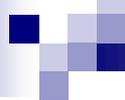


# Keeping Rangelands Working: Lesson from Ranching on the Urban Edge



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# Topics to be covered

- Why should “we” keep rangeland working?
  - Cash studies and research that tells the story
- Challenges to keep working rangeland viable
- The value of grazing impacts
- The value of rancher stewardship
- Opportunities for California’s ranchers

# Productive Lands in Harmony with a Healthy Environment





Working rangelands provide for ...  
watershed protection



San  
Francisco

Alameda  
Watershed

San  
Jose



*Cooperative Research & Development between Pacific Gas & Electric Company and  
the U.S. Geological Survey on Earthquake Hazards in the San Francisco Bay Area*

A landscape photograph showing rolling green hills in the background, a large reservoir in the middle ground, and a grassy field in the foreground. The sky is overcast with grey clouds. A fence line runs across the middle ground, and a large tree is on the right side.

San Francisco Watershed lands –  
40,000 acres in Alameda and  
Santa Clara Counties- high quality  
drinking water

# San Francisco Targets Cattle

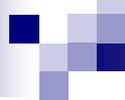


Potential for  
*Cryptosporidium parvum*  
in the Municipal  
Water Source





**Catastrophic wildfire is a  
HUGE risk to water quality**



# Alameda Watershed

- Cattle grazing revenue  
\$300,000/ year

- Estimated fire management costs  
(5-10 years)

Thinning, Mowing	\$3,461,000
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# Change in land use can significantly impact water quality





**Working rangelands provide...  
critical endangered species habitat**



# North-side Tulare Hill 2002



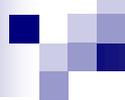
# North-side Tulare Hill 2007





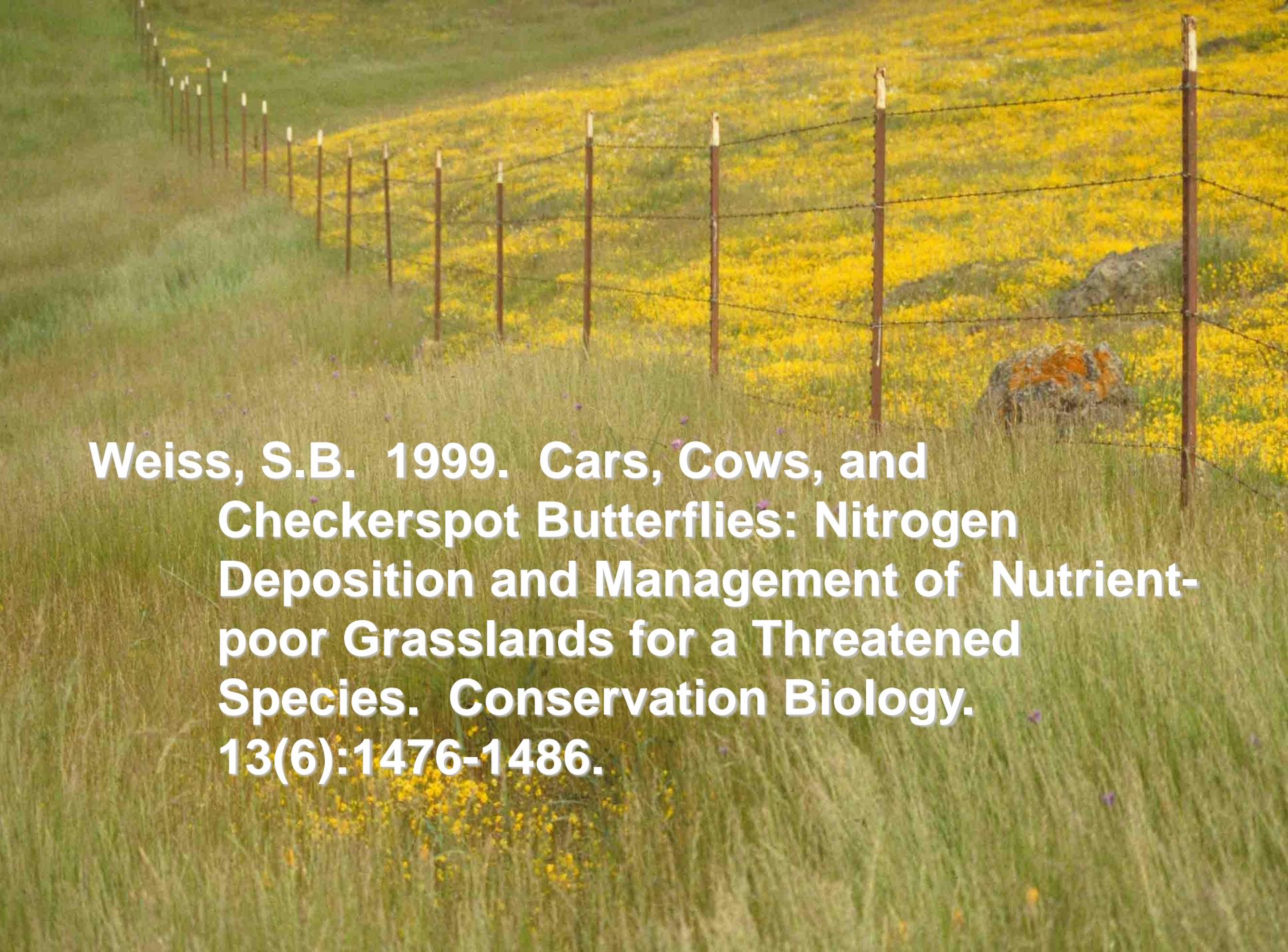
# What happened on Tulare hill between 2002-2007?

1. The rainfall was different between the years.
2. The hill was fertilized.
3. Cattle were removed.



# Removes excess N to promote native plants

- Livestock graze grass which can accumulate excess N like from dry N deposition from automobile exhaust

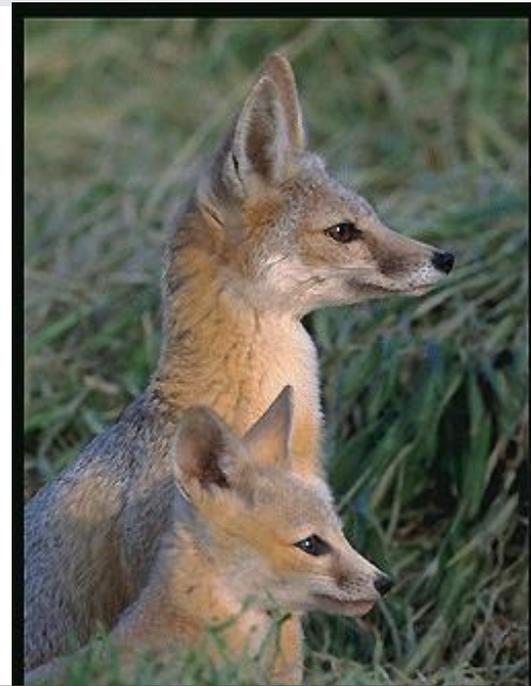
A photograph of a grassy field with a wire fence and yellow wildflowers. The fence is made of wooden posts and three strands of wire, running diagonally across the frame. The field is filled with tall grasses and numerous yellow wildflowers. In the background, there are some rocks and a small structure. The overall scene is a natural, rural landscape.

**Weiss, S.B. 1999. Cars, Cows, and Checkerspot Butterflies: Nitrogen Deposition and Management of Nutrient-poor Grasslands for a Threatened Species. Conservation Biology. 13(6):1476-1486.**

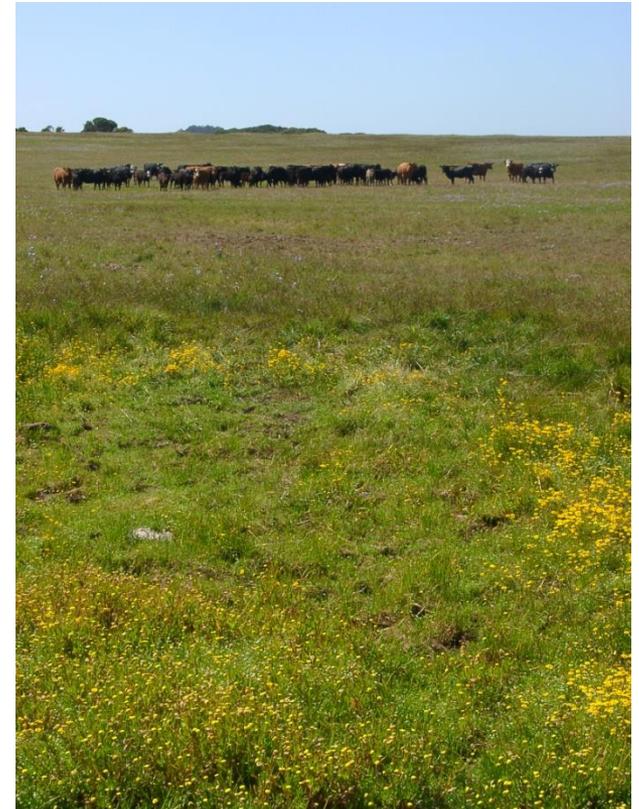


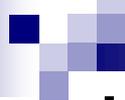


# Working landscapes support biodiversity & special status species management



# Grazing increase biological diversity and maintain hydrologic function of vernal pool grasslands



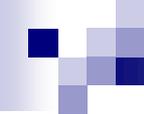


# How much of California's landscape is grazed by livestock?

1. 5%
2. 20%
3. 40%
4. 70%

# Challenges of Keeping Rangeland Working





# Challenges

1. Economic

Regulatory compliance

2. Economic

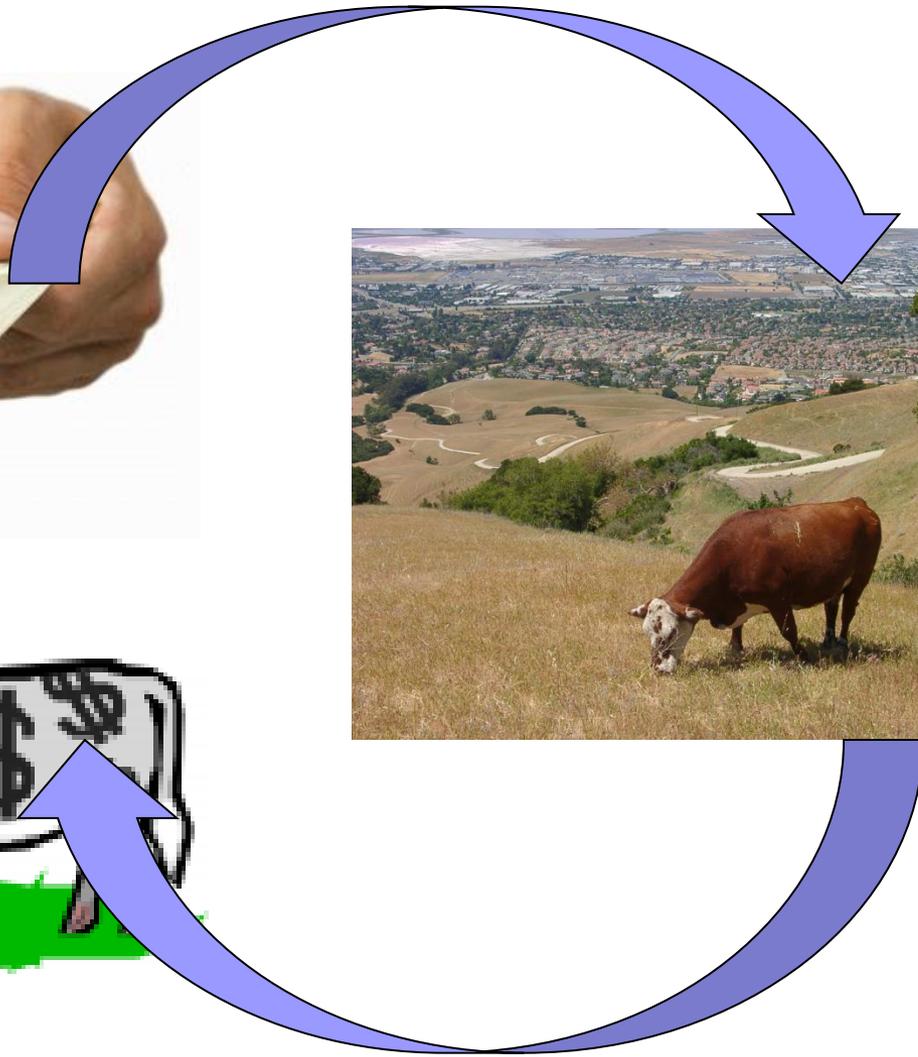
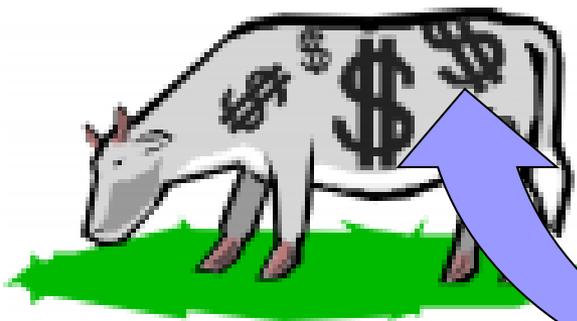
Access to forage

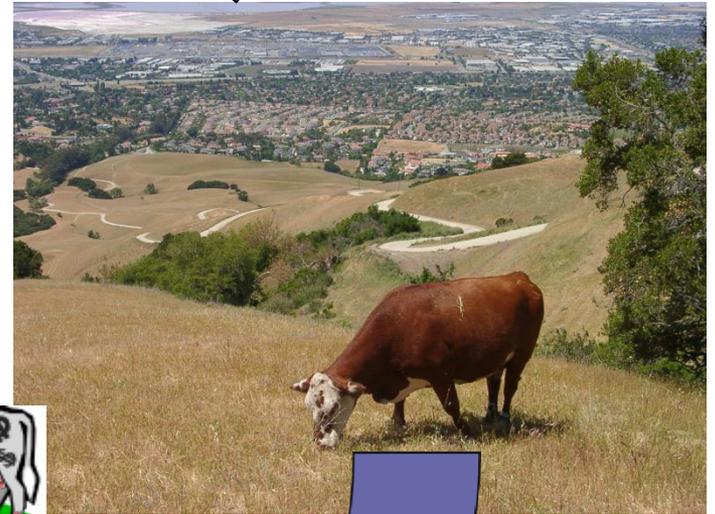
3. Economic

Cost of doing business

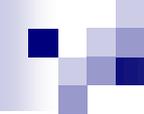
**Which way are benefits  
flowing?**











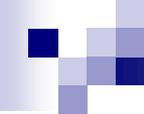
# California's grasslands evolved with "Management"

- Pleistocene Mega Fauna extinct 10,000 years ago
- 10,000 years of fire and disturbance by Native Peoples
- Last 200 years without fire, exotic grazers









# California's grasslands evolved with "Management"

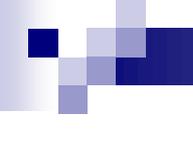
- Pleistocene Mega Fauna extinct  
10,000 years ago
- 10,000 years of fire and disturbance by  
Native Peoples
- Last 200 years without fire, exotic  
grazers



# Control naturalized plants

- Livestock can graze annual grasses to promote native floral diversity and associated species





# Livestock can enhance coastal prairies through controlling thatch and annual grasses

Hayes, G.F. and K.D. Holl. 2003. Cattle grazing impacts on annual forbs and vegetation composition of Mesic Grasslands in California. *Conservation Biology*. 17(6):1694-1702.



# “Cessation of grazing is a threat”

Hayes, G. 1998. The Saga of the Santa Cruz Tarplant. *Four Seasons*. 10 (4):18-21.



# Livestock can enhance desert scrub by controlling annual grasses

Germano, D.J. et. al. 2001. Managing exotic grasses and conserving declining species. *Wildlife Society Bulletin*. (2): 551-559.



# Provide bare ground

- Livestock can create open ground to improve wildlife habitat for foraging, thermoregulation, and movement



# Livestock grazing can maintain hydrologic function of ephemeral wetlands

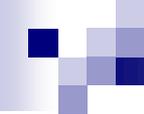


Pyke, CR and J. Marty. 2005. Cattle grazing mediates climate change impacts on ephemeral wetlands. *Conservation Biology* 19:1619-1625.



Livestock can control encroaching brush in order to open dense canopies to promote wildlife corridors and habitat and maintain grasslands.



- 
- Fire suppression and reduced grazing have resulted in vegetation-type conversion

Russell, W.H. and J. R. Mc Bride. 2003.

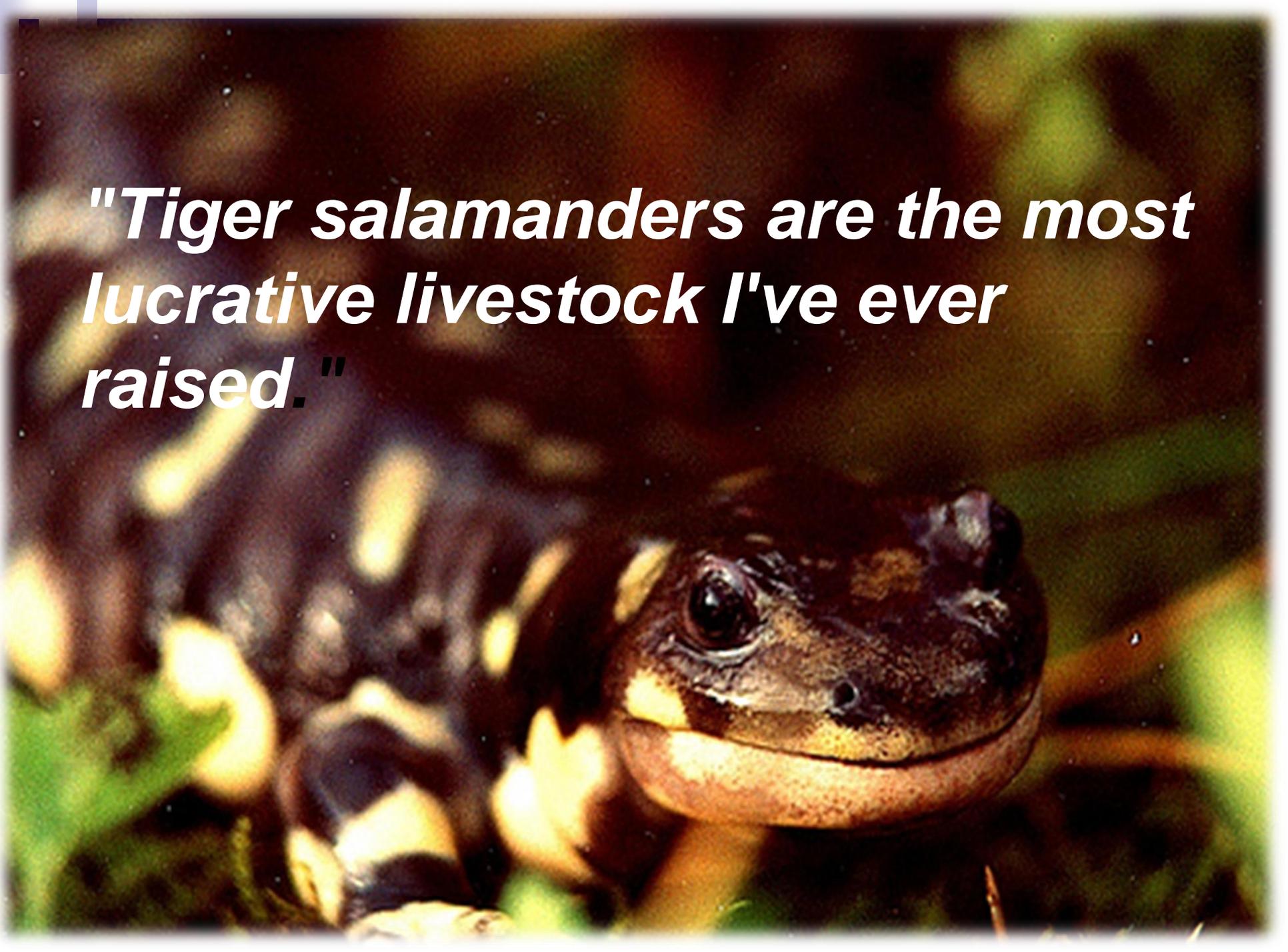
Landscape scale vegetation- type conversion and fire hazard in the San Francisco bay area open spaces. Landscape and Urban Planning. 64:4:201-208



**For some native species, habitat elements don't need to be Native**



***"Tiger salamanders are the most  
lucrative livestock I've ever  
raised."***



**Working rangelands provide on-going stewards(rancher)**



# Ranchers Create Habitat







manage h



“Nature takes care of itself vs  
working landscapes”



**Working rangelands provide.....  
food and fiber.**



# Opportunities for California's Ranchers



# Keystone Species: Ranchers





# Questions