THERE'S GOLD IN THOSE HILLS!

Sasha Gennet
Senior Scientist, California
GLOBAL RANGELANDS EXTENT

- 30-50% land area
- 1 billion people
“...trees would naturally cover all surfaces of the earth except where land had been ‘ruined.’”

CALIFORNIA RANGELANDS

• 30-60% land area

• ~16,700 ranches

• 4th largest beef producing state, with 5.3M head in 2013

• >85% grasslands privately owned
RANGELAND CONVERSION
RANGELAND CONVERSION

SOILS

- Produce forage
- Hold and purify water
- Nutrient cycling
- Store carbon (30% total global soil stocks)
- Influence biological communities, diversity
PLANTS

- Mediterranean regions contain 2% land area, 20% flora
- 1348 native grassland species
- 300 species of native grasses
- Grasslands = 40% CA native plants, 82% of listed plants

“Here it is not ... flowers sprinkled in the grass, but grass in the flowers. This is the True Florida, the true land of flowers.”

– John Muir at Pacheco Pass, ~1868
WILDLIFE
WILDLIFE

• Mitigation for T and E species
• Public lands grazing leases
• Hunting
• Ecotourism opportunities
PEST CONTROL AND POLLINATION BENEFITS

- 1600 native bee species
- Wild pollinators needed for fruit set
- Between ~$1 - $2.5B service
- Rangelands primary land cover
- Natural enemies of crop pests enhanced by herbaceous habitat

• Groundwater overdrafts due to ag and urban use
• Avoided rangeland conversion may be cost competitive with other procurement options
• Possible PES opportunity - Water fund
WATER: QUALITY

• Range management improves water quality
• 87% reduction in listed waterbodies
• Benefits compared to ag and urban uses
GREENHOUSE GAS MITIGATION

- Enteric fermentation and manure management are GHG emission sources
- Rangeland plants and soils store carbon, mitigate emissions
- Variable between years
- Net sink CH4 (methane)
LIVELIHOODS

- Deep commitment to ranching
- Off-ranch income
- Increase production preferred to PES
- Resilient community
THANK YOU, CRCC!
Why don’t we have the science we need?

- Understanding of how C is sequestered in soil has changed dramatically in past 5 years

- Some proposed practices are novel