



R & E Grant Application 17-19 Biennium

Project #: 17-001

Phillips Reservoir Tiger Muskie M & E - Part 2

Project Information

Requested Cycle: 17-1
R&E Project Request: \$27,258
Other Funding: \$13,248
Total Project: \$40,506
Spending Start Date: 3/15/2017
Spending End Date: 12/31/2017
Project Start Date: 3/5/2017
Project End Date: 12/31/2017
Organization: ODFW - Grande Ronde Watershed District Office

Applicant Information

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Past Recommended or Completed Projects

This applicant has no previous projects that match criteria.

Location Information

Where is it?

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

Landowner Information

Name: Wallowa Whitman National Forest
Baker City, OR,

Site Description

Street Address, nearest intersection, or other descriptive location.

Phillips Reservoir

Directions to the site from the nearest highway junction.

I-84 East. Exit 304 @ Baker City. Go Right. Travel 0.9 miles and Go Left on Main street.- OR 7 South. Travel 18.8 miles

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.

The reservoir is surrounded by public land, and has three campgrounds and two boat launches as well as full access to the perimeter of the reservoir.

Dominant Land Use Type:

Forest
Range/pasture

Project Location

General Project Location.

County: Baker
Town/City: Baker City
ODFW Dist: La Grande Fish District
Stream/Lake/Estuary Name: Phillips Reservoir
Sub-basin: Phillips Reservoir
Tributary of: Snake River

Specific Project Location.

Latitude	Longitude
44.6810241	118.0277769

Project Summary

Project Summary

Please provide a couple sentence summary of the proposal.

The proposed grant would fund implementation of the Phillips Reservoir Tiger Muskie Monitoring

and Evaluation Plan activities in 2017. The monitoring and evaluation plan is intended to determine the efficacy of attaining fishery management goals and objectives through the introduction of sterile tiger muskie.

Overall Project Goals

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

The overall goal at Phillips Reservoir is to restore the rainbow trout fishery severely impacted by the illegal introduction of yellow perch. The goal of the M & E effort is to determine the effectiveness of the tiger muskie introduction in reducing the abundance of yellow perch.

Primary objectives of R&E funding

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

The primary objective of R & E funding is implement the Phillips Reservoir Tiger Muskie M & E Plan, including tasks 1.1, 1.2 and 3.3 of the fishery component and 1.1 - 1.5 and 1.7 of the limnological component.

As a result of adaptive management we are adding an additional fishery monitoring objective: determining reservoir habitat usage and mortality of tiger Muskie using radio telemetry.

Current Situation/Justification

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

Phillips Reservoir once supported a very popular fishery for primarily rainbow trout (some of trophy size), but also bass and crappie. Introduction of yellow perch caused a severe decline in the trout fishery.

Thirty-two percent of the 2008 angler survey respondents indicated that they no longer fish at Phillips Reservoir due primarily to the decline in trout abundance and size. Anglers that target trout when they fish the reservoir showed the following level of satisfaction with the fishery: 4% very satisfied, 27% satisfied, 40% unsatisfied and 29% very unsatisfied. The fishery was supported by the stocking of fingerling sized rainbow trout, which was highly cost effective. Fingerling trout survived and grew very poorly once yellow perch were introduced, eliminating this as a viable management option.

The fishery is now supported by stocking of legal-sized rainbow trout (put and take fishery) and an experimental release of sub-legal sized trout. Trophy trout were stocked in 2016, the result of a legislative budget note.

By Commission approval, sterile tiger muskie have been released into the reservoir, intended to reduce the abundance of yellow perch through predation, and result in improvement of the trout fishery. This has been a successful approach in other western reservoirs.

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.

Creel survey data show 35,000 angler-days in 1981 before the perch introduction and 3,100

angler-days in 2010 after introduction, a decline of over 90%. Our objective is to increase anglers days to 38,000 by restoring trout productivity in the lake by decreasing perch abundance through introduction of a top-line predator, tiger muskie. Angler effort reached a high of over 65,000 angler days in 1970. By reducing perch abundance, more forage will be available for rainbow trout, increasing growth and survival of trout. This will result in more and larger trout for anglers to catch.

Implementation of the M & E Plan is integral to determining effectiveness.

Percent benefit split between Commercial and Recreational anglers:

0 % Commercial

100 % Recreational

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

No commercial fisheries exist at Phillips Reservoir.

This project has been identified as an ODFW priority for:

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

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

Identify any plan or other document that identifies this priority.

Phillips Reservoir Fishery Management Plan. See the attached plan.

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

No

This project is intended to benefit the following species:

Rainbow Trout

This project will benefit anglers or fishery by providing:

Angling Opportunity

Monitoring/Research

Angling Opportunity

This project will:

Restore a degraded fishery

Monitoring/Research

This project will be used to evaluate:

Population composition (i.e age, species, survival, size, or genetics)

Fishery contribution

Angler satisfaction/harvest (Creel)

Has this project been reviewed or developed by an individual with appropriate qualifications (i.e ODFW biometrician, research professor)?

Yes

Josh McCormick (ODFW Biometrician) has been consulted regarding the creel survey design and will review the final creel design.

The M & E Plan was developed by Terry Shrader, former Eastside Recreational Fisheries

Biologist, and Tim Bailey, La Grande District Fish Biologist.
Limnological sampling activities for 2017 were organized by Gary Galovich.
The tiger muskie radio tracking work was designed by Tim Bailey and Kyle Bratcher (Assistant District Biologist)

Is this study critical to fishery management decisions?

Yes

This study, per the attached M & E Plan, is attempting to determine the impact of the introduction of tiger muskie has on the abundance of yellow perch and the abundance, survival and growth of rainbow trout, and finally the recreational fishery. Basically the current M & E activities are designed to inform us on the effectiveness of our current management and will give the ability to adaptively manage the fishery.

The tiger muskie radio tracking work was added as the sampling techniques used to date have failed to provide information on the survival and abundance of tiger muskie. Determining survival and abundance of stocked tiger muskie is important to the success of the approach as the number of tiger muskie in the reservoir must be managed at a level that will result in control of the prey base (yellow perch) yet not overly impact the trout population. This will in-part be answered by monitoring the perch and trout populations, but it is hoped that radio telemetry will provide more timely information on tiger muskie survival and abundance to assist in determining annual stocking plans for juvenile tiger muskie. At some point annual stocking of juvenile tiger muskie will likely need to cease for a period of time once an appropriate population of adult tiger muskie is achieved (approximately 1-2 adults per acre).

Yes

If tiger muskie have a positive impact on the trout fishery through reducing the abundance of yellow perch, then the release of tiger muskie juveniles into Phillips Reservoir will be continued at levels to achieve the fishery management objectives.

Is there a plan to repeat this monitoring or research in the future?

Yes

The current M & E Plan is intended to be implemented through 2017. In 2018, the District/Region will determine whether or not to continue tiger muskie releases based on the evaluation. It is anticipated that if the release of tiger muskie is continued after 2018, a smaller scale M & E effort will be implemented 2018 through 2022.

Will the data be reported or published?

No

Project Description

Schedule

Activity	Date	RE Funding
Task 1.1: Conduct Angler Creel Survey	4/17-10/17	No
Task 1.2 Conduct Angler Opinion Survey	4/17-10/17	No
Task 3.3 Monitor change in fish biomass	5/17 and 10/17	No
Radio tag and track tiger muskie	4/17 - 4/19	No
Limnology Tasks 1.1 - 1.5 and 1.7	5/17 - 10/17	No
Purchase Radio Tags and surgical supplies	3/15/17	No

Permits

Permit	Secured?	Date Expected
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Project Design and Description

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

See attached Management Plan and M & E Plan

Adult and juvenile tiger muskie would have radio tags surgically implanted both when they are captured during sampling activities and in juveniles when stocked in the fall. The priority is to capture and radio tag as many as possible in the spring of 2017 during our annual spring trap net sampling. The remaining tags would either be installed in fish captured during fall trap netting (September 2017) or the next release of juveniles (October 2017).

The radio tags would be surgically implanted, tag weight not exceeding 2% of body weight. We plan to purchase two different sized tags to accommodate both adult and juveniles.

Tracking of the active radio signals would occur approximately every two weeks April - October and monthly November - March. For each signal location, coordinates will be collected with GPS and water depth will be recorded. We will attempt to determine the fate of all fish tagged over the life span of the tag.

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?

The data being collected is valid for the current 5 year evaluation period (2013 - 2017) to be used for the decision point in 2018. The data will also be useful over the longer-term as a baseline.

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

The data being collected will be stored and maintained by the La Grande Fish District.

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

This is a monitoring project.

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?

[{"source":"","type":"Cash","secured":"Pending","dollarValue":0,"comments":""}]

Other Funding Source	Type	Secured	Dollar Value	Comments
		Total	0	

Budget

Item	Unit Number	Unit Cost	In-kind or non-cash contributions	Funding from other sources	R&E Funds	Total Costs
PROJECT MANAGEMENT						
	0	0.00	0	0	0	0
		SUBTOTAL	0	0	0	0
IN-HOUSE PERSONNEL						
District Fish Biologist	0	8832.00	13248	0	0	13248
Experimental Biology Aide	6	4273.00	0	0	25638	25638
		SUBTOTAL	13248	0	25638	38886
CONTRACTED SERVICES						
Nutrient Sample Analysis	1	900.00	0	0	900	900
		SUBTOTAL	0	0	900	900
TRAVEL						
	0	0.00	0	0	0	0
		SUBTOTAL	0	0	0	0
SUPPLIES/MATERIALS						
Assorted Limnological field and lab supplies	1	720.00	0	0	720	720
Radio tags (Lotek NTQ-6-2)	20	174.00	0	0	0	0
Radio Tags (Lotek MCFT2-3BM)	5	295.00	0	0	0	0
Surgical supplies (including anesthesia)	1	500.00	0	0	0	0
		SUBTOTAL	0	0	720	720
EDUCATION/OUTREACH						
	0	0.00	0	0	0	0
		SUBTOTAL	0	0	0	0
EQUIPMENT						
Lotek Reciever	1	3895.00	0	0	0	0
		SUBTOTAL	0	0	0	0
FISCAL ADMINISTRATION						
	0	0.00	0	0	0	0
		SUBTOTAL	0	0	0	0
		BUDGET TOTAL	13248	0	27258	40506

Internal Review Results

Review Score: 2.2 out of 3

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

Summary of Review Team Comments

The review team is very supportive of this proposal. ODFW is obliged to complete this monitoring and improve the fishery in Phillips. This will build on previous efforts. Scores include eight 2s, and one 3.

Specific Review Team Comments

Continuation of ongoing monitoring needed to assist with solving the management issue. Items necessary to implement the Tiger Muskie Plan for Phillips Lake. ODFW is "all-in" at this point. Cannot discontinue monitoring now that we're all-in.

Once complete, the applicant should give a full wrap up for the years of Phillips monitoring, including results, recommendations, and monies spent.

Specific Review Team Questions

Are there any opportunities to borrow a receiver or ensure this gets used outside of this effort? What about the tags? What is the tag battery life?

The receiver would be used for the project approximately 2-3 days per month and would be available for other projects to borrow when not in use. We wanted to avoid the logistical problems associated with borrowing a receiver and we foresee future needs for use by both the La Grande and Wallowa districts.

There is a wide range of TM sizes in the reservoir so we plan to purchase two different tag sizes, the smaller tag having a battery life of over 1 year and the larger having a life of over two years. Tag weight would not exceed 2% of body weight.

Additional Files

Budget Information

[Budget](#)

Budget split across Biennia

Maps

Photos

Design Information

Management Plans and Supporting Documents

[Ethnic Impact Statement](#)

Ethnic Impact Statement

[Fishery Management Plan](#)

Fishery Management Plan

[Limnological Sampling Plan 2017](#)

Limnological Sampling Plan 2017

[Tiger Muskie M & E Plan](#)

Tiger Muskie M & E Plan

Permits and Reviews

Partnerships

Public Comment

Administrative Documents

[Signature Page](#)

Signature Page

Completion Report

A completion report has not been submitted for this project.