

May 2024

Request for Assistance: Upper Sutter Bypass

The KSN Project Management Team on behalf of the Butte Slough Irrigation Company (BSIC) has requested technical assistance related to the exploration of potential habitat and flow benefits in the Upper Sutter Bypass as related to Floodplains Reimagined. A project description is provided as Attachment A.

1. Applicant Eligibility

- a. Name: Butte Slough Irrigation Company
- b. Contact Information
Holly Dawley, KSN Inc –
hdawley@ksninc.com

2. Landowner Segment

- a. Private agricultural farms
- b. Recreational
- c. Tribes
- d. NGO landowners
- e. Public Agency landowners
- f. Representatives of landowners
- g. Other

3. Geographic Scope

- a. Property Location
 - i. Address:
Butte Slough Irrigation Company
1138 4th Street
Meridian, CA 95957
 - ii. Coordinates:
Lat 39.145184° N
Long -121.835492° W
 - iii. Map: see Attachment A
 - iv. Subregional Basin: Sutter

4. Planning Project Type

- a. Project Concept
- b. Proof of Concept
- c. Preliminary Engineering Plans
- d. Assessments to inform planning
- e. Other

5. Project Description and Tasks

The proposed project will allow for further developing the concept for feasibility and opportunity for increased volitional salmonid

access to off channel habitat, inclusive of potential for land use conversion to habitat, balanced with measures to promote agricultural resiliency.

- a. Task 1 – Baseline Assessment
- b. Task 2 – Concept Formulation, Evaluation, and Refinement

6. Proposed Timeline: Summer 2024 – March 2025

7. Cost Estimate: \$250,000

8. Reporting: Two technical reports

Project Proponent: Butte Slough Irrigation Company
Date: May 15, 2024

RE: Project Understanding for Upper Sutter Bypass Technical Assistance

Purpose: Provide a platform for discussion of technical assistance elements to support Upper Sutter Bypass participation in Floodplains Reimagined

Background

The Butte Slough Irrigation Company (BSIC), on behalf of the landowners and land managers in the Upper Sutter Bypass, has requested technical assistance through Floodplains Reimagined (FR) to investigate and better understand potential ways landowners and land managers may integrate existing operations with floodplain improvements for multi-benefits including supporting native fishery recoveries and climate change resilience. The FR Program just completed Phase 1 of the Program development. This Technical Assistance (TA) will leverage work and findings from the Phase 1 effort. In recognition of the hydraulic connectivity of the Butte Basin and Sutter Bypass, coordination will occur between the neighboring subregional TA efforts which include the Butte Sink Waterfowl Association (BSWA; upstream) and the Sutter Bypass Butte Slough Water Users Association (SBBSWUA; downstream).

Proposed Tasks for Scope of Work

Task 1: Baseline Assessment

During Phase 1, coordination with the Upper Sutter Bypass landowners occurred via early meetings to explore opportunities for TA to include an initial tour of some of the properties. These early discussions are captured within Exhibit 1 (attached), depicting potential enhancement concepts to improve floodplain habitat conditions, improve salmonid passage and access, and improve agricultural resiliency, while maintain flood system functions. Task 1 will require further coordination with the landowners to refine the goals and objectives of the TA; document landowner operations, concerns, and priorities; and identify landowner specific opportunities and constraints for consideration in concept formulation. This will include additional site visits and meetings with landowners. The technical team will consider data needs to explore hydraulic characterization of the region and develop an approach for model and tool refinement that will include supplemental field data collection necessary to refine our understanding of baseline conditions; this effort will build off and refine the existing conditions documented and modeled in FR Phase 1. Based on the refined baseline understanding from Task

1, preliminary subregional concepts will be identified, similar to the early ideas identified in Exhibit 1.

Deliverables will include:

- Technical report documenting goals and objectives; operations, concerns and priorities; opportunities and constraints; hydraulic and ecological baseline; and preliminary subregional concept considerations.

Task 2: Concept Formulation, Evaluation, and Refinement

Based on the baseline findings and preliminary concept considerations from Task 1, an integrated subregional concept will be formulated in collaboration with the landowners and include consideration for the neighboring BSWA and SBBSWUA subregional concepts. Task 2 will allow the technical team to evaluate the performance of the subregional concept using the suite of tools and evaluation criteria developed through FR Phase 1. Based on the performance of the initial subregional concept, elements of the subregional concept may be refined leading to a preferred subregional concept.

Deliverables will include:

- Technical report documenting concept formulation, a summary of its performance towards meeting the needs of the subregion and the system based on the adopted evaluation criteria, and refinement of the subregional concept including a project description.

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Region 1
Juvenile Access/Rearing
Ag Resiliency

Region 2
Habitat Corridor
Juvenile Access
Ag Resiliency

Region 3
Fish Food
Juvenile Rearing
Ag Resiliency

Region 4
Habitat Corridor
Juvenile Access
Ag Resiliency

Region 5
Fish Food
Juvenile Rearing
Ag Resiliency

Habitat Corridor

Legend

Flow Paths	Elev (ft, 88)
→ Existing	< 33
	33 - 34
	34 - 35
	35 - 36
	36 - 37
	37 - 38
	38 - 39
	39 - 40
	40 - 41
	41 - 42
	42 - 43
	43 - 44
	44 - 45
	45 - 46
	46 - 47
	47 - 48
	48 - 49
	49 - 50
	50 - 51
	51 - 52
	52 - 53
	53 - 54
	54 - 55
	55 - 75

Existing Features	
● Gas Wells	
★ Irrigation Weirs	
⊕ Ag Crossing	
⊕ Bridge	
⊕ Bridge	
— Levees	

Enhancement Actions	
▨ Habitat Corridor	

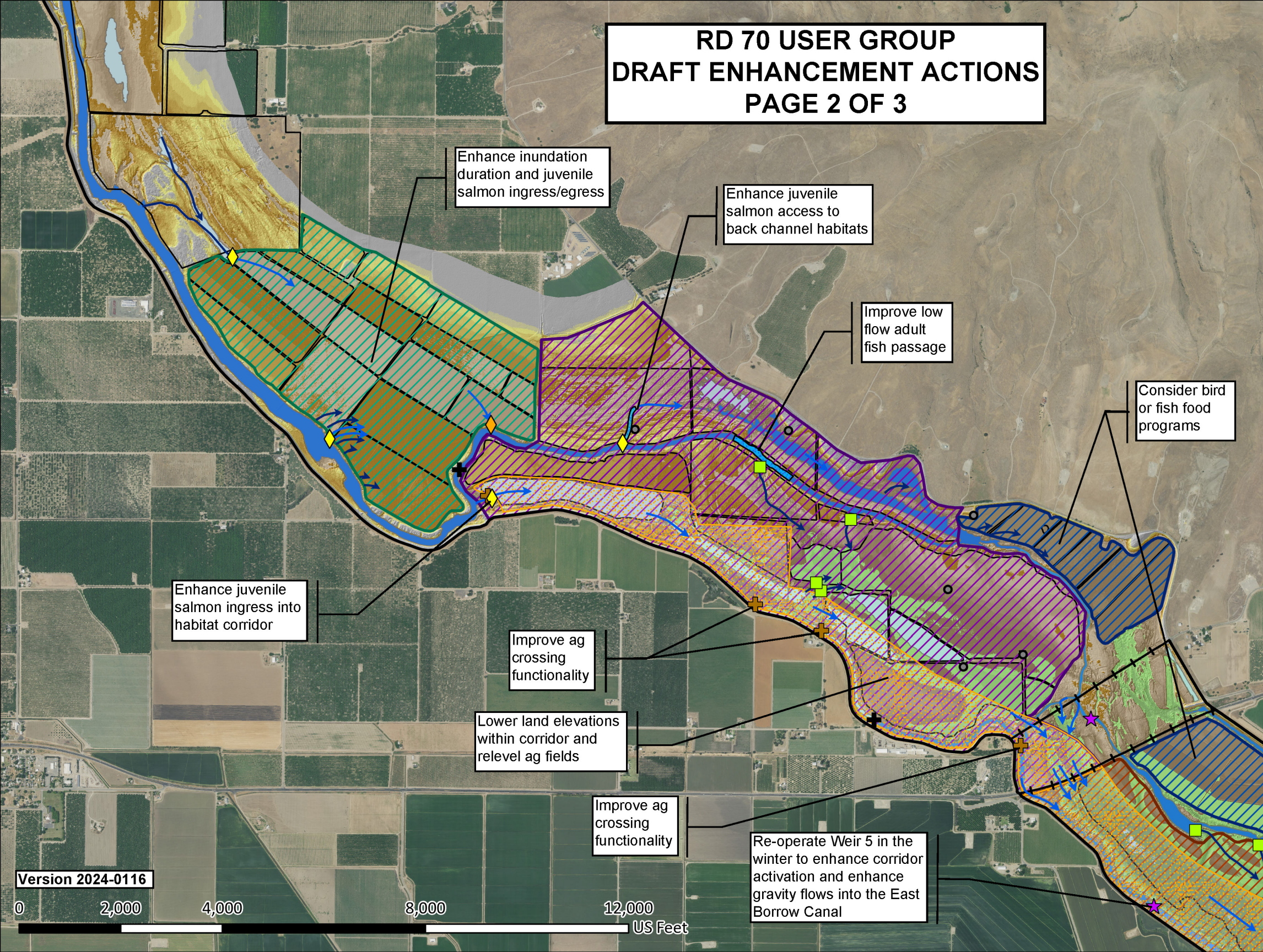
Concept Regions	
▨ 1	
▨ 2	
▨ 3	
▨ 4	
▨ 5	

Land Ownership	
□ Field Outlines	

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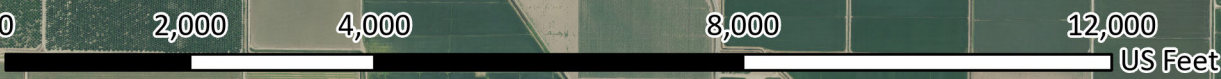
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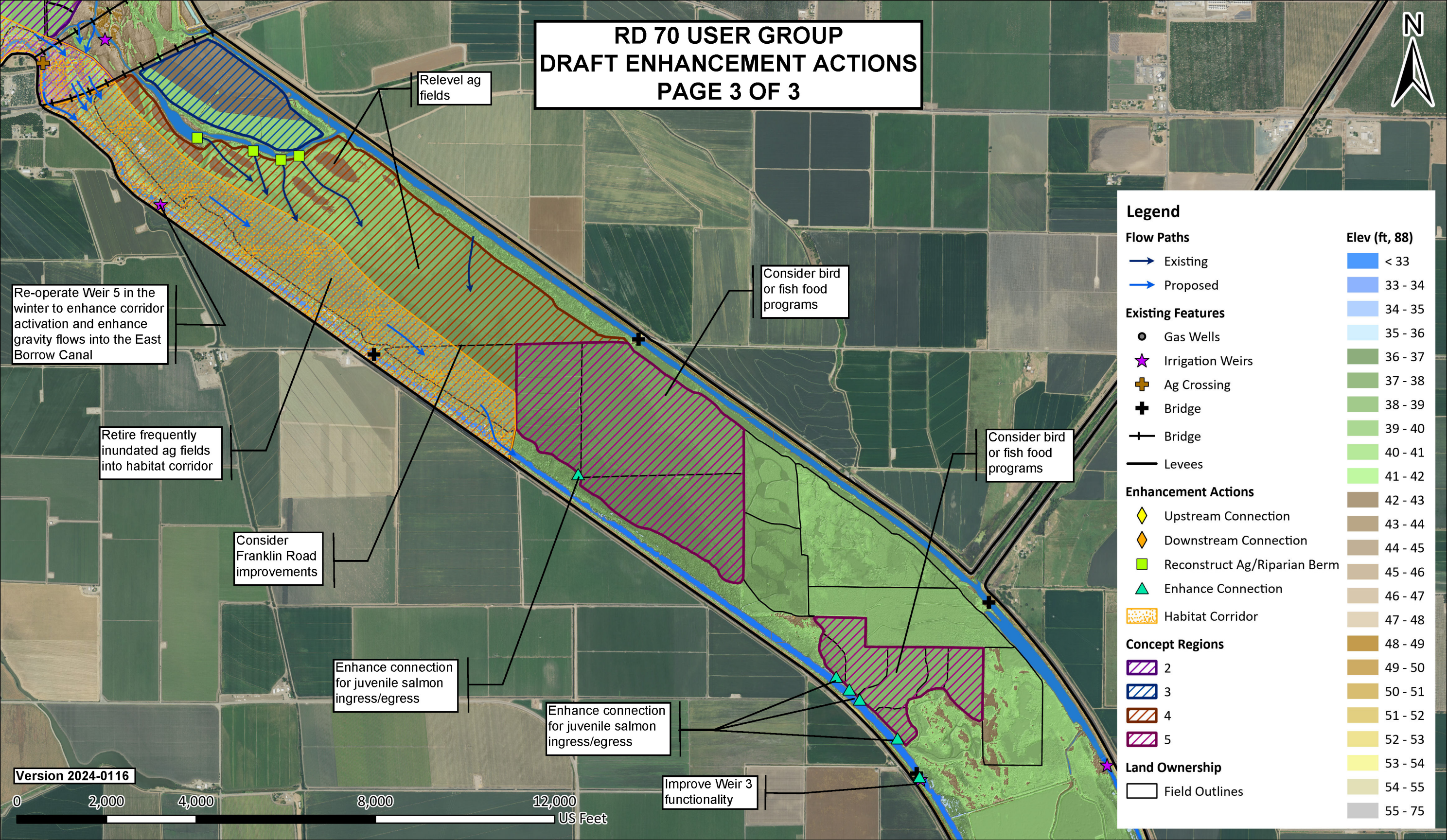
Legend

Flow Paths		Elev (ft, 88)	
	Existing		< 33
	Proposed		33 - 34
			34 - 35
			35 - 36
	Gas Wells		36 - 37
	Irrigation Weirs		37 - 38
	Ag Crossing		38 - 39
	Bridge		39 - 40
	Bridge		40 - 41
	Levees		41 - 42
	Upstream Connection		42 - 43
	Downstream Connection		43 - 44
	Reconstruct Ag/Riparian Berm		44 - 45
	Enhance Connection		45 - 46
	Habitat Corridor		46 - 47
	Channel Improvements		47 - 48
	Concept Region 1		48 - 49
	Concept Region 2		49 - 50
	Concept Region 3		50 - 51
	Concept Region 4		51 - 52
			52 - 53
			53 - 54
			54 - 55
			55 - 75
	Field Outlines		

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Legend

Flow Paths		Elev (ft, 88)
→	Existing	 < 33
→	Proposed	 33 - 34
		 34 - 35
		 35 - 36
		 36 - 37
		 37 - 38
		 38 - 39
		 39 - 40
		 40 - 41
		 41 - 42
		 42 - 43
		 43 - 44
		 44 - 45
		 45 - 46
		 46 - 47
		 47 - 48
		 48 - 49
		 49 - 50
		 50 - 51
		 51 - 52
		 52 - 53
		 53 - 54
		 54 - 55
		 55 - 75

Existing Features

- Gas Wells
- ★ Irrigation Weirs
- ⊕ Ag Crossing
- ⊕ Bridge
- ⊕ Bridge
- Levees

Enhancement Actions

- ◇ Upstream Connection
- ◇ Downstream Connection
- Reconstruct Ag/Riparian Berm
- ▲ Enhance Connection
- ▨ Habitat Corridor

Concept Regions

- ▨ 2
- ▨ 3
- ▨ 4
- ▨ 5

Land Ownership

- Field Outlines

Re-operate Weir 5 in the winter to enhance corridor activation and enhance gravity flows into the East Borrow Canal

Retire frequently inundated ag fields into habitat corridor

Consider Franklin Road improvements

Enhance connection for juvenile salmon ingress/egress

Enhance connection for juvenile salmon ingress/egress

Improve Weir 3 functionality

Relevel ag fields

Consider bird or fish food programs

Consider bird or fish food programs



May 2024

Evaluation Criteria: Upper Sutter Bypass

The purpose of this document is to provide evaluation criteria for the Floodplains Reimagined Steering Committee to evaluate the proposed projects for Floodplains Reimagined Technical Assistance.

The Steering Committee will evaluate the proposed project based on subjective evaluation of the criteria and give it one of the following grades:

1. Pass
2. Fail
3. Need more information

Highlighted in yellow below are the criteria met by California Department of Fish and Wildlife's request.

Steering Committee Meeting: May 15, 2024

Steering Committee Grade: Pass, Fail, Need Info

Funded planning projects must meet the following criteria:

a. Eligibility

Landowners of lands within the Floodplains Reimagined geographic scope are eligible to request technical assistance.

Landowners are defined as those who own or manage land and water in the geographic scope and may include:

- a. Owners of private farms or ranches
- b. Recreational hunting clubs and preserves
- c. Tribes
- d. NGO landowners
- e. Public Agency landowners
- f. Authorized representatives of landowners

b. Planning projects only – such as:

- a. Development of project concepts
- b. Proof of concept plans
- c. Preliminary engineering plans
- d. Research studies and pilot studies to inform planning
- e. Development of agreements between landowners and sponsoring agencies

c. Project Type (Potentially)

There will be no implementation projects such as construction or restoration.

- a. Floodplain reactivation projects
- b. Fish food production
- c. Removal of invasive plants
- d. Coordinated operations plan

- e. Modifying diversion infrastructure and/or operations
 - f. Modifying river connection infrastructure and/or operations
 - g. Creating new river connections
- d. Geographic scope – the land on which the project is proposed must be within the geographic scope of Floodplains Reimagined.
- e. Objectives – The purpose of the proposed project must meet one or more of the Floodplains Reimagined objectives as follows:
- a. Improve floodplain connectivity during the winter and shoulder seasons including October – May.
 - b. Planning to:
 - i. Convey water from the Sacramento River to the floodplain or surrogate agricultural floodplain.
 - ii. Drain water back into the Sacramento River.
 - iii. Hold water on the floodplain or surrogate agricultural floodplain.
 - iv. Protect neighboring properties from risk of inundation.
 - v. Permanent restoration of floodplain habitat and connectivity in marginal or underutilized lands
- f. Replicability
- a. Plans must be either replicable or the outcomes and lessons learned applicable to the rest of one of the following subregions within the geographic scope:
 - i. Butte Basin
 - ii. Sutter Bypass
 - iii. Colusa Basin
- g. Outcomes
- a. The funding must cover:
 - i. planning project deliverables.
 - b. The funding could cover:
 - i. development of prototype agreement between the landowner and sponsoring agency for restoration and inundation activities
 - c. The funding is not required to cover:
 - i. further analysis of the project as it relates to replicability.