
Gold Creek
Habitat Assessment &
Conceptual Design
Supporting Partners
USFWS
YBFWRB/RCO
WA - DOE
WA - DFW
KITTITAS
CONSERVATION
TRUST
Iron Horse Trail
NF-2219
90
NF-4832
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PROJECT GOALS

- Identify the causal mechanisms of seasonal dewatering & habitat loss
- Produce detailed conceptual design plans

Bull Trout - *Salvelinus confluentus*

Photo of stranded Bull Trout taken on 9/26/2013 in shallow riffle below Gold Creek Pond

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GOLD CREEK HABITAT ASSESSMENT

- Data Inventory & Gap Analysis
- Hydrologic & Hydraulic Monitoring
- Lidar (Digital elevation modeling)
- Field data collection
- Comprehensive Assessment Report
- Conceptual Design Report

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PROJECT TEAM

Kittitas Conservation Trust

David Gerth

Mitch Long

Natural Systems Design

Tim Abbe, PhD, PEG, PHG

Rocky Hrachovec, MS, PE

Mike Ericsson, MS, PG

Shawn Higgins, MS

David French

Carl Menconi

Patrick Trotter, PhD.

Collaborating Experts

Eric Anderson, WDFW

William Meyer, WDFW

Patricia Olson, WDOE

Paul Bakke, USFW

Scott Craig, USFW

Project Contacts:

Mitch

brooksideprojectmanagement@gmail.com

509-674-8220

Tim

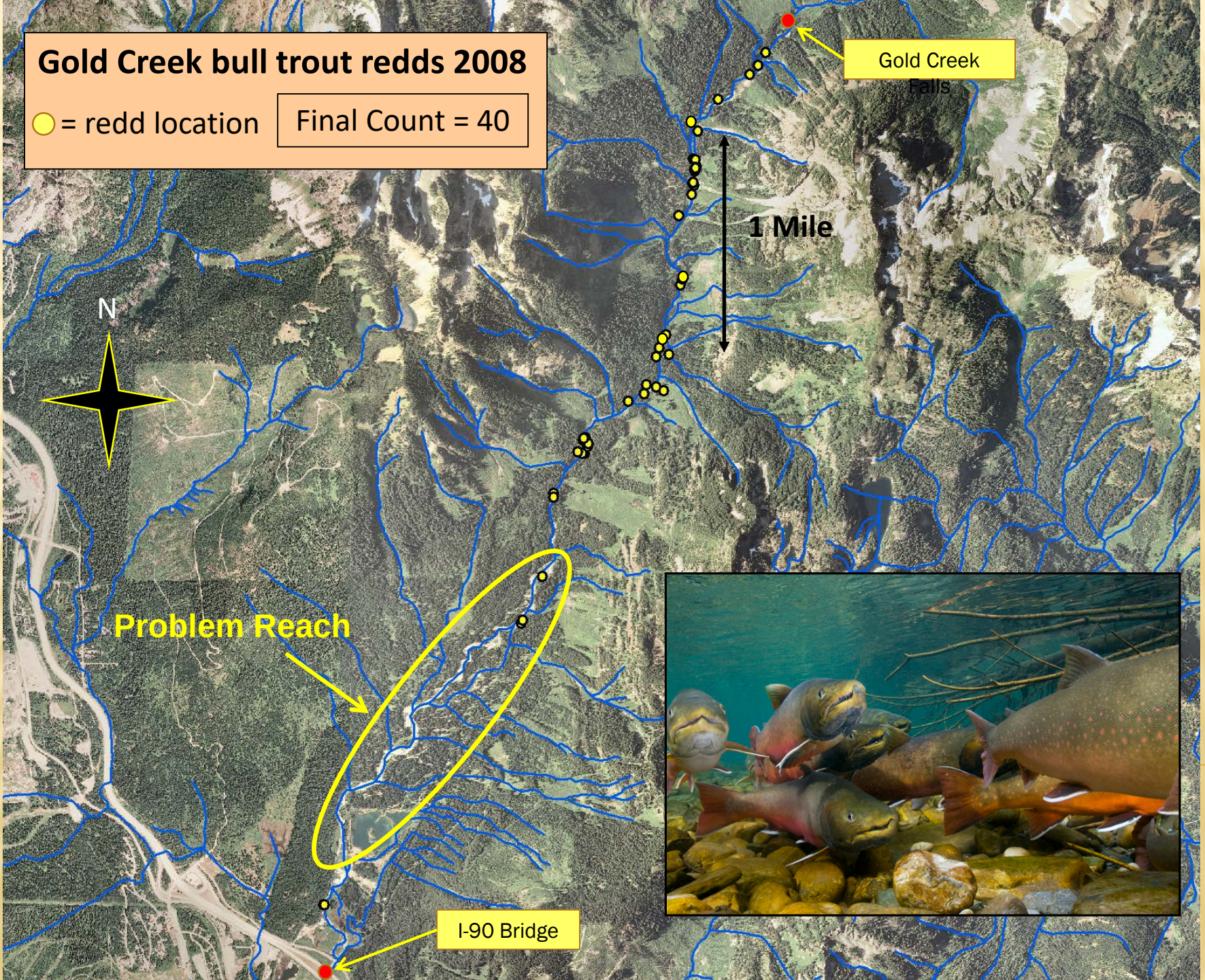
tim@naturaldes.com

206-681-8697

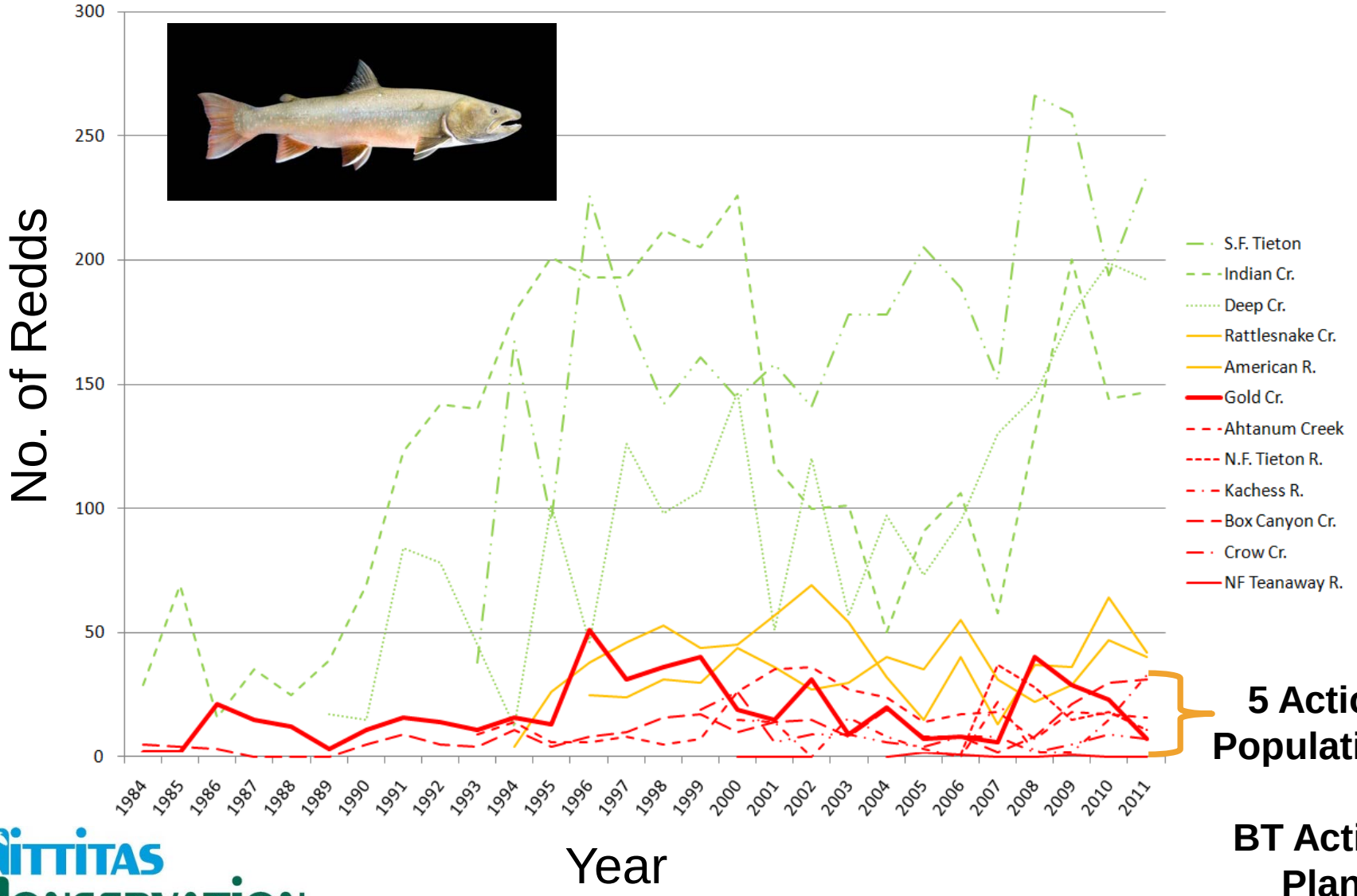
Mike

mike@naturaldes .com

206-612-0845


Gold Creek bull trout redds 2008
= redd location
Final Count = 40
Gold Creek Falls
1 Mile
N
Problem Reach
I-90 Bridge

YAKIMA BASIN BULL TROUT REDD COUNTS



5 Action Populations

BT Action Plan

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PROBLEM

- Seasonal Dewatering
- Degradation of Bull Trout Habitat

7/26/2013

8/26/2013

10/2/2013

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PROJECT STATUS

Tasks Completed in 2013:

- Data Inventory/Gap Analysis
- 2013 Hydrologic Assessment
- Habitat Assessment

Tasks Remaining:

- 2014 Hydrologic Assessment
- Geomorphic Channel, Floodplain and Riparian Assessment
- Conceptual Design

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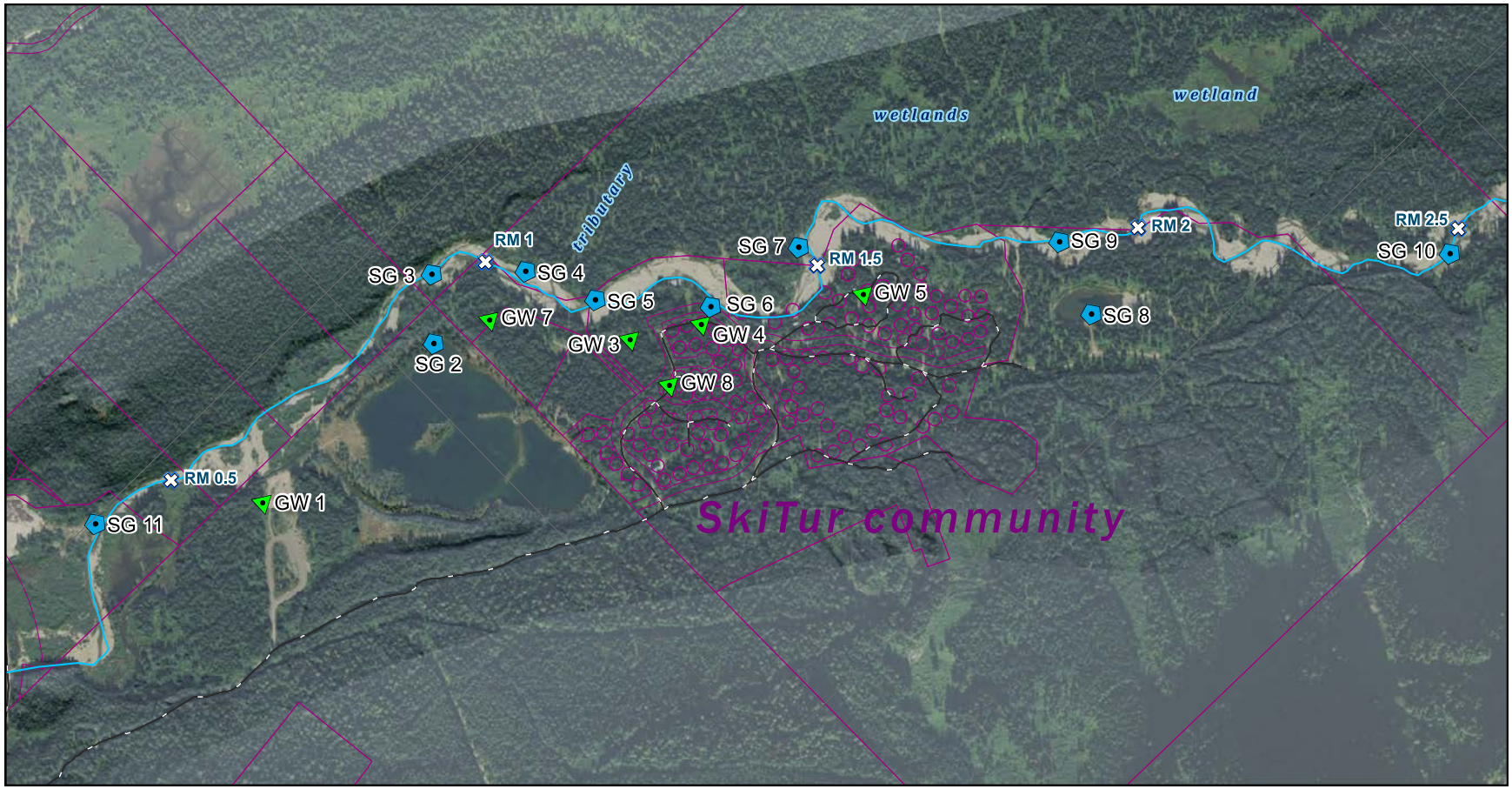
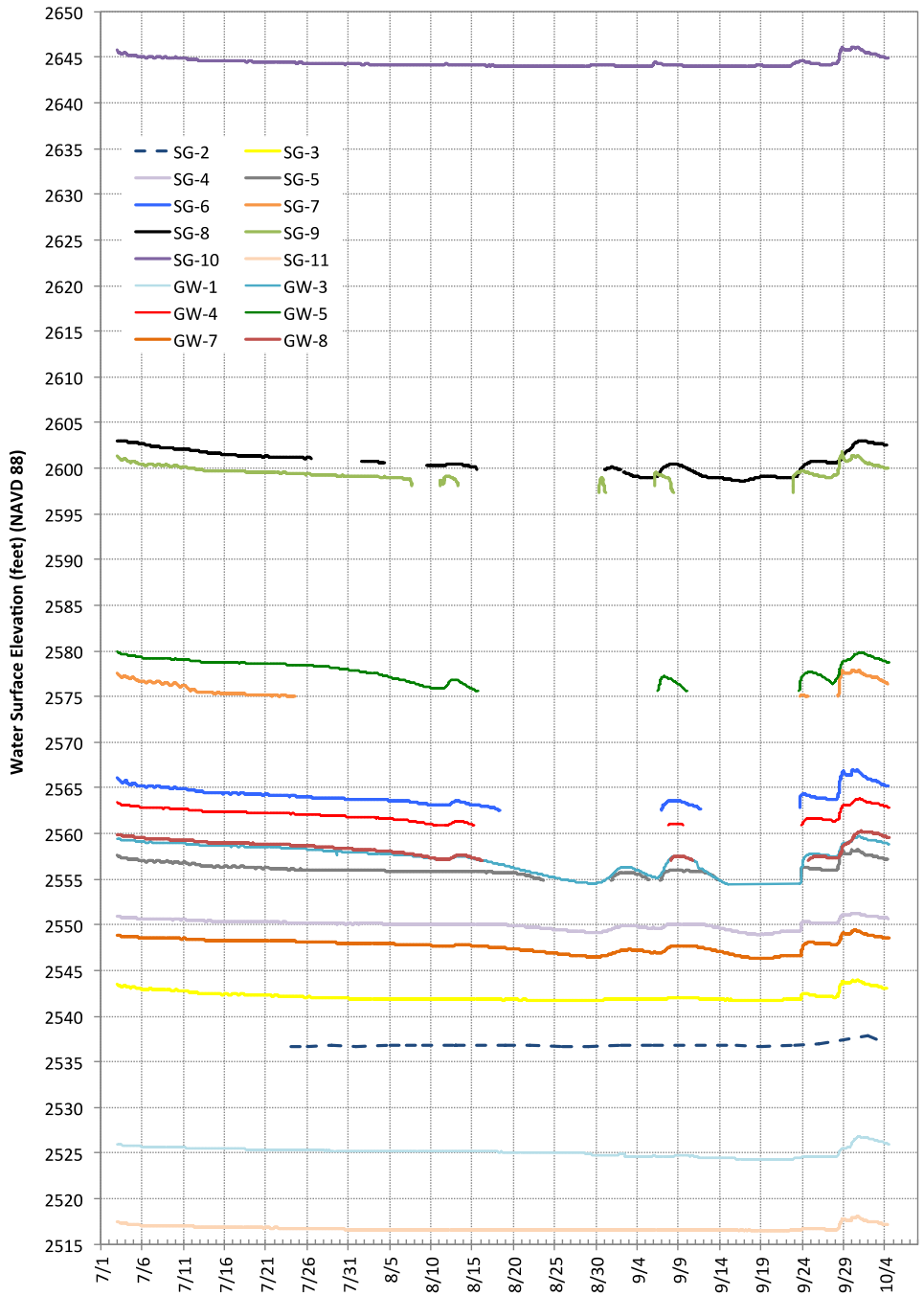
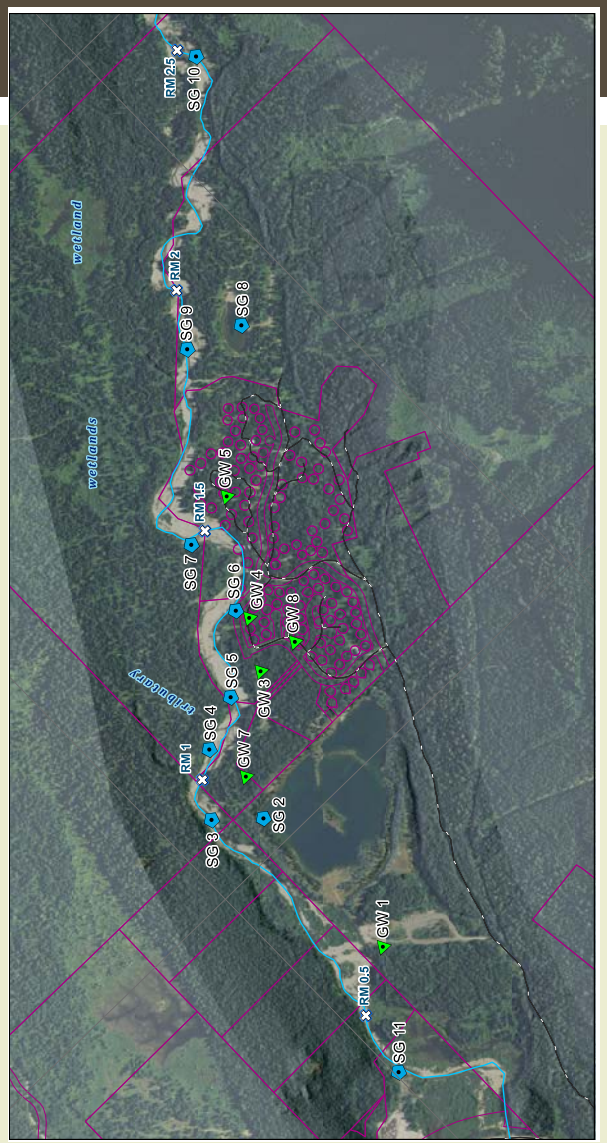


Stream gage and well monitoring network

MONITORING DATA

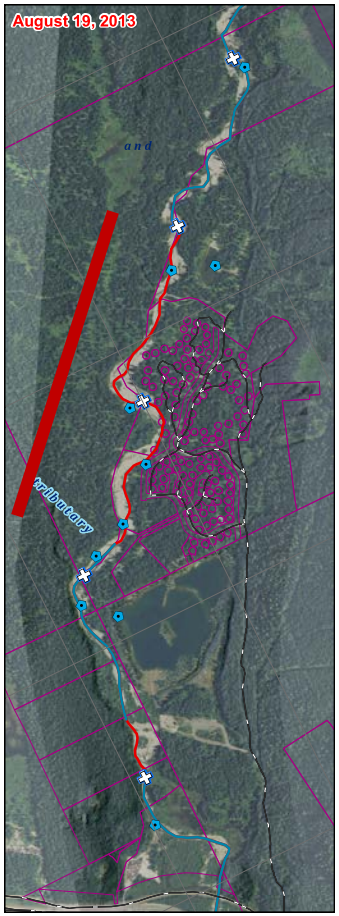




FIELD OBSERVATIONS

Bi-Weekly Field Recon During Dewatering Season

DEWATERED CHANNEL EXTENTS



SUMMARY OF FINDINGS

Key Observations

- Gold Creek Pond remains relatively constant
- Heli's Pond fluctuates with groundwater
- Field observations of dewatering correspond to surface water station and groundwater well data
- Dewatering initiates near RM 1.5
- Second dewatered reach upstream of RM 0.5

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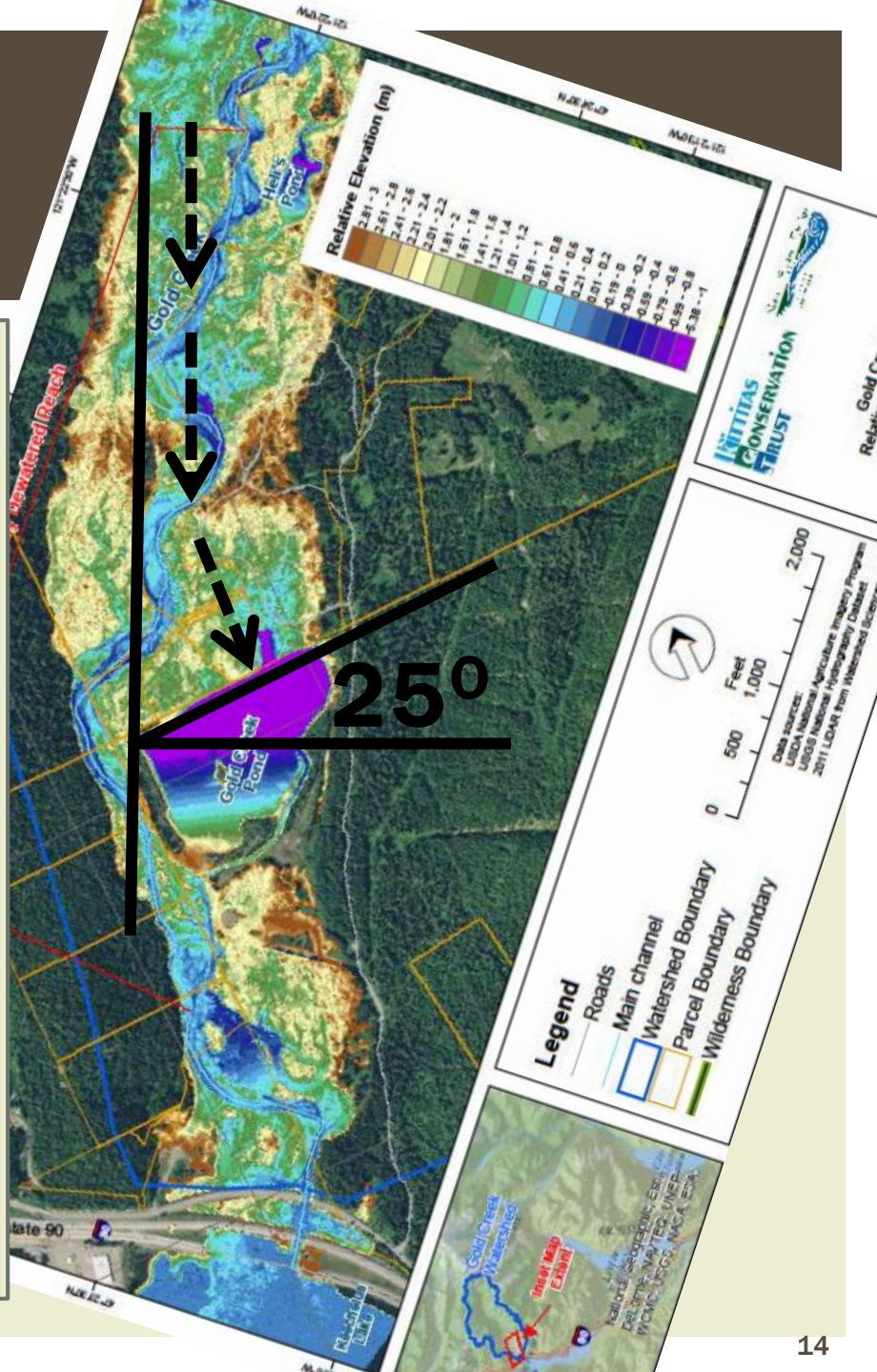
SUMMARY OF FINDINGS

Upstream Dewatered Reach

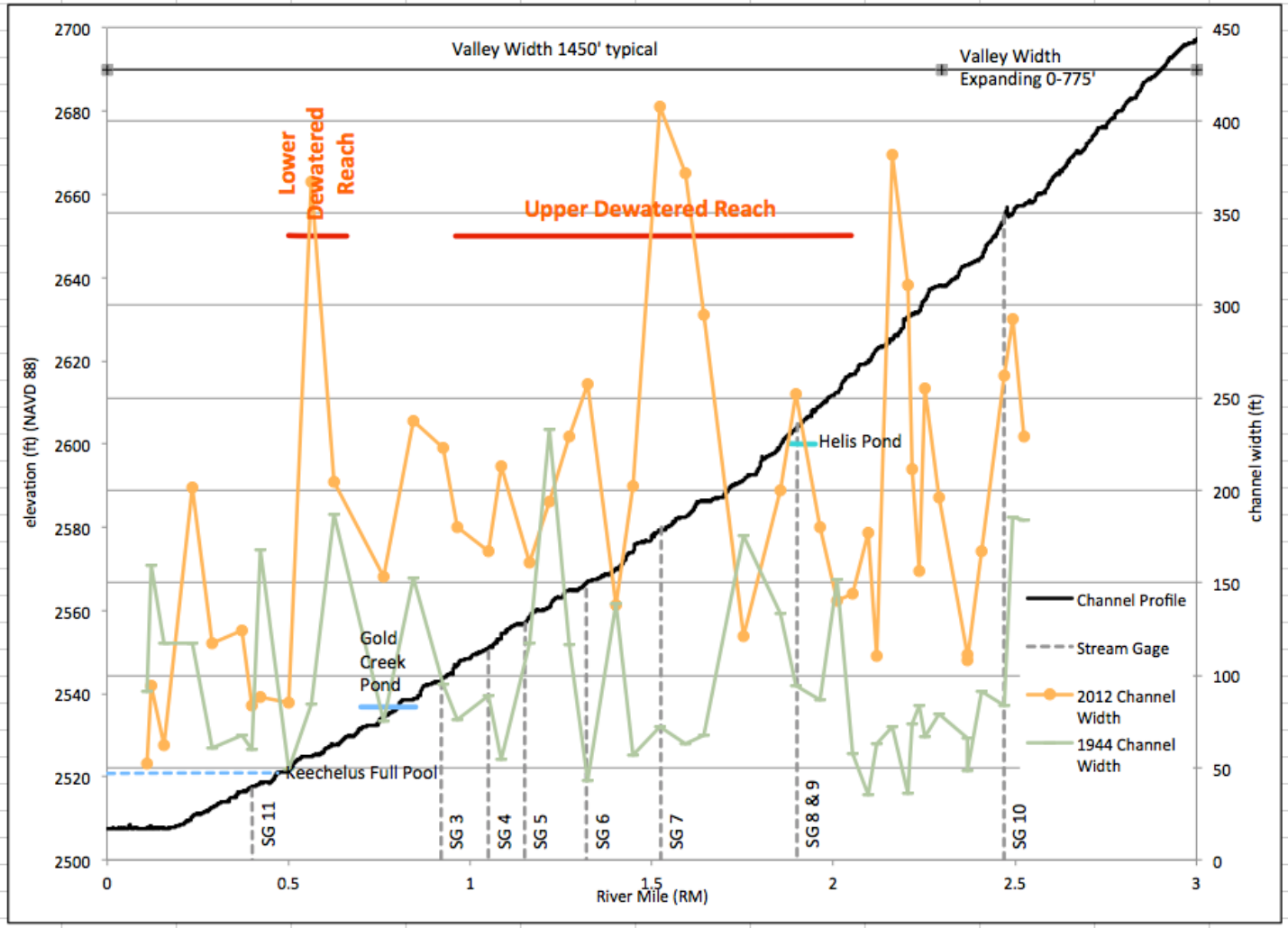
- Influence of Gold Creek Pond
  - Modifies groundwater gradient
  - Lower wse on eastern floodplain relative to western floodplain
  - Orientation of Pond relative to valley axis
  - WSE in Gold Creek Pond remains constant
  - Groundwater elevations level closer to the Pond than further upstream



SUMMARY OF FINDINGS

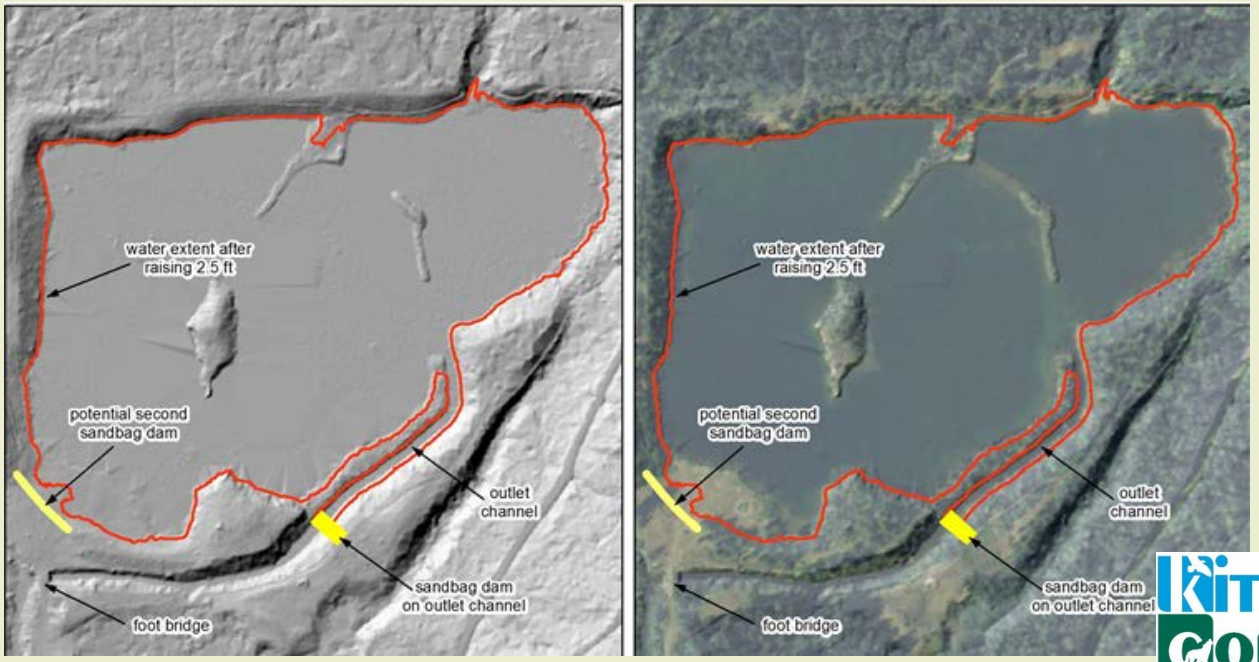
Dewatered Reach linkages to unvegetated channel width

- Current Width (orange) & Historic (1944) Channel Widths
- 4.6 fold increase in channel width from 1944 – present at RM 1.5



PROPOSED WORK FOR 2014 FIELD SEASON

- Resume surface water and ground water well Monitoring
- New well installed at a depth of 20’ at GW 5
- Conduct the Gold Creek Pond Experiment
  - Raise the WSE of the pond by 2.5’



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RESTORATION ACTIONS FOR CONSIDERATION

Gold Creek Pond

1. **Restore Natural Wetland Mosaic**
   - Fill estimate 0.75 – 1.5 million CY
2. **Focused Restoration**
   - Emphasis on northeastern corner of Pond to restore down valley groundwater gradients
3. **Raising Pond WSE**
   - Installation of gates to outlet channel

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RESTORATION OF FORESTED FLOODPLAIN

- Restore historic channel widths
- Create a roughened floodplain
- Targeted to sub-reaches with the most significant widening
- Use of large timber to provide bank strength and prevent re-widening

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QUESTIONS

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