

## 1<sup>st</sup> Botanical baseline

### Baseline Inventory Includes

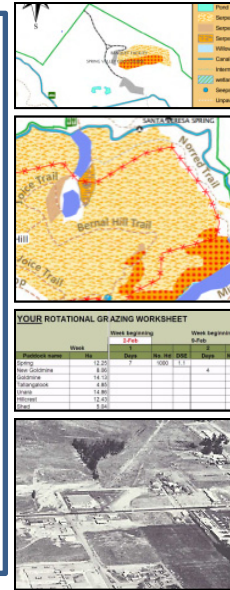
- Species list and mapped distribution
- Site history
- Current management

### Opportunities

- Develop common understanding
- Refine rarity classification

### Constraints

- Dormant seedbank
- Unknown history
- Poor soils maps



## Purple needlegrass

### Ecology

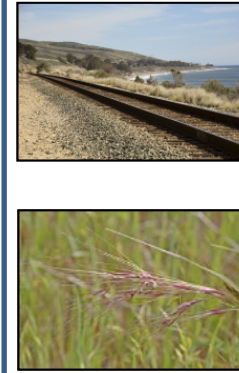
- Likes dry sites
- Tall statured
- Competes better in poor soils
- Long flowering season

### Opportunities

- Low RDM favors
- Winter grazing ↓ annual grass competition
- ↑ 3 years after fire

### Constraints

- ↓ if grazed when bolting
- High site variability
- Low palatability



## Tall statured wildflowers

### Ecology

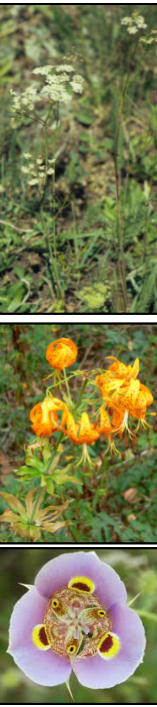
- Very diverse, many rare species
- Below ground food storage common
- Short lived seedbank

### Opportunities

- Moderate RDM favors
- Low grazing favors, but no grazing threatens

### Constraints

- Vulnerable much of year
- Tasty
- How many are enough?



## 2<sup>nd</sup> Define goals

### Goals

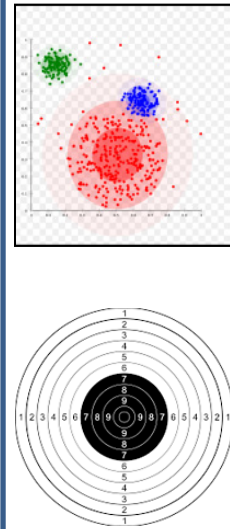
- Ecologically realistic
- Defined within reference system

### Realistic Goals

- Species-specific
- Data driven
- Adaptive

### Unrealistic Goals

- ↑ all native grasses
- ↓ all exotic species
- ↑ perennial plants



## Pine bluegrass

### Ecology

- Upland – North facing slopes in arid areas
- Most widespread and common native grass in CA
- Short statured
- Early flowering
- Early senescence

### Opportunities

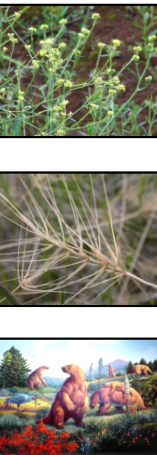
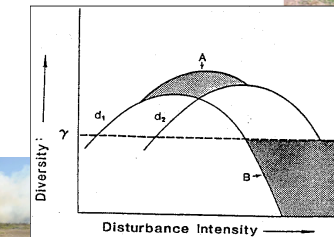
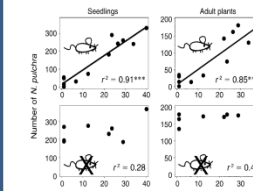
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### Constraints

- Low biomass
- Many unknowns
- Difficult to find



## Evolutionary disturbance regimes matter (and weeds matter)



## California oatgrass

### Ecology

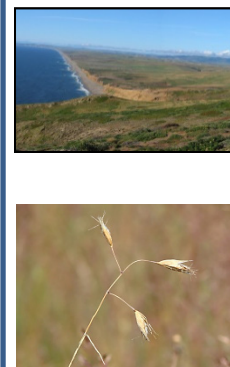
- Occurs in wet meadows
- Makes bunches or sods
- Short statured

### Opportunities

- High RDM favors
- Winter grazing ↓ annual grass competition
- spring grazing ↓ velvetgrass competition

### Constraints

- High RDM increases fire mortality
- High cover decreases diversity



## Wildflower fields

### Ecology

- Varied and diverse
- Pollinator services important

### Opportunities

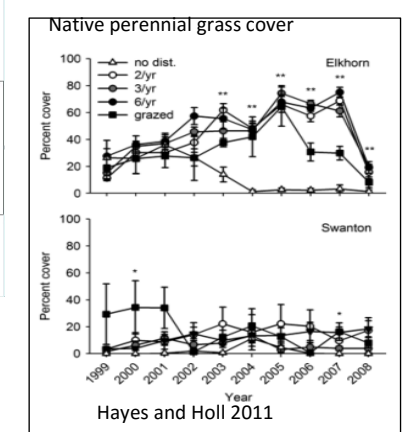
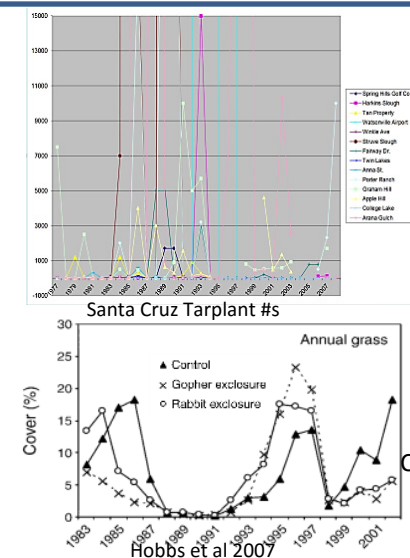
- Low RDM favors
- Long lived seedbank
- Some hemi parasites

### Constraints

- Nitrogen dep in polluted areas
- Climate variability
- Some toxic *en masse*



From Heady, 1956



Compare treatments over time (long)

Compare across sites

