BE SPENT ON:

Proposed Activity	*Amount*
Facilitation/Coordination	$4,500.00
Biological Contractor	$4,500.00
Logistical Support/Mileage	$500.00
Total Request	***$9,500.00***

TIMELINE: PHASE 1

ACTIONS	**TIMEFRAME**
Complete Crooked River National Grassland Proposal	
- Engage key stakeholders/partners early in the drafting process to identify potential concerns and discuss proposal: ODFW, Confederated Tribes of Warm Springs, Gray Butte Grazing Association	Feb-Dec 2020
- Ground truth proposed lines, particularly in areas where habitat fragmentation is a concern. Identify areas where the use of existing roads, etc. can mitigate impacts	Fall/Winter 2020
- Hire a contractor to collect baseline data on wildlife and human use in the Crooked River National Grassland	Fall 2020
- Draft Proposal complete	
- Public meetings – Redmond, Prineville, and Madras	May-June 2021
- Receive FS Feedback/Work with FS to identify priorities	Summer 2021
- Deliver Final Proposal to USFS	Fall 2021

ACTIONS	TIMEFRAME
	Winter 2021

ABSTRACT

The Ochoco Trails community group is working on developing a sustainable trails system for the Crooked River National Grassland. This will be a three-phase project that focuses on:

1. Developing a comprehensive trails plan that will protect Grassland wildlife habitat while creating healthy recreational opportunities for residents of and visitors to the rural communities nearby.
2. Public outreach and education and trail development.
3. Monitoring, maintenance, and continuing community outreach and education.

We are currently seeking funding to assist us in accomplishing Phase 1 of this project.

Ochoco Trails has a successful track record in planning and developing sustainable trail systems. Our diverse members came together in 2016 to collaborate on a trails plan for the Ochoco National Forest. We aimed to develop a trail network to address the growing recreation on public lands in Central Oregon, increase economic opportunities for nearby communities, minimize user conflicts, and preserve the quality of the wildlife habitat in the Forest.

We worked closely with the Forest Service and other agency partners through the planning process, solicited extensive public feedback, and successfully submitted our proposal in early 2019. The Forest Service has already incorporated four of the proposed trails into their Program of Work for 2021.

We will continue to support the Ochoco National Forest through this process by providing capacity in building and maintaining trails and working together in an adaptive management process as the trails projects move forward. We are also committed to helping build a strong stewardship ethic in the local community and connecting people to public lands through conducting ongoing community outreach, education, and on-the-ground workshops.

Ochoco Trails has recently begun a similar trails-planning process for the Crooked River Grassland. We intend to replicate our success in the Ochoco National Forest on the Grassland, leading to a sustainable and broadly-supported trails proposal that avoids

impacts to wildlife and wildlife habitat, minimizes user conflict, supports the local economy and communities, and provides educational and recreational opportunities in this unique Oregon landscape.

REPORTING/OUTCOME MEASUREMENT

Outcome: Maximize habitat effectiveness and wildlife security/minimize habitat fragmentation
Process: As stated above, Ochoco Trails has worked with our Forest Service and ODFW partners to identify areas of core habitat and potential fragmentation in the project area. Ground-truthing efforts conducted in Phase 1 will help us identify opportunities for accomplishing this through road closures, keeping trails and motorized roads together in the same prism, braiding trails where trail densities are highest to keep systems compact, and avoiding sensitive habitats.
Measurement:

- Final proposal significantly reduces fragmentation and avoids sensitive habitats as measured through mapping process

Outcome: Develop and shepherd a final trails proposal for the Crooked River National Grassland that is sustainable, broadly supported, and provides for a diversity of user experiences and opportunities.
Process: All activities as outlined in the Phase 1 proposal
Measurement:

- All members buy-in and agree upon final proposal as measured by full consensus approval by the group ahead of submitting to the Forest Service
- Public and users are supportive of proposal and trail development as measured by endorsements, lack of objections or controversy, reduced incidence of trail conflicts, and surveys.
- Forest Service is supportive of proposal as shown by including one component of the overall plan per year in its the annual Program of Work

Outcome: Develop baseline data on the use of the Grassland for future monitoring efforts.
Process: Hire a local biological contractor to collect the relevant data
Measurement:

- Data is collected that measures current wildlife, livestock, and human presence in the Grassland and can be used as a baseline in future monitoring and adaptive management efforts

OTHER MEDIA/INFORMATION LINKS

To visit the Ochoco Trails website: www.ochocotrails.org

To view the Forest Service recreation sites at present on the Grassland: www.fs.usda.gov/recarea/ochoco/recarea/?recid=38274

To view the Ochoco Trails Strategic Plan, please see the attached document "Attachment A". (*Note that the timelines in this proposal are slightly different than those*

in the Ochoco Trails Strategic Plan. COVID-19 has disrupted the group's regular activities, causing us to fall behind on the Strategic Plan timeline. We believe the timetable shown above is realistic and achievable.)

DISCOVER YOUR FOREST

Friends of the
Deschutes & Ochoco National Forests and
Crooked River National Grassland

June 18, 2020

Dear OCRF Grant Committee:

We are writing to express our support for funding the Phase 1 of the development of a comprehensive trails proposal for the Crooked River National Grassland.

As the fiscal sponsor and one of the founding conveners of Ochoco Trails, we could not be more excited to see the progress this coalition has made. Working together to develop this important plan demonstrates the power of their collaboration.

Discover Your Forest is one of many Partner Organizations of Ochoco Trails working collaboratively to ensure sustainable trails in our region. This funding would support us in replicating our successful development process for the Ochoco National Forest to the Crooked River National Grassland, ultimately leading to a sustainable and broadly supported trails proposal that minimizes user conflict, avoids impacts to wildlife and wildlife habitat, and supports the local economy and community.

Ochoco Trails has proven to be a good steward in working towards addressing trails development holistically by minimizing the impact of trail use on natural and cultural resources and partnering with Ochoco National Forest to protect the natural beauty that is Central Oregon.

We are excited about the potential of this planning process and we appreciate your consideration. We wholeheartedly support this proposal and look forward to seeing the impact it will have on recreational trail sustainability in Central Oregon.

Rika Ayotte

Executive Director, Discover Your Forest

OREGON HUNTERS ASSOCIATION
Protecting Oregon's Wildlife, Habitat and Hunting Heritage
P.O. Box 1706, Medford, OR 97501 • (541) 772-7313
oha@oregonhunters.org • oregonhunters.org

June 19, 2020
Oregon Conservation and Recreation Fund

Dear Committee,

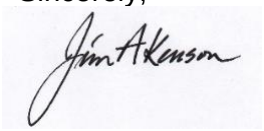
The Oregon Hunters Association (OHA) is an active partner with the Ochoco Trails organization. Ochoco Trails is developing a well-planned proposal for a network of low impact, not motorized, trails on the Crooked River National Grassland (CRNG). To ensure that these trails minimize ecological impact, the planning team has collaborated with both the Ochoco National Forest and the Oregon Department of Fish and Wildlife. They have also garnered support from diverse user groups including Oregon Wild, Discover Your Forest, Sawyers With Attitude to Spare, as well as trail user groups like Central Oregon Trail Alliance, Back Country Horsemen of Oregon and Oregon Equestrian Trails, and OHA.

As many of you are aware, this part of central Oregon is a recreational mecca, not only for Oregonians, but nationally as well. The advantage of this proposed trail system is its proximity to the regional population hubs of Bend, Redmond, Prineville. The proposed trail area offers incredible views of the Cascades Mountains yet has moderate terrain for diverse recreationalist. Hiking, pedal bikes, and horses are all slated to have opportunities with this proposal. These trails will put people outdoors and eventually provide an opportunity for nature learning in a unique ecological setting within the CRNG.

Phase 1 of this project is the primary focus at this time, and it centers around detailed project planning. The planning will be spearheaded by the current OT facilitator/coordinator. It will also involve hiring a biologist/ecological contractor to survey current flora and fauna and provide opportunity for possible disturbance and future natural history interpretation and appreciation. The modest funding Ochoco Trails is requesting will have a huge influence on project success and will keep all the positive energy moving forward!

I have become familiar with the goals and objectives of the OCRF Committee through involvement as an engaged stakeholder. I feel strongly that this proposal is a great fit for kicking off funding support on the recreational side of OCRF. Please give consideration to the enthusiasm, creativity, and professionalism of this "up and coming" organization and the included proposal.

Sincerely,



Jim Akenson
Sr. Conservation Director, OHA

United States Department of Agriculture | Forest Service | Ochoco National Forest | 3160 NE Third Street Prineville, OR 97754 (541) 416-6500

06/18/2020

Oregon Conservation and Recreation Fund

Dear interested parties,

My name is Monty Gregg and I am the Forest Wildlife Biologist on the Ochoco National Forest and Crooked River National Grassland. I am a long time resident of Central Oregon (40+ years) and I have spent my entire 25 year career working here on Central Oregon Forests. The demand for non-motorized trail development really began in Central Oregon about 15 years ago. Fortunately for some of the smaller communities such as Prineville and Madras, the demand has not been as great as in the other communities such as Redmond and Bend.

In 2018, I began working with the Ochoco Trails group, a diverse collaborative coalition of user-groups, recreators, community members and conservationists. The group has worked proactively to develop a system of trails that would meet the needs of user groups in Crook County today and for years to come. The group's interest is a sustainable network of trails that are designed to avoid impacts to forest resources, and specifically those resources that are also highly important to the economies of Crook County such as hunting and fishing. Therefore much of my work with the group has been associated with wildlife habitat security and minimizing wildlife habitat fragmentation.

Through the assistance of the Oregon Department of Fish and Wildlife, the Ochoco Trails group has completed a proposal for the Ochoco National Forest that meets the needs of the community, and minimizes impacts to fish and wildlife resources. The Ochoco proposal has set the stage for the upcoming proposal on the Crooked River National Grassland. The Ochoco Trails group has continued the effort that was developed on the previous proposal, and is sustainably designing a proposal that I have no doubt will intentionally and thoughtfully address wildlife habitat concerns. This group is a model for other communities to follow, and exemplifies the power of the collaborative process.

I highly recommend the Ochoco Trails group for the Oregon Conservation and Recreation Fund.

OCHOCO
NATIONAL FOREST

Monty Gregg
Forest Wildlife Biologist
Ochoco National Forest
Crooked River National Grassland

Ochoco Trails

2020-2022 Strategic Plan

January 7, 2020

This Strategic Plan was prepared from July-December of 2019. The plan includes overall direction for the Ochoco Trails as well as more detailed action items and performance measures for 2020 through 2022. The Ochoco Trails may choose to update this Strategic Plan in its entirety in late 2022, or simply add more action items for future years.

1. VISION

A sustainable trails network in the Ochoco National Forest and Crooked River National Grassland makes Prineville and Crook County a more attractive place to live and work, allows our residents to reap the health benefits of outdoor recreation, encourages visitors to come enjoy our beautiful area, connects local residents and visitors with the Ochoco National Forest, and reduces trail conflicts while protecting wildlife habitat and our natural resources for generations to come.

2. MISSION

Ochoco Trails is a community-based coalition dedicated to building and maintaining a sustainable non-motorized trail system that offers a desirable range of experiences, while protecting and enhancing forest resources for future generations.

3. VALUES

The Ochoco Trails values the following:

- *Being **community-based** – identifying and including community values and needs in trails proposals, and providing useful and entertaining community education and outreach on trail use.*
- *Building **ecosystem science and holistic management** into the trails proposal, in order to ensure that trail use on the Ochocos avoids impacting ecosystem function, critical habitat, archaeological/historical sites, and other values that must be managed on National Forests and National Grasslands.*
- *Being **proactive**, rather than reactive, in order to design a trail system that meets community needs without creating problems when trail use increases in the medium to long term.*
- *Supporting **community economic goals** – providing a sustainable trails network that attracts visitors and provides a community amenity for persons and businesses wishing to relocate to the area.*

- *Performing ongoing **adaptive management** – transparently monitoring performance, learning lessons, and adjusting our proposals and activities.*
- *Providing **operational sustainability** -designing and implementing a trails network that can be maintained over the long term*
- *Fostering **diversity, equity, and inclusion** – engaging marginalized populations at the OCHOCO TRAILS table, in community outreach, and working proactively to identify ways to ensure that the trails system may be accessed by all.*
- *Supporting the development of non-motorized **trails for all types of users,** in order to provide a diverse user experience for all.*

4. OCHOCO TRAILS OBJECTIVES:

- Develop and Shepherd a Sustainable Trails Plan
- Support Member Organizations to Construct and Maintain the Trail Network
- Continually Engage the Community and Stakeholders

5. ORGANIZATION, DECISION-MAKING, COMMITTEES, STAFFING

Organization Model and Membership

The Ochoco Trails is a representational group designed to accelerate collaboration and action by providing a forum for stakeholder organizations and engaged individuals to engage and act. Ideally, the primary interests that **should** be represented on the Ochoco Trails include organizations focused on hoof (horse), foot (hiking, hunting, backpacking, running, skiing), and pedal-based (bicycle) recreation. Other interest groups – including environmental interests, community interests, business interests, etc. – are welcome. Other than ensuring those interests are represented, there are no formal "seats" on the OCHOCO TRAILS.

Voting members of the Ochoco Trails are those that have signed on to this Strategic Plan. In the future, the Ochoco Trails may elect to develop a more thorough Operations Manual or similar document. In that event, voting members will be those that have signed on to that future Operations Manual.

Committees

The Ochoco Trails will designate ongoing or ad hoc committees as needed and deemed useful. This may include an Executive Committee in the future, but as of this Strategic Plan all Ochoco Trails decisions will be made by the full group, including decisions on projects to recommend and implement, staffing and contracting, grants and funding to pursue, etc.

Revenue and Fiscal Administration

The Ochoco Trails will pursue grants and donations for support staff and projects. The Ochoco Trails uses Discover Your Forest as its fiscal administrator, unless otherwise appropriate (e.g. COIC holds the 2020 TFFF funding).

Staffing Model

After 2019, the Ochoco Trails will move from employing a facilitator to employing a contract coordinator.

Ground Rules/Basic Expectations

Following are a set of basic expectations for Ochoco Trails participants:

Focus on learning

- Come willing to learn
- Come to meetings prepared
- Present interests, not positions
- Listen to understand. Be present and aim to fully hear others.
- Critique constructively and ask questions to learn.
- Be willing to be creative, explore alternatives, and search for opportunities.
- Share all relevant information.
- Share and take into account information from diverse sources.
- Please ask—there are no stupid questions.
- Respect the range of knowledge present in the group.
- Adapt ground rules to reflect group needs and dynamics as they evolve.

Listen and speak with respect

- Only one person speaks at a time. Allow people to finish their thought. No interrupting and no side conversations during full group discussions.
- Speak when you have something to say: bring up concerns and different views.
- No personal attacks**.** Come down hard on ideas, but not on people.
- Voice your concerns and take the time to address conflicting concerns.
- Do not dominate discussions. Do not use meetings as a forum to "soapbox."
- Respect each other in and outside of meetings.

Communication outside of meetings

- Keep your colleagues and constituents informed about the process.
- Bring relevant information back to the group.
- Do not criticize individuals or the group process outside of meetings. Bring your concerns directly to the individual or the group.
- Don't presume to speak for others who are not there.
- No backroom deals.
- A Google Drive will be maintained for storing and sharing all information. Partners are encouraged to help develop content for the Drive.

Failure to abide by the above ground rules may result in expulsion from the group, by consensus of the remainder of the group.

Decision-making:

Consensus

The Ochoco Trails endeavors to make decisions by full consensus. Consensus on a decision about a project, recommendation, or action the group plans to take will be reached when all meeting participants can make one of the following statements about a decision:

- I agree with the decision and will publicly support it
- I agree with the decision but will refrain from publicly supporting it
- I can live with the decision (and won't disparage it in public)

Once the full group has ratified a decision, the decision and deliberations will be captured in the relevant meeting notes.

Inability to Reach Consensus

The Ochoco Trails will make every effort to reach consensus within the given timeframe (as laid out in the project timeline developed at the outset of a project) for making decisions. If the Ochoco Trails cannot reach consensus, members are encouraged to continue the conversation via conference call, email discussions, in-person meetings, or whatever format is most effective, in between meetings in order to function most effectively.

If a time comes when the Ochoco Trails is unable to reach consensus after significant effort, the following actions will be taken:

- Areas of agreement and disagreement will be clearly recorded in writing
- Differing position reports will be written to address the areas of disagreement. Each of these documents will include:
    - The name of the lead author and names of all who agree with the report
    - A description of their proposal and the rationale used to develop it
    - What members in the differing position groups anticipate doing if their proposal is chosen by the USFS (i.e. defend it in public), or not chosen (i.e. file an objection, appeal, litigate, etc.).
- The differing position reports will be given to all Ochoco Trails members and, if appropriate, to the USFS for their consideration in their role as decision makers for USFS managed lands and waters.

Participation in Decision-making: Attendance requirement

In order to assure timely and well-informed decision-making, Ochoco Trails members may only participate in decisions if they have participated in at least 2 of the last 4 meetings.

6. ACTIONS AND INDICATORS

OBJECTIVE A: Develop and Shepherd a Sustainable Trails Plan
Output Indicators: • Plans delivered to Forest Service • Forest Service provides feedback on priorities • OCHOCO TRAILS and FS continually revise and update Plan **Outcome Indicators** • At least one component of the Proposal is put on the FS Program Of Work every year • Forest Service completes NEPA on high priority components of the Proposal. • Enter into Agreements to build trails

ACTIONS	TIMEFRAME	LEAD/ WITH WHAT RESOURCES
Prepare Ochoco NF proposal and deliver to Forest Service	February 2019 (complete)	N/A - COMPLETE
Shepherd the Trails Proposal with Forest Service staff. This is an iterative process that will be ongoing, as long as the OCHOCO TRAILS continues to operate, and involves getting the various aspects of the OCHOCO TRAILS proposal on the annual Ochoco National Forest Program of Work (POW).	August 2019 – ongoing	Full group maintains an ongoing dialogue with USFS staff re: • Short-term projects that may be implemented via categorical exclusion, quarterly • Longer-term projects that will require more extensive NEPA analysis, each Spring for consideration in the POW for 2 years out.
Engage community support for the Trails Plan (see Objective C for more)	Ongoing	Community meetings, Ochoco Trails member time, etc.
Complete Crooked River National Grassland Proposal(also requires consultation/engagement) Draft Proposal complete Public meetings – Redmond and Madras	 May 2020 May-June 2020	Presentation to the Forest Service at in-person meeting.

ACTIONS	TIMEFRAME	LEAD/ WITH WHAT RESOURCES
Receive FS Feedback Deliver Final Proposal to USFS	Summer 2020 Asap 2020	
Assess outcomes; repeat the above process	2021	
Assess outcomes; repeat the above process	2022	

OBJECTIVE B: Support Member Organizations to Construct and Maintain the Trail Network

Output Indicators:

- Support letters and other assistance for grant proposals
- Resources allocated by FS for NEPA analysis
- $ raised for trail construction
- $ raised for trail maintenance

Outcome Indicators:

- Trail miles developed, by type/user
- Trail miles maintained, by type/user
- Trail use by type of user
- New system trails are adopted by a individual or entity (covered by a volunteer service agreement)

ACTIONS	TIMEFRAME	LEAD/WITH WHAT RESOURCES
Continually request FS to put this on the annual Program of Work, NEPA, etc.	Ongoing	Ochoco Trails volunteer board advocacy
Monitor and support 2020 USFS Work Priority order: - Bandit Springs winter (#19) - Endurance Rides (#6)/Allen Creek Horse Camp (#7) - Dry Creek Horse Camp Trails (#3) - Black Canyon connector trails (#13, 14, 15) - Bingham-Whistler tie trail – wait to hear back from the FS if this is possible (#1)	2020	Ochoco Trails Members and ONF Recreation Team Request regular updates from the Forest Service at Ochoco Trails meetings and problem-solve barriers if needed.
All proposal trails flagged for Lemon Gulch	Winter/spring 2020	COTA, volunteers
All proposal trails flagged for Dry Creek Horse Camp	Winter/spring 2020	OET, BCH, volunteers Note: this is already GPS'd.
Complete mapping for Bingham-Whistler tie trail	2020	Foot powered people
Design and install safety signage for the Lookout Mountain "pinch point"	2020	Ochoco Trails members and ONF Recreation team Travel OR $?

ACTIONS	TIMEFRAME	LEAD/WITH WHAT RESOURCES
Identify and flag a new trail alignment possibility to bypass the LM "pinch point"	2020	Ochoco Trails members and ONF Recreation team
Project funding: • Research opportunities for NEPA funding • ID trails construction, trails maintenance, etc. funding sources and prep • Consider development of a local donor campaign targeting businesses and individuals that will benefit from trails development.	2020	Ochoco Trails volunteer board + coordinator IMBA – new funding stream for planning/NEPA. Travel OR – potential new funding stream for planning/NEPA.
Engage with other organizations in other geographies working on the same issues – be a part of a joint voice on NF recreation/trails/etc.	2020-2021	Ochoco Trails volunteer board + coordinator
Monitor use before and after proposal implementation	2020-2021+	Ochoco Trails members – anecdotal evidence and trail counters, trailhead surveys, self-issued permits, etc.
Build subsequent year Program Of Work requests and priority order, including CRNG proposal.	2020+ ongoing	Ochoco Trails members in meetings
Flag next-priority trails.	2021+ongoing	Member organizations, as per primary trail use.

OBJECTIVE C: Continually Engage the Community and Stakeholders

Output Indicators:

- Community meetings
- Field tours
- Presentations to stakeholders
- New OCHOCO TRAILS members?
- Etc.

Outcome Indicators:

- Community support for proposal and trail development as measured by endorsements, lack of objections or controversy, surveys, etc.
- Reduced incidence of trail conflicts
- Participation and interest in OCHOCO TRAILS efforts.

ACTIONS	TIMEFRAME	RESOURCES
Meet with key local stakeholder groups – e.g. County Court and NR Committee, OFRC, Trail User Groups, Citizens that Support Public Lands, City Council, etc.	Ongoing	Ochoco Trails volunteer board
Promote the proposal to regional, statewide, national groups, e.g. COTA, Travel OR, USFS Region 6, Congressional delegation, etc.	Ongoing	Ochoco Trails volunteer board
Create a logo and letterhead for the OCHOCO TRAILS	February 2020	Volunteers, TFFF funding
Target groups to engage more with the OCHOCO TRAILS (regular meetings and processes): Nordic skiers/Central OR Nordic Club, hikers, anglers, local businesses with a natural interest in non-motorized recreation, or others as appropriate.	2020	Ochoco Trails volunteer board
Host public lectures, films, and/or field trips 2x/year – various relevant topics (e.g. safety and wildlife encounters on trails; Ochoco Mountains geology; trail etiquette and use conflicts; resource management; Warm Springs perspective on the Ochocos, etc.). The series would also serve as OCHOCO TRAILS outreach events to bring attention to the trails proposal, Ochoco Trails role, member	First one in Winter 2020 – ongoing	Ochoco Trails board and knowledgeable speakers. Consider joint event planning with the Ochoco Forest Restoration Collaborative (OFRC).

ACTIONS	TIMEFRAME	RESOURCES
organizations (volunteer recruitment), etc. This can also serve as an Ochoco Trails fundraiser. Wildlife Encounters on the Ochoco Trails – first event.		
Summer Community Event: Horse/bike workshop • Educate community and trail users about horses and bikes sharing the trails. Provide opportunity to desensitize horses to the presence of bikes. (Consider doing this annually?) • Joint volunteer recruitment event	Summer 2020	Ochoco Trails volunteer board
Community Open House to present Grasslands Trails Plan	May-June 2020	Ochoco Trails volunteer board
Share monitoring results	Ongoing	At all appropriate events.

Ochoco Trails: Membership Sign-On

The below signatories are members in full standing of the Ochoco Trails, and agree to support the Ochoco Trails Vision, serve the Mission, abide by the Values; and work within the governance model, ground rules, and other provisions provided in this document.

(Plain Text)
Name: _____ **Org:** _____

Signature: _____ **Date:** _____

(Plain Text)
Name: _____ **Org:** _____

Signature: _____ **Date:** _____

(Plain Text)
Name: _____ **Org:** _____

Signature: _____ **Date:** _____

(Plain Text)
Name: _____ **Org:** _____

Signature: _____ **Date:** _____

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#13 – Northwestern Pond Turtle Life History and Habitat Study in Mosier, OR

Title: Northwestern Pond Turtle (NWPT) Life History and Habitat Study in Mosier, OR

Contact Person:

Kaly Adkins, ODFW, East Region Conservation Wildlife Biologist,

Kalysta.i.adkins@state.or.us, 541-993-4628

Katie Pierson, ODFW/NRCS, Conservation Liaison/Farm Bill Biologist

Katie.pierson@usda.gov , 541-298-8559 x125

Lead Organization and Partners involved: ODFW

Program Priorities met:

Engaging Oregonians- The ongoing NWPT monitoring and population study in Mosier has been particularly effective in engaging both local landowners and youth from the Mosier community. Because a majority of the ponds we sample are on private land, landowners often take a special interest in turtles and are eager to help with the study. Additionally, the nature of this project lends itself particularly well for engaging youth. We have been able to take high school students interested in career shadowing wildlife biologists, as well as elementary students and even a budding herpetologist who was special needs. We have also engaged with neighbors of the properties, contractors and interested high school students. This engagement would continue in the expanded project and increase with public communications that are being planned currently (including a pond fact sheet, and a public 2-page fact sheet about the project).

Conservation project- The goal of this project is to build upon an ongoing NWPT monitoring project in Mosier, OR. The current project uses passive integrated transponder (PIT) tags to uniquely mark turtles upon capture. Using repeated capture efforts in their aquatic habitat and a mark-recapture methodology, we have been able to estimate population sizes as well as collect demographic data. Although the portion of this species lifecycle (nesting, overwintering and dispersal) that takes place on land is very important, little is known about the terrestrial habitat of this population. In order to establish priority areas for protection and management and improve habitat connectivity, we need to first answer the data gap on areas of utilization across the terrestrial landscape. Additionally, this project would aid us in collecting basic life history information on the timing of nesting, overwintering, and dispersal. This project will add the missing piece of terrestrial habitat use to our growing knowledge of northwestern pond turtles.

Geography/Ecoregion: Mosier, OR within the East Cascades Ecoregion.

Connection to OCS: This project has multiple connections to the Oregon Conservation Strategy. First, the northwestern pond turtle is a strategy species. Additionally, this project addresses the need to identify and protect safe movement corridors between aquatic and terrestrial habitat, to gather basic life history information, to protect adjacent upland habitat, and to establish priority area for protection and management. These are all called out as goals for the species management within OCS.

Funding Amount Requested:

$10,000

20 VHF transmitters: $4,000

4 GPS transmitters: $4,400

GPS programming and Base station: $1,100

Epoxy: $500

Total Project Cost:

$21,700

Staff time: $11,700

Equipment: $10,000

What will OCRF dollars be spent on: OCRF money will be spent on necessary equipment to mark and monitor animals to allow staff to collect data on movements via VHF and GPS technology. VHF transmitters for approximately 20 turtles, epoxy and plaster to mount, and 4 GPS transmitters to mount on turtles.

Timeline: Turtles will be captured in May and a transmitter attached to their shell, prior to dispersal to nest sites. We will collect dispersal data early June through July, when we have noticed the density of turtles decreasing in ephemeral ponds, and believe that nesting is taking place. The GPS units will also give us timing of movement to overwintering habitat, which will then trigger another tracking effort for the VHF transmitters. This can be repeated multiple years at multiple locations where pit tagged exist to better understand and protect movement corridors.

Abstract: The northwestern pond turtle is a conservation strategy species with a population center in the East Cascades ecoregion in Mosier, OR. This population has been monitored by ODFW using various methods since 2009. The current survey methodology includes using passive integrated transponder (PIT) tags to uniquely mark turtles upon capture in ephemeral ponds between May-July each year. Since 2018 we have been able to mark 175 unique turtles and estimate population sizes at 10 ponds (added two new ponds in 2020), as well as collect demographic data. From past monitoring efforts, we know that NWPT are moving between the network of ponds we are surveying, but we are lacking data on this dispersal period. Although the current project fills information gaps on abundance and population dynamics over time, we are still missing the necessary information to reach important conservation goals outlined in OCS that are largely based around management of terrestrial habitat. We are proposing to use money from this grant to purchase transmitter equipment that will build upon our current survey methodology and enable us to identify and protect safe movement corridors between aquatic and terrestrial habitat, to gather basic life history information, to protect adjacent upland habitat, and to establish priority areas for protection and management. Due to its location within the Columbia River Gorge, a recreation hot-spot within the state, this population is vulnerable to fragmentation due to residential and recreational development pressures. With the information

that this grant could help us collect, we can ensure that if recreation is expanded, conservation efforts can focus on the terrestrial habitats NWPT need. By protecting these areas, NWPT will continue to be able to access terrestrial corridors within the Mosier area crucial to conserve its population.

Reporting/outcome measurement: Project reports are created annually for the on-going monitoring of this population. Information gained from the expansion we propose regarding use of terrestrial habitat would be included in these reports. Additionally, information on movement corridors would be used at the county planning and wildlife district level. Information on life history and movement timing will be disseminated to the scientific community where this is a data gap on the species.

Other media/information sources on the subject:

Figure 1. Middle school student volunteer helping with current NWPT project.

Figure 2. Four three-year-old turtles found together in Pond C.

Figure 3. A great catch, 12 turtles total of all sizes!

Figure 4. One of the smallest turtles we caught in the 2020 season!

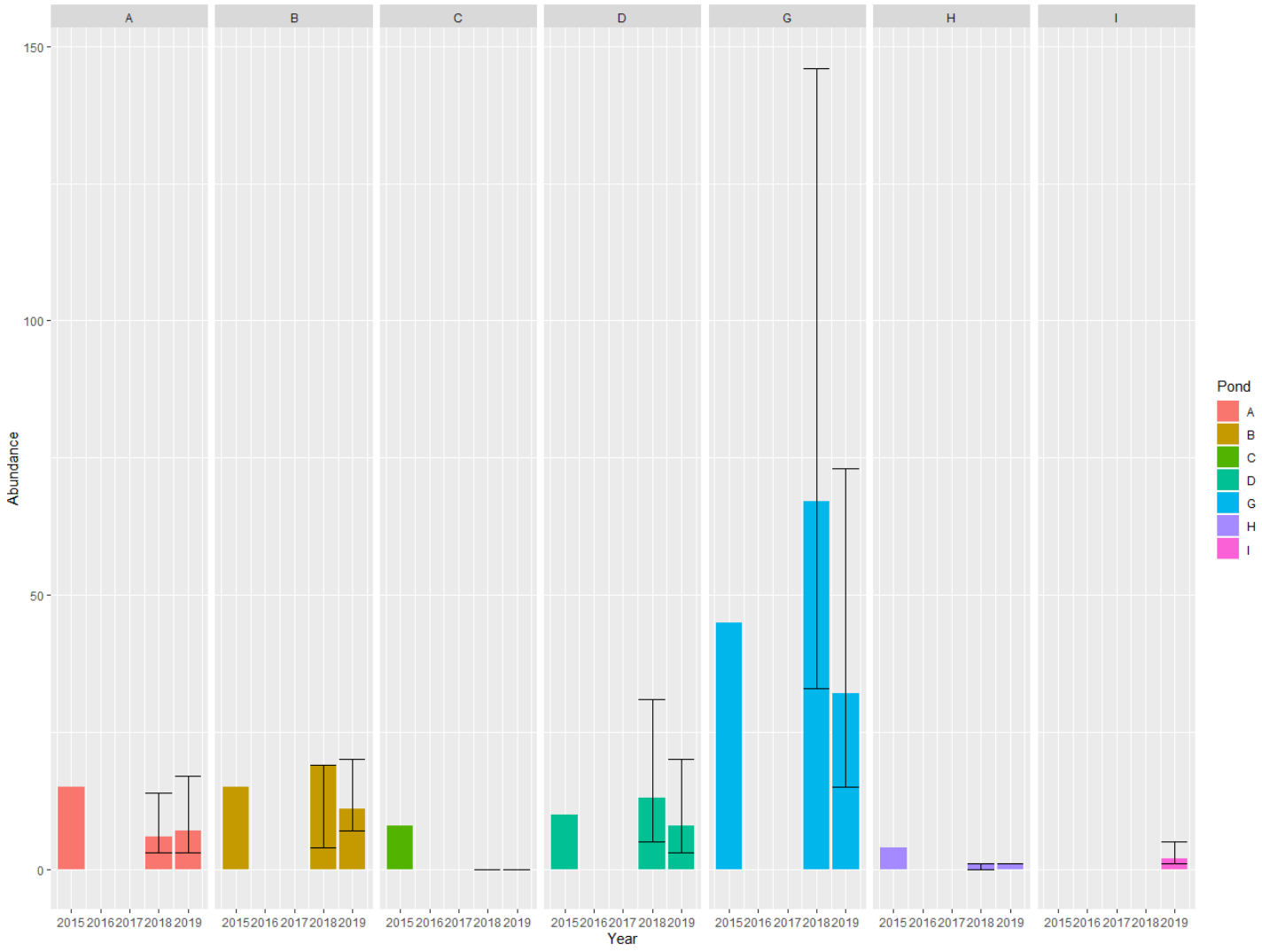


Figure 5. Estimated abundance of northwestern pond turtles in 7 ponds surveyed 2018-2019 using a Schnabel estimator. Error bars are 95% confidence intervals. Abundance estimation from 2015 was previously calculated with Lincoln-Peterson Index population estimator.

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#14 – Making Connections: Keeping Wildlife Wild Wildlife Migration Curriculum for K-12 Students

Title: *Making Connections: Keeping Wildlife Wild*: Wildife Migration Curriculum for K – 12 Students

Contact person: Rika Ayotte, Executive Director, Discover Your Forest

Lead Organization & Partners involved: Discover Your Forest, PAM (Protecting Animal Migration), Forest Service, ODOT, ODFW, OWF

Program Priorities met: *Educational materials and opportunities related to responsible recreation, ecology, and wildlife conservation for kids and adults in multiple languages.*

Geography/Ecoregion: East Cascades, Deschutes National Forest

Connection to OCS: This project relates directly to the OCS Key Conservation issue of **Barriers to Animal Movement**. More specifically the project addresses the issue of **Terrestrial Animal Movement** and Action 2.5 which focuses on *Work with ODOT, county transportation departments, and other partners to identify and address key areas of wildlife mortality on highways*. Major threats to mule deer in central Oregon fragment migratory corridors of 120+ miles between the Eastern Cascades eco-region to sagebrush/steppe and Northern Basin and Range eco-regions. The Deschutes National Forest attracted 3.6 million visitors in 2019. The impact of increased traffic on Highway 97, feeder roads, and highways is causing 5,000 animal/vehicle collisions a year, yet Oregon has only three wildlife crossings. By reaching students across the state and educating them and connecting them with the efforts currently underway in the form or animal undercrossings, culverts and the like to protect wildlife migration from the impact of roads and highways, we believe that we are cultivating stewards and citizens who will advocate for these crucial infrastructure investments as they become community leaders, voters and natural resource professionals.

Funding Amount Requested (prefer under $10,000)

Expense Category	OCRF Funds	In-Kind
Personnel		
Karen Gentry, Discover Your Forest Education Director ($264/Day)	$ 2,060.00	$ 3,220.00
Rebecca Yaeger, Discover Your Forest Education Coordinator ($186/Day)		$ 1,302.00
Education Kit Supplies and Materials		
Lego Construction Classroom Kits (5) mechanical @$200.00	$ 1,000.00	
STEM Construction Materials (building materials) $200/each kit	$ 800.00	

Bio Facts (skulls, scat, etc.) $500/each kit	$ 2,000.00	
Wildlife books (Migration, Biology, field guides) for K-12 $200/each kit	$ 800.00	
Drafting Supplies (paper, pencils, rulers, lapboards, dry erase pens) classroom set 25 each x 4 kits	$ 800.00	
Tote -75.00 each x 4	$ 300.00	
Transportation		
Bussing to Field Sites		$ 2,400.00
Other		
Translation of Education Materials	$ 1,250.00	
Overhead/Administration: 10%	$ 901.00	
Sub Total	**$ 9,911.00**	**$ 2,400.00**

Timeline

Month/Year	Activity
Aug-20	Curriculum Kits Assembled
	COVID 19 Protocols Integrated Into Curriculum
	Translation of Materials Completed
Sep-20	Marketing of Curriculum Kits to Schools and Teachers
Sep-20	Gilchrist School Field Trip Pre Visit
Oct-20	Gilchrist School Field Trip
Oct-20 -May-20	Teacher Guided Curriculum Kits Distributed to Classrooms
Nov-20	Gilchrist School Post Visit
Jun-20	Final Report and Phase 1 Evaluation
	Phase 2 Feasibility Assessed
Ongoing	Teacher Surveys Distributed
	Cleaning and Maintenance of Curriculum Kits
	Communication and Program Update Meetings with Key Partners (ODOT, PAM and USFS)

Abstract (~200 words):

Discover Your Forest is the Non-Profit Partner of the Deschutes National Forest and our focus on creating the next generations of environmental stewards leads us to serve 12,000 students each y

ear through free conservation education programs. Over the past two years Discover Your Forest has been collaborating with Protecting Animal Migration, ODOT and Deschutes National Forest wildlife biologists to develop curriculum to educate students about wildlife underpasses and the importance of wildlife migration. Funding from OCRF would allow us to complete the Phase 1 development of our Making Connections: Keeping Wildlife Wild curriculum and pilot it with local students for a Phase 2 statewide distribution.

Within this curriculum, students will examine how man-made structures can disrupt wildlife migration patterns and the cost of animal-vehicle accidents are high for both animals and people. Using the Engineering Design Cycle students will define the problem, design solutions and create prototypes and lastly, communicate their results. All K-12 lessons will be aligned with Next Generation Science Standards, Oregon State Standards, Oregon Senate Bill 13 Tribal History Shared History lessons, Oregon Environmental Literacy Program Strands, Life Science, Social Science, Earth Science and Math, Engineering and Physics. Also, curriculum for MS/HS students will focus on exploration of Career Pathways including: Ecologist, Wildlife Biologist, Civil Engineer, Botanist, and Landscape Architect. The program will include a portable kit and a suite teacher guided activities that have been designed for each grade band from K-12. All materials will be translated into Spanish to maximize accessibility and inclusion. In addition to the kit, which will be accessed during Phase 1 on a lending basis by teachers in Central Oregon, Discover Your Forest will also work with local students at Gilchrist Elementary and Middle Schools to do a place based project that connects students to the newest HWY 97 Wildlife Crossing.

PAM is in the process of seeking funding from the Conductivity Challenge Grant to partially support the creation of the Curriculum Kits. If that funding is awarded, DYF will be able to create an additional 5 kits and increase the number of students served in Phase 1.

NOTE: Discover Your Forest is actively integrating COVID 19 safety protocols into all curriculum development activities and field trip planning. All materials will be designed to allow for comprehensive cleaning and sanitizing and field trips will be designed to meet forthcoming school district requirements for student engagement.

Reporting/outcome measurement

Measurement of the impact of this project will include the following metrics:

1. Number and Demographics of Students Reached:

Participant	# of Students	% Latino	% Low Income
Gilchrist Schools	201	10%	65%
Other Deschutes County Schools	715	12%	74%

2. Student Learning Outcomes: Discover Your Forest will use pre and post curriculum lessons/discussions to assess Measurable Student Outcomes for Wildlife Crossing Curriculum focusing on key Indicators of knowledge, skills and attitudes. The following outcomes will be assessed:

   Students will be able to:

   - Understand the primary reasons why it's important to protect animal species and be conscious of the impact's humans have on animals themselves and their habitats.

   - Observe wildlife, movement patterns, and events and report their observations.

   - Sort and sequence data according to criteria given

- Compare life processes and wildlife events such as migration
- Use basic animal classification systems.
- Plan and conduct simple experiments.
- Formulate simple research questions.
- Predict results of investigations based on prior data.
- Use data to construct a reasonable conclusion
- Create, interpret, and analyze written text, oral messages, and multimedia presentations.
- Other media/information sources on the project

3. Teacher Satisfaction and Feedback: Discover Your Forest will distribute post curriculum surveys for teachers to complete rating their satisfaction with the activities and suggestions for improvement.

Other media/information sources on the project

Included as additional information:

1. Draft of Curriculum For Grade Bands K-12
2. Discover Your Forest 2019 Annual Report

Wildlife Crossings - 5th-8th Grade

Theme:	*Wildlife undercrossings*
Essential Question:	*Why are wildlife crossings important for both humans and animals?*
Content areas:	*Wildlife crossings and WVC prevention structures*
Teaching location(s):	*Lava Lands*
Materials:	*~15-20 foam pads for the activity "Chocolate River", Pictures of existing wildlife structures (i.e. Banff, lava lands structure, potential structure in LA)*

Objective:
SWBAT understand what a wildlife crossing is.
SWBAT understand how to help animals cross the road.
SWBAT understand why wildlife crossings are good for both animals and humans.
SWBAT know how they can promote wildlife corridors and prevent WVCs

Invitation:

- Circle the students up, make sure every student is in the circle
- Ask the students **"Has anyone heard of a wildlife crossing? If so, what is it?"**
- Then ask **"Why is it good to have these crossing structures for animals??"**
    - Prevents habitat fragmentation/loss
        - Wildlife is most threatened by habitat loss!!
    - Allows for them to safely cross the road

Exploration:

- "Chocolate River" -- ***see write-up at the end of document***

Concept Invention:

- Ask the students, **"Have they ever seen a wildlife crossing structure?"**, then ask **"What are some ways we can create a "crosswalk" for animals or prevent WVCs?"**
  (*Can use a whiteboard here to keep students engaged and help them see what you are talking about)*
  Write down the students thoughts and answers but definitely try to include some of the benefits listed below

- Introduce ways to create a "crosswalk" for animals/help animals cross the road/maybe even avoid the road: *(Again use a whiteboard to map this out for students to better visualize)*
    - Fencing (to direct animals to a "crosswalk")
        - **Most effective method** (with or without crossing structure, animal detection systems, tunnels, etc. this method reduced WVCs by greater than or equal to 80%
        - **Most cost effective method**
    - Crossing structures
        - Undercrossings
        - Overcrossing
        - Tunnels
    - Wildlife jump-outs
    - Signals (sensors detect when wildlife is near and blinks to raise awareness to drivers that an animal is nearby)
    - Reduce speed at night/when animals are most active (dawn & dusk)
    - Inputting mitigation strategies when planning to build a road

- Ask the students, **"What are some benefits of helping the animals cross the road?"** *(Again use a whiteboard to map this out for students to better visualize)*
  Write down the students thoughts and answers but definitely try to include some of the benefits listed below:
    - Teach the students a bit about the **benefits of wildlife crossing structures** to students to set them up for building their own wildlife crossing structures:
        - Small fragments of land can only support small populations (think about how there are less resources on that small plot of land now)
        - Predators are the earliest victims of habitat loss
            - Rely on roaming
            - Also tend to be main focus of large-scale conservation because they are usually a keystone species (*helps the entire ecosystem stay in balance)*
                - If a carnivore is removed, it creates a ripple effect within the whole food chain
                - Ex: Wolves!! -- such a keystone species to the Yellowstone ecosystem
        - Protecting wildlife is not the only way to coexist with wildlife, we have to reconnect them via wildlife corridors and "wildways"
            - Similar to how we built highways to link our habitats (cities, towns, etc.) we can connect animals to their cities/habitats
        - Corridors are especially important in relation to climate change
            - Rising temperatures are forcing species to adapt and move to cooler, higher, wetter, or drier habitats
            - Adapting like this is only possible for them if they can move!
        - Animals also have potential to collide with vehicles as well! (Wildlife Vehicle Collisions -- WVCs)
            - This can lead to car damage and ultimately cost a lot of money to fix cars

        - This can also injure animals and sometimes kill them (important to help avoid this!!)
        - 89% of WVCs happen on two-lane roads

Application:

- Now that we know a little more about wildlife crossings and what a safe "crosswalk" for animals may look like, we are going to create our very own wildlife crossings!!
- *Have the students collect materials from the surrounding area to create a wildlife crossing for their favorite animal -- encourage students to be as creative and imaginative as they would like! -- rotate around to ensure everyone is on task*
- Give the students about **10 minutes** to work on this activity

Reflection:

- Once all of the students have built their structures gather students back up to do a gallery walk of everyone's wildlife structures and have each student present their structure if they would like
- Then come back to a circle and pass around photos of wildlife structures that already exist (i.e. Banff, etc.), ask the students, **"Why are wildlife crossings important for both animals and humans?" "What are ways we can help wildlife safely cross the road?"** *(Again use a whiteboard to map this out for students to better visualize) -- write down whatever the students say and try to make sure these points are included in the answer to the "What are ways…." question:*
    - Fencing (deter the animals from crossing the road without their "crosswalk"
    - Jump-outs along fenced roads
    - Underpasses and overpasses
        - Can pass around pictures of existing underpasses/overpasses as well as ones are that going to be built soon
    - Signals for humans that animals are roaming the area
    - Speed reduction at night
    - Keep an eye out for animals as our parents are driving
    - Social media can be used to educate people about wildlife corridors!!

“Chocolate River” -- *this is an adaptation of chocolate river made specific to wildlife crossings*

Background/Overview
Humans have been connecting the places they live by building roads between those places. Animals are having a harder time connecting the places they live because of this development leading to habitat fragmentation.

Objective
To get all of the animals across the developing land using a “wildlife crossing”.

Materials
- ~15-20 foam pads (something for the students to step on)

Steps
1. Create the road that the “animals” (the students) have to cross for the game -- *essentially draw two lines in the dirt or mark off two lines that are parallel and 12 ft. apart*
2. Have the students stand on one side of the road and hand each of them a foam pad. Tell the students this is their part of the wildlife crossing that is preventing habitat fragmentation. Each student is going to be an animal for the game, encouraging the students to choose an animal local to this area during the activity! The object of the game is to get all of the students from one side of the road to the other using their part of the wildlife crossing structure (the foam pad). The catch is that once the foam pad has been put on the road, a student (an animal) has to be touching it at all times. If there is no one touching the foam pad on the ground, it disappears and that space becomes a developed road :(

3. This may take several tries and that's okay! It encourages the students to work as a cohesive group and problem solve. -- *it usually takes the students a few tries to get this one and eventually figure out that they have to work as a team to get everyone to the other side of the road. Definitely let them fail a few times, offer them time to talk as a group and strategize about how to get everyone across the road and continue.*
4. Once the students have figured it out and gotten all of the animals across the road, come back together into a circle and reflect on the activity.
5. Ask the students, **"What was difficult about this activity?" "Does it seem easy for animals to cross roads?"** "We'll talk more about how to safely get animals across the road in just a minute. As we've learned here, it's difficult for them to get across the road and we have to help them!"

Wildlife Crossings - 9th-12th Grade

Theme:	*Wildlife undercrossings*
Essential Question:	*How can we identify problems in our community and create solutions to those problems?*
Content areas:	*Design thinking/design cycle, wildlife crossings, stewardship*
Teaching location(s):	*Classroom, Lava Lands*
Materials:	*Pictures of existing wildlife structures (i.e. Banff, lava lands structure, potential structure in LA)*

Objective:
SWBAT understand what a wildlife crossing is and why they help both animals and humans.
SWBAT identify a problem in their community and create their own solution to help solve it.
SWBAT identify ways to improve areas lacking safe wildlife crossings.
SWBAT successfully use design thinking.

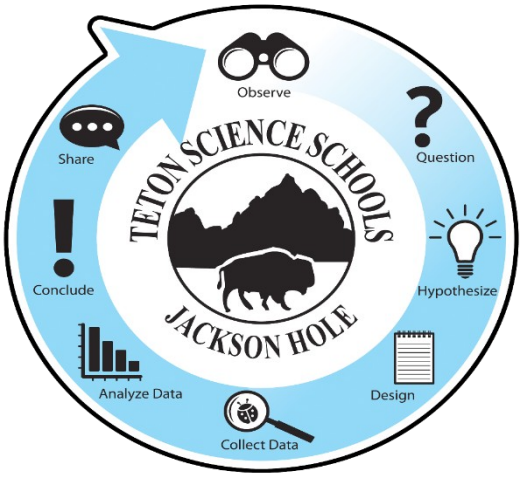
Invitation: (pre-visit)

Introduce yourself to the students in their classroom and what you are here to talk to them about wildlife crossings.

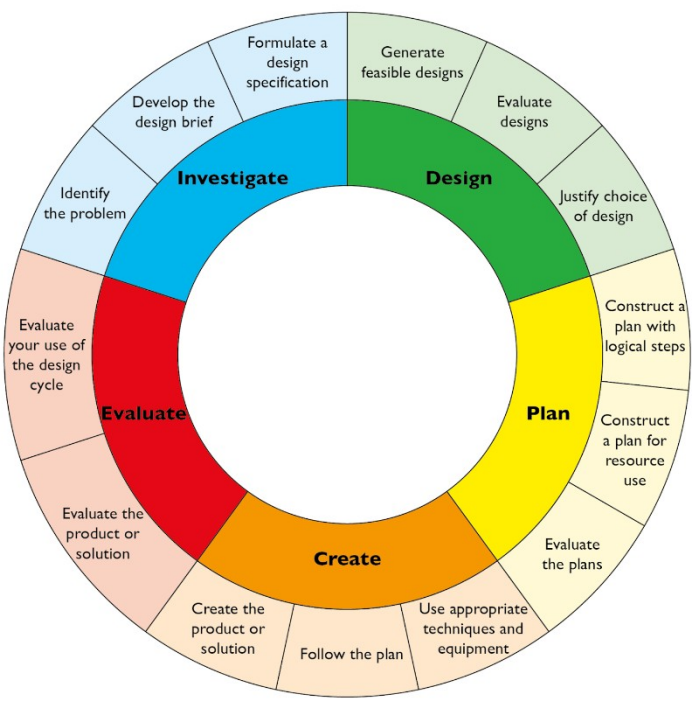
- Ask the students **"Has anyone heard of a wildlife crossing? If so, what is it?"**
- Then ask **"Why is it good to have these crossing structures for animals??"** -- *can write this on the board in their classroom*
    - Prevents habitat fragmentation/loss
        - Wildlife is most threatened by habitat loss!!
    - Allows for them to safely cross the road
- Now that we know a little more about wildlife crossings and how to safely help animals cross the road...we are going to explore wildlife crossings that exist and explore how humans identified a problem/issue and how they came to a solution for that problem.

But first we are going to briefly introduce "Design Thinking" through the "Design Cycle" before we do a short activity outside…

- Has anyone heard of the "Science Circle"?
    - Show a picture of the science circle and go through the steps of the science circle and mention this is the common way we look at science in school.



-
- Then introduce the idea of using a "Design Cycle" method to approach science…



- Michael Friesen, 2014
- Ask the students, **"What is different about this cycle compared to the previous cycle I showed you?"**
  - It is much more solution oriented compared to the science circle

Now we take the students outside to do a short activity to get them moving!

- Tell the students we are going to do an activity called "Where's my Ellie!?"

(The general object of the game is to take the stuffed animal (my stuffed animal was an elephant named Ellie -- hence the name of the game) from between the legs of the educator and get it back to the starting line or back to safety.)

- Method:
    - Create some boundaries for the students so they don't go too crazy..
    - Object of the game: the students are going to come up with a plan to try and steal Ellie from the instructor. The instructor will have their back to the students (who are about 20 ft. away). It's similar to the set up of "What Time is it Mr. Fox" or "Red light, Green light." Ellie (the stuffed animal) can't be thrown in the air and someone has to have a hand on the stuffed animal at all times, the stuffed animal can't be in a pocket, hidden under a shirt or coat either.
    - The students are going to be about 20 ft. away from the instructor and will have about a minute to strategize how to get Ellie from the instructor.
    - Once the students have created a plan, the instructor will turn their back to the students and say "Where's My Ellie!!" and then turns around and when the instructor turns around, the students have to be still. If one of the students moves, that one student goes back to the starting line. Keep saying, "Where's My Ellie!!" until the students get the stuffed animal back to the starting line.
    - Once the students have gotten the stuffed animal (Ellie), they have to sneakily get the stuffed animal back to the starting line. Each time the instructor turns around, they get to guess who they think has the stuffed animal. If the instructor guesses correctly, then all of the students have to go back to the start and the students try again. (this helps to create group bonding and cohesion)
    - Once the students successfully get Ellie back to the starting line with Ellie, you can make some more restrictions for the next round (i.e. every student has to touch Ellie before she gets across the finish line). Depending on how much time I have, I'll play 3-4 rounds or just two.
    - Sometimes I remind students that this is a team activity…that sometimes helps them think as a group rather than individually
- ***Reflection***:
        - Ask the students, **"Were you able to get Ellie back to the starting line on your first try?" "Did you have to test different ways to try and get Ellie?" "Did you have to edit your tactic after each round?"**

Once the activity is over bring the students back in to the classroom to reflect on the activity:

- **Was there any way this activity relates to the design cycle I introduced earlier? In what ways did it relate or not relate?**
    - <u>Define Problem</u>:
        - Like a scientist (observe, ask questions, collect data)
        - Q: What was our problem statement? (we need a way to retrieve Ellie without the instructor seeing and everyone touched the bottle)
    - <u>Plan a Solution:</u>
        - Try different solutions "How might we plan solutions?"
        - Tried different ways to get Ellie back to the start/ "safe zone"
    - <u>Create:</u>
        - Try the methods out and workshop them

- Evaluate:
  - If it worked, we won. If it didn't we tried a new method
  - Almost had to go through the design cycle a few times before getting to the "end"

Exploration: (pre-visit)

Now that we know a little more about design thinking...let's start talking about wildlife crossings!

- In groups of 3-4, have students review some articles about wildlife crossings
- Give the students 7-10 minutes to read the articles and identify what the problem was that needed the wildlife crossings as a solution in the article they are given
  - Come back together as a group and have each of the groups share the "problems" that were identified from reading the articles -- *write what the students found as the problems on the board*
- Now that we have identified the "problems", go back through your articles and identify what "solutions" were made in order to address these problems (give the students about 5 minutes because the articles are familiar to them)
  - Come back together as a group and have each of the groups share the "solutions" that were created in order to address the problems previously found -- *can add these to the board next to the problems previously identified*
  - Can even put it in a T-chart style graph and only write up problem first, then add in solution when you give them that assignment
  -

Problem	Solution

- ***Reflection***:
  - Go over some of the problem→ solution ideas given by students
  - Make sure everyone understands how a problem was identified, and a solution was created in order to fix it

Concept Invention: (pre-visit)

Now introduce that they will all be doing a project relating to wildlife crossings in their own community!

- Tell the students they are going to identify an area in the community where they think safe wildlife structures can be implemented as a solution to a problem in that area (could be WVCs, not enough signage, lack of education, etc)
- This is where we could have a local wildlife biologist or engineer come visit the classroom to talk to the students about what they do and how they address wildlife crossings in their work
- Once students have heard from local experts in certain fields, have students get into groups of ~4 to identify a problem in the area relating to wildlife crossings by reading some articles
  - Give students about 3-5 minutes to discuss and identify a problem
  - Come back together as a group and have each group share out what they thought -- *can write down all of these on the board*

    - Tell the students that we are going to choose one of the problems to focus on and create a solution for (maybe do a "blind vote" for this to narrow it down to one problem)
    - Once an agreement has been made about one problem, have the students get back into their groups of ~4 and come up with a solution that the class can do in order to address the problem (give the students 7-10 minutes to think of a solution)
        - If a group seems stuck, encourage them to draw it out and build off of existing ideas rather than try to create new ones
        - Remind students too this has to be something that we can actually do! It can't require large machinery, etc.
    - Come back together as a group to have students share their solutions and do another "blind vote" (where everyone closes their eyes or puts their heads down to vote) to decide which solution the class will tackle as a whole
- Once you all have come up with a solution to carry out you will be done for the day! The next step in this process is going out and implementing your solution in the community!

Application: (this will be out in the field)

Depending on what the solution for the problem is and where you will be doing it dictates how this day would go…

- You will want to re-introduce wildlife crossings and design thinking when you meet with the students this day. Could look like this…
    - **"Who remembers what wildlife crossing structures are?" "What about the design cycle and design thinking?" "Can someone walk me through the steps this class took to get to this solution?"**
- Next you'll carry out the solution you all came up with prior to getting here! (could be adding in some rock along the side of the road to prevent deer from walking across the road, could be signs, etc.)

Reflection: (this could be in the field after you've implemented your solution or it could be considered a post visit)

Now that we've done all of this work, we have to share it! A big part of science is sharing our findings with the public and educating people about issues in our community (some people may not even know that these issues exist!)

- We are going to create some kind of poster (or series of posters -- I sometimes find this gets more students involved rather than just having one poster) to put up in the school to educate other students about the work you just did and about issues that exist in our community.
- Give the students about 30-45 minutes to design and create the posters to hang outside their classroom or in a spot in school.

Now that we have created a solution specifically for wildlife crossings...I would like for you all to think about a problem that exists in your community...it doesn't necessarily have to do with wildlife or the environment if that isn't something that interests you.

- Give students about 10-15 minutes to journal and identify a problem in their community that they are interested in and what solution they come up with to address that problem
- Come back together and share their ideas if students would like to!

- Remind students there is always a solution to issues whether they are small scale or large scale

https://arc-solutions.org/new-solutions/
https://twistedsifter.com/2012/07/animal-bridges-around-the-world/

Wildlife Crossings - 3&4 Grade

Theme:	*Wildlife undercrossings*
Essential Question:	*Why are wildlife crossings important for both humans and animals?*
Content areas:	*Wildlife crossings and WVC prevention structures*
Teaching location(s):	*Lava Lands*
Materials:	*Tape (making the road for game), storybooks, materials to build wildlife structures (can be natural materials!), printouts of wildlife crossing coloring book (pg.13 of defenders of wildlife packet), pictures of existing wildlife structures (i.e. Banff, lava lands structure, potential structure in LA)*

Objective:
SWBAT understand what a wildlife crossing is.
SWBAT understand how to help animals cross the road.
SWBAT understand why wildlife crossings are good for both animals and humans.
SWBAT understand how animals might feel crossing the road without a crosswalk.

Invitation:

- Circle the students up, make sure every student is in the circle
- Ask the students "Has anyone heard of a wildlife crossing? If so, what is it?"
- Then ask "Why is it good to have these crossing structures for animals??"
    - Prevents habitat fragmentation/loss
        - Wildlife is most threatened by habitat loss!!
    - Allows for them to safely cross the road

Exploration:

- Play "Get in the Car and Drive!" game -- ***see write-up at the end of document***

Concept Invention:

- Ask the students, **"Have they ever seen a wildlife crossing structure?"**, then ask **"What are some ways we can create a "crosswalk" for animals or prevent WVCs?"**
  (Can use a whiteboard here to keep students engaged and help them see what you are talking about)
  Write down the students thoughts and answers but definitely try to include some of the benefits listed below

    - Introduce ways to create a "crosswalk" for animals/help animals cross the road/maybe even avoid the road: *(Again use a whiteboard to map this out for students to better visualize)*
        - Fencing (to direct animals to a "crosswalk")
            - **Most effective method**
            - **Most cost effective method**
        - Crossing structures
            - Undercrossings
            - Overcrossing
            - Tunnels
        - Wildlife jump-outs
        - Signals (sensors detect when wildlife is near and blinks to raise awareness to drivers that an animal is nearby)
        - Reduce speed at night/when animals are most active (dawn & dusk)
        - Inputting mitigation strategies when planning to build a road
- Ask the students, **"What are some benefits of helping the animals cross the road?"** *(Again use a whiteboard to map this out for students to better visualize)*
  Write down the students thoughts and answers but definitely try to include some of the benefits listed below
    - Teach the students a bit about the benefits of wildlife crossing structures to students to set them up for building their own wildlife crossing structures:
        - Small fragments of land can only support small populations (think about how there are less resources on that small plot of land now)
        - Protecting wildlife is not the only way to coexist with wildlife, we have to reconnect them via wildlife corridors and "wildways"
            - Similar to how we built highways to link our habitats (cities, towns, etc.) we can connect animals to their cities/habitats
        - Animals also have potential to collide with vehicles as well! (Wildlife Vehicle Collisions -- WVCs)

Application:

- Now that we know a little more about wildlife crossings and what a safe "crosswalk" for animals may look like, we are going to create our very own wildlife crossings!!
- *Have the students collect materials from the surrounding area to create a wildlife crossing for their favorite animal -- encourage students to be as creative and imaginative as they would like! -- rotate around to ensure everyone is on task*
- Give the students about **10 minutes** to work on this activity

Reflection:

- Once all of the students have built their structures gather students back up to do a gallery walk of everyone's wildlife structures and have each student present their structure if they would like
- Then come back to a circle and pass around photos of wildlife structures that already exist (i.e. Banff, etc.), ask the students, **"Why are wildlife crossings important for both animals and humans?" "What are ways we can help wildlife safely cross the road?"**
- Hand out papers for the students to color later!

<u>Get in the Car and Drive!</u> *(Taken from the "Watchout for Wildlife Lesson Plan")*

Background/Overview
Wildlife-vehicle collisions may seem inevitable, but many can be prevented with increased driver awareness. Drivers can reduce the likelihood of hitting animals by slowing down in wildlife areas, keeping windshields clean and learning to think like an animal. Most importantly, drivers AND passengers -- including children -- can learn to be more alert and watch for animals when driving in wildlife areas by scanning their eyes from roadside to roadside, watching for movement and reflective eyes.

Objective
You will build a chair car *(can also use logs or things from the surrounding area!)* to set up a scenario wherein the students will role play riding in a car and practice watching out for wildlife in groups. Other children will play the part of the animals. They will present their role play to the rest of the students. By making a game of it, children can learn to watch out for wildlife in a fun setting before doing it for real in their family cars.

Materials
- Chairs *(can also use logs or things from surrounding area)*

Procedure

1. Group the chairs (or logs) in a configuration like seats in a car. Leave 10-15 ft. of open space directly in front of the chair car to be the road. If you can find an area that has trees and bushes near it that can obscure the car's view like they do when driving. You can also use masking tape to create lanes on the road (or just draw it in the dirt -- or use sticks...be creative!)
2. Divide students into groups of 7-8 (4 for the car and the rest to be animals on the side of the road). Each group will create a skit to present to the rest of the group on how to properly watch out for wildlife when in the car! Encourage students to be creative but also ensure they are teaching how to safely watch for wildlife. Students pretending to be the animals can choose what animals they would like to be (but from this area) and can dress up as that animal if they can and or wish to.
    1. Encourage students in the car to say, "watch out for wildlife!" in an indoor voice

b. Give the students about 10 minutes to prepare a 2-3 minute skit to present to the rest of the group!
    1. If the students seem a little lost, give them a specific route to act out. Maybe it's where the undercrossing is at lava lands!

b. Once students have come up with their skits, have the first group go up to perform to the rest of the class. Then allow the rest of the groups to perform their skits as well.

c. After all groups have had their turn, ask the students, "What was it like to be in the car?" "What was it like to be an animal on the road?" Encourage the students to understand their role in actively watching for wildlife while in the car by remembering the three Ls:
    1. **L**itter -- Keep my litter in the car.
    2. **L**ook -- Look for wildlife near and far.
    3. **L**isten -- Don't act up, I'll be a star.

Wildlife Crossings - K-2

Theme:	*Wildlife undercrossings*
Essential Question:	*Why are wildlife crossings important for animals?*
Content areas:	*Wildlife crossings and WVC prevention structures*
Teaching location(s):	*Lava Lands*
Materials:	*Tape (making the road for game), storybooks, materials to build wildlife structures (can be natural materials!), printouts of wildlife crossing coloring book (pg.13 of defenders of wildlife packet), pictures of existing wildlife structures (i.e. Banff, lava lands structure)*

Objective:
SWBAT understand what a wildlife crossing is.
SWBAT understand how to help animals cross the road.
SWBAT understand why wildlife crossings are good for both animals and humans.
SWBAT understand how animals might feel crossing the road without a crosswalk.

Invitation:

- Circle the students up, make sure every student is in the circle
- Ask the students **"Has anyone heard of a wildlife crossing? If so, what is it?"**
- Then ask **"Why is it good to have these crossing structures for animals??"**
    - Prevents habitat fragmentation/loss
        - Wildlife is most threatened by habitat loss!!
    - Allows for them to safely cross the road

Exploration:

- Game, *"How did the animal cross the road?"* -- ***see write-up at the end of document***

Concept Invention:

- Gather students back up into a circle and tell the students we are going to read a story!
- Read the students a story about wildlife crossings
    - https://www.amazon.com/Crossings-Extraordinary-Structures-Animals/dp/1534465790/ref=sr_1_2?dchild=1&keywords=wildlife+crossing+children%27s+books&qid=1586379081&sr=8-2

    - https://www.amazon.com/Wildlife-Crossings-Save-Animals-Howd/dp/1543541380/ref=sr_1_8?dchild=1&keywords=wildlife+crossing+children%27s+books&qid=1586379081&sr=8-8
- Ask the students, **"What is something you learned from this story?" "What is a wildlife crossing?" "How can we help wildlife get across roads safely?"**

Application:

- Introduce that we are going to build our own wildlife structures!
- We are going to build our own wildlife crossing structures using materials we can find around us!
- *Give the students about 10 minutes to gather materials and build their own wildlife structure for their favorite animal! Encourage students to be as creative and imaginative as they like! -- rotate around and help to keep students on task.*

Reflection:

- Once all of the students have built their structures gather students back up to do a gallery walk of everyone's wildlife structures then pass around photos of wildlife structures that already exist (i.e. Banff, etc.)
- Gather students back up in a circle and ask students, **"Why are wildlife crossings important for animals?" "What are ways we can help wildlife safely cross the road?"**
- Hand out papers for the students to color later!

How Did the Animal Cross the Road? *(Taken from the "Watchout for Wildlife Lesson Plan")*

Background/Overview

Animals come in all sizes, shapes and speeds. Some move faster than others and can cross a road more easily without getting hit by a vehicle. Slower animals like turtles, frogs and snakes need more time to cross safely. Just like people! But animals don't have crosswalks.

Objective

This fun indoor or outdoor exercise helps children understand the crossing of a road from the animal's point of view.

Materials

- Measuring tape
- Something to mark the start and finish
- Wide tape

Steps

Mark off the width of a two lane road and/or a four lane road (depending on the typical road type in your area), the standard width of each lane is 12 feet. If you are feeling ambitious, use wide tape to recreate a section of road, complete with side lines and dashed center line.

1. Introduce the students to animal crossings using the lesson above, feel free to add in your own experience with wildlife crossing structures too!
2. Focus questions:
    1. Have you ever tried to cross a road without a crosswalk?
    2. Have you seen an animal try to cross a road?
    3. Do you think it would be easier or harder for small animals to cross a road?

b. Move to your activity location -- if indoors, a gymnasium or other open space is best. A hallway would also work in a pinch.
c. Move to the area you previously marked off as the road.
d. Ask students what their favorite animal is or have them choose an animal from a hat
e. Taking turns, have each child or group pretend they are the selected animal and cross the road. For example, the "frogs" will crouch on all fours and leap like a frog until they cross the road. Encourage them to make the animal sounds while they are crossing.
f. For additional fun, you can play this charades style. Tell the students to keep their animal a secret and have the rest of the class guess which animal they are.
g. When everyone has had their turn, ask the children to discuss how they felt crossing the road as the animal. Ask them what they think animals are thinking when they cross the road.

2019 Annual Report

DISCOVER YOUR FOREST

Friends of the Deschutes & Ochoco National Forests & Crooked River National Grassland

Discover Your Forest is dedicated to promoting the discovery of Deschutes and Ochoco National Forests and Crooked River National Grassland by enriching the experience of visitors, building community support and creating the next generation of environmental stewards.

PROUD PARTNER OF

WWW.DISCOVERYOURFOREST.ORG

Dear Supporters,

For Discover Your Forest, 2019 was a year of challenges and changes on the Deschutes and Ochoco National Forests and Crooked River National Grassland. We are proud that with the support of our staff, partners and supporters we were able to connect more people than ever with their public lands and to raise more funds for our National Forests than in any year in our history.

We began 2019 with the longest federal funding lapse and subsequent government shut-down in our Nation's history. We were truly inspired by the generosity of our community as we navigated this unprecedented challenge. As we endeavor to support our Public Lands partners in this tumultuous political climate, your support is more important than ever.

2019 also brought the retirement of long-time champion of Discover Your Forest and Deschutes National Forest Supervisor, John Allen. We credit much of our success in programming and community support to John's efforts. We wish him well in his retirement as we excitedly welcome Holly Jewkes as our new Forest Supervisor and committed partner.

Our conservation education and interpretive programs continue to grow in both quality and quantity. We could not make this happen without the support of our partners. Program and funding support from the US Forest Service, the Children's Forest of Central Oregon, Deschutes Recreation and Mt. Bachelor allows us to pursue our mission of creating the next generation of environmental stewards. We are extremely proud to have served thousands of kids and visitors, but are especially proud to have expanded the number of hours spent outdoors for students in our free field trip programs.

This year, our volunteers on the Deschutes and Ochoco National Forests donated a record setting number of hours to conservation in our region's special places. Whether they worked as interpretive rangers, trail crews or as volunteer archaeologists, the passion that our volunteers brought to the forest made a tremendous impact. Our residential volunteer program grew tremendously this year as we welcomed 12 new camp host positions in the Newberry Caldera. We are so thankful for the support of these amazing individuals!

Year after year, we continue to be inspired by the generosity of our Central Oregon community. For those who have donated or become a member: thank you. You make our work possible, and your commitment to our forests inspires us each day.

We look back on 2019 as a year in which we triumphed over adversity. As we look ahead, we hope to deepen the connections between our communities and their public lands. With your support, we believe that our National Forests can become places for learning, discovery and connection for all.

With Gratitude,

Rika Ayotte
Executive Director
Discover Your Forest

DISCOVER YOUR FOREST

Friends of the Deschutes & Ochoco National Forests & Crooked River National Grassland

By The Numbers

$750K+ Raised to support our Forests

350,000
Visitors reached through visitor centers, programs, volunteer rangers and publications

25 Residential and camp host volunteers

37 Campfire interpretive programs across the forests

VOLUNTEERS 3,818

Volunteer Hours

2019	117,373 hrs
2018	125,243 hrs

Volunteer Service

2019	2.98 million
2018	3.09 million

11,615 Kids
Discover Your Forest served 11,615 kids through free school programs

241 Student days outdoors

2,817+ Jr Rangers Sworn in

In 2019 DYF hosted **16 Internships** on the Deschutes and Ochoco NF, paying over **$45,000** in stipends

Get Involved

At Discover Your Forest, we want you to do more than just visit your Public Lands. If you love our National Forests, there are so many ways that you can connect, give back and make a difference in these special places. Here are a few ways to get involved:

Volunteer Central Oregon's National Forests are lucky to have an incredible group of diverse and devoted volunteers. Discover Your Forest helps to recruit, train and support these amazing individuals. We are always looking for volunteers to interact with visitors, work on trails, assist with monitoring projects and much more. If you are interested in learning more, attend our upcoming volunteer information night on **March 18th from 6-7:30pm**, or visit discoveryourforest.org/volunteer

RSVP to Stacey.cochran@discovernw.org

Attend a Program Joining Discover Your Forest for an interpretive program or fundraising event is a great way to strengthen your connection to your public lands. We focus on providing high quality interpretive content while exploring some of Central Oregon's most beautiful places. Visit discoveryourforest.org/all-programs to join us for our next adventure!

Donate By investing in Discover Your Forest, you are helping to support important programs to ensure the future of our Central Oregon forests. We offer a variety of ways to support us financially, and every dollar helps. Learn about all of them at discoveryourforest.org/donate

Become a Member You can show your support for the Deschutes and Ochoco National Forest and Crooked River National Grassland by becoming a member of Discover Your Forest. Your membership funds go toward conservation and interpretive efforts on our local National Forests.

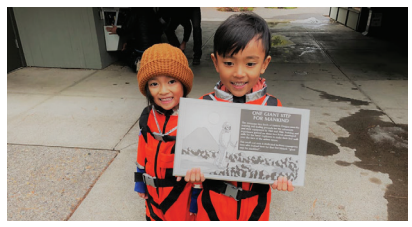
For just $25 per year, you will receive:
15% Off In all DYF stores, along with reciprocal discounts in over 100 stores across the US, members only quarterly outings and discounts, as well as access to our quarterly newsletter and much more.

Creating the Next Generation of Environmental Stewards

At Discover Your Forest, we believe in the power of change. We believe the best gift we can give to future generations, and the best legacy we can leave behind, is a community of environmentally literate youth who are equipped with the skills to address current and future environmental challenges.

We offer programs across Central Oregon serving children from pre-school through college. All of our programs are offered completely free of charge. We fundraise and strive to make sure that all children have the opportunity to fully participate regardless of their ability, language or socioeconomic status.

You can support these programs by volunteering, donating or simply helping to share our programs with parents and educators in your life. Together we can create the next generation of environmental stewards.



We want all students in our programs to:

- Learn to enjoy the outdoors and develop a positive attitude toward the natural world
- Observe and experience nature, becoming familiar with its systems and species
- Understand the ecological web and its importance within Central Oregon and across the globe
- Become environmentally literate and assume responsibility for the future
- Understand the impact humans have on the environment and how to mitigate these impacts

Impactful Volunteer Service

In 2019, forest and grassland volunteers made an undeniable impact. Volunteers maintained hundreds of miles of trail; wielding pulaskis, shovels and crosscut saws to make sure that your winter and summer trail experiences are the best they can be. Volunteer Interpretive Rangers educated tens of thousands of visitors and students about good stewardship and protecting our natural resources. These folks are truly on the front lines of our forests and their impact cannot be understated.

Many other volunteers helped to support our forests and grassland by building and maintaining fences, removing tons of trash from our forest floors, protecting archaeological sites, monitoring and protecting wildlife inhabited caves, conducting informational surveys and forest inventory counts, removing invasive plants, caring for our many wild and scenic rivers and streams, protecting our heavily populated wilderness areas, manning fire lookouts and supporting geology projects.

We honored 78 volunteers who were awarded the Presidential Volunteer Service Award for hours of service completed during our Volunteer Appreciation Event. We are grateful to so many dedicated individuals who gave their time, knowledge and spirit to protecting and maintaining our most treasured landscapes.

Testimonials

Torie Withers
TEACHER

"I think that DYF has done a great job of creating an inclusive experience for my students by partnering with compassionate and highly educated program leaders. On the most recent trip that we attended, several of my students have mobility and cognitive challenges, and yet they were just as involved and included on the trip and had extremely positive experiences that they will never forget."

Ranger Rick Hurd
VOLUNTEER

"Discover Your Forest staff are always happy to go out of their way to answer questions and make sure I have whatever is needed to complete my tasks. Volunteering allows me to give something back for the many experiences I enjoyed in the forests."

Roger Worthington
DONOR

"This fall our Worthy Garden Club launched Operation Appleseed, with the goal of planting more than a million trees across the state, one of the best things we can do to mitigate the climate crisis. We wanted to work with a local partner in the Deschutes who speaks for the trees with a track record of translating words into action. Naturally, we chose Discover Your Forest."

MEET OUR STAFF

Rika Ayotte — *Executive Director*

Rika has been the Executive Director of Discover Your Forest since 2015. Her background is in museums and she has experience in executive leadership, public programs and education. Rika's role is to grow the philanthropic support base, to ensure our financial future and to enable us to better serve our public lands.

Stacey Cochran — *Community Engagement Director*

Stacey has been part of the team since 2014. She oversees our career pathways programs and does the recruiting, on-boarding, training, scheduling and stewarding for hundreds of volunteers each year.

Amy Jensen — *Marketing and Events Director*

Amy joined the team in 2019. Her role includes the planning and execution of major annual fundraising events such as Stars Over Newberry, Campout for Public Lands, and Backcountry Film Festival. She also runs our membership program and oversees all marketing efforts.

Becky Yaeger — *Conservation Education Specialist*

Becky became one of our Conservation Educators in 2018. Becky coordinates conservation education programs at Mt. Bachelor, Newberry Volcanic National Monument, and other sites across the forests.

Karen Gentry — *Education Director*

Karen has been with Discover Your Forest since 2010. She oversees the creation and facilitation of all of our programming; spanning seasons, topics, audiences and forests. She also acts as the trainer for our volunteer interpreters, and leads community projects throughout Central Oregon.

Gail Whelan — *Retail Operations Coordinator & Business Manager*

Gail has been with DYF since 2012. She is responsible for 10 retail stores in Central Oregon and manages recreation pass sales for our Forest Service partners at another 5 sites. She stocks forest visitor centers with a wide variety of interactive and fun educational retail items.

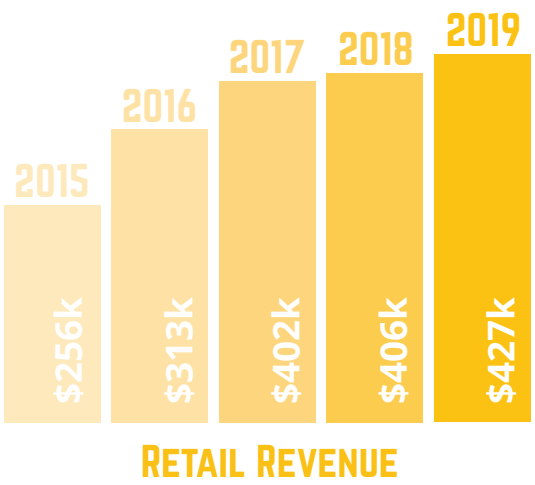
Bess Ballantine — *Conservation Education Specialist*

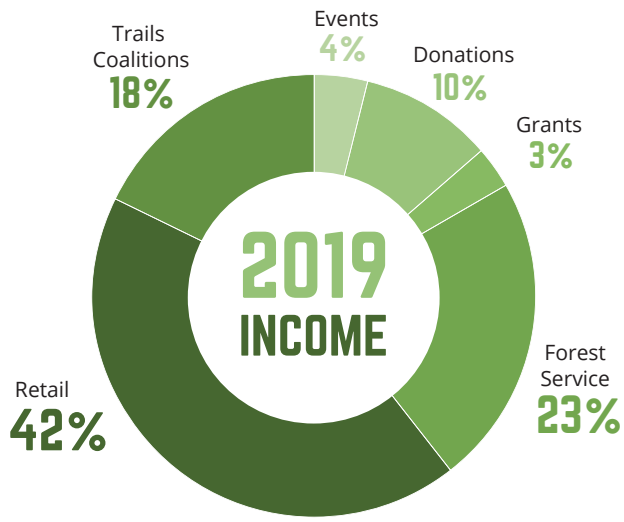
Bess joined the Discover Your Forest Team in 2016. Bess is responsible for connecting Forest Service specialists with middle and high school students to give them positive and informative experiences on the forest.

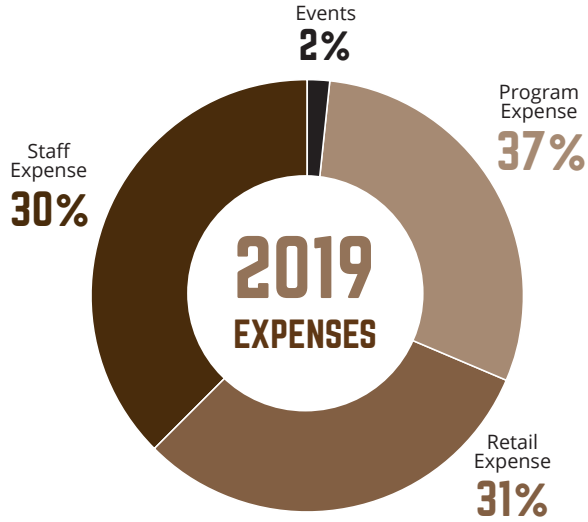
Anna Salber — *AmeriCorps Member - Volunteer & Career Pathways Coordinator*

Anna is an AmeriCorps Volunteer serving with Discover Your Forest from September 2019 - August 2020. Her role is to help propel our Career Pathways program forward and to coordinate conservation volunteers on the Forest.

Financials







Our Donors

$10,000+

Mt. Bachelor
REI
US Forest Service
US Fish and Wildlife Service
Visit Central Oregon
Roger Worthington
Worthy Garden Club

$5,000+

Cascades East Transit
Children's Forest of Central Oregon
National Wilderness Stewardship Alliance
Deschutes Recreation

$2,500+

Impossible Engine
Anonymous
Worthy Brewing Company
PNWSA

$1,000+

Abney Solar Electrix
Affinity Outfitters
Exxon Mobile
Pinnacle Architecture Inc.
Safeway Alberstons
G5
Bert Swift
Sisters Movie House

$500+

Sunriver Brewing
The McCann Family
Central Electric Cooperative
Human Movement
Drannan Hamby
The Suttle Lodge & Boathouse
The Meat Locker
Bonnie & Seth Huggins
David & Vicki Tavares
Elk Lake Resort & Marina
Rob & Betsey Little
Victoria Gordon & Bob Bradley

DISCOVER YOUR FOREST

Discover Your Forest would also like to recognize and thank the hundreds of other donors and members who provide additional support throughout the year.

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#15 – Western Pond Turtle Distribution in the Columbia Slough using Community Science Volunteers

Title: Western pond turtle distribution in the Columbia Slough using community science volunteers.

Contact person:

Laura Guderyahn, MSc
Natural Resource Ecologist
Portland Parks and Recreation and Northwest Ecological Research Institute
4814 SE 41st Ave, Portland, OR
(503) 823-6736
lguderyahn@gmail.com

Lead Organization – Northwest Ecological Research Institute (www.nweri.org)

Partners:

- Northwest Ecological Research Initiative – www.nweri.org
- Portland Parks and Recreation
- Port of Portland
- METRO Regional Government
- Multnomah County Drainage District
- Native American Youth and Family Center - https://nayapdx.org/
- Columbia Slough Watershed Council - https://www.columbiaslough.org/
- Community Transition Program (PPS) - https://www.pps.net/domain/412
- Youth Program from the Parkrose Community United Church of Christ (PCUCC) - https://www.parkroseucc.org/

Program Priorities Met:

This project fulfills several program priorities under both the Recreation and the Conservation focus areas.

Conservation Project Focus:

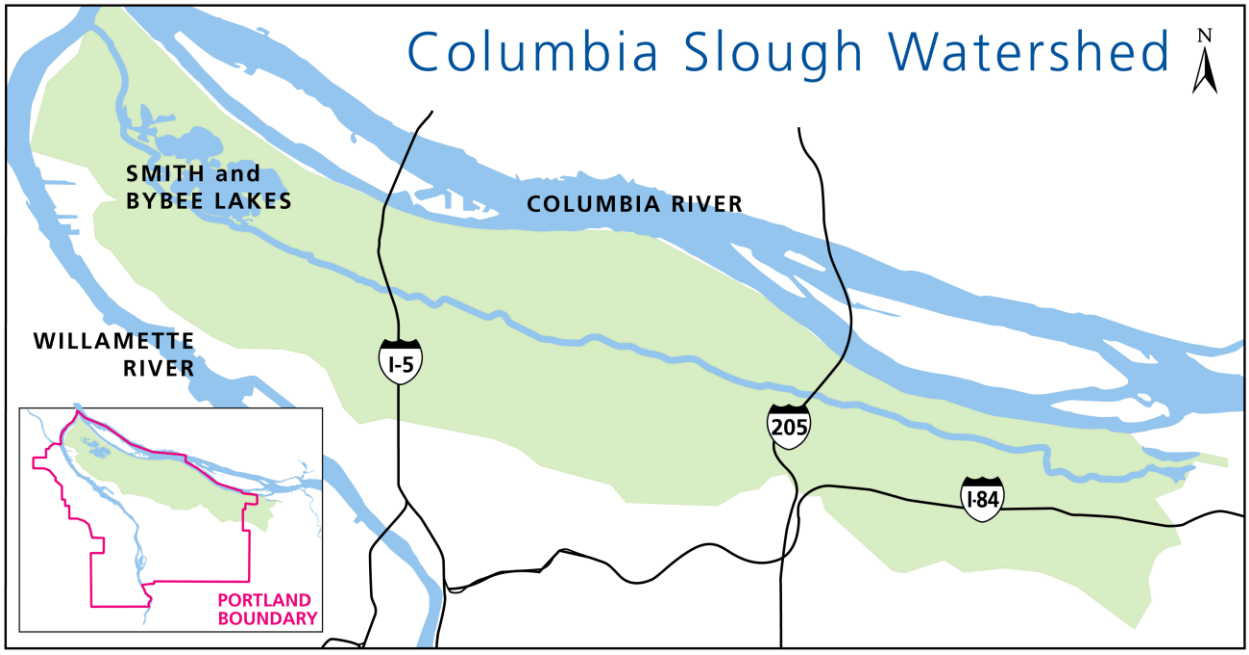
Once common from Baja California to Puget Sound, the small, long-lived western pond turtle (*Actinemys marmorata*) is listed as endangered in Washington and threatened in Oregon. It has also been petitioned for federal listing under the Endangered Species Act (currently listed as a federal species of concern) and is a priority species in the Oregon Conservation Strategy. A comprehensive survey to update presence data on the Western pond turtle in the Columbia Slough will allow for more effective and targeted conservation of this species, specifically related to habitat creation/restoration and connectivity between groups of individuals.

Recreation Project Focus:

This project will be led by experienced turtle researchers but will also utilize trained volunteers of all ages from underserved communities, including teens and adults from the native community, teens experiencing houselessness, teens that identify as LGBTQ, and community members of color that live in the Columbia Slough watershed. Our hope is to not only collect valuable data on this imperiled species, but to also increase stewardship, knowledge and enjoyment of the outdoors for all communities living near the Columbia Slough.

Geography/Ecoregion:

Columbia Slough Watershed, Portland METRO area, Intertwine Region, Willamette Valley Ecoregion



Connection to OCS

The Oregon Conservation Strategy has identified the Western Pond turtle as a strategy species. The limiting factors for this species throughout its range include:

- Conversion of habitat to industrial, residential and/or agricultural uses
- Invasion of invasive plants that degrade the required vegetation communities of important habitats
- Road mortality
- Predation by raccoons, fish and bullfrogs
- Competition from invasive turtle species

This project will help to fulfill data gaps identified in the Oregon Conservation Strategy for this species, including:

- Gathering of basic life history information
- Describing population dynamics
- Improving understanding of hatchling ecology

The gathering of critical population dynamics information such as population size, sex ratios, age ratios, etc. will be used as the building blocks for understanding the effects of habitat degradation, road mortality, predation and the effects of non-native species. This project also aligns with a larger state-wide effort, the Oregon Connectivity and Assessment Monitoring Project (OCAMP) which seeks to identify, map and conserve movement corridors for some of Oregon's most imperiled wildlife. The Western pond turtle is one of the surrogate species being targeted for this effort and the project described in this application will add to this larger effort by providing critical information on urban habitat connectivity and use by this species. The methodology used for visual encounter surveys for this project will be the same as that used by OCAMP so that the data will be comparable and easy to include in the OCAMP occupancy model.

Funding Amount Requested: $10,300

Total Project Cost: $20,500

What will OCRF dollars be spent on:

BUDGET

Expense	Unit Cost	# Units	In-kind	OCRF Request	Total
Personnel					
Lead Researcher	$40/hr	320	$ 8,000	$ 4,800	$ 12,800
Assistant Researcher	$25/hr	100		$ 2,500	$ 2,500
Materials					
Waders	$100/pair	12	$ 1,200	$ 200	$ 1,400
Turtle Traps	$100/trap	30	$ 2,000	$ 1,000	$ 3,000
Turtle Bait				$ 200	$ 200
Education/Recruitment Materials			$ 500	$ 100	$ 800
Administration/Overhead (15% of project cost)				$ 1,500	
TOTALS			**$ 11,700**	**$ 10,300**	**$ 20,500**

Budget Narrative:

Most of the funding for this project is intended for personnel expenses. The lead researcher will donate 200hrs of time to this project as in-kind, with the remaining estimated 120hrs being paid for by this grant. An assistant researcher will also be hired to help with trapping surveys as well as organizing community science events.

Additional funding is requested to cover minimal material costs. The majority of these costs will be donated, however, $1500 is requested to purchase 2 pairs of waders, 10 turtle traps, bait for turtle traps, as well as to offset education/recruitment material costs such as copying charges, posters and pamphlets.

Finally, NERI will act as fiscal sponsor for this project and will receive an overhead benefit of roughly 15% of the project costs to help manage the grant financials and reporting.

Timeline:

Month/Year	Activity
August 2020	Hire assistant researcher
	Obtain materials
	Verify VES survey protocol with OCAMP leads
	Outreach to community to schedule events
September - November 2020	VES with community members at 12 sites throughout the slough watershed
	Trapping at 5-6 of most promising sites
December 2020	Summarize and share data; final report to OCRF leads

Abstract

This project seeks to verify the presence and distribution of an OCS Priority Species, *A. memorata,* throughout the Columbia Slough watershed. Using a combination of visual encounter surveys and hands on trapping, we will utilize community volunteers to document the turtle species composition at a minimum of 12 sites throughout the slough (all sites will be on public property and access will be requested from land managers). Special focus will be placed on recruiting volunteers from historically underserved communities in order to increase education and stewardship of the slough in general, and native turtles specifically. Partnerships for this project include NAYA, the CSWC, the TCP, and PCUCC.

Historical records show the slough as being an important habitat area for this species, but recent surveys have shown very few turtles of this species left in the watershed. Habitat conversion, reduction in habitat connectivity, and overpopulation of non-native species are major threats to this species. The data collected through this project will be utilized by local land managers to improve habitat and connectivity throughout the watershed. This project is aligned with the ODFW OCAMP project and will be working with that project to incorporate collected data into their occupancy model for this species.

Reporting/outcome measurement

This project will use the following outcomes to measure success:

- Hours of community volunteers spent on the project (goal = 300hrs)
- # sites surveyed (VES and/or trapping) (goal = 12 VES and 5-6 trapping)
- # turtles captured by species (no goal, but estimate 200 turtles trapped, additional 300 seen in VES)
- Demographic data of turtles captured (size, weight, gravidity, etc.)

A final report summarizing our findings will be assembled and provided to the ORCF leads by the end of the calendar year.

Other media/information sources on the project:

This project will utilize partner websites to promote the project and recruit community volunteers.

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#16 – Portland Audubon Backyard BioBlitz

Oregon Conservation and Recreation Fund Project Proposal (Short-term expenditure proposal)

Title: Portland Audubon Backyard BioBlitz

Contact: Bob Sallinger, Conservation Director
Audubon Socirty of Portland
5151 NW Cornell Road
Portland, OR 97210
Phone: (503) 380-9728
Email: bsallinger@audubonportland.org

Lead Organization: Audubon Society of Portland

Partners: Urban Greenspaces Institute

Program Priorities Met:

1. **Promoting the health of Oregon's ecosystems and fish and wildlife species by implementing conservation programs and strategies identified in the Oregon Conservation Strategy, including conservation programs and strategies for the nearshore identified in the marine component of the Oregon Conservation Strategy**: The Backyard BioBlitz provides valuable information about the wildlife that Portland Metro Area residents are observing in their yards and neighborhoods. This information will assist in developing strategies for urban wildlife management, promoting stewardship, preventing wildlife hazards and reducing human-wildlife conflicts.

2. **Improving engagement of the public in wildlife watching, hunting and fishing opportunities and in other outdoor recreation opportunities related to and in support of healthy fish and wildlife and habitats**: The Backyard BioBlitz directly engages the public in wildlife watching opportunities by encouraging them to go out once per week to observe and report the wildlife that they are seeing within a one block radius of their home. The program provides an interactive forum in which participants get weekly reports, access to additional resources to promote increased understanding of local biodiversity, stewardship, prevent wildlife hazards and to reduce human wildlife conflicts.

3. **Improving educational outreach and engagement of the public, including diverse and underserved communities, related to and in support of healthy fish, wildlife and habitats**: While this program is suited to engage naturalists of all skill levels, it is specifically designed to

engage people/ groups who are developing an interest in the wildlife that surrounds them. It is absolutely critical that we reach out to this audience to build and expand support for wildlife conservation and to create a more sustainable, wildlife friendly urban landscape. This program is specially focused on urban audiences in the most urbanized area of our state. Audubon has a strong commitment to Diversity, Equity and Inclusion. This program was initially conceived as a short-term project to address a need for substitute programming during the Covid-19 crisis and in its early phases was only able to conduct general outreach and engagement. One of our goals as we convert the program to a standing (long-term) program is to be more intentional in terms of DEI including exploring DEI partnerships, engaging underserved schools, etc.

4. **Engaging in, and providing funding for, joint projects of the department and the State Parks and Recreation Department or other state agencies as recommended by the Oregon Conservation and Recreation Advisory Committee:** N/A

5. **Other conservation, management, research, habitat improvement, enforcement, outdoor recreation or education activities:** Audubon's goal is to always move people along a continuum from appreciation of wildlife to understanding and ultimately to action. In addition to collecting data about the wildlife the people are experiencing in their own yards and neighborhoods, the Backyard BioBlitz is designed to provide ongoing feedback to participants (and to the public at large through earned media) about how they can engage in local conservation activities. For example the program ties directly to the joint Portland Audubon/ Columbia Land Trust Backyard Habitat Certification Program which provides technical assistance and certification of yards as wildlife habitat (6,000 yards currently enrolled in the Clackamas, Multnomah, Washington and Clark (WA) Counties.)

Short-term Program Funding Priorities Met: The Backyard BioBlitz project meets both Conservation and Recreation Priorities defined by the OCRF Committee. First, in engages urban audiences in a community science project designed to provide weekly data on what wildlife community members are observing in their yards and neighborhoods. This will provide valuable information in terms of urban wildlife management, promoting wildlife stewardship, reducing wildlife hazards and reducing human-wildlife conflicts. The BioBlitz will provide a weekly snapshot of what urban residents are observing which will allow us to better tailor our urban wildlife conservation strategies on both a short-term and long-term basis.

Second, the Backyard BioBlitz Project meets the recreation goals of the OCRF by serving as a tool to engage the general public in observing and conserving the wildlife that exists in their yards and neighborhoods. In a society that is increasingly urbanized, it is critical that we engage urban audiences in wildlife conservation both close to home and across the Oregon landscape. While the BioBlitz is appropriate for participants of all skill levels, it is specifically designed to engage people with an entry level interest in the wildlife that surrounds them. The program is designed not only to engage people in an easy and fun collection of wildlife data, but also to provide them with information and avenues to become further involved in conservation efforts. In our first ten weeks of conducting the project we have had a wide range of people engage from expert naturalists to novices noticing the wildlife in their yards for the first times. It has included school groups, publicly elected officials, families, journalists and wildlife professionals.

Geography/Ecoregion: Willamette Valley

Connection to OCS: The OCS explicitly recognizes the importance of wildlife conservation in urban areas and engaging urban audiences. https://oregonconservationstrategy.org/conservation-toolbox/conservation-in-urban-areas/?highlight=urban The OCS states:

> *The role for urban ecosystems in fish and wildlife conservation has become increasingly recognized in recent decades. Public greenspaces set aside in urban areas engage people in nature and enable residents to enjoy the outdoors where they live and work. This builds an awareness of habitat conservation and restoration actions that they can see every day*.

The Backyard BioBlitz Project is an ideal program to address several of the "Limiting Factors and Recommended Approaches" outlined for urban ecosystems in the OCS. By engaging urbanites in this interactive and ongoing program, Portland Audubon and its partners will be able to better address the following limiting factors/ approaches: 1) Need for education outreach 2) the need for more urban wildlife data 3) the need to reduce wildlife hazards 4) the need to reduce human-wildlife conflicts 5) the need for expanded stakeholder involvement 6) the need to integrate social and ecological concerns 7) the need to promote ecological restoration. We view this project as a potentially powerful vehicle to engage urbanites in an fun and interactive project that will create an ongoing feedback loop that will allow us to refine our approaches to these issues and deepen the public's engagement with these issues.

Funding Amount Requested (prefer under $10,000): $6,000

Total Project Cost: $10,000 initial costs plus ongoing operational staffing costs

What will OCRF dollars be spent on:

- Improving research platform and design to increase quality data collected $1,500
- Improving web-based engagement tools (webpages, facebook friends group, public reporting forms $1500
- Staffing/ Contracting for project management $2500
- Professional services (Photographer/ Videographer) to support public engagement and outreach efforts $500

Timeline: We are in the process of converting the Portland Backyard BioBlitz to become a standing (ongoing) program of Portland Audubon. The Backyard BioBlitz was initially developed as a short-term response to the Covid-19 crisis in response to significant increases in the number people reporting sightings and requesting information about wildlife around their homes and neighborhoods. The Backyard BioBlitz launched on April 28, 2020 with an intended 10 week run. The interest in the program caused us to extend the program through August 2020 and now we are working to make it a standing program.

Abstract (~200 words):

The Portland Audubon Backyard BioBlitz is a fun interactive project that engages urban residents in collecting wildlife data in their own yards and neighborhoods and which provides participants with weekly reports and information about local natural history, wildlife stewardship, reducing wildlife hazards and avoiding human-wildlife conflicts. While it is appropriate for all skill levels, it is specifically

designed to engage people who at an entry level and just beginning to appreciate the wildlife that surrounds them. It follows Audubon's theory of change which seeks to move people along a continuum from appreciation to understanding to action. Participants are asked to report each Tuesday on the wildlife that they observe on that day within a one block radius of their home. Participation can be ongoing or intermittent. Participants also have access to a facebook friends group page managed by Portland Audubon on which they can post pictures, comments and questions about what they have seen. Participants receive a weekly report on what was observed by participants the prior week as well as information about opportunities to learn more about local wildlife, wildlife tips of the week, and opportunities to engage in local conservation efforts. This project was originally conceived and executed as a short-term response to a steep increase in wildlife inquiries and observations, as well as a demand for digital programing that we were seeing at the start of the Covid-19 crisis. Over the first ten weeks of this project, we have discovered that it is a powerful, interactive tool for engaging the community in wildlife watching and monitoring, as well as for getting information back out to the community about natural history, wildlife stewardship, wildlife hazards and reducing human-wildlife hazards. People engaging with the program include individuals ranging from experts to novices, families, school groups, media, wildlife professionals and elected politicians. A majority of the people participating are taking advantage of check-boxes on the reporting submission form to get further information about wildlife issues and opportunities. We have decided to convert this program from a short-term Covid-19 response to a long-term project and we are seeking funding to create more robust scientific, education and outreach platforms suitable for a long-term project. We would like to have this project upgraded by the late summer/ early fall as we see tremendous opportunity when school begins in the fall for families, school groups, etc. to integrate this program into their post-covid weekly structure. This program integrates and compliments several other Audubon urban wildlife programs including the Audubon Columbia Land Trust Backyard Habitat Certification Program (6,000+ yards enrolled in the Portland Metro Area), the Audubon Living with Wildlife Program (responding to 10,000-15,000 wildlife calls/ year) as well as other new Audubon digital programing such as "Ask a Birder" and "What's Happening this Week (in Bird Migration)."

Reporting/outcome measurement

1. Data Analysis: Weekly and annual reporting of data derived from the project
2. Number of people participating in the Backyard BioBlitz (weekly participants, repeat participants, cumulative participants)
3. Number of people requesting information about opportunities for further participation through Backyard BioBlitz
4. Digital Media Metrics: facebook friends, facebook posts
5. Earned Media: Number of earned media stories generated

Other media/information sources on the project:

- Portland Audubon Backyard BioBlitz Webpage: https://audubonportland.org/our-work/protect/habitat-and-wildlife/urban/portland-audubon-backyard-bioblitz/
- Portland Audubon Backyard BioBlitz Facebook Page: https://www.facebook.com/groups/2883978201685926

s

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#17 – Yaquina Head and Central Oregon Seabird Monitoring

Title: Yaquina Head and Central Oregon Seabird Monitoring Partnership

Contact person: Dr. Rachael Orben, Hatfield Marine Science Center, Oregon State University

Lead Organization: Oregon State University

Partners involved: Bureau of Land Management, US Fish and Wildlife Service, Oregon State University

Program Priorities met: Conservation & Recreation

Seabirds act as ecosystem sentinels, and monitoring reproductive success, phenology, and diet provides key information on the health and status of the marine ecosystems they depend on. Though common murres, Brandt's cormorants, pelagic cormorants, pigeon guillemots, and western gulls are not listed as key species in the Oregon Conservation Plan these abundant species offer a data rich understanding of seabird population health that can be broadly extrapolated to Conservation Strategy Species: the tufted puffin and marbled murrelet. All of the monitored species depend heavily on the forage fish in nearshore environment while they are nesting.
Lead by Oregon State University the seabird monitoring effort at Yaquina Head and other near-by colonies (e.g. western gulls, Cape Perpetua Marine Reserve; cormorant *spp*., Newport Bridge, pigeon guillemot nest box colony) offer formative experiential learning and research internship opportunities. While monitoring, interns engage with the public and share information about the seabirds and their ecology. With the Bureau of Land Management, OSU sponsors an Environment for the Americas Intern who engages in public outreach in the greater Newport area providing events and learning opportunities in both English and Spanish. Through stable funding provided by project partners, the goal is to support up to five interns a year. This includes providing interns mentorship, a stipend of at least minimum wage, summer housing, and opportunities to present their research to publish and scientific audiences.

Geography/Ecoregion: Nearshore

Connection to OCS: The focal species, with the exception of the western gull, are all Watch List Birds in the Nearshore Species OCS. Monitoring of these species is critical as they are sensitive to environmental change and offer insights into foraging conditions for Conservation Strategy Species (tufted puffins and marbled murrelets) that feed on similar forage fish species and are challenging to study. Annual common murre chick diets provide an index of the availability of forage fish. This includes OCS forage fish species (e.g. pacific sandlance, herring and sardines, smelts, codes, flatfish, and juvenile rockfish). From the murre diets it evident that the nearshore ecosystem changed in 2010, with the loss of pacific sandlance in the murre diets and an increase in smelts. The murre diet data are shared with NOAA for the CA Current Integrated Ecosystem Assessment. As a upper trophic level component of ecosystem bases management, seabird monitoring data are reported annually on the NOAA indicators webpage as well as in the annual State of the CA Current Ecosystem Report to the Pacific Fisheries Management Council every spring.

Funding Amount Requested (prefer under $10,000): $5,000/ year for 5 years

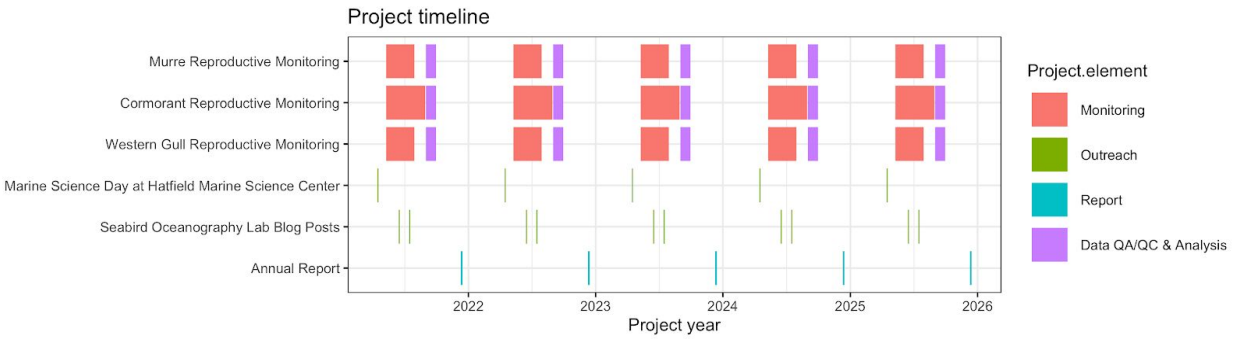
Total Project Cost: $150,000 ($30,000/year)

What will OCRF dollars be spent on:

Project Manager Salary (mentorship, training, data QA/QC) + OPE (0.55 mo, $3,685)
Annual Supplies ($100)

Internship Support ($779)
Field Travel ($200)
OSU Agricultural Research Foundation (ARF) 5% Processing Fee ($238)

Timeline:



Abstract:

The common murres at Yaquina Head, Newport Oregon have been monitored for 19-years, providing key information on the changes in the nearshore ecosystem health along the Oregon central coast. The Yaquina Head Seabird Monitoring Partnership provides outreach and engagement, internship training and experiential learning, time-series data for seabird population management (common murres, and cormorants), and monitors the health of the nearshore environment. This includes monitoring of western gulls in the Cape Perpetua Marine Reserve. This program has supported eight Environment For The Americas Interns, 19 Undergraduate Research Internships, and two Oregon State University Masters students. Results have been shared through four scientific papers, annual State of the California Current Reports and Integrated Ecosystem Assessments, annual project reports, and over 44 presentations to scientific, educational, and public audiences. Yaquina Head Outstanding Natural Area is one of the few, if not the only, locations in the U.S. where breeding common murres and other seabirds are readily watchable within a very short walk (wheelchair accessible) from a parking lot and within one mile from a major highway, providing an ideal forum to inspire the hundreds of thousands of annual visitors. Long-term monitoring efforts are challenging to fund but often provide key ecological insights and Yaquina Head is no exception.

Reporting/outcome measurement:

The annual success and output of the project will be documented by an annual report to project partners and stakeholders, data archival and sharing, the number of interns trained annually, the number of views of blog posts and associated social media posts, and the number of presentations and outreach events.

Other media/information sources on the project:

Seabird Oceanography Lab, Hatfield Marine Science Center, Oregon State University (web link)

Publications

Piatt, J. F., Parrish, J. K., Renner, H. M., Schoen, S. K., Jones, T., Arimitsu, M. L., et al. (2020). Extreme mortality and reproductive failure of common murres resulting from the northeast Pacific marine heatwave of 2014-2016. *PLoS ONE*, *15*(1), e0226087.

Gladics, A.J., R.M. Suryan, J.K. Parrish, *C.A. Horton, E.A. Daly, and W.T. Peterson. 2015. Environmental drivers and reproductive consequences of variation in the diet of a marine predator. Journal of Marine Systems 146:72-81.

Gladics, A.J., R.M. Suryan, R.D. Brodeur, L.M. Segui, L.Z. Filliger. 2014. Constancy and change in marine predator diets across a shift in oceanographic conditions in the Northern California Current. Marine Biology 161(4): 837-851.

Horton, C.A. and R.M. Suryan. 2012. California brown pelicans (*Pelecanus occidentalis californicus*): A new disturbance source to breeding common murres (*Uria aalge*) in Oregon? Oregon Birds 38:84-88.

Oregon State University Thesis

Cheryl Horton, M.S., Department of Fisheries and Wildlife, Oregon State University, 2011-2014, *Effects of bald eagle (Haliaeetus leucocephalus) disturbance on the common murre (Uria aalge) meta-population breeding in coastal Oregon*.

Amanda Gladics, M.S. Marine Resource Management, College of Oceanic and Atmospheric Sciences, Oregon State University, 2009 – 2012, *Marine predator diets in the northern California current and responses to changing foraging conditions*.

State of the California Current Reports

Thompson AR., et al. 2019. State of the California Current 2018–19: A novel anchovy regime and a new marine heat wave? California Cooperative Oceanic Fisheries Investigations Reports 60:1–66.

Thompson, A. R., et al. 2017. State of the California Current 2016-2017: Still anything but "normal" in the north and getting interesting in the south. California Cooperative Oceanic Fisheries Investigations Reports 58:1-55.

McClatchie et al. 2016. State of the California Current 2015-2016: Comparisons with the 1997-98 El Niño. California Cooperative Oceanic Fisheries Investigations Reports 57:1-57

Leising et al. 2015. State of the California Current 2014-2015: Impacts of the warm-water “Blob”. California Cooperative Oceanic Fisheries Investigations Reports 56:31-68.

Leising et al. 2014. State of the California Current: El Nino Looming. California Cooperative Oceanic Fisheries Investigations Reports 55:51-87.

Wells et al. 2013. State of the California Current 2012-2013: No such thing as an “average” year. California Cooperative Oceanic Fisheries Investigations Reports 54:37-71.

Bjorkstedt, E. et al. 2012. State of the California Current 2011–2012: Ecosystems respond to local forcing as La Niña wavers and wanes. California Cooperative Oceanic Fisheries Investigations Report 53:41-76.

Yaquina Head Annual Reports

Orben, R.A. et al. 2018 & 2019. Yaquina Head Seabird Colony Monitoring. End of season summary report to the U.S. Fish and Wildlife Service and Bureau of Land Management.

Suryan, R.M. et al. 2007-2017. Yaquina Head Seabird Colony Monitoring. End of season summary report to the U.S. Fish and Wildlife Service and Bureau of Land Management.

Oregon Conservation & Recreation Advisory Committee
Project Proposals for Consideration on July 20, 2020

#18 – Park Pulse

Title: Parkpulse.io – supporting safe and equitable access to nature.

Contact:

Cailin O'Brien-Feeney
Director
Office of Outdoor Recreation
Oregon Parks and Recreation Department
1645 NE Forbes Road, Suite 112
Bend, Oregon 97701
C: 503.510.8259

Lead Organization & Partners involved: Oregon Office of Outdoor Recreation, a division of the Oregon Parks and Recreation Department and Knot Design. Data partners include a long-list of local, state and federal agencies. We are exploring partnering further NGO partnerships as well to continue development and support.

Abstract: Parkpulse.io is a web resource designed to support safe and equitable access to parks and nature by empowering users with location-specific detailed park information to assist recreation decision-making. This project was initiated through a community service-oriented partnership between Knot and the State of Oregon Office of Outdoor Recreation (OREC) as a collaborative response to the global pandemic. Through conversations between Knot and OREC, the development of a comprehensive resource that provides users with intra-agency outdoor recreation information was identified as a priority need.

Parkpulse.io aggregates recreation opportunity information across agencies and displays a user specific set of data based on location. Parks are displayed according to typology and travel distance from the user's location. Each park has a variety of attributes which are accessed by interacting with the park point. This tool provides parks specific information and custom metrics which can influence decision-making, including; crowding potential, COVID-19 prevalence, park amenities, distance away, open/closure status and external links to current agency specific restrictions.

OCRF grant funds would support the development of a pilot project to provide real-time crowding information at one or more specific sites using remote sensing technology. We are interested in providing better information about close-to-home recreation opportunities, as well as helping people disperse use and associated impacts of crowding.

Program Priorities met:

- Opportunities to engage and expand the number and diversity of Oregon's outdoor users
- Educational materials and opportunities related to responsible recreation
- Research or planning that supports responsible recreational opportunities
- Engaging in, and providing funding for, joint projects of the department and the State Parks and Recreation Department or other state agencies as recommended by the Oregon Conservation and Recreation Advisory Committee:

Geography/Ecoregion: Statewide

Connection to Oregon Conservation Strategy:

Outreach, education and engagement – this project addresses several objectives under this section of the OCS, including promotion of tourism opportunities and providing strategic direction for a "one stop shop" highlighting recreation opportunities. OPRD and ODFW could further collaborate on specific use cases for the platform.

Planning and Regulatory Framework – Parkpulse.io also connects to the planning framework identified in the OCS, specifically around gap analysis and the need for a statewide recreation inventory identified by the Governor's Task Force on the Outdoors: 2020 Framework for Action in which ODFW was a participant.

Funding Amount Requested: $10,000

Budget, including expenditure details:

Parkpulse Remote Sensing Pilot Project			
Rough Order of Magnitude Budget Outline			
Scope Item	**Rate**	**Hours**	**Cost**
Site Selection & Concept Planning	100	8	$800
Site Capacity Assessment	100	8	$800
System Design Development	100	12	$1,200
Site Visits and Hardware Implementation	100	24	$2,400
Code Development	175	32	$5,600
Code Implementation	175	32	$5,600
Technical Support	125	16	$2,000

Labor Subtotal			*$18,400*
Expense Item	**Unit Cost**	**Units**	**Total**
Camera	250	4	$1,000
Mini PC	500	4	$2,000
Tethering Device	75	12	$900
Housing	300	4	$1,200
Power	300	4	$1,200
Expense Subtotal			*$6,300*
Total ROM Cost			$24,700

What will OCRF dollars be spent on: Further development of the web resource, specifically testing a real-time crowding function at a popular location (to be determined). This grant would support the purchase of remote sensing equipment as well as

Timeline: A beta version of the website has been developed, with a full launch planned in the coming weeks. If grant funds are awarded we could get moving quickly on deploying remote sensors to build out real-time crowding information (goal is fall 2020). Additional consultation with land management partners will occur to help select pilot location(s), though the Columbia River Gorge and Oregon Coast are likely candidates given ongoing carrying capacity challenges and multi-jurisdictional management.

Reporting/outcome measurement: repeated users. Engagement/stickiness. Are people coming back to the site? Dispersing people through the outdoor recreation system.

Other media/information sources on the project:
Beta site: https://www.parkpulse.io/mapv2/