

# Carson River UAS Modeling and Monitoring

## Funded through - NDEP 106

**Shane Fryer**  
Watershed Program Specialist  
CWSD

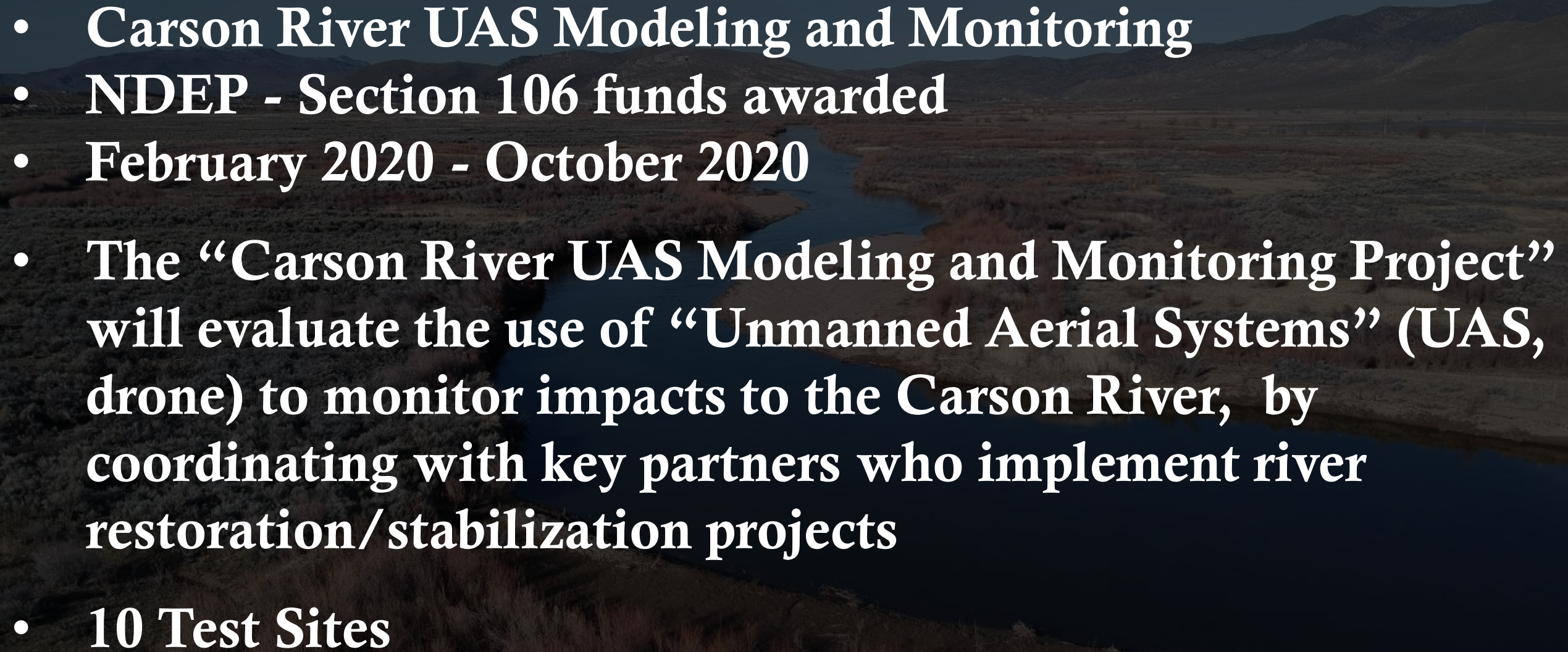


NEVADA DIVISION OF  
**ENVIRONMENTAL  
PROTECTION**



Nevada Department of  
**CONSERVATION &  
NATURAL RESOURCES**



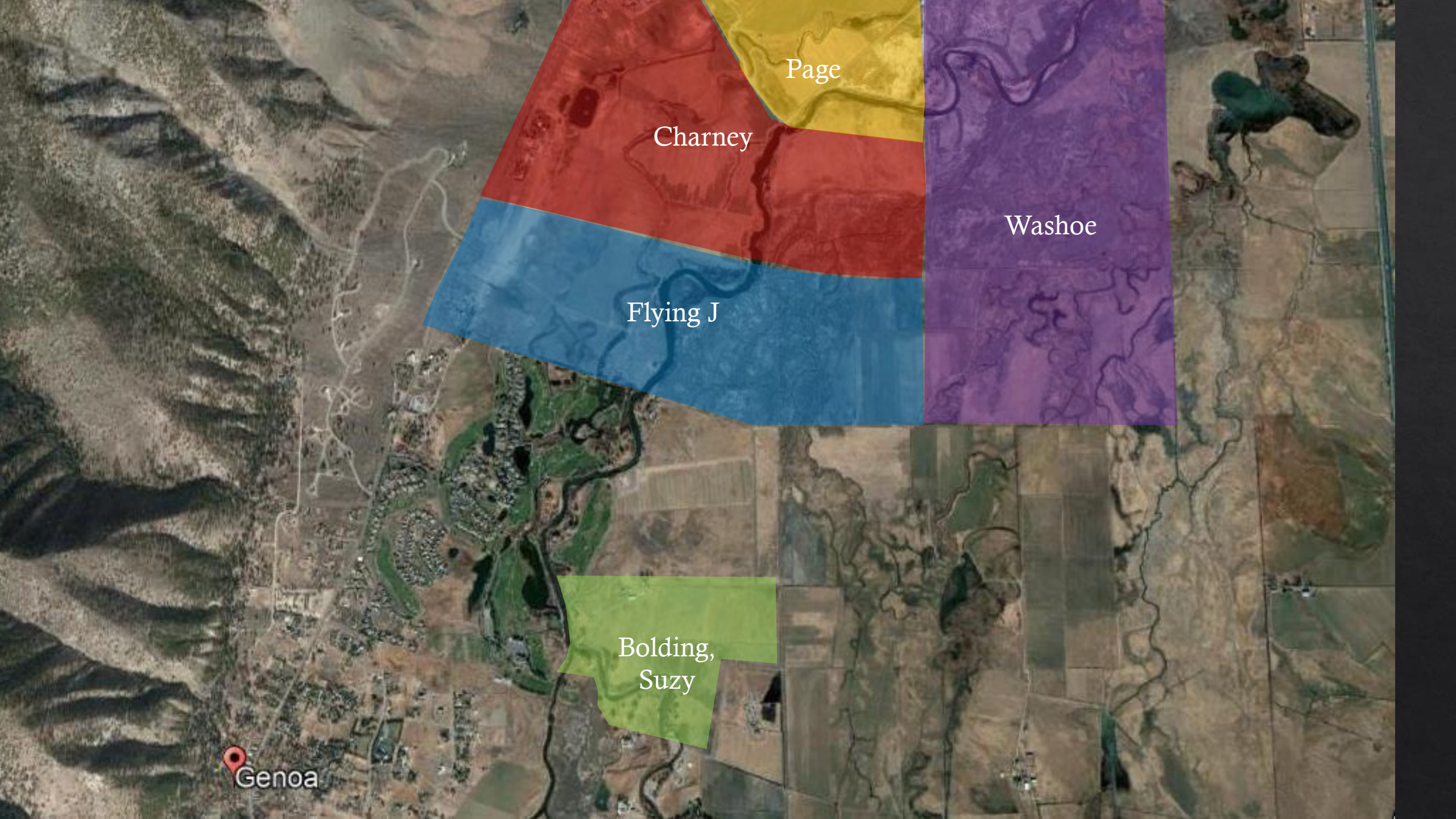
- 
- Carson River UAS Modeling and Monitoring
  - NDEP - Section 106 funds awarded
  - February 2020 - October 2020
  - The “Carson River UAS Modeling and Monitoring Project” will evaluate the use of “Unmanned Aerial Systems” (UAS, drone) to monitor impacts to the Carson River, by coordinating with key partners who implement river restoration/stabilization projects
  - 10 Test Sites



- 
- 1-inch 20MP CMOS sensor and a mechanical shutter
  - 4K Video at 100 Mbps @ 60fps
  - 30-min Flight Time
  - Maximum speed of 45mph

PHANTOM 4 PRO V2.0





Page

Charney

Washoe

Flying J

Bolding,  
Suzy

Genoa



# Bolding, Suzy





# Flying J Ranch









# Charney Ranch





# Charney Ranch

Google Earth



100 m



# Charney Ranch





# Page Ranch

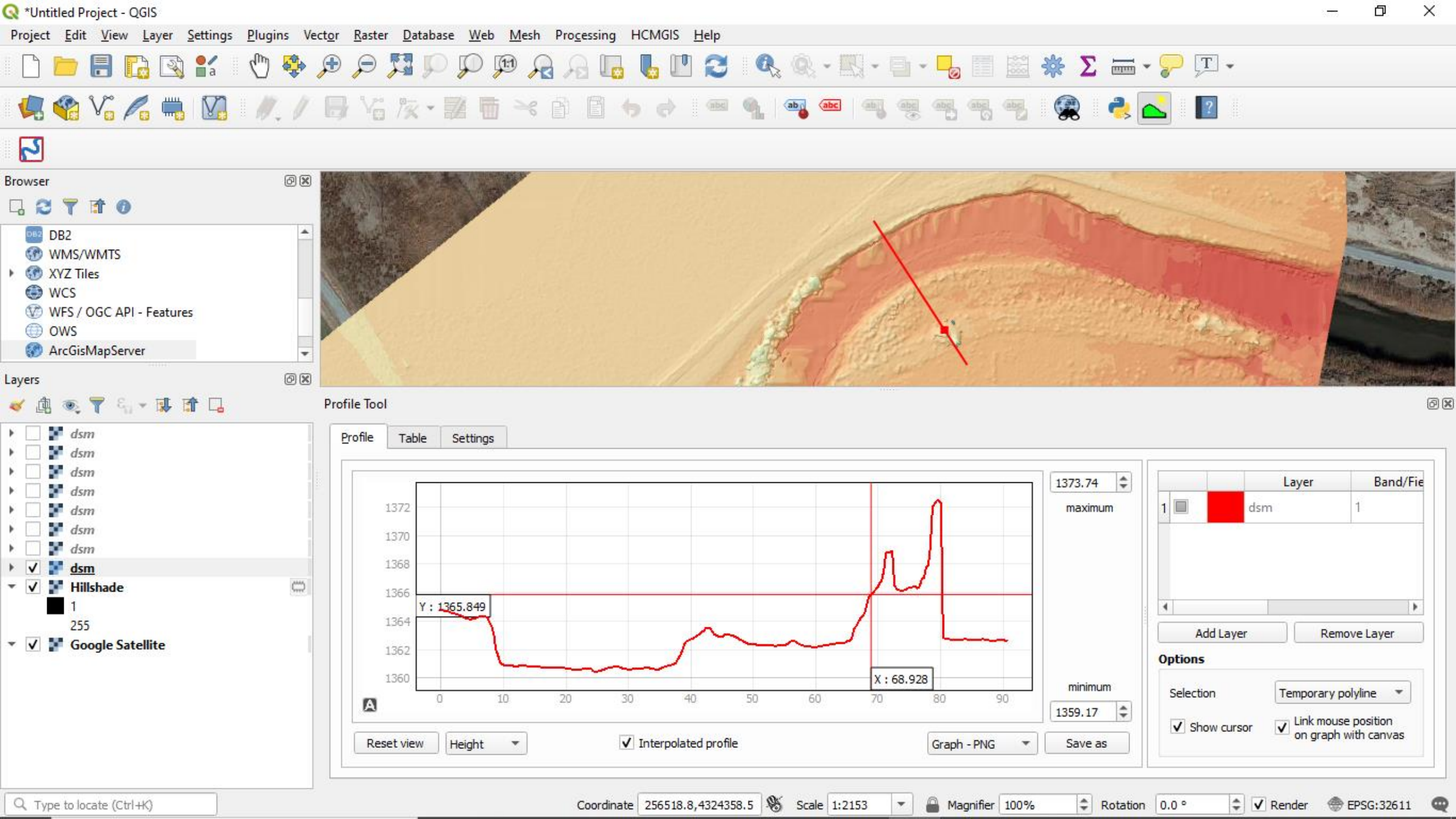




# Page Ranch









256,189.7

256,652.8

4,324,546.4

4,324,546.4

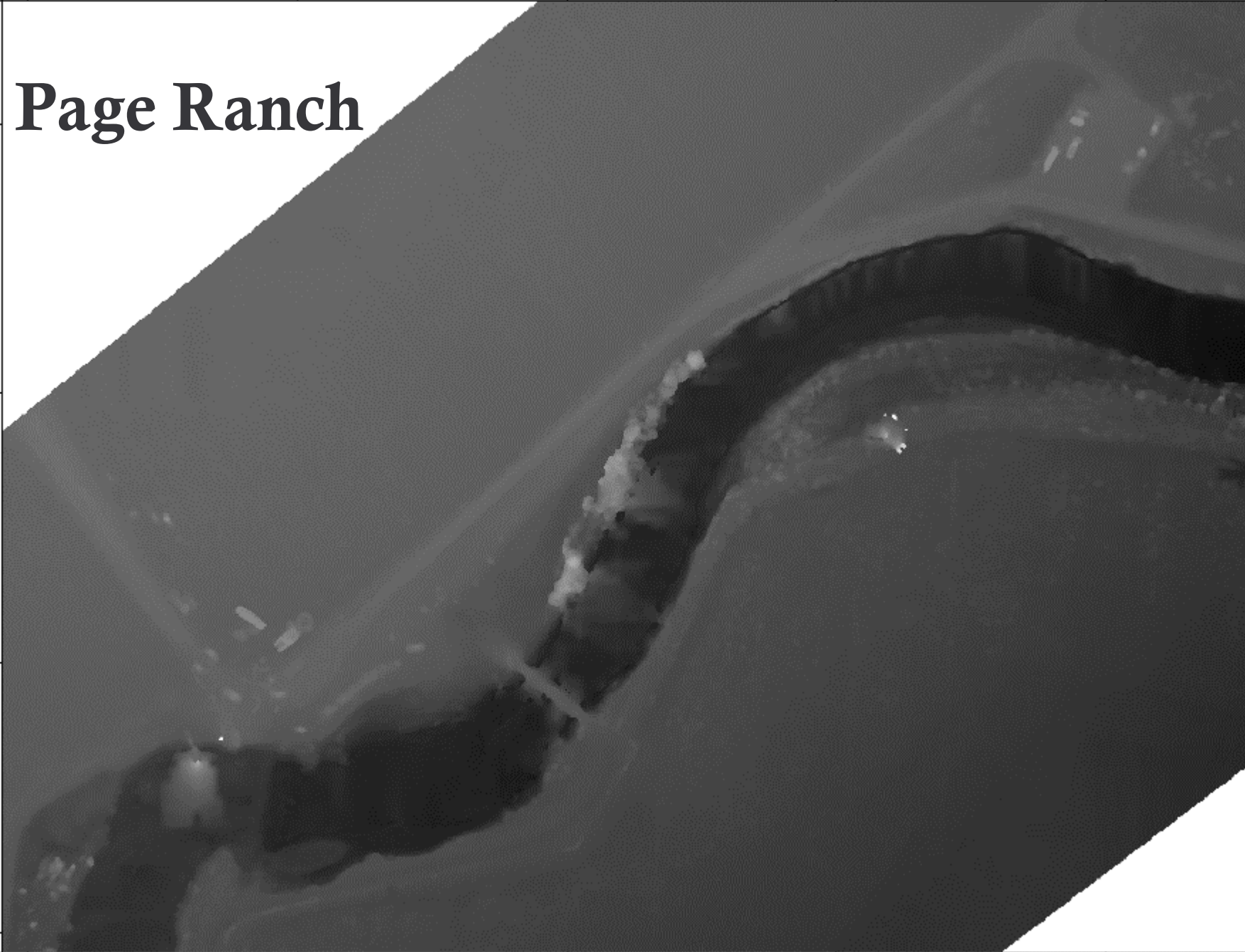
# Page Ranch

4,324,192.7

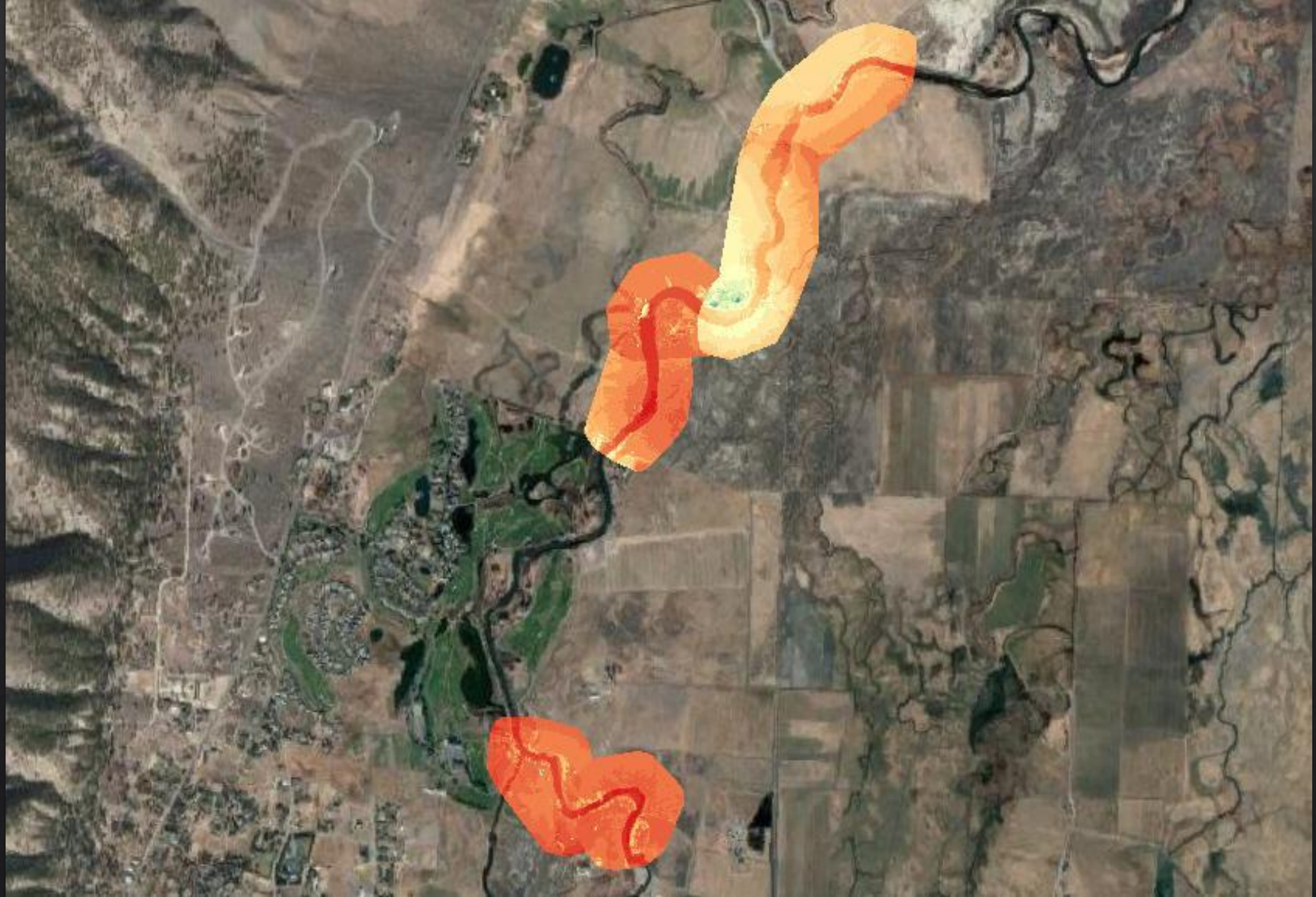
4,324,192.7

256,189.7

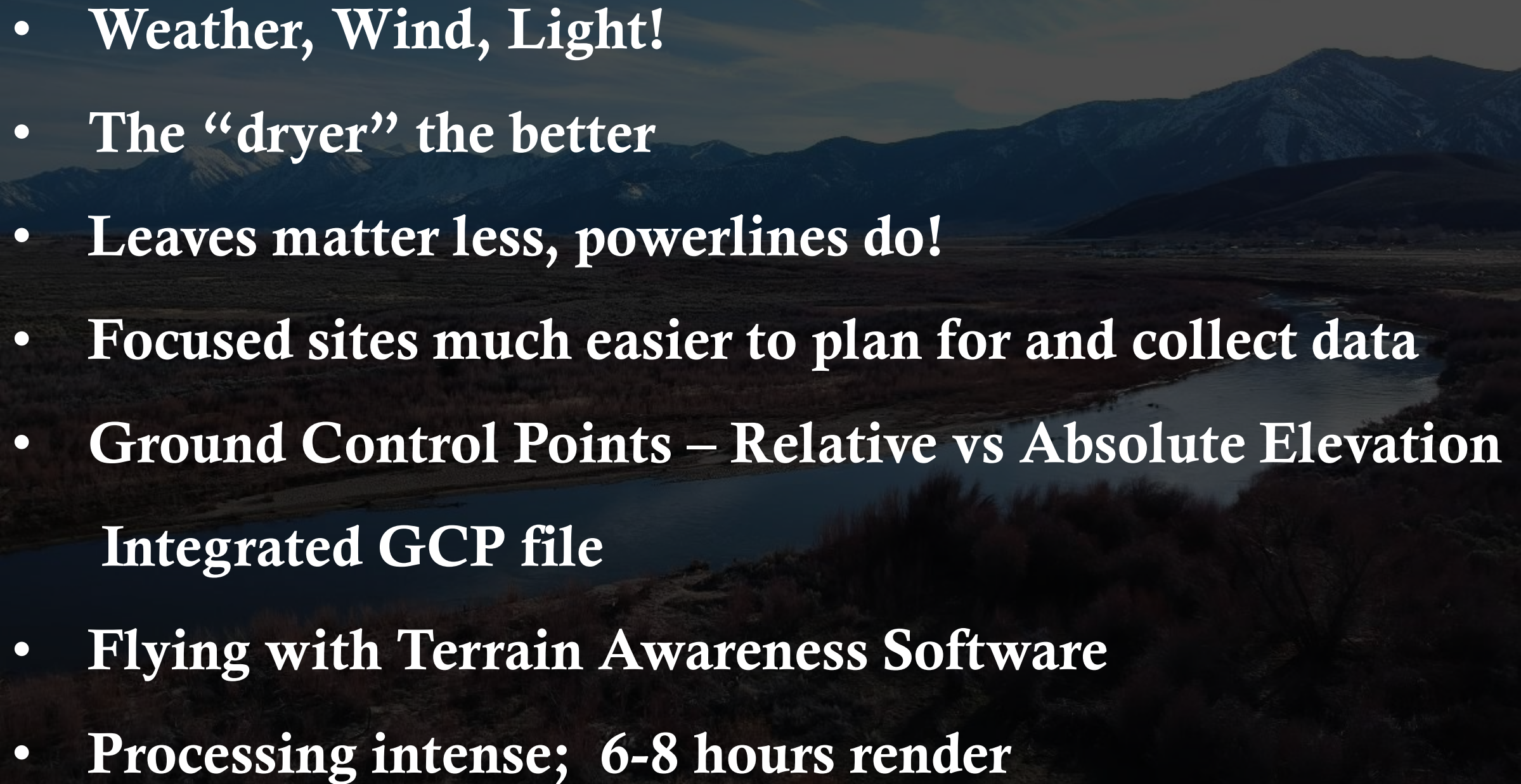
256,652.8









- 
- Weather, Wind, Light!
  - The “dryer” the better
  - Leaves matter less, powerlines do!
  - Focused sites much easier to plan for and collect data
  - Ground Control Points – Relative vs Absolute Elevation  
Integrated GCP file
  - Flying with Terrain Awareness Software
  - Processing intense; 6-8 hours render



# Cradlebaugh Bridge





# Buzy's Ranch





# Kock Ditch





# Buckland Ditch





# Lost Lakes

Google Earth



3 km



# West Fork





# Fort Churchill





# Lahontan Delta

Questions?

Shane Fryer  
Shane@CWSD.ORG