

“Ecology and Management of Coastal Grasslands for Conservation Policy and Planning”



Lawrence D. Ford, Ph.D.

LD Ford Rangeland Conservation Science (Consultant; 831-335-3959, fordld@sbcglobal.net)

Research Associate, U.C. Santa Cruz

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CONSERVATION PROSPECTS

Raymond F. Dasmann's Challenge:

“...parks and wilderness areas are important... But these are not the answer to nature conservation, or even likely to be a large part of the answer. It is the way we care for the lands where we live... that will be more important... our greatest challenge will be in producing our food and fiber, and obtaining fuels and minerals in ways that are not environmentally destructive.

...the fringe lands, the farmlands, the ranges, pastures, and managed forests are the areas where the real conservation issues of the next two decades will be faced.”

From: Dasmann, R.F. 1981. The country in between. Introduction to the Wilderness 1982
Sierra Club Engagement Calendar.

CA Coastal and Valley Grassland Types (ecological)

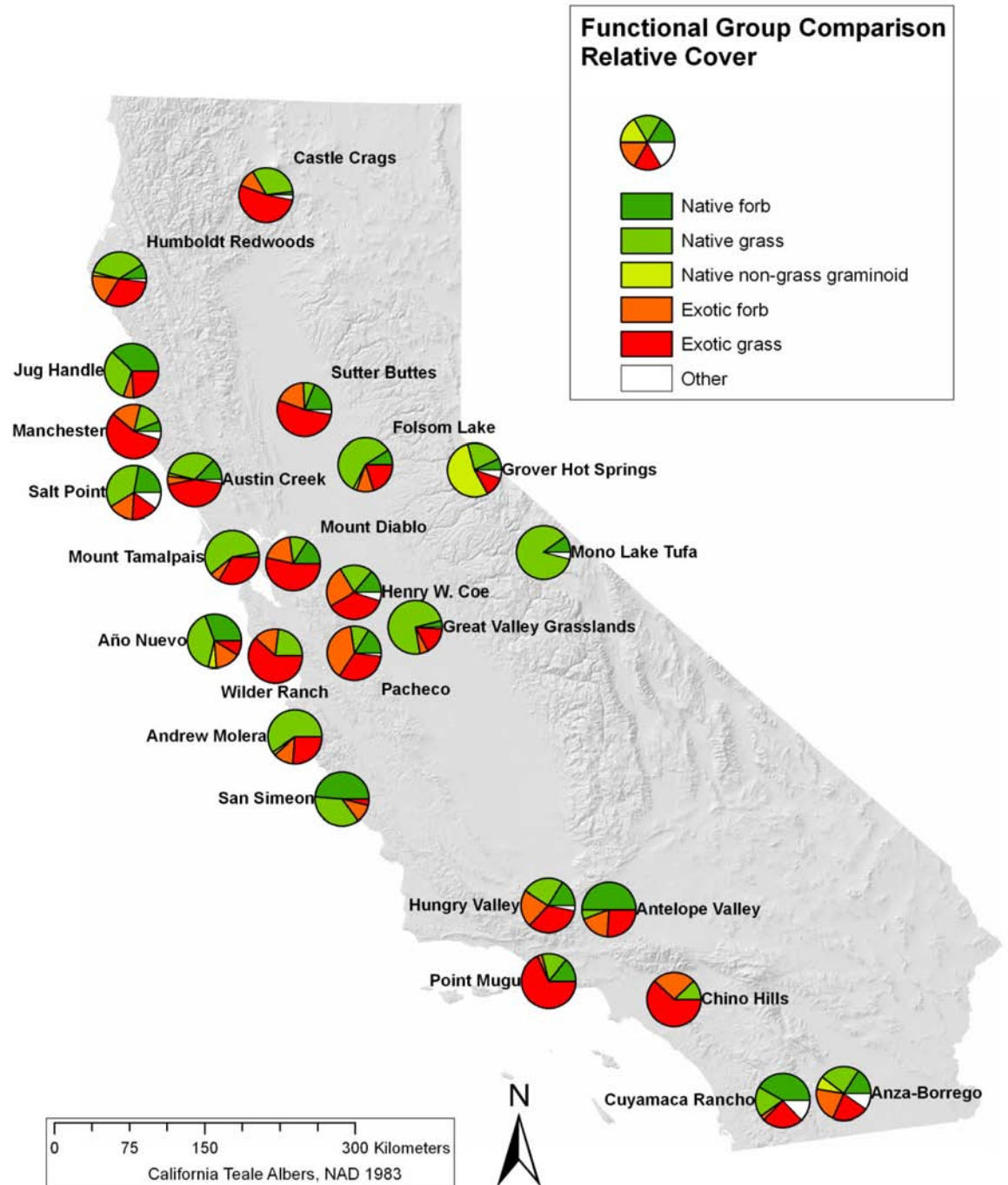


Theories of Calif. Grassland Conversion from Native to Non-Native Plants:

1. Transport by explorers and/or settlers
2. Ecological pre-adaptation
3. Vulnerability to heavy grazing
4. Grasshoppers
5. Agricultural conversion of sites and disturbance of soils
6. Soil erosion
7. Reduced frequency and intensity of fire
8. Combination (!)

Native Vs. Non-Native Composition of Grasslands in California State Parks

From: Hopkinson, Hammond, Spiegel, and Bartolome (U.C. Berkeley). 2009. "Quantitative Assessment and Characterization of Selected State Park Grasslands." California Dept. of Parks and Recreation, Grassland Assessment and Prioritization Project.



Historical Loss of Coastal Grassland:

1. Conversion to crop agriculture or urban development
2. Natural succession to woody vegetation
3. Cultural and economic shifts
4. “Conservation” (reduced grazing and burning)



CONSERVATION PROSPECTS

Special-Status Species of California Grasslands

Disappearing California grassland native animals and plants dependent on functioning grassland habitat:

23 mammals
17 birds
9 amphibians
5 reptiles
? Invertebrates
479 plants



Scotts Valley Spineflower
Chorizanthe robusta var. *hartwegii*

Endangered Species Habitat (Ohlone Tiger Beetle, Bay Checkerspot Butterfly)

- Grazing facilitated their persistence since grassland conversion
- Exclusion of grazing has degraded or eliminated their habitat



Ohlone Tiger Beetle

Cicindela ohlone (Coleoptera: Cicindelidae)

- Federal list—endangered (quickly moving toward extinction...)
- Dependent on appropriate management of grassland habitat, particularly livestock or human traffic, maintaining bare trails



Ohlone Tiger Beetle

Extirpated—hiking trails (low use), no grazing, dense high-thatch grassland, and encroaching shrubs



Ohlone Tiger Beetle

Occupied—hiking/biking trails (moderate use), mowing, maintenance roads, and no grazing

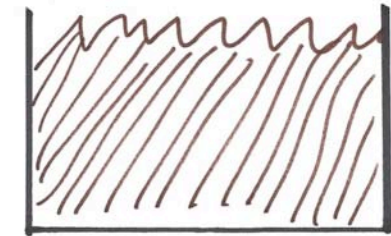
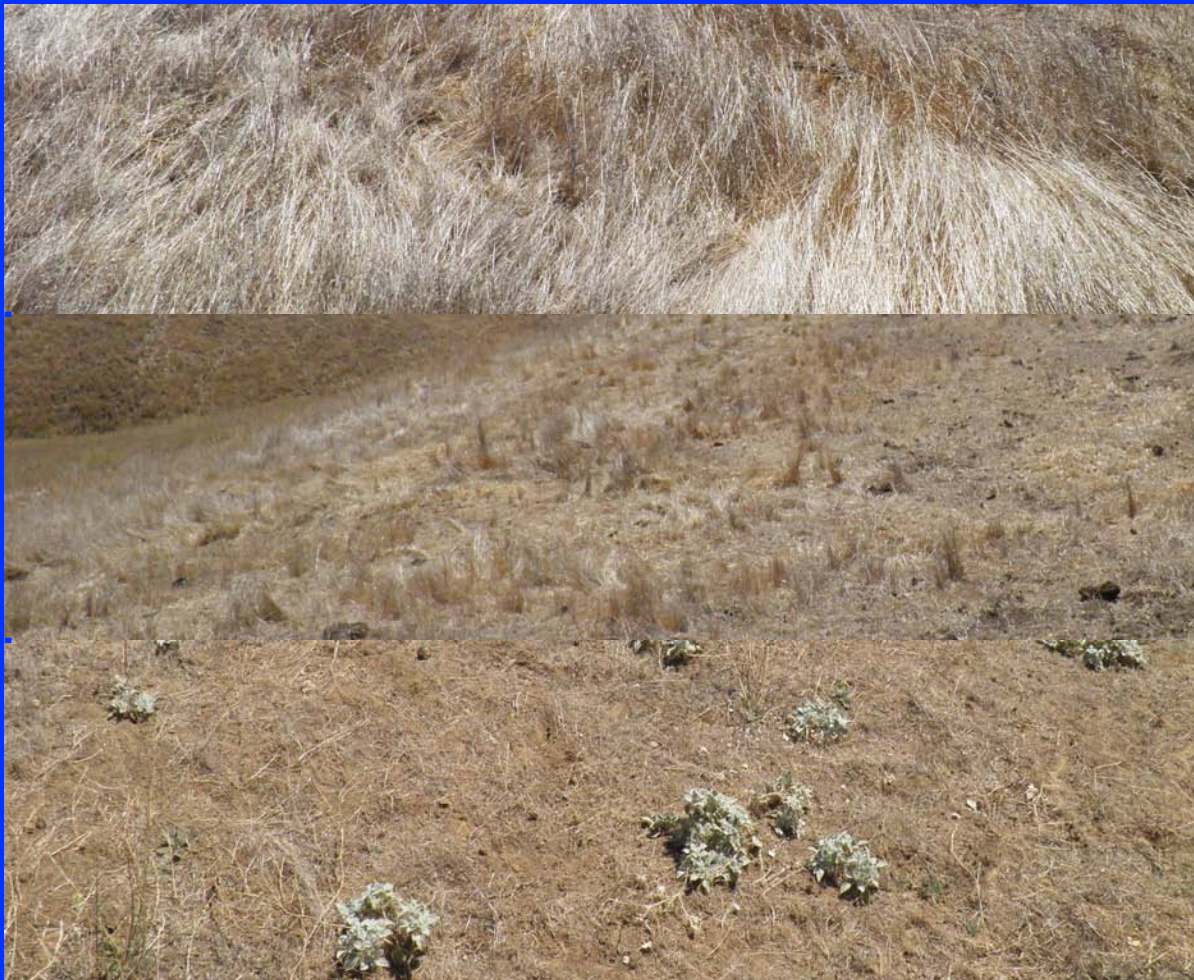


Ohlone Tiger Beetle

Occupied—continuous extensive cattle grazing, hiking trails (low use), gophers, and ranch roads



Habitat Structure in California Annual Grassland (Sept)



A



B

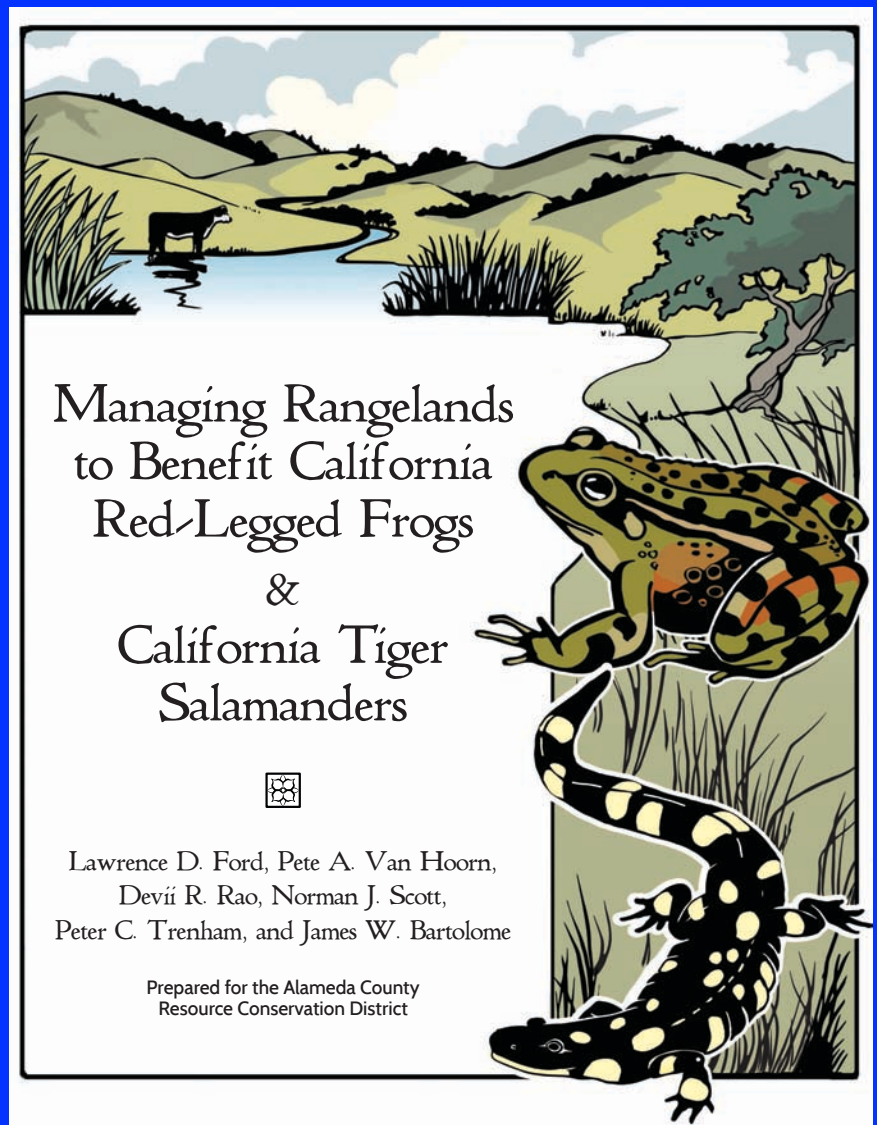


C

Ungrazed (A), moderate grazing (B), excessive grazing (C)

Grazing Management for Calif. Red-Legged Frog and Calif. Tiger Salamander

Habitat Element	CRLF	CTS
Breeding habitat	Ponds, or still pools in slow-moving creeks, with a mix of open and vegetated areas, deep and shallow sections, few or no game fish or bullfrogs, and inundated at least through August (preferably September)	Ponds or vernal pools with no or minimal emergent vegetation, few or no game fish or bullfrogs, generally inundated at least through May, and preferably turbid if shallow and unvegetated
Dry season refuges (non-breeding habitat)	Areas that are moist in the dry season—such as springs, riparian zones, perennial ponds, and burrows—that offer cover and protection from predators	Burrows of ground squirrels, pocket gophers or other small animals
Landscapes	Networks of multiple suitable breeding sites and sufficient dry season refuges; all core habitat elements are connected (few significant barriers, breeding sites within dispersal distance of other breeding sites, grasslands generally grazed, especially in inland areas)	



Grazing Management for Riparian Woodland Habitat:



Grazing Management for Riparian Woodland Habitat:

1. Impacts
2. Fencing exclusion
3. Alternatives to exclusion:
 - a) Spring seasonal grazing
 - b) Riparian field--special management area
 - c) Strategic fencing of crossing areas or damaged areas
 - d) Off-stream watering trough and supplements
 - e) Widen enclosure and flash-graze



Challenges to California Rangeland Planners and Managers:

1. Mediterranean grasses and forbs highly adapted to intense grazing
2. History of grazing in Mediterranean and California (grazing now declining in CA)
3. If un-grazed or excessively grazed, habitat structure can be obliterated (SS species; pest plants)
4. Maximize benefits; minimize negative effects
5. Grazing most effective and economical tool, especially for large properties
6. Integrate conservation theory and practical experience—regional and ranch/park plans

CURRENT TRENDS

Livestock Operations:

- Abandonment and exclusion
- Commercial livestock production declining
- Horse facilities increasing
- More subdivision to ranchettes
- Diversification
- Still only marginally profitable

Nature Conservation Theory Applied to California Grasslands/Rangelands:



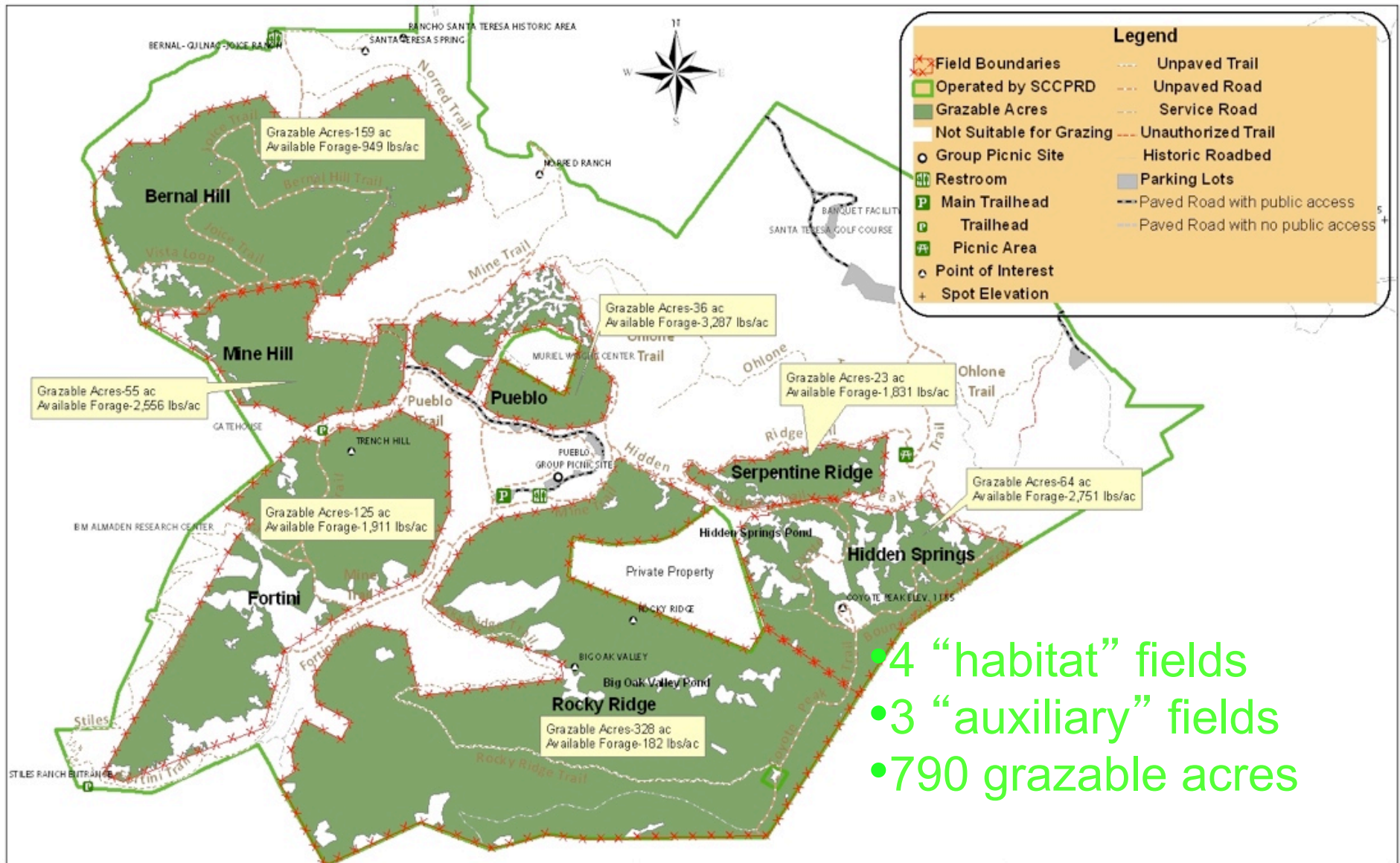
- Reserve Design--U.N. Biosphere Reserve
- Sustainable Development--integrate/promote local economic and cultural activities; "working" conservation lands
- Conservation by incentives instead of restrictions
- Support health, education, and food security

Requirements to Maintain Sustainable Agricultural-Ranching Opportunities:

1. Access to grazing lands; re-introduce grazing
2. Existing functional or re-built infrastructure
3. Experienced personnel to operate the grazing program, build and maintain infrastructure, perform stewardship functions
4. Viable commercial industry and cultural community nearby
5. Incentives for “extra” stewardship built into regulations and grazing leases
6. Local network for affordable planning, research, and technical assistance

Planning Approach—Ranch/Park:

1. Based on best-available science--scholarship and reliance on experts, including ranchers;
2. Maximize benefits to special resources, minimize impacts, and maintain sustainable livestock operation;
3. Define objectives and performance standards, not tactics or specific practices;
 - Must be feasible and flexible for livestock operation, with incentives for cooperation;
 - Plan will be a comprehensive reference document for managers; and
 - Plan will be adaptable based on efficient monitoring.



- 4 “habitat” fields
- 3 “auxiliary” fields
- 790 grazable acres



This map generated by the County of Santa Clara Department of Parks and Recreation. The GIS files were compiled from various sources. While deemed reliable, the Department assumes no liability.

Title: Grazing Capacity Map-Santa Teresa County Park

Date: March 7, 2011

Comments:

Created By: DRocha

