



R & E Grant Application 17-19 Biennium

Project #: 17-039

Marine/Columbia Fisheries Monitoring Modernization

Project Information

Requested Cycle: 17-4
R&E Project Request: \$79,625
Other Funding: \$89,292
Total Project: \$168,917
Spending Start Date: 4/1/2018
Spending End Date: 6/30/2019
Project Start Date: 4/1/2018
Project End Date: 6/30/2023
Organization: Oregon Department of Fish and Wildlife

Applicant Information

Name: Justin Ainsworth
Address: 3406 Cherry Ave. NE
Salem, OR 97303
Telephone: 503-947-6013
Email: justin.c.ainsworth@odfw.oregon.gov

Past Recommended or Completed Projects

This applicant has no previous projects that match criteria.

Authorized Agent

Name: Kevleen Melcher
Address: 17330 SE Evelyn St.
Clackamas, OR 97015
Telephone: 971-673-6030
Fax: 971-673-6052
Email: Kevleen.a.Melcher@odfw.oregon.gov

Location Information

Where is it?

The project will occur Statewide

Project Summary

Project Summary

Please provide a couple sentence summary of the proposal.

This project will modernize the hardware and software used to electronically collect data on both Marine and Columbia recreational and commercial fisheries. Upgrades will replace aging equipment, accelerate data acquisition, improve data accuracy, and alleviate network security concerns. New survey hardware and software will assist ODFW in managing these fisheries.

Overall Project Goals

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

Marine: Replace aging handheld field computers to modernize data collection in Oregon's marine recreational fisheries and commercial salmon troll fisheries.

Marine and Columbia: Migrate existing survey software from SQL Server Compact Edition operating on obsolete Windows Mobile operating system to SQLite running on Windows 10.

Marine and Columbia: Decrease threat to agency network infrastructure.

Marine: Fully implement new hardware and software for the 2018 survey season (April 2018)

Columbia: Fully implement new software by April 2018 and new hardware by fall season (August 2018)

Columbia: Replace handheld field computers running unsupported Windows Mobile operating system with ruggedized tablets running Windows 10 operating system

Primary objectives of R&E funding

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

Marine: Replace 25 handheld computers used by the Ocean Sampling Project's survey samplers, crew chiefs, Data Technician, Programmer, Assistant Project Leader, and Project Leader in 2018.

Marine: Migrate existing Ocean Sampling Project software to Windows 10 system

Columbia: Replace 15 handheld computers used by the Columbia River Management Project's fisheries samplers, fishery observers, crew leaders, and project biologists.

Current Situation/Justification

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

The Ocean Sampling Project (OSP) adopted the Trimble Nomad ruggedized handheld computers in 2010 and Columbia River Management (CRM) adopted the PSION Workabout Pro in 2011. Both projects use the handhelds for field collection of recreational creel survey and

commercial data. Both handheld computers run on the Windows Mobile 6 operating system. The mobile applications were developed using Microsoft Visual Studio 2008 and SQL Server Compact Edition. The Windows Mobile 6 operating system reached end of life in 2013, and the Visual Studio 2008 will no longer be supported by Microsoft effective April, 2018. ODFW's Information Systems Division (ISD) policy has determined that lack of vendor support for Visual Studio 2008 leaves our network vulnerable to cyberattack and, in the interest of network security, can no longer be used. Due to this unforeseen security risk and policy issue, we were not prepared to budget for complete device replacement within this short time frame. Software issues notwithstanding, as the devices age, replacements will become increasingly necessary. Without an upgrade of equipment and software, field data would need to be collected manually (paper forms) which would significantly delay the summarization and data analysis needed to provide timely catch estimates for managing fisheries.

Recreation and Commercial Benefit

This project will provide benefits to:

Recreational fisheries
Commercial fisheries

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

Oregon's recreational and commercial fisheries benefit from timely and accurate data collection and harvest estimation. New handheld devices will allow both the OSP and CRM to continue to provide in-season catch estimates and biological data that are critical for managing quota or ESA impact limited fisheries. Fishing opportunity is optimized by providing managers real time information needed to adjust seasons based on actual catch and stock composition estimates instead of relying on preseason projections. Timely and accurate fisheries data provides the ability to track quotas and impacts while preventing harm to our resources.

Percent benefit split between Commercial and Recreational anglers:

20 % Commercial
80 % Recreational

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

Most of Oregon's marine fisheries that are monitored with the OSP project have recreational and commercial sectors. The Columbia fisheries (monitored by CRM) also include both recreational and commercial sectors. State and federal fisheries management for recreational and commercial fisheries rely on accurate reporting of landings. Harvest data are fed in to stock assessments to help determine appropriate harvest levels for sustainable fisheries. The OSP-Ocean Recreational Boat Survey is the only way fisheries managers can estimate marine recreational fisheries landings. CRM, in conjunction with Washington, provides the estimates for Columbia River recreational and commercial fisheries harvest. In addition, OSP and CRM provide valuable information on CWT recoveries from both the recreational and commercial fisheries.

This project has been identified as an ODFW priority for:

Not identified

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.

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
Marine Fish Species
All recreationally harvested species
Spring Chinook Salmon
Coho Salmon
Winter Steelhead
Summer Steelhead
White Sturgeon

This project will benefit anglers or fishery by providing:

Monitoring/Research

Monitoring/Research

This project will be used to evaluate:

Hatchery releases and/or stray rates
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

The ODFW-MRP staff in the Ocean Sampling Project and Marine Information Management Project have been working collaboratively to determine the project's goals and objectives. They are experts in the field of fisheries data collection, and are supportive of the software and hardware upgrades described in this proposal. Bryan Wright (ODFW-MRP Biometrician) is an author of the OSP-Ocean Recreational Boat Survey sampling design. In addition, CRM is working collaboratively with ODFW's ISD staff to implement software upgrades and they also support the software and hardware upgrades in the proposal.

Is this study critical to fishery management decisions?

Yes

This project will modernize ODFW's Marine and Columbia River fish harvest data systems. Accurate and timely biological data and catch information benefits Oregon's marine and Columbia River fisheries. Many marine fish species are managed with annual quotas, and recreational harvest estimates rely on dockside creel survey data reaching fisheries managers as soon as possible. Many Columbia fish stocks are ESA listed and managed under impact limits and/or sharing agreements. Columbia River Management field sampling data provides managers the harvest estimates and stock information needed to manage both recreational and commercial fisheries. Upgrades to the hardware and software are needed to make sure that both the Ocean Sampling Project and Columbia River Management continue to provide the highest quality catch estimates in order to avoid exceeding quotas or impact limits. Recreational and commercial salmon CWT data collected by the Ocean Sampling Project and

Columbia River Management provide salmon fishery managers information on the distribution of salmon stocks, success of hatchery releases, and fishery impacts.

Yes

For several decades, the data collected by both the ORBS and Columbia River Management have been fed in to state and federal fisheries management decisions.

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

Yes

We hope to receive at least five years of service out of these handheld devices. Leading up to that point, we will continually be reassessing our needs and making preparations to purchase replacement systems, if necessary, using other funding sources. We do not plan to request additional R&E funds in future.

Will the data be reported or published?

Yes

There are several examples of how the data collected by the handheld computers will be reported. At least weekly uploads of CWT tag data are fed into Salem's central database. The CWT coordinator then provides the catch and CWT recovery data to Pacific States Marine Fisheries Commission (PSMFC) for inclusion in the Regional Mark Processing database. Monthly estimates of ocean recreational effort and catch are uploaded to the PSMFC's Recreational Fisheries Information Network (RecFIN) for use by the public, researchers, and stock assessors. Columbia River Management in conjunction with Washington Department of Fish and Wildlife produces annual Joint Staff Reports on Stock Status and Fisheries which are available on ODFW's website.

Project Description

Schedule

| Activity | Date | RE Funding |
|-----------------------------------------------------------|------------|------------|
| Migrate OSP applications to Windows 10 | April 2018 | No |
| Purchase needed tablets for OSP project | April 2018 | Yes |
| Migrate Columbia River sampling application to Windows 10 | April 2018 | No |
| Purchase remaining tablets for CRM project | July 2018 | Yes |

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.

The objective of migrating the existing OSP software application to a Windows 10 based system is currently under way. The ODFW-MRP in-house Programmer has been working on a version of the software since August 2017. Testing will determine how the software will perform in the field. The first purchase of OSP tablets, using S-K grant funds through PSMFC in the summer 2017, has already been completed. The R & E grant we are applying for will purchase the balance of tablets needed to fully replace the soon-to-be obsolete Trimble Nomads for OSP.

The objective of migrating the existing Columbia River sampling application to Windows 10 based system is currently under way by ISD staff. CRM will be using existing state funds to

purchase 20 replacement tablets prior to April 2018 and the remaining 15 tablets will be purchased if funding from this proposal is approved. Alternative funding will be pursued through a proposal to the U.S. Section of the Chinook Technical Committee (USCTC) of the Pacific Salmon Commission, however those funds will not be available until July 2018.

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?

We hope to receive at least five years of service out of these handheld devices. We will continually be reassessing our needs and make preparations to purchase replacement systems, if necessary, using other funding sources. We do not plan to request additional R&E funds in the future.

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

The ODFW-MRP Marine Information Management Project will be responsible for software upgrades and ongoing application development in response to changing regulations for marine fisheries. CRM will be responsible for software upgrades and will work with ISD staff for ongoing application development. These software upgrades or application changes will at least be annual, but in-season adjustments will also likely be necessary. Project staff will also respond to any ongoing maintenance needed to the screens or batteries of the handheld computers. It is anticipated that purchases will include a manufacturer's warranty to cover any repairs needed initially. After warranty expiration, all maintenance and repairs will be covered with existing funds.

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?

No

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":"Saltonstall-Kennedy Grant through PSMFC","type":"Cash","secured":"Secured","dollarValue":31885,"comments":"Marine"}, {"source":"ODFW Software Programmer 2.5 mos","type":"In-

Kind","secured":"Secured","dollarValue":20107,"comments":"Marine"},{"source":"State Other Funds","type":"Cash","secured":"Secured","dollarValue":37300,"comments":"Columbia"}]

| Other Funding Source | Type | Secured | Dollar Value | Comments |
|-----------------------------------------|---------|---------|--------------|----------|
| Saltonstall-Kennedy Grant through PSMFC | Cash | Secured | 31885 | Marine |
| ODFW Software Programmer 2.5 mos | In-Kind | Secured | 20107 | Marine |
| State Other Funds | Cash | Secured | 37300 | Columbia |
| | | Total | 89292 | |

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 | | | | | | |
| Marine: ODFW Software Programmer | 0 | 8043.00 | 20107 | 0 | 0 | 20107 |
| | | SUBTOTAL | 20107 | 0 | 0 | 20107 |
| CONTRACTED SERVICES | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| TRAVEL | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| SUPPLIES/MATERIALS | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| EDUCATION/OUTREACH | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| EQUIPMENT | | | | | | |
| Marine: Handheld computers (plus chargers and batteries) | 15 | 2125.00 | 0 | 31885 | 0 | 31885 |
| Marine: Handheld computers | 25 | 1898.00 | 0 | 0 | 47450 | 47450 |
| Marine: Accessories (batteries, chargers) | 25 | 168.00 | 0 | 0 | 4200 | 4200 |
| Columbia: Tablets (plus extended battery, warranty) | 20 | 1865.00 | 0 | 37300 | 0 | 37300 |
| Columbia: Tablets (plus extended battery, warranty) | 15 | 1865.00 | 0 | 0 | 27975 | 27975 |
| | | SUBTOTAL | 0 | 69185 | 79625 | 148810 |
| FISCAL ADMINISTRATION | | | | | | |
| | | | 0 | 0 | 0 | 0 |
| | | SUBTOTAL | 0 | 0 | 0 | 0 |
| | | BUDGET TOTAL | 20107 | 69185 | 79625 | 168917 |

Internal Review Results

Review Score: 2.3 out of 3

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

Summary of Review Team Comments

IMPORTANT NOTE: Per Bruce McIntosh and Chris Kern, before this project can move forward it needs to be combined with the Columbia River Program into a single request. Other sources of funding need to be investigated and the application must identify those other sources of funding (e.g. LOA) and how R&E would fit into part of a complete funding package.

The review team was supportive of this project given the unexpected nature of the upgrade, however the team recognizes that there are many more units like this across the state and large replacements projects like this are difficult to fund this late in the game. The team would recommend a replacement plan be developed to reduce the scale of future replacement issues. Review team scores included seven 2s and three 3s.

Specific Review Team Comments

Please provide a better breakdown and explanation of costs. The quote seems to have different prices and combinations and the prices in the quote do not match with the budget table. Why is the RE request per unit more than that quote?

Current units have outlived their useful life and no longer meet security protocol. Given that technology is out of date in about 5 years, the applicant should identify how this mass failure can be prevented in the future. Such as an incremental replacement program where a subset of units are replaced every year or two. This should not be a reoccurring request to RE.

This type of equipment makes sampling and data analysis more efficient and saves time in the long run.

Please better explain how these units fit into the larger picture and how they relate to angler benefits (increased opportunity, improve commercial salmon fisheries, etc.).

Additional Files

Budget Information

[Match funding initial purchase quote \(15 tablets\)](#)

E-mail from PSMFC and vendor quote

[Quote for Columbia Tablets](#)

Maps

Photos

Design Information

Management Plans and Supporting Documents

Permits and Reviews

Partnerships

Public Comment

Administrative Documents

[ODFW Signature Authorization](#)

[Racial and Ethnic Impact](#)

Completion Report

A completion report has not been submitted for this project.