R & E Grant Application 25-27 Biennium

Project #: 25-008

Internships: Invasive Fish Removal and Monitoring

Project Information

Requested Cycle:	25-1
R&E Project Request:	$32,016
Other Funding:	$52,540
Total Project:	$84,556
Spending Start Date:	7/1/2025
Spending End Date:	11/1/2026
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Project End Date:	11/1/2026
Organization:	Oregon State University Cascades

Applicant Information

Name:	Jennifer Luke
Address:	61374 Parrell Road Bend, OR 97702
Telephone:	541-388-6350 x225
Email:	jennifer.a.luke@odfw.oregon.gov

Past Recommended or Completed Projects

Number	Name	Status
17-016	Youth Angling and Acclimation Pond Phase 2	Approved
25-013	Metolius Pond Pavilion and Improvements	Approved

Authorized Agent

Name:	Matt Shinderman
Address:	Office of Sponsored Programs B308 Kerr Administration Bldg Corvallis, OR 97331-2140
Telephone:	541-737-4933
Email:	matt.shinderman@osucascades.edu

Location Information

Where is it?

The project will occur on public land owned or managed by another party

Landowner Information

Name:	USFS - Deschutes
Address:	63095 Deschutes Mkt Rd BEND, Oregon, 97701
Phone:	(541)388-5300

Site Description

Street Address, nearest intersection, or other descriptive location.

Cascade High Lakes: East and Paulina Lakes (Deschutes NF/Newberry National Volcanic Monument), Lava Lakes, South and North Twin Lakes, Crane Prairie Reservoir, Suttle Lake, Odell Lake

Directions to the site from the nearest highway junction.

Central Oregon: Hwy 97 and Century Drive

Following project completion, public anglers will be allowed the following level of access to the project site:

Full access

Please describe what leases, easements, agreements are in place to ensure angler access to the project site, and what is the length of each agreement.

Public access to all sites

Dominant Land Use Type:

Forest

Project Location

General Project Location.

County:	Deschutes
Town/City:	BEND
ODFW Dist:	Upper Deschutes (Lava to BillyChinook)
Stream/Lake/Estuary Name:	East, Lava, Crane Prairie, Twin, Suttle
Sub-basin:	1707031
Tributary of:	Upper Deschutes River

Specific Project Location.

Latitude	Longitude

Project Summary

Project Summary

Please provide a couple sentence summary of the proposal.

East, Paulina, Lava Lakes are popular trout angling waters infested with invasive chub.

Abundant chub populations have a detrimental effect on trout and angling. Catfish have overpopulated in Crane Prairie Reservoir. Interns would work with ODFW to remove invasive fish and monitor trout and water quality in Central Oregon Lakes.

Overall Project Goals

Describe the primary goals or outcomes of the entire project, including elements not requesting funding from R&E.

Trap and remove invasive fish to improve trout and kokanee survival, condition and abundance.

Improve recreational angling.

Monitor effects of chub and bullhead removal.

Monitor lakes with past rotenone treatments (Twin Lakes).

Provide opportunity for students to gain experience in fisheries management.

Primary objectives of R&E funding

Please describe the measurable objectives for the R&E portion of the funding request.

R&E funds would provide a stipend for two students to work 11 weeks per summer, for two summers (2025-2026)
(2025 - 2026).

Funds would also be used to lease a truck for two seasons.

Students will trap and remove invasive fish and collect associated monitoring data.

Students will assist with other lake monitoring as time allows.

Current Situation/Justification

Please describe the current situation and explain why this funding is needed.

East, Paulina and Lava Lakes are popular destinations because of trout and kokanee fishing, campgrounds, resorts and aesthetics. When chub populations are elevated trout and kokanee are negatively impacted. These lakes have the potential to provide excellent "blue ribbon" trout fishing. After 10 years of chub removal and monitoring in East Lake, data shows chub removal by trap netting is an effective way to improve trout growth rates. Angler reports have been positive and ODFW doesn't receive as many complaints from anglers about poor fishing or "I only catch chub." Chub removal likely improves water quality by reducing algae blooms. In 2023-2024, twenty thousand pounds of chub were removed from East Lake, and 10,000 lbs from Lava Lake. Since 15-30% of adult chub are caught in the nets, there will always be chub present in the lakes and periodic removal efforts will be necessary to maintain a quality fishery. The priority for this internship is chub removal, but when time allows, interns will work on other lakes to remove and monitor invasives. These water bodies could include Crane Prairie Reservoir, North and South Twin, Suttle, Davis, Odell Lakes and the Upper Deschutes River slough.

Recreation and Commercial Benefit

This project will provide benefits to:

Recreational fisheries

Explain how this project will contribute to current (and/or potential) fishing opportunities, access, or fisheries management.

East, Paulina, Lava Lakes have been popular destinations because of the fishing.

When chub populations are high, trout and water quality are negatively impacted. Removing spawning chub on a regular basis retains a good to excellent trout fishery. Other Central Oregon, angling lakes affected by invasive fish are Crane Prairie, North & South Twin, Davis, and Odell.

Percent benefit split between Commercial and Recreational anglers:

0 % Commercial
100 % Recreational

Please explain, or justify, how the percentage split was determined:

100% Recreation fishery. There are no commercial fisheries on these lakes, although they are used heavily for guided fishing trips by licensed/permitted guide services.

This project has been identified as an ODFW priority for:

Local/watershed
Statewide

Does this project directly support implementation of the ODFW Strategic Plan and/or current Fish Division priorities?

Yes
Goal 2 of the ODFW strategic plan; "increase participation in fishing," and 'increase and maintain
satisfaction with work we do." By removing chub in these popular waterbodies, trout fishing improves.

Please briefly explain when this was identified as a priority and what process or workgroup was used to identified this as an ODFW priority.

Anglers, resort owners and ODFW initiated the chub removal project. A working group was formed in 2009
with resort owners, local fishing club representatives, OSU Cascades and ODFW to develop a strategy to control chub.

Identify any plan or other document that identifies this priority.

Is this project part of an approved Salmon-Trout Enhancement Program (STEP) activity?

Yes
Yes, the STEP biologist will oversee interns and volunteers for this project.

This project is intended to benefit the following species:

Other Fish Species
kokanee salmon
Rainbow Trout

This project will benefit anglers or fishery by providing:

Angling Opportunity

Angling Opportunity

This project will:

Improve the opportunity for anglers to catch fish (better stocked fish, trapping)
Restore a degraded fishery

Project Description

Schedule

Activity	Date	RE Funding
Interview candidates for OSU Sponsored Program Internships	April 2025, 2026	No
Interns and ODFW staff training and preparation	June 2025, 2026	Yes
Interns and ODFW staff set 10-12 trap nets in lakes	June - August 2025, 2026	Yes
Net are checked regularly, invasive fish removed and hauled to dumpsite. Trout measured, weighed and released.	June-August 2025, 2026	Yes
Zooplankton samples are taken from various lakes that have invasive fish.	June- August 2025, 2026	Yes
Catfish trapping and removal in Crane Prairie, North and South Twin	June- August 2025, 2026	Yes
Data entry, data and lab analysis, summary report	August 2025, 2026	Yes
Remove nets from lakes, clean and repair all equipment	August 2025, 2026	Yes

Permits

Permit	Secured?	Date Expected
Special use permit - USFS - disposal sites for invasive fish	No	

Project Design and Description

Please describe in detail the methods or approach that will be used to achieve the project objectives.

The purpose of this project and internship is to remove invasive chub from East, Paulina and Lava Lakes and improve the trout fishery for recreational angling. If time permits, the interns will trap and remove invasives from other water bodies. Interns and ODFW staff will monitor the fishery and collect biological data on trout, zooplankton and invasive fish. Interns will be responsible for trapping chub using fyke nets. Duties require driving a boat, setting large nets, emptying nets, lifting barrels of chub, and hauling chub or bullhead to disposal sites. Loads of chub will vary from 100-2000 pounds a day. Trout and kokanee are weighed and measured and released unharmed.

Engineering

Does the project involve capital improvement, engineering, site grading or other construction?

No

Project Management and Maintenance

What is the life expectancy of R&E funded construction, structures, equipment, supplies, data or fishery?

ODFW owns and maintains all the fyke nets, boats and equipment for invasive fish removal and trout sampling.

Who is responsible for long term management, maintenance, and oversight of the project beyond what is funded by R&E.

In the years we do not remove invasive fish, ODFW will continue to monitor the chub population, trout conditions and abundance and zooplankton levels.

Will the project require ongoing maintenance?

No

Is there a plan to collect baseline data and to conduct monitoring efforts to measure the effectiveness of the project?

Yes

Yes, baseline data was collected prior to chub removal in East Lake and we continue to monitor lakes each year.

Project Funding

Funding

Have you applied for OWEB funding for this project?

No

Has this proposal, or similar proposal for this project location, previously been denied by OWEB or other funding source?

No

Other Funding Source	Type	Secured	Dollar Value	Comments
OSU Index M2224N	Cash	Secured	12,000	
OSU Cascades Faculty staff: faculty supervision, student recruitment, credit evaluation	In-Kind	Pending	1,540	
ODFW Staff, STEP Biologist	In-Kind	Pending	9,600	
ODFW Staff, District Biologist	In-Kind	Pending	2,000	
East Lake Resort boat mooring	Cash	Pending	1,200	
Lava Lake Resort: volunteer time	In-Kind	Pending	3,600	
boat fuel	Cash	Pending	600	
ODFW supplies: trap nets, tags, rope	Cash	Pending	20,000	
ODFW Staff NRS1	Cash	Pending	2,000	
		Total	52,540	

Budget

Item	Unit Number	Unit Cost	In-kind or non-cash contributions	Funding from other sources	R&E Funds	Total Costs
PROJECT MANAGEMENT						
Matt Shinderman, OSU Cascades, Salary	22	70	1,540			1,540
Jennifer Luke, ODFW STEP Salary	240	40	9,600			9,600
NRS-1 ODFW M&E Salary	67	30	2,000			2,000
ODFW District Biologist, Salary	40	50	2,000			2,000
Joey Frazee, Lava Resort	120	30	3,600			3,600
		SUBTOTAL	18,740			18,740
IN-HOUSE PERSONNEL						
		SUBTOTAL				
CONTRACTED SERVICES						
Sponsored Program OSU Internships, (111 days (22 weeks) 25-26	1,776	31,968		8,208	23,760	31,968
Sponsored Program OSU Internships, (9 days June 2025)	144	2,592		2,592		2,592
		SUBTOTAL		10,800	23,760	34,560
TRAVEL						
Motor Pool Truck Lease	6	500			3,000	3,000
Truck Fuel	6	500			3,000	3,000
		SUBTOTAL			6,000	6,000
SUPPLIES/MATERIALS						
Boat Fuel	1	600	600			600
Boat mooring-resorts	3	400	1,200			1,200
		SUBTOTAL	1,800			1,800
EDUCATION/OUTREACH						
		SUBTOTAL				
EQUIPMENT						
Fyke Nets	10	2,000	20,000			20,000
		SUBTOTAL	20,000			20,000
FISCAL ADMINISTRATION						
Internship OPE (10%)	24			1,200	2,256	3,456
		SUBTOTAL		1,200	2,256	3,456
		BUDGET TOTAL	40,540	12,000	32,016	84,556

Internal Review Results

Review Score: 2 out of 5

(1 = Do Not Fund, 2 = Strengthen Proposal, 3 = Recommend with Conditions, 4 = Recommend, 5 = Strongly Recommend)

Summary of Review Team Comments

This project has been continuously funded by R&E for the last 8 biennium. While the IRT agrees that the project is beneficial for the interns and the native species of the area, R&E is not meant to fund perpetual projects and agree other funding sources should be looked into.

Specific Review Team Comments

Please provide results from previous years to provide reference for why this is an effective program.

R&E funding should not be relied upon to fund long term projects. This project has been funded for the last 16 years. The District and OSU need to find another funding source or investigate other ways to manage Tui Chub.

Specific Review Team Questions

Is the truck/fuel budget item correct? Is that for 3 months? Shouldn't it be double that for two seasons?

The total is correct, as the budget amounts will cover the costs for two seasons. I'll adjust the number of months.

What other ways has the District considered or implemented to control chub populations in this area? Have any other methods been used for making the fishery better?

Removal of invasive chub in East, Lava and Paulina lakes poses considerable challenges. Electrofishing was tried at Diamond and East Lake and did not work for various reasons; too many fish swam from the electrical field, difficult to net large numbers of fish, safety issues with anglers and swimmers.

East and Paulina lakes are deep lakes with geothermal springs and for these reasons a rotenone treatment would not work. “Spot” rotenone treatments were executed in the past, but today the use of rotenone in a National Monument would be prohibited. ODFW stocked piscivorous salmonids (brown trout, Atlantic salmon, and Blackwater rainbow trout), and while these fish may help with the control of chub, they cannot feed on enough chub to prevent a chub infestation. To this date, mechanical removal of spawning chub is the only option to control invasive chub.

Why are alternate funding sources not being utilized to fund this project?

We explored grant funds from the Good Neighbor Authority, but this requires funds from the USFS which is not currently available. In 2022-2023 we received funds from the USFWS to remove invasive bullhead catfish from Crane Prairie Reservoir. Two local fishing clubs already contribute matching funds. ODFW staff contributes 250 hours of staff time per season, which involves training the interns and assisting with the work. Lava Lake resort staff contributes 50-100 hours each season removing chub. ODFW also provides nearly all equipment and supplies (boats, fyke nets, etc.). The Recreation and Enhancement grant program is a logical choice for funds, since this is directly related to improving popular recreational fisheries. R&E project funding of $16k each summer with a match of 26k demonstrates that other sources are being utilized to fund chub removal and invasive monitoring. We believe this investment on R&E’s

part goes a long way in improving Central Oregon's recreation fisheries.

Is this a sustainable proposal and how is this an agency priority? Chasing exotic species seems difficult at best and are the benefits worth the investments to the angler and the agency?

In addition to the local population, Central Oregon is a mecca for outdoor recreation and receives around 4.5 million visitors annually spending upwards of 900 million in the local economy, many of whom buy a fishing license. Although we have not done a cost-benefit analysis, we do know East, Paulina and Lava Lakes are popular fishing destinations with resorts, campgrounds, boat rentals at each lake. In the early 2000s ODFW received complaints about the poor-quality fishery in East and Paulina Lakes, and the main complaint was anglers could only catch chub. Trout caught by anglers were in poor condition, especially from East Lake. There is a significant economic consideration in the case of these trout fisheries as they are an attraction for many anglers each year. East, Paulina and Lava Lakes support excellent trout fisheries if chub populations are curbed. ODFW supports these fisheries by stocking thousands of trout and kokanee in these lakes as there is little natural reproduction. Stocking these lakes is significant investment by ODFW. To provide a good to excellent recreational fishery the chub will need to be removed.

One of the values of commissioning student interns is their gain of field and career experience, and ODFW benefits from having knowledgeable and dedicated students. The program includes monitoring the effects of chub removal, analyzing data and report writing. They also are monitoring other Central Oregon lakes with invasive fish issues (South Twin, Suttle Lake and Crane Prairie). Several of the past interns have permanent natural resources careers with ODFW and other agencies.

Lava Lake resort owner, Joe Frazee, insists that chub should be trapped annually in order to maintain a trout fishery and improve water quality. Once the nets are set by ODFW and with some help of interns, the resort owner and staff can work the nets themselves. Lava Lake is a third the size of East Lake, making it more manageable to work the trap nets.

An alternative long-term plan is utilizing volunteers and ODFW staff to remove chub from a single lake each year rather than two or three lakes every other year. Chub removal in East Lake and Paulina could alternate by year. This would lessen the workload and need for two dedicated interns to remove chub. However, the work to remove chub (setting nets, netting fish every day, loading chub on trucks, hauling chub) is labor intensive and it may not be a realistic solution to rely on volunteers to take on this work. ODFW district staff does not have the time to take it on.

Additional Files

Budget Information

Maps

Photos

Design Information

Management Plans and Supporting Documents

Permits and Reviews

Partnerships

Public Comment

Administrative Documents

- Signature Authorization Page

Completion Report

A completion report has not been submitted for this project.