

Sequim Prairie-Tri Irrigation Association Irrigation Efficiencies and Improvement Project

Title Page

Applicant: Clallam Conservation District (Category B applicant) in partnership with the Sequim Prairie-Tri Irrigation Association (Category A partner)

Applicant Address: 228 W. 1st Street, Suite H
Port Angeles, WA 98362-2639

Project Manager: Kim Williams

Project Manager Address: Clallam Conservation District
228 W. 1st Street, Suite H
Port Angeles, WA 98362-2639

Email Address: kim.williams@clallamcd.org

Telephone: 360-775-3747

Contracted Project Manager: Joe Holtrop

Project Manager Address: Jefferson County Conservation District
205C W Patison Street
Port Hadlock, WA 98339

Email Address: jholtrop@jeffersoncd.org

Telephone: 360-808-3645

Category A Partner: Sequim Prairie-Tri Irrigation Association

Partner Address: PO Box 721
Sequim, WA 98382

Partner Contact: Gary Smith

Email Address: garsmith@nikolabroadband.com

Telephone: 360-460-7330

Table of Contents

Title Page	i
Executive Summary	1
Project Location	2
Technical Project Description	2
Performance Measures	3
Evaluation Criteria	4
Project Budget	18
Budget Proposal	19
Budget Narrative	20
Environmental and Cultural Compliance	23
Required Permits or Approvals	25
Letters of Support and Partnership	25
Official Resolution	26
Appendices	27
Appendix A – Maps	27
Appendix B – Letters of Support and Partnership	30
Appendix C – Selected Plans and Studies	37

Executive Summary

Date: December 9, 2021

Applicant Name: Clallam Conservation District

Project Location: Sequim, Clallam County, Washington

Clallam Conservation District (CCD) is a Category B applicant acting in partnership with the Sequim Prairie-Tri Irrigation Association (SPTIA). CCD is a special purpose district (political subdivision of state government) that works with land and resource users to conservation renewable natural resources. SPTIA is a private, not for profit irrigation water purveyor. CCD and SPTIA have partnered on numerous irrigation efficiencies projects over the past couple of decades.

Project Summary

The Sequim Prairie-Tri Irrigation Association (SPTIA), with assistance from Clallam Conservation District (CCD), and the Washington Department of Fish and Wildlife (WDFW), will improve instream flows in the Dungeness River near Sequim, Washington by piping open irrigation ditches, and construct improvements to an irrigation diversion at the Dungeness River. The Dungeness River, which provides habitat for four ESA-listed salmonids (Puget Sound Chinook, Hood Canal/Eastern Strait of Juan de Fuca Summer Chum, Puget Sound Steelhead, and bull trout), suffers from low flows, which adversely affects habitat for these species, as well as coho and pink salmon and other aquatic species. Approximately 11,500 feet of ditch piping will result in water savings and reduced irrigation water diversions from the Dungeness River SPTIA totaling 533 acre-feet per year (1.75 cubic feet per second). In addition, with design assistance provided by the WDFW, a new concrete irrigation diversion/spillway structure will be constructed on the Dungeness River to replace the existing gravel push-up berm, thus eliminating the need for regular instream maintenance work that impacts high-value salmon spawning habitat and redds. These projects are identified in numerous plans, including the *WRIA 18 Watershed Plan*, *Dungeness River Agricultural Water Users Association Comprehensive Water Conservation Plan*, the *North Olympic Peninsula Lead Entity for Salmon Workplan*, and are supported by the Jamestown S'Klallam Tribe, Washington State Conservation Commission, Washington State departments of Fish & Wildlife and Ecology, local government, numerous conservation groups, and irrigation water users.

Project Timeline

The proposed start date is May 2022, beginning with project design and cultural resources compliance. Ditch piping is scheduled to begin in the fall of 2022 for the first phase, then the

falls of 2023 and 2024 for the next two phases. The irrigation diversion improvements are proposed for the early fall of 2023.

This project is not located on a Federal facility.

Project Location

The proposed Sequim Prairie-Tri Irrigation Association Irrigation Efficiencies and Improvement Project is located in Clallam County Washington in and near the City of Sequim. The piping projects are in the vicinity of latitude 48° 4' 40"N and longitude is -123° 7' 57"W. The diversion improvement project latitude is 48° 4' 19"N and longitude is -123° 8' 50"W. Please see Appendix A for maps.

Technical Project Description

This project includes two distinct elements:

1. irrigation ditch piping, divided into the following three separate projects
 - Eureka-Independent Piping Project
 - Sequim Prairie Robb Hill Main Canal to Priest Road Piping Project
 - Sequim Prairie Main Canal Priest Road to Eureka Way Piping Project
2. Improvements to the Sequim Prairie-Dungeness Irrigation District diversion facilities at the Dungeness River

The irrigation ditch piping projects include three separate ditch reaches within two conveyance ditch systems. The Sequim Prairie-Tri Irrigation Association is comprised of the Sequim Prairie, Eureka, and Independent ditch companies. Each holds its own water right, but they share conveyance infrastructure and operate as a single entity. All piping projects will be implemented according to engineered specifications for pipe depth, bedding and backfill, and associated appurtenances, such as service connections, shut-off valves, thrust blocks, air release valves, etc. Engineering has not been completed for these projects; however, the following describes the projects based on initial planning efforts.

The Eureka-Independent Piping project will result in installation of approximately 1,300 feet of 18-inch diameter pressure rated PVC pipe to replace approximately 1,700 feet of open ditch to convey a maximum of 5.0 cubic feet per second of flow. The Eureka and Independent ditches will be combined into a single pipeline. Piping scheduled for prior to the 2022 irrigation season will eliminate nearly 2,000 feet of Independent ditch.

The Sequim Prairie main canal piping is split into two projects: the Robb Hill Main Canal to Priest Road Piping Project and the Priest Road to Eureka Way Piping Project. Pipe will be 24-inch diameter pressure rated PVC throughout to convey up to 8.0 cubic feet per second. The Robb Hill section involves installation of approximately 3,500 feet of pipe,

and the Priest Road to Eureka Way Piping Project involves installation of approximately 5,400 feet of pipe. All pipe is proposed to be installed in the existing open canal.

The improvements to the Sequim Prairie-Dungeness Irrigation District diversion are still in the planning and design stages. Preliminary plans call for construction of a permanent concrete diversion/spillway structure in the irrigation diversion channel just upstream of the irrigation headgate. This structure will replace a 5.5-6.5-foot-tall gravel push-up berm that requires regular instream maintenance work. The new structure will include an adjustable height spillway (such as an Obermyer or similar design) that will allow for excess water to be spilled only when necessary and will remain open for adult fish passage during that time. When there is no excess flow, the structure will be closed, and fish passage will occur via the channel below the structure. In addition, the headgate will be improved by replacing the existing timed-interval sensor system with an instantaneous/real time automated regulator that will adjust based on the post-screen water elevation. This will eliminate the lag-time between the water elevation change and the headgate adjustment to prevent overtopping of the fish screen and bypass pipe.

Performance Measures

The primary objective of this project is to reduce irrigation water conveyance losses so that less water is diverted from the Dungeness River. All irrigation diversions on the Dungeness River are metered with real time data available online (<https://apps.ecology.wa.gov/continuousflowandwq/?sta=18H250>). Irrigation ditch flow measurements were taken in the proposed ditch piping reaches during the 2021 irrigation season to quantify conveyance losses, which total 1.75 cubic feet per second (533 acre-feet annually). Ditch piping will eliminate these losses and the water will remain in the Dungeness River. The Dungeness Water Users Association (association of all nine Dungeness irrigation water right holders) will prepare annual water use reports to verify compliance with irrigation water diversion reductions.

The new diversion structure will eliminate the need for twice-annual instream work that damages salmon redds in the irrigation diversion channel, as well contributing sediment that impacts water quality and downstream redds. In addition, the change to the headgate adjustment timer will greatly reduce the possibility of fish screen overtopping. Washington Department of Fish and Wildlife and Jamestown S'Klallam Tribal biologists will monitor the success of the new diversion and headgate timer.

Evaluation Criteria

E.1.1. Evaluation Criterion A—Project Benefits (35 points)

Up to 35 points may be awarded based on the evaluation of the benefits that are expected to result from the proposed project. This criterion evaluates the extent to which the project will benefit ecological values that have a nexus to water resources or water resources management. Other benefits will also be considered for projects that have multiple benefits.

E.1.1.1. Sub-Criterion A.1—Benefits to Ecological Values

*Please explain how the project will **benefit ecological values that have a nexus to water resources or water resources management**, including benefits to plant and animal species, fish and wildlife habitat, riparian areas, and ecosystems that are supported by rivers, streams, and other water sources, or that are directly influenced by water resources management.*

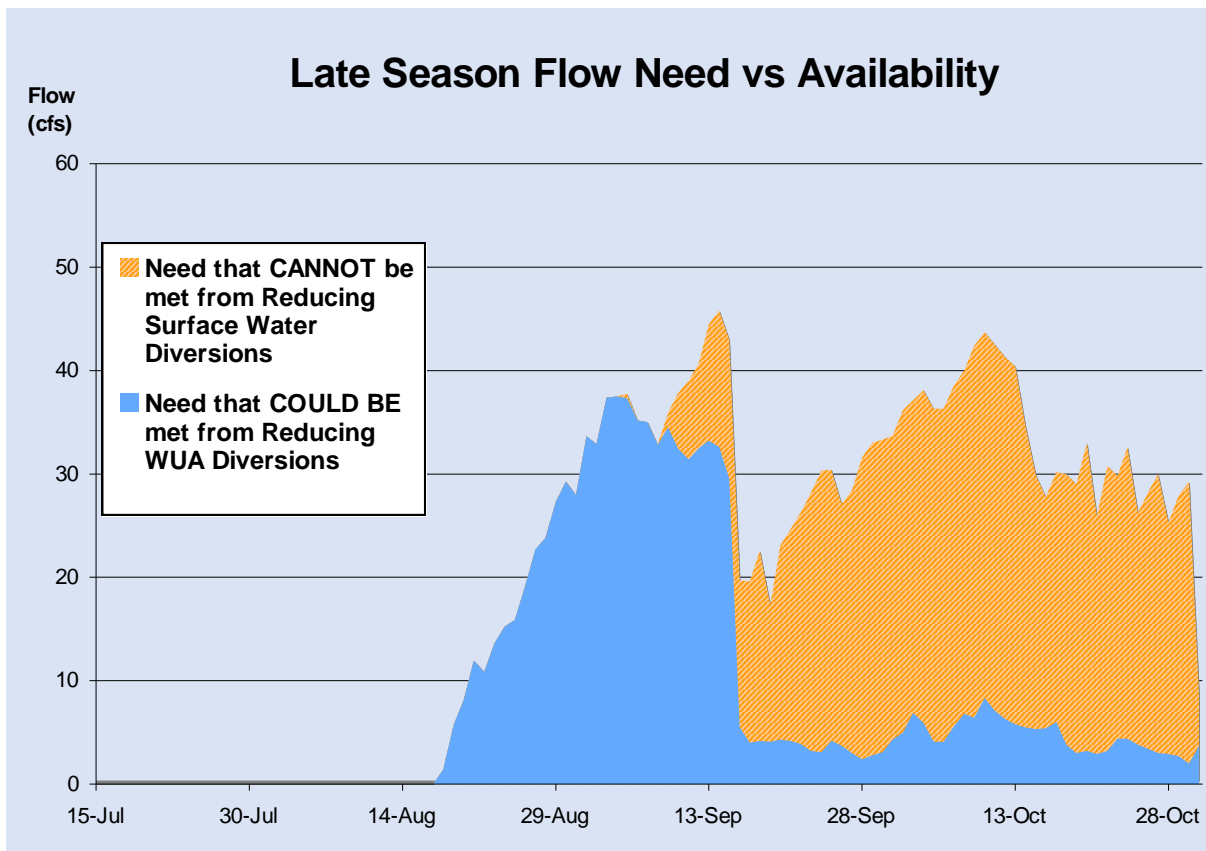
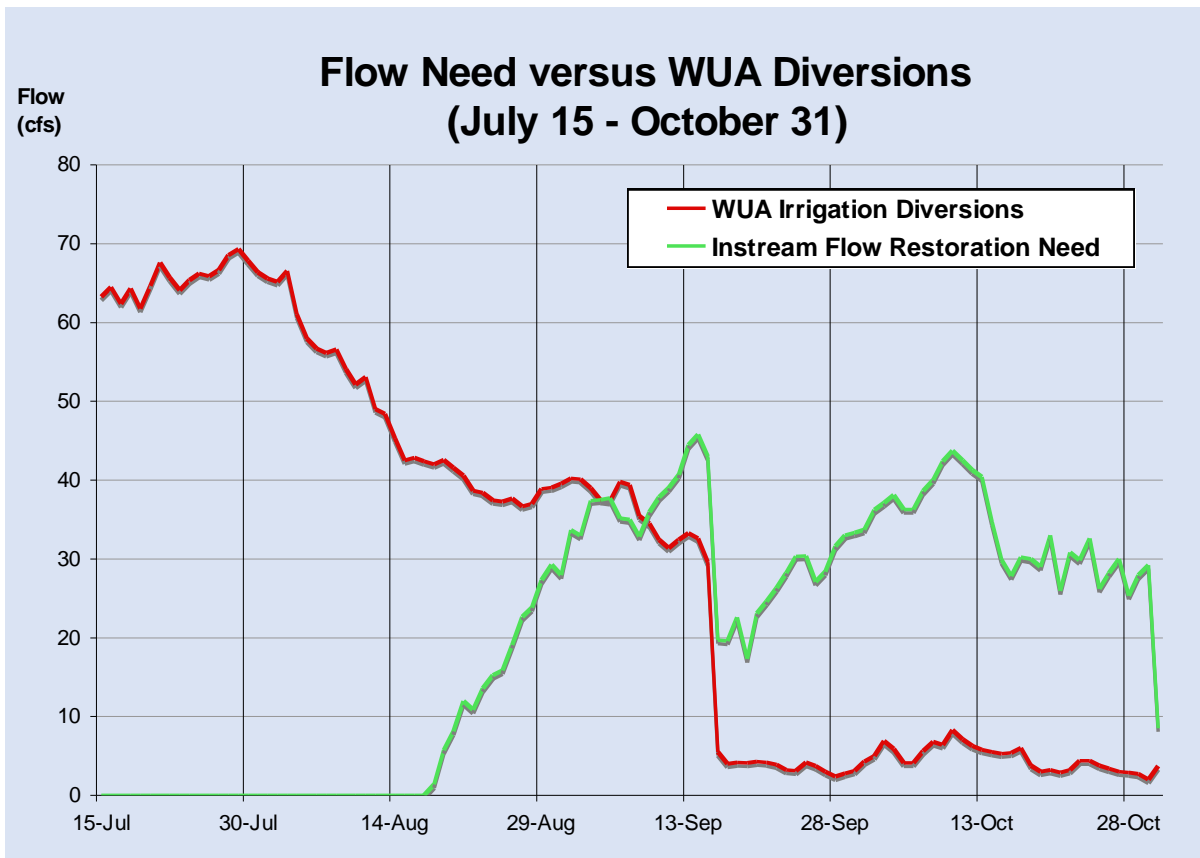
- *In your response, please identify the specific ecological values benefitted and how those ecological values depend on, or are influenced by, water resources or water resources management.*
- 3. *Please also explain whether the project will increase water supply reliability for ecological values by improving the timing or quantity of water available; improving water quality and temperature; or improving stream or riparian conditions for the benefit of plant and animal species, fish and wildlife habitat, riparian areas, and ecosystems, or through similar approaches.*
- 4. *If the project will benefit multiple water uses (i.e., benefits to ecological values AND benefits to other water uses, e.g., municipal, agricultural, or tribal water uses), please explain how the project benefits other water uses.*

The proposed project benefits multiple ecological values, including the following:

- Dungeness River stream flows
- Water quality
- Salmon habitat
- Fish passage/stranding

The primary ecological value is increased Dungeness River **stream flows**, thus improved habitat for four ESA-listed salmonids, other species of salmon and other aquatic species. Increased stream flows will result from reduced irrigation water diversions, which occur from April 15 through September 15. Low flows in the Dungeness River normally occur in late summer and early fall, coinciding with high irrigation water demand/diversions and the return of spawning salmon. An Instream Flow Incremental Method study led by Joseph Hiss of the USFWS in 1993 concluded that Dungeness salmon habitat area increases vary from one to 11 percent for each ten cubic feet per second (cfs) increase in flow, with higher values when flows are below 100 cfs. That study also concluded that only five of 16 salmon life history stages are supported in Dungeness River side channels when flows fall below 80 cfs, and a minimum of 128 cfs is necessary to support 12 of the 16 life history stages. Flows typically fall below 100 cfs in late August. This project will reduce irrigation water diversions by at least 1.75 cfs.

The figures below illustrate the Dungeness River irrigation water diversions (data from 2012) compared to need to meet minimum flow.



Water quality will be improved in several ways, including, lower water temperature resulting from increased flows, elimination of contamination of irrigation water and downstream return flows, and elimination of sedimentation resulting from instream irrigation maintenance activities. The irrigation ditches targeted for piping traverse through portions of the City of Sequim and one currently has unrestricted livestock access. Contaminants in the irrigation water include sediment, bacteria, pathogens, nutrients, and pesticides. These contaminants are conveyed to downstream irrigators, as well as streams and shellfish growing areas via irrigation return flows at the end of the conveyance system. Shellfish growing areas include commercial, tribal and recreational. Ditch piping will eliminate these potential sources of contamination.

The improved Sequim Prairie-Dungeness Irrigation District irrigation diversion structure will eliminate the need for construction and deconstruction of a gravel pushup dam near the irrigation headgate, which currently occurs at the beginning and end of irrigation season and sometimes during irrigation season. The end of irrigation season coincides with salmon spawning season, thus instream work during that time is particularly damaging.

The new diversion structure will only allow for excess water to spill as needed, as opposed to the continuous cascade of water over the highly permeable pushup dam. The structure will remain open for fish passage into the irrigation diversion channel during the non-irrigation season. It is important to note that the irrigation diversion channel functions as a high-value side channel for salmon spawning and rearing. Installation of an instantaneous/real-time automated headgate adjustment sensor will greatly reduce or eliminate downstream fish screen and/or bypass pipe overtopping, thus fish stranding.

Lastly, irrigation ditch piping will result in more reliable irrigation water delivery for agriculture and reduced ditch maintenance. In some cases, pipeline pressures reduce or eliminate the need for pumps, thus reducing energy use and saving money for irrigators.

E.1.1.2. Sub-Criterion A.2—Quantification of Specific Project Benefits by Project Type

- *Describe the amount of estimated water savings (in acre-feet per year) that are expected to result directly from the project. Please include a specific quantifiable water savings estimate; do not include a range of potential water savings. Describe the support/documentation for this estimate, including a detailed explanation of how the estimate was determined, including all supporting calculations.*
- *Explain where the water that will be conserved is currently going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground) and how the water is currently being used. For example, are current losses returning to the system and being used by others? Are current losses entering an impaired groundwater table becoming unsuitable for future use? Are there any known benefits associated with where the current losses are going? For example, is seepage water providing additional habitat for fish or animal species?*
- *Explain in detail how water conserved as a result of the project will be used to increase water sustainability for ecological values. Will the project commit conserved water to remain instream? If so, please provide detailed support for that commitment. Will a formal mechanism (e.g., collaboration with a state agency or nonprofit organization, or other mechanisms allowable*

under state law) be used? Or, if a formal mechanism will not be used, please describe the arrangement proposed to contribute conserved water for ecological benefits. Please explain the roles of any partners in the process and attach any relevant supporting documents.

- *Describe the benefits that are expected to result from increased instream flows. Will increased instream flows assist in reducing basin-wide water supply and demand imbalances or in complying with an interstate compact? Will increased instream flows result in benefits to fish and wildlife? If so, please describe the species and expected benefit of the project. Will the increased instream flows result in benefits to habitat or other ecological benefits? If so, describe these benefits. Will the flows specifically benefit federally designated critical habitat?*

The proposed irrigation ditch piping projects will save an estimated 533 acre-feet per year (1.75 cubic feet per second) of water. This estimate is based on irrigation ditch flow measurements conducted during the 2021 irrigation season. A Jamestown S’Klallam Tribe technician and conservation district staff conducted the flow measurements following the USGS discharge measurement protocol with specified ditch cross sections using a Flow Tracker 2 flow meter at the beginning and end of each ditch reach proposed for piping.

The water that will be conserved by piping is currently lost to seepage and evapotranspiration. This seepage water does augment the shallow aquifer, thus mitigates well water withdrawals, and it supports unnatural wetlands, and small independent streams. As beneficial as this ditch leakage may be for the shallow aquifer, wetlands, and small streams, it is artificial and detrimental to Dungeness River flows. Irrigation conveyance losses through seepage have been well studied in the Dungeness watershed for decades, and a 2003 Environmental Impact Statement completed for the *Dungeness River Agricultural Water Users Association Comprehensive Water Conservation Plan* concluded that despite the benefits of artificially recharging the shallow aquifer with leaky irrigation ditches, this is considered an unlawful wasting of water.

The EIS was a requirement resulting from a lawsuit by Graysmarsh LLC contesting a State Environmental Policy Act determination of no significant impact resulting from implementation of the 1999 *Dungeness Agricultural Water Users Comprehensive Water Conservation Plan*. Graysmarsh owns a large freshwater wetland complex along the Strait of Juan de Fuca. In addition to completion of the EIS, Graysmarsh must be consulted and must approve irrigation ditch piping projects within their zone of contribution. However, Graysmarsh later gave a blanket approval for ditch piping projects within the city limits of the City of Sequim. The ditches proposed for piping under this project are mostly within the City of Sequim and/or outside the zone of contribution.

Conserved water resulting from this project will be placed in trust for instream flow in the Dungeness River. Approximately half of the funding for the irrigation ditch piping projects will come from the Washington State Conservation Commission Irrigation Efficiencies Program. That program requires conserved water to be placed in trust for instream flows. The state Department of Ecology administers the program for transferring conserved water to trust.

Although there are nine irrigation water purveyors with water rights on the Dungeness River, each with different priority dates, they collaborate as a single organization (Dungeness Water Users Association or WUA) with regards to their water management. In other words, there are essentially no senior and junior water rights holders on the Dungeness River. Each of these irrigation districts and companies were issued superseding water rights in 2012 that updated their 1924 adjudicated water rights. This was done in part to reflect their current and future needs more accurately, and to provide a mechanism for implementing a basin-wide instream flow rule. Their combined water rights went from over 500 cubic feet per second (cfs) to about 100 cfs. In addition, the WUA agreed to never take more than 50 percent of the flow in the Dungeness River and to do whatever was in their power to ensure that at least 62.5 cfs remains in the river downstream of their diversions.

The increase in instream flows will directly benefit Dungeness River instream habitat. An Instream Flow Incremental Method study led by Joseph Hiss of the USFWS in 1993 (attached) concluded that Dungeness salmon habitat area increases vary from one to 11 percent for each ten cfs increase in flow, with higher values when flows are below 100 cfs. That study also concluded that only five of 16 salmon life history stages are supported in Dungeness River side channels when flows fall below 80 cfs, and a minimum of 128 cfs is necessary to support 12 of the 16 life history stages. Minimum instream flows for optimum habitat benefits in late summer were determined to be 180 cfs, a flow rate that is rarely met, particularly because of irrigation water diversions that average about 40 cfs.

The Dungeness River is home to four ESA-listed salmonids: Puget Sound Chinook, Hood Canal/Eastern Strait of Juan de Fuca Summer Chum, Puget Sound steelhead, and bull trout. Other species affected by low stream flows include coho and pink salmon. Abundant cool water is essential for their survival, and critical for migration, spawning habitat, thermal refugia, juvenile rearing, and complex side channels. The Dungeness Water Rule regulatory flow recommendation is 180 cfs, and the minimum target flow is 105 cfs. Late summer flows commonly fall below 100 cfs, reducing the availability of pools and creating barriers to salmon migrating upstream to spawn. The 1999 *WRIA 18 Salmon and Steelhead Habitat Limiting Factors* analysis identified low flows as a significant limiting factor in the Dungeness River.

Project Benefits for Drought Resiliency Projects Related to Fish and Wildlife

- *What are the types and quantities of environmental benefits provided, such as the types of species and their numbers benefited; acreage of habitat improved, restored, or protected; or the amount of flow provided? How was this estimate calculated?*
- *If the project will make more water available, or make water available at a more advantageous time or location, how much additional water will be made available? Describe the amount of estimated water (in acre-feet per year) expected to be made available directly from the project. Please include a specific quantifiable water contribution estimate and describe the support/documentation for this estimate, including a detailed explanation of how the estimate was determined.*
- *How is the species or habitat impacted by drought?*

- *If the proposed project will benefit federally listed threatened or endangered species please consider the following elements:*
 - *Is the species subject to a recovery plan or conservation plan under the ESA?*
 - *What is the relationship of the species to water supply?*
 - *What is the extent of the proposed project that would reduce the likelihood of listing, or would otherwise improve the status of the species?*
 - *Is the species adversely affected by a Reclamation project?*
- *If the project will result in long-term improvements to water quality (e.g., decrease sediment or nutrient pollution, improve water temperature, or mitigate impacts from floods or drought) please explain the extent of those benefits (i.e., magnitude and geographic extent). Please estimate expected project benefits to water quality and provide documentation and support for this estimate, including a detailed explanation of how the estimate was determined.*
- *If the project will benefit aquatic or riparian ecosystems within the watershed (e.g., by reducing flood risk, reducing bank erosion, increasing biodiversity, or preserving native species), please explain the extent of those benefits (i.e., magnitude and geographic extent). Please estimate expected project benefits to ecosystems and provide documentation and support for this estimate, including a detailed explanation of how the estimate was determined.*
- *If the project will benefit specific species and habitats, please describe the species and/or type of habitat that will benefit and the status of the species or habitat (e.g., native species, game species, federally threatened or endangered, state listed, or designated critical habitat). Please describe the extent (i.e., magnitude and geographic extent) to which the project will benefit the species or habitat, including an estimate of expected project benefits and documentation and support for the estimate.*
- *Are there project benefits not addressed in the preceding questions? If so, what are these benefits?*

The primary drought resiliency benefit of this project is increasing stream flows in the Dungeness River by reducing irrigation water diversions. The Dungeness River flows north out of the Olympic Mountains through the Olympic rain shadow area surrounding Sequim, Washington. This area receives only 15 to 20 inches of annual precipitation and has relied on the Dungeness River for irrigation since 1896. To date, mountain snowpack has been the only form of water storage.

Naturally occurring late summer low stream flows have been identified in numerous studies, reports and plans as a significant habitat limiting factor for salmon, most notably Chinook, Chum, and pink salmon because of the timing of spawning. Low flows in late summer result in higher water temperatures, barriers for salmon migrating upstream to spawn, and a general reduction in rearing habitat.

Increased flows in the Dungeness River, particularly in late summer, will improve habitat conditions for four ESA-listed salmonids: Puget Sound Chinook, Hood Canal/Eastern Strait of Juan de Fuca Summer Chum, Puget Sound Steelhead, and bull Trout. Other species affected by low stream flows include coho and pink salmon. Recovery plans include the Puget Sound Salmon Recovery Plan, Chinook Salmon Implementation Strategy, NOAA ESA recovery plans for

Puget Sound Chinook, Puget Sound Steelhead, and Hood Canal/Eastern Strait of Juan de Fuca Summer Chum.

Late summer low flows in the Dungeness River have commonly been a challenge for both irrigation supply and salmon. The melting of snowpack in the Olympic Mountains, which has historically occurred from late May through July, has been occurring earlier and more rapidly in recent years. An average snowpack in spring was once an indicator of good flows through the summer; however, in recent years the snowpack has melted much sooner, resulting in late summer conditions previously only experienced during drought years.

Eliminating the need for twice-annual instream work on the existing push-up diversion dam will prevent damaging impacts to salmon redds in the immediate vicinity of the work, as well as sedimentation that impacts redds downstream. No data are available to quantify these impacts; however, WDFW and Jamestown S'Klallam Tribal biologists have documented damage to redds by equipment in the overflow of the diversion channel.

Livestock access to one irrigation ditch proposed for piping results in sediment, nutrient, and bacterial contamination of the irrigation water. This ditch discharges excess flows to Gierin Creek, which supports coho salmon and sea run cutthroat. All the ditches proposed for piping flow through the urbanized environment of the City of Sequim, thus other possible contaminants in the water include those associated with urban stormwater runoff and pesticides. Water quality data are not available to quantify these potential impacts.

Project benefits for multi-benefits projects: If applicable, please describe the extent to which the project will benefit multiple water uses. Please do not repeat information included in your prior responses.

- *Please describe the extent to which the project will benefit agricultural, municipal, tribal, or recreation uses? Please explain how your estimate of benefits to multiple uses was calculated and provide support for your response.*
- *Will the project reduce water conflicts within the watershed? **Yes***
- *Will the project provide benefits to other water uses not mentioned above? If so, how and to what extent?*

Every cubic foot per second (cfs) of irrigation water that can be conserved is one more cfs for the Dungeness River. When river flows fall to about 100 cfs upstream of the irrigation diversions, irrigators must begin reducing their diversions in order to maintain a required minimum flow of 62.5 cfs downstream of their diversions. The combined diversions of the nine irrigation water right holders averages about 40 cfs for the irrigation season. Therefore, proportional reductions in diversions, based on actual water right, begin to take place and insufficient water is available for irrigation. This project will save an estimated 1.75 cfs of water that is currently diverted from the Dungeness River but lost through conveyance. Piping the inefficient ditches will provide for increased irrigation water security and delivery, while eliminating wasted water.

E.1.2. Evaluation Criterion B—Collaborative Project Planning (25 points)

Up to **25 points** may be awarded based on the extent to which the proposed project was developed as part of a collaborative process and advances an existing plan or strategy. Reclamation will use the following criteria to prioritize applications based on the extent to which the specific project proposed in your application was developed collaboratively. Please attach a copy of the applicable strategy or plan as an appendix to your application, or provide a link, **and identify the sections relevant to the project**. These pages will not be included in the total page count for the application.

- Was the proposed project described in your application developed as part of a collaborative process by:

- ~~○ A watershed group, as defined in section 6001 of the Cooperative Watershed Management Act?~~

Or

- A water user and one or more stakeholders with diverse interests (i.e., stakeholders representing different water use sectors such as agriculture, municipal, tribal, recreational, or environmental)? **Yes**
- Describe the strategy or plan that supports your proposed project.
 - When was the plan or strategy prepared and for what purpose?
 - What types of issues are addressed in the plan? For example, does the plan address water quantity issues, water quality issues, and/or issues related to ecosystem health or the health of species and habitat within the watershed?
 - Is one of the purposes of the strategy or plan to increase the reliability of water supply for ecological values?
 - Does the project address an adaptation strategy specifically identified in a completed WaterSMART Basin Study or Water Management Options Pilot (e.g., a strategy to mitigate the impacts of water shortages resulting from climate change, drought, increased demands, or other causes).
- Was your strategy or plan developed collaboratively? **Yes**
 - Who was involved in preparing the plan? Was the plan prepared with input from stakeholders with diverse interests (e.g., water, land, or forest management interests; and agricultural, municipal, tribal, environmental, recreation uses)? What was the process used for interested stakeholders to provide input during the planning process?
 - If the plan was prepared by an entity other than the applicant, explain why it is applicable.
- Describe how the plan or strategy provides support for your proposed project.
 - Does the proposed project implement a goal or need identified in the plan?
 - Describe how the proposed project is prioritized in the referenced plan or strategy.

Watershed planning specific to water conservation in the Dungeness watershed began in 1987 with the Dungeness River Management Team (DRMT). The DRMT, which continues to this day, is co-chaired by Clallam County and the Jamestown S’Klallam Tribe and includes participation by various state and local agencies and organizations, as well as private citizen representatives. The DRMT lobbied for and was selected for pilot planning project (along with the Methow watershed) that resulted in the Dungeness-Quilcene Plan in the early 1990s. This plan led to

passage of a watershed planning bill (ESHB 2514 and RCW 90.82), and more comprehensive watershed planning to address the combination of water quantity and quality. Under this legislation, the *WRIA 18: Elwha-Dungeness Plan* was developed (attached). This planning process occurred over a period of years and included eight months of outreach and public hearings before being adopted by the Clallam County Commissioners in 2005. The WRIA 18 plan includes numerous action items, chief among them for the Dungeness River is irrigation water conservation to reduce diversions and increase stream flows. Similar actions to address low flows in the Dungeness River are included in numerous other plans, including the *Puget Sound Action Agenda*.

In 1999, the state Department of Ecology funded the preparation of the *Dungeness River Agricultural Water Users Comprehensive Water Conservation Plan*. This plan evaluated and outlined all potential irrigation water conservation actions, including canal and ditch piping projects. The projects proposed here are specifically identified in the *Comprehensive Water Conservation Plan*. Development of the plan was followed by an Environmental Impact Statement in 2003. The WRIA 18 Watershed Plan recommended actions for Dungeness River water conservation are based on the *Comprehensive Water Conservation Plan*.

In 2006, following over a year of meetings and planning, a pilot Comprehensive Irrigation District Management Plan (CIDMP) was prepared to address Endangered Species Act and Clean Water Act compliance. The technical advisory team included representatives from numerous federal, state and local agencies, the Jamestown S’Klallam Tribe, and Graysmarsh LLC. The plan was never adopted by the Water Users Association, because they did not feel that they could fully comply with all the actions in the plan, specifically, the requirement to limit diversions to 25 cfs during extreme dry conditions. It is important to note that even though the CIDMP was not adopted, in 2012 the WUA were issued superseding water right certificates and committed to never taking more than 50 percent of Dungeness River flow and to do their part to leave at least 62.5 cfs in the river below their diversions. These commitments result in essentially the same outcomes as was proposed in the CIDMP.

Likewise, these water conservation projects are included in the North Olympic Peninsula Lead Entity for Salmon (NOPL) *Salmon Recovery Work Plan*. The NOPL includes local, state, tribal and citizen representatives that work together to propose projects for salmon recovery, several of which have included irrigation piping projects implemented over the past 20 years.

E.1.3. Evaluation Criterion C—Stakeholder Support (15 points)

Up to 15 points may be provided based on the level of stakeholder support for the proposed project and the extent to which the project will complement, and not duplicate, other ongoing efforts. Applications which demonstrate support for the project from a diverse array of stakeholders, and which will complement other ongoing activities, will receive the most points under this criterion.

- *Please describe the level of stakeholder support for the proposed project. Are letters of support from stakeholders provided? Are any stakeholders providing support for the project through cost-share contributions, or through other types of contributions to the project? **Yes***
- *Please explain whether the project is supported by a diverse set of stakeholders (appropriate given the types of interested stakeholders within the project area and the scale, type, and*

complexity of the proposed project). For example, is the project supported by entities representing agricultural, municipal, tribal, environmental, or recreation uses?

- *Is the project supported by entities responsible for the management of land, water, fish and wildlife, recreation, or forestry within the project area? Is the project consistent with the policies of those agencies? **Yes***
- *Will the proposed project complement other ongoing water management activities by state, Federal, or local government entities, non-profits, or individual landowners within the project area? Please describe other relevant efforts, including who is undertaking these efforts and whether they support the proposed project. Explain how the proposed project will avoid duplication or complication of other ongoing efforts. **Yes***
- ~~*Is the project completely or partially located on Federal land or at a Federal facility? If so, explain whether the agency supports the project, whether the agency will contribute toward the project, and why the Federal agency is not completing the project.*~~
- *Is there opposition to the proposed project? If so, describe the opposition and explain how it will be addressed. Opposition will not necessarily result in fewer points.*

The projects proposed are included in the Clallam Conservation District long-range and annual plans and are supported by a diverse group of stakeholders that includes the irrigators, Jamestown S’Klallam Tribe, Clallam County, and Washington Water Trust, among others. The Dungeness River Management Team, which is comprised of local, state and federal agencies, as well as nonprofit organizations and private citizens, has long supported irrigation water conservation projects. Letters of support from the Jamestown S’Klallam Tribe, Clallam County, and Washington Water Trust are attached.

The Washington Department of Fish and Wildlife is leading the effort to design the improvements to the Sequim Prairie-Dungeness Irrigation District diversion, which is also supported by the Jamestown S’Klallam Tribe. Both entities share fisheries management responsibilities.

The proposed ditch piping is a continuation of over two decades of ditch piping work that has been implemented by Dungeness irrigation districts and companies. These past efforts have been supported financially with grants from the state Department of Ecology, state Conservation Commission, state Salmon Recovery Funding Board, Bureau of Reclamation, Environmental Protection Agency, and the Jamestown S’Klallam Tribe. Others, including Clallam County and Washington Water Trust are partnered on these projects. Clallam County is currently serving as the lead organization for planning and construction of an off-channel reservoir near the proposed ditch piping projects.

Graysmarsh LLC, a private landowner with a large freshwater marsh won a lawsuit years ago that resulted in them having to be consulted before irrigation ditch piping projects could be implemented in their “zone of contribution.” They negotiated with the Sequim Prairie-Tri Irrigation Association to allow piping projects to be implemented within the city limits of the City of Sequim. A significant portion of the proposed piping is outside the zone of contribution almost all the piping within the zone of contribution is within the city limits. A Graysmarsh representative serves on the SPTIA board and had been in regular consultation on the proposed project.

E.1.4. Evaluation Criterion D—Readiness to Proceed (10 Points)

- *Up to **10 points** may be awarded based upon the extent to which the proposed project is capable of proceeding upon entering into a financial assistance agreement. Applicants that describe a detailed implementation plan (e.g., estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates, and a detailed budget) will receive the most points under this criterion.*
- *Describe the implementation plan for the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. This may include, but is not limited to, design, environmental and cultural resources compliance, permitting, and construction/installation.*
- *The project budget outlining costs for specific tasks should identify costs associated with the tasks in your project schedule, and all contractor costs should be broken out to identify the specific tasks included in those costs.*
- *Describe any permits and agency approvals that will be required, along with the process and timeframe for obtaining such permits or approvals.*
- *Identify and describe any engineering or design work performed specifically in support of the proposed project, or that will be performed as part of the project. Priority will be given to projects that are further along in the design process and ready for implementation.*
- *Does the applicant have access to the land or water source where the project is located? Has the applicant obtained any easements that are required for the project? If so, please provide documentation. If the applicant does not yet have permission to access the project location, please describe the process and timeframe for obtaining such permission.*
- *Identify whether the applicant has contacted the local Reclamation office to discuss the potential environmental and cultural resource compliance requirements for the project and the associated costs. Has a line item been included in the budget for costs associated with compliance? If a contractor will need to complete some of the compliance activities, separate line items should be included in the budget for Reclamation's costs and the contractor's costs. Describe any new policies or administrative actions required to implement the project.*

*Note: Proposed projects must **not** include activities or costs for the purchase of water or land, or to secure a permanent easement. Costs associated with these activities are not eligible project costs and cannot be used to meet the non-Federal cost-share requirement.*

The proposed projects are in various stages of development. Irrigation ditch piping planning work has been completed to the point of determining water savings, pipeline lengths, pipe sizing, and cost estimates. Cost estimates are based on past ditch piping projects; therefore, are very preliminary given the current escalating pipe costs. One of the irrigation ditch piping projects is on schedule for construction in the fall of 2022, with engineering underway now. The other two piping projects are planned for construction in the fall of 2023 and 2024 respectively. This timeline will allow adequate time for engineering, cultural resources review compliance, and securing Irrigation Efficiencies Program funding from the Washington State Conservation Commission. No permits are anticipated for these piping projects.

The Sequim Prairie-Dungeness Irrigation District diversion improvement is in the early stages of engineering. This engineering is being performed by the Washington Department of Fish and Wildlife. The WDFW is the main permitting agency for this project and will be the lead for securing all necessary permits. The schedule for implementation of this project has not yet been finalized since instream work can only occur during the hydraulic project window of June through September, which coincides with irrigation season. However, it is anticipated that construction will be planned for the two-week period between the end of irrigation season and the end of September 2023.

All proposed work will occur within existing irrigation company rights of way or easements, unless changes are agreed to with landowners. Irrigation ditch rights of way and easements in the Dungeness watershed are rarely recorded; however, easements will be recorded for the new pipelines. A landowner notification/acknowledgement form is used to ensure landowner engagement when ditch piping projects are in the planning stages.

Cultural resources review compliance is required in the state of Washington for all ground-disturbing activities receiving state funding. In 2014 a cultural resources survey was completed for the first scheduled ditch piping project. We are currently consulting with the Jamestown S’Klallam Tribe about the adequacy of this report or whether another survey will be necessary. We realize that this previously completed survey may not federal requirements, and we have not yet consulted with the local office of the Bureau of Reclamation. However, we are very familiar with cultural resource compliance requirements and the process, having done this numerous times before, both for federal and state compliance, and we have no concerns.

E.1.5. Evaluation Criterion E—Performance Measures (5 points)

Up to 5 points may be provided based on the extent to which the application describes a plan to monitor the progress and effectiveness of the project once complete.

Note: program funding may be used to establish a monitoring and data management plan or to install necessary equipment to monitor progress. However, program funding may not be used to measure performance once the project is completed (these costs are considered normal operation and maintenance costs and are the responsibility of the applicant).

- *Please describe the performance measures that will be used to quantitatively or qualitatively define actual project benefits upon completion of the project. Include support for why the specific performance measures were chosen.*
- *All applicants are required to include information about plans to monitor improved streamflows, aquatic habit, or other expected project benefits. Please describe the plan to monitor the benefits over a five-year period once the project has been completed. Provide detail on the steps to be taken to carry out the plan.*

The primary objective of this project is to reduce irrigation water conveyance losses so that less water is diverted from the Dungeness River. All irrigation diversions on the Dungeness River are metered with real time data available online. Irrigation ditch flow measurements were taken in the proposed ditch reaches during the 2021 irrigation season. Conveyance losses for the target

ditches total 1.75 cubic feet per second (533 acre-feet annually). Ditch piping will eliminate these losses and conserved water will be placed in trust by the state Department of Ecology for Dungeness instream flow. Performance will be measured by reviewing irrigation diversion data, which are included in the Dungeness Water Users Association annual water diversion and use reports.

The success of the Sequim Prairie-Dungeness Irrigation District diversion improvement will be monitored by Washington Department of Fish and Wildlife and Jamestown S’Klallam Tribal biologists and the irrigators. Biologists will monitor the adequacy of the improvement to prevent fish attraction and stranding, as well as overtopping of the fish screen and overflow pipe. The irrigators will monitor the function of the improved system in terms of its ability to deliver water to their headgate.

E.1.6. Evaluation Criterion F—Presidential and Department of the Interior Priorities (10 points)

Up to 10 points may be awarded based on the extent that the project demonstrates support for the Biden-Harris Administration’s priorities, including E.O. 14008: Tackling the Climate Crisis at Home and Abroad and E.O. 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government. Consideration under this criterion is also given for Tribal benefits.

*Please address only those priorities that are applicable to your project. It is not necessary to address priorities that are not applicable to your project. A project will not necessarily receive more points simply because multiple priorities are addressed. Points will be allocated based on the degree to which the project supports one or more of the priorities listed, and whether the connection to the priority(ies) is well supported in the application. **Without repeating benefits already described in previous criteria, describe in detail how the proposed project supports a priority(ies) below.***

1. Climate Change: *E.O. 14008 emphasizes the need to prioritize and take robust actions to reduce climate pollution; increase resilience to the impacts of climate change; protect public health; and conserve our lands, waters, oceans, and biodiversity.*

- *How will the project build long-term resilience to drought? How many years will the project continue to provide benefits? Please estimate the extent to which the project will build resilience to drought and provide support for your estimate.*
- ~~*In addition to drought resiliency measures, does the proposed project include other natural hazard risk reductions for hazards such as wildfires or floods?*~~
- ~~*Will the proposed project establish and use a renewable energy source?*~~
- ~~*Will the proposed project reduce greenhouse gas emissions by sequestering carbon in soils, grasses, trees, and other vegetation?*~~
- ~~*Does the proposed project include green or sustainable infrastructure to improve community climate resilience such as reducing the urban heat island effect, lowering building energy demands, or reducing the energy needed to manage water? Does this infrastructure complement other green solutions being implemented throughout the region or watershed?*~~
- *Does the proposed project seek to reduce or mitigate climate pollutions such as air or water pollution?*

- ~~Does the proposed project have a conservation or management component that will promote healthy lands and soils or serve to protect water supplies and its associated uses?~~
- ~~Does the proposed project contribute to climate change resiliency in other ways not described above?~~

The proposed project will reduce irrigation water diversions from the Dungeness River. This will allow for more flow in the river, which is critical during the late summer low flow period and increasingly critical with climate change and longer, hotter summers and less snowpack and/or more rapid melting of snowpack. Increased instream flows also equate to lower water temperatures, which is a water quality concern in the Dungeness River. Elimination of livestock access to irrigation ditches and resulting nutrient contamination will reduce ocean acidification.

2. Disadvantaged or Underserved Communities: *E.O. 14008 and E.O. 13985 affirm the advancement of environmental justice and equity for all through the development and funding of programs to invest in disadvantaged or underserved communities.*

- ~~Will the proposed project serve or benefit a disadvantaged or historically underserved community? Benefits can include, but are not limited to, public health and safety through water quality improvements, new water supplies, or economic growth opportunities.~~
- ~~If the proposed project is providing benefits to a disadvantaged community, provide sufficient information to demonstrate that the community meets the applicable state criteria or meets the definition in Section 1015 of the Cooperative Watershed Act, (i.e., defined as a community with an annual median household income that is less than 100 percent of the statewide annual median household income for the state).~~
- ~~If the proposed project is providing benefits to an underserved community, provide sufficient information to demonstrate that the community meets the underserved definition in E.O. 13985, which includes populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life.~~

3. Tribal Benefits: *The Department of the Interior is committed to strengthening tribal sovereignty and the fulfillment of Federal Tribal trust responsibilities. The President's memorandum, Tribal Consultation and Strengthening Nation-to Nation Relationships, asserts the importance of honoring the Federal government's commitments to Tribal Nations.*

- *Does the proposed project support Tribal resilience to climate change and drought impacts or provide other Tribal benefits such as improved public health and safety through water quality improvements, new water supplies, or economic growth opportunities?*
- ~~Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?~~

The proposed project will benefit area native American communities that are dependent on healthy salmon populations and shellfish. The project will improve salmon habitat in the Dungeness River and water quality in nearby shellfish growing/harvesting areas. The latter includes Jamestown S'Klallam Tribal geoduck harvest areas and commercial shellfish production areas in Dungeness and Sequim bays that are adversely affected by bacterial contamination and nutrients that contribute to ocean acidification.

Project Budget

Funding Plan and Letters of Commitment

Describe how the non-Federal share of project costs will be obtained. Reclamation will use this information in making a determination of financial capability.

Project funding provided by a source other than the applicant shall be supported with letters of commitment from these additional sources. Letters of commitment shall identify the following elements:

- *The amount of funding commitment*
- *The date the funds will be available to the applicant*
- *Any time constraints on the availability of funds*
- *Any other contingencies associated with the funding commitment*

Commitment letters from third-party funding sources should be submitted with your application. If commitment letters are not available at the time of the application submission, please provide a timeline for submission of all commitment letters. Cost-share funding from sources outside the applicant's organization (e.g., loans or State grants), should be secured and available to the applicant prior to award.

Reclamation will not make funds available for an award under this NOFO until the recipient has secured non-Federal cost-share. Reclamation will execute a financial assistance agreement once non-Federal funding has been secured or Reclamation determines that there is sufficient evidence and likelihood that non-Federal funds will be available to the applicant subsequent to executing the agreement.

Please identify the sources of the non-Federal cost share contribution for the project, including:

- *Any monetary contributions by the applicant towards the cost-share requirement and source of funds (e.g., reserve account, tax revenue, and/or assessments)*
- *Any costs that will be contributed by the applicant*
- *Any third-party in-kind costs (i.e., goods and services provided by a third party)*
- *Any cash requested or received from other non-Federal entities*
- *Any pending funding requests (i.e., grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied*

In addition, please identify whether the budget application includes any project costs that have been or may be incurred prior to award. For each cost, describe:

- *The project expenditure and amount*
- *The date of cost incurrence*
- *How the expenditure benefits the project*

Non-federal funding for this project is anticipated to come from the Washington State Conservation Commission Irrigation Efficiencies Program (IEP). This program has been in existence for 20 years and is used for implementation of on-farm and irrigation district/company projects that conserve water for instream benefit. IEP projects are administered by local conservation districts. Clallam Conservation District and the Dungeness irrigation districts and companies have been major beneficiaries of this program, having utilized funding from this source to implement 24 irrigation efficiencies projects since 2004, resulting in water savings totaling over 17 cubic feet per second (over 5,200 acre-feet annually). The IEP contributes up to 85 percent of construction costs. The total cost of the 24 projects implemented with IEP funding is nearly \$10 million. In addition to construction costs, the IEP

provides funding to the local conservation district for project planning, design, engineering, project management, cultural resources compliance, recording easements, and general administration. We anticipate covering the majority of these non-construction expenses for the proposed projects with IEP funding. The engineering and construction elements of the Sequim Prairie-Dungeness Irrigation District diversion improvement project are not eligible for IEP funding; therefore, those costs will be covered by the WaterSMART grant.

IEP technical assistance funding is allocated to conservation districts based on the state biennium. Project construction cost-share funding is awarded on a continual basis; however, project funding does not automatically carry over from one biennium to another. The state biennium ends June 30, 2023, and the next biennium is July 2023 through June 2025. Cost-share funding for the first piping project scheduled for implementation in the fall of 2022 is expected to be awarded in December of 2021. Cost-share funding for the next two piping projects is expected to be awarded in July of 2023. If this IEP funding is not awarded, WaterSMART funding will be utilized to implement only phase one of the two-phase Sequim Prairie piping project.

Budget Proposal

Table 1. – Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$1,535,937
Costs to be paid by the applicant	\$774,621
Value of third-party contributions	\$58,000
TOTAL PROJECT COST	\$2,368,558

Table 2. – Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. Washington State Conservation Commission	\$774,621
2. Washington Department of Fish & Wildlife	\$50,000
3. Sequim Prairie-Tri Irrigation Association	\$8,000
Non-Federal Subtotal	\$832,621
REQUESTED RECLAMATION FUNDING	\$1,535,937

Table 3. – Budget Detail

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	\$/Unit	Quantity		
Salaries and Wages				
Kim Williams, Project Manager	\$43.53	720	hours	\$31,342
Bookkeeper	\$27.23	36	hours	\$980
Sequim Prairie-Tri Irrigation Association	\$20.00	400	hours	\$8,000
SUBTOTAL SALARIES and WAGES				\$40,322
Fringe Benefits				
Kim Williams, Project Manager	\$25.46	720	hours	\$18,331
Bookkeeper	\$21.22	36	hours	\$764
SUBTOTAL FRINGE BENEFITS				\$19,095
TOTAL SALARIES and WAGES, BENEFITS				\$59,417
Contractual/Construction				
Contracted Project Manager	\$68.00	1,600	hours	\$108,800
Piping Engineering, Design, Inspection			LS*	\$150,000
Diversion Engineer, WDFW			hours	\$110,000
Permit Biologist, WDFW			hours	\$50,000
Cultural Resources Consultant			LS*	\$10,000
Cultural Resources Compliance - BoR				\$3,400
Other Environmental Compliance - BoR				\$36,800
SUBTOTAL CONTRACTUAL/CONSTRUCTION – DESIGN/PROJECT MANAGEMENT				\$469,000
Ditch Piping Contractor			LS*	\$1,425,000
Diversion Construction Contractor			LS*	\$400,000
SUBTOTAL CONTRACTUAL/CONSTRUCTION – CONSTRUCTION				\$1,825,000
TOTAL CONTRACTUAL/CONSTRUCTION				\$2,294,000
TOTAL DIRECT COSTS				\$2,353,417
Indirect Costs				
Type of rate		\$base	%	
	De minimis	\$151,417	10%	\$15,142
TOTAL ESTIMATED PROJECT COSTS				\$2,368,559

*See Budget Narrative for budget calculation breakdown.

Budget Narrative

Salaries and Wages

Only three employees are anticipated to work on this project. They include the Clallam Conservation District manager and bookkeeper, and the Sequim Prairie-Tri Irrigation Association project manager.

Project Manager – Clallam Conservation District Manager Kim Williams

Hourly wage = \$43.53, hourly fringe benefits = \$25.46

Fringe benefits include paid holidays, vacation and sick leave, employer paid health insurance and retirement contributions, and employer-paid state and local taxes (e.g. Industrial insurance, Unemployment compensation, Social Security, Medicare). These costs are prorated as an hourly rate.

Total estimated hours over three-year contract = 720

Project manager is responsible for overall project administration, and reporting, and will assist with project planning and management. The estimated breakdown of time is as follows:

- Project Administration and Reporting = 360 hours
- Project Planning = 180 hours
- Project Management = 180 hours

The Clallam Conservation District bookkeeper will assist with grant management, grant reimbursement requests, and project-specific billing.

Hourly wage = \$27.23, hourly fringe benefits = \$21.22

Fringe benefits include paid holidays, vacation and sick leave, employer paid health insurance and retirement contributions, and employer-paid state and local taxes (e.g. Industrial insurance, Unemployment compensation, Social Security, Medicare). These costs are prorated as an hourly rate.

Total estimated direct hours over three-year contract = 36

Travel

Project travel will be minimal and have not been included as a budget expense.

Equipment

There are no plans to purchase equipment.

Materials and Supplies

All materials and supplies are expected to be furnished under construction contracts.

Contractual

This project will include contracts for the following:

- Project planning
- Project management
- Ditch piping design and engineering
- Ditch piping construction
- Diversion structure design and engineering
- Diversion structure construction
- Cultural resources surveys/compliance

Through an interlocal agreement between the Clallam Conservation District (CCD) and neighboring Jefferson County Conservation District (JCCD), the JCCD will provide project planning and management services. The current JCCD manager formerly worked for CCD and has over 20 years of experience managing irrigation efficiencies projects. His hourly rate of \$68.00 is calculated the same as his counterparts at CCD in terms of fringe benefits; however, the hourly wage and benefits are combined. His estimated hours working on the project total 1,600 and are broken down as follows:

- Project Administration and Reporting = 40 hours
- Project Planning = 700 hours
- Project Management = 860 hours

A cultural resources consultant will be hired to complete cultural resources surveys and compliance. Clallam Conservation District maintains a roster of cultural resources consultants developed based requests for proposals. The estimated cost of cultural resources compliance is \$10,000.

Through an interlocal agreement with Snohomish Conservation District, a licensed engineer will design the first phase of irrigation ditch piping (Eureka-Independent Piping Project), which is scheduled for construction in the fall of 2022. The next two phases of ditch piping will likely be designed by a private engineering firm to be selected later. Total estimated costs for all ditch piping design/engineering and construction inspection, not including work performed by the contracted project manager, is \$150,000.

Irrigation ditch piping consists of three separate projects:

- SPTIA Eureka-Independent - \$150,000
- SPTIA Sequim Prairie Main to Priest Road - \$525,000
- SPTIA Sequim Prairie Main Priest to Eureka Way - \$750,000

Developing cost estimates during these times of supply chain issues is very challenging; however, cost estimates were developed based on length and size of pipe to be installed. Comparable projects to those proposed here completed in recent years have averaged about \$100 per foot of pipe installed. The proposed piping projects are located in areas of cobbly soils that will require import of pipe bedding and suitable backfill and topsoil. Engineered plans will include full itemized breakdowns of all bid items, which commonly include mobilization, construction surveying, sediment and erosion control, clearing and grading, site cleanup, revegetation, pipe (installed), bedding, topsoil, air/vacuum release valves, gate valves, service connections, and other appurtenances.

The Eureka-Independent project is approximately 1,300 feet in length and 18-inch diameter pipe with only two service connections. The cost per foot is estimated at \$115.

The two Sequim Prairie Main projects approximately 3,500 feet and 5,400 feet respectively. The preliminary pipe sizing for these projects is 24-inch. The average cost per foot for these projects is estimated at about \$143.

Through an interlocal agreement with the Washington Department of Fish and Wildlife (WDFW), design/engineering, and project management/inspection services will be provided for the Sequim Prairie-Dungeness District irrigation diversion structure design and construction. Associated permitting will be contributed by the WDFW. The total estimated cost of these services is \$160,000. WDFW hourly rates range from \$80.00 to \$110.00 per hour. Project scoping and preliminary planning has already cost \$18,600. Design is estimated to require a total of 925 hours and cost \$80,000. Construction management and inspections are estimated to require 320 hours and cost \$30,000. Permitting is estimated to cost \$50,000.

The diversion structure construction is estimated to cost \$400,000. The major budget item is a \$225,000 concrete structure. An additional \$45,000 is budgeted for an automated headgate. Other budget items include those typical of construction projects in and around water.

Third-Party In-Kind Contributions

The Sequim Prairie-Tri Irrigation Association project manager will contribute volunteer labor at an hourly rate of \$20.00. His total hours working on the project are estimated at 400 over the three-year contract. His estimated breakdown of time is as follows:

- Project Planning = 250 hours
- Project Management = 150 hours

The Washington State Department of Fish and Wildlife will contribute staff time valued at \$50,000 for permitting on the Sequim Prairie-Dungeness Irrigation District diversion structure.

Environmental and Regulatory Compliance Costs

As stated above, a cultural resources consultant will be hired to complete cultural resources surveys and compliance. These costs are estimated to total \$10,000. An additional \$40,200 is budgeted for Bureau of Reclamation cultural resources and environmental compliance.

Other Expenses

No other expenses are included in the budget.

Indirect Costs

We are proposing the de minimis indirect rate of ten percent. The base cost, which includes staff salaries and wages, fringe benefits, and \$25,000 each for sub award recipients, is \$151,417. Therefore, the indirect cost is \$15,142.

Environmental and Cultural Compliance

It is worth noting that an Environmental Impact Statement was completed in 2003 for the *Dungeness Agricultural Water Users Association Comprehensive Water Conservation Plan*. The *Water Conservation Plan* detailed all the proposed irrigation canal and ditch piping projects, including those proposed in this project.

- *Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.*

The proposed project involves trench excavation for installation of irrigation pipe. Such work could potentially create dust; however, construction work will occur during the non-irrigation season – October through March, which is also the wet season. Temporary sediment and erosion control practices are a requirement for all construction work. Most of the proposed work is within existing irrigation ditches in the Sequim city limits where habitat impacts are minimal. Construction of the new irrigation diversion will occur within a side channel of the Dungeness River, which will require a hydraulic project approval permit from the Washington Department of Fish and Wildlife (WDFW). WDFW is also the main proponent and designer of the new diversion structure, the whole purpose of which is to reduce impacts to salmonid and aquatic habitat.

- *Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?*

Four salmonids that utilize the Dungeness River are listed as threatened. These species will benefit from the proposed project. There may be some very temporary impacts to habitat during the construction of the irrigation water diversion; however, permitting requirements are designed to minimize these impacts.

- *Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as “Waters of the United States?” If so, please describe and estimate any impacts the proposed project may have.*

No.

- *When was the water delivery system constructed?*

Portions of the irrigation water delivery system proposed for piping date back to the original canal constructed in 1895-96. Another ditch proposed for piping was constructed in the early 1900s.

- *Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.*

Two headgates, one canal and a lateral ditch are all proposed for modification. The canal was constructed in 1895-96; however, it has been significantly altered since then, as has its headgate just downstream from where it splits off from a pipeline it shares with the Dungeness Irrigation District. The headgate was constructed years ago and modified within the past 30 years. The pipeline was installed within the past 15 years. The diversion headgate at the river was constructed within the past 30 years and modified since. The lateral ditch was constructed in the early 1900s.

- *Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office or the State Historic Preservation Office can assist in answering this question.*

Not that we are aware of; however, we plan to have a cultural resources survey completed. Past surveys have indicated that even though the ditches and canals are over 50 years old, since they are subject to regular maintenance and modification, they are not considered historic features. Structures and features such as headgates and flumes may be eligible and will be documented during the survey process.

- *Are there any known archeological sites in the proposed project area?*

No.

- *Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?*

No.

- *Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?*

No.

- *Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?*

No.

Required Permits or Approvals

Construction of the Sequim Prairie-Dungeness Irrigation District diversion will require a hydraulic project approval permit from the Washington Department of Fish and Wildlife (WDFW), consultation with the Army Corps of Engineers, and possibly a certificate of compliance from Clallam County. The WDFW will be the design lead for the diversion. Installing pipelines under roads and streets may require permits from the Clallam County Road Department and the City of Sequim; however, such permits are generally the responsibility of the construction contractor. Pipeline routes will follow existing ditch routes, which have culverts at all road crossings.

Letters of Support and Partnership

A Letter of Partnership from the Sequim Prairie-Tri Irrigation Association (Category A partner) is attached. Letters of support from the Washington Conservation Commission, Jamestown S’Klallam Tribe, Clallam County, and Washington Water Trust are attached.

**Sequim Prairie Tri-Irrigation Ass'n
P.O. Box 721
Sequim, Wash. 98382**

December 3, 2021

To Whom it may concern:

Sequim Prairie Tri-Irrigation Ass'n(SPTIA) is working in partnership with Clallam Conservation District to develop and implement piping open irrigation ditches for the purpose of saving water. In addition, we are planning improvements to the facilities used to divert our adjudicated water from the Dungeness River.

Our ditch company has been actively involved in water conservation for the past 30 years. During that time, we have constructed about 10 miles of piping of open ditches, out of a total ditch miles of 25, and one 12 acre/foot reregulating reservoir. This project will make a very significant increase in the percentage of our system that is piped.

SPTIA intends to participate by informing and getting input from property owners in the construction area, negotiating new pipeline routes where necessary, reviewing and commenting on project designs and monitoring construction progress.

SPTIA whole heartedly supports this application for funding from the WaterSmart grant program and will be helping to make it a success.

A handwritten signature in black ink that reads "Gary Smith". The signature is written in a cursive style with a long, sweeping underline.

President



JAMESTOWN S'KLALLAM TRIBE

1033 Old Blyn Highway, Sequim, WA 98382

360/683-1109

FAX 360/681-4643

December 3, 2021

Mr. Josh German and Ms. Robin Graber
Bureau of Reclamation
P.O. Box 25007, MS 86-69200
Denver, CO 80225

Dear Mr. German and Ms. Graber:

On behalf of the Jamestown S'Klallam Tribe (JST), I write to express our support* for the joint grant proposal by the Sequim-Prairie Tri Irrigation Association (SPT) and the Clallam Conservation District for irrigation ditch piping and irrigation system improvements within the Sequim-Dungeness valley. These projects will benefit instream flows by eliminating leaking open irrigation ditches and also have the potential to benefit water quality in some areas by eliminating livestock access.

Irrigation water conservation planning has been an on-going endeavor in the Dungeness watershed for three decades, with input from many stakeholders, both locally, as well as at the state and federal levels. The Tribe has contributed to such efforts by partnering on or sponsoring previous water conservation piping projects, and via its 33-year membership with the Dungeness River Management Team (DRMT), for example. The DRMT is the watershed council for our area, and has consistently considered water conservation as one of the top strategic elements necessary for restoring the Dungeness. Completing ditch piping projects has resulted in a 50 percent reduction in irrigation water diversions over the past 25 years. Yet significant work remains to be done, such as implementing the elements of this proposal, which also align with recommendations from the Comprehensive Irrigation District Management Plan (2006) and the SD Water Conservation Plan (1999), both of which JST has previously supported.

In addition to supporting the ongoing irrigation water conservation work, we support* the proposal to make improvements to the Sequim Prairie-Dungeness Irrigation District diversion system. This diversion has long been identified as problematic because of the need to enter the diversion and overflow channels every year at the beginning and end of irrigation season to construct and de-construct a gravel dam, which can be detrimental to salmon runs. Reducing the need for instream work and implementing approved system upgrades will be beneficial to salmon, their habitat and water quality.

In conclusion, we appreciate the work of SPT and Clallam Conservation District to improve the infrastructure and efficiencies to the irrigation system, and are pleased these specific projects are being considered.

**Please note that this support presumes that any required cultural resource assessment processes will be followed, in consultation with JST's Tribal Historic Preservation Office and other agencies, as appropriate and necessary.*

Sincerely,

Hansi Hals
Natural Resources Director
Jamestown S'Klallam Tribe



STATE OF WASHINGTON
CONSERVATION COMMISSION

PO Box 47721 • Olympia, Washington 98504-7721 • (360) 407-6200 • FAX (360) 407-6215

December 7, 2021

Mr. Josh German and Ms. Robin Graber
Bureau of Reclamation
P.O. Box 25007, MS 86-69200
Denver, CO 80225

Dear Mr. German and Ms. Graber:

The Washington State Conservation Commission Water Resources Program supports the proposal by the Sequim Prairie-Tri Irrigation Association and Clallam Conservation District for irrigation ditch piping and irrigation system improvements. Our state's Irrigation Efficiencies Program has been funding and supporting projects in the Dungeness Basin for nearly 20 years. The conservation district, in partnership with the local irrigation purveyors have been very successful in conserving their limited water resources.

These projects are very high priorities for the Dungeness watershed and continue decades of work to conserve irrigation water in order to increase flows in the Dungeness River. Irrigation water conservation planning has been going on in the Dungeness watershed for three decades, with input from many stakeholders, both locally, as well as the state and federal level. Much work has been completed over the past 25 years, resulting in a 50 percent reduction in irrigation water diversions, and much work remains to be done. Many of the completed projects have benefited water quality, too, particularly in Dungeness and Sequim bays for shellfish harvesting. It is our understanding that one of the proposed ditch piping projects will result in significant water quality improvements by eliminating livestock access.

In addition to supporting the ongoing irrigation water conservation work, we support the proposal to make improvements to the Sequim Prairie-Dungeness Irrigation District diversion system. This diversion has long been identified as problematic because of the need to enter the diversion and overflow channels every year at the beginning and end of irrigation season to construct and de-construct the gravel dam. Anything that can be done to reduce the need for instream work will be beneficial to salmon, their habitat and water quality.

For these reasons, we strongly support this proposal. Please feel free to contact us if you have any questions about these projects.

Sincerely,

Jon K. Culp,
Program Manager



MARK OZIAS, District 1, Chair
RANDY JOHNSON, District 2
BILL PEACH, District 3

Board of Clallam County Commissioners

223 East 4th Street, Suite 4
Port Angeles, WA 98362-3015
360.417.2233 Fax: 360.417.2493
Email: commissioners@co.clallam.wa.us

RICH SILL, County Administrator

File: A72

December 7, 2021

Mr. Josh German and Ms. Robin Graber
Bureau of Reclamation
P.O. Box 25007, MS 86-69200
Denver, CO 80225

Dear Mr. German and Ms. Graber:

Clallam County strongly supports the proposal by the Sequim Prairie-Tri Irrigation Association and Clallam Conservation District for irrigation ditch piping and irrigation system improvements.

Clallam County is a proud leader and collaborator on a wide variety of water conservation projects in the Dungeness Basin which directly lead to improved streamflow in the Dungeness River. This work is driven by the salmon, other wildlife, and people that depend on the Dungeness River to support healthy habitat and a vibrant community.

The irrigation ditch piping and irrigation system improvement projects proposed for the Sequim Prairie-Tri Irrigation system are high priorities for the Dungeness watershed and continue decades of work to conserve irrigation water to increase flows in the Dungeness River. Irrigation water conservation planning has been conducted in the Dungeness watershed for three decades, with input from many stakeholders, both locally, as well as from the state and federal level. The work completed over the past 25 years has resulted in a 50 % reduction in irrigation water diversions; however, more work remains to be done. Many of these projects benefited water quality, particularly in Dungeness and Sequim bays where shellfish harvesting is of significant importance. It is our understanding that one of the proposed ditch piping projects will eliminate livestock access, resulting in substantial water quality improvements.

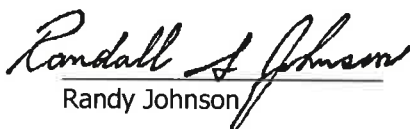
In addition to supporting the ongoing irrigation water conservation work, we support the proposal to improve the Sequim Prairie-Dungeness Irrigation District diversion system. This diversion has long been identified as problematic because of the need to enter the diversion and overflow channels every year at the beginning and end of irrigation season to construct and de-construct the gravel dam. Any projects that reduce the need for instream work will be beneficial to salmon, their habitat, and water quality.

For these reasons, we strongly support this proposal.

Sincerely,

BOARD OF CLALLAM COUNTY COMMISSIONERS


Mark Ozias, Chair


Randy Johnson


Bill Peach



WASHINGTON WATER TRUST
Working to restore rivers and streams in Washington

1500 Westlake Ave. N, Suite 202
Seattle, WA 98109
washingtonwatertrust.org

V 206.675.1585
F 206.749.9274

103 East 4th Ave., Suite 203
Ellensburg, WA 98926

V 509.925.5600
F 206.749.9274

December 3, 2021

Mr. Josh German and Ms. Robin Graber
Bureau of Reclamation
P.O. Box 25007, MS 86-69200
Denver, CO 80225

Dear Mr. German and Ms. Graber:

We fully support the proposal by the Sequim Prairie-Tri Irrigation Association and Clallam Conservation District for irrigation ditch piping and irrigation system improvements.

These projects are very high priorities for the Dungeness watershed and continue decades of work to conserve irrigation water in order to increase flows in the Dungeness River. Irrigation water conservation planning has been going on in the Dungeness watershed for three decades, with input from many stakeholders, both locally, as well as the state and federal level. Much work has been completed over the past 25 years, resulting in a 50 percent reduction in irrigation water diversions, and much work remains to be done. Many of the completed projects have benefited water quality, too, particularly in Dungeness and Sequim bays for shellfish harvesting. It is our understanding that one of the proposed ditch piping projects will result in significant water quality improvements by eliminating livestock access.

In addition to supporting the ongoing irrigation water conservation work, we support the proposal to make improvements to the Sequim Prairie-Dungeness Irrigation District diversion system. This diversion has long been identified as problematic because of the need to enter the diversion and overflow channels every year at the beginning and end of irrigation season to construct and de-construct the gravel dam. Anything that can be done to reduce the need for instream work will be beneficial to salmon, their habitat and water quality.

For these reasons, we strongly support this proposal. Please feel free to contact us if you have any questions about these projects.

Sincerely,

Emily Dick (she/her) | Project Manager
Washington Water Trust
1500 Westlake Ave N, Ste 202 | Seattle, WA 98109
O 206.675.1585 C 206.914.9282
emily@washingtonwatertrust.org

Appendix C – Selected Plans and Studies

- **Dungeness Agricultural Water Users Comprehensive Water Conservation Plan Environmental Impact Statement**

Click [here](#) for a link to a summary of this document, which is posted on a Washington Department of Ecology website. The full EIS is available upon request.

- **Comprehensive Irrigation District Management Plan – Dungeness River Agricultural Water Users Association**

Click [here](#) for a link to the Clallam Conservation District webpage that has links to the CIDMP. The CIDMP links are near the bottom of the page.

- **Elwha-Dungeness Watershed Management Plan Chapter 3.13: Dungeness River and Tributaries Recommendations**

Click [here](#) for a link to the Clallam County Elwha-Dungeness Watershed Plan webpage that has a link to the water quantity recommendations chapter (3.1).

- **Salmon Recovery Plans**

Click [here](#) for a link to the NOAA salmon recovery webpage that has links to the *Puget Sound Chinook Salmon Recovery Plan*, the *Hood Canal Summer-run Chum Recovery Plan*, and the *Puget Sound Steelhead Recovery Plan*.

- **Sequim Prairie-Dungeness Irrigation District Diversion Structure Preliminary Plan (attached)**

Sequim Prairie-Dungeness Irrigation District Diversion Structure Improvement Preliminary Plans

Current Standard Operating Procedure

A push-up berm is constructed every spring. Periodic maintenance is needed during the season to keep it sufficiently thick so that fill is not piped out and the berm fails. Periodic maintenance is needed to ensure it is not overwhelmed or the invert does headcut too low during spring freshet resulting in a disruption of service during the peak diversion timeframe.

Irrigation Use

Per the Department of Ecology's water rights map and search, the irrigation district has a max diversion right of 20.2 cfs. They take water year round, primarily during the spring and summer. There is a stockwater component to their diversion as well that is diverted year round.

Current problems for Irrigator

1. The head ditch is kept at the requisite intake elevation via a push-up berm constructed from coarse-grained native soils present on site. At the berm location, there is a 5.5-6.5 ft difference between the water elevation within the irrigation channel and the water within the Dawley side channel. The push-up berm is constructed of poorly graded, native river gravels and cobbles. There is a substantial quantity of water lost annually due to exfiltration.
2. Additionally, there is no mechanism to control diverted water at the point of diversion at the Dungeness. Excess water that enters the irrigation channel spills over a notch in the push-up berm, creating a steep, artificial cascade before re-entering the Dawley side channel. The push-up berm is annually overwhelmed leading to a failure of the ditch at this location that must be reconstructed using an excavator.

Fish & Wildlife Use

WDFW's Priority Habitats and Species map lists the following fish use on the Dungeness in this vicinity: winter steelhead, coho, and odd year pink salmon. Other priority fish that are known to frequent the area are chinook and bull trout (and lamprey??). Harlequin ducks and spotted owls are also listed for this area as priority species. Plant, aquatic, terrestrial, and avian species all thrive in this off-channel habitat.

Current problems for fish and wildlife

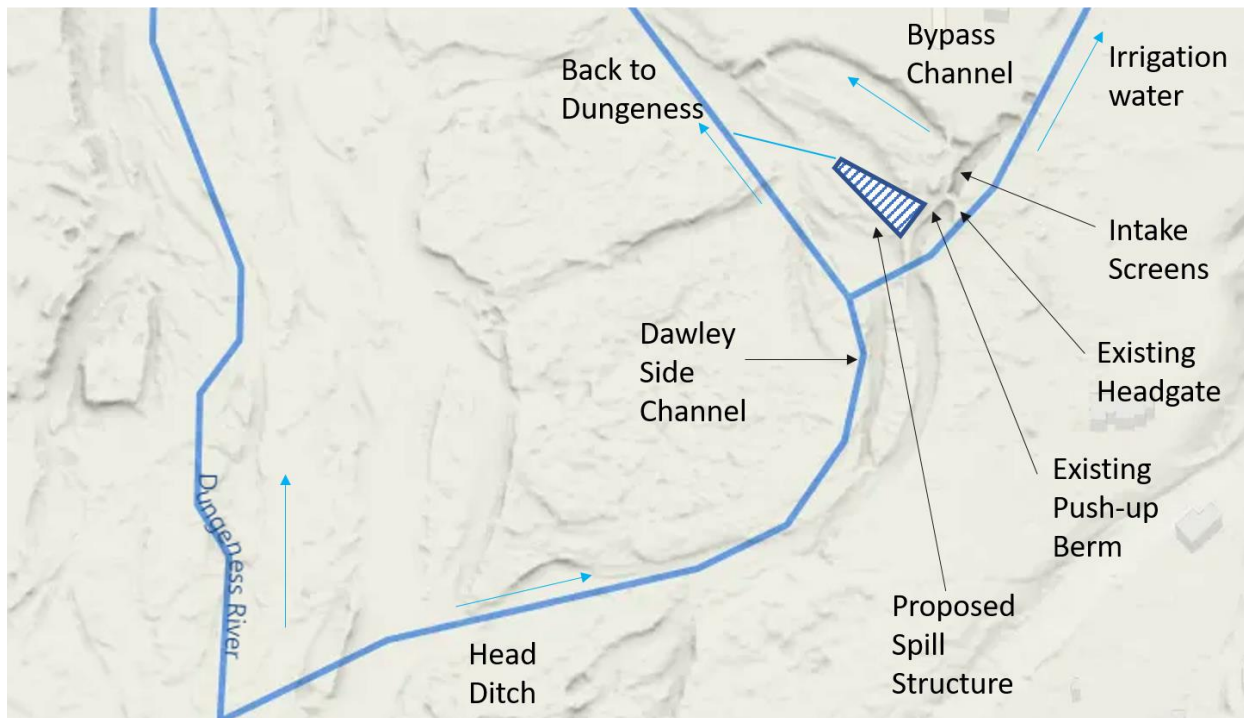
1. Material for the push-up berm is sourced from material that washed out the previous winter. Redds may be constructed in this material, juvenile fish and lamprey may be present when the material is excavated.
2. Stable and safe access for the excavator is obtained by driving through the pool below the berm (within the Dawley Side Channel area) and onto the center land bar that separates the Dawley Side Channel and Sequim Prairie Irrigation channels. However, the pool below the berm usually has at least 1-2 redds within it that are typically destroyed each year by the excavator driving in live water.

3. Construction and deconstruction of the berm likely affect the downstream redds within the Dawley Side Channel due to sedimentation, flushing, or dewatering. The location of the berm in relationship to highly utilized spawning habitat means that work to the berm often directly impacts redds.
4. Fish may be actively spawning when failure of the push-up fails. The site was visited November 19 and fish were observed moving through and spawning within the reach. The berm had already failed for the year due to high flows. There were 3 events with peak flows over 1,800 cfs on 10/28, 11/4, and 11/12 that may have caused the failure but it is most likely the 4,150 cfs flow on 11/15 was the culprit.
5. Spill out of the head ditch into the Dawley side channel is false attraction flow to adults traversing the reach before embankment failure. They may unsuccessfully try to navigate the drop expending effort at a place they will not get passage. At best, that's wasted energy, at worst, they spawn in a poor location that will soon be buried when the push-up fails.

Proposed Solution

Spill Structure

The final option examined was a spill structure. Functioning like a spillway at a dam, this structure would be a stable low point along the "crest" of the push-up dam. It would have a number of steps to allow for passage upstream at low to medium flows. All the stoplogs could be pulled at the end of the season to maximize sediment and debris passage minimizing the cleanup/season prep effort by the ditch the following spring.



Site configuration with spillway structure

The structure would be cast-in-place concrete with a walkway for foot traffic passage. The structure would be 10 ft tall, with a good portion of that buried. There'd be ~7 steps in the structure for adult upstream passage. The over/under gate is used for fine tuning the flow and the checkboards for coarse adjustments. Checkboards to get pool depth for fish during the irrigation season can be pulled to help manage debris and sediment that comes down the ditch.



This is an example of a spill structure looking upstream along the ditch alignment off the Chiwawa River near Plain.



Looking at the spill portion of the structure out towards the river. The checkboards are pulled at the end of the season to help flush/draw sediment out of the ditch and run it back to the river.



A view from the downstream end of the spill structure up towards the ditch.

Alternatively from a structure with checkboards throughout as shown above, there could be checkboards employed at the top level but then the remainder of the fishway would be a concrete pool and chute as depicted below. Due to the estimated cost of the concrete work, I will look into steel sheet pile and see if that is competitive.



Pool and chute fishway Cement Ck near Naselle.

Concrete Spillway Rough Cost Estimate:

Task + Description	Cost (in \$1,000's)
Mob	15
Site prep, staging, demo/excavation	10
Dewater	15
Bedding rock + backfill below around concrete	20
Concrete work, 2,300 sq ft floor w/ 7 steps + 2,700 sq ft wall	225
Rebuild fill across push-up (purchase, deliver, compact)	15
Gate (manual, automation add \$15, for obermeyer, add \$80)	15
Reveg + TESC	5
Contractor Overhead	50
Construction Work Subtotal	370
OPTIONAL – If construction contract is flown and/or constructed by WDFW, add Indirect + distributed cost charges	250
Construction Budget Subtotal	620
WDFW Engineering design + project management	80
permitting,	50
const oversight	30
Design, permit, project mgmt, construction support subtotal	160
Total Budget Request	780

Estimated Project Timeline

Task	Est Duration
Grant Eval + Award	Dec 21-May 22
Design Survey	May 22 – June 22
30% Design	June 22-Aug 22
Stakeholder Review	Sept 22
60% Design	Sept 22-Nov 22
Stakeholder Review	Nov 22
100% Design	Nov 22-Jan 23
Develop Specs	Nov 22 – Feb 23
Secure Construction Funds	Sept 22-Feb 23
Contracting	Mar23 – May23
Construction	Sept 23 – Nov 23
Final Acceptance/Closeout	Nov 23 – Dec 23