



***TENMILE LAKES' BASIN
PARTNERSHIP'S***

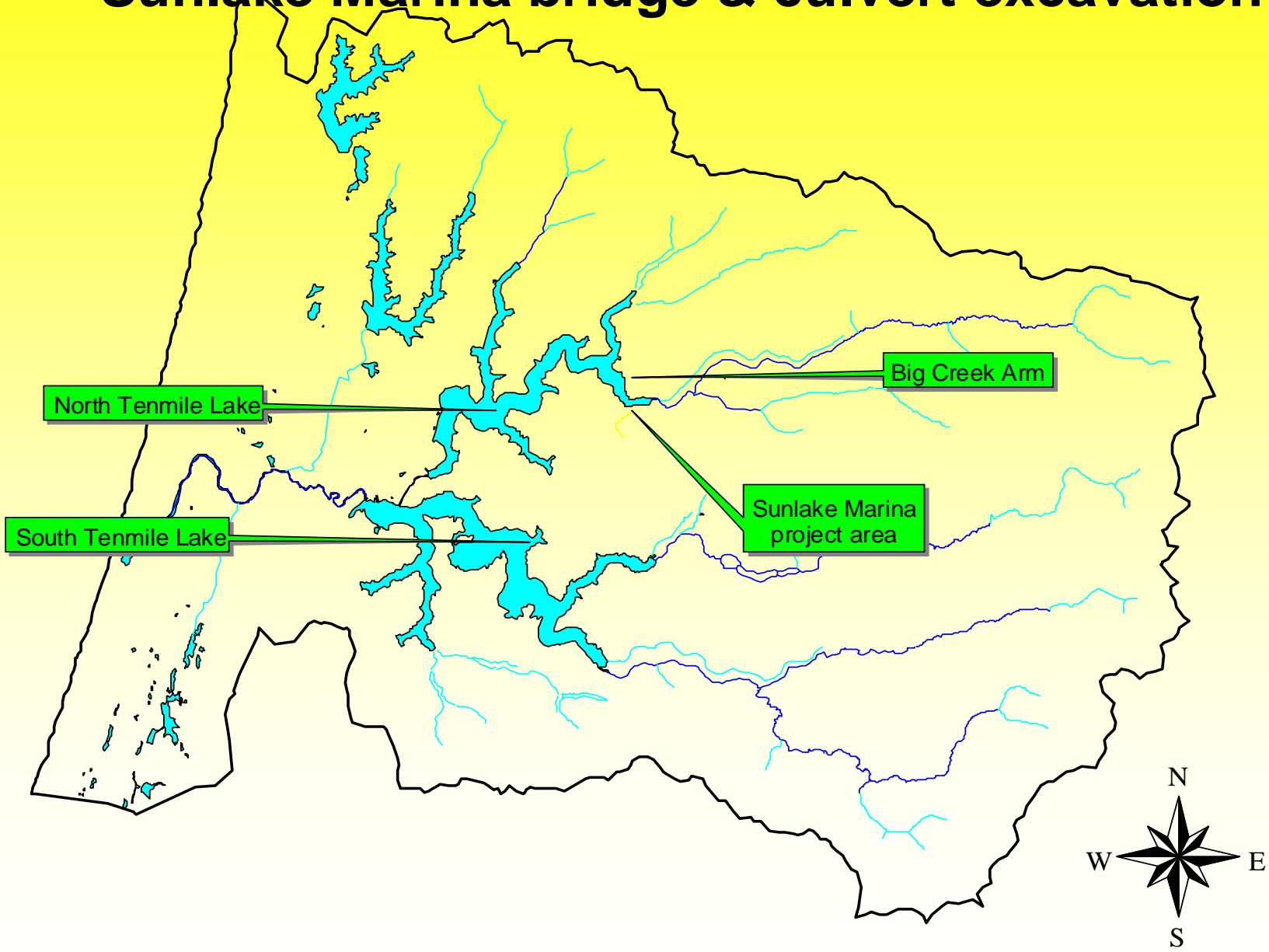
PROJECTS PRESENTATION

2004/05

TONIGHTS PRESENTATION INCLUDES

- ***SUNLAKE MARINA BRIDGE***
- ***SUNLAKE MARINA CULVERT EXCAVATION***
- ***GOOSE CREEK BRIDGE***
- ***GOOSE CREEK TRIBUTARY A BRIDGE***
- ***JOHNSON CREEK BRIDGE & FENCE***
- ***CLEAR CREEK CULVERT REPLACEMENT II***
- ***CLEAR CREEK CULVERT REPLACEMENT III***
- ***HOUSE GULCH FENCE***
- ***PLUM GULCH FENCE***

Sunlake Marina bridge & culvert excavation



Sunlake Marina bridge Project



PROBLEMS FOUND

- Undersized and settling culvert
- Chronic sediment source
- Complex work area

Sunlake Marina bridge



Recommendations

- Remove failed pipe
- Replace with bridge



Sunlake Marina bridge



GOALS

- Completely remove chronic sediment source
- Improve fish passage





Bridge details

20' x 12' steel I-beam

Concrete bridge abutments

Double wood deck

Cost: ~ \$12,000



Sunlake Marina bridge

Project partners

Private landowner

Harlon Green

TLBP

OWEB

Final product

Thank you
Ruth and Al Adams



Sunlake Marina culvert excavation



PROBLEMS FOUND

Chronic sediment source

Undersized culvert

Complex work area

Sunlake Marina culvert excavation



Recommendations

Remove failed 18" x 20' culvert

Stabilize project area





Sunlake Marina culvert excavation

Cost ~ \$1500

Accomplished goals

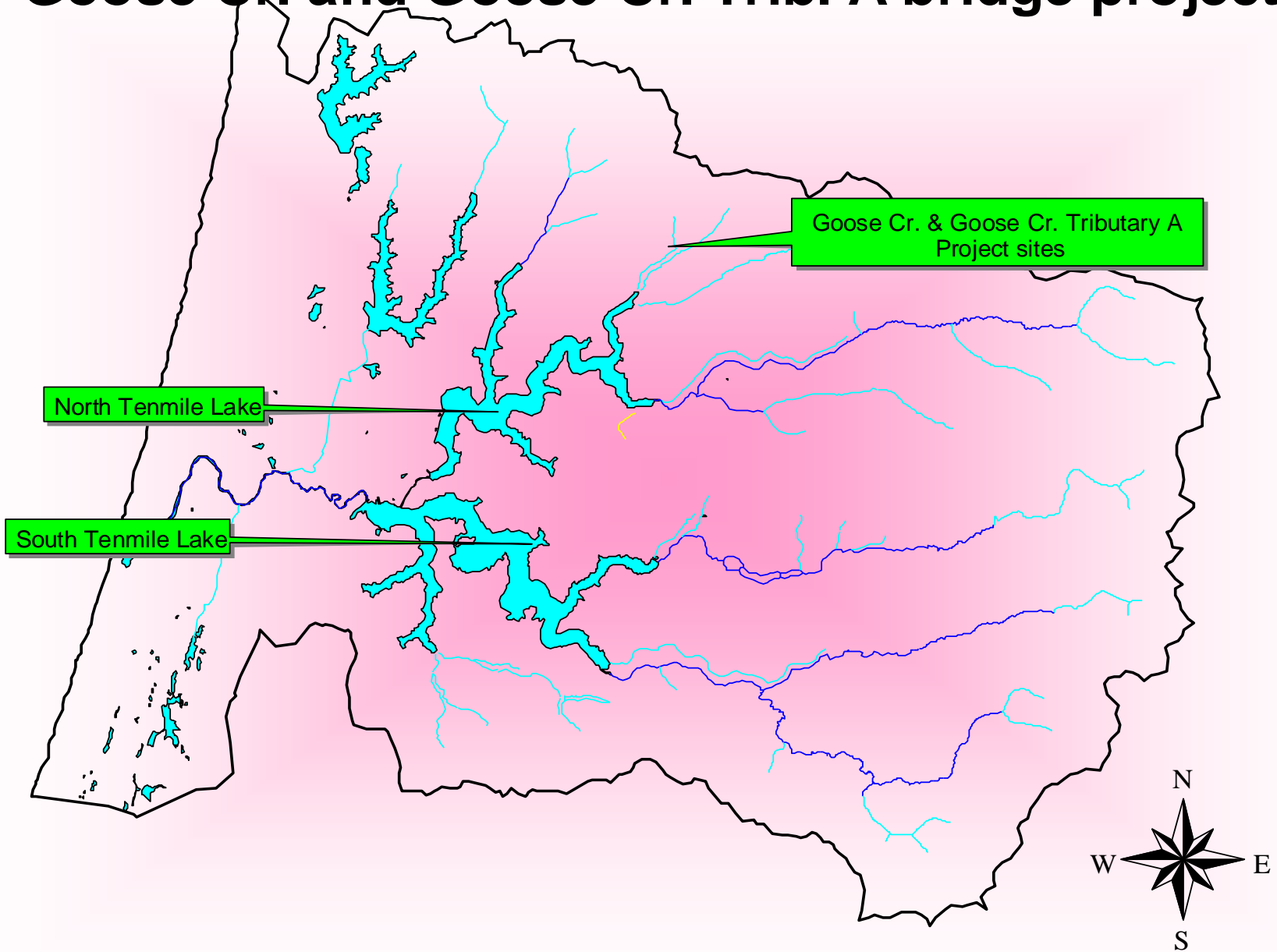
Improved fish passage

Stabilized stream banks

Completely removed chronic
sediment source



Goose Cr. and Goose Cr. Trib. A bridge projects



Fall



Goose Creek bridge Project

Summer



Winter



Problems found : Undersized culvert- Chronic sediment source- Seasonal fish passage issue

Goose Creek bridge Project

Recommendations

Remove failed 24" x 20' culvert

Replace with 24' x 14' steel I-beam bridge



Goals

Improve fish passage

Remove chronic sediment source



Goose Creek bridge Project



Replacing culverts with bridges
reduces ditching maintenance
for Landowners



Goose Creek bridge Project



Thank you Jim and Annie Linwood



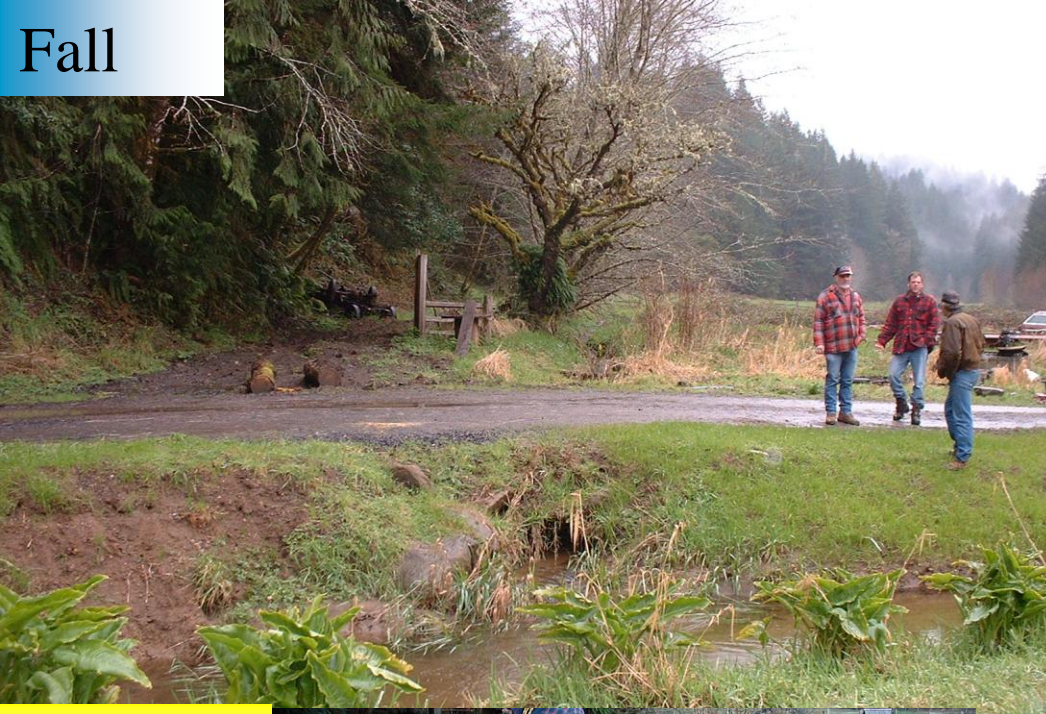
Project cost ~ \$15,500

Goose Creek bridge Project



Final product

Fall



Goose Creek Tributary A

Bridge Project

Problems Found:

- Chronic sediment source
- Fish passage issue
- Failed and settling culvert
- High complex work area
- Utilities

Winter



Summer



Goose Cr. Trib A bridge Project



Recommendations:

- Remove failed culvert
- Replace with steel I-beam bridge

Goose Cr. Trib A bridge Project

Goals:

- Completely remove chronic sediment source
- Improve fish passage
- Reduce maintenance for landowner



Bridge Features:

- 5 steel I-beams 24' in length
- Bolted to six 2000 lb concrete blocks
- Double decked and widened to 16 feet for heavier traffic
- Stabilized w/ large rock for streambank stability

BEFORE



Goose Cr. Trib A bridge Project

Final product



Cost ~\$17,000

AFTER



Thank You Harlon Green Excavation



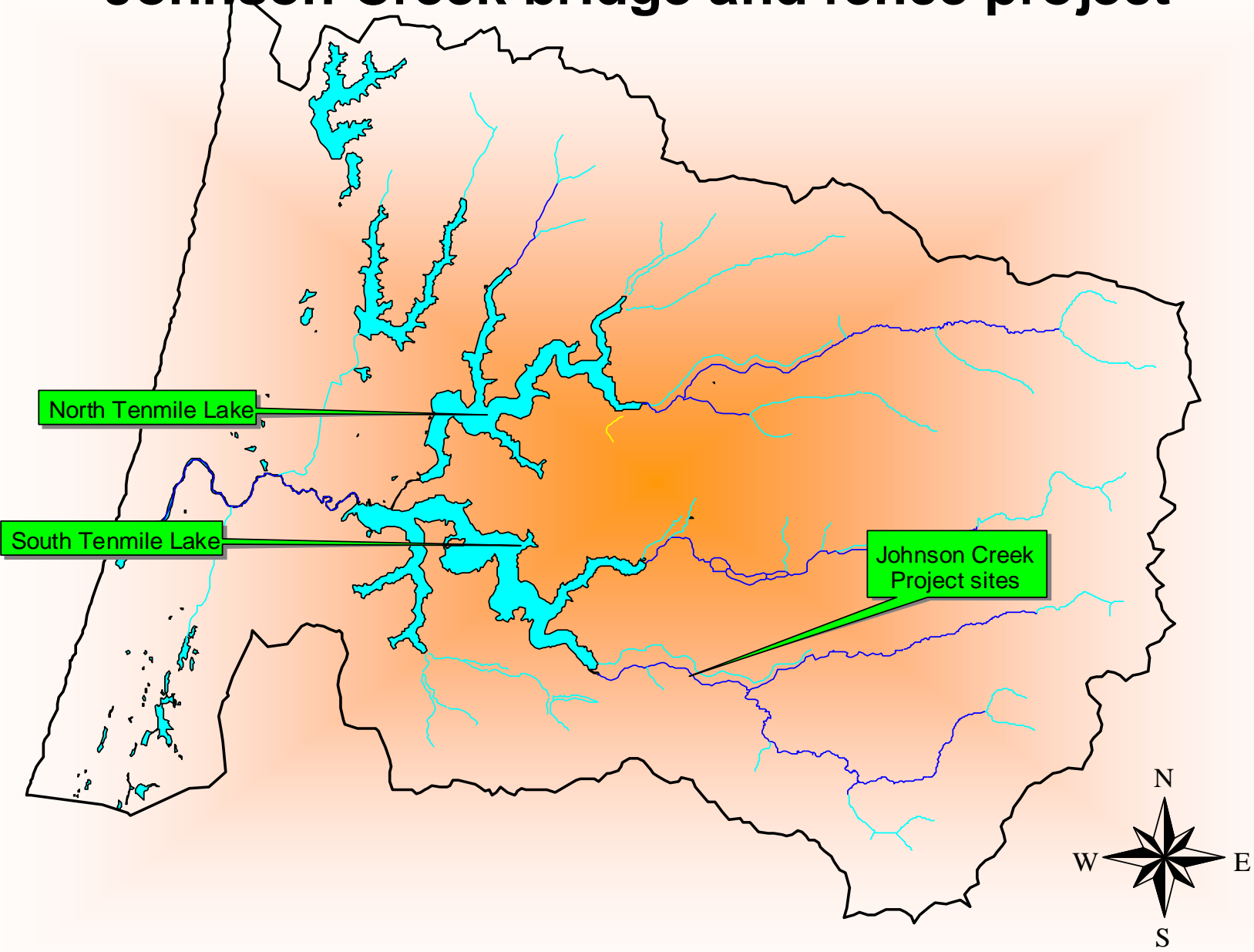


THANKS GUYS

Goose Cr. Trib A bridge Project

Thank you Jim and Annie Linwood for your support and help

Johnson Creek bridge and fence project



Johnson Creek Bridge Project

**Problems found: Undersized culvert- Chronic sediment source-
Fish passage issue.**

Johnson Creek Bridge Project

Recommendations:

Remove failed 48" x 25' culvert

Replace with 8' x 35' concrete bridge



Bridge elevation must be engineered above the 50/100 year flood event.



Johnson Creek Bridge



Project goals

Remove chronic sediment source

Improve fish passage

Give your boss a day in the sun

Lesson of the day:

- Never position yourself or any part of your body between a Ten ton bridge slab and a Linkbelt Crane



Ask Mike for details

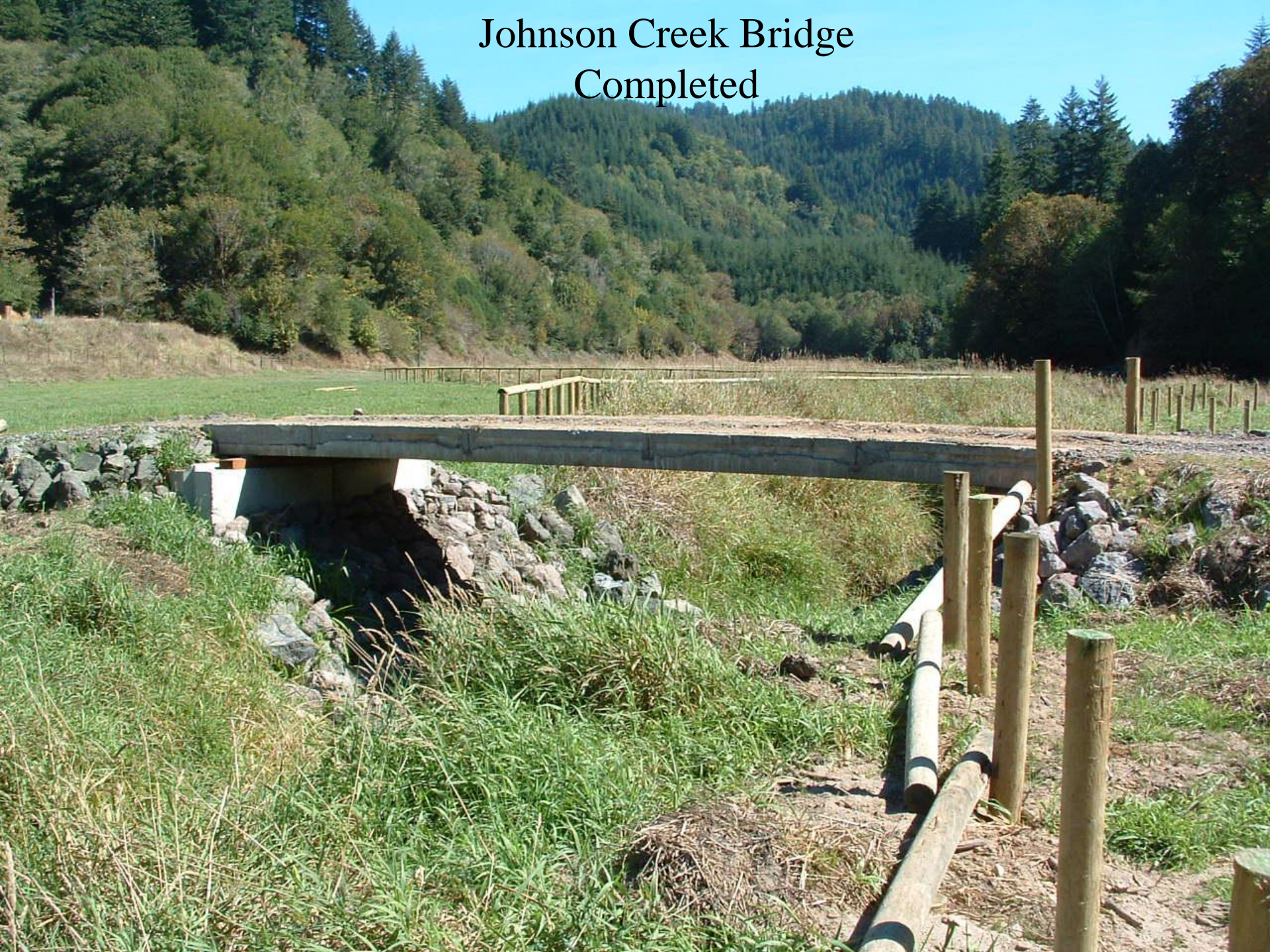
Johnson Creek Bridge



Bridge details:

- Two 35' concrete bridge slabs
- Pinned to four concrete ecology blocks
- Elevated nearly 4' above high water mark
- Stabilized with 2-4' rock- erosion mix and 20 tons of concrete

Johnson Creek Bridge Completed



Problems found:

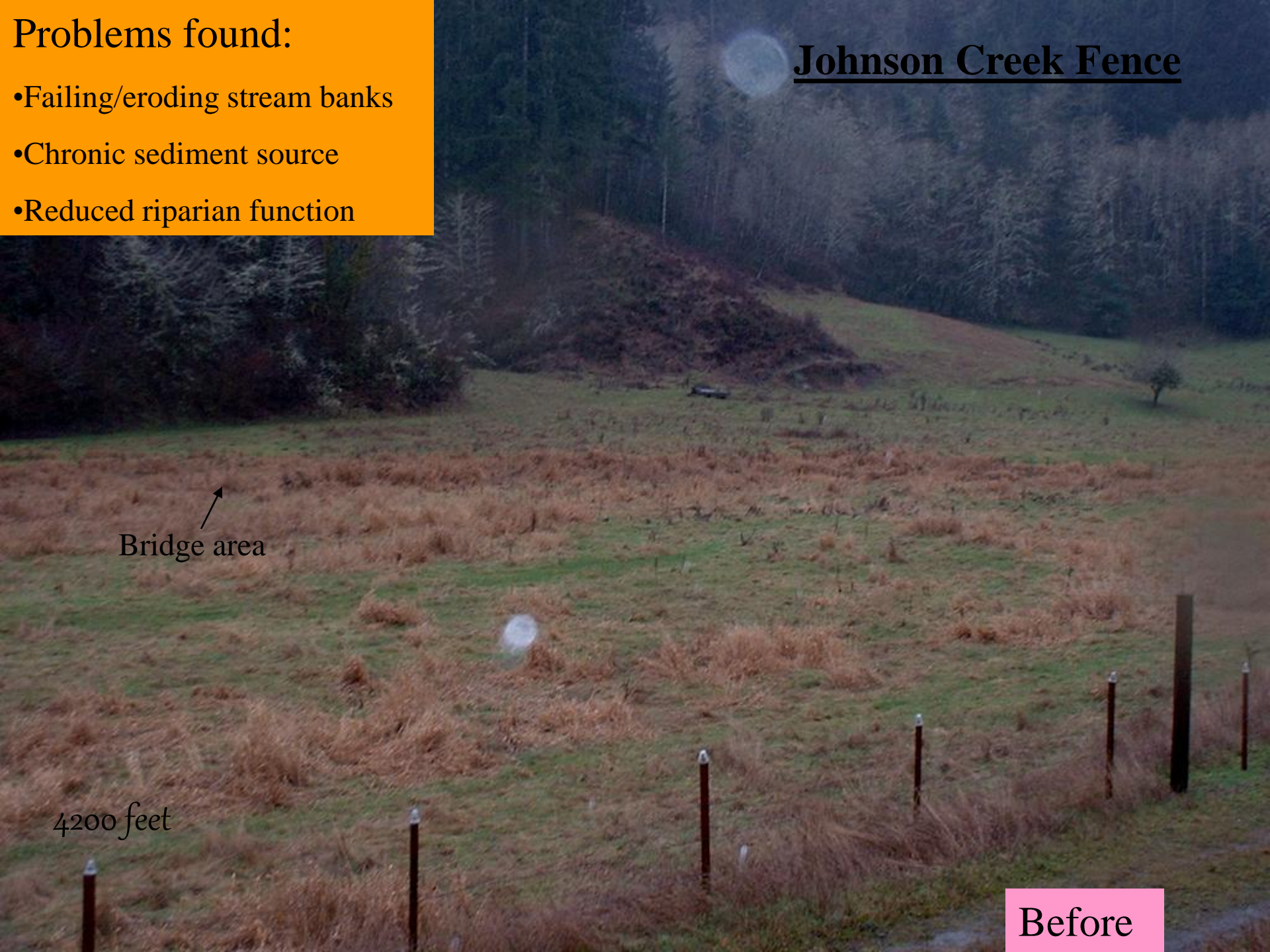
- Failing/eroding stream banks
- Chronic sediment source
- Reduced riparian function

Johnson Creek Fence

Bridge area

4200 feet

Before



Recommendations:

- Construct exclusion fence
- Increase riparian function

Johnson Creek fence



Bridge

After

Johnson Creek fence



Goals:

Stabilize stream banks

Increase riparian function

**Minimize maintenance for
landowner**

Johnson Cr. fence



Hard working fence crew

Johnson Creek fence



Maintenance gates



Johnson Creek fence



Johnson Creek Bridge & Fence Final Product

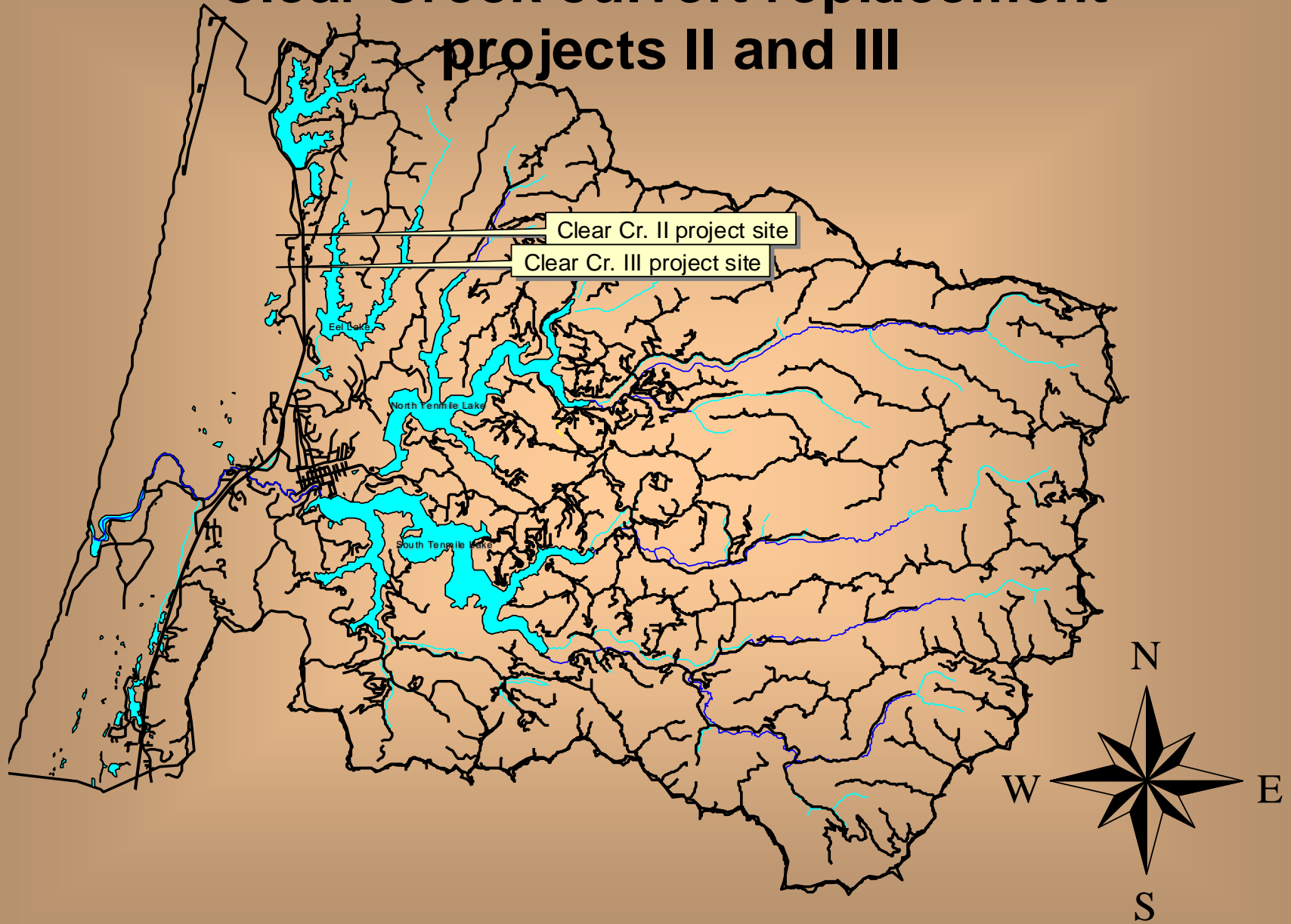


Project cost- ~ \$23,170

LANDOWNER OF THE YEAR AWARD

**THANK YOU BOB FOR ALL YOUR
SUPPORT AND HELP!!**

Clear Creek culvert replacement projects II and III



Problems found include:

- **Undersized and poorly placed culverts**
- **Chronic sediment source**
- **Enormous amount of fill**
- **Extreme headwall height**
- **Strong candidate for complete fish passage barrier.**

Clear Creek II Culvert Replacement Project



Clear Creek II Culvert Project



Excavated Fill at this site involved
over 800 Yards



Clear Creek II Project



Solutions

- Remove both failed 24" x 60' culverts
- Replace with one 96" x 50' culvert



Clear Creek II Project



Goals:

- Increase culvert diameter and improve placement
- Remove chronic sediment source
- Improve fish passage
- Prepare site for high flood events



Clear Creek II Project



Project cost

~\$14,000



Thank you Mr. Al Ainsworth



PROJECT
FUNDED BY
OWEB

Clear Creek III Culvert Replacement Project



Problems found-

- Failed 60" x 24' culvert
- Chronic sediment source
- Failing retaining wall
- Very complex working environment
- Partial fish passage issue
- Buried utilities

Clear Creek III Project



Recommendations

- Removing 60" x 24' failed culvert
- Replacing with 72" x 30' culvert w/ improved placement

Clear Creek Culvert replacement



Goals

Remove failed culvert
Replace with larger diameter
and improved placement.



Clear Creek III Project



Outlet at failed retaining wall

Retaining Wall After Fix



Outlet Before

Outlet after Fix



Clear Creek III Project



Project site after culvert fix.



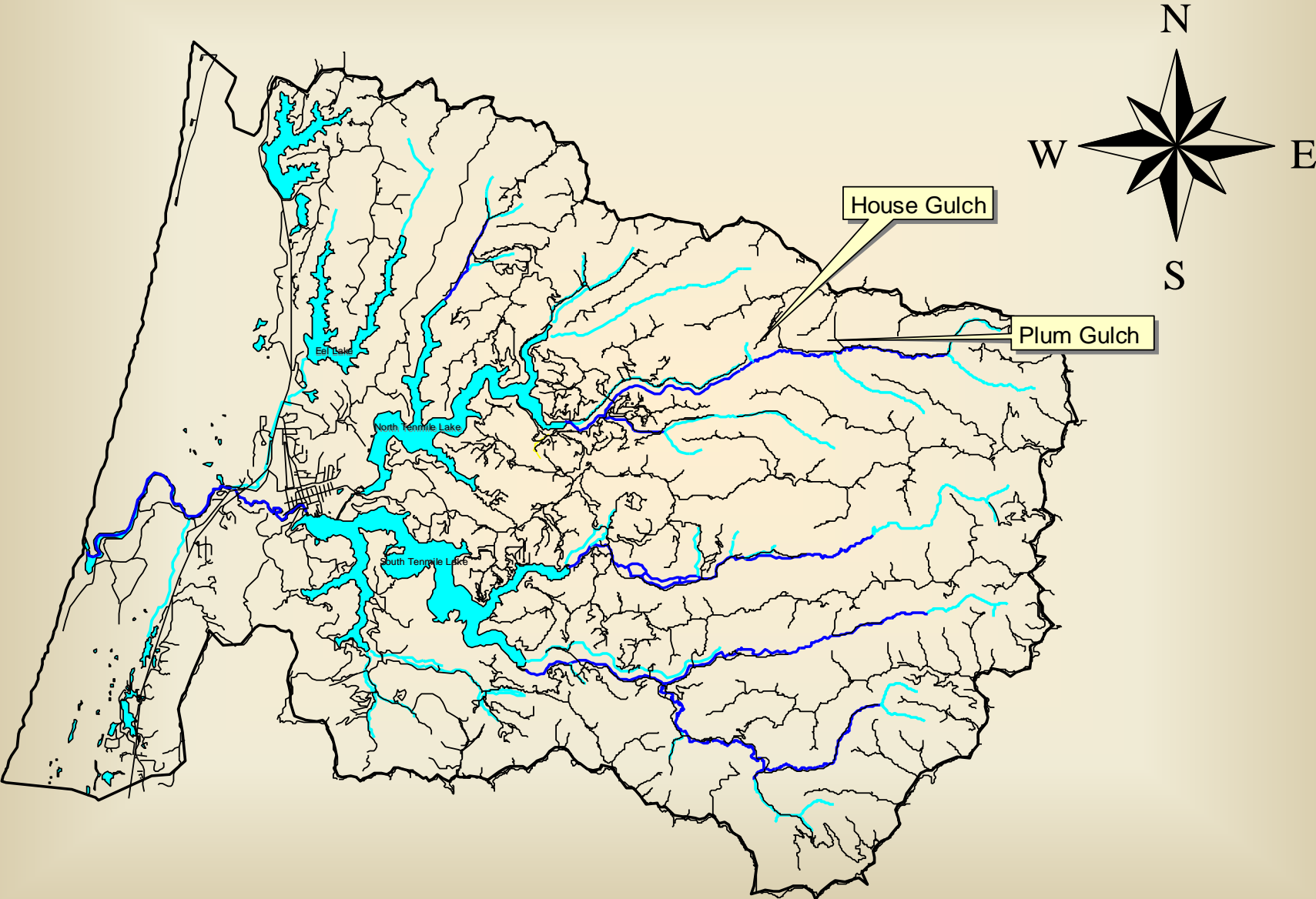
Clear Creek III Project After Fix

Project cost ~\$8,000



Thank You Clara Johnson

House and Plum Gulch Fence Projects



House Gulch Fence Project



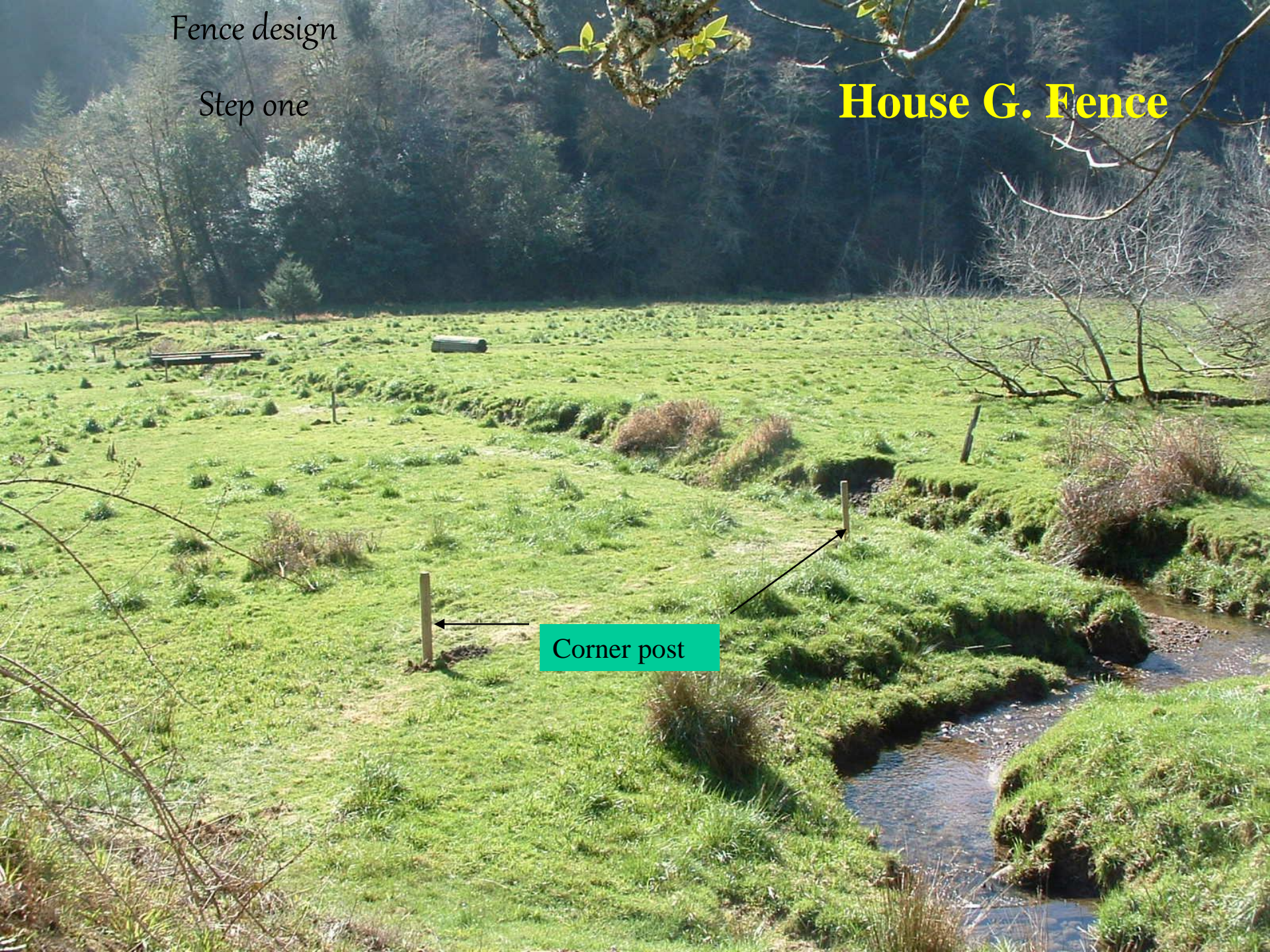
Problems Found:

- **Chronic sediment source**
- **Failing stream banks**
- **Insufficient riparian functions**

Fence design

Step one

House G. Fence



Corner post

Fence design

Step two

Mark and set posts

House G. Fence



House G. Fence

Step two continued

Set and press posts



Historic ways of sinking posts



Improved post driving

Fence design

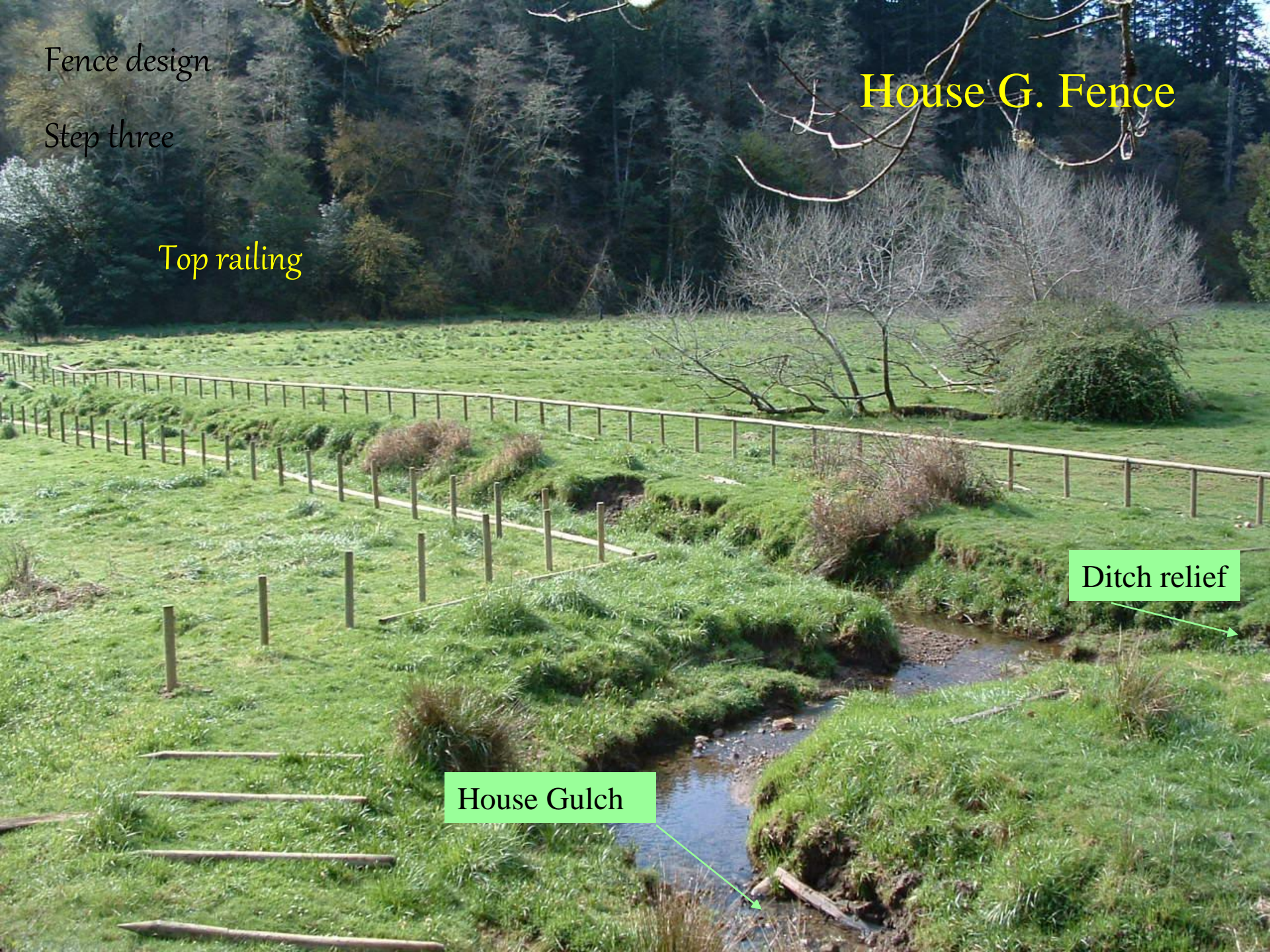
Step three

House G. Fence

Top railing

Ditch relief

House Gulch



Fence design

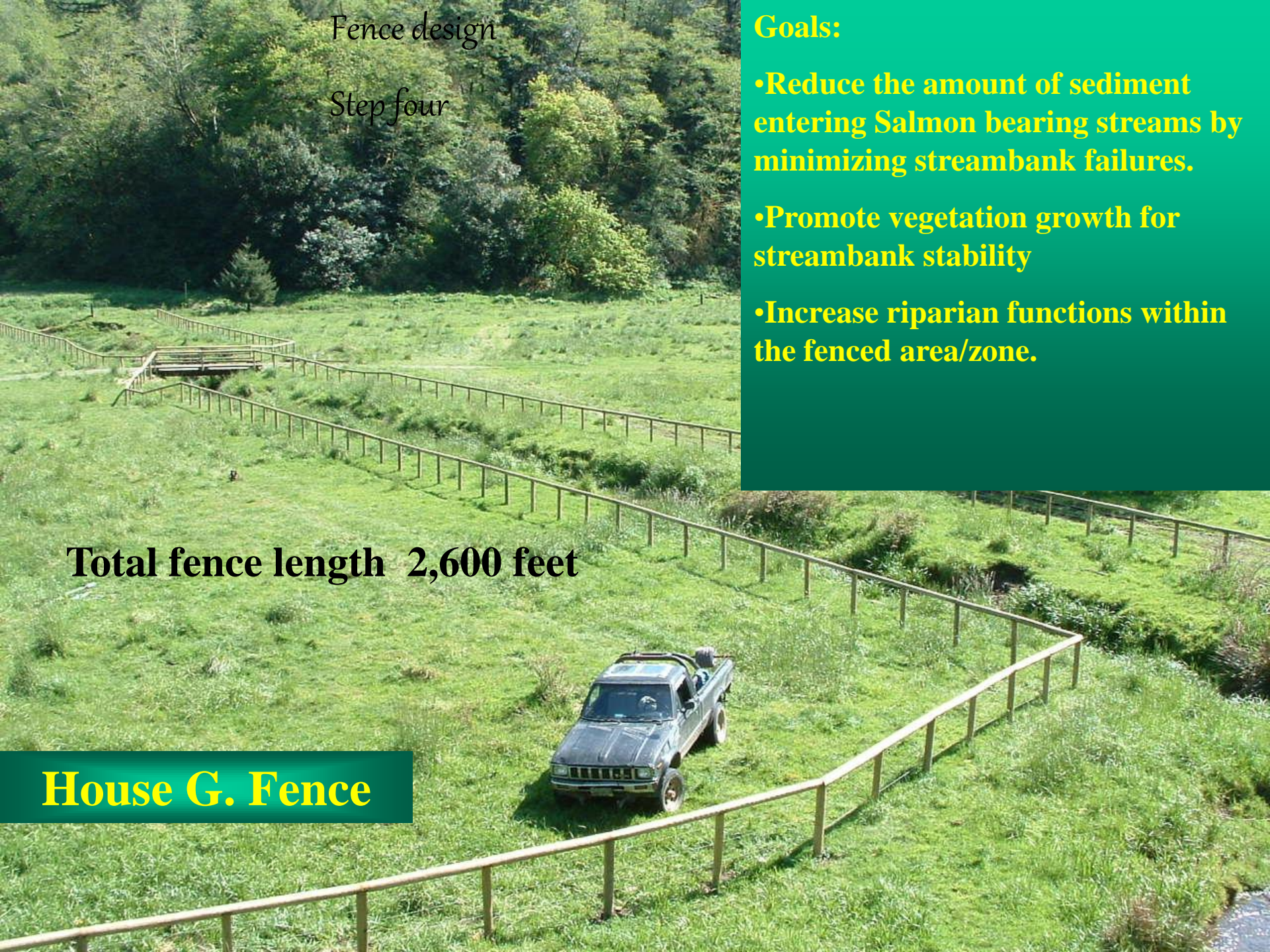
Step four

Goals:

- Reduce the amount of sediment entering Salmon bearing streams by minimizing streambank failures.
- Promote vegetation growth for streambank stability
- Increase riparian functions within the fenced area/zone.

Total fence length 2,600 feet

House G. Fence



HOUSE GULCH FENCE

PROJECT COST ~\$6,240

Project partners include:

- ODF
- City of Lakeside
- TLBP
- Harlon Green Construction
- Private landowner Harold Benson



Plum Gulch Fence Project

Problems Found:

- Failing streambanks
- Chronic sediment source
- Insufficient riparian functions



O.W.E.B.

O.D.F.

Harlon Green Excavation



**Plum Gulch Fence
Project Partners**



City of Lakeside

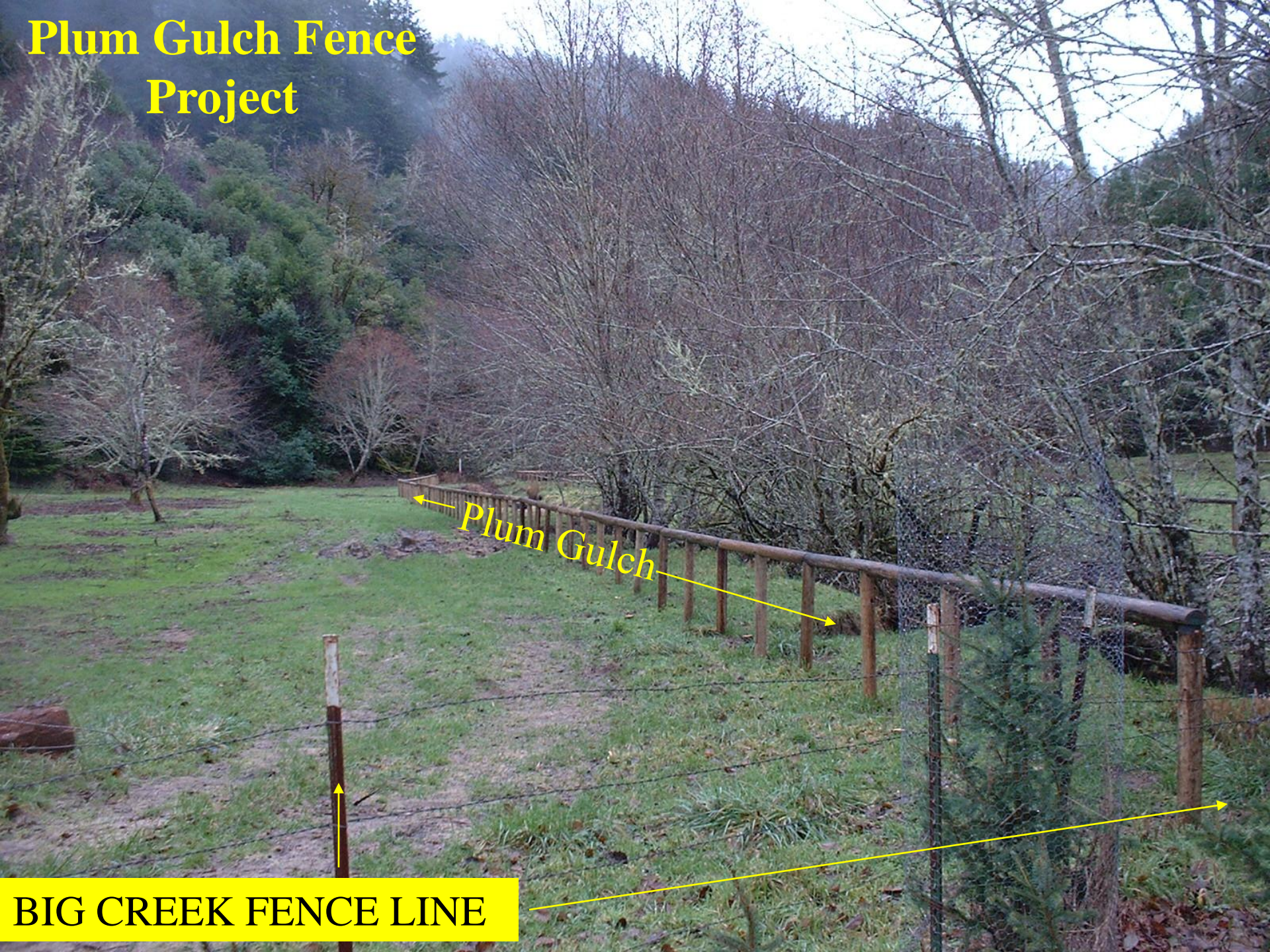
**Private Landowner
Harold Benson**

T.L.B.P.

Plum Gulch Fence Project

← Plum Gulch →

BIG CREEK FENCE LINE



PLUM GULCH FENCE PROJECT

Plum Gulch
Ford



Plum Gulch Fencing Project

Total fence length 1,300 feet

Cost ~ \$3,120

Goals

- **Construct a low maintenance fence**
- **Vegetate and stabilize existing streambanks**
- **Enhance riparian functions**

Big Creek Riparian
2-15-01
Site # 6

Big Creek Riparian
2-15-01
Upper Big Creek
rip



Big Cr.
Upper Riparian
12-3-02

Big Cr. Riparian Planting Site #1

Big Creek Riparian



Big Creek
Upper Riparian
6-19-03



Big Cr.
Riparian
(Upper)
8/30/04

Big Creek Riparian

12-10-05



PROJECTS SCHEDULED FOR 2005/06

- Sunlake Drive bridge
- Sunlake Tributary B bridge
- Northlake Drive D.R. culvert replacements # 1 and 2
- Clear Creek culvert replacement # 4
- Swanson bridge placement # 1
- Swanson bridge placement # 2
- Goose Creek D.R. culvert placement
- Fox Gulch bridge
- Shutters Creek bridge placement # 1
- Shutters Creek bridge placement # 2
- Shutters Creek culvert replacement # 3
- Shutters Creek culvert replacement # 4

This Tenmile Watershed presentation is dedicated to the
memory of Harold Benson

1920 - 2004



Harold, you are missed.

TLBP staff

THANK YOU EVERYONE

