# R & E Grant Application 23-25 Biennium

**Project #: 23-009**

## *Coquille River Predatory Fish Reduction Project*

### *Project Information*

| | |
|---|---|
| **Requested Cycle:** | 23-1 |
| **R&E Project Request:** | $67,604 |
| **Other Funding:** | $99,360 |
| **Total Project:** | $166,964 |
| **Spending Start Date:** | 7/1/2023 |
| **Spending End Date:** | 6/30/2025 |
| **Project Start Date:** | 7/1/2020 |
| **Project End Date:** | 6/30/2025 |
| **Organization:** | ODFW - Charleston Field Office |

### *Applicant Information*


| | |
|---|---|
| **Name:** | Gary Vonderohe |
| **Address:** | PO Box 5003<br>63538 Boat Basin Drive<br>Charleston, OR 97420 |
| **Telephone:** | 541-888-5515 |
| **Fax:** | 541-888-6860 |
| **Email:** | Gary.R.Vonderohe@odfw.oregon.gov |


### *Past Recommended or Completed Projects*

| Number | Name | Status |
|---|---|---|
| 17-060 | Equipment for the Umpqua Watershed | Approved |

### *Authorized Agent*


| | |
|---|---|
| **Name:** | Michael Gray |
| **Address:** | PO Box 5003<br>Charleston, OR 97420 |
| **Telephone:** | 541-888-5515 x230 |
| **Fax:** | 541-888-6860 |
| **Email:** | michael.e.gray@odfw.oregon.gov |

## *Location Information*

*Where is it?*

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

*Landowner Information*

**Name:** State of Oregon- Dept of State Lands

*Site Description*

*Street Address, nearest intersection, or other descriptive location.*
Coquille River and major forks like South Fork Coquille River

*Directions to the site from the nearest highway junction.*
Near the towns of Coquille, Myrtle Point, Powers; accessed from Hwy. 42

*Following project completion, public anglers will be allowed the following level of access to the project site:*
Limited 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.*
Multiple public access sites are along the project area (State Parks/Waysides, public boat launches, road rights-of-way); some river frontage is private, subject to landowner permission but rivers are navigable/floatable.

*Dominant Land Use Type:*
Range/pasture

*Project Location*

*General Project Location.*

| | |
|---|---|
| **County:** | Coos |
| **Town/City:** | Coquille |
| **ODFW Dist:** | Coos/Coquille/Tenmile |
| **Stream/Lake/Estuary Name:** | Coquille River basin |

*Specific Project Location.*

| Latitude | Longitude |
|---|---|

## *Project Summary*

*Project Summary*

*Please provide a couple sentence summary of the proposal.*
The serious depletion of Coquille fall Chinook salmon since 2018 has been linked to the illegal introduction of smallmouth bass. ODFW staff started direct removal efforts of non-native predatory fish along with looking for opportunities to improve habitat. The goal is to reduce freshwater predation on salmonid juveniles.

*Overall Project Goals*

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

The goal of this project is to reduce the abundance of illegally introduced smallmouth bass in the Coquille River basin to help increase salmon smolt survival to the ocean. Other non-native, predatory fishes are also removed as encountered.

*Primary objectives of R&E funding*

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

Order and purchase an electrofishing raft and trailer to be used for summer smallmouth bass removal efforts in the Coquille River Basin.

Provide funding for travel, lodging, food costs for ODFW staff that are traveling from outside the area to help with smallmouth bass removal efforts.

Purchase of radio tags that will be surgically implanted into smallmouth bass to track seasonal movements in the Coquille River Basin.

*Current Situation/Justification*

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

The Coquille fall Chinook salmon averaged over 8,000 adults each year until the population crashed in 2018. Over the last five years, the average annual Chinook spawner estimate has been around 500 adults. The serious depletion of Coquille Chinook salmon has been linked to the illegal introduction of smallmouth bass. Staff from ODFW district, the Coquille Indian Tribe, and volunteers have spent the past 3 summers mechanically removing predatory fish from the Coquille River. We should see a positive response in fall Chinook numbers if we can remove enough non-native predatory fish. Staff, volunteers, and anglers have been removing smallmouth bass using electro-fishing boats, spear fishing, and hook/line. Funding is needed to purchase an electro-fishing raft which will allow us access to shallower sections of the river to complement the larger, Smith-Root electrofisher boat. Funding is also needed to help pay for travel/overnight expenses for additional ODFW staff to assist in these efforts. Funding will be used to purchase radio tags to track bass movements.

*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.*

Coquille River fall Chinook returns have been below the ODFW conservation threshold since 2018 which triggered a closure of the salmon fishery on the Coquille. If/when the fall Chinook adult returns increase above the conservation threshold ODFW can open up the very popular wild Chinook salmon fishery on the lower Coquille River which once had an average annual harvest over 2,500 wild Chinook. Coquille River fall Chinook have been documented, through CWT recoveries, to contribute to ocean Commercial and Recreational fisheries.

In addition to removal of smallmouth bass by electrofishing boats, ODFW staff have been promoting the removal of smallmouth bass through recreational fishing. ODFW has adopted temporary rules the past several years allowing for the use of spears/spearguns in addition to

traditional hook and line angling.

*Percent benefit split between Commercial and Recreational anglers:*

0 % Commercial
100 % Recreational

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

*This project has been identified as an ODFW priority for:*

Local/watershed
Basin/regional
Statewide

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

No

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

The crash of the Coquille fall Chinook population and predatory fish removal in the Coquille Basin became a priority within Fish Division during the winter of 2019-20. ODFW's REDD group was tasked with investigation of the likely causes of the decline, and to recommend actions, which included predatory fish removal.

*Identify any plan or other document that identifies this priority.*

The Coastal Multispecies Conservation and Management Plan lists predatory, non-native fish as a limiting factor to salmonid populations in the Coquille.

ODFW Conservation Strategy lists invasive species, water quality, and climate change as factors effecting conservation species in the conservation opportunity areas of the Lower Coquille River and South Fork Coquille.

A memorandum of Coquille Fall Chinook from the ODFW REDD and Coquille Working Group to ODFW Fish Division outlined bass removal as the most obvious and direct potential management action.

This project had the highest rating for the Unwanted Fish projects submitted in the most recent ODFW Reservoir Dogs Project Prioritization process.

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

No

*This project is intended to benefit the following species:*

Fall Chinook Salmon
Other Fish Species
Native non game fish like sculpins, dace, shiners
Other Species
native crayfish
Coho Salmon
Lamprey
Winter Steelhead
Cutthroat Trout

*This project will benefit anglers or fishery by providing:*

Angling Opportunity

Habitat Enhancements

*Angling Opportunity*

*This project will:*

Enhance natural production of fish stocks to levels that allow for recreational fishing opportunities
Restore a degraded fishery

*Habitat Enhancements*

*The primary purpose of this project is to improve/increase:*

Riparian--vegetative protection for shade/water temperature benefits
Riparian - reduce bank erosion

## *Project Description*

*Schedule*

| Activity | Date | RE Funding |
|---|---|---|
| Purchase of electrofishing raft and trailer | 07/2023 | No |
| Purchase of radio tags | 07/2023 | No |
| Begin smallmouth bass removal efforts for 2023 season | 07/2023 | No |
| Work with private landowners to fence riparian areas | 07/2023 | No |
| Capture smallmouth bass and implant radio tags | 08/2023 | No |
| Track radio tagged smallmouth bass fall - spring | 09/2023 | No |
| End smallmouth bass removal efforts for 2023 season | 09/2023 | No |
| Begin smallmouth bass removal effort for 2024 season | 07/2024 | No |
| Smallmouth bass nest disturbance efforts 2024 season | 05/2024 | No |
| Smallmouth bass nest disturbance efforts 2023 season | 05/2023 | No |
| Deploy lighted minnow traps to capture young of the year bass | 08/2023 | No |
| Deploy lighted minnow traps to capture young of the year bass | 08/2024 | No |
| End smallmouth bass removal efforts for 2024 season | 09/2024 | No |

*Permits*

| Permit | Secured? | Date Expected |
|---|---|---|
| NOAA incidental take under the Oregon Coast Coho Salmon ESU under Limit 4 of the 4(d) Rule | No | 04/15/2023 |

*Project Design and Description*

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

In 2011, ODFW District staff received a report of smallmouth bass in the South Fork Coquille River. District staff immediately investigated this report and found it to be true that someone had illegally introduced smallmouth bass into the river system. Smallmouth bass were only found in 2 pools out of the 8 pools surveyed in 2011. By the summer of 2012 smallmouth bass had expanded both upstream and downstream from the previous summer. Staff collected over 30 bass and determined from age classes that smallmouth bass had likely been in the Coquille Basin since 2009 if not earlier. Due to warm summer river temperatures, caused by a lack of riparian shading, smallmouth bass quickly expanded their range throughout the Coquille Basin. Today the range of smallmouth bass in the Coquille overlaps with a majority of the spawning and rearing areas for fall Chinook salmon.

The Coquille fall Chinook averaged over 9,000 wild adult spawners from 1990 through 2017. In 2018 we saw a major crash in the fall Chinook population with an estimate of just over 500 wild adults returning to spawn. Since 2018, the population has averaged around 500 wild adult

Chinook each year.

After the 2019 Coquille fall Chinook returns of only 275 wild adult spawners, ODFW Fish Division tasked ODFW's Fish Research Evaluation Data & Decision (REDD) support group along with district, and other research staff with determining the most likely causes of the serious depletion of Coquille fall Chinook and what can be done. After reviewing the available information, it was determined that the near extirpation of Coquille fall Chinook is a result of a "perfect storm" of non-native fish predation, a period of poor ocean conditions ("the Blob"), and declining freshwater conditions (particularly the 2015 drought). Management action items that occurred right away were the closure of the wild fall Chinook fishery in the Coquille Basin and predator control with smallmouth bass removal efforts.

After acquiring incidental take coverage for Oregon Coastal coho from NOAA Fisheries, ODFW district staff started smallmouth bass removal efforts using an electrofishing motorboat in July 2020. In addition to electrofishing removal efforts, ODFW staff encouraged anglers to catch and remove smallmouth bass in the Coquille Basin which do not have any daily bag limit. To provide additional harvest methods, ODFW implemented a temporary rule allowing for the harvest of smallmouth bass in the Coquille with the use of spears and spear guns.

Smallmouth bass removal efforts have occurred the past three summers in upper tidewater during the months of July, August, and early September. We have concentrated our removal efforts in upper tidewater for a couple of reasons; 1) upper tidewater is the highest in the watershed that we can access and operate our electrofishing motorboats and 2) it's our professional judgement that a lot of salmonid predation happens in this section of the river. Over the past three years District staff with the help of other staff from ODFW, Coquille Indian Tribe, BLM, Trout Unlimited, Coquille Watershed Association, and general volunteers have removed over 11,000 smallmouth bass from the Coquille River. In addition to using the ODFW district electrofishing motorboat, the Coquille Indian Tribe has purchased two electrofishing motorboats to be used in smallmouth bass removal efforts. The past two summers, staff from the Columbia River Pikeminnow program have also traveled to the Coquille with an electrofishing boat to spend a week removing smallmouth bass.

This past summer, ODFW district staff had the opportunity to borrow an electrofishing raft to conduct smallmouth bass removal in the South Fork Coquille River, above tidewater. This section of river has several deeper pools but lots of shallow riffles that precludes the use of the electrofishing motorboat. Staff removed over 1,900 smallmouth bass in eight trips using the raft.

In addition to electrofishing removal efforts, ODFW staff assisted with PIT tagging 50 smallmouth bass that were part of the Port of Coquille River Bass Derby. Anglers that brought in a PIT tagged fish received a cash prize that was randomly assigned to the PIT tag numbers. The derby was held over two weekends and anglers brought in over 2,000 bass to be checked for a PIT tag. There were ten tagged bass that were checked in during the derby.
This past September ODFW district staff were offered several previously used radio tags (from a Pacific lamprey tracking project) to track the movement of smallmouth bass to their wintering areas. Staff captured and surgically implanted 14 radio tags into smallmouth bass ranging in size from 6 inches up to 13 inches in length. Some of these radio tags have moved several miles over the fall while a few of the radio tagged fish have not moved from the pool they were caught from in September. Unfortunately, several radio tagged fish have gone missing.

Because these are previously used radio tags it's unclear if the batteries died in these tags, if the tags malfunctioned or if these tagged fish moved into other sections of the river.

The past few months, ODFW district staff have had multiple conversations other states' fisheries managers that have had experience or are currently trying to control smallmouth bass populations in lakes or river systems. The common theme in these conversations is having a multiple prong approach to removal efforts. Moving forward, staff from ODFW and Coquille Indian Tribe will continue to remove smallmouth bass in upper tidewater with the existing electrofishing motorboats with crew members consisting of other agency staff and volunteers. With funding to cover travel, lodging, and per diem we can have other additional ODFW staff and electrofishing boats assist with smallmouth bass removal efforts on the Coquille. ODFW district staff will continue bass removal efforts in the South Fork Coquille River if funding is made available to purchase an electrofishing raft. ODFW district staff will continue to assist with the Port of Coquille River Bass Derby during the summer of 2023. With funding for new radio tags, ODFW district staff will be able to reliably track the movements of smallmouth bass between their wintering areas and summer areas. Radio tagging data may provide information into times and locations to target smallmouth bass removal efforts more efficiently.

In conversations with other fisheries managers that have experience in smallmouth bass removal efforts it appears to be important to disrupt smallmouth bass spawning and target removal of young of the year fish. This coming spring/summer ODFW district staff will conduct smallmouth nest disturbance efforts by removing male smallmouth bass from their nests and/or by physically disturbing the nest when observed. In addition, during the summer ODFW district staff will set lighted minnow traps in sections of the river to capture young of the year smallmouth bass.
ODFW realizes even with all these removal efforts, we will likely never eradicate smallmouth bass from the Coquille Basin but instead we are trying to reduce the population to a lower level to minimize predation of salmonids and other native species.

Finally, warmer water temperatures in the Coquille Basin are negatively affecting salmonid populations but benefiting smallmouth bass. The are many opportunities to improve the riparian areas along the Coquille River and its main forks. By protecting and/or improving the riparian zone, we should see better shading over time which should keep the water cooler. Having the rivers stay colder for a longer period of time is not ideal for smallmouth bass and will force them to condense into a smaller section of the river. ODFW staff partner with Coquille Watershed Association (CoqWA) and Coos Soil and Water Conservation District (SWCD) to work with landowners to improve their properties and protect natural resources, with projects like fencing and planting riparian areas.

*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?*

Once deployed, radio tags will last at least one season. Fencing material will last for many years. The electrofishing raft should last for 10 plus years with basic maintenance. Smallmouth

bass removal efforts in the Coquille will be a long-term project.

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

ODFW Coos/Coquille/Tenmile District staff will be responsible for the long-term maintenance of the electrofishing raft/trailer. ODFW will be responsible for collecting the radio tag data. Radio tags will be a one-time use that will gather data for at least one season. ODFW will work with project partners like Coquille Watershed Association and STEP groups to contact landowners for building riparian fences. Smallmouth bass removal efforts will be managed in cooperation between ODFW and Coquille Indian Tribe.

*Will the project require ongoing maintenance?*

Yes

Maintenance of the electrofishing boat and minnow traps will be needed to keep them in good shape. These will be the responsibility of ODFW district staff.

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

Yes

Staff will be monitoring the effectiveness of bass removal efforts by collecting data on number/size/age of smallmouth bass removed over time and by monitoring the returning adult fall Chinook salmon. A smallmouth bass assessment project ("Smallmouth Blitz") was implemented in August 2020. Approximately 30 biologists, tribal staff, and a few volunteers assembled at the County Fairgrounds in Myrtle Point for a week-long project to electrofish and snorkel a comprehensive set of transects covering the majority of the smallmouth distribution in the basin. Information from that Blitz is used to inform/adapt smallmouth removal efforts and identified additional measures needed to help control smallmouth bass.

## ***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 |
|---|---|---|---|---|
| Volunteer time for electrofishing | In-Kind | Pending | 25600 | |
| Lotek Radio Telemetry Receiver from previous OWEB project | In-Kind | Pending | 800 | |
| ODFW staff time | Cash | Pending | 72960 | |
| | | Total | 99360 | |

## *Budget*

| Item | Unit Number | Unit Cost | In-kind or non-cash contributions | Funding from other sources | R&E Funds | Total Costs |
|---|---|---|---|---|---|---|
| PROJECT MANAGEMENT | | | | | | |
| ODFW District staff time bass removal effort planning (hourly rate) | 200 | 56.00 | 0 | 11200 | 0 | 11200 |
| | | SUBTOTAL | 0 | 11200 | 0 | 11200 |
| IN-HOUSE PERSONNEL | | | | | | |
| ODFW District staff time for electrofishing (hourly rate) | 640 | 56.00 | 0 | 35840 | 0 | 35840 |
| ODFW District staff time for radio tagging/tracking (hourly rate) | 120 | 56.00 | 0 | 6720 | 0 | 6720 |
| ODFW non-district staff time for electrofishing (hourly rate) | 480 | 40.00 | 0 | 19200 | 0 | 19200 |
| Volunteers time for electrofishing (hourly rate) | 1280 | 20.00 | 25600 | 0 | 0 | 25600 |
| | | SUBTOTAL | 25600 | 61760 | 0 | 87360 |
| CONTRACTED SERVICES | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| TRAVEL | | | | | | |
| Mileage for ODFW non-district staff, per trip Clackamas - Coquille | 12 | 300.00 | 0 | 0 | 3600 | 3600 |
| Per diem/lodging for ODFW non district staff per week travel | 12 | 687.00 | 0 | 0 | 8244 | 8244 |
| | | SUBTOTAL | 0 | 0 | 11844 | 11844 |
| SUPPLIES/MATERIALS | | | | | | |
| Radio tags | 20 | 185.00 | 0 | 0 | 3700 | 3700 |
| Lotek telemetry receiver | 1 | 800.00 | 800 | 0 | 0 | 800 |
| Surgical supplies for implanting radio tags | 1 | 150.00 | 0 | 0 | 150 | 150 |
| | | SUBTOTAL | 800 | 0 | 3850 | 4650 |
| EDUCATION/OUTREACH | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| EQUIPMENT | | | | | | |
| Smith Root Electrofishing Raft | 1 | 48910.00 | 0 | 0 | 48910 | 48910 |
| flatbed trailer for raft | 1 | 3000.00 | 0 | 0 | 3000 | 3000 |
| | | SUBTOTAL | 0 | 0 | 51910 | 51910 |
| FISCAL ADMINISTRATION | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| | | BUDGET TOTAL | 26400 | 72960 | 67604 | 166964 |

### *Internal Review Results*

**Review Score:** 2.1 out of 3

(0 = Do Not Fund, 1 = Strengthen Proposal, 2 = Recommend, 3 = Strongly Recommend)

*Summary of Review Team Comments*

Internal Review Team thought that it would be best to remove the fencing portion of this project.

*Specific Review Team Comments*

Seems the fencing is an after-thought and not necessarily tied to the issue at hand and not sure why this restoration component is part of this application. What alternatives to this exotic species invasion, if any, have been evaluated?

Unfortunately a needed project to have a chance at bringing Chinook back to the basin

It seems this is two project wrapped into one. The major focus of the application is on removing smallmouth bass and the need for an electrofishing raft with mention of fencing for riparian habitat. I agree with the need for an electrofishing raft and that it is appropriate for R & E to fund it, however, I think that the fencing should be funded through other grant sources (e.g. OWEB, OCRF).

I would suggest that at this time this is partially funded. Remove the fencing material (28K) and the staff travel (12K) and just work on purchasing the raft. The habitat portion should be better vetted and would be a good cost share with the Coquille Tribe in the future.

The fencing makes sense in terms of a long term strategy toward improving water temperatures, but that component seems like it would be a good candidate for restoration funding through OWEB, where the connection could be made to improving conditions for Chinook as well as coho (as we indicated a stronger emphasis on summer water temperatures in the 12-year assessment of the OC coho conservation plan). Maybe consider whether it would be better to move some of the fencing money over to more radio tags.

Large price tag for this project but there really doesn't appear to be any other option other than mechanical removal for these SMB so the purchase of an electrofishing raft to help shock the upper portion of the river sounds justified and would help district staff to increase their efforts.

*Specific Review Team Questions*

*Do you have landowner permission to fence three miles of stream?*

We do not currently have landowner permission to fence three miles or stream/river. Protecting and restoring riparian habitat is going to be a crucial component of restoring the wild fall Chinook population and reducing the distribution of smallmouth bass in the Coquille Basin. Having colder water (below 65 degrees) into the summer months limits the areas that smallmouth bass can successfully spawn.

The idea for purchasing fencing materials was to have a stockpile of materials that would be available for use by Coquille Watershed Association, Coos SWCD, or other organization that will work with landowners to build and maintain riparian fences. The current avenue for Watershed Councils or others to build a fence is to apply for a grant like through OWEB. The grant applications are every six month with a several month delay to see if you are successful or not. These grants are so competitive that watershed councils typically have to apply 2 or 3 times before the project is funded (sometimes longer). In the meantime a landowner may get frustrated with the long delay and just decide it isn't worth the time and drops the project.

Having a stockpile of fencing materials allows these groups to work much quicker pace with willing landowners.

Three miles of fencing will not solve all of the Coquille River warm water issues but its a good start.

*Would there be any agreements to maintain the riparian fencing once it is installed? Would the landowners be asked to do the fence maintenance or would the watershed group or another entity assist with monitoring and repairing fence?*

We would ask the Watershed Council or other entity to work with the landowner for fencing maintenance.

*Would the electrofishing raft be loaned out to other districts when it is not in use on the Coquille River?*

Yes we would allow the electrofishing raft to be loaned out to other ODFW Fish Districts when not in use on the Coquille River.

## *Additional Files*

Budget Information

Grant Modification approval — *E-mail from R&E Board Chair*

Maps

Photos

Design Information

Management Plans and Supporting Documents

Permits and Reviews

Partnerships

Public Comment

Administrative Documents

Signature page

Signature Page — *Signature Page*

### *Completion Report*

A completion report has not been submitted for this project.