



NORTHCOAST REGIONAL LAND TRUST

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# Wood Creek Restoration

*Presentation and Tour  
at Freshwater Farms Reserve*

April 25, 2025

To implement the Phase III of restoration on and adjacent to Freshwater Farms Reserve, **NRLT is proud to partner with:**

- Landowners Sean and Kathy O'Day of the Felt Ranch
- The Buckeye Conservancy
- California Department of Fish and Wildlife, Cannabis Restoration Grant Program
- Point Blue Conservation Science, Wildlife Conservation Board
- National Fish and Wildlife Foundation
- California State Coastal Conservancy
- Wiyot Tribe, Natural Resources Department
- California State Polytechnic University Humboldt, Fisheries Dept.
- and area experts and agencies, including Thomas Gast and Associates Environmental Consulting, GHD, Mike Love and Associates, and more

*The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the U.S. Government or the National Fish and Wildlife Foundation and its funding sources. Mention of trade names or commercial products does not constitute their endorsement by the U.S. Government, or the National Fish and Wildlife Foundation or its funding sources.*

## Schedule

*(all times approximate)*

**4 – 4:10pm** | Welcome + Sign in

**4:10 – 4:20pm** | Intro from NRLT's Executive Director, Dan Ehresman

**4:20 – 4:40pm** | Past Restoration (Phases I & II) by Mike Wallace, retired fisheries biologist & NRLT Board Member

**4:40 – 5:00pm** | Future Restoration (Phase III) by Lily Pendley, former NRLT Project Manager

**5 – 5:10pm** | Partner Perspectives

*\*Boot Up!\**

**5:20 – 6pm** | Restoration Site Walk Through and Q&A



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## Vision

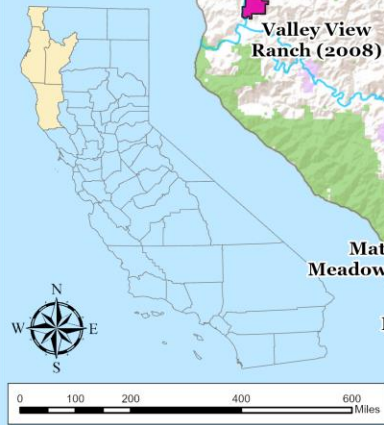
A sustainable community with a vibrant economy, resilient and productive landscapes and clean, abundant water.

## Mission

The Northcoast Regional Land Trust is dedicated to the protection and economic viability of working landscapes, farms, forests, and grazing lands, and to the preservation and protection of land for its natural, educational, scenic and historic values. We work with landowners on a voluntary basis to promote stewardship of Northern California's healthy and productive resource base, natural systems and quality of life.

## Northcoast Regional Land Trust Conservation Easements

- NRLT Completed CE
- NRLT CE in Progress
- ★ NRLT Property
- Additional CE's
- Public Lands
- Tribal Lands
- Highways
- Rivers
- Counties

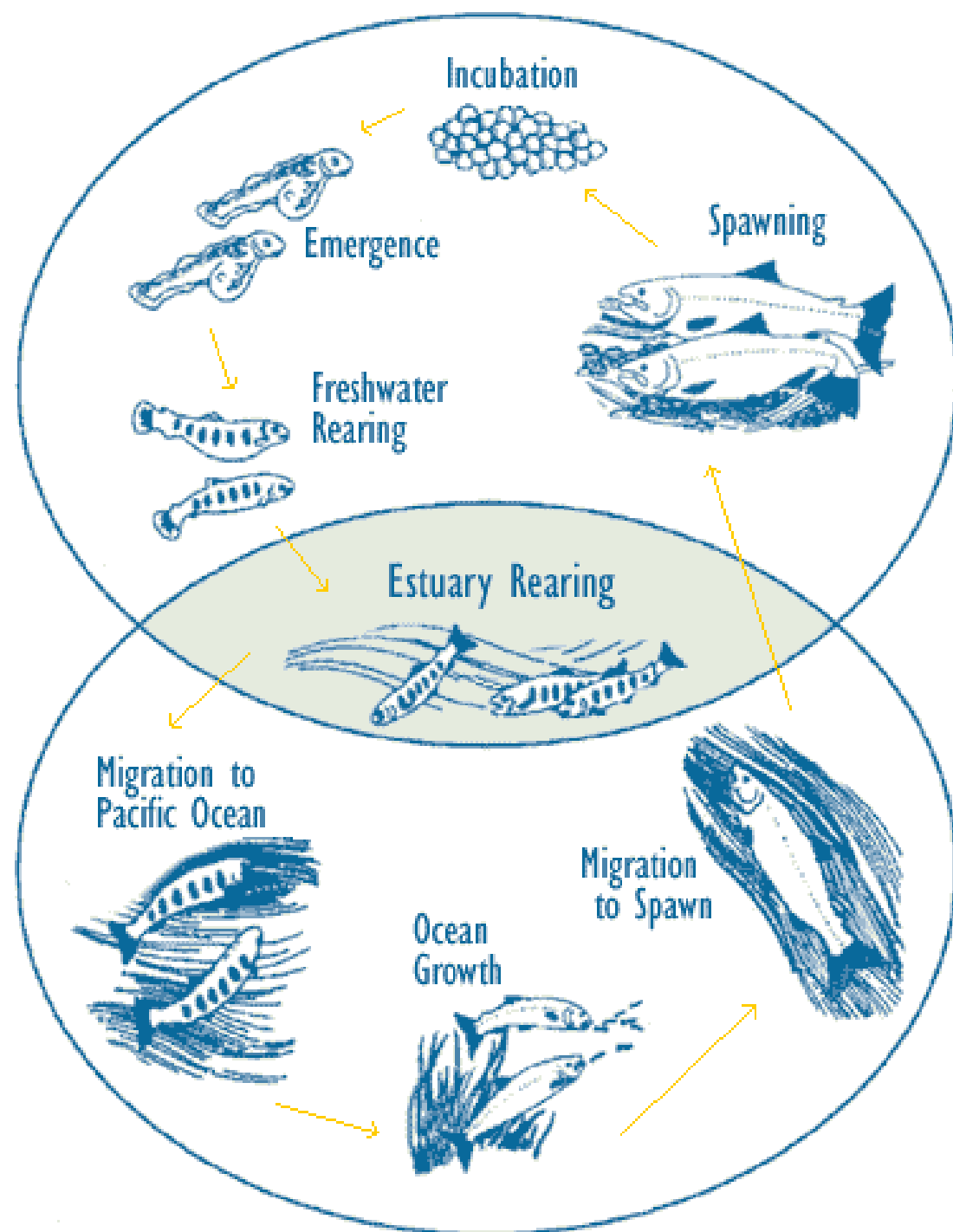


# What we do

1. Land Conservation (*conservation easements, acquisitions, etc.*)
2. Land Stewardship (*restoration, landowner support, volunteer trail stewards, etc.*)
3. Build Community for Conservation (*education and outreach programs*)

## Celebrating 25 Years!

- Since 2000, thanks to the support of so many, NRLT has worked with private landowners to **permanently protect over 65,000** acres of wild and working landscapes in Northwestern California.
- Through our **education and outreach programs we've connected with thousands of people**, deepening connections to the land, broadening NRLT's community of support, and engaging the next generation of land stewards.



# Basic Coho Salmon Life Histories

## Freshwater Creek

**Spring Fry Migrants**

**Fall-Winter Parr Migrants**

**Spring Smolt Migrants**

Apr-Jun

Nov-Feb

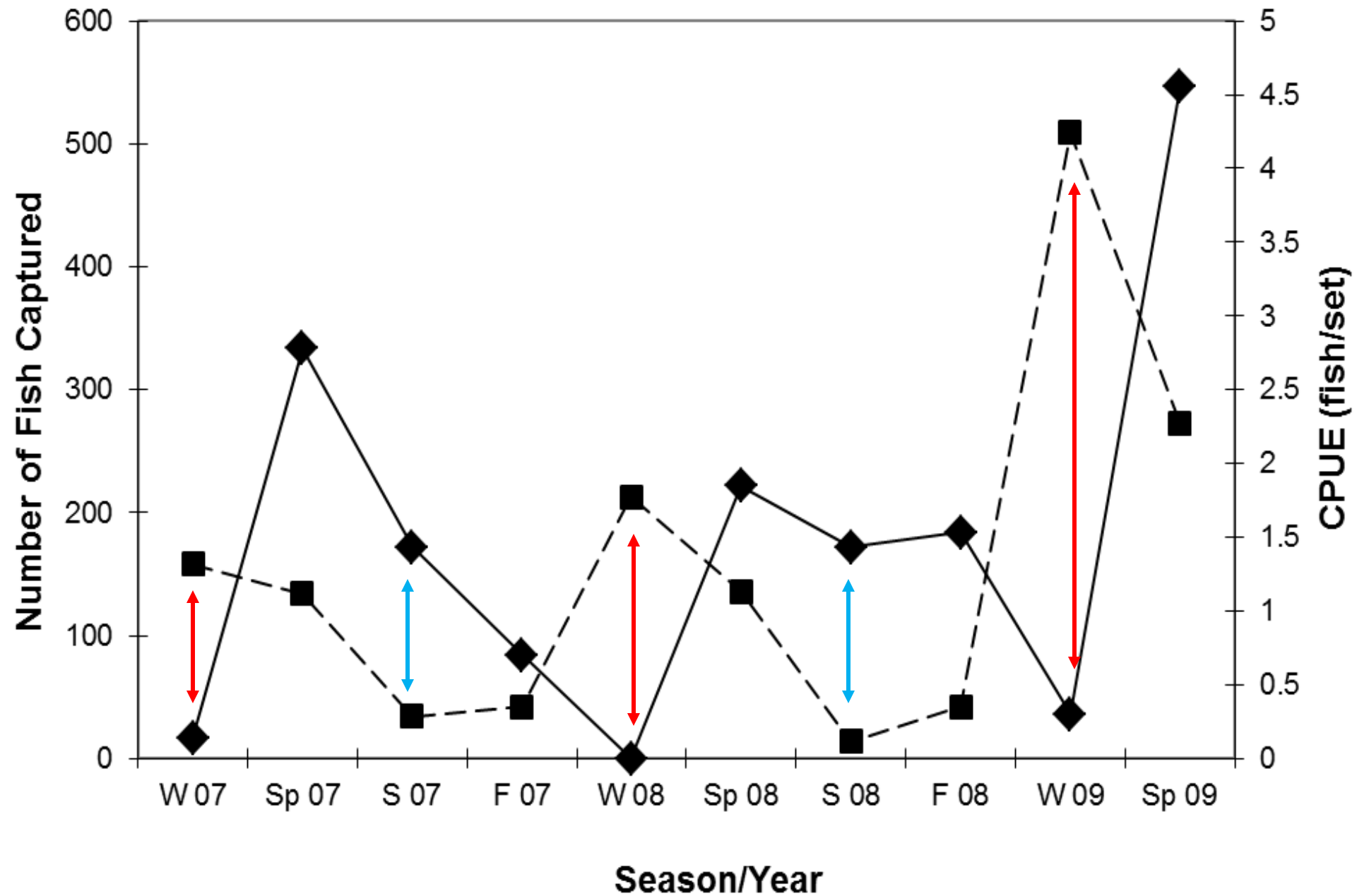
Apr-Jun

## Stream-Estuary Ecotone

Sep-Dec  
hypothesized

Mar-Jun

**Humboldt Bay/Ocean**

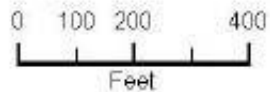
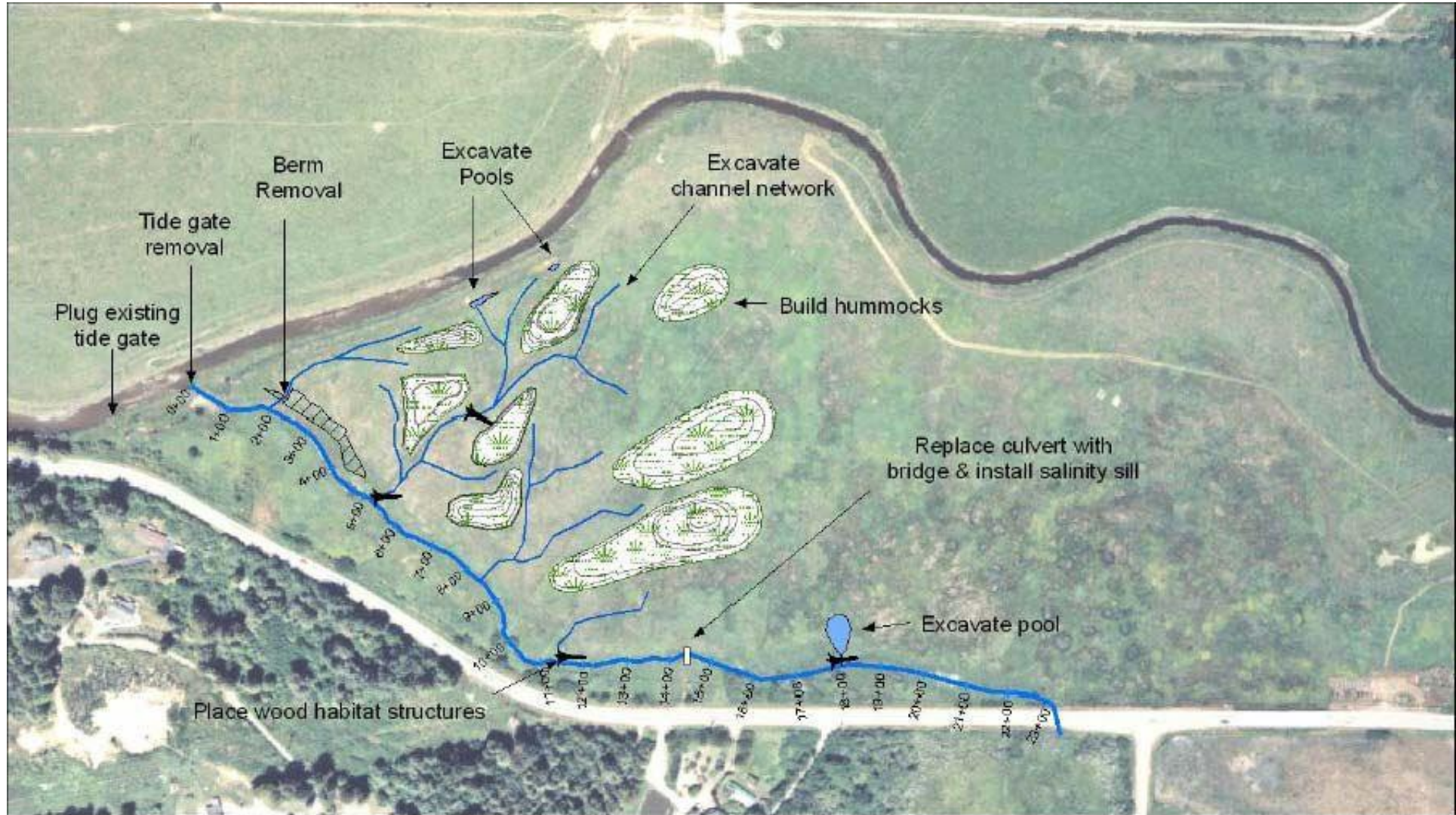


—■— Small Tribs    —◆— Large Tribs

# **Stream-Estuary Ecotone Importance to Coho Salmon**

- **Prolonged residence**
- **Used by multiple life stages**
- **Good growth/survival**
- **Substantial portion of population uses habitat**
- **Provides habitat during stressful periods**

# Wood Creek Project Design



- ▲ Wood habitat structure
- Hummock Contours (0.25 ft)
- Excavated channels
- Wood Creek
- ▨ Hummock Extent
- ▨ Berm Removal
- Excavated pools

2009



2010



Wood Creek Pond

2013



2014



## Origin of PIT tagged juvenile coho salmon tagged in Freshwater Creek basin detected at Wood Creek pond antennas, 2010-2015

<b>Fish Origin</b>	<b>2010</b>	<b>10/11</b>	<b>11/12</b>	<b>12/13</b>	<b>13/14</b>	<b>14/15</b>
<b>Stream Estuary Ecotone</b>	7	1	-	1	0	1
<b>Lower Mainstem Freshwater Creek</b>	11	6	26	2	0	6
<b>Middle Mainstem Freshwater Creek</b>	-	11	16	1	1	4
<b>Upper Mainstem Freshwater Creek</b>	7	6	12	4	0	4
<b>Little Freshwater Creek</b>	12	-	-	-	0	-
<b>Cloney Gulch</b>	9	4	6	4	0	1
<b>South Fork Freshwater Creek</b>	-	0	10	2	0	1
<b>Freshwater Creek (total)</b>	46	28	70	14	1	17
<b>Wood Creek Pond</b>	74	8	199	42	5	2
<b>Wood Creek</b>	27	19	20	11	11	13
<b>Ryan Slough/Creek</b>	0	0	7	2	0	0
<b>Freshwater Creek Slough</b>	5	0	8	6	0	2
<b>HFAC Weir</b>	1	0	2	0	4	1
<b>Estuary Ecotone (total)</b>	107	27	236	61	20	18
<b>Grand Total</b>	153	55	306	75	21	35

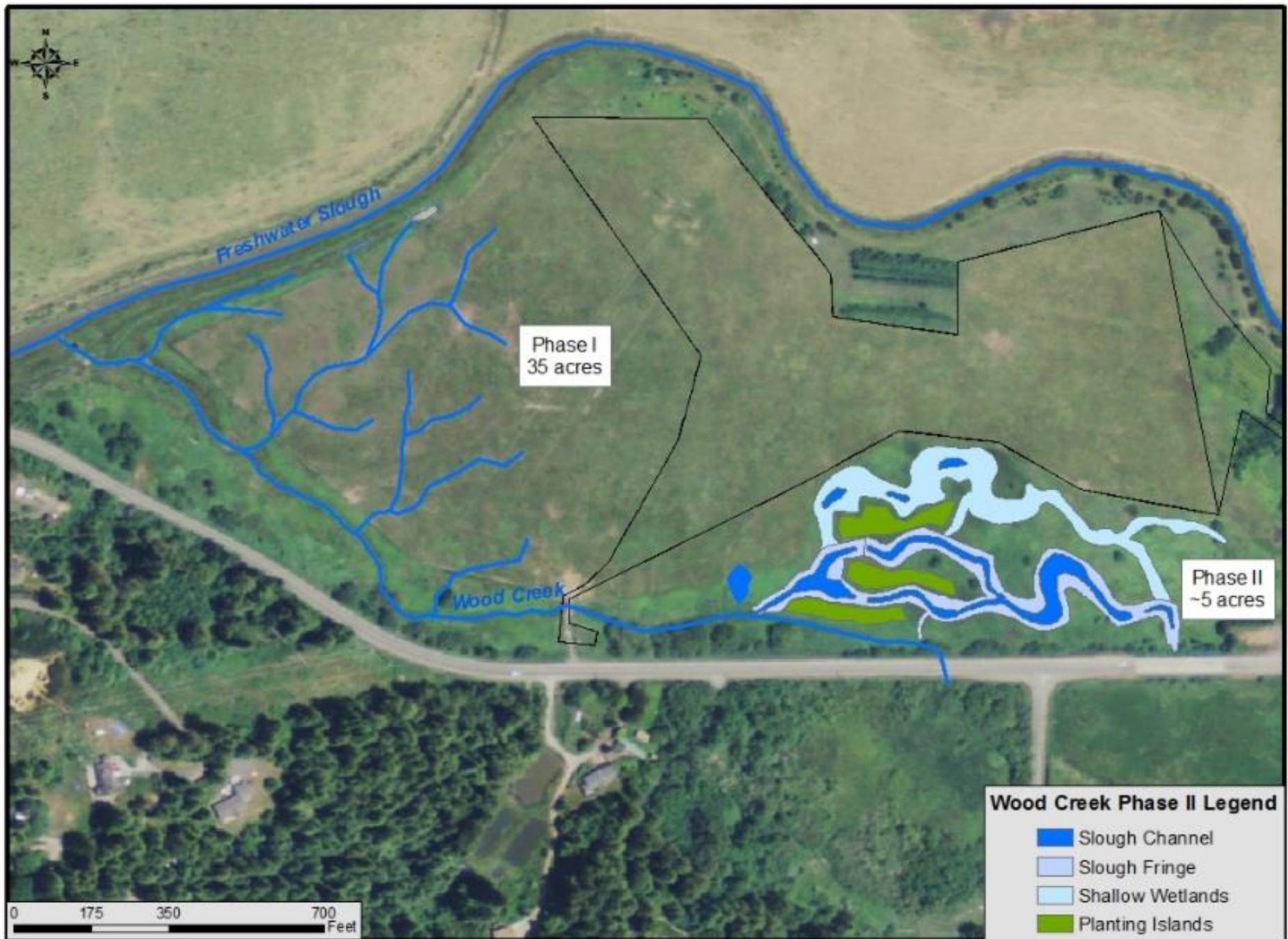


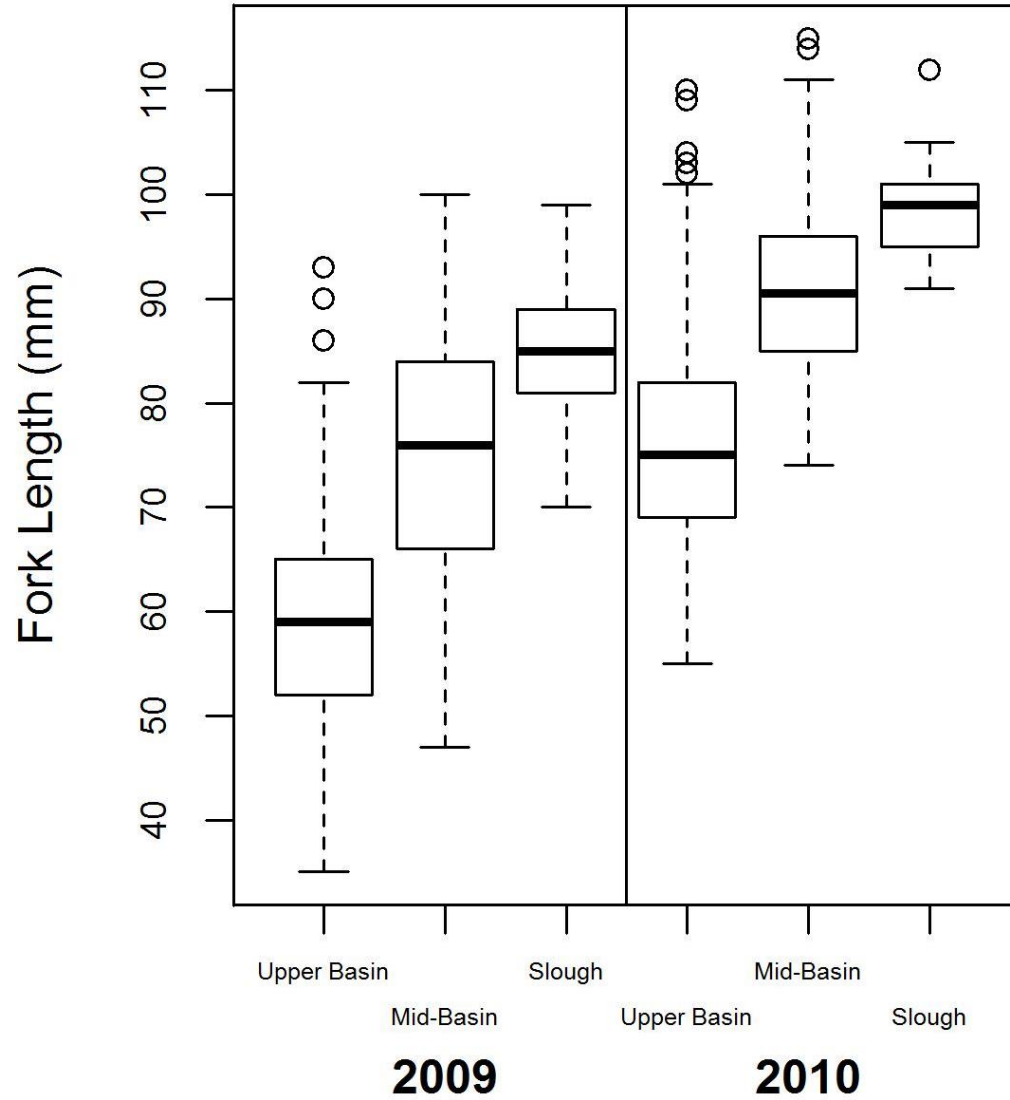
Table 21. Origin of PIT tagged juvenile Coho Salmon tagged in Freshwater Creek basin detected at Wood Creek pond antennas during January to September 2010, October 2010 to October 2011, October 2011 to July 2012, September 2012 through August 2013, and September 2013 through August 2014, September 2014 to August 2015, and September 2015 through August 2016, and Wood Creek Phase 2 antennas September 2016 to August 2017.

\*Wood Creek Phase 2 restoration sites

\*\* Wood Creek Phase 1 restoration sites

Fish Origin	2010	10/11	11/12	12/13	13/14	14/15	15/16	16/17
Stream Estuary Ecotone	7	1	-	1	0	1	3	6
Lower Mainstem Freshwater Cr	11	6	26	2	0	6	1	11
Middle Mainstem Freshwater Cr	-	11	16	1	1	4	8	11
Upper Mainstem Freshwater Cr	7	6	12	4	0	4	1	8
Little Freshwater Creek	12	-	-	-	-	-	-	-
Cloney Gulch	9	4	6	4	0	1	3	6
South Fork Freshwater Creek	-	0	10	2	0	1	6	6
Freshwater Creek (total)	46	28	70	14	1	17	22	48
Wood Creek Pond	74	8	199	42	5	2	3	270*
Wood Creek	27	19	20	11	11	13	2	41**
Ryan Slough/Creek	0	0	7	3	0	0	0	1
Freshwater Creek Slough	5	0	8	6	0	2	5	25
HFAC Weir	1	0	2	0	4	1	0	1
Estuary Ecotone (total)	107	27	236	62	20	18	10	338
Grand Total	153	55	306	76	21	35	32	386

# Size of Sub-Yearling Coho in the fall Freshwater Cr



# Growth Rate of Juvenile Coho Salmon Ponds vs. Stream (Feb-May)

Location	Year	Pond Growth Rate	Stream Growth Rate
Wood Creek	2013-2015	0.39	0.28
Martin Slough	2015	0.48	0.21
Jacoby Creek	2016;14/15	0.28	0.12
Salmon Creek	2013-2015	0.82	n/a
Freshwater Sl	2013-2015	n/a	0.18-0.31
Ryan Slough	2013-2015	n/a	0.19-0.42

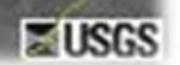


Photo by Thomas Dunklin



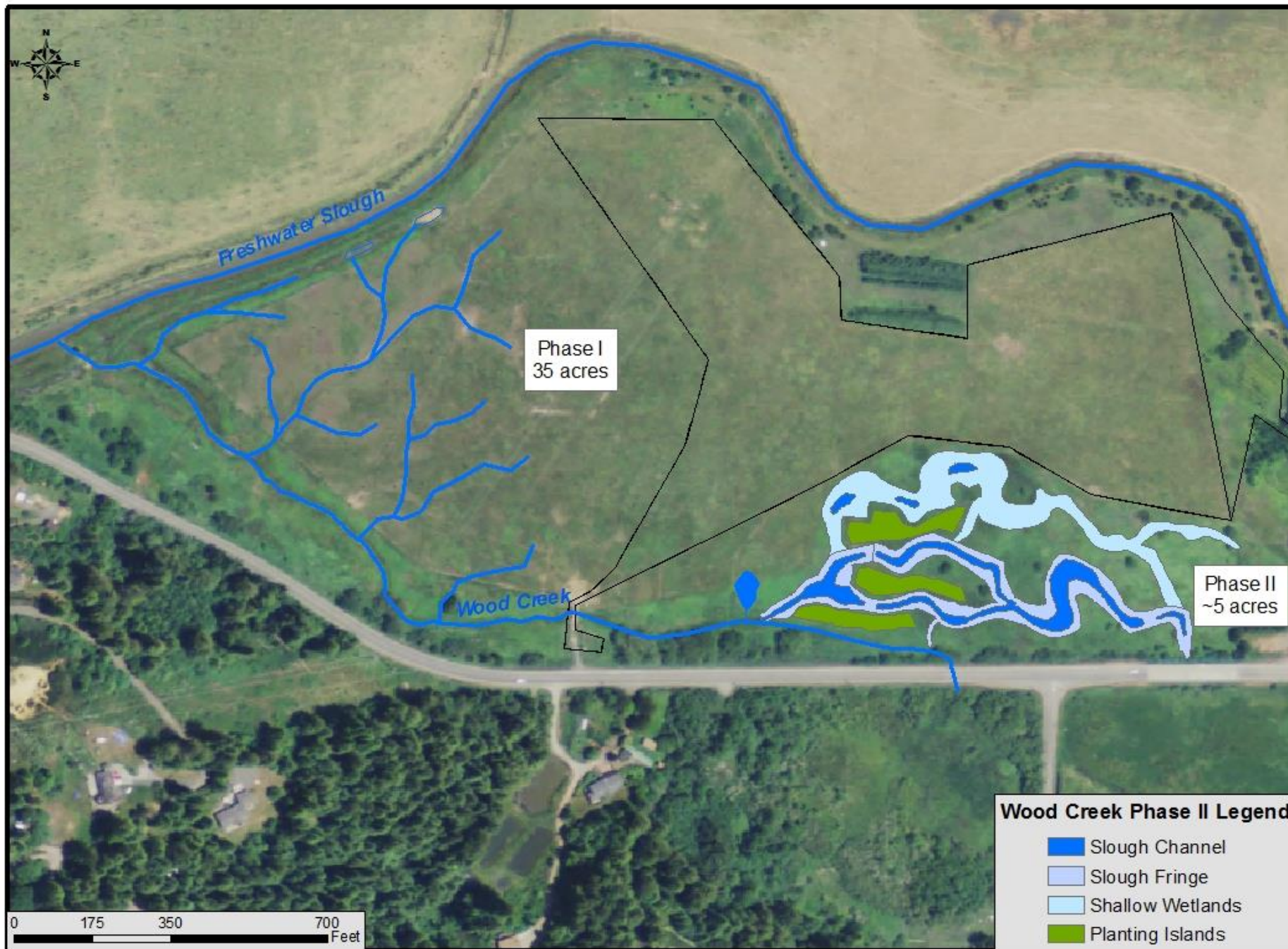


*Freshwater Farms Reserve – Wetlands Diked and Drained for Agriculture (1993)*





*Freshwater Farms Reserve – Wetlands Reconnected and Restored (2017/2018)*





Existing Freshwater Creek  
Overflow Bridge

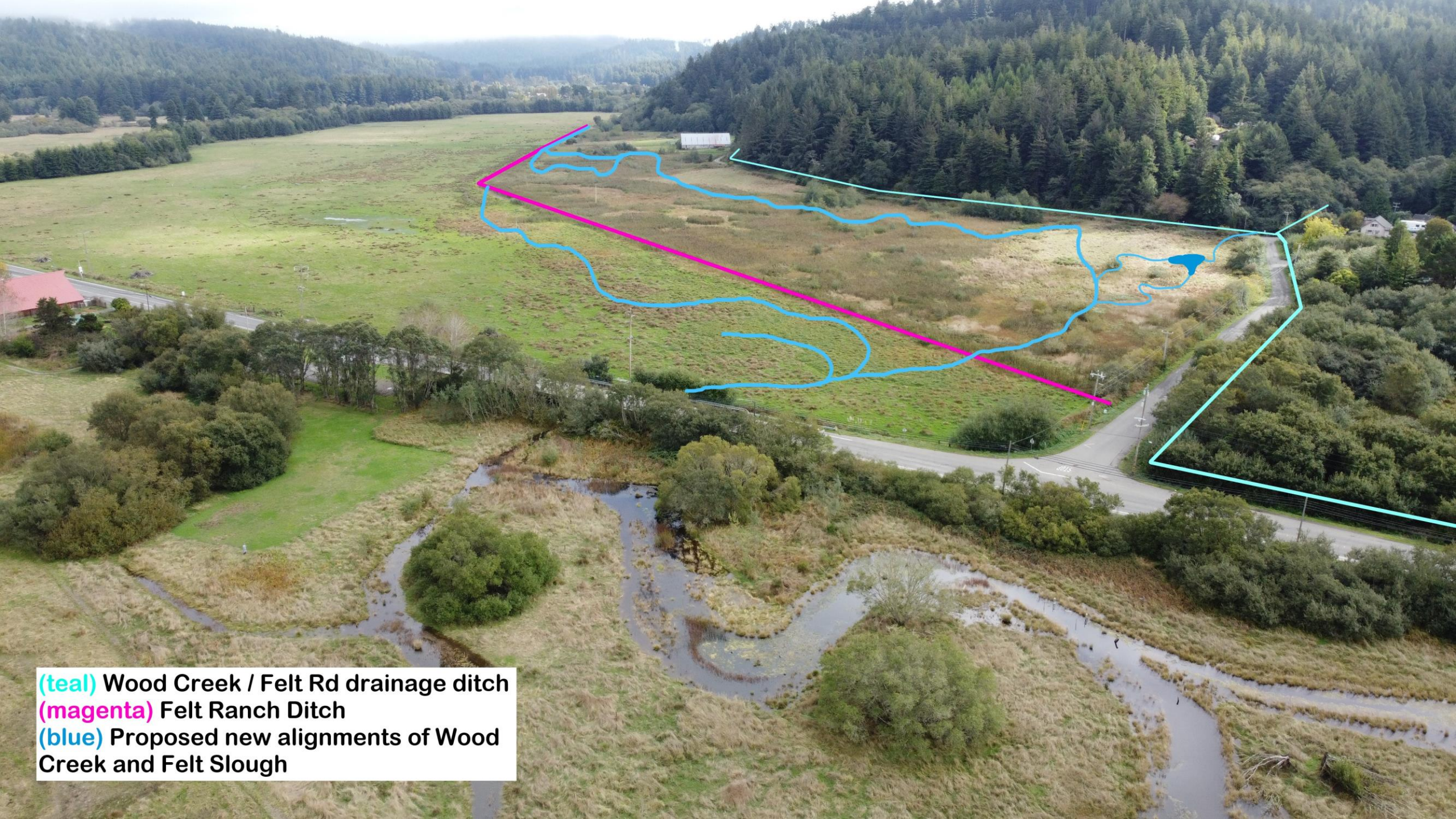
Freshwater Creek

Phase III Project Area

Phase II – Phase III  
Tie-in Locations

Myrtle Ave.

NRLT Freshwater Farms Reserve  
Wood Creek Phase II Project



**(teal)** Wood Creek / Felt Rd drainage ditch  
**(magenta)** Felt Ranch Ditch  
**(blue)** Proposed new alignments of Wood Creek and Felt Slough



## Want to get involved or learn more?

Email [info@ncrlt.org](mailto:info@ncrlt.org) to **sign up for NRLT's email list**- write "Volunteer" in the message if you are also interested in volunteering.

Find **updated information** on [www.NCRLT.org](http://www.NCRLT.org) *News and Announcements*, or in our biannual newsletter. If you're not already on our mailing list, you can join by sending your mailing address to [info@ncrlt.org](mailto:info@ncrlt.org).

**Support our work!** Donate on our website or by scanning the QR code (right) to help NRLT continue supporting, protecting, and restoring wild and working lands in our region.

