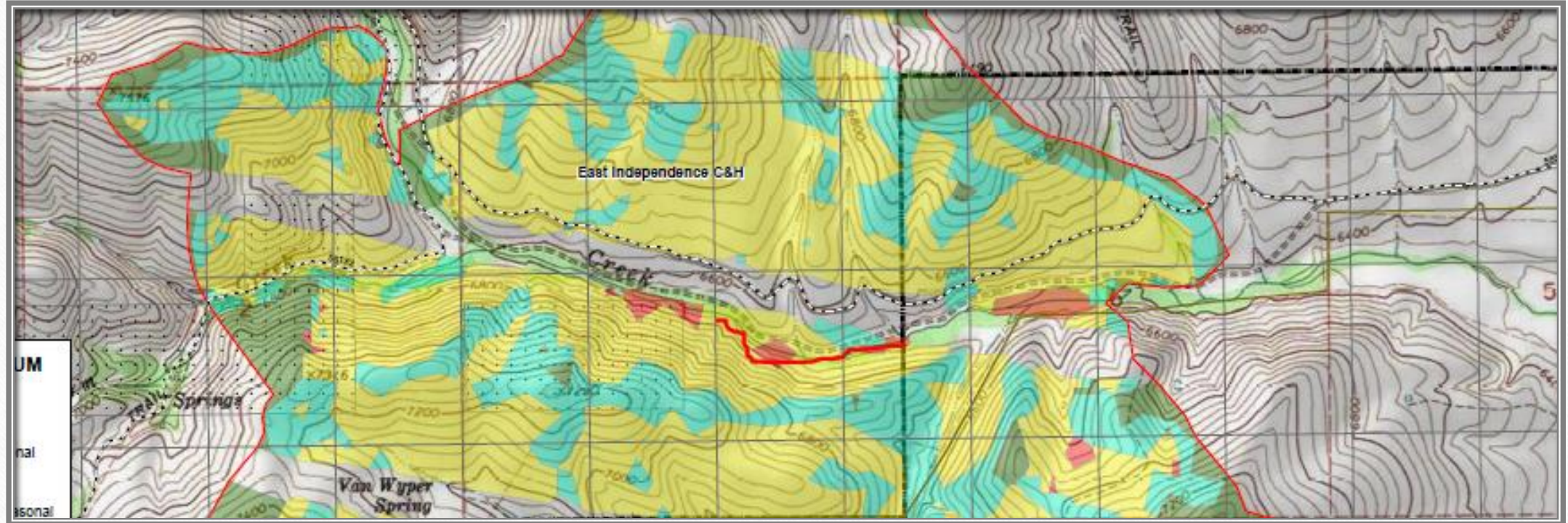


Post Assisted Structures in BAER

Can we take a gully and keep it from getting worse when the riparian is burnt to a crisp? Especially when there are fancy fish in the bottom?

Treatment locations

- Gance Creek (Gance Fire)
 - NDOW removed over 400 fish during assessment
- Cole Creek (South Sugarloaf- biggest fire in forest history)
 - Both occupied LCT habitat- the value at risk



Gance Approximate treatment reach

Length?, 30 structures in study area, closer to 70 in whole treatment reach,

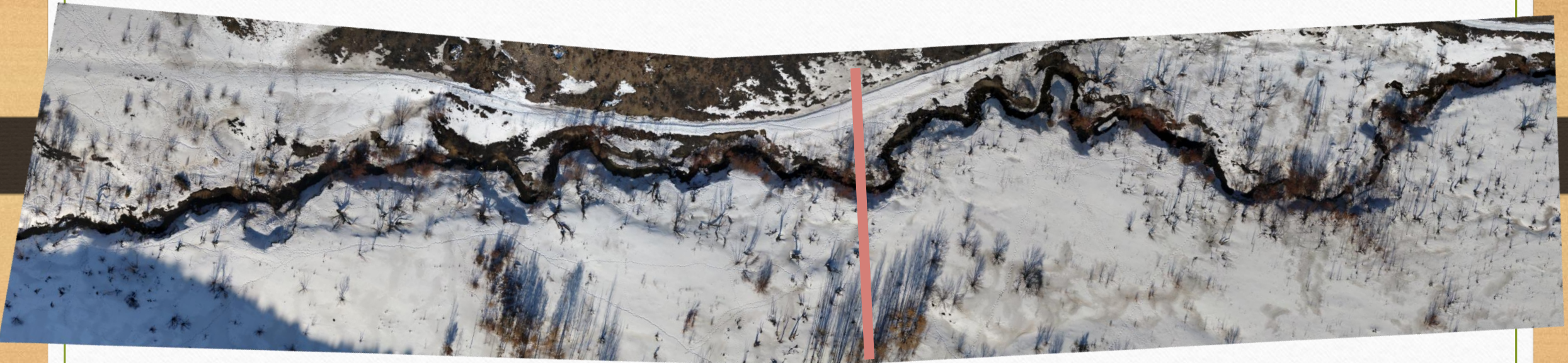


Cole Treatment Reach

.27 miles, 16 locations, 20+ structures

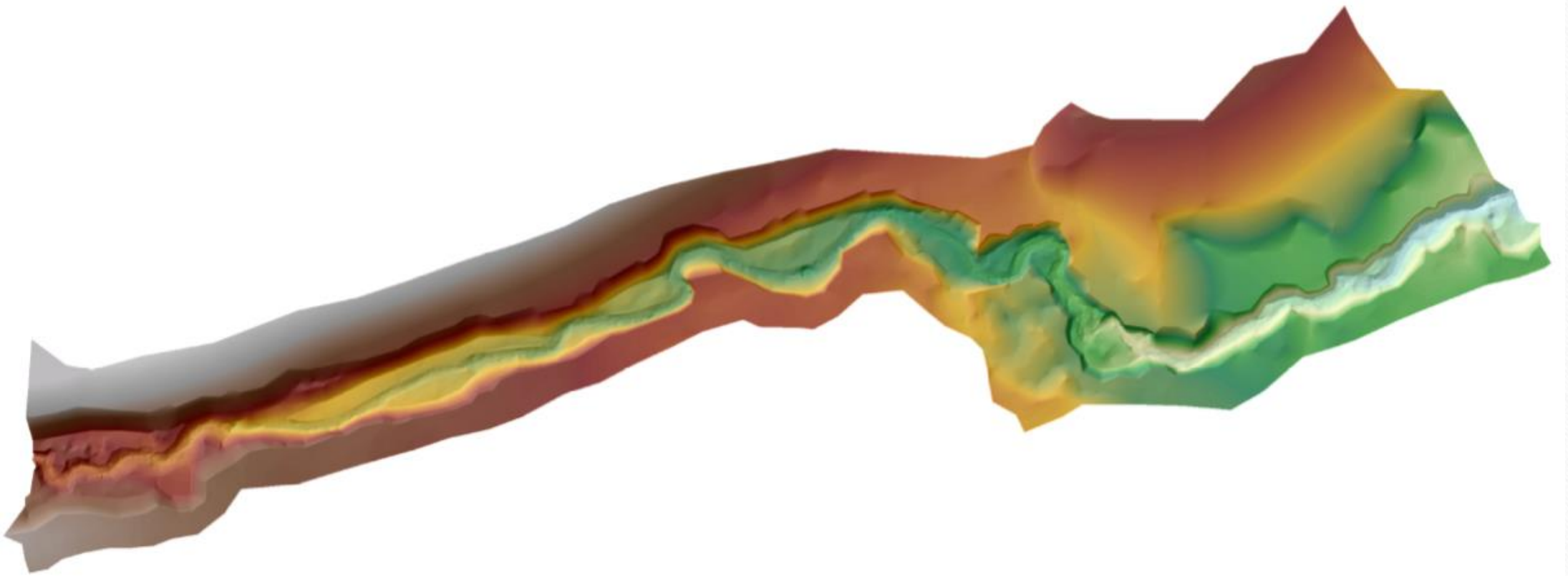


2018 drone imagery of Gance Creek treatment and control sites



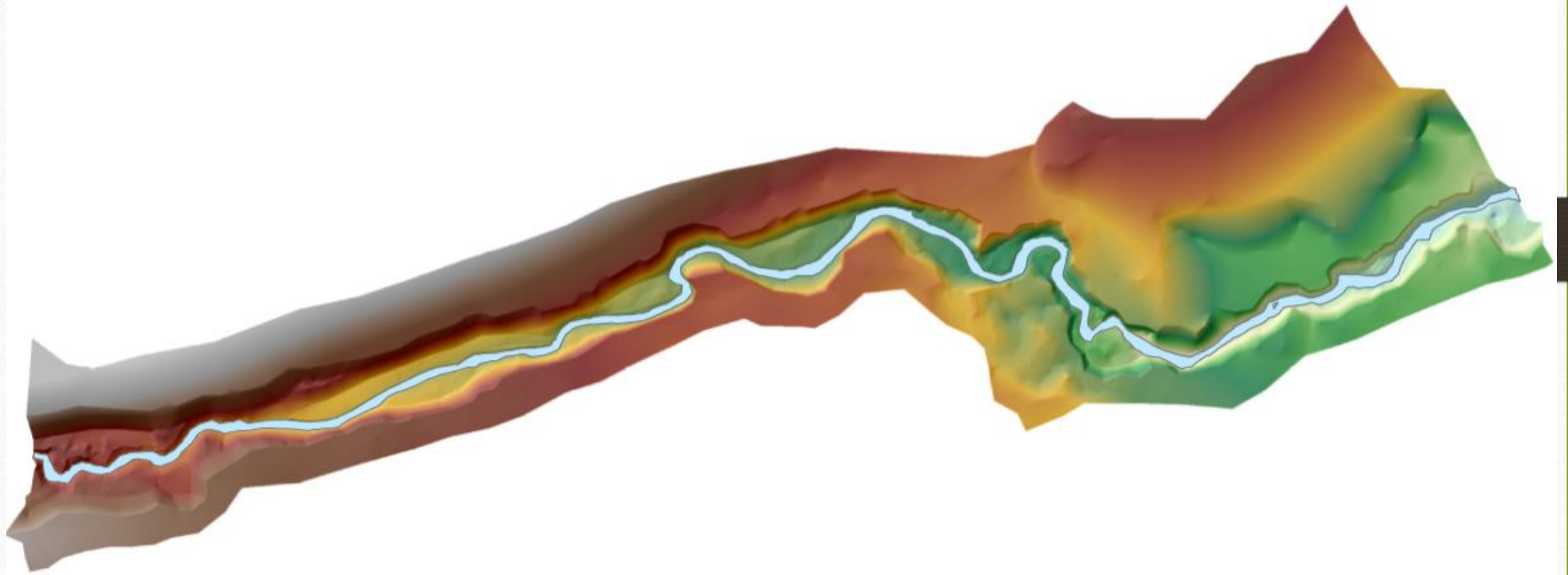
← Treatment Control → (flow)

Gance Treatment 2018 Digital Elevation Model (DEM)



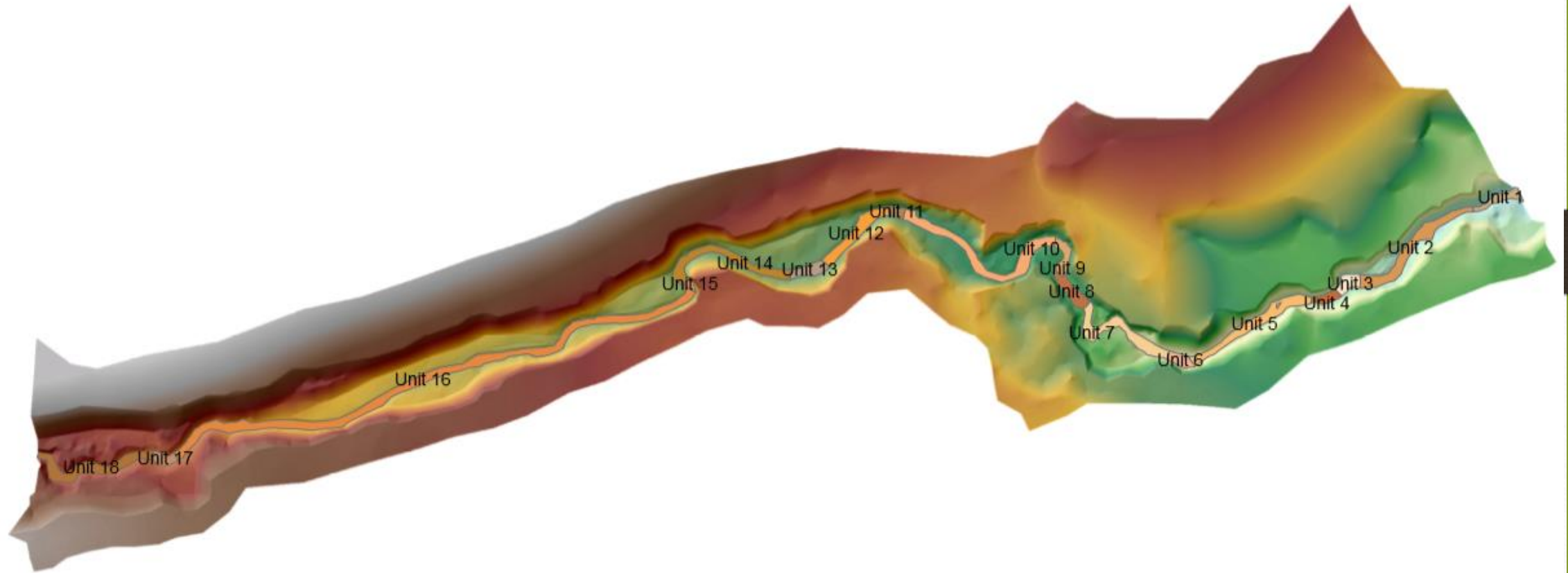
Gance Treatment 2018

Wetted Area



Gance Treatment 2018

Channel Units



CHANGE DETECTION WITH DEM DIFFERENCING

Simple method of quantifying spatial variations in change in storage terms of a sediment budget.

NEW DEM

OLD DEM

= DoD

CONSERVATION OF MASS
VOLUMETRIC

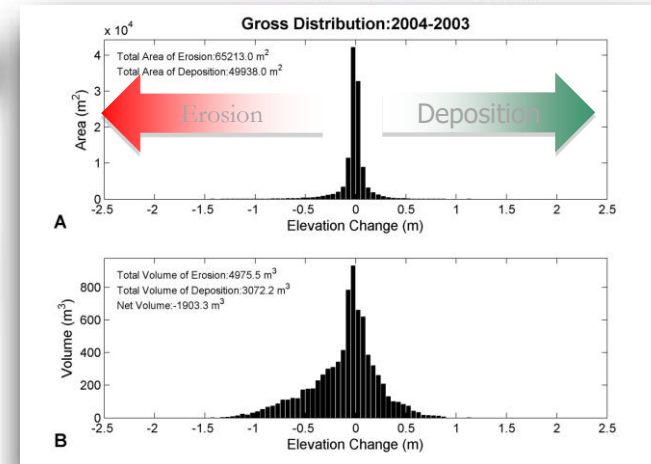
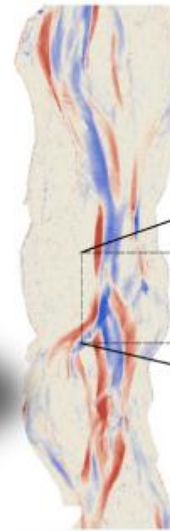
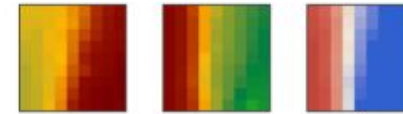
$$Q_{bi} - Q_{bo} = (1 - \eta) \frac{dV_b}{dt}$$

Volumetric rate of bed material transport

Porosity of bed material

McLean & Church (1988) – Water Resources Research

$$\text{NEW DEM} - \text{OLD DEM} = \text{DoD}$$



© Wheaton (2008)

Structures being built in Gance Treatment Dec 2018



Gance Creek photo points



Gance Treatment: Bottom of Site



Dec 2018



Nov 2019



Gance Treatment: Photo Point 2



Dec 2018



Nov 2019

Gance Treatment: Photo Point 6



Dec 2018



Nov 2019

Gance Treatment: Photo Point 7



Dec 2018



Nov 2019









C1C1D1E10010



A landscape photograph showing a dry, hilly environment. The foreground and middle ground consist of rolling hills covered in sparse, dry, brownish vegetation. Several thin, leafless trees are scattered across the slopes. In the background, a prominent, dark, conical mountain peak rises against a clear blue sky. The overall scene suggests a semi-arid or high-altitude habitat.

Cole Creek Habitat Restoration Monitoring











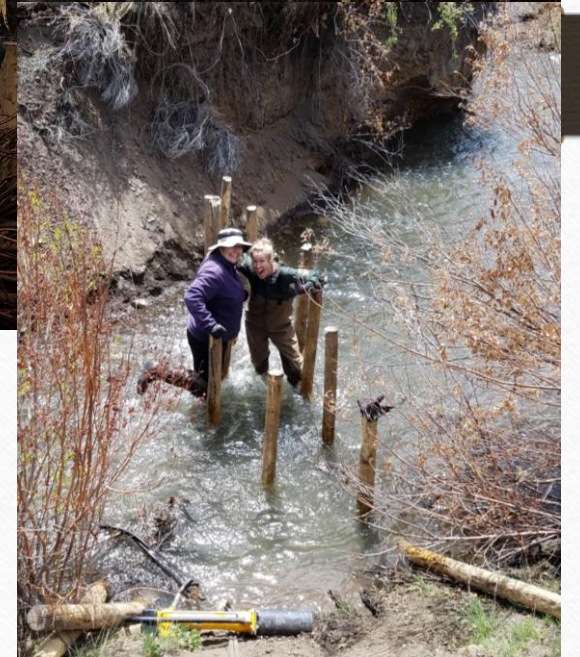


















Questions?
Huge thank you to Boyd Bouwes