

Restoration, Acquisition, and Combination Project Proposal

Project Number	16-1293
Project Name	Zylstra Lower Lake Acquisition
Sponsor	San Juan Preservation Trust

List all related projects previously funded or reviewed by RCO:

Project # or Name	Status	Status of Prior Phase Deliverables and Relationship to Current Proposal?
09-1604 – False Bay Watershed Flow and Habitat Assessment	Completed	Assessment by Washington Water Trust documenting water quantity issues and fish use in the False Bay Watershed.

1. **Project Location.** *Please describe the geographic location, water bodies, and the location of the project in the watershed, i.e. nearshore, tributary, main stem, off-channel, etc.*

Zylstra Lake/ False Bay Watershed/ San Juan Valley/ San Juan Island/ San Juan County (main stem False Bay Creek which flows into False Bay.)

2. **Brief Project Summary.** *Summarize your project in a few sentences. Please be brief, you will be asked for details in the following questions.*

The goal of this acquisition project is to purchase the 122 acre Zylstra Lower Lake parcel of the Zylstra Lake acquisition to protect natural habitat, water quality, water quantity and riparian vegetation in the False Bay Creek/San Juan Valley watershed for restoration of chum and coho salmon and anadromous trout populations. The Lower Lake parcel includes 11 acres of palustrine emergent wetlands and 6 acres of lacustrine wetlands. The target property is located in the largest watershed in San Juan County and drains into False Bay Biological Preserve, a unique habitat managed by the University of Washington Friday Harbor Labs for critical intertidal and marine research. Zylstra Lake is adjacent to 687 acre Red Mill Farm and 38 acre Red Mill Forest, already protected by the San Juan Preservation Trust. In total, the San Juan Preservation Trust and the San Juan County Land Bank have protected over 1,300 acres in San Juan Valley. The UW Preserve includes an additional 22 acres of uplands and approximately 300 acres of tidelands. Endangered Chinook salmon use the nearshore waters along the west coast of San Juan Island for rearing and migration. As such the acquisition will secure a key property integral to the restoration of salmonid fish populations on the west coast of San Juan Island.

The twelve (12) development rights extinguished by the purchase and permanent protection of the Zylstra Lower Lake Acquisition combined with the sixteen (16) development rights that will be extinguished as part of the purchase and protection of the 161 acre Zylstra Upper Lake parcel will provide critical habitat protection to the lake system. The inclusion of a

Conservation Easement on the adjacent October Farm parcel will serve as match for this project and will bring additional protection to the lake and also False Bay Creek.

3. **Problems Statement.** *Please describe the problems your project seeks to address by answering the following questions.*

A. **Describe the problem including the source and scale.** *Describe the site, reach, and watershed conditions. Describe how those conditions impact salmon populations. Include current and historic factors important to understanding the problem.*

As one of the few perennial streams in the county, False Bay Creek has the potential to support salmonid fish spawning and rearing and anecdotal evidence suggests historical use by salmon and searun cutthroat trout. The Wild Fish Conservancy "Fish Use Assessment for False Bay Creek and the False Bay Biological Preserve" in 2010 found both juvenile and adult chum salmon (*Onchorhynchus keta*) in the False Bay Biological Preserve suggesting salmon are successfully spawning in the intertidal/estuarine portion of the creek. Anecdotal evidence includes sightings of adult chum upstream of Bailer Hill Road in recent years. Juvenile coho salmon (*Onchorhynchus kisutch*) have been seen at Bailer Hill Road crossing in recent years and the system is thought to provide important habitat for rearing juvenile coho salmon as well as searun cutthroat trout (*Oncorhynchus clarki clarki*) with at least one sighting as far upstream as Zylstra Lake.

Anadromous fish habitat in False Bay Creek/San Juan Valley has been impacted over the years by agricultural activities including seasonal flow alterations, stream channel changes, riparian vegetation removal and impacts to water quality from cattle grazing. Water quality monitoring performed by the San Juan Islands Conservation District in the False Bay Watershed has shown issues with low dissolved oxygen, elevated fecal coliform counts, high water temperatures and elevated turbidity.

Acquisition of Zylstra Lower Lake presents the opportunity to secure both the water quantity and improve the water quality essential to the restoration of anadromous fish habitat in False Bay Creek. Removing the 12 development rights from the Lower Lake property will also remove potential future development impacts to the lake and stream.

B. **List the fish resources present at the site and targeted by your project.**

Species	Life History Present (egg, juvenile, adult)	Current Population Trend (decline, stable, rising)	Endangered Species Act Coverage (Y/N)
Chum	Egg, juvenile, adult	Unknown	N
Coho	Egg, juvenile, adult	Decline	N
AnadTrout	Egg, juvenile, adult	Unknown	N
Chinook	Juveniles in Nearshore	Decline	Y
SandLance	Egg, juvenile, adult in Nearshore	Unknown	N

C. Describe the limiting factors, and limiting life stages (by fish species) that your project expects to address.

Water availability has been identified as a limiting factor for the False Bay Watershed. The "False Bay Flow and Habitat Assessment" report from 2012 by the Washington Water Trust determined that there was insufficient water supply available in False Bay Creek to support instream flow for salmonids. The report identified Zylstra Lake as a potential source for accessing water rights to restore instream flows but, at the time of the report, the landowner was not interested in discussing use of any water rights. Since there was insufficient water in the False Bay Watershed, and since landowners in the watershed at that time were unwilling to consider reserving water for salmon, all salmon recovery projects were put on hold in the False Bay Watershed.

However, now is the opportunity to acquire Zylstra Lake and its associated senior water rights. The Lower Lake parcel is one part of the overall Zylstra Lake acquisition project. The Lower Lake acquisition will protect the 122 acre parcel which encompasses Zylstra Lower Lake. Additional efforts outside the scope of this grant request are also being pursued to acquire the Upper Lake parcel. Acquisition is thus the first step and "keystone piece" in being able to secure water rights and the ability to potentially reserve water in Lower Lake to provide water release during critical low water flow times.

The acquisition of Zylstra Lake is also a catalyst to engage with additional landowners throughout the False Bay Watershed to discuss future protection and restoration actions.

Restoration of year round instream flow and water quality improvements in subsequent actions will achieve the desired restoration of sustainable anadromous fish populations (egg, juvenile, adult) in False Bay Creek.

4. Project Goals and Objectives.

A. What are your project's goals?

The project goal is to permanently protect instream flow and salmonid habitat essential to salmon restoration in False Bay Creek through acquisition of Zylstra Lower Lake and the Conservation Easement on October Farm. Protection (and future restoration) of spawning and rearing habitat for chum and coho salmon and searun cutthroat trout will result as well as improvement in the nearshore water quality used by rearing Chinook salmon and spawning sand lance (*Ammodytes hexapterus*) in False Bay and along the west coast of San Juan Island. This goal will be complemented by the acquisition of adjacent Zylstra Upper Lake by San Juan Preservation Trust and San Juan County Land Bank currently in progress.

B. What are your project's objectives?

The primary project objective is to purchase the 122 acre Zylstra Lower Lake parcel and associated water rights which will extinguish 12 development rights by December 2017 for the permanent protection and future restoration of anadromous fish habitat in the False Bay Creek watershed.

C. What are the assumptions and constraints that could impact whether you achieve your objectives?

The project is dependent upon obtaining the full funding for the acquisition of Lower Lake. Should this project be awarded grant funds, then the risk is greatly reduced due to the commitment by the San Juan County Land Bank to provide funds in support of this acquisition as noted in the Cost Estimate.

Additionally, longer term objectives will be enhanced by additional actions planned by the San Juan Preservation Trust and San Juan County Land Bank which include 1) increased lake storage capacity of Lower Zylstra Lake 2) an instream flow reservation and 3) acquisition of adjacent Upper Zylstra Lake.

5. Project Details.**D. Provide a narrative description of your proposed project.**

The purpose of this acquisition project is to purchase the 122 acre Zylstra Lower Lake parcel of the Zylstra Lake acquisition project being undertaken by San Juan Preservation Trust in partnership with the San Juan County Land Bank in order to protect natural habitat, water quality and quantity, and riparian vegetation in the False Bay Creek/San Juan Valley watershed for restoration of chum and coho salmon and anadromous trout populations. The Lower Lake parcel includes 11 acres of palustrine emergent wetlands and 6 acres of lacustrine wetlands. The acquisition will eliminate 12 development rights and secure a key property integral to the restoration of salmonid fish populations on the west coast of San Juan Island.

The inclusion of a Conservation Easement on the adjacent October Farm parcel will insure additional protections to the lake and also False Bay Creek.

E. Provide a scope of work.

The San Juan Preservation Trust will be responsible for purchase of the fee title and coordination with Washington State Recreation and Conservation Office for conveying a Deed of Right on the Lower Lake and an Assignment of Rights on the October Farm Conservation Easement. Because the property is already under contract with a Deed of Trust, it is anticipated that once funding is available the purchase can be completed.

As match on this project, the San Juan Preservation Trust will also provide a protective conservation easement on the adjacent October Farm parcel.

F. Explain how you determined your cost estimates.

This property had been openly listed for sale. The sellers invited The San Juan Preservation Trust and San Juan County Land Bank to match an offer made by a real estate developer intent on building residential homes around the lake. While comparative property sales analysis supported the purchase price, that price was ultimately established by a competitive market process.

G. Describe the design or acquisition alternatives that you considered to achieve your project's objectives.

Fee simple acquisition was determined to provide the only feasible opportunity for management of the lake storage capacity and instream flow necessary to achieve anadromous fish habitat restoration and enable elimination of development rights and agricultural activities, including grazing, harmful to fish habitat restoration.

H. How have lessons learned from completed projects or monitoring studies informed your project?

As the oldest land trust in Washington State, and one of the most prolific land trusts in the United States ranking #26 out of over 1700 land trusts in number of properties permanently protected, the San Juan Preservation Trust has successfully completed 317 transactions in the San Juan Archipelago over the past 37 years. In that history, the Zylstra Lake property is the very first property ever encountered that satisfies every single public benefit criteria on the Preservation Trust's project selection checklist. The San Juan Preservation Trust ranks Zylstra Lake as its top acquisition target for the San Juan Islands, and our highest priority for this project is to protect the lake's significant fish and wildlife habitat.

The San Juan Preservation Trust has a 37 year history of Preserve and Conservation Easement management in San Juan Valley where it has protected over 1,300 acres. The Trust's knowledge of and experience with habitat protection in the San Juan Islands in general and San Juan Valley in particular make it uniquely suited to take on the protection and restoration of salmonid fish habitat in the False Bay Watershed.

I. Describe the long-term stewardship and maintenance obligations for the project or acquired land.

A stewardship management plan will be developed in partnership with the San Juan County Land Bank which will address habitat restoration, invasive species, and low intensity public use, such as providing seasonal trail access.

Subsequent to acquisition, plans for increased lake storage capacity, an instream flow reservation, and fish passage will be developed. These plans will be informed by a Water Resources Watershed Plan Implementation and Flow Achievement project for the False Bay Watershed now being undertaken in partnership with the the San Juan Islands Conservation District to complete an assessment of hydrology and water use in False Bay Creek with options for anadromous fish habitat restoration. The results of this project will provide a foundation for creating a restoration plan for Zylstra Lake and also False Bay Creek.

The acquisition of Zylstra Lake is a catalyst for engaging with additional landowners throughout the False Bay Watershed to discuss future protection and restoration actions such as implementation of water quality best management practices.

6. Context within the Local Recovery Plan.

A. Discuss how this project fits within your regional recovery plan and/or local lead entity's strategy to restore or protect salmonid habitat.

WRIA2 strategy prioritizes protection of anadromous fish habitat as the primary goal and this acquisition project fits with that protection priority. This acquisition project is directly related and in response to the previous WRIA2 salmon recovery funded False Bay Watershed Flow and Habitat Assessment completed in 2012.

Zylstra Lake is at the headwaters of False Bay Creek. Protecting Zylstra Lake and future restoration efforts are key to ecosystem recovery of False Bay Creek, the False Bay Watershed and also to protecting the health of False Bay.

False Bay is a documented forage fish spawning beach location. The 2010 Wild Fish Conservancy Fish Use Assessment for False Bay shows chum presence. The Beamer/Fresh Juvenile Salmon and Forage Fish Presence and Abundance study found juvenile Chinook at the mouth of False Bay Creek and denotes that portions of False Bay have moderate fish presence probability for juvenile sand lance, Chinook and pink salmon. Protecting and restoring water quality and quantity flowing into False Bay will also help these species. From the Pulling It All Together report, False Bay is a high priority fish use area and a medium priority for both protection and restoration.

The Wild Fish Conservancy (2009) "water-typed" False Bay Creek from False Bay to Zylstra Lake as types 1 & 2 watercourse, suitable for fish use. As one of the few perennial streams in the county, False Bay Creek has the potential to support salmonid fish spawning and rearing and offers the most significant promise for anadromous fish habitat restoration in the county once removal of harmful agricultural practices (water quality), restoration of riparian vegetation, and adequate year-round flow (water quantity) is achieved. This acquisition project is key to restoration of salmonid habitat.

There are no barriers to fish passage between Zylstra Lower Lake and the mouth of False Bay Creek. Although False Bay Creek is a perennial stream, current agricultural practices in San Juan Valley have resulted in seasonal subsurface low flows. The most recent (2016) assessment completed by Washington Water Trust indicates adequate freshwater supplies for year-round instream flow sufficient to support salmon rearing and spawning in the False Bay Creek Watershed if managed correctly for water conservation.

This acquisition project is key to securing the water supply and restoring water quality in the False Bay Watershed from Zylstra Lake downstream to the mouth of False Bay Creek and into False Bay. Subsequent to this acquisition, the San Juan Preservation Trust and its conservation partners will work with the three downstream private landowners to achieve permanent riparian conservation necessary for the restoration of salmonids in False Bay Creek.

B. Explain why it is important to do this project now instead of later.

The San Juan Preservation Trust in partnership with the San Juan County Land Bank has seized the unique opportunity to purchase the Zylstra Lake property presented by the Estate of Charles Tomas in order to preserve it and water rights for conservation purposes in the interests of the San Juan Island community. This acquisition is key to ending land uses harmful to conservation of fish habitat and restoring a hydrological regime favorable to salmon restoration. The conservation community has been waiting years for this once-in-a-lifetime opportunity and needs to act now in order to secure the lake resources which are essential to restoration of False Bay Creek. A developer has a back up offer in place to acquire and develop the property should acquisition funding for Zylstra fail.

C. If your project is a part of a larger overall project or strategy, describe the goal of the overall strategy, explain individual sequencing steps, and which of these steps is included in this application for funding.

This acquisition project is the key piece in the restoration of False Bay Creek and permanent protection of conservation lands in San Juan Valley. This project will build on the San Juan County Watershed Management Action Plan adopted in 2002; the San Juan County Water Resource Management Plan adopted in 2004; and the False Bay Flow and Habitat Assessment completed in 2012 by the Washington Water Trust. These plans have all identified False Bay as a priority watershed in San Juan County (WRIA2) for habitat restoration.

7. How does your project consider and accommodate the anticipated effects of climate change on salmon recovery?

Climate change projections for San Juan County indicate wetter winters and hotter, drier summers. The acquisition of Zylstra Lake along with future restoration actions provides the opportunity to address habitat protection, elimination of competing water uses,

increased water storage capacity; and improved water conservation practices will help to manage and mitigate both of these impacts by increasing capacity to manage peak flows, increasing stored water for release in the dry season and reducing out of stream demands on the available water supply, thus improving climate resiliency in the face of uncertain change. This acquisition project is a key step in being able to address climate change resiliency in the False Bay Watershed.

8. Project Proponents and Partners.

A. Describe your experience managing this type of project.

The San Juan Preservation Trust has successfully completed acquisition of over 300 projects (fee title & conservation easements) in the San Juan Archipelago over the past 37 years and partnered with the San Juan County Land Bank on over a dozen of these. The San Juan Preservation Trust is the largest private landowner in San Juan County and possesses extensive experience in property ownership and management.

B. List all landowner names.

San Juan Preservation Trust (1/2 undivided interest) and San Juan County Land Bank (1/2 undivided interest).

Deed of Trust held by Dennis Zentil, Seller and Successor Trustee for the estate of Charles Tomas.

C. List project partners and their role and contribution to the project.

San Juan County Land Bank will ultimately relinquish their ½ undivided interest in fee title and will hold a Conservation Easement on the property.

D. Stakeholder Outreach.

There are no known barriers to this project once acquisition funding is secured. Community support is extensive and enthusiastic.

Acquisition Project Supplemental Questions

A. Provide a detailed description of the property.

The property encompasses 6 acre Zystra Lower Lake (lacustrine wetlands) and 11 acres of palustrine emergent wetlands and includes 4,400 feet of riparian shoreline. Over 100 acres of mixed open meadow and forest surround the lake.

B. List type (fee title or conservation easement) and acreage of acquisitions proposed.

122 acre fee title acquisition (one tax parcel).

C. Do you hold an option or purchase and sale agreement for the property?

The San Juan Preservation Trust and the San Juan County Land Bank each hold undivided half interest in the property, which is subject to a seller-financed loan agreement that is secured by a Deed of Trust.

D. Describe adjacent land uses.

The property is adjacent to San Juan County Land Bank lands and San Juan Preservation Trust Preserve lands which together protect over 1300 acres in San Juan Valley. San Juan Valley is designated the San Juan Valley Heritage Area by San Juan County to recognize and protect visual open space resources and traditional agricultural uses in the valley. Agriculture is the primary land use in San Juan Valley.

E. If uplands are included on the property, state their size and explain why they are essential for protecting salmonid habitat.

The acquisition property includes uplands surrounding Zylstra Lower Lake which are an integral part of the hydrological and habitat regime necessary to maintaining lake level and water quality.

F. What percentage of the total project area is intact and fully functioning habitat?

100% of the project area is intact and will be managed for habitat conservation. Habitat functions have been impaired to the extent water quality and the natural hydrological flow regime has been altered. Restoration is planned to correct these impairments.

G. Is the site in need of restoration that is not part of this grant application?

Restoration of anadromous fish habitat will follow acquisition. The Water Resources Watershed Plan Implementation and Flow Achievement project for the False Bay Watershed project is now being undertaken in partnership with the San Juan Islands Conservation District to complete an assessment of hydrology and water use in False Bay Creek including Zylstra Lake with options for anadromous fish habitat restoration. The results of this project will provide direction for recovering hydrologic function in False Bay Creek, including enhanced lake levels and fish passage (step pools) in Zylstra Lower Lake. If necessary, invasive species control will be part of the upcoming restoration plan.

H. List structures (home, barn, outbuildings, fence, levees, bank armoring, other infrastructure) on the property and any proposed modifications.

An open structure currently used as a cattle feed station will be removed.

I. Describe the:**1. Zoning/land use**

RFF-10

2. **Shoreline Master Plan designation**

N/A

3. **Portion of site within 100-year floodplain**

Approximately 20 acres.

4. **Portion of site within designated floodway**

Approximately 20 acres.

J. **Explain why federal, state, and local regulations are insufficient to protect the property from degradation.**

Federal, state and local regulations of farmland allow agricultural practices incompatible with restoration and maintenance of anadromous fish habitat. Therefore, it is necessary to purchase the property to extinguish development rights and cease harmful agricultural practices in order to protect and restore salmon habitat. Additionally, the purchase includes water rights that would not be available otherwise.

K. **For water rights and water savings projects:**

1. **Describe the mechanism that you intend to use to conserve water (trust, etc.) and explain why this is the preferred approach.**

The San Juan Preservation Trust will work with Washington Water Trust and Washington Department of Ecology to convey water rights to establish an instream flow reservation sufficient to provide year-round flow necessary for anadromous fish populations.

2. **Which steps in the water conservation process will be completed under this project proposal?**

Removal of cattle from the property will have an immediate beneficial effect on water conservation. (Cattle are estimated to consume 100 gallons of water per day per head.) Longer term water conservation will occur as a result of enhanced lake storage capacity. Additionally, removal of competing agricultural activities on adjacent lands will reduce water use even further.

3. **How much water, if any, will be saved as a result of this project? By what methods are you calculating the amount of water conserved?**

Water conservation will be most significant in summer months in the absence of competing demand by cattle.

Comments

Response to Site Visit Comments

June 13, 2016 - The San Juan Preservation Trust, Lower Zylstra Lake Acquisition

Review Panel Comments

Recommend improvements – include the option to remove, or decrease the influence of the dams included in all considerations for long-term management of the property. Acknowledging that the goal of the project is to maintain flows during the low flow season, we would recommend that development of additional storage in wetland habitat at the site be considered and developed as a viable alternative.

This is an acquisition only proposal to acquire the land and water rights. Acquisition of land and water rights is the first critical step in salmon restoration in the False Bay watershed. Answers to questions regarding proposed future restoration actions are based on our knowledge to-date. Once land and water rights have been secured, additional planning for restoration will occur.

Based on our existing knowledge of the watershed, removal or reduction of the influence of the dam and creation of wetlands for water storage do not appear to offer sufficient instream flow to False Bay Creek to sustain year-round flow.

A channelized creek flowed through the area before the lake was created (see historic 1960 photos attached in PRISM). The lake was created by digging a deep hole, spoiling the topsoil and subsoils on the pasture, and building a dam. Extensive wetlands never existed in the area now occupied by the lake. If the dam were to be removed, a large hole would remain, there would be no summer flow, and water storage capacity would be reduced. Attempting to create extensive wetlands where they never existed through extensive earthmoving of compromised soils (loaded with weed seed) would be a problematic and extremely expensive proposition.

Today, instream flow in the False Bay watershed is less than historic flow as a result of hydrologic alterations beginning with settlers draining and ditching fertile farmland in San Juan Valley followed by damming Trout Lake in the upper watershed for use as the Town of Friday Harbor municipal water supply. In addition, numerous ponds have been constructed to retain water off-stream. All of these out of stream water uses are expected to continue in the False Bay watershed into the foreseeable future. At this point, creating one wetland, even a large one, in the watershed may not create enough storage capacity in the system to provide consistent instream flow to False Bay Creek.

The False Bay watershed, located in the rainshadow of the Olympic Mountains and Vancouver Island, receives a scant 24 inches of precipitation annually. Average rainfall in the San Juans is more similar to Eastern Washington than to the Puget Sound region with no snow pack reserves to draw upon. The large majority of this precipitation falls in the form of rain during the months of October through April. In the San Juan Islands, the seasonality of precipitation - combined with the small size of the watershed (approximately 11,700 acres) - produces a water table that varies dramatically throughout the year. To ensure year-round stream flow, it is necessary to capture water in the wet season for release in the dry season.

In as much as the water table dives deep into the ground in the San Juan Valley in the summer, there is a “no flow season” mid-summer to late fall with no year-round wetlands present in this area. Given these constraints and absent water impoundment, sufficient water does not exist in the False Bay watershed for year-round instream flow to be maintained.

Lower Zylstra Lake Management.

Lower Zylstra Lake will be managed for support of anadromous fish populations. Swimming, recreational fishing, boating or any other public water access that impacts fish and wildlife and their habitat will not be permitted on the Lower Lake. Bass have been found in Upper Zylstra Lake and plans to control and eradicate bass and other invasive species will be included in the management plan.

Flow studies outcomes review.

The Washington Water Trust in their 2016 report (attached in PRISM) has calculated that there is sufficient impounded water to provide year-round instream flow in False Bay Creek.

Even though we have not acquired this property yet, another study via a PIFA grant is in progress and will be made available for review. The PIFA study will evaluate bathymetry, lake capacity, hydrological profile of the creek, and modeling of flow scenarios.

Water rights information.

The Zylstra Lake property comes with senior reservoir water rights to impound 285 acre feet of water per year. The surface water rights have been perfected and have been in use for many decades. The Zylstra water rights are also senior to, i.e. in first position over, all other water rights including the Town of Friday Harbor's. The Washington Water Trust in their 2016 report (attached in PRISM) has calculated that there is currently sufficient impounded water in the lakes to provide year-round instream flow in False Bay Creek. Even though we have not acquired this property yet, another study via a PIFA grant in partnership with the Conservation District and Public Works is in progress. The PIFA study will evaluate bathymetry, lake capacity, hydrological profile of the creek, and modeling of flow scenarios. Once the property (with accompanying senior water rights) is secured, the Preservation Trust will work with the Washington Water Trust and Department of Ecology to establish an instream flow reservation for False Bay Creek.

Historic pre-dam photos.

See historic pre-dam (1960) photos in PRISM.

Response to Post-Application Comments

Please describe how you've responded to the review panel's post-application comments. We recommend that you list each of the review panel's comments and questions and identify how you have responded. You also may use this space to respond directly to the comments.

