



# R & E Grant Application 13 Biennium

Project #:  
13-109

## *North Twin Rotenone - Brown Bullhead Removal*

### **Project Information**

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**R&E Project Request:** \$272,059.00  
**Match Funding:** \$58,300.00  
**Total Project:** \$330,359.00  
**Start Date:** 9/1/2015  
**End Date:** 5/15/2016  
**Project Email:** erik.r.moberly@state.or.us  
**Project Biennium:** 13 Biennium  
**Organization:** ODFW- High Desert Region - Bend Office

### **Applicant Information**

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**Name:** Erik Moberly  
**Address:** 61374 Parrell Road  
Bend, OR 97702  
**Telephone:** 541-388-6145  
**Email:** erik.r.moberly@state.or.us

### **Past Recommended or Completed Projects**

Number	Name	Status
09-291	Gold Lake Brook Trout Removal	Completed
13-058	Cascade Lakes Creel Survey	Approved

### **Project Summary**

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This project is part of ODFW's 25 Year Angling Plan.

**Activity Type:** Miscellaneous (Enhancement)  
**Summary:** Rotenone will be dispersed in North Twin lake to remove illegally introduced brown bullhead catfish. North Twin lake is located in the Deschutes National Forest and is a popular fishery 38 miles south of Bend. The lake is stocked annually with hatchery rainbow trout and is open all year to angling. Restoration & Enhancement (R&E) funds shall be used to purchase 33,000 pounds of powder rotenone and 2,000 gallons of liquid rotenone. In addition, R&E funds shall be used to purchase additional equipment needed for the successful application of rotenone.

**Objectives:** The primary objective is to remove brown bullhead catfish from North Twin lake by treating the lake with rotenone. Secondary objectives associated with the removal of brown bullhead catfish are: 1) Restore the quality of the rainbow trout fishery; 2) Improve the growth and survival of stocked rainbow trout resulting in increased

carry over and trophy trout opportunities; and 3) Create an aquatic environment which allows for successful fingerling stocking reducing overall hatchery costs.

**Fishery Benefits:**

The removal of brown bullhead catfish in North Twin lake would increase survival and growth rates of hatchery rainbow trout; specifically rainbow trout stocked as fingerlings. Currently, brown bullhead catfish compete for the same food resources as fingerling rainbow trout which prohibits the successful creation of a robust fishery through the stocking of fingerlings. North Twin lake is open all year and capable of supporting additional angler use. Once brown bullhead catfish are removed from the lake, the quality of the fishery should drastically improve with increased growth and survival of hatchery rainbow trout. A similar project was conducted at South Twin lake in 2011 to remove brown bullhead catfish. Monitoring data and angler creel have shown increased growth rates and survival of hatchery rainbow trout in South Twin lake compared to pre-2011 monitoring data.

**Watershed Benefits:**

Removing non-native brown bullhead catfish from North Twin lake reduces the potential of spreading non-native fish species into other waterbodies in the watershed. As the Deschutes Watershed District continues to remove non-native species from specific waterbodies, it reduces the number of waterbodies containing non-native species and ultimately the opportunity for introductions of non-native fish species to waterbodies in the watershed.

**Current Situation:**

North Twin lake was historically fishless since there is no connection to the Deschutes River or any other waterbody. There is no natural production resulting in the need to stock hatchery rainbow trout annually to provide a sufficient fishery. The first report of bullhead catfish in North Twin lake was by an angler in 1993. Since the first report of brown bullhead catfish, the productivity of the lake has decreased and impacted the fishery. Periodic monitoring of the lake by ODFW staff show both the presence of brown bullhead catfish and poor survival and growth rates of hatchery rainbow trout. In addition, angler reports indicate reduced angler success and abundant brown bullhead catfish.

**Alternatives:**

At this time, there are no alternatives to remove brown bullhead catfish from North Twin lake. Complete removal of brown bullhead catfish is not feasible using mechanical methods (nets, boat electroshocking, angling, etc.) and would not remove 100% of non-native fish in the lake. In order to create a sustainable and robust fishery in North Twin lake, all non-native brown bullhead catfish should be removed.

**Designer:**

Staff from the Deschutes Watershed District, with assistance from other ODFW staff familiar with the application of rotenone, will work together to design this project.

**Methods:**

Similar methods used in the treatment of South Twin lake will be incorporated into this project. Proper training for all staff participating in this project, especially the rotenone application team, will be completed and documented prior to treatment. The use of ODFW staff who are experienced with these type of treatments is

preferred and only ODFW staff will be utilized. Signage will be posted near lake access points in order to educate the public of the treatment and discourage future non-native fish introductions.

**Inspector:** Staff from the Deschutes Watershed District will survey North Twin lake following the treatment and periodically in 2016 to monitor if all brown bullhead catfish were successfully removed.

**Funding Elements:** Funds received from the R&E Board will be used to purchase rotenone and equipment to successfully remove brown bullhead catfish from North Twin lake. It is important to note that most of the existing equipment that will be used in the treatment of North Twin lake was purchased with R&E funds from previously awarded grants. Equipment includes a pontoon boat, protective equipment, pumps, and other accessories that are cleaned and stored after the treatment of a waterbody occurs.

**Partners:** Yes  
The U.S. Forest Service, Deschutes National Forest, is the landowner. Through a memorandum of understanding the Forest Service recognizes ODFW as the fish management agency on public lands, thus, issuing defacto authorization to conduct the treatment. ODFW will coordinate with the Forest Service in developing appropriate signage at the project site informing the public of the negative consequences of introducing non native invasive species.

**Existing Plan:** No

**Affected Contacted:** No

**Affected Supportive:** No

**Affected Comments:** A notification letter will be sent to the U.S. Forest Service describing the treatment project once funds have been secured. Oregon Department of Environmental Quality will be notified once funds have been secured.

***Project Schedule/Participants/Funding***

Activity	Date	Participants
Pre-treatment sampling	9/1/2015	ODFW High Desert
Purchase Rotenone	10/1/2015	ODFW Kevin Herkamp
Public Meeting	10/1/2015	ODFW High Desert
Rotenone Application	10/26/2015	ODFW Trained Staff
Post-Treatment Survey	11/15/2015	ODFW & Volunteers
Post-Treatment Survey	5/1/2016	ODFW & Volunteers
Stock Rainbow Trout	5/15/2016	ODFW

**Affected Species:** Brown Bullhead Catfish  
Rainbow Trout

**Project Permits**

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This project has no permits.

**Project Monitoring**

Organization	Address	Activity	Frequency
Oregon Department of Fish and Wildlife	61374 Parrell Road Bend, OR 97702	Fish Monitoring	Pre-treatment and periodic post-treatment

**Project Maintenance**

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This project has no maintenance plans.

**Project Match Funding**

Funding Source	Cash	In-Kind	Other	Description	Total	Secured?	Conditions?	Comments
R&E Request	\$272,059.00	\$0.00	\$0.00		\$272,059.00	No	No	
ODFW Staff	\$0.00	\$58,300.00	\$0.00		\$58,300.00	Yes	No	
				Total Match Funding:	\$330,359.00			

## Project Budget

Item	Item Type	Units	Unit Cost	R&E Funds	Match Funds	Total
Full Face Masks	Equipment	4	\$350.00	\$1,400.00	\$0.00	\$1,400.00
Gloves	Equipment	48	\$3.00	\$144.00	\$0.00	\$144.00
Honda 3" Water Pump	Equipment	2	\$550.00	\$1,100.00	\$0.00	\$1,100.00
Hose and Fittings	Equipment	15	\$250.00	\$3,750.00	\$0.00	\$3,750.00
PAPR-Filters	Equipment	36	\$100.00	\$3,600.00	\$0.00	\$3,600.00
Pump, Hose, Fittings	Equipment	1	\$1,500.00	\$1,500.00	\$0.00	\$1,500.00
Tyvek Suits	Equipment	96	\$15.00	\$1,440.00	\$0.00	\$1,440.00
ODFW Staff Time (Planning & Implementation)	Personnel	1166	\$50.00	\$0.00	\$58,300.00	\$58,300.00
Liquid Rotenone	Supplies/Materials /Services	2000	\$76.00	\$152,000.00	\$0.00	\$152,000.00
Misc. Replacement & Repairs	Supplies/Materials /Services	1	\$1,500.00	\$1,500.00	\$0.00	\$1,500.00
Powder Rotenone	Supplies/Materials /Services	32500	\$3.25	\$105,625.00	\$0.00	\$105,625.00
					Total Budget:	\$330,359.00

## ***Project Map***

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## ***Additional Files***

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Click a link to view that particular file.



# Oregon

John A. Kitzhaber, MD, Governor

## Department of Fish and Wildlife

Springfield Field Office  
3150 East Main Street  
Springfield, OR 97478  
(541) 726-3515  
FAX (541) 726-2505  
www.dfw.state.or.us

November 6, 2014

Restoration and Enhancement Program Board  
Oregon Department of Fish and Wildlife  
4034 Fairview Industrial Drive SE  
Salem, OR  
97302



Re: Inland Trout Working Group Support for the **North Twin Rotenone – Brown Bullhead Removal** Proposal

Dear Restoration and Enhancement Board Members:

ODFW's Inland Trout Working Group (ITWG) supports Restoration and Enhancement Board funding of the **North Twin Rotenone – Brown Bullhead Removal** proposal (Cycle 7/1). This project is anticipated to have immediate and tangible fishery benefits for Oregon anglers. In addition, the Deschutes Watershed District fisheries staff has a proven track record of successful rotenone project implementation as evidenced by the South Twin Lake rotenone project conducted in 2011, and the Walton Lake and Antelope Flat Reservoir rotenone projects conducted in 2009, further increasing confidence in project success.

The ITWG formed in 2012 to provide a forum for ODFW's fisheries staff to discuss the management of Oregon's flatwater fisheries, with the goal of improving these fisheries to benefit anglers. The ITWG also provides a venue for fisheries management discussions and facilitates information sharing and idea generation. In addition, the Working Group provides a sounding board for project proposals, including a prioritization process where the Group endorses projects, such as the North Twin Rotenone – Brown Bullhead Removal project, for funding.

The ITWG is confident the North Twin rotenone project will benefit Oregon anglers in both the near- and long-term. In addition, successful treatment will allow the release of fingerling rather than legal-sized rainbow trout, increasing economic efficiency associated with this recreational fishery. South Twin Lake immediately provided an improved fishery opportunity and angling experience following its rotenone treatment in 2011, as did Walton Lake and Antelope Flat Reservoir following their treatments in 2009. The Working Group expects nothing less from this project.

Do not hesitate to contact me to discuss Inland Trout Working Group support for the North Twin Rotenone – Brown Bullhead Removal project proposal, or to discuss the Working Group itself. I am available at 541-726-3515, ext. 29 or [kelly.e.reis@state.or.us](mailto:kelly.e.reis@state.or.us).

Thank-you for your contributions to ODFW's Restoration and Enhancement Board specifically, and to Oregon's sport and commercial anglers in general.

Sincerely,

Kelly Reis  
2014-2015 Inland Trout Working Group Chair  
South Willamette Watershed Assistant District Fish Biologist, Springfield Field Office

**Applicant Signature Page**  
**Fish Restoration and Enhancement Program**  
(Oregon Department of Fish and Wildlife Applicants)

I hereby make an application for financial assistance under the terms and conditions of the Fish Restoration and Enhancement Program as described in my project application. I acknowledge that:

- This proposal is an identified priority at the  district,  region, and/or  state level and has been identified as such in the application (**check box** for appropriate level).
- This proposal is consistent with any applicable goals, policies, rules, species or basin management plans adopted by the F&W Commission and this has been explained in the application.
- This proposal will not be used to cover, back fill, or fund shift elements that have been cut or defunded as part of agency budget reductions. Approved deferred maintenance or projects with division approval are exceptions.

I understand that if my project proposal is approved for Restoration and Enhancement (R&E) Program funding, the following will apply:

- Applicants must sign an agreement containing the terms and conditions for the project implementation, release of funds, and documentation of completion. Non-compliance may impact future funding opportunities.
- The R&E Program will not pay for expenses which occur before the approved start date or after the end date.
- Funding is available one biennium only without prior authorization by the R&E Board.
- Applicant agrees to notify the R&E Program of all funds not needed for the project upon determination.
- Any inappropriate expenses using R&E funds will be corrected by the applicant immediately. By the close of the biennium any expenses exceeding, or not identified in, the grant approval will be reverted to a local cost code.
- Copies of all landowner, monitoring and maintenance agreements must be submitted to the R&E Program.
- Educational products resulting from projects are public domain.
- Information collected is subject to Oregon Public Records Law.
- As applicable, the project will be consistent with all federal, state, and local regulations, including the State Land Use Planning Goals & Local Land Use Plans, prior to any on the ground work.

By signing this application, I certify to the best of my knowledge that the information contained in the application are true, complete and accurate. If awarded funding the applicant agrees to follow all terms and conditions outlined in the agreement.

Project Title: North Twin Rotenone - Brown Bullhead Removal

Applicant Name: Erik R. Moberly Title: Fish Biologist

Applicant Signature:  Date: 11-19-2014

**Manager Certification:**

To be completed by Watershed Manger, Hatchery Coordinator, Program Manager, or higher level manager.

- I concur with the statements above and the applicant has permission to request these funds.

Manger Name: Robert Hooton Title: Watershed Manager

Manager Signature:  Date: 11-19-2014