ANALYSIS

Department of Fish and Wildlife
WaterSmart

Analyst: April McDonald

Request: Approve the submission of a federal grant application to the U.S. Bureau of Reclamation, WaterSmart Environmental Water Resources grant program, in the amount of $3,563,499, for three projects focused on water conservation and efficiency within hatchery operations and maintenance.

Analysis: The WaterSmart Environmental Water Resources grant program provides federal funding for projects designed to increase water supply reliability through investments in infrastructure and attention to local water drought conflicts. The Oregon Department of Fish and Wildlife (ODFW) has identified three projects that qualify for the grant criteria, benefitting water conservation and efficiency within hatchery operations and maintenance. The opportunity includes a match requirement equal to 25% of total project cost. For the three projects, this amounts to $1.2 million, which ODFW plans to provide within existing agency budget.

- Big Creek Hatchery Water Pipeline Replacement - The hatchery was built in 1941 and the main water pipeline has deteriorated, leading to failure on multiple occasions. The line has undergone various temporary patches, however, independent engineers have determined the pipeline is at end of life. ODFW has included a request for $0.9 million in their grant proposal for replacement. Additionally, ODFW would provide $0.3 million in existing agency funds to bury the pipeline and meet the match requirement.
- Sandy Hatchery Disease Control and Prevention Through Improved Water Treatment - Over the past 5 years, morbidity and mortality, due to bacterial and parasitic infections in spring Chinook, Coho, and Steelhead raised at Sandy Hatchery have increased in frequency and intensity. This is largely due to lower water volumes and higher temperatures. ODFW proposes construction of an ultraviolet disinfection system combined with a drum filter to sanitize incoming water and improve the health and quality of reared fish. ODFW has included a request for $1.4 million in their grant proposal, and would provide $0.5 million in state match requirement.
- Nehalem Fish Hatchery Holding Pen Repair and Water Efficiency - This project aims to improve non-consumptive water use to benefit water supply in the Nehalem Basin. Currently, the hatchery ponds have been undermined and are now failing due to cracks which allow water and fish to escape under the rearing ponds. This project includes relocation and construction of eight ponds and modifying the distribution piping to improve water efficiency. ODFW has included a request for $1.3 million in their proposal and would provide $0.4 million for match requirement.

The grant application is due March 28, 2023 and award notifications are anticipated by December 31, 2023. If awarded, ODFW anticipates returning to the legislature to request additional Federal Funds expenditure limitation, and the Department would have three years for grant delivery.

Legislative Fiscal Office Recommendation: The Legislative Fiscal Office recommends approval of the request.

Department of Fish and Wildlife
Filimoehala

Request: Authorization to apply for a federal grant of $3,563,499 from the Bureau of Reclamation for WaterSmart Environmental Water Resources.

Recommendation: Approve the request.

Discussion: The Department of Fish and Wildlife is requesting authorization to apply for a federal grant totaling $3,563,499 from the Bureau of Reclamation WaterSmart Environmental Water Resources program. If awarded, the department would use grant funds to support three fish hatchery projects: Big Creek Hatchery Water Pipeline Replacement, Sandy Hatchery Disease Control and Prevention through Improved Water Treatment, and Nehalem Fish Hatchery Holding Pen Repair and Water Efficiency. The grant requires applicants to provide a cost share of 25 percent or more of the total project costs. The department plans to provide matching funds of $1,187,834 by utilizing existing program budget.

The grant application is due on March 28, 2023, and award notification is expected December 31, 2023. If awarded, the department would have three years to complete the projects and would return to the appropriate legislative body to request an increase in Federal Funds expenditure limitation.

Oregon
Tina Kotek, Governor

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March 7, 2023

The Honorable Senator Elizabeth Steiner, Co-Chair
The Honorable Representative Tawna Sanchez, Co-Chair
Joint Committee on Ways and Means
900 Court Street NE
H-178 State Capitol
Salem, OR 97301

Dear Co-Chairpersons:

Nature of the Request

Oregon Department of Fish and Wildlife (ODFW) requests approval to apply for a WaterSmart Environmental Water Resources grant in the amount of $3,563,499 federal funding from the Bureau of Reclamation (BOR). This is a new program established under the Bipartisan Infrastructure Law, Infrastructure Investment and Jobs Act of 2021.

Background

Funding through the WaterSmart Program directly supports the ODFW mission by securing water supplies for future generations and implementing actions to increase water supply reliability through investments in infrastructure and attention to local water drought conflicts. The WaterSmart Environmental Water Resources Projects federal funding opportunity provides funding for projects in three categories including:

A. Water conservation and efficiency projects that result in quantifiable and sustained water savings and benefit ecological values or watershed health.
B. Water management or infrastructure improvements to benefit ecological values or watershed health.
C. Restoration projects benefitting ecological values or watershed health that have a nexus to water resources or water resources management.

ODFW has identified three projects that qualify under categories A and B for benefitting water conservation and efficiency within hatchery operations and maintenance.

<u>Big Creek Hatchery Water Pipeline Replacement (Category A)</u>

Water-efficiency improvements can reduce consumptive water uses by reducing non-beneficial uses of water, such as unproductive water supply to the hatchery. Reductions in

consumptive use are especially valuable because they create “new supply” that is available for other uses in the Big Creek Basin and improve the reliability of existing supplies and reduce vulnerability to drought and other water-supply constraints currently experienced throughout Oregon.

Big Creek Hatchery began operation in 1941 as a state-funded facility. It was refurbished in 1957 under the Mitchell Act as part of the Columbia River Fisheries Development Program, developed to enhance declining fish runs in the Columbia River Basin. The facility is used for adult collection, egg incubation and rearing of fall Chinook, spring Chinook, coho, chum, and winter steelhead. The main water supply pipe to the hatchery is comprised of 36” diameter steel pipe encased in concrete that is approximately 1900 ft. long. The entire pipe is exposed to constant weathering and has deteriorated to the point where temporary fixes are no longer prudent. This pipe has failed on multiple occasions and has undergone various versions of temporary patches over the course of its life. The most recent failure (December 2022) was caused when a large spruce tree fell during a storm and a sizable limb impaled the pipe resulting in approximately 500 gallons per minute loss in water supply to the hatchery. A temporary fix was made following this event to secure water to the hatchery. It has been determined by engineering and through independent contractors that this pipeline is at the tail end of its lifespan and is a critical piece of infrastructure for the hatchery. Once the steel liner of this pipe is compromised, water will continue to seep between the layers of steel and concrete to degrade the integrity of the pipe. Upgrading this critical piece of hatchery infrastructure to High density polyethylene (HDPE) pipe will allow for future pipe failures to be isolated to the point of impact and allow for repairs to be isolated and permanent. The burying of the pipeline will further fortify the pipe from falling trees and other potential impacts while at the same time limiting temperature fluctuations. ODFW requests approval to apply for $900,000 in BOR WaterSmart Program funding, which will allow the piping to be replaced. ODFW would provide the $300,000 required match funding to bury the pipeline. If the waterline is not replaced, then significant fisheries managed in the lower Columbia River are at risk because of increased mortality to fish raised at Big Creek Hatchery.

<u>Sandy Hatchery Disease Control and Prevention Through Improved Water Treatment (Category B)</u>

The Sandy River joins the Columbia River 14 miles upstream from Portland and originates from water and glacial melt off Mt. Hood. Over the last 5 years, mortality, and morbidity due to bacterial and parasitic infections in spring Chinook salmon, coho salmon, and steelhead raised at Sandy Hatchery have increased in both frequency and intensity. In the summer of 2021 nearly 90% of the fish were killed in one week because of expanding infestation in outside raceways at the hatchery. Proactive strategies like vaccinations to prevent bacterial infection and early antibiotic intervention have been implemented. Summer environmental conditions are changing, available water volume is low and

temperature high in Cedar Creek; both of which are detrimental to fish health. With disease treatment options being limited and threat of those treatments becoming ineffective, avoidance of the pathogen or reduction of the infectious dose is the best option. The pathogen load in the upstream water is a major issue contributing to the fish mortality at Sandy Hatchery. ODFW proposes to construct an ultraviolet (UV) disinfection system combined with a drum filter to provide incoming water disinfection to improve the health and quality of fish reared under changing climate conditions. The water treatment system installed at Sandy Hatchery will combat low summer flows in Cedar Creek and elevated water temperatures that have caused chronic outbreaks of bacterial and parasitic diseases. Through implementation of drum filters and UV filters these pathogens will be inactivated and will therefore not travel downstream of the filtration system infecting fish in the hatchery. ODFW requests approval to apply for $1,367,812 in BOR WaterSmart Program funding and would provide the required $455,938 match funding.

Nehalem Fish Hatchery Holding Pen Repair and Water Efficiency (Category B)
This project will improve non-consumptive water use that will benefit water supply availability in the Nehalem Basin and ensure that water continues to be available for reuse within the basin from which it was extracted, for example through increased return flows that will benefit other water uses in the Basin. Nehalem Fish Hatchery raises fall Chinook salmon, coho salmon, winter steelhead, and rainbow trout for harvest programs used to augment fishing opportunities in the Nehalem River Basin. The current situation is that the ponds at the Nehalem Fish Hatchery have been undermined and are now failing because of cracks that allow water and fish to escape under the rearing ponds. The escaping water is further compounding this issue. As a result, the ponds are settling, and further cracking. Through recent geotechnical work and on site drilling we were able to establish an assumed soil profile under the ponds. We found that the poor soils (loose sands and organic silts in the sketch) extend ~2-4 ft below the bottom of the existing ponds. Since that is a shallow profile, the engineered recommendation is to remove and replace the soil. These rearing ponds are 55 years old, and the concrete surfaces are extremely worn and are beyond their life cycle. The hatchery relies on pumping water from the Nehalem River, so water lost through the infrastructure adds additional electrical cost and reduced water efficiency that decreases the amount of fish that can be reared. This proposal would include relocation and construction of eight ponds, modifying the distribution piping to improve water efficiency and secure the 23 cubic feet per second water right. ODFW requests approval to apply for $1,295,687 in BOR WaterSmart Program funding and would provide the required $431,896 match funding.

In summary, the BOR WaterSmart Environmental Water Resources grant program requires applicants to provide a cost share of 25 percent or more of the total project costs. For the three projects described, required match totals $1,187,834. ODFW would provide the required match using existing program budgets. Funding would come from a combination of ODFW Fish Restoration and Enhancement surcharge revenue, with federal Sport Fish

Restoration funding for the Nehalem project and federal Mitchell Act funding for the Big Creek and Sandy projects.
ODFW does not anticipate a need for additional FTE with this funding opportunity.

Agency Action

The application deadline with BOR is March 28, 2023. The anticipated award notification date is December 31, 2023, and ODFW would have three years to complete the project and spend the funding. If grant funding is awarded, ODFW anticipates making a future request for federal funds expenditure limitation.

Action Requested

ODFW requests approval to submit a federal grant application in the amount of $3,563,499 to the Bureau of Reclamation WaterSmart Environmental Water Resources grant program.

Legislation Affected

None

Sincerely,

Curtis E Melcher

Curtis Melcher
Director