



R & E Grant Application 23-25 Biennium

Project #: 23-008

Owyhee Reservoir Bass Study

Project Information

Requested Cycle: 23-1
R&E Project Request: \$3,100
Other Funding: \$49,515
Total Project: \$52,615
Spending Start Date: 7/1/2023
Spending End Date: 9/30/2023
Project Start Date: 7/1/2023
Project End Date: 9/30/2024
Organization: Oregon Department of Fish and Wildlife

Applicant Information

Name: Kirk Handley
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Past Recommended or Completed Projects

This applicant has no previous projects that match criteria.

Authorized Agent

Name: Dave Banks
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Hines, OR 97738
Telephone: 541-573-6582
Telephone 2: 541-589-1905
Email: david.t.banks@odfw.oregon.gov

Location Information

Where is it?

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

Landowner Information

Name: Bureau of Reclamation
Address: 1150 Curtis Rd
Boise, ID, 83706
Phone: 208-378-5155

Name: Oregon State Parks
Address: 1298 Owyhee Lake Rd.
Adrian , OR, 97901
Phone: 541-339-2331

Site Description

Street Address, nearest intersection, or other descriptive location.

Owyhee Reservoir is located approximately 27 miles upstream of the confluence of the Owyhee and Snake Rivers.

Directions to the site from the nearest highway junction.

From Nyssa Oregon travel West/Southwest on county road 201 for 10.5 miles. Turn right on Overstreet Rd. for about 5 miles. Turn left on Owyhee Lake Road and continue for 15 miles to the reservoir.

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.

Almost all of the Reservoir shoreline is public land, there are four public boat ramps on the lower portion of the reservoir and one boat ramp at Leslie Gulch near the upper end of the reservoir at full pool.

Dominant Land Use Type:

Range/pasture

Project Location

General Project Location.

County: Malheur
ODFW Dist: Malheur/Southeast
Stream/Lake/Estuary Name: Owyhee Reservoir
Sub-basin: Owyhee
Tributary of: Snake River

Specific Project Location.

Project Summary

Project Summary

Please provide a couple sentence summary of the proposal.

Bass fishing is a popular activity on Owyhee Reservoir and ODFW needs to gain more information on the impact of fishing tournaments and harvest rates on this fishery. A reward tag program is needed to verify tag reporting rates for marked bass captured by anglers.

Overall Project Goals

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

Estimate abundance of Largemouth and Smallmouth Bass in Owyhee Reservoir

Estimate exploitation rates and harvest for Largemouth and Smallmouth Bass in Owyhee Reservoir

Estimate growth rates for Largemouth and Smallmouth Bass in Owyhee Reservoir

Compare survival rates of bass captured, held, and released in tournaments to survival rates of bass not subjected to handling in a typical tournament setting

Evaluate bass movement through tags reported by anglers

Primary objectives of R&E funding

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

Funds will be used to incentivize tag reporting by anglers for a portion of the marked bass so that all captured bass marked with reward tags are reported.

We will estimate the reporting rate for non-reward tags by comparing the difference in reporting rates for reward and non-reward tags.

Current Situation/Justification

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

We conducted a pilot study during the summer of 2022 to establish the best methods for a mark recapture study on Owyhee Reservoir by marking bass during weigh ins at fishing tournaments and interviewing anglers to determine how many marked bass they recaptured. We also set up an electronic reporting form using ODFW's existing website and advertised the study with signage and word of mouth. It is not uncommon in these studies to have reporting rates that are quite low for fish marked with non-reward tags and after interviewing anglers it became apparent that many of them were not reporting tags from marked bass they had captured. A reward tag system using \$50.00 reward tags will improve reporting rates to near 100% for those bass and will help inform overall reporting rates for bass marked with non-reward tags. We will be able to duplicate a study conducted in the early 1990's to compare current abundance, angling pressure, and exploitation rates to those thirty years ago. Results from this study will be used to inform fisheries management decisions.

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.

ODFW currently does not have adequate information on angler use, exploitation rates, or harvest to make informed management decisions on Owyhee Reservoir. Data collected from this study will help ODFW manage this fishery more effectively. Bass tournaments are frequently held on this reservoir and we would like to know how these tournaments are effecting bass distribution, survival, and harvest.

Percent benefit split between Commercial and Recreational anglers:

0 % Commercial

100 % Recreational

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

There are no commercial fisheries on Owyhee Reservoir, Owyhee Reservoir is a popular recreational fishery.

This project has been identified as an ODFW priority for:

Local/watershed

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

Yes

This study will inform fisheries management in this reservoir which aims to improve recreational angling for current and future generations.

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

Owyhee Reservoir is a popular recreational fishery and one of two reservoirs in the area managed with a minimum pool. ODFW district fisheries biologists believe this study will help inform management of this fishery and ensure it continues to offer quality fishing with increasing use.

Identify any plan or other document that identifies this priority.

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

No

This project is intended to benefit the following species:

Largemouth Bass

Smallmouth Bass

This project will benefit anglers or fishery by providing:

Monitoring/Research

Monitoring/Research

This project will be used to evaluate:

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

Angler satisfaction/harvest (Creel)

Distribution (i.e. presence, absence, abundance)

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

Yes

ODFW has implemented similar creel surveys during a statewide stock assessment for hatchery rainbow trout. That study design was set up by the states biometrician.

Is this study critical to fishery management decisions?

Yes

The best bass habitat in Owyhee reservoir lies in the upper half of the reservoir. During bass tournaments, most bass are captured in the upper end of the reservoir and released in the lower end of the reservoir after they are weighed. The impact to this fishery from this redistribution of bass is unknown. We will evaluate post release survival, recapture/exploitation rates, movement, and harvest of marked bass.

Yes

If redistribution of bass during tournaments is having a negative effect on bass growth, survival, or reproduction ODFW will consider changes to tournament regulations on this waterbody. If harvest of bass from recreational angling is higher than this fishery can support ODFW will adjust fishing regulations to limit harvest.

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

Yes

This monitoring is repeatable but may not require additional funding if we assume angler reporting rates for tagged fish do not change over time. We will be following the basic structure of previous monitoring study completed in the early 1990s so results can be compared.

Will the data be reported or published?

Yes

At a minimum a report will be written with the results of this study. If things go as planned a publication will also be written.

Project Description

Schedule

| Activity | Date | RE Funding |
|---|--------------------------------|------------|
| capture and mark bass using floy tags | May 2023, June 2023 | No |
| provide rewards to anglers that capture reward tag bass | July 2023 through October 2024 | Yes |
| interview anglers at tournaments and boat ramps | June 2023 through October 2024 | No |
| conduct recapture estimate for bass using boat electrofishing | June 2023 | No |
| install trail cameras at boat ramps and conduct pressure counts of anglers throughout reservoir | May 2023 through October 2024 | No |
| Begin final data analysis for bass exploitation | October 2024 | No |
| Finish report | March 2025 | No |

Permits

| Permit | Secured? | Date Expected |
|--------|----------|---------------|
| | No | |

Project Design and Description

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

This project will require information on angling pressure and catch rates as well as fish population information.

Mark Recapture

The first step in this study will be the marking portion. We will spend some time angling and possibly electrofishing for Largemouth and Smallmouth Bass throughout the reservoir. Bass will be marked with floy tags if this project receives funding, 20% of the tags will be labeled as fifty dollar reward tags. We anticipate this marking run will take about a week and will occur one week prior to sampling multiple index electrofishing sites which are done every other year to monitor relative abundance of bass and crappie. The ratio of marked and unmarked bass captured during sampling at index electrofishing sites will be used to estimate abundance of bass in the reservoir.

Angling Pressure and Creel Surveys

To obtain an estimate of angling pressure ODFW will collect pressure counts throughout the reservoir at least four times per month from April through September 2023, and 2024. This pressure count information will be related to images of boat ramps taken hourly using trail cameras where counts of boat trailers can be related to fishing pressure. Angler interviews at boat ramps will also aid in determining what proportion of boaters fish and what species they target. We will also interview anglers at bass tournaments during weigh ins to determine how many marked and unmarked bass anglers catch. During these interviews we will collect information on number of bass captured and information on any marked bass anglers capture while fishing.

Tag reporting

Each bass tag has a phone number to a tag reporting hotline as well as the ODFW website where information on tagged bass can be entered. If anglers catch a bass with a reward tag they will need to mail it in or drop it off at any ODFW office to receive the reward. Information on the study will be posted at boat ramps, sign boards, and other access points on Owyhee Reservoir. These signs will state the study objectives, reporting instructions, and how to handle tagged bass that are encountered. Anglers will be asked to report the tag number, capture/release location, and date and time of capture for each marked bass they capture. During tournaments ODFW will request release locations of bass captured during the tournament. Tag reporting can be collected by ODFW while interviewing anglers, over the phone, or online.

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?

Data should be useful indefinitely. It will be reported, published, and stored in a database.

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

These data will be analyzed and results will be published by ODFW fish biologists.

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

baseline data was last collected in 2021 and is typically done every other year. Another study was completed in 1992 that we will can compare abundance and exploitation information with.

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 |
|--------------------------|---------|---------|--------------|----------|
| Oregon Fish and Wildlife | In-Kind | Secured | 49515 | |
| | | Total | 49515 | |

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 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| IN-HOUSE PERSONNEL | | | | | | |
| Kirk Handley | 320 | 58.02 | 18566 | 0 | 0 | 18566 |
| Dave Banks | 320 | 68.55 | 21936 | 0 | 0 | 21936 |
| | | SUBTOTAL | 40502 | 0 | 0 | 40502 |
| CONTRACTED SERVICES | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| TRAVEL | | | | | | |
| pickup fuel | 300 | 3.85 | 1155 | 0 | 0 | 1155 |
| boat fuel | 640 | 5.30 | 3392 | 0 | 0 | 3392 |
| per diem | 58 | 77.00 | 4466 | 0 | 0 | 4466 |
| | | SUBTOTAL | 9013 | 0 | 0 | 9013 |
| SUPPLIES/MATERIALS | | | | | | |
| angler rewards for reported tags | 50 | 50.00 | 0 | 0 | 2500 | 2500 |
| t-bar tags | 300 | 2.00 | 0 | 0 | 600 | 600 |
| | | SUBTOTAL | 0 | 0 | 3100 | 3100 |
| EDUCATION/OUTREACH | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| EQUIPMENT | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| FISCAL ADMINISTRATION | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| | | BUDGET TOTAL | 49515 | 0 | 3100 | 52615 |

Additional Files

Budget Information

Maps

Photos

Design Information

Management Plans and Supporting Documents

[Bass Limiting Factors in Owyhee Reservoir](#)

previous report we are using to guide our study design

Permits and Reviews

Partnerships

Public Comment

Administrative Documents

Completion Report

A completion report has not been submitted for this project.