



R & E Grant Application 17-19 Biennium

Project #: 17-054

Threemile Falls PIT Tag Detection System Upgrade

Project Information

Requested Cycle: 17-5
R&E Project Request: \$25,789
Other Funding: \$63,526
Total Project: \$89,315
Spending Start Date: 7/1/2018
Spending End Date: 6/30/2019
Project Start Date: 7/1/2018
Project End Date: 6/30/2019
Organization: Oregon Department of Fish and Wildlife

Applicant Information

Name: Josh Hanson
Address: 1300 6th St, Suite C
Umatilla, OR 97882
Telephone: 541-922-0660
Telephone 2: 541-429-7267
Email: josh.hanson@odfw.oregon.gov

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 the applicant

Site Description

Street Address, nearest intersection, or other descriptive location.

81046 Umatilla River Rd.
Umatilla, OR 97882

Directions to the site from the nearest highway junction.

From U.S. Route 730 head south on County Road 1275 (Umatilla River Road) approximately 2.6 miles. Threemile Falls Dam is located on the west side of the road.

Following project completion, public anglers will be allowed the following level of access to the project site:

No 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.

NA

Dominant Land Use Type:

Cropland

Project Location

General Project Location.

County: Umatilla
Town/City: Umatilla
ODFW Dist: Umatilla Fish District
Stream/Lake/Estuary Name: Umatilla River
Sub-basin: Umatilla Watershed - 1707013
Tributary of: Columbia River

Specific Project Location.

Latitude		Longitude	
	45.8817		-119.3226

Project Summary

Project Summary

Please provide a couple sentence summary of the proposal.

Build and install Passive Integrated Transponder Tag antennas for the adult fishway at Threemile Falls and replace aging computers that organize and store tag detections. Upgrades to the PIT tag system will provide information critical for management of Umatilla River fisheries.

Overall Project Goals

Describe the primary goals or outcomes of the entire project, including elements not requesting

funding from R&E.

A PIT tag system in the adult fishway at Threemile Falls that detects PIT tagged fish at or near 100% efficiency, improving the quality and amount of information available to monitor federally listed Middle Columbia River steelhead and Umatilla Basin fisheries.

Primary objectives of R&E funding

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

Build and install three PIT tag antennas in the adult fishway at Threemile falls and replace aging computers that organize and load data from the site to the PTAGIS database.

Current Situation/Justification

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

Installation of PIT tag detection infrastructure at Threemile Falls began in 1998. In 2006 a high efficiency detection system, modeled after those installed at mainstem Columbia River dams was designed. However, the \$300,000 needed for implementation couldn't be secured and a low cost 3' x 4' antenna constructed from PVC pipe was installed in the backlight chamber of the ladder count station.

Operation and maintenance of the existing system has proven to be difficult. Difficulties are primarily the result of high ambient noise caused by field-coupling between antennas and ferrous metals. In addition, the humid environment within the backlight chamber requires frequent replacement of electrical connections and occasional inundation by water leads to displacement of the antenna; resulting in poor antenna performance.

An alternative to the 2006 design was competed in 2009. However, the design was still costly (\$275,000), didn't fully address noise issues, and impacts to ladder hydraulics were concerning.

The need for more precise forecast models and tributary overshoot information is the primary justification for improvements at Threemile. In addition, a reliable PIT tag system could facilitate evaluation of fish survival and timing both before and after the removal of Brownell Dam.

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.

Umatilla hatchery programs contribute to tribal, sport and commercial fisheries. The Umatilla River is the only Columbia River tributary in Eastern Oregon that annually provides Coho salmon, fall and spring Chinook salmon, and steelhead sport fisheries. Long-term population monitoring has been a critical component of our program and several management and M&E objectives depend upon PIT tag detections at Threemile.

A relevant example being the development of a PIT Tag run forecast model that has allowed spring Chinook fisheries to be opened as a permanent regulation on the Umatilla. However, some model uncertainty arises from the inability to accurately quantify the rate at which overshoots (Umatilla fish that pass above McNary Dam) return to the Umatilla fisheries.

Improved information regarding the performance of PIT tagged juvenile hatchery fish will also enable managers to implement production practices that increase the number of returning adults and precise data are necessary to better understand population dynamics, assess population status, and make management decisions associated with our listed steelhead population.

Percent benefit split between Commercial and Recreational anglers:

35 % Commercial

65 % Recreational

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

The percentage split was determined from long-term harvest monitoring (W. Cameron, personal communication, February 21, 2018). Umatilla River fisheries are monitored using a roving creel and out-of-basin fisheries are monitored through coded wire tag recoveries. Umatilla hatchery steelhead are harvested almost exclusively in sport fisheries, while 31% of spring Chinook and 67% of fall Chinook are harvested in commercial fisheries.

Additional information on Umatilla River fisheries can be found in Cameron et al. 2017.

<https://www.cbfish.org/Document.mvc/DocumentViewer/P154555/74247-1.pdf>

This project has been identified as an ODFW priority for:

Local/watershed

Basin/regional

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 identify this as an ODFW priority.

Identify any plan or other document that identifies this priority.

PIT tag studies and the Threemile detection system is critical to a number of Management and associated M&E objectives identified in the Umatilla Subbasin M&E Plan.

<https://www.cbfish.org/Document.mvc/DocumentViewer/P117068/umatilla-comprehensive-rme-plan.pdf>

PIT tag studies and the Threemile detection system is critical to a number of Management and associated M&E objectives identified in the Mid-C Steelhead Recovery Plan.

http://www.dfw.state.or.us/fish/CRP/docs/mid_columbia_river/Oregon_Mid-C_Recovery_Plan_Feb2010.pdf

PIT tag studies and improvements to the PIT tag system at Threemile were identified as a priority in the Mid-C Steelhead Recovery Plan progress report.

http://www.dfw.state.or.us/fish/CRP/docs/mid_columbia_river/Feb_2010-June_2011.pdf

Improvements to the PIT tag system at Threemile were identified by ODFW as a priority action during the 2016 Mid-C Steelhead Recovery plan review. See attached spreadsheet.

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
Spring Chinook Salmon
Coho Salmon
Lamprey
Summer Steelhead

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
Hatchery production methods
Out migrant/return rates

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

Yes

Project development was led by Josh Hanson. Mr. Hanson has extensive experience developing and implementing projects. For the past 8 years Mr. Hanson has been responsible for the implementation of a study to monitor the status and trends of ESA-listed summer steelhead in the Umatilla River. Mr. Hanson spent nearly two years developing and implementing fish habitat restoration projects and 7 ½ years as a Project Assistant in the East Oregon Fish Research Program, working on projects in both the Snake and Umatilla rivers. Mr. Hanson has extensive experience in the design and application of PIT tag studies, including the installation and maintenance of full-duplex PIT tag systems. Mr. Hanson was involved with past design processes and modifications for the PIT tag system at Threemile and is responsible for the maintenance of the existing system. Mr. Hanson provides technical guidance to CTUIR, USFWS, and BOR on a variety of PIT tag related topics in the Umatilla River basin. He has a bachelor's degree in Fishery Science, and over 17 years' experience implementing fish monitoring and restoration projects.

Technical guidance for the project was provided by Derrek Faber. Mr. Faber has had extensive experience designing, installing, and maintaining full-duplex PIT tag systems. He has designed, fabricated and installed PIT tag systems for use in tributary and mainstem river deployments, juvenile fish bypass channels and adult fish ladders. He has designed and installed PIT tag systems within the fish ladders of Minto, Dexter, Foster, Lebanon, and Bennet Dams; in addition he has deployed PIT tag systems for juvenile bypass canals at Walterville, Leaburg, Bennet, Stayton, and Willamette Falls Dams. He has designed and installed instream PIT tag systems for use in the John Day River mainstem, Deschutes tributaries, the Grand Ronde River and its tributaries, the North Santiam River, South Santiam River, Middle Fork Willamette, and Fifteenmile Creek to name a few. He has a master's degree in Fishery Science, and over 20 years' experience using the latest technologies to monitor fish.

The project design was reviewed by ODFW Fish Passage Program staff and the Umatilla Management Monitoring and Evaluation Oversight Committee (UMMEOC). UMMEOC includes managers and researchers from ODFW, CTUIR, BOR, and BPA.

Fish Passage Program staff determined that the proposed PIT tag system would not present any issues for native fish migration upstream through the fishway at Threemile and UMMEOC supports the proposed project.

Is this study critical to fishery management decisions?

Yes

This project is part of a larger, long-term fisheries monitoring program. PIT tag detections at Threemile will contribute to the following management questions:

1. Determine the abundance, timing, life history characteristics, and survival of out-migrating Chinook salmon and steelhead.
2. Monitor and assess whether life history characteristics of hatchery-reared steelhead mimic those of naturally-reared steelhead.
3. Determine if hatchery rearing and release strategies optimize smolt production, survival, homing, adult return, harvest, and natural spawning of steelhead and Chinook salmon.
4. Assess the effect of reduced water diversion during Phase I water exchange on the selection of routes used by smolts to pass Threemile Falls.
5. Develop/refine PIT Tag forecast models to improve management of subbasin fisheries.
6. Determine the return rate of McNary Dam overshoot salmon and steelhead to the Umatilla River.

Yes

Umatilla fishery management actions are implemented within the framework of regional management of anadromous fish and legal mandates associated with the Power Act, U.S. v. Oregon court decision on tribal treaty rights, and the Endangered Species Act. The primary forum in place for study results to be acted upon to improve fishery management is the Umatilla Management Monitoring and Evaluation Oversight Committee. This group includes managers and researchers from ODFW, CTUIR, BOR, and BPA. Study results are considered and if a new course of action is agreed upon by co-managers, the action is incorporated into the annual operations plan. The majority of management decisions are made at this level, but some actions require other forums. For example, specific artificial propagation actions such as smolt production and release locations must be included in U.S. v. Oregon agreements.

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

Yes

The project is part of a larger, long-term fisheries monitoring program in the Umatilla River. PIT tags are a key tool in assessing the impacts and success of the Umatilla hatchery program and monitoring the ESA-listed summer steelhead population.

Will the data be reported or published?

Yes

All PIT tag data is uploaded to the PIT Tag Information System Database and available to the public. Also, annual reports on PIT Tag system performance and metrics (i.e. smolt production, smolt survival, migration timing) generated from PIT tagged fish are submitted to Bonneville Power Administration. PIT tag data can be found at <https://www.ptagis.org/> and annual reports can be found at <https://www.cbfish.org/>.

Project Description

Schedule

Activity	Date	RE Funding
Purchase computers for communication system	July 2018	Yes
Antenna construction and bench testing	July 2018	Yes
Antenna installation and on-site tuning	August 2018	Yes
Communication system installation, testing, and monitoring	September 2018	No
Detection efficiency estimates	May 2019	No

Permits

Permit	Secured?	Date Expected
M&E activities are covered under the Umatilla Salmon Hatchery BiOp (April 19, 2011), Umatilla Salmon Hatchery Reinitiation BiOp (August 19, 2016), and Middle Columbia River Hatchery BiOp (February 13, 2018)	Yes	

Project Design and Description

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

PIT tag systems allow for monitoring fish without any further handling after initial tagging. Use of PIT tags in fisheries M&E was first applied in the Columbia River Basin (CRB) in the early 1980s and application in the Umatilla River began in 1998. In recent years, nearly 30,000 fish were tagged annually and since 1998 more than 400,000 juvenile salmonids have been tagged.

Monitoring for PIT tagged fish in the Umatilla River was initiated in the juvenile fish bypass at Threemile by ODFW. A portable 400-kHz Destron-Fearing loop antenna and tag-reader was used to manually scan fish captured in the bypass trap. Tag codes were stored in the reader and manually downloaded to a computer. Files were created and validated using specialized software (PITTAG and PITVAL) and emailed to the PIT Tag Operation Center (PTOC) for upload to the PTAGIS database.

In 1999 the portable system was replaced with a fixed 400-kHz dual loop antenna with an aluminum radio frequency shield and tag-reader connected to a laptop computer via an RS232 communication port. The bypass trap had to be modified with a smaller diameter pipe to facilitate the upgrade. Detection data were organized as interrogation files using specialized software (Tunnel) and written to a portable storage device for transfer to an office computer. Files were emailed to the PTOC for upload to the PTAGIS database.

At the same time, a multi-agency team was implementing a transition of the CRB PIT tag infrastructure from the 400-kHz frequency to 134.2-kHz. The frequency was changed to meet international standards (ISO) for animal marking. Additionally, the CRB fisheries community determined the transition to ISO-based PIT tag systems was necessary because of the difficulty to find replacement parts for the aging 400-kHz system and because the ISO-based technology had an extended read range and larger antennas could be constructed. These improvements would allow data to be collected on tagged adult fish transiting fish ladders. The 400-kHz system at Threemile was replaced by a 134.2-kHz system in 2000, coinciding with the CRB transition deadline.

The original 134.2 kHz system included two portable Destron-Fearing loop antennas and FS2001 tag-readers connected to a laptop computer via RS232 communication ports. Detection data were organized as interrogation files using specialized software (MiniMon). Interrogation files were stored on the computer hard drive for later transfer to an office computer using a portable storage device. Files were uploaded to the PTAGIS database via an FTP server from

an office computer from 2000 to 2002 and directly from the on-site laptop computer in 2003.

In 2004, the portable system was replaced with two fixed multi-loop antennas with an aluminum radio frequency shield and Destron-Fearing FS1001 transceivers. The more powerful transceivers and custom wrapped antennas enabled the fish to be routed through the original and larger diameter bypass pipe. The transceivers were synced and connected to the existing data uploading components.

In 2005, a portable flat-plate style antenna was suspended above the water surface at the juvenile fish bypass exit. The antenna was connected to a FS2001 tag-reader and codes were stored on the reader and manually downloaded to a computer using MiniMon. Data was uploaded to the PTAGIS database via an FTP server from the office.

PIT tag antennas were first installed in the adult fishway at Threemile in 2001. Equipment consisted of two portable loop antennas and FS2001 tag-readers. The loop antennas were mounted on the count station window and tag codes were stored on the readers and manually downloaded to a computer using MiniMon. Data was uploaded to the PTAGIS database via an FTP server from the office. Maximum read range for the array was 5 inches and detection efficiency was low (0% to 8%).

In 2003, conceptual drawings for mold-in slot style antennas were developed by PSMFC and in 2005–2006 detailed design plans and specifications were completed by ODFW, PSMFC, Biomark, and INCA Engineers. Plans included the installation of two pass-through antennas molded into high impact housing with built in radio frequency shielding mounted within the vertical slots of the adult fishway. The \$300,000 needed for implementation could not be secured.

With the help of PSMFC, BOR, BPA, and CTUIR; ODFW implemented some low-cost upgrades to the system in 2006–2009. Improvements included a communications trailer, wireless data transfer, and installation of fixed antennas at the count station window and juvenile fish bypass exit. Wireless radio links between antennas located in the juvenile bypass trap on the west bank of the river were installed to transmit data to a communications trailer on the east bank. The wireless radio links were connected to a computer via modems and fiber optics. The computer used MiniMon to upload data files to PTAGIS with a phone modem. A second computer provided system mirroring, to ensure continuous operation and data backup.

Unshielded antennas constructed from PVC pipe were installed in the backlight chamber of the count station window and at the juvenile fish bypass exit. Both antennas were monitored by Destron Technologies FS1001M multiplexing transceiver. The count station transceiver was connected to the system computer using fiber optics and a wireless radio link was used to transmit data from the bypass exit antenna.

Direct tests, using PIT tagged juvenile fish showed detection efficiency for the count station (89%) and bypass trap (100%) to be high. Indirect tests for the bypass exit also revealed a high detection efficiency (93%) for juvenile fish. However, indirect tests for PIT tagged adult fish estimated a maximum detection efficiency of only 40% for the count station and recent estimates revealed it has declined to only 12%.

In 2008–2009, CTUIR and Biomark developed conceptual drawings and cost projections (\$150,000) for drop-in bolt-on slot style antennas. The design required 8-inch transition pieces and the antenna was unshielded. Design reviewers were concerned about impacts to fishway hydraulics and requested the deployment of a mock antenna to evaluate effects. Also the unshielded antennas would not mitigate for system noise caused by field-coupling with ferrous rebar and grating. The added cost for the mock antenna (\$40,000) and monies already spent on design (\$85,000) quickly raised costs to a number (\$275,000) similar to the mold-in slot style antennas.

The goal of this project is to build and install a low cost PIT tag system that does not change ladder hydraulics and detects PIT tagged fish at or near 100% efficiency, improving the quality and amount of information available to monitor federally listed Middle Columbia River steelhead and Umatilla Basin salmon fisheries. To achieve this, three thin body PIT tag antennas will be built and installed in the adult ladder at Threemile. Thin bodied antennas are possible due to the use of ferrite tiles embedded into the antenna housing. The ferrite tiles insulate the antenna from the negative effects of surrounding metal, including rebar. Antennas can be installed at a relatively low cost since no major site modifications are required and can be mounted on a metal surface if needed.

The project design was modeled after PIT tag systems installed at Minto, Dexter, Foster, Lebanon, and Bennet dams by ODFW. The Threemile array will consist of two custom built pass-thru antennas and one pass-by antenna. All antennas will be low profile and have ferrite shielding. One antenna will be installed at Weir 4, one at the grade break between Weir 4 and 5, and one at the count station window. The two antennas located near the midpoint of the fishway will be equipped with 2-inch transition pieces to minimize drift or bedload debris collection and ensure adequate passage conditions for lamprey. The count station antenna will be installed exterior of the fishway and not require transition pieces.

The antennas will be a drop-in bolt-on design. Antennas will be pre-fabricated and designed with minimal site fabrication requirements. Antennas will be constructed of fish friendly highly durable, long lasting copolymer plastic. The midpoint antennas will have approximate outside dimension of 3'-8" x 9'-9" and 5'-1" x 9'-3", with a 2-inch total thickness. The viewing window antenna will be 3'-6" x 4'-6" and less than 1-inch thick.

The antennas will be monitored by a Biomark IS-1001 master controller (MC) and three Biomark IS-1001 antenna controller nodes (ACN). The system will be powered by existing grid power, with generator back-up. The MC will be connected to computers running M5 interrogation software and data will be uploaded to PTAGIS with a cell modem. Additional computers will provide system mirroring, to ensure continuous operation and data backup. The MC and computers will be housed in the existing communications trailer.

Fish marked through existing M&E activities and detected in the adult fishway will be used to evaluate the performance of the new PIT tag system. Detection efficiency estimates will be determined using methods similar to those described by Connolly et al. (2008) and Connolly 2010.

References:

Connolly, P.J. 2010. Guidelines for calculating and enhancing detections efficiency of PIT tag interrogation systems. Pages 119-125 in K.S. Wolf, and J.S. O'Neal, eds. PNAMP Special Publication: Tagging, Telemetry and Marking Measures for Monitoring Fish Populations-A compendium of new and recent science for use in informing technique and decision modalities: Pacific Northwest Aquatic Monitoring Partnership Special Publication 2010-002, Chapter 7. <http://www.pnamp.org/node/2871>

Connolly, P.J., I.G. Jezorek, K.D. Martens, and E.F. Prentice. 2008. Measuring the performance of two stationary interrogation systems for detecting downstream and upstream movement of PIT-tagged salmonids. North American Journal of Fisheries Management 28:402-417

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?

Computer replacement falls under the ODFW lifecycle guidelines for technology and requires replacement after 6 years. Life expectancy for the PIT tag antennas is expected to be a minimum of 10 years. PIT Tag data will be housed on the PTAGIS database and will be valid indefinitely.

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

The BPA funded ODFW Umatilla Salmonid Life History and Survival project will be responsible for long-term management, maintenance, and oversight of the PIT tag system. PIT Tag data will be housed on the PTAGIS database, which is managed and maintained by PSFMC. Significant maintenance is not anticipated until computers need to be replaced in 6 years. Funding for computer replacement will likely be structured into future BPA contracts. We fully expect the antennas to last for more than a decade.

Will the project require ongoing maintenance?

Yes

Current technologies proposed for the project are anticipated to significantly reduce system maintenance and the BPA funded ODFW Umatilla Salmonid Life History and Survival project will be responsible for any ongoing maintenance. Funding for routine maintenance and internet service for the existing system is currently provided to the ODFW project by BPA.

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

Yes

Baseline data for the current PIT tag system already exists and post project monitoring will be performed through existing long-term M&E activities funded by BPA. The effectiveness of the project will be evaluated by comparing detection efficiencies before and after installation of the

upgraded PIT tag system.

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":"Bonneville Power Administration","type":"In-Kind","secured":"Secured","dollarValue":25170,"comments":"Current BPA contract (#74313) includes funding for project management, vehicle rental, and site maintenance. This contract expires 10/31/2018."},{ "source":"Bonneville Power Administration","type":"In-Kind","secured":"Pending","dollarValue":20621,"comments":"BPA contract renewal that would include site maintenance and antenna efficiency testing. Contract expected to be secured in Fall 2018."},{ "source":"Bonneville Power Administration","type":"In-Kind","secured":"Secured","dollarValue":17735,"comments":"Antenna materials, antenna nodes, and master controller were purchased under a prior BPA contract (#70542)"}]

Other Funding Source	Type	Secured	Dollar Value	Comments
Bonneville Power Administration	In-Kind	Secured	25170	Current BPA contract (#74313) includes funding for project management, vehicle rental, and site maintenance. This contract expires 10/31/2018.
Bonneville Power Administration	In-Kind	Pending	20621	BPA contract renewal that would include site maintenance and antenna efficiency testing. Contract expected to be secured in Fall 2018.
Bonneville Power Administration	In-Kind	Secured	17735	Antenna materials, antenna nodes, and master controller were purchased under a prior BPA contract (#70542)
		Total	63526	

Budget

Item	Unit Number	Unit Cost	In-kind or non-cash contributions	Funding from other sources	R&E Funds	Total Costs
PROJECT MANAGEMENT						
Josh Hanson, ODFW	0	9846.00	24615	0	0	24615
		SUBTOTAL	24615	0	0	24615
IN-HOUSE PERSONNEL						
Derrek Faber, ODFW	2	9690.00	0	0	19379	19379
Stacy Remple, ODFW	1	7080.00	7080	0	0	7080
Seasonal EBA, ODFW	3	2992.00	8976	0	0	8976
		SUBTOTAL	16056	0	19379	35435
CONTRACTED SERVICES						
			0	0	0	0
		SUBTOTAL	0	0	0	0
TRAVEL						
Motorpool	5	355.00	1420	0	355	1775
Per Diem	10	46.00	0	0	460	460
Lodging	9	83.00	0	0	747	747
		SUBTOTAL	1420	0	1562	2982
SUPPLIES/MATERIALS						
Cellular Modem	12	50.00	600	0	0	600
Antenna Mounts & Hardware	3	500.00	0	0	1500	1500
Antenna Materials	3	2500.00	7500	0	0	7500
Antenna CANBUS Cable	350	3.72	1302	0	0	1302
PIT Tags	2000	1.55	3100	0	0	3100
		SUBTOTAL	12502	0	1500	14002
EDUCATION/OUTREACH						
			0	0	0	0
		SUBTOTAL	0	0	0	0
EQUIPMENT						
IS1001-12V Antenna Node	3	1425.00	4275	0	0	4275
IS1001 Master Controller	1	3500.00	3500	0	0	3500
Communication Board	3	386.00	1158	0	0	1158
Computers	3	1116.00	0	0	3348	3348
		SUBTOTAL	8933	0	3348	12281
FISCAL ADMINISTRATION						
			0	0	0	0
		SUBTOTAL	0	0	0	0
		BUDGET TOTAL	63526	0	25789	89315

Internal Review Results

Review Score: 0.9 out of 3

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

Summary of Review Team Comments

While the review team is supportive of this project and type of data collection, the team felt that this application did not adequately justify the use of R&E dollars on what is a federally funded project. The application should be re-written to justify the use of R&E funds and explain if this is being used to back fill federal funding cuts. Review team scores included four 0s, two 1s, one 2, and one 3.

Specific Review Team Comments

Application appears well put together and adequately describes the equipment. However, ultimately most of the equipment/materials is already purchased and the majority of funds requested (\$19,379+\$1,562) are for an ODFW employee. The application leads on that this is for equipment upgrades, yet upgrades make up less than \$5k of the request. The application must explain and justify the need to pay for a specific staff member, why they are pursuing R&E funding for a federal obligation, and why it would even be appropriate for R&E to fund this.

R&E funds are not to appropriate to backfill funding cuts. If this is not a result of recent cuts please make sure to explain that.

Good project, a lot of good information provided about this research, but little to describe what the R&E funds are for. Need to be upfront about what it is that you want funds to pay for.

Appreciated that they provided some specific examples of how the monitoring data will be used for management relevant to the angler.

The Umatilla River fisheries programs are 100% federal funded via BPA and Tribal Accord dollars and as such this appears to be a BPA obligation not an R&E obligation.

Specific Review Team Questions

How does the applicant plan on addressing the "speed bump" issue with the frame mounted against the floor? This should be figured out before installing the detector.

Bonneville Power Administration should be responsible to fund the pit tag system upgrade, not ODFW's R&E program. Please explain why anglers should cover this and not one of the many agencies in the Columbia system.

Please justify the computer purchases - these items are on a schedule for replacement, so why wasn't this planned for in normal budgets? Again this seems like it should be part of the federal obligations.

Additional Files

Budget Information

Maps

[Threemile Site Maps](#)

Site Maps

Photos

[Threemile Photos](#)

PIT Tag System Photos

Design Information

[Threemile Design Concept](#)

PIT Tag System Design Drawings

[Threemile Review](#)

Threemile Design Concept Reivew Package

Management Plans and Supporting Documents

[2016-2018 Plan Implementation Priorities](#)

Spreadsheet of ODFW priority actions for the implementation of conservation and recovery plans

Permits and Reviews

[Fish Passage Approval](#)

Fish Passage & District Biologist Email correspondence

Partnerships

Public Comment

Administrative Documents

[Signature Page](#)

Signature Page

Completion Report

A completion report has not been submitted for this project.