

20-1051, Plan, Columbia Conservation Dist
Tucannon PA 38 Design, RCO Grant Request: \$42,304

BASICS

FUNDING

Costs

RCO	\$42,304	80%
Sponsor Match	\$10,576	20%
Total	\$52,880	100%

Sponsor Match Breakdown

Grant - Federal	\$10,576
Total	\$10,576

Minimum match required
15.00%

DESCRIPTION

The Columbia Conservation District (CCD) is sponsoring the Tucannon PA 38 Restoration Design project to develop final designs, ready to construct engineering plans and complete environmental compliance including permit and cultural resource requirements. Project is located in Columbia County, in the Tucannon River mSA Priority Restoration Reach between river mile 6.5 and 8.0. Project area has recently been enrolled in USDA Conservation Reserve Enhancement Program. Project reach supports ESA listed Spring Chinook- juvenile over wintering/migration, Steelhead-spawning/rearing/overwintering and migration, Fall Chinook- spawning/rearing and Bull Trout overwintering/migration and designated as critical habitat for Bull Trout by US Fish & Wildlife. WDFW completed the Tucannon Juvenile Salmonid Survival and Habitat Utilization study, project #15-1322 (2019), identifying stream reaches where overwinter juvenile mortality is high. This project is located in a priority reach to address juvenile salmonid overwintering habitats.

Goals are to develop designs that address habitat limiting factors identified in the Draft Tucannon River Habitat Restoration Prioritization and Conceptual Restoration Plans (HRPCRP) (Anchor 2020). Enhance instream complexity/diversity, floodplain connectivity, sediment sorting and storage and pool development supporting various salmonid life cycle needs. Designs will include landowner property management objectives and limitations.

[Project Application](#)

LOCATION

Related PRISM Projects

PRISM Number	Project Name	Current Status	Relationship Type	Notes
15-1322 P	Tucannon salmonid survival and habitat utilization	Closed Completed	Current Phase	Expresses juvenile life cycles within our project area

Project Location Questions

Project Factsheet

#1: Project location. Describe the geographic location, water bodies, and the location of the project in the watershed, i.e. nearshore, tributary, main-stem, off-channel, etc.

This project is located 1 mile east of Starbuck, WA immediately south of Highway 261 mile post 6.5. Lower main stem of the Tucannon Watershed.

#2: How does this project fit within your regional recovery plan and/or local lead entity’s strategy to restore or protect salmonid habitat? Cite section and page number.

In the Snake River Salmon Recovery Plan 5.5.3.1 pg. 160 lists the Lower Tucannon and (Mouth of the Pataha) as Snake River DPS/ESU for steelhead and spring/summer chinook. Primary limiting factors listed are habitat quantity and sedimentation. Secondary limited factors are habitat diversity, flow, channel stability, predation, pathogens and temperature.

#3: Is this project part of a larger overall project?

Yes

#3a: How does this project fit into the sequencing of the larger project?

This project is one of 45 projects listed in the Draft Tucannon Habitat Restoration and Conceptual Restoration Plan (Anchor QEA 2020) that has a ~10 year project projection.

METRICS/COSTS

PLANNING METRICS

Worksite: TUCANNON PA 38 (#1)

COSTS

Category	Work Type	Estimated Cost	Note
Design for Salmon restoration	Preliminary design	\$52,880	
	Subtotal:	\$52,880	
	Total Estimate For Worksite:	\$52,880	

METRICS

Area Encompassed (acres) (B.0.b.1)	71.0
Miles of Stream and/or Shoreline Affected (B.0.b.2)	1.50

Total Planning Cost	\$52,880
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PROJECT PROPOSAL

Project Factsheet

Targeted ESU Species

Worksites	Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
1	Chinook-Snake River Fall, Snake River Lower Mainstem, Threatened	✓	✓	✓	Rising
1	Chinook-Snake River Spring/Summer, Tucannon River, Threatened		✓	✓	Declining
1	Steelhead-Snake River, Tucannon River, Threatened	✓	✓	✓	Declining

Reference or source used

WDFW

Targeted Non-ESU Species

Worksites	Species by Non-ESU	Notes
1	Bull Trout	

PROPOSAL QUESTIONS

#1: Problem statement. What are the problems your project seeks to address? Include the source and scale of each problem. Describe the site, reach, and watershed conditions. Describe how those conditions impact salmon populations. Include current and historic factors important to understand the problems.

The Tucannon River watershed supports ESA-listed Snake River summer steelhead (*Oncorhynchus mykiss*), Snake River spring and fall chinook salmon (*O. tshawytscha*), and Columbia River bull trout (*Salvelinus confluentus*) which have all been identified as aquatic focal species of concern in the Snake River Salmon Recovery Plan (2011). Understanding the existing Tucannon River system is critical to developing restoration actions that are suitable for improving habitat conditions for ESA-listed and non-listed species. Geomorphic processes, floodplain connectivity, river complexity and accompanying habitat for these fish species have been influenced by relic historic land use practices, tree harvest/clearing and excavation and other bulk earthwork activities at various locations within the 100-year floodplain (Anchor QEA 2011/2020). This project aims to address multiple lingering factors through stream habitat restoration and floodplain connectivity, complexity and diversity habitat enhancement which will contribute to natural condition processes.

#2: Describe the limiting factors, and/or ecological concerns, and limiting life stages (by fish species) that your project expects to address.

The HRPCRP (Anchor 2020) low pool frequency, residential development, floodplain connectivity, and low instream complexity are all factors in this portion of the Tucannon River. The project area itself is confined by high banks or levees and the valley wall. The uniform and incised channel promotes high velocity flows that will continue to degrade habitat over time. We anticipate that improvements proposed in this project will

Project Factsheet

significantly increase winter rearing habitat for juvenile life stages of chinook, steelhead and Bull trout immediately and over time. These actions will also increase holding and spawning habitat for adult steelhead and overwinter holding habitat for chinook and Bull trout.

- #3: (all)What are the project goals? The goal of the project should be to solve identified problems by addressing the root causes. Then clearly state the desired future condition. Include which species and life stages will benefit from the outcome, and the time of year the benefits will be realized. [Example Goals and Objectives](https://rco.wa.gov/wp-content/uploads/2020/02/SRFB-Goals-and-Objectives-Examples.docx)

Our goals are to develop preliminary designs that once implemented, will support juvenile overwintering and migrating spring Chinook, juvenile, overwintering and adult summer Steelhead, spawning Fall Chinook, and overwintering and adult bull trout by increasing river complexity, utilizing available floodplain, creating a higher pool frequency, and promoting increased sediment sorting and distribution. Specific actions will be developed as part of the design process but are anticipated to include large wood placement and potential levee setback .

- #4: (all)What are the project objectives? Objectives support and refine biological goals, breaking them down into smaller steps. Objectives are specific, quantifiable actions the project will complete to achieve the stated goal. Each objective should be SMART (Specific, Measurable, Achievable, Relevant, and Time-bound). [Example Goals and Objectives](https://rco.wa.gov/wp-content/uploads/2020/02/SRFB-Goals-and-Objectives-Examples.docx)

Within 2 years of funding, complete preliminary designs for construction implementation in year 2022.

- #5: Scope of work and deliverables. Provide a detailed description of each project task/element and how they will lead to the objectives. With each task/element, identify who will be responsible for each, what the deliverables will be, and the schedule for completion.

A full assessment of post flood 2020 conditions.
Complete preliminary designs to prepare for final designs.
Engineer plans to complete parameters for cultural resources and permitting.
Designs will be completed within 18 months of the funded date.

- #6: What are the assumptions and physical constraints that could impact whether you achieve your objectives? Assumptions and constrains are external conditions that are not under the direct control of the project, but directly impact the outcome of the project. These may include ecological and geomorphic factors, land use constraints, public acceptance of the project, delays, or other factors. How will you address these issues if they arise?

There is agricultural fields located in close proximity to this area of the river. Landowner willingness for potential modification and restoration actions could pose a problem but with mediation, solutions can be found to help negated possible termination of the project. The 2020 flood event could hinder certain restoration actions from taking place due to landowners anxiety. We hope to combat this by displaying the positive effects of a restoration plan and how it could help them with flooding in the future.

- #7: How have lessons learned from completed projects or monitoring studies informed this project?

Project Factsheet

We have adapted a design approach based on design projects completed across the Tucannon watershed by the various project sponsors. The Tucannon Habitat Programmatic Project Implementer's meet for the sole purpose of design review and information sharing. We found that vetting project design and approach builds better projects. We need projects to consider the frequent variable flow range and watershed location to meet various life cycle needs to be most effective.

#8: Describe the alternatives considered and why the preferred was chosen.

This is a design project and through the site assessment and design process alternatives will present themselves that will then be reviewed by the technical work groups, CCD staff, engineer and the landowners to proceed.

#9: How were stakeholders consulted in the development of this project? Identify the stakeholders, their concerns or feedback, and how those concerns were addressed.

Landowners were consulted and concerns are the floodplain inundating their agricultural fields and as the river system changes what affects it will have to their lands. We will address these concerns by engineering plans to alleviate stress to their land either with offset levees or other methods of protection while still utilizing as much of the available area as possible.

#10: Does your project address or accommodate the anticipated effects of climate change?

Yes

#10a: How will your project be climate resilient given future conditions?

The projects and restoration actions outlined in the Conceptual Restoration Plan (Anchor 2011 April) are focused on channel complexity and floodplain connectivity actions that buffer against the impacts of climate change. The Tucannon may have a head start in buffering against climate change, brought about by increased wood loading in the headwaters following forest fires in 2005 & 2006, increasing natural storage. A review of precipitation, stream flow, water and ambient air temperatures was prepared in 2017 as part of the Programs Annual Report (Buelow 2018) which indicates base stream flow increasing while precipitation is remaining constant. The Program partners share restoration objectives and implement restoration actions that lead to increasing channel complexity and floodplain connectivity, including removing confining features, increasing channel complexity and floodplain connectivity.

#10b: How will your project increase habitat and species adaptability?

By addressing the limiting factors of floodplain connectivity, river complexity, pool frequency and sediment transport/distribution this will drive geomorphic processes and create responses geared towards our goals. Restoration strategies have been conceptualized and will be developed to directly influence those driving geomorphic processes. This will help provide a

Project Factsheet

more natural habitat and will provide more suitable conditions for listed ESA species to adapt and thrive.

#11: Describe the sponsor's experience managing this type of project. Describe other projects where the sponsor has successfully used a similar approach.

The CCD has sponsored salmon habitat restoration projects on private and public lands for more than 20 years in the Tucannon. Developing projects from the Tucannon Conceptual Restoration Plans CCD has completed various projects. PA 26-Marengo Levee Set Back (2012), PA 24-levee removal and LWD enhancement (2016), PA-28-offset levee, LWD and side channel enhancement (2016-18). The CCD is working with an experienced engineer who has designed multiple habitat restoration projects for implementation.

#12: Will veterans (including the veterans conservation corps) be involved in the project? If yes, please describe.

No

PLANNING SUPPLEMENTAL QUESTIONS

#1: Is the project an assessment / inventory?

No

#2: Is your project a Barrier / Screening Diversion Inventory Project?

No

#3: Is this a fish passage design / screening design project?

No

#4: Will the project develop a design?

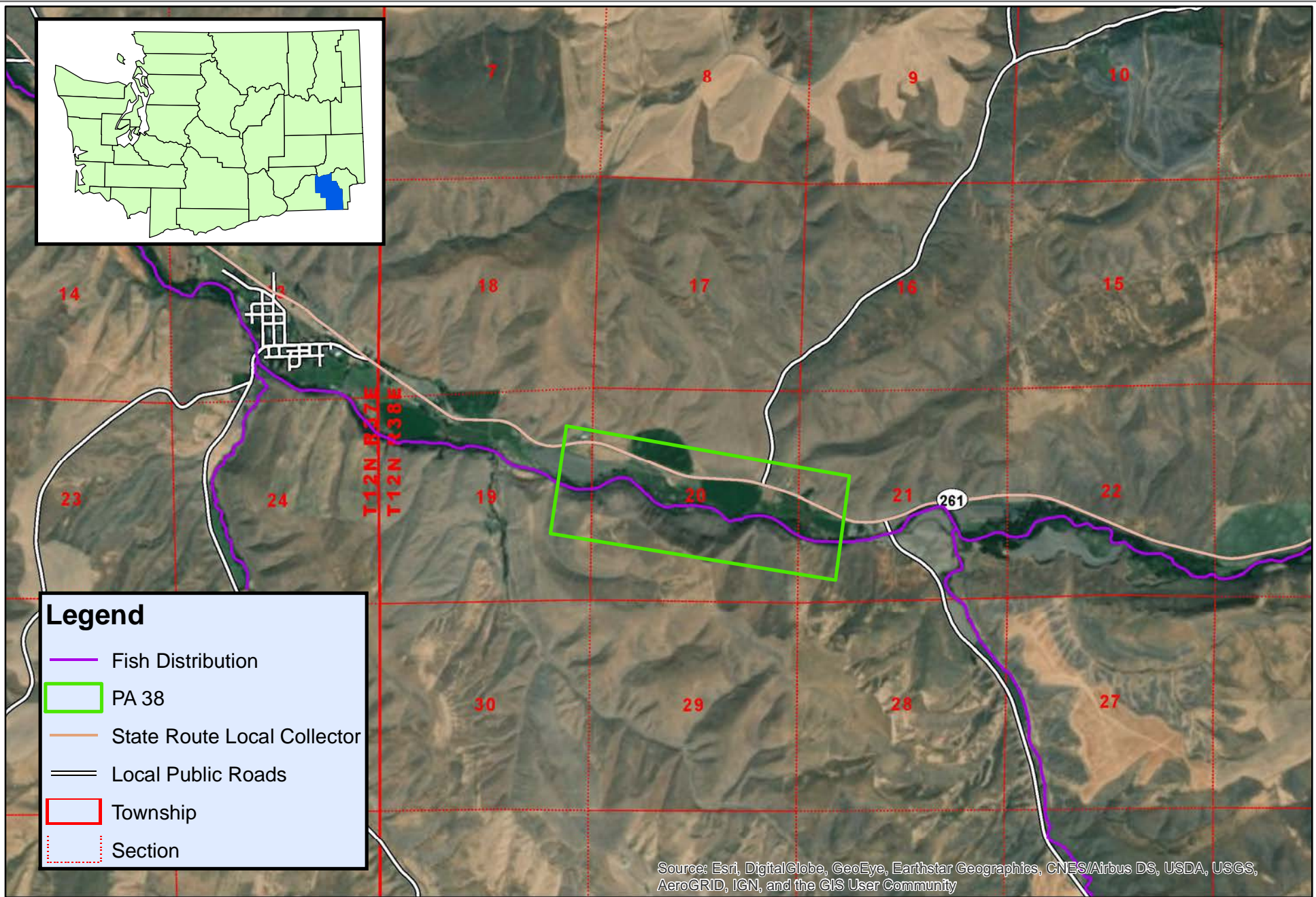
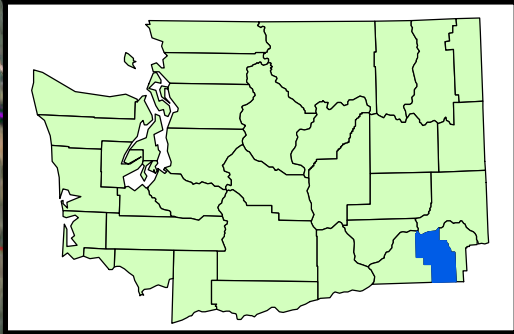
Yes

#4a: Will a licensed professional engineer design of the project?







Yes

#4b: Will you apply for permits as part of the project scope?

Not at this time



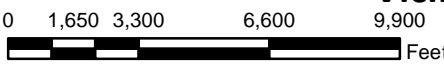
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-  Fish Distribution
-  PA 38
-  State Route Local Collector
-  Local Public Roads
-  Township
-  Section

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Tucannon Design Project PA 38
Vicinity Map

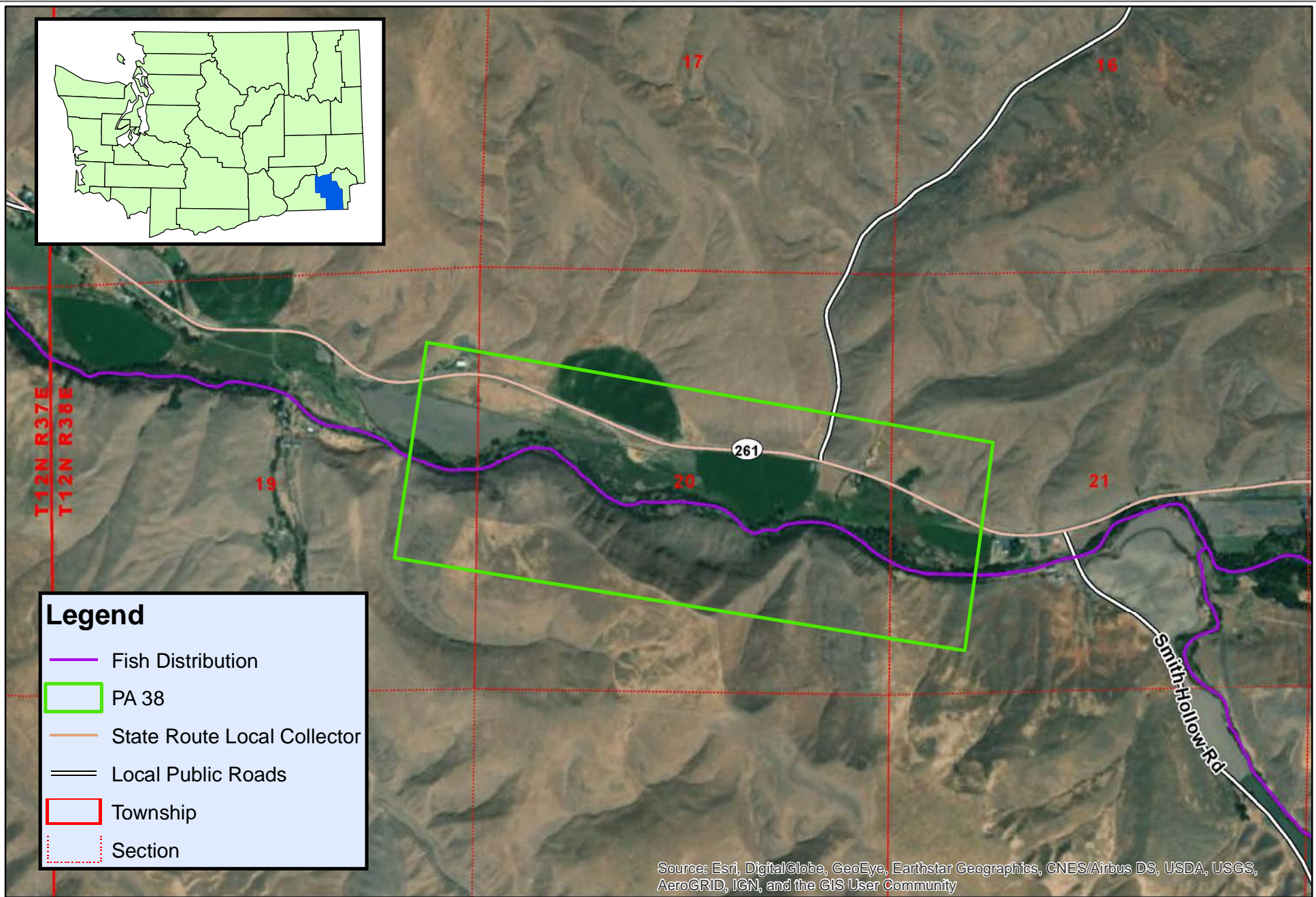
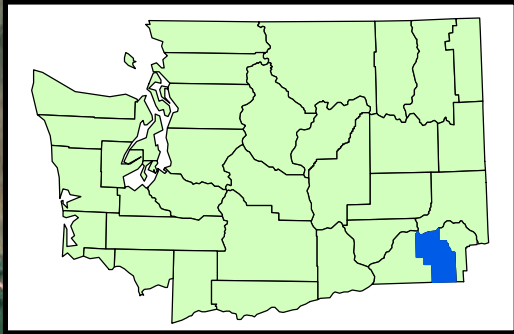


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 Cartographer: Aneesha Dieu



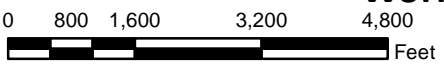
Legend

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Tucannon Design Project PA 38 Worksite Map

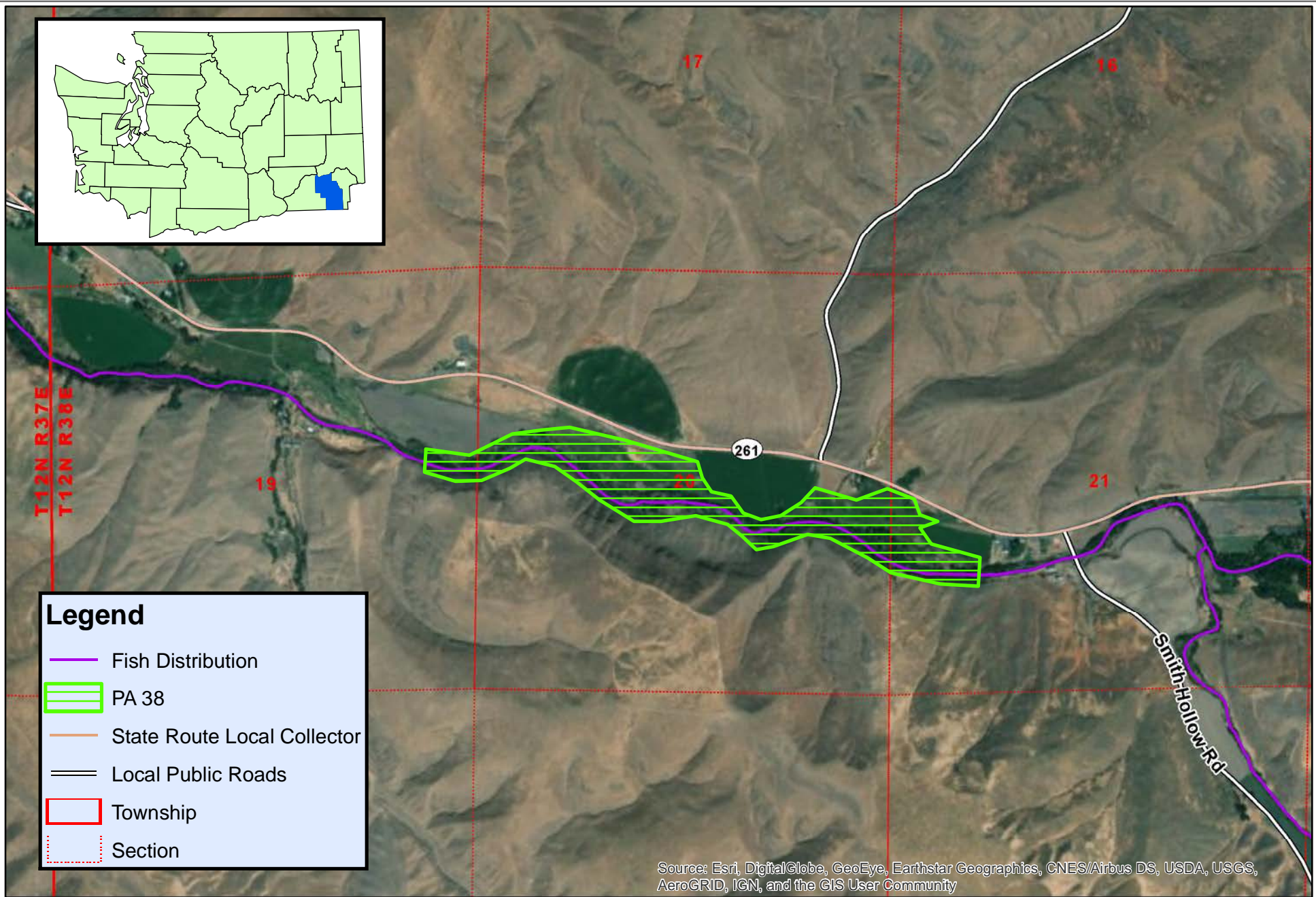
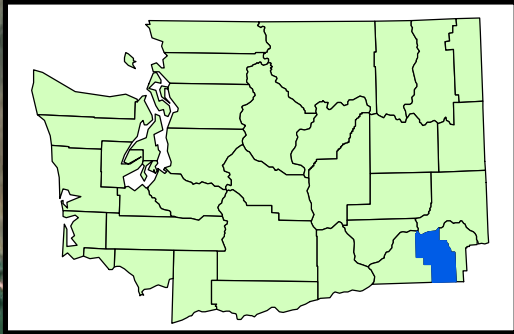


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







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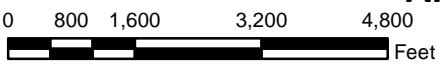
Legend

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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



**Tucannon Design Project PA 38
APE Map**



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Landowner Acknowledgement Form

Landowner Information

Name of Landowner:F & R Farms

Landowner Contact Information:

Mr. Ms. Title:

First Name:Dick Last Name:Rubenser

Contact Mailing Address:PO BOX 325 Starbuck, WA 99359-0352

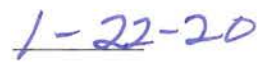
Contact E-Mail Address:dickrubenser@gmail.com

Property Address or Location:**Tucannon River below Highway 261**

1. Dick Rubenser (Landowner or Organization) is the legal owner of property described in this grant application.
2. I am aware that the project is being proposed on my property.
3. If the grant is successfully awarded, I will be contacted and asked to engage in negotiations.
4. My signature does not represent authorization of project implementation.



Landowner Signature



Date

Project Sponsor Information

Project Name:PA 38

Project Applicant Contact Information:

Mr. Ms. Title Resource Technician/ Administrative Assistant

First Name:Aneesha

Last Name:Dieu

Mailing Address:202 S. 2nd St Dayton, WA 99328

E-Mail Address:ad-ccd@daytonwa.net