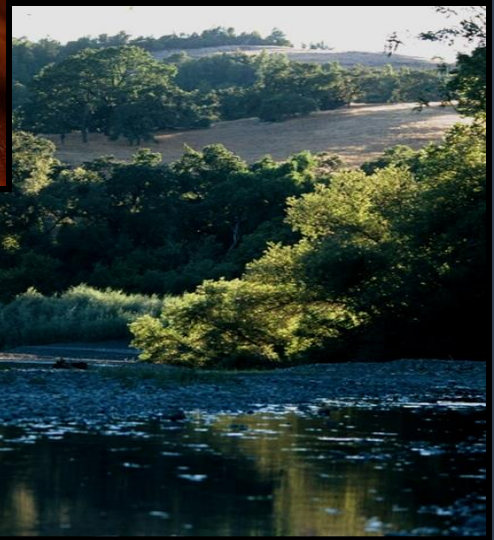
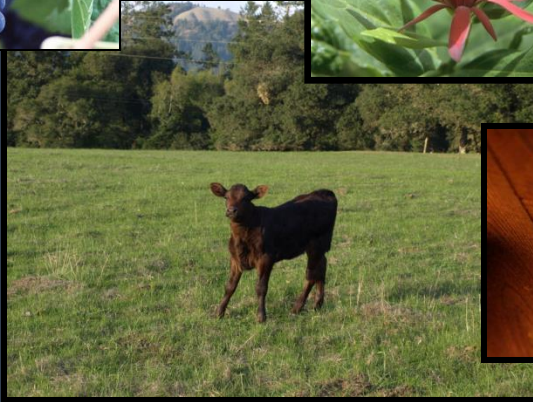
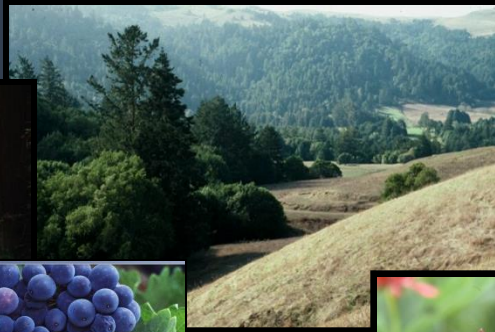


Enhancing Investment In Natural Capital: Working Lands & Natural Areas



Sonoma County Agricultural Preservation & Open Space District

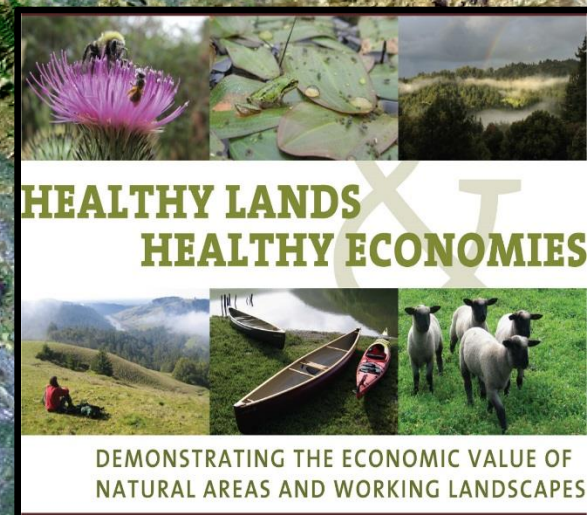
- community vision: 1990
- re-authorized 2006 (76%)
- ¼ cent sales tax/leverage
- multi-objective: agriculture, open space, biodiversity, water, recreation
- protection of 106,000 acres to date (easements/fee title)
- economic implications
 - ROI/avoided cost





San Francisco Bay Area/Central Coast:

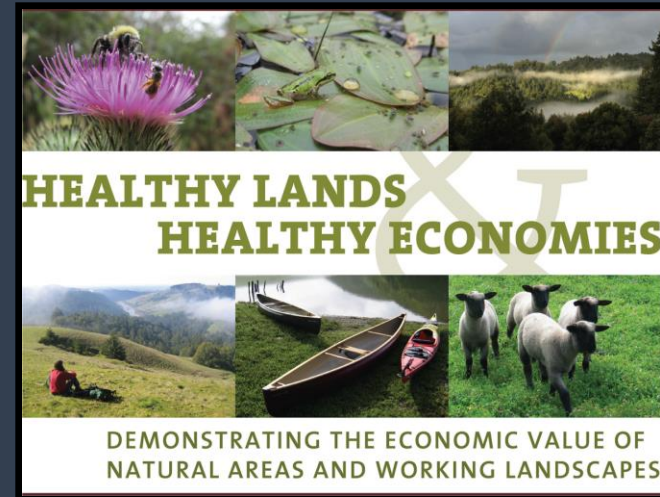
- Sonoma
- Santa Clara
- Santa Cruz



Valuing Natural Capital

Local and Regional Benefits

- goal: increase scope and scale of conservation
- lever: informed community & decision makers
- Increase efficiency and impact of investments
- regional: *Healthy Lands & Healthy Economies*
- local: case studies (20)
- how do analyses translate to outcomes for working lands, ecosystems and communities?



US & California Policy Landscape

Federal:

- US/China climate accord and action on drought
- State and local partnerships on resilient communities

California

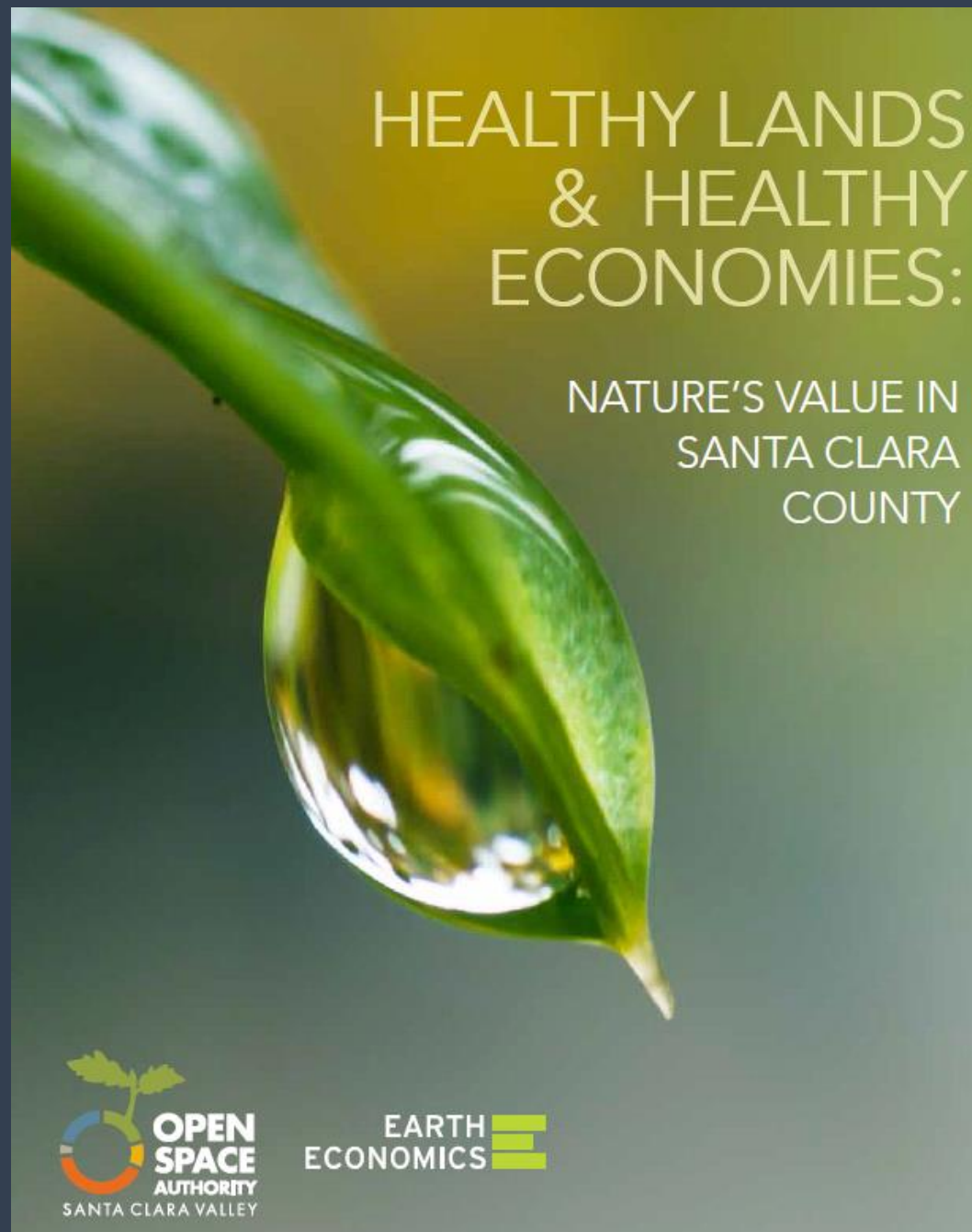
- AB 32: California Global Warming Solutions Act
- SB 375: Sustainable Communities/Climate Protection Act (land use & GHG emissions)
- CA Water Bond: \$7.5 billion water supply/water quality infrastructure & ecosystem conservation
- Climate adaptation legislation

Local

- Assertive climate action, land use and conservation policies
- Local funding measures: climate and conservation
- California land use decisions are local (3 votes on Tuesday)

Screening Level Reports:

- Santa Clara County
- Santa Cruz County
- Sonoma County

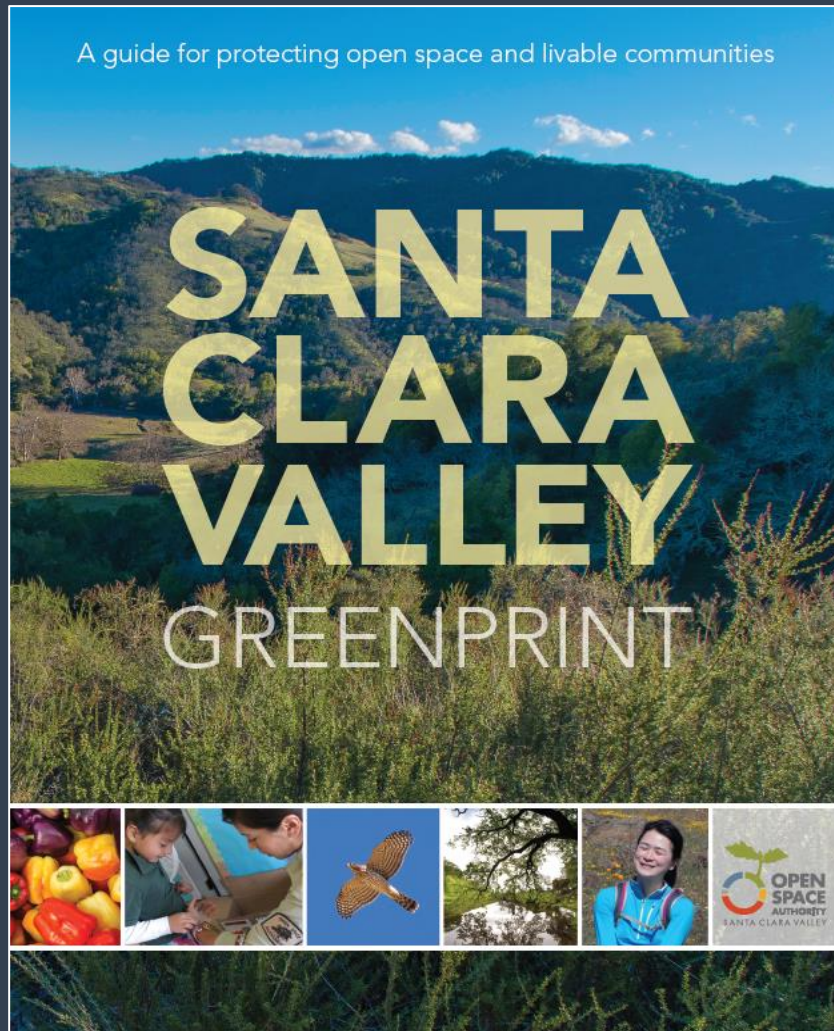


Value of Three County Natural Capital (benefits transfer)

	Area (Acres)	Total Annual Ecosystem Service Flows (\$billion)		Net Present Value, Countywide 100 Yr @ 3.5% (\$billion)		Net Present Value, Countywide 100 Yr @ 0% (\$billion)	
		Low	High	Low	High	Low	High
Santa Clara	835,166	1.6	3.9	45	107	162	386
Santa Cruz	286,107	0.8	2.2	22	60	81	219
Sonoma	1,016,757	2.2	6.8	60	188	217	677

Source: Earth Economics, 2014

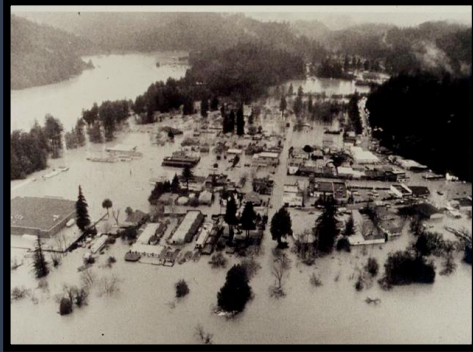
Local and Regional Conservation Applications of Ecosystem Services



Santa Clara: Multi-scenario analysis of investments in Silicon Valley's Upper Watershed Services



Multiple Benefits of Conservation: Key Themes & Geography



flooding



ag viability



carbon sequestration &
emissions avoidance



water



urban open space



coastal resiliency



riparian corridors

Multiple Conservation Objectives & Economic Benefits

Endangered Dairies/Endangered Fish

Dairies in Sonoma County & California at risk:

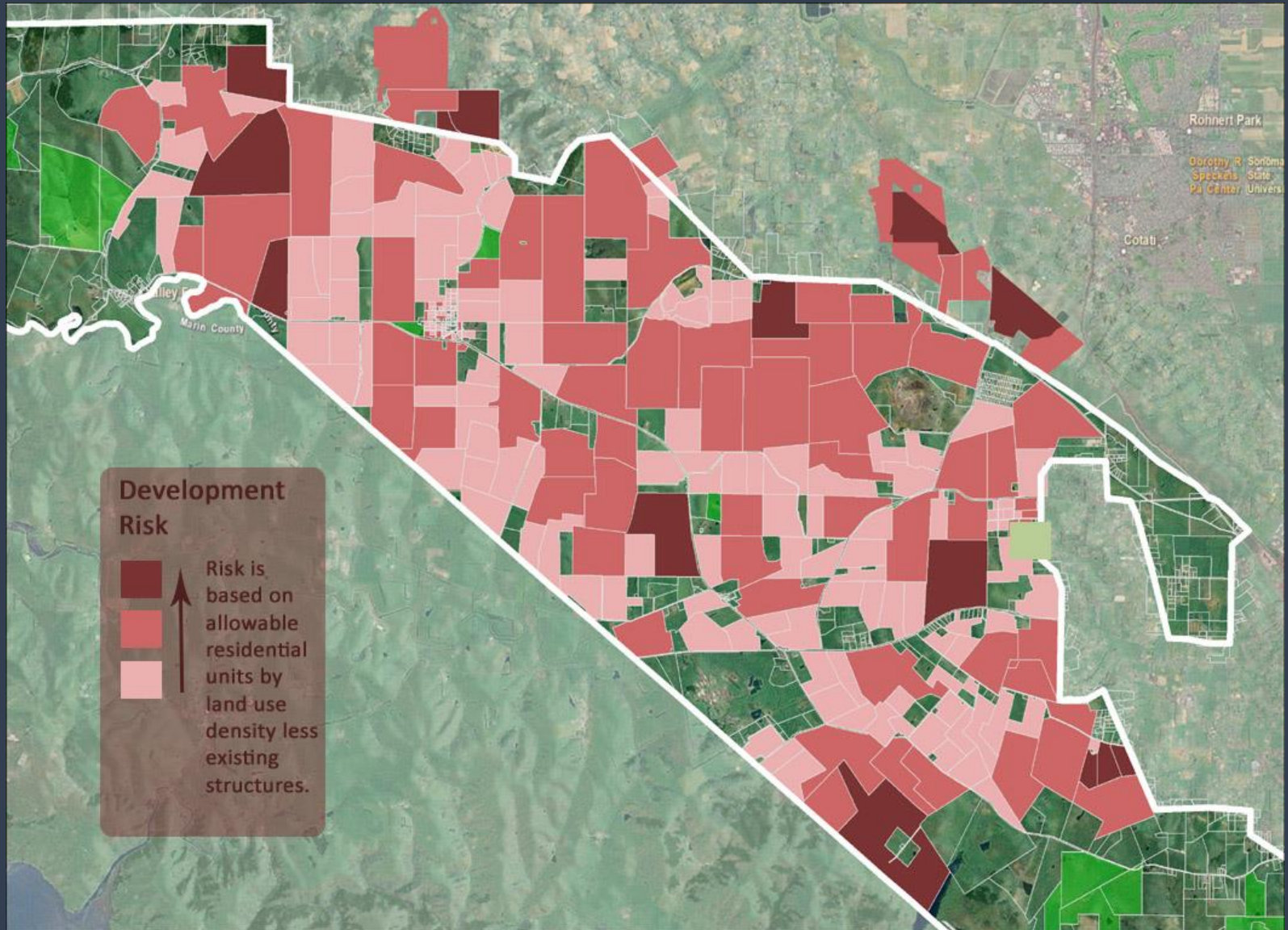
- Market conditions (individually and collectively)
- Development pressure
- Regulatory pressure
- Limited agricultural infrastructure/secondary services
- Connectivity of dairy landscape (like wine appellations)
- Lack of public understanding/support

Coho population endangered due to:

- Habitat degradation
- Poor water quality
- In-stream flows

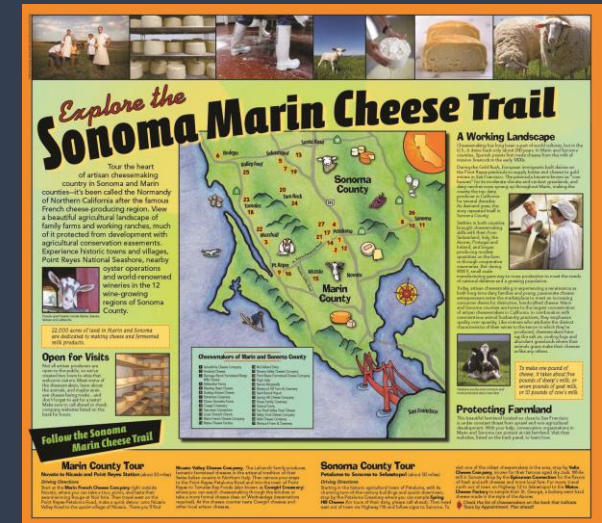


The Sonoma County "Dairy Belt"



Multiple Benefits of Conservation Cows, Fish, Open Space, Cheese, Jobs and \$\$\$\$\$

- Artisanal Cheese Production in Sonoma/Marin counties
- \$120 million annual sales/8 million lbs
- 332 people employed/22 plants
- 70% own the land and dairy
- **72% have agricultural conservation easements (9,000 acres) and used the proceeds to capitalize their transition**
- Co-benefits of ag conservation:
 - climate, biodiversity, tourism, scenic, air and water quality
- Economic: natural capital appreciates



Regionally
Significant
Habitat Area



Habitat
Linkage



Coolley
Ranch

128

101

Cloverdale

Redwood Hwy

Yorkville

Boonville

Philo

Hopland

Gualala

4.94 mi

© 2014 Google
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat

Google earth

Imagery Date: 8/17/2013 38°48'23.67" N 123°07'56.31" W elev 1246 ft eye alt 20.45 mi

Multiple Benefits: Riparian Corridor Conservation



- How wide for long term function? (LIDAR/ecological analysis)
- What are the multiple benefits and values of functional corridors?
- What is in/out of the regulatory frame?
- What are new tools for the voluntary/incentive side of the equation?



Riparian Corridor – Functional Width Evaluation



Modeled Extent of Riparian Habitat



Riparian Corridor Evaluation & Enhancement



Riparian Corridor Evaluation & Enhancement



© 2014 Google

Google earth

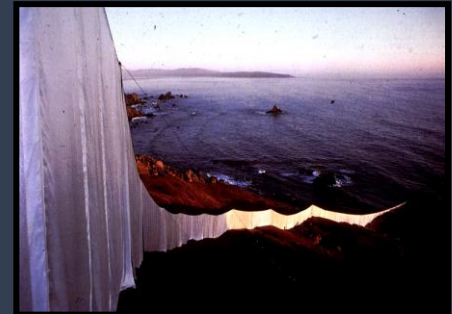
Imagery Date: 4/20/2013 38°36'42.18" N 122°46'30.58" W elev 137 ft eye alt 795 ft

1993

Implications:

Multiple Benefits of Conservation

- beyond a project: long term focus/new way of doing business
- decision support: applied science/credible data (ongoing)
- integration of “siloeed” data, sectors & interest groups:
 - economic + biophysical; built + natural capital data
 - water agencies, public health, farm bureau, economic development, transportation agencies
- test bed for state and federal policy objectives
- messaging & reporting:
 - performance and ROI to community/decision makers
 - Integrated multiple benefits of conservation
- investments in human and social capital:
 - capacity building/collaborative learning
 - social change detection



Funders and Partners

- Gordon and Betty Moore Foundation
- S.D. Bechtel, Jr. Foundation
- California State Coastal Conservancy

