

## PROJECT: 24-1070 PLAN, TUCANNON PA 14.1 DESIGN

Sponsor: Fish & Wildlife Dept of Program: Salmon State Projects Status: Preapplication

### Parties to the Agreement

#### PRIMARY SPONSOR

Department of Fish and Wildlife

**Address** PO Box 43135

**City** Olympia **State** WA **Zip** 98504-3135

**Org Type** State Agency

**Vendor #** SWV0007529-00

**UBI**

**Date Org created**

**Org Notes**

[link to Organization profile](#)

Org data updated

#### SECONDARY SPONSORS

No records to display

#### MANAGING AGENCY

Recreation and Conservation Office

#### LEAD ENTITY

Snake River Salmon Rec Bd LE

#### QUESTIONS

#1: List project partners and their role and contribution to the project.

Snake River Salmon Recovery Board, BPA Tucannon Programmatic, CTUIR, Nez Perce Tribe, WDFW. All partners contribute technical assistance for the project design.

### External Systems

#### SPONSOR ASSIGNED INFO

**Sponsor-Assigned Project Number**

**Sponsor-Assigned Regions**

#### EXTERNAL SYSTEM REFERENCE

Source	Project Number	Submitter
HWS	PPFL24_002	SRPEditUser

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## Project Contacts

Contact Name Primary Org	Project Role	Work Phone	Work Email
<u>Kendall Kohler</u> Rec. and Conserv. Office	Project Manager	(360) 764-9086	<a href="mailto:Kendall.Kohler@rco.wa.gov">Kendall.Kohler@rco.wa.gov</a>
<u>David Karl</u> Fish & Wildlife Dept of	Project Contact	(509) 520-8973	<a href="mailto:David.Karl@dfw.wa.gov">David.Karl@dfw.wa.gov</a>
<u>Ali Fitzgerald</u> Snake River Salmon Rec Bd LE	Lead Entity Contact	(509) 382-4115	<a href="mailto:ali@snakeriverboard.org">ali@snakeriverboard.org</a>

## Worksites & Properties

### # Worksite Name

#1 Tucannon PA 14.1 Design

### Planning Property Name

✓ Wa State W.T. Wooten Wildlife Area

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## Worksite Map & Description

### Worksite #1: Tucannon PA 14.1 Design

#### WORKSITE ADDRESS

**Street Address** Hatchery Bridge Tucannon Road  
**City, State, Zip** Columbia County WA 99328

## Worksite Details

### Worksite #1: Tucannon PA 14.1 Design

#### SITE ACCESS DIRECTIONS

Project is located adjacent to Tucannon Fish Hatchery. From Highway 12, take Tucannon Road to the Hatchery.

#### TARGETED ESU SPECIES

Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
Chinook-Middle Columbia River Spring, Not Warranted	✓	✓	✓	Declining
Steelhead-Middle Columbia River, Touchet River, Threatened	✓	✓	✓	Declining

#### Reference or source used

Snake River Spring Chinook, Bull Trout and Snake River Steelhead are targeted ESU Species for this project.

#### TARGETED NON-ESU SPECIES

Species by Non-ESU	Notes
Bull Trout	ESA Threatened Bull Trout

#### Questions

#1: Give street address or road name and mile post for this worksite if available.

Tucannon Road WT Wooten Wildlife Area, Tucannon Hatchery Bridge

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## Project Location

### RELATED PROJECTS

#### Projects in PRISM

PRISM Number	Project Name	Program Name	Current Status	Relationship Type	Notes
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No related project selected

#### Related Project Notes

### Questions

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

Project is to design Instream Habitat and Floodplain Restoration on the Tucannon River. The location is headwater mainstem.

#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.

Project is identified in 2021 Tucannon Geomorphic Assessment and Action Plan.

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

Yes

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

The larger project is a series of projects on the Tucannon River to restore floodplain connection and improve river habitat for ESA listed Spring Chinook, Steelhead and Bull Trout. This project opens up a section of river that is confined to approximately 25 Acres of Floodplain and relic channels.

#4: Is the project on State Owned Aquatic Lands? Please contact the Washington State Department of Natural Resources to make a determination. [Aquatic Districts and Managers](#)

No

## Property Details

Property: Wa State W.T. Wooten Wildlife Area (Worksite #1: Tucannon PA 14.1 Design)

✓Planning

#### LANDOWNER

Name	WA Dept of Fish and Wildlife
Address	1340 N 13th Ave
City	Walla Walla
State	WA Zip 99362
Type	State

#### CONTROL & TENURE

Instrument Type	Landowner Agreement
Timing	Proposed
Term Length	Perpetuity
# Yrs	
Expiration Date	
Note	

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## Project Proposal

### Project Description

The design is to re-establish connection with a major historic channel by elevating the existing channel and restoring floodplain connection to 25 acres of floodplain and relic channels downstream. The main features of the design move 4 power poles located in the proposed historic channel (B), construct channel ELJ's in the channel B. Remove gravel from old deposit site (in the project area) and add it to the existing channel (A) as part of a series of roughened channels designed to elevate the channel and reconnect historic channel B (& C), and for gravel augmentation for both Channel A & B. The deposit site removal will also expand the available floodplain in the project reach. There is, at least, one other channel (C) reconnection and a series of ELJ structures in channel A. The project design and construction are focused within a small footprint but adds flow and floodplain connection over a much larger area.

### Project 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 treatment reach is located downstream from the Tucannon Hatchery bridge and adjacent to the Tucannon hatchery. The channel is confined and straightened. This project seeks to reconnect a historic channel approximately 100 meters downstream from the bridge by raising the channel elevation using a roughened channel. By reconnecting the historic channel, we seek to address floodplain connection and stream power issues in the existing channel and increase the amount of surface water habitat available for fish. Addressing stream power in this way will also contribute to the longevity of large wood structures and the pool habitat that they create.

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

The project design should address limiting factors that include high stream power, habitat complexity, floodplain and riparian function, and increased surface water habitat available for fish. The project is to improve river function that will support all life stages of Spring Chinook and Steelhead and provide habitat for adult and subadult Bull trout.

#3: 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**

The main goal of the project is to establish a channel configuration more in line with a stage 8 configuration. The goal to reestablish multiple connected channels will provide more surface water habitat for fish and add stream length that will help reduce stream power at high flows. Reducing stream power will help improve habitat complexity and more diverse opportunities for the different life stages of ESA fish populations in the Tucannon River. We anticipate improvements in spawning and rearing that include important adult cover and off channel rearing that is limited in this reach. The project impact is smaller than the area it will provide a response.

#4: 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**

The project objectives are to restore river connection and function. Reconnect over 25 acres of floodplain that is currently disconnected. Increase surface water habitat by establishing a more functional river channel: number of pools, spawning habitat, cover, off-channel rearing habitat, riparian function.

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

The design will be done by WDFW Engineers and Habitat Biologist in coordination with local partners. The project area will be surveyed, multiple alternatives will be considered, a preferred alternative will be taken to 30% design and coordinated with local partners, again at 60% and 90%. The Habitat Biologist will conduct surveys to establish existing conditions (metrics). The Biologist will also contract a cultural survey and report to go with the project design. Having a design and cultural consultation completed will make the project more "shovel ready" and ready for implementation.

#6: What are the assumptions and physical constraints that could impact whether you achieve your objectives? Assumptions and constraints 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 are no constraints to achieving the design project. The project has general constraints regarding the outcome of a cultural consultation, permitting, weather, etc..

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

Past projects and lessons learned from those projects have informed this project greatly. The most important lesson is that we need to be aware of how entrenched the channel has gotten in high stream power reaches. Especially reaches that have been straightened and therefore shortened. The project is designed to take a more aggressive approach at restoring the channel elevation in order to reconnect relic channels and improve the river and floodplain function. The goal is a channel that has the stream power distributed during high flows, having more slow water habitat, and improving the water table and riparian/floodplain function.

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

Alternatives will be developed as part of the design process.

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

Some partners and stakeholders have been consulted on the project concept. Dan Pounds, Tucannon Hatchery Manager, CTUIR, Nez Perce, SRSRB staff. The main message was the basic concept and proposed process, and that we will coordinate the design alternatives and design from start to finish. There were no concerns expressed at this point.

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

No

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

WDFW has sponsored many projects similar to this one. PA 13 upstream from this reach was completed in 2023, where we used a similar approach to reconnect floodplain and historic channels. While it is too early to claim success, there has been a 1200 cfs and the project performed as designed.

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

No

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## Planning Supplemental

#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?

Cultural 106 Consultation

## Planning Metrics

### Worksite: Tucannon PA 14.1 Design (#1)

Area Encompassed (acres) (B.0.b.1) 25.0

Miles of Stream and/or Shoreline Affected (B.0.b.2) 0.50

### DESIGN FOR SALMON RESTORATION

#### Final design and permitting (B.1.b.11.a RCO)

Total cost for Final design and permitting \$140,000

Project Identified in a Plan or Watershed Assessment. (1221) (B.1.b.11.a) Northwest Marine Fisheries Service. 2017. ESA Recovery Plan for Snake River Spring/Summer Chinook Salmon (Oncorhynchus tshawytscha) & Snake River Basin Steelhead (Oncorhynchus mykiss). Portland, OR

Priority in Recovery Plan (1223) (B.1.b.11.b) SRSRB Recovery Plan 5.5.3.2 pg. 165 Major Spawning Area and Priority Restoration Reach

### CULTURAL RESOURCES

#### Cultural resources

Total cost for Cultural resources \$15,000

Acres surveyed for cultural resources 20.00

### AGENCY INDIRECT COSTS

#### Agency Indirect

Total cost for Agency Indirect \$45,000

## Overall Project Metrics

### COMPLETION DATE

Projected date of completion 01/01/2026

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## Planning Cost Estimates

### Worksite #1: Tucannon PA 14.1 Design

Category	Work Type	Estimated Cost	Note
Agency Indirect Costs	Agency Indirect	\$45,000	
Cultural Resources	Cultural resources	\$15,000	
Design for Salmon restoration	Final design and permitting (B.1.b.11.a RCO)	\$140,000	
	Subtotal:	\$200,000	
	Total Estimate For Worksite:	\$200,000	

### Summary

Total Estimated Costs:	\$200,000
Total Estimated Planning Costs:	\$200,000

## Cost Summary

	Estimated Cost	Project %	Admin/AA&E %
<u>Planning Costs</u>			
Planning	\$200,000		
SUBTOTAL	\$200,000	100.00 %	
Total Cost Estimate	\$200,000 !	100.00 %	

## Funding Request and Match

### FUNDING PROGRAM

Salmon State Projects	\$200,000	86.956522 %
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### SPONSOR MATCH

Donated Unpaid Labor	Donated Skilled Labor		
Amount			\$30,000.00
Funding Organization			WDFW
	Match Total:	\$30,000	13.043478 %
	Total Funding Request (Funding + Match):	\$230,000 !	100.000000 %
			! Difference from Total Cost Estimate: (\$30,000)

## Questions

#1: Explain how you determined the cost estimates

Costs are determined from a WDFW Engineers estimate. Most of the work involves staff time that includes indirect. General estimate for Cultural survey. I think the design does not require match, but I'm putting donated services.

## Cultural Resources

### Cultural Resource Areas

Worksite #1: Tucannon PA 14.1 Design

Area: APE

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#1: Describe any planned ground disturbing pre-construction/restoration work. This includes geo-technical investigation, fencing, demolition, decommissioning roads, etc.

The only work proposed as part of this project is a cultural survey and report. We need to do some test pits for the cultural and I'd like to see what is in the deposits.

#2: Describe the existing project area conditions. The description should include existing conditions, current and historic land uses and previous excavation/fill (if depths and extent is known, please describe).

The area has some previous excavation when the hatchery was built, there are two area where material from those excavations were deposited. There is a historic channel that is disconnected from the river that leads to 25 acres of riparian floodplain.

#3: Will a federal permit be required to complete the scope of work on the project areas located within this worksite?  
Yes

#3a: List the agency that will be issuing the permit and the date you anticipate applying for and receiving the permit. Will the federal permit cover ALL proposed ground disturbing activities included in the project?

USACE, BPA

#4: Are you utilizing Federal Funding to complete the scope of work? This includes funds that are being shown as match or not.

Unknown

RCO SRFB

#5: Do you have knowledge of any previous cultural resource review within the project boundaries during the past 10 years?

No

A cultural survey was completed just upstream in Project Area 13.

#6: Are there any structures over 45 years of age within this worksite? This includes structures such as buildings, tidegates, dikes, residential structures, bridges, rail grades, park infrastructure, etc.

No

There are deposits from when the Hatchery was constructed, the deposits are believed to be river rock that will be used in the design and subsequently the implementation of the project.

### Project Permits

Permits and Reviews	Issuing Organization	Applied Date	Received Date	Expiration Date	Permit #
None - No permits Required		03/04/2024	03/05/2024	03/05/2024	

# Project Application Report - 24-1070

## Attachments

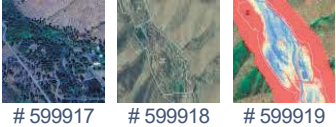
### Required Attachments

6 out of 6 done

Applicant Resolution/Authorizations	✓
Cost Estimate	✓
Landowner acknowledgement form	✓
Map: Planning Area	✓
Photo	✓
RCO Fiscal Data Collection Sheet	✓

### PHOTOS (JPG, GIF)

Photos (JPG, GIF)



### PROJECT DOCUMENTS AND PHOTOS

Project Documents and Photos

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Shared
	03/05/2024	RCO Fiscal Data Collection Sheet	FiscalDataCollectionSheet.pdf	DavidK	FiscalDataCollectionSheet.pdf, 599926	
	03/05/2024	Applicant Resolution/Authorizations	ApplicantAuthorizationResolution.pdf	DavidK	ApplicantAuthorizationResolution.pdf, 599924	✓
	03/05/2024	Photo	14.1 relative elevation.JPG	DavidK	14.1 relative elevation.jpg, 599919	✓
	03/05/2024	Photo	Project Area 14.1.JPG	DavidK	Project Area 14.1.jpg, 599918	✓
	03/05/2024	Photo	Aerial 14.1.JPG	DavidK	Aerial 14.1.jpg, 599917	✓
	03/05/2024	Cost Estimate	Copy of SAL-CostEstimate.xlsx	DavidK	Copy of SAL-CostEstimate.xlsx, 599916	✓
	03/04/2024	Landowner acknowledgement form	14.1-LandownerAckForm (1).docx	DavidK	14.1-LandownerAckForm (1).docx, 599807	
	02/29/2024	Map: Planning Area	PA14 Design.pptx	DavidK	PA14 Design.pptx, 599521	✓

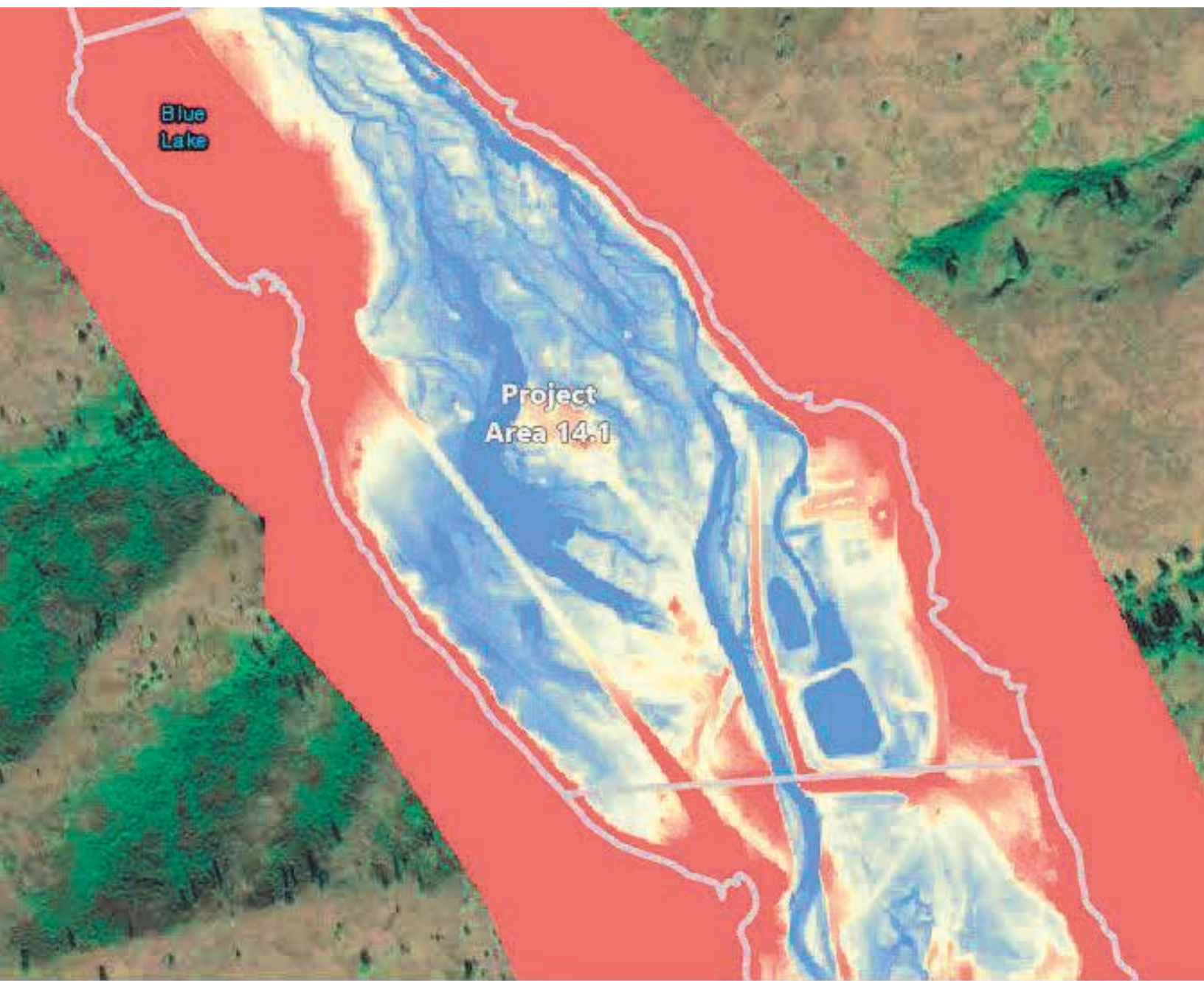
## Application Status

Application Due Date: 06/24/2024

Status Name	Status Date	Submitted By	Submission Notes
Preapplication	01/17/2024		

I certify that to the best of my knowledge, the information in this application is true and correct. Further, all application requirements due on the application due date have been fully completed to the best of my ability. I understand that if this application is found to be incomplete, it will be rejected by RCO. I understand that I may be required to submit additional documents before evaluation or approval of this project and I agree to provide them.

Date of last change: 03/08/2024



Fish & Wildlife Dept of; Tucannon PA 14.1 Design (#24-1070)

Attachment #599919, 14.1 relative elevation.JPG

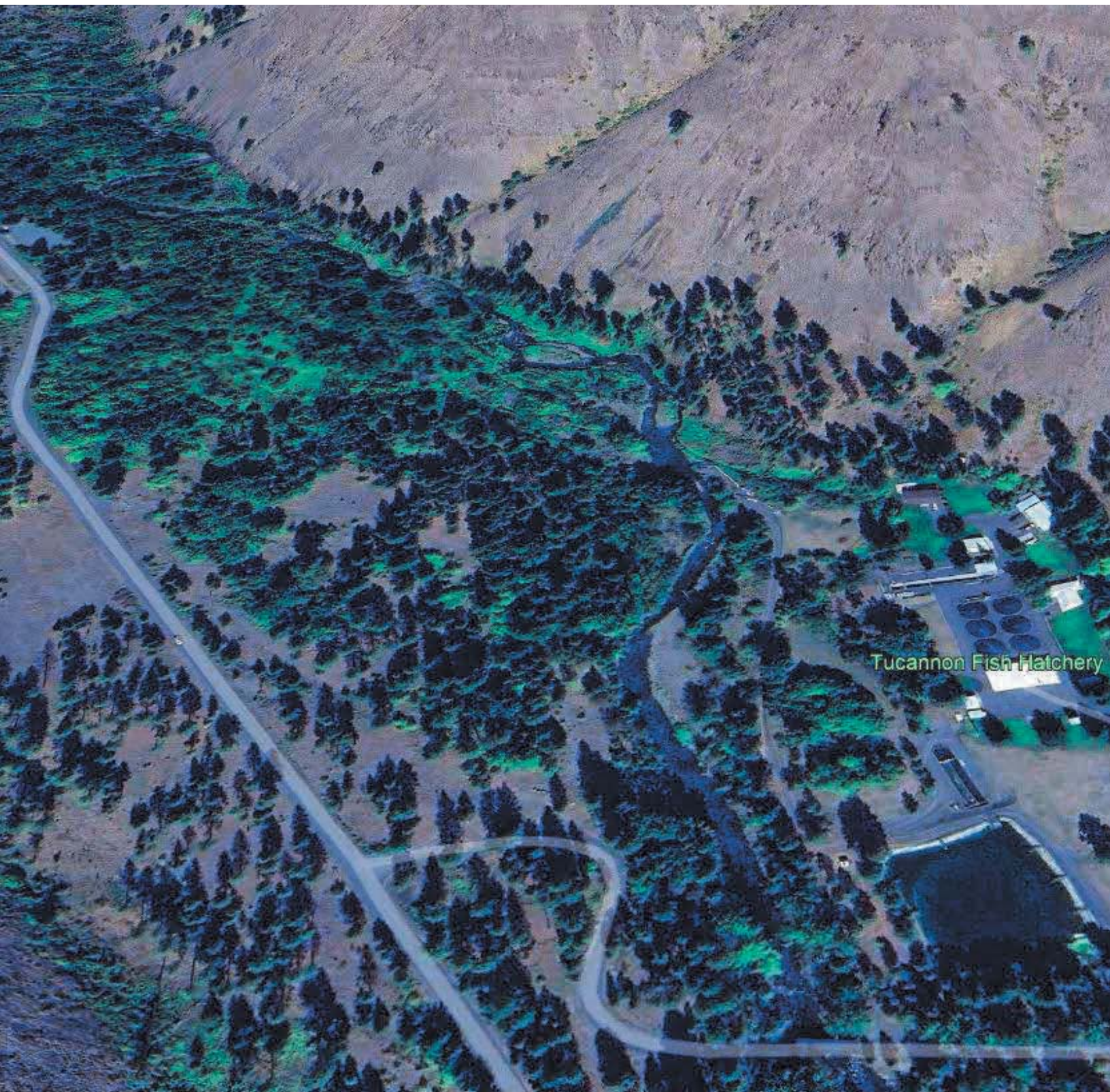




Fish & Wildlife Dept of; Tucannon PA 14.1 Design (#24-1070)

Attachment #599918, Project Area 14.1.JPG





Tucannon Fish Hatchery

Fish & Wildlife Dept of; Tucannon PA 14.1 Design (#24-1070)

Attachment #599917, Aerial 14.1.JPG





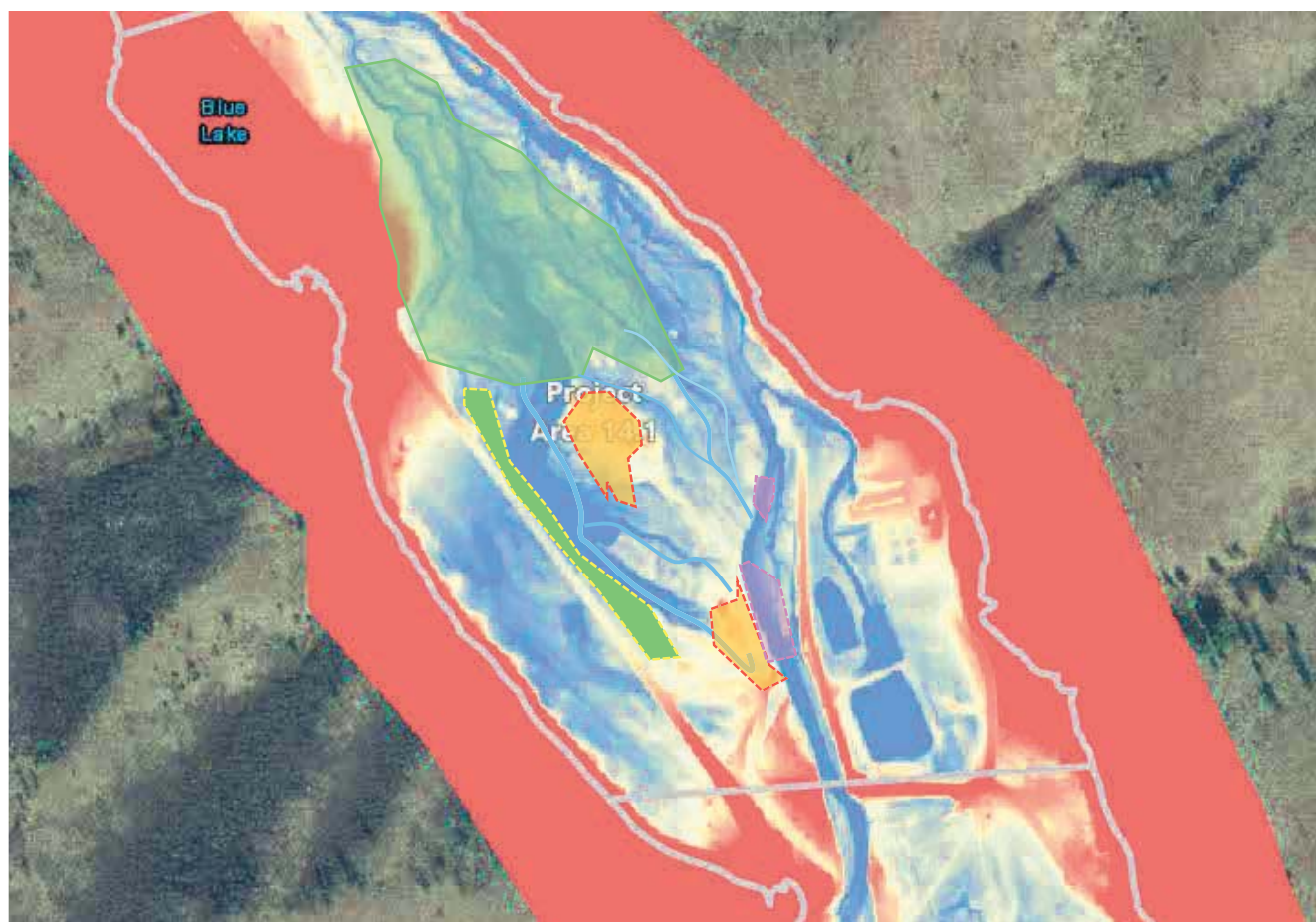
### PA14.1 Floodplain Reconnection & Stream Habitat Restoration Design

Excavate spoils pile from floodplain and repurpose as terrace, roughened channels, and gravel augmentation

Restore historic channel with LWD structures and gravel bars. Plant riparian vegetation along new channels.

Move Power poles to the road and add a floodplain terrace. (Terrace will be planted with upland vegetation)

Construct roughened channel(s) to reconnect historic channels. Add LWD structures to improve habitat. Both existing and historic channels connected at summer baseline flows.



### Limiting Factors Objectives

- Restore Floodplain connection and storage capacity.
- Improve Riparian function and reconnect Riparian Wetland Habitat.
- Reduce stream power in the project reach.
- Improve stream habitat complexity and increase off-channel and surface water habitat.
- Multiple channels connected and flowing at summer baseflows.



