Community Floodplain SOLUTIONS

Snohomish Community Floodplain Solutions

Integrated Floodplain Capital Project Development & Implementation Collaborative

Presentation for Salmon Habitat Restoration Knowledge Exchange Series

November 18, 2025

Floodplains by Design

Reducing risk, restoring rivers

Arlington farms and homes suffered significant damage in a record breaking flood that inundated the community of Silvana and cut off portions of State Route 530. (Photo Credit: Flow Sudo)

Today's floodplain challenges

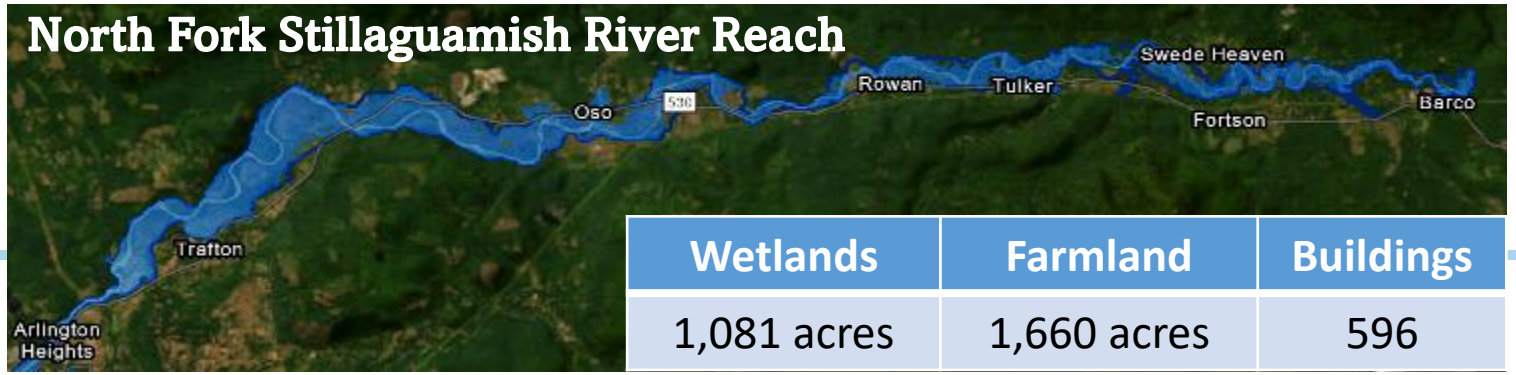
Agricultural land conversion/loss

Changing weather patterns

Decline of salmon population

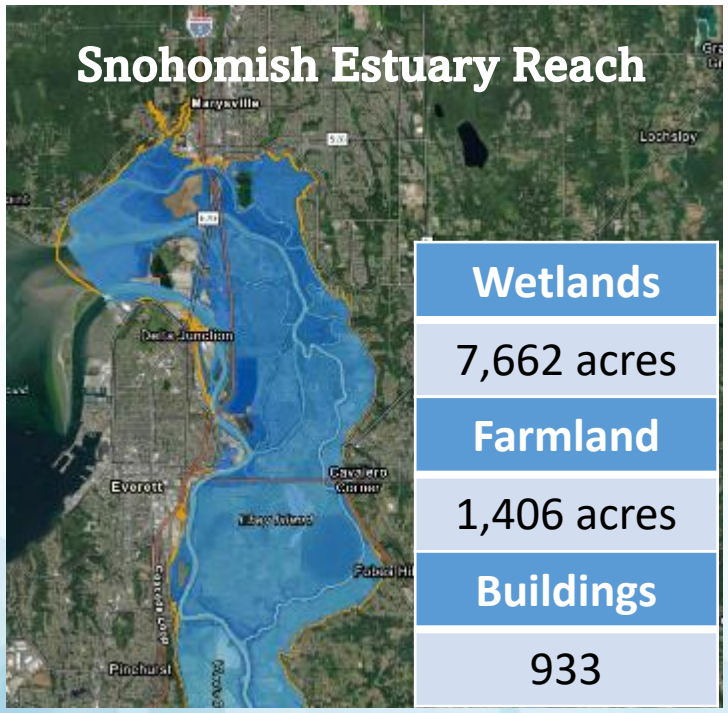
Large flood events

Wetlands	Farmland	Buildings
2,155 acres	12,233 acres	1,081



Wetlands	Farmland	Buildings
1,081 acres	1,660 acres	596

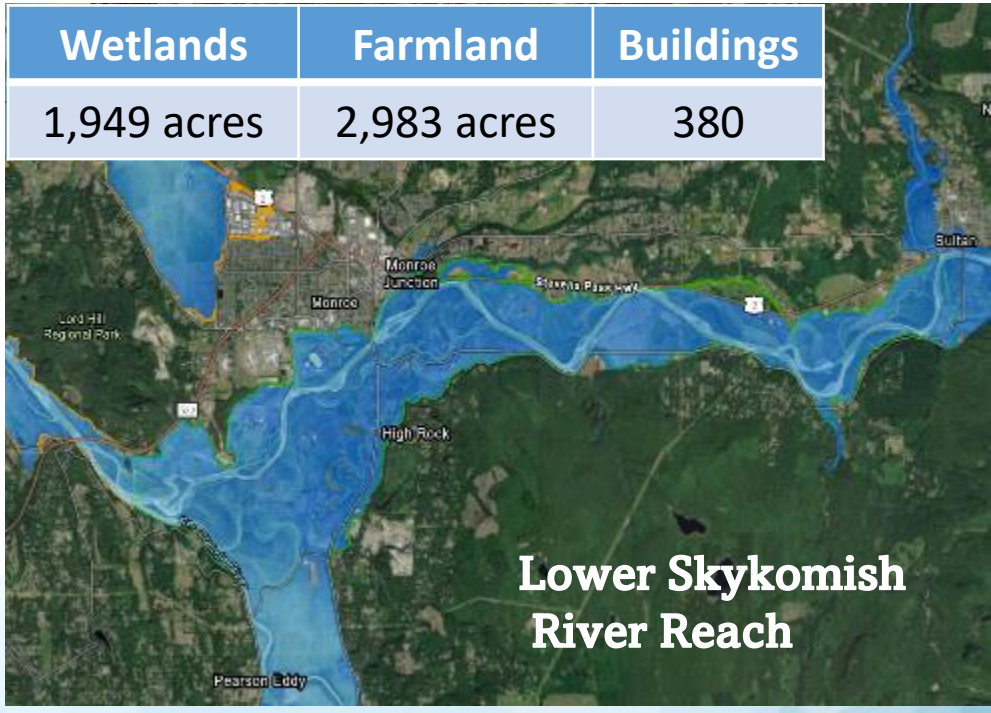
By 2050, the 1% annual chance flood is projected to occur…
- FOUR TIMES as often in Stillaguamish Reaches
- TWICE as often in Snohomish and Skykomish Reaches



Wetlands
7,662 acres
Farmland
1,406 acres
Buildings
933

Wetlands	Farmland	Buildings
2,732 acres	9,811 acres	759

Wetlands	Farmland	Buildings
1,949 acres	2,983 acres	380



What is CFS?

- Purpose: A collaborative effort aimed at helping lower flood risks for residents and the agricultural community **AND** increasing salmon habitat **WITHOUT** transferring the hazards to neighbors or downstream landowners

Vicinity and Project Benefits/Status

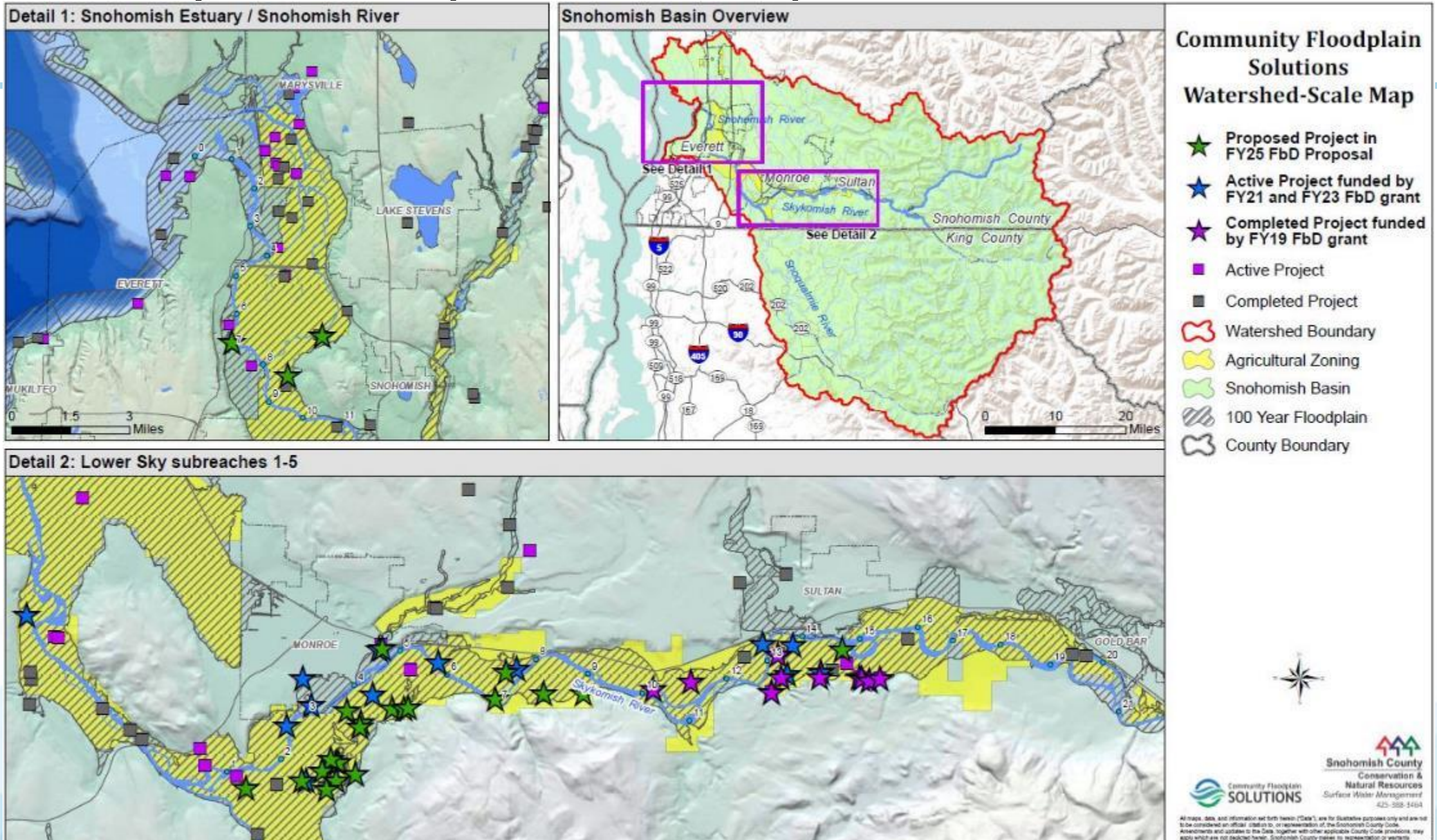
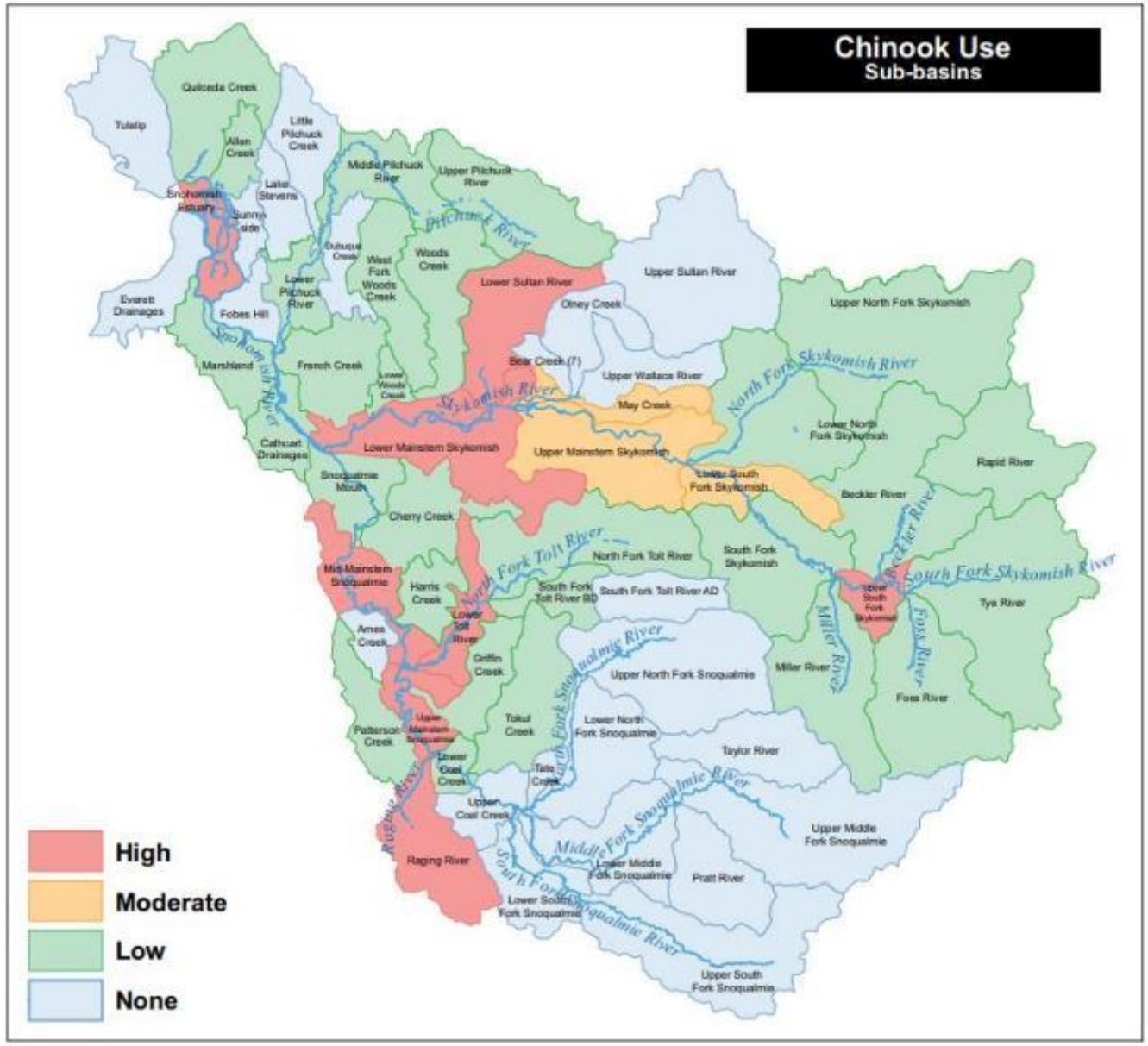
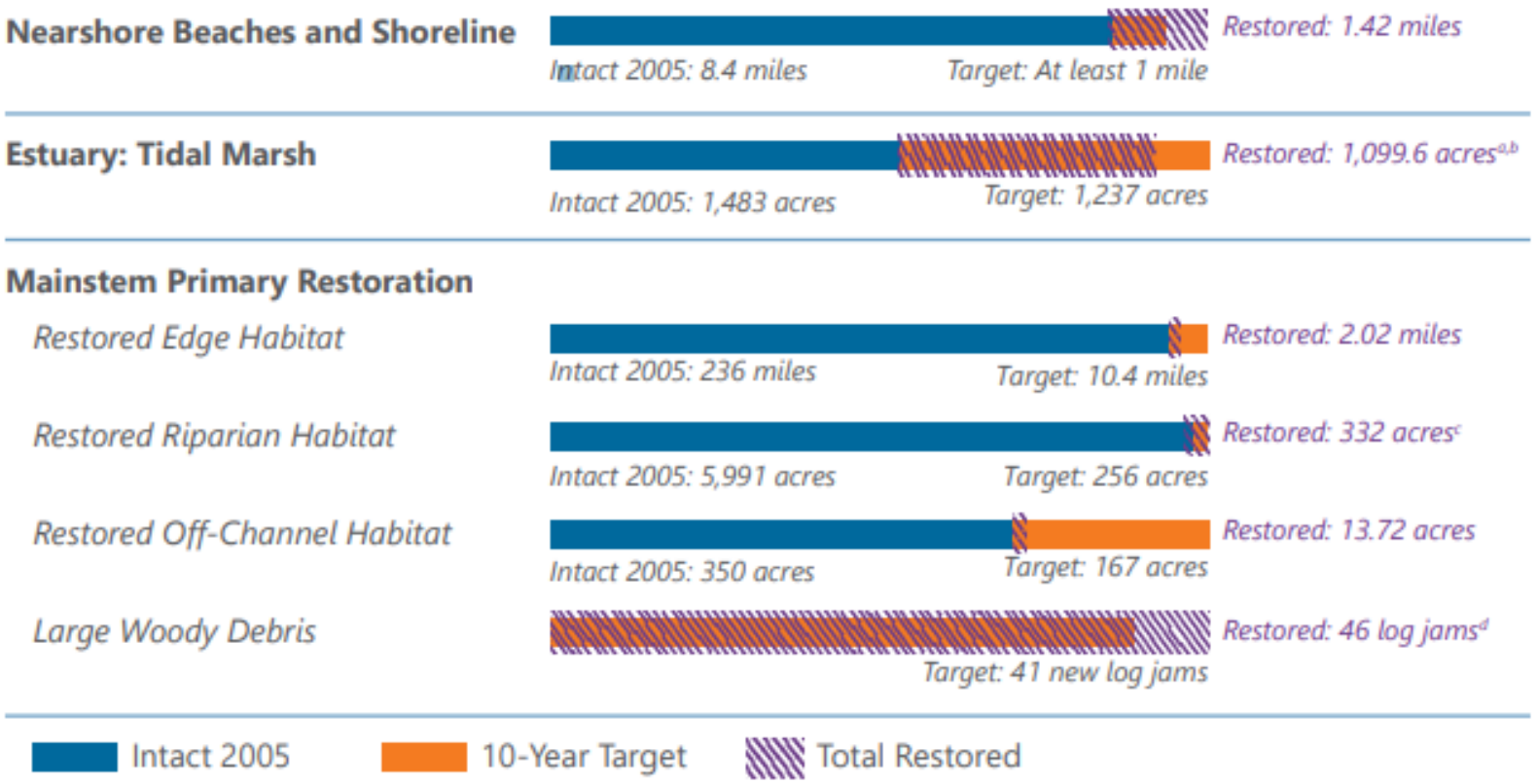


Figure 4.1
Chinook Distribution in Snohomish River Basin



Progress Relative to 10-Year Goals (Set in 2005)



Phase I – Complete – Summary of Accomplishments

CFS's Goals to protect and preserve land options include:

Protect up to **200 acres** of floodplain land for future restoration and long-term agriculture use

30% Complete 30% designs for an integrated floodway project and 3 agriculture resiliency projects making sure farmers have access to land

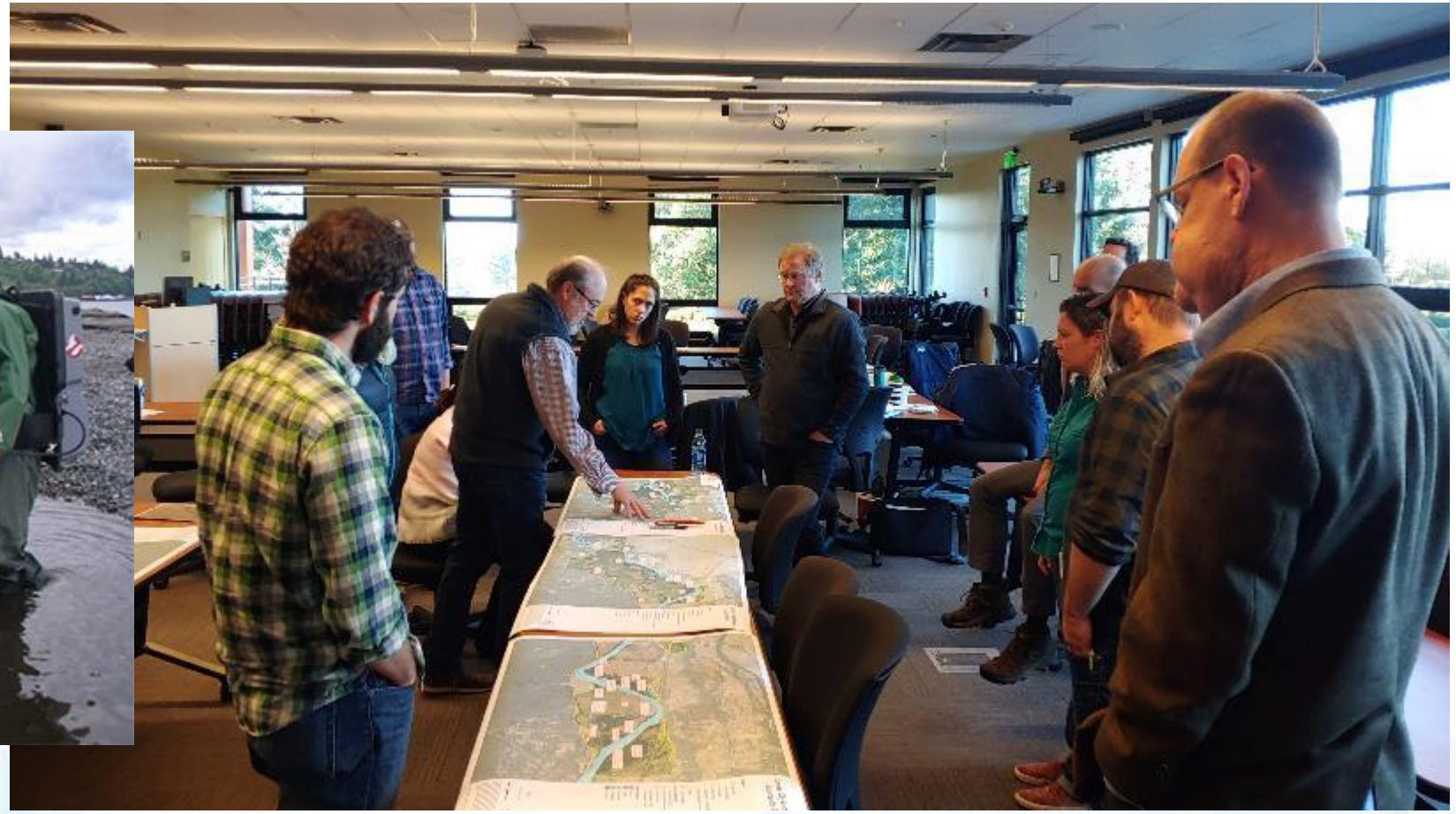
Reduce **flood-related** risk to people and public infrastructure

Restore up to **30 acres** of habitat along the Skykomish riverbanks

Model, assess and map future river conditions; educate and learn from residents

Remove 3 fish passage barriers and culverts, improving access to **2.6 miles** of stream habitat

Strategies and Actions Driven by Science and Data



Project Proponents

Snohomish County
Conservation &
Natural Resources
Surface Water Management

SNOHOMISH
CONSERVATION DISTRICT

WASHINGTON
FARMLAND
TRUST

TULALIP TRIBES

SNOHOMISH COUNTY
Conservation & Natural Resources

Agriculture

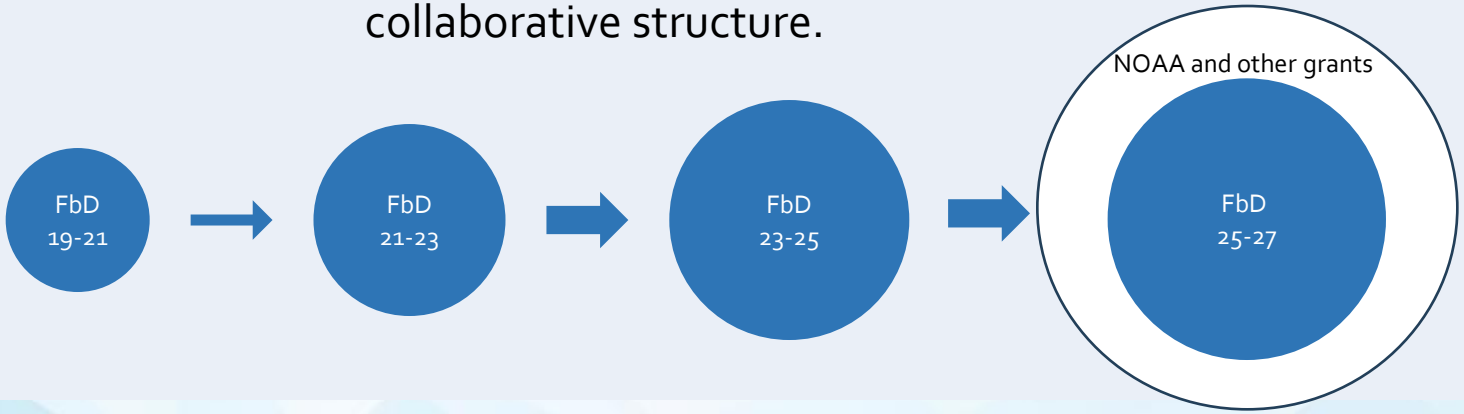
EVERETT

DUCKS
UNLIMITED

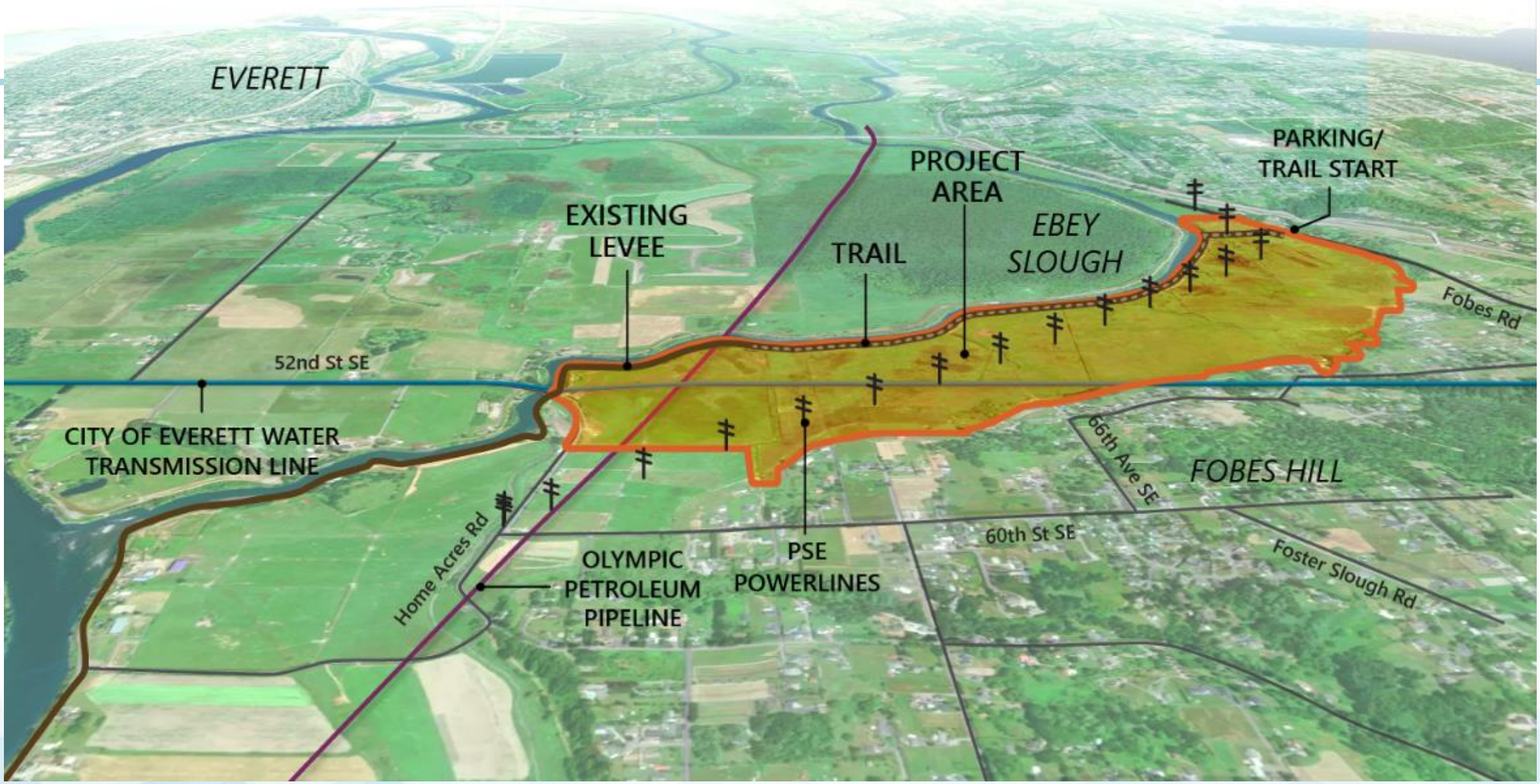
ADOPT A STREAM
FOUNDATION

2019-2021 FbD Grant	2021-2023 FbD Grant	2023-2025 FbD Grant	2025-2027 FbD Grant
Focus Sultan Reach	**Focus** Lower Skykomish River plus several actions in the Snohomish Estuary	**Focus** Lower Skykomish River, Snohomish Mainstem and Estuary, and watershed-scale actions	**Focus** Lower Skykomish River, Snohomish Mainstem and Estuary, and watershed-scale actions
3 Capital projects	**4** Capital projects	**11** Capital projects	**14** Capital projects
4 Project proponents	**4** Project proponents	**6** Project proponents	**8** Project proponents
Process Ad hoc collaboration	**Process** Collaborative Snohomish IT structure	**Process** Collaborative Snohomish IT structure	**Process** Collaborative Snohomish IT structure
Primarily project **feasibility and development, land conservation**	Primarily **feasibility, design, and land conservation**	Primarily **design and construction**	Primarily **construction, design, and evaluation**

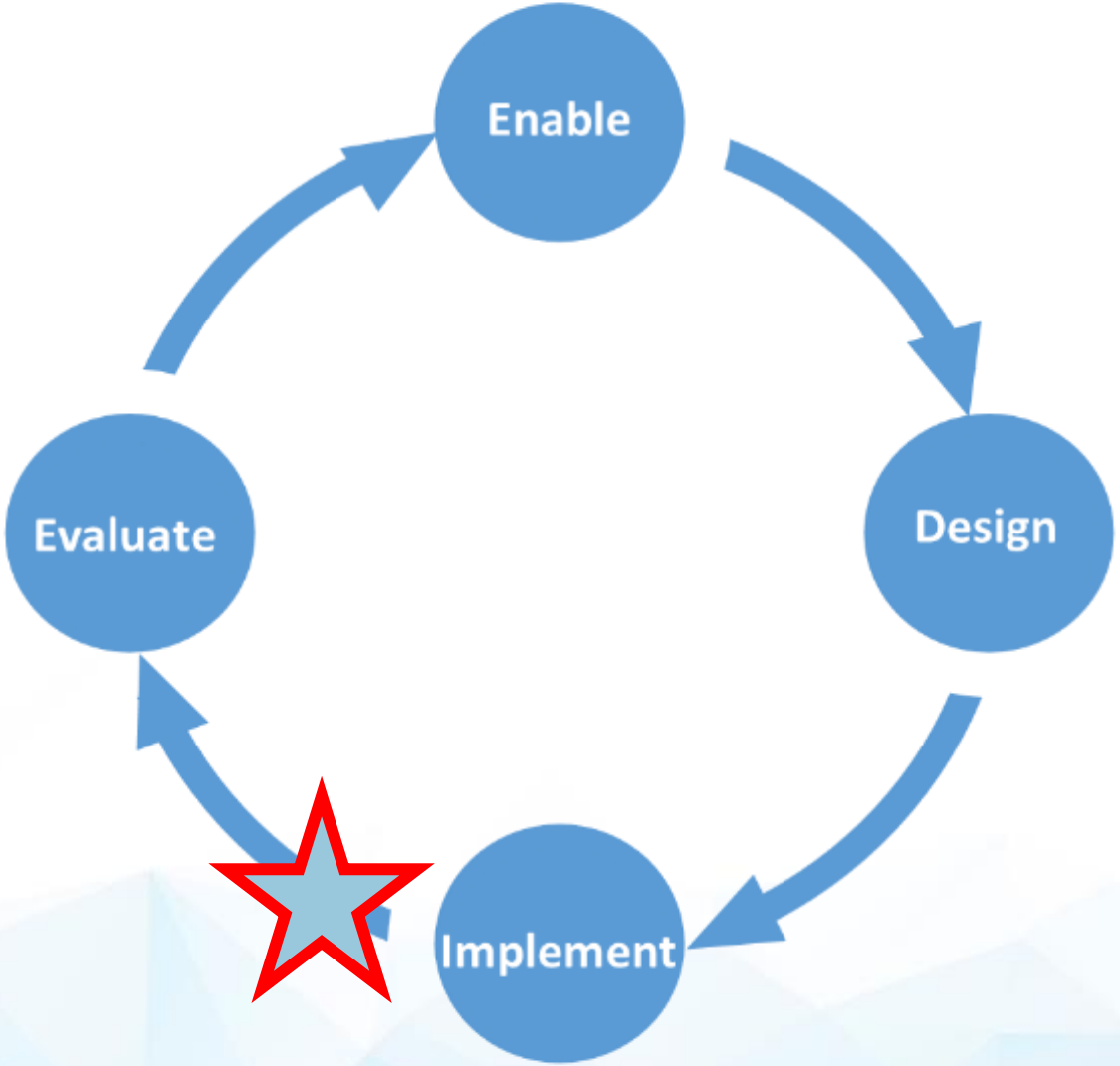
Since 2019, we have been increasing our geographic reach, project pipeline, and collaborative structure.



Chinook Marsh



CFS Program Implementation Process



Web Map – Decision Support Tool

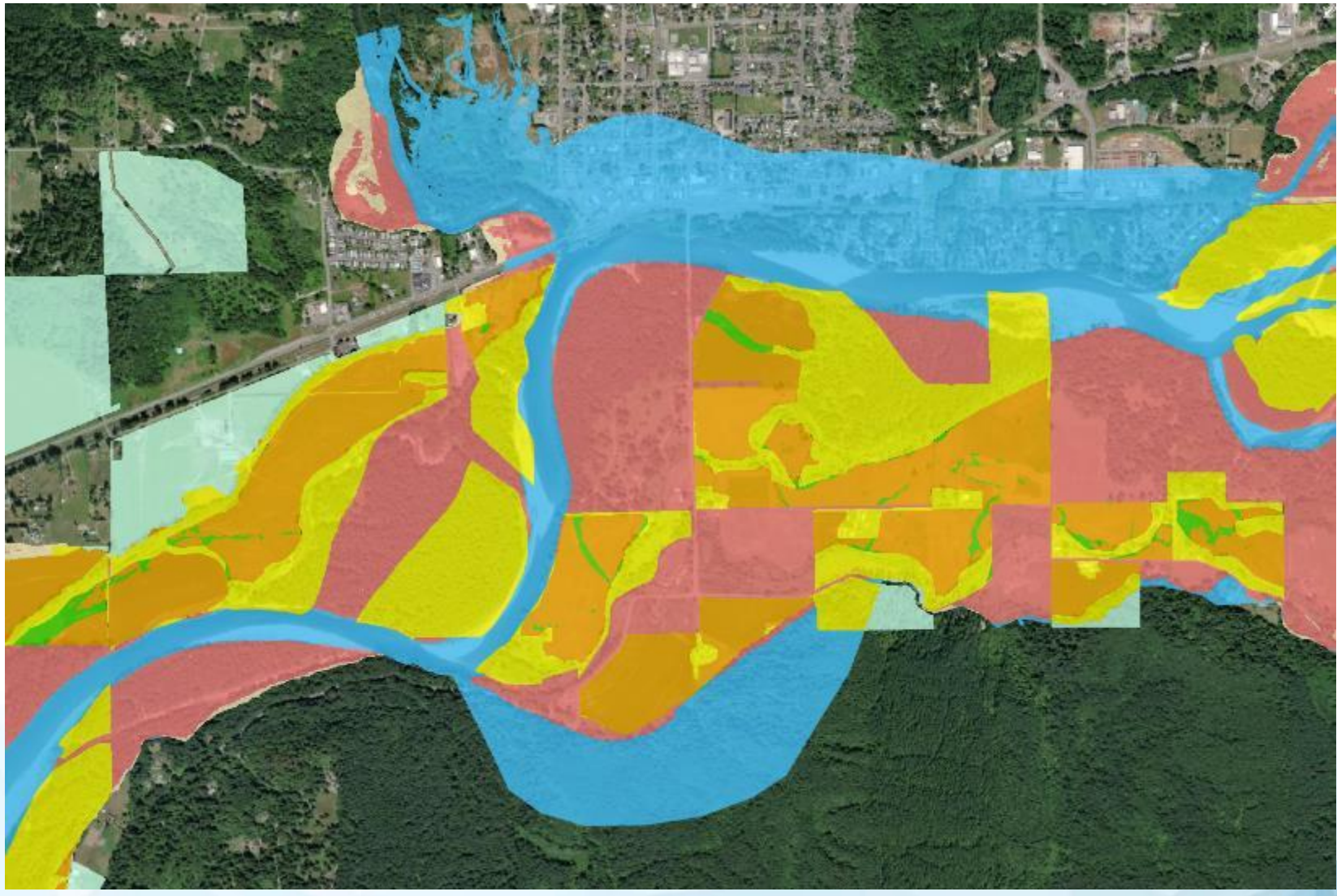
Legend

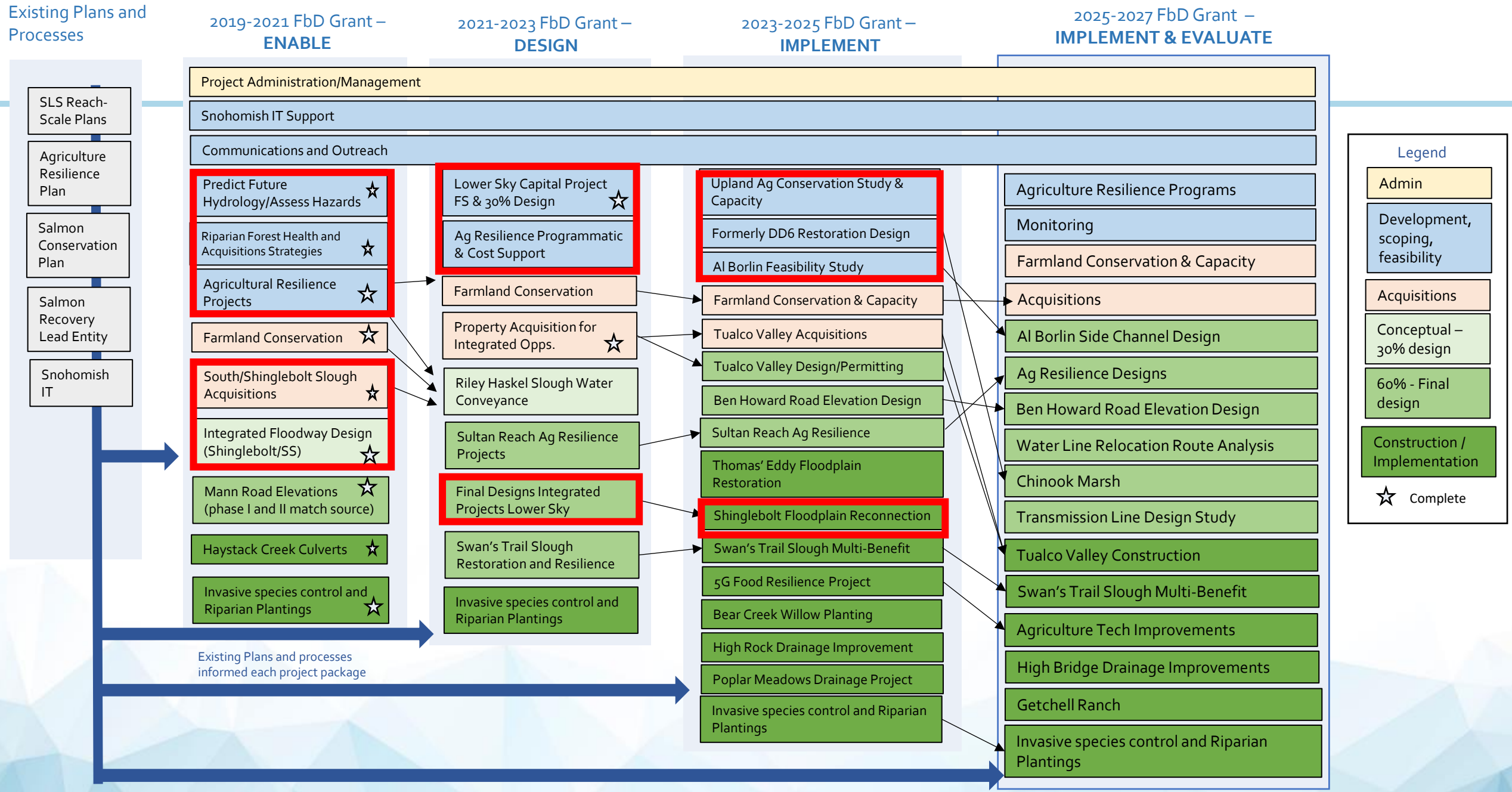
LowerSkyFloodplainLandStrategy

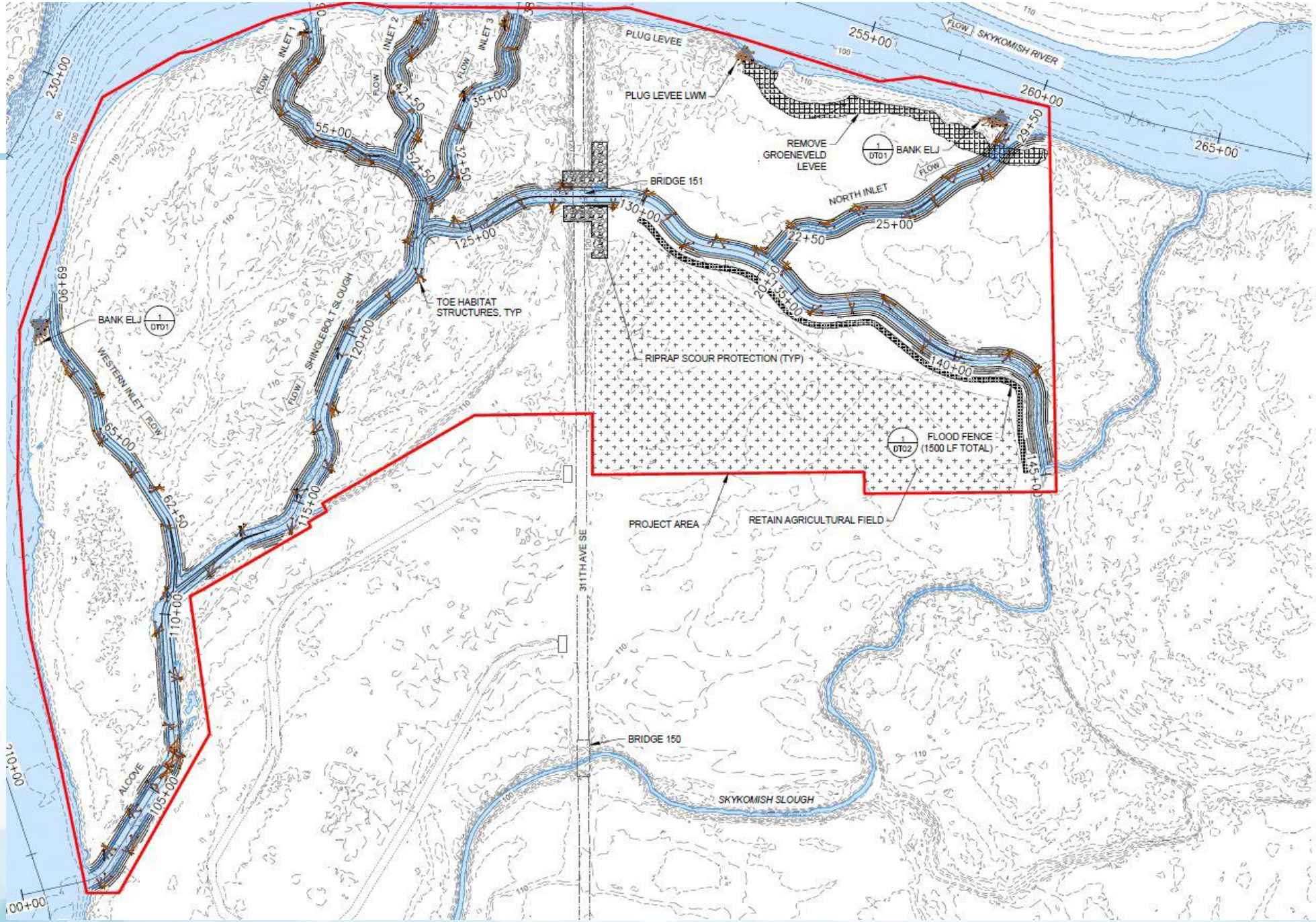
Integrated Criteria

Integrated Criteria

- High Priority to Remain Farmland
- High Priority for Salmon Recovery
- High Priority for Flood Risk Reduction
- High Priority for Salmon Recovery and Flood Risk Reduction
- High Priority for Multi Benefit Land Project - Not Actively Farmed
- High Priority for Multi Benefit Land Project - Substantial Flood Risk Agricultural Production
- High Priority for Multi Benefit Land Project




Existing Plans and Processes
2019-2021 FbD Grant – ENABLE
2021-2023 FbD Grant – DESIGN
2023-2025 FbD Grant – IMPLEMENT
2025-2027 FbD Grant – IMPLEMENT & EVALUATE
SLS Reach-Scale Plans
Agriculture Resilience Plan
Salmon Conservation Plan
Salmon Recovery Lead Entity
Snohomish IT
Project Administration/Management
Snohomish IT Support
Communications and Outreach
Predict Future Hydrology/Assess Hazards
Riparian Forest Health and Acquisitions Strategies
Agricultural Resilience Projects
Farmland Conservation
South/Shinglebolt Slough Acquisitions
Integrated Floodway Design (Shinglebolt/SS)
Mann Road Elevations (phase I and II match source)
Haystack Creek Culverts
Invasive species control and Riparian Plantings
Lower Sky Capital Project FS & 30% Design
Ag Resilience Programmatic & Cost Support
Farmland Conservation
Property Acquisition for Integrated Opps.
Riley Haskel Slough Water Conveyance
Sultan Reach Ag Resilience Projects
Final Designs Integrated Projects Lower Sky
Swan's Trail Slough Restoration and Resilience
Invasive species control and Riparian Plantings
Upland Ag Conservation Study & Capacity
Formerly DD6 Restoration Design
Al Borlin Feasibility Study
Farmland Conservation & Capacity
Tualco Valley Acquisitions
Tualco Valley Design/Permitting
Ben Howard Road Elevation Design
Sultan Reach Ag Resilience
Thomas' Eddy Floodplain Restoration
Shinglebolt Floodplain Reconnection
Swan's Trail Slough Multi-Benefit
5G Food Resilience Project
Bear Creek Willow Planting
High Rock Drainage Improvement
Poplar Meadows Drainage Project
Invasive species control and Riparian Plantings
Agriculture Resilience Programs
Monitoring
Farmland Conservation & Capacity
Acquisitions
Al Borlin Side Channel Design
Ag Resilience Designs
Ben Howard Road Elevation Design
Water Line Relocation Route Analysis
Chinook Marsh
Transmission Line Design Study
Tualco Valley Construction
Swan's Trail Slough Multi-Benefit
Agriculture Tech Improvements
High Bridge Drainage Improvements
Getchell Ranch
Invasive species control and Riparian Plantings
Existing Plans and processes informed each project package
Legend
Admin
Development, scoping, feasibility
Acquisitions
Conceptual – 30% design
60% - Final design
Construction / Implementation
Complete



LEGEND

- EXISTING MAJOR CONTOUR (10')
- EXISTING MINOR CONTOUR (2')
- PROPOSED MAJOR CONTOUR (10')
- PROPOSED MINOR CONTOUR (2')
- 1-YEAR FLOOD INUNDATION
- RIPRAP SCOUR PROTECTION
- LEVEE REMOVAL
- RETAINED AGRICULTURAL FIELD
- BANK ELJ
- INFRASTRUCTURE PROTECTION LWM
- TOE HABITAT STRUCTURE
- FLOODPLAIN FENCE

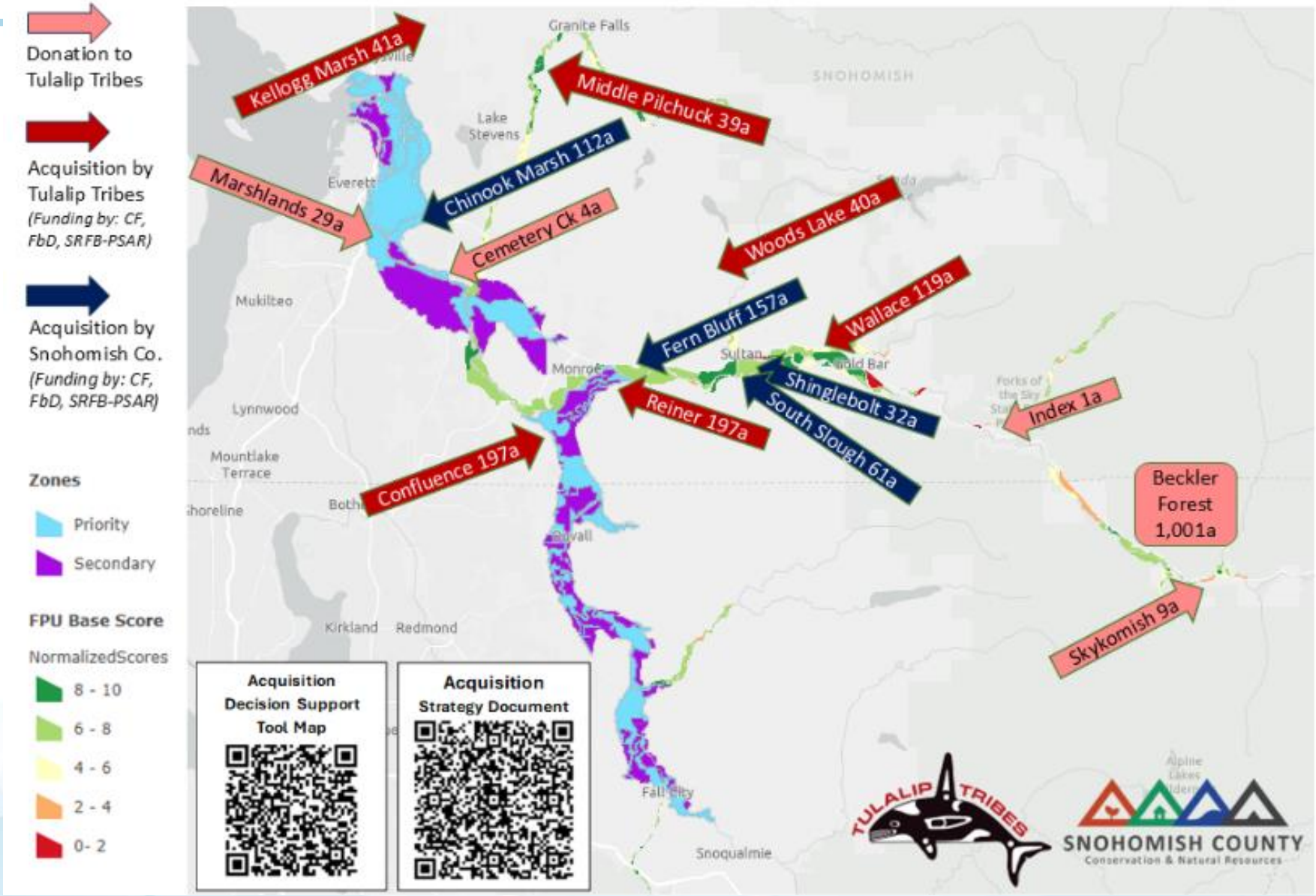
GENERAL SHEET NOTES

1. LIMITS OF INUNDATION SHOWN REFLECT MODELED CONDITIONS AT A 1-YEAR FLOOD EVENT (12,300 CFS).
2. SEE SHEET 5 FOR TYPICAL CROSS SECTIONS AND RIPRAP SCOUR PROTECTION DETAILS.
3. SEE SHEET 6 THROUGH 9 FOR CHANNEL PROFILES.
4. SEE SHEET 10 FOR PLANTING RESTORATION PLAN.
5. ALL TOE HABITAT STRUCTURES, FLOODPLAIN ROUGHNESS, AND ANY IN-STREAM WOOD ARE SHOWN IN APPROXIMATE LOCATIONS. EXACT WOOD PLACEMENT WILL BE REFINED.
6. THE ENTIRETY OF SHINGLEBOLT SLOUGH IS REGRADED TO A LOWER CHANNEL ELEVATION.

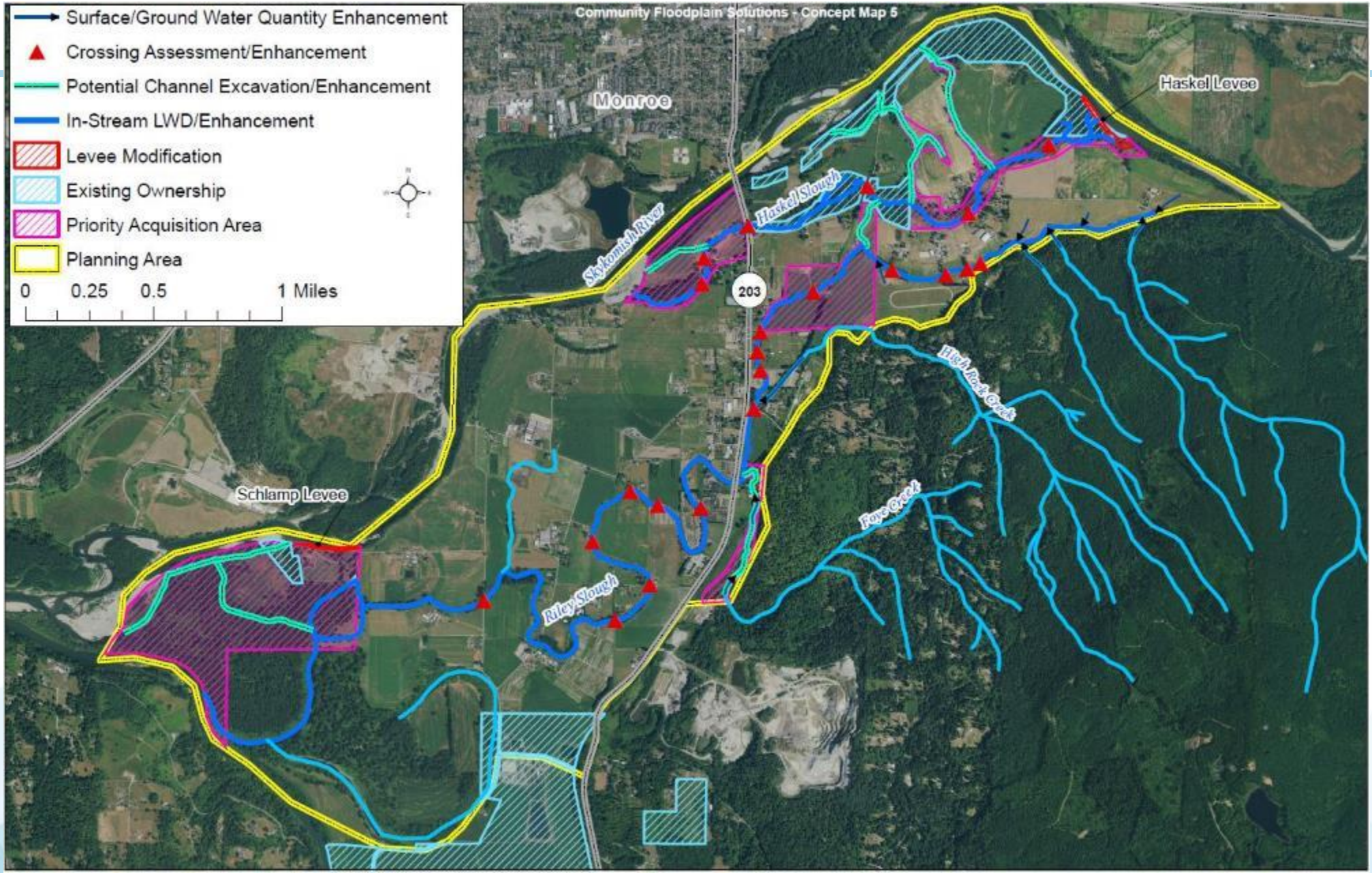
N

150 0 150 300
SCALE IN FEET

Lands Recently Conserved in the Snohomish Basin

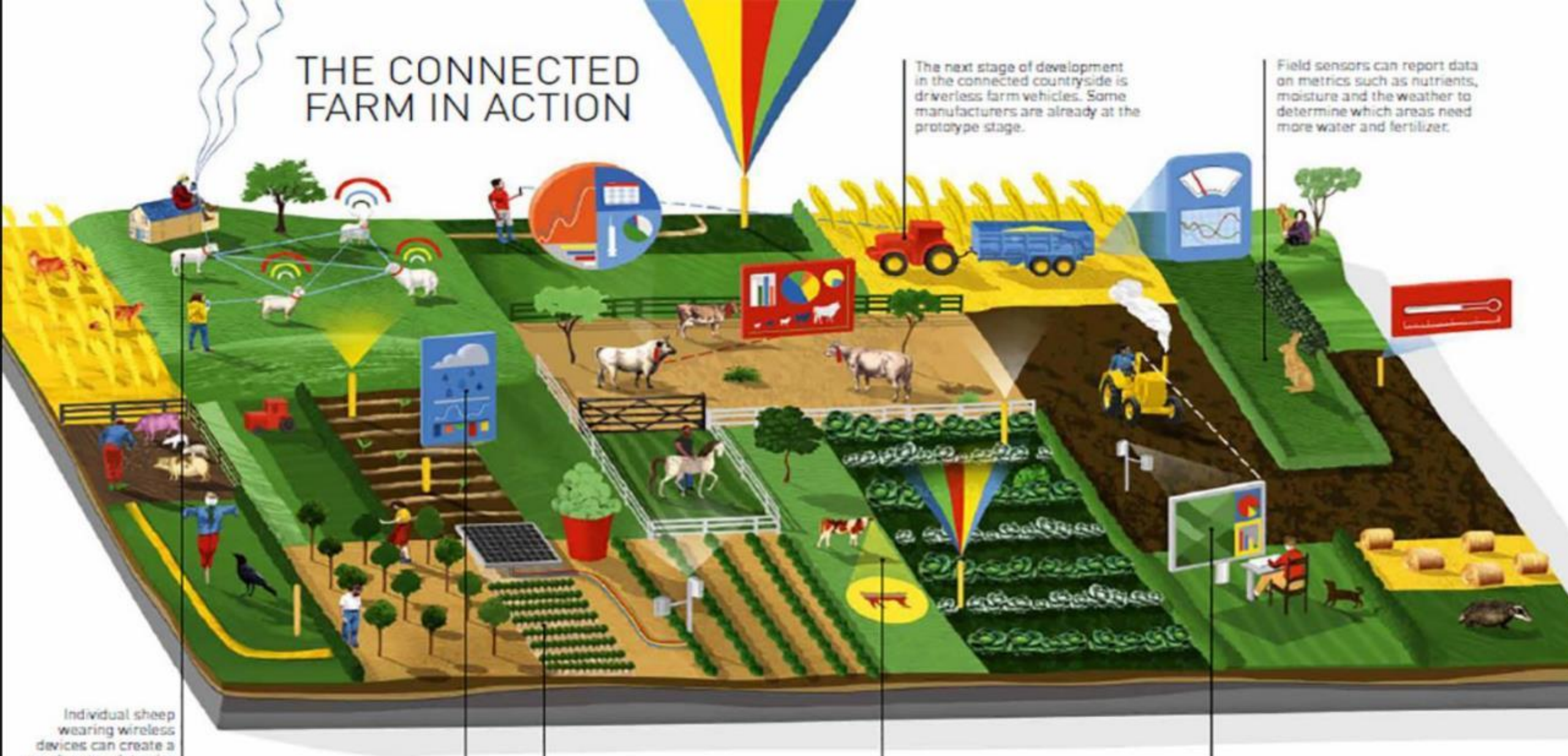


Tualco Valley Water Connectivity Project



The Roth Farm

THE CONNECTED FARM IN ACTION



The next stage of development in the connected countryside is driverless farm vehicles. Some manufacturers are already at the prototype stage.

Field sensors can report data on metrics such as nutrients, moisture and the weather to determine which areas need more water and fertilizer.

Individual sheep wearing wireless devices can create a mesh network to give them connectivity across areas where there's no mobile or Wi-Fi signal.

Farmers can map the density of seedlings and optimize sowing. They can even get recommendations on subcontractors that might be best placed for the job.

Viticulturists use sensors to measure the ambient temperature, humidity, atmospheric pressure and the wetness of leaves in vineyards.

Smart collars for cows use accelerometers to monitor how the animals move and can identify when a cow comes into heat or gets sick.

Farm vehicles equipped with telematics can report their location, fuel consumption and fertilizer supply to the farm office or a farmer's smartphone.

Agricultural Technology Improvements Program

QUESTIONS