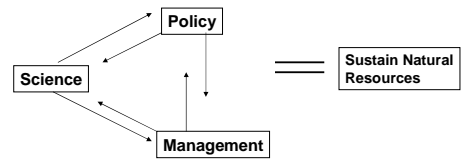


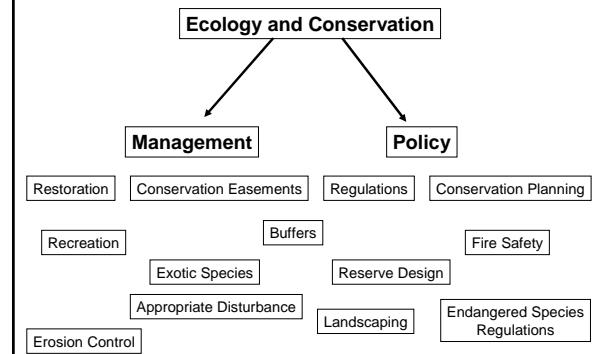
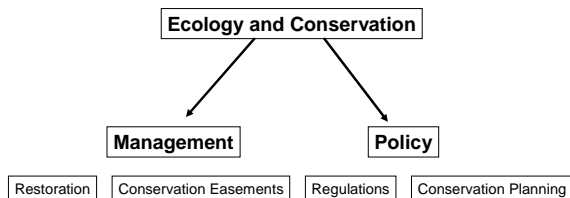
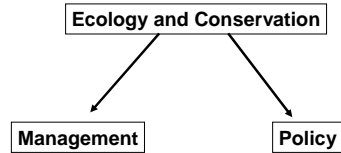
Welcome, Introduction, and Overview of the 2003 Workshop “The Conservation and Ecology of California’s Maritime Chaparral”

Grey Hayes
Coordinator
Elkhorn Slough
Coastal Training Program

Coastal Training Program



Ecology and Conservation



Why Maritime Chaparral?

- Highest number of the Monterey Bay's most imperiled species
- Key to protecting Elkhorn Slough's watershed
- New ecological information
- Interesting challenge to human/wild interface

Reasons to protect maritime chaparral

- Ground water: maritime chaparral blankets well-drained soils that may be important groundwater recharge areas
- Fragile erosive slopes: maritime chaparral is good at holding in place poor soils that otherwise easily erode
- Fire: maintaining fire safe dwellings in and around maritime chaparral is expensive
- Beauty: maritime chaparral is beautiful, affords good views, and supports a wealth of drought-resistant horticulturally significant species
- Weeds: In tact maritime chaparral resists invasion
- Difficult and expensive to restore

Goals of 1st Workshop

- Create consensus and understanding of a definition of the term "maritime chaparral"
- Convene the leading researchers working in this habitat, in order to
- Educate employees of regulatory agencies on the basic ecology and conservation of maritime chaparral
 - Create web and other materials for reference
 - Create a network of experts willing to answer future questions about maritime chaparral

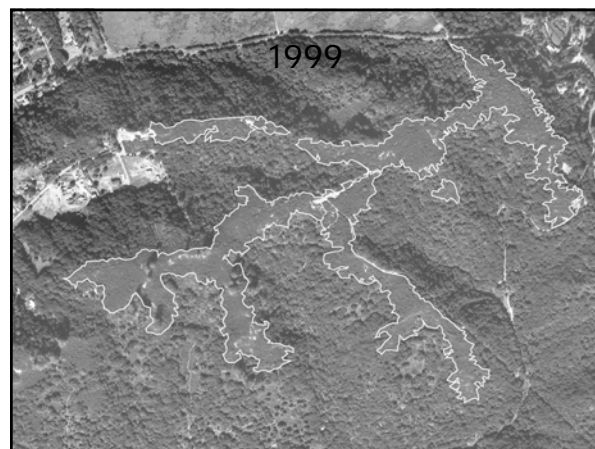
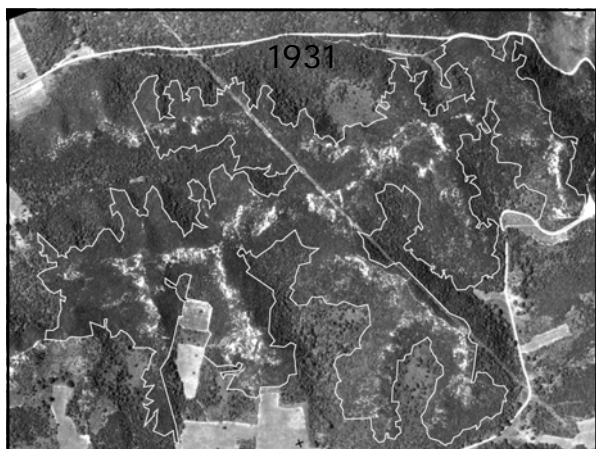
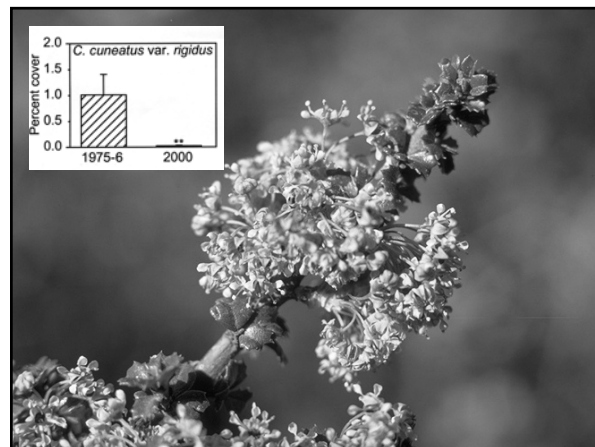
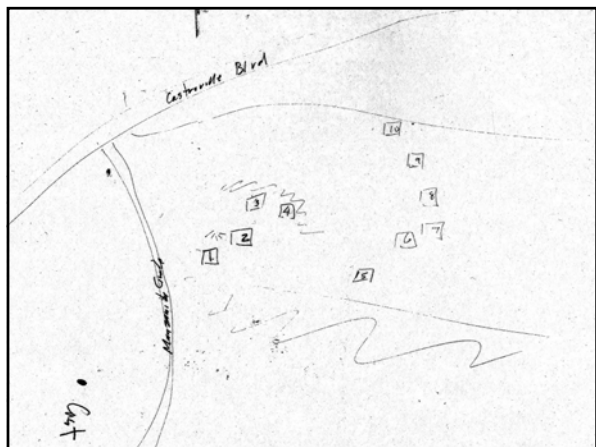
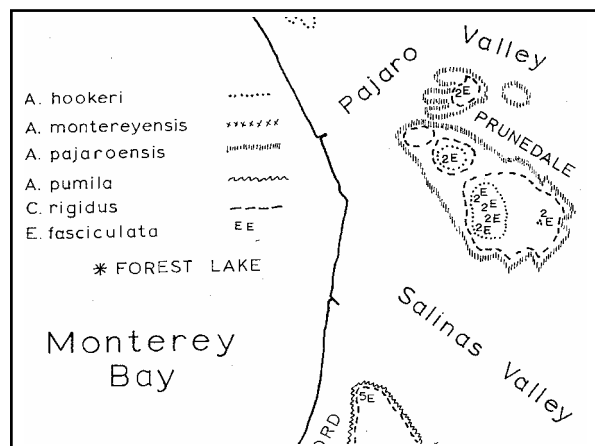
Eric Vandyke

- Definition and extent of maritime chaparral in California
- Maritime chaparral in the Prunedale Hills is being lost to oak invasion
- Ridgeline maritime chaparral is more stable

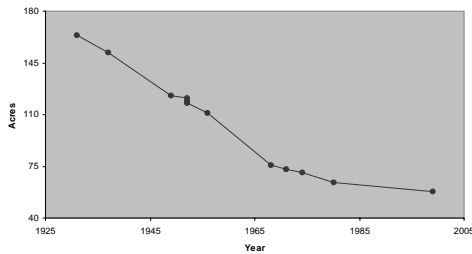
Maritime Chaparral Definition

- Between Sonoma and Santa Barbara Counties
- Climate characterized by cool, foggy summers, unlike the more common inland chaparral
- Three levels of hierarchy:
 - Manzanita and/or Ceanothus dominated "alliances" that occur repeatedly over a large landscape
 - Hooker's, Toro, Pajaro manzanitas
 - Special stands (few patches remaining)
 - Alameda manzanita
 - Rare shrubs
 - Santa Cruz Mountain and Little Sur manzanitas

Pajaro Hills Research



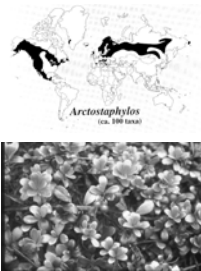
Results: 65% Chaparral Loss (~1%/yr)



Tom Parker

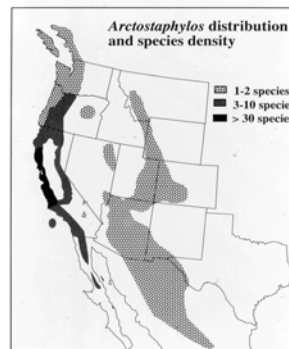
- We are in the center of global manzanita (*Arctostaphylos*) diversity
- Manzanitas have a mutualistic relationship with fungi, these same fungi also aid conifer invasion of chaparral
- Maritime chaparral is fire dependent, but consideration for season, size, and frequency of fires important

Arctostaphylos



A. uva-ursi

- One species, *A. uva-ursi*, is found across the northern hemisphere, in subalpine, north temperate forests, and the California coast.
- All other species are entirely or partially found in California.



Arctostaphylos in western North America is concentrated on the central California coast.

Most of these species occur in maritime chaparral.

What do these places have in common?

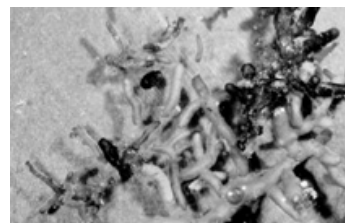


Nutrient Poor and Acidic Soils



Disturbance by Fire

How do manzanitas tolerate acidic, nutrient poor soils?



Manzanitas have a mutualistic relationship with fungi.

Together they form mycorrhizal roots.

How do Manzanitas Survive Fire?

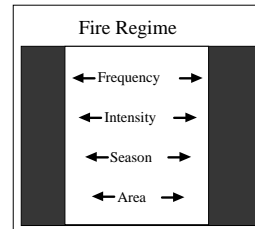


Obligate seeders are killed by fire and completely depend upon seedlings after fire to reestablish their populations.



Burls and root crowns permit many species (facultative sprouters) to resprout after fire. They also have seedlings establish following fire, but usually at much lower rates.

Implications for management



Too frequent, obligate seeders can not form seed banks. Too infrequent, conifers can invade many sites. Off season, wrong intensity, too small an area, all of these can impact the recovery of the chaparral stands.

Claudia Tyler & Dennis Odion

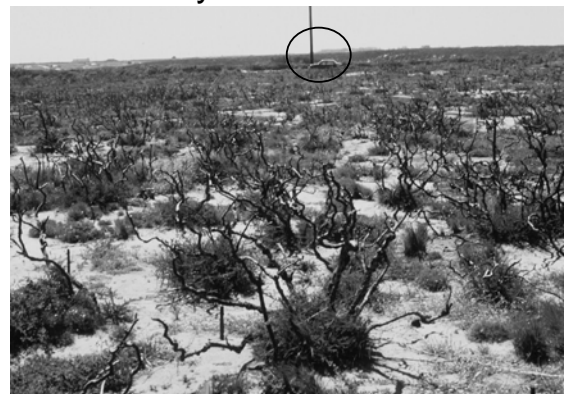
- Post-fire succession of maritime chaparral vegetation at Burton Mesa
 - Ceanothus dies out, manzanitas increase
- Implications of prescribed fire on Morro manzanita
 - Morro manzanita has low % of viable seed, requires 40+ years after fire to build sufficient seedbank to recover from fire

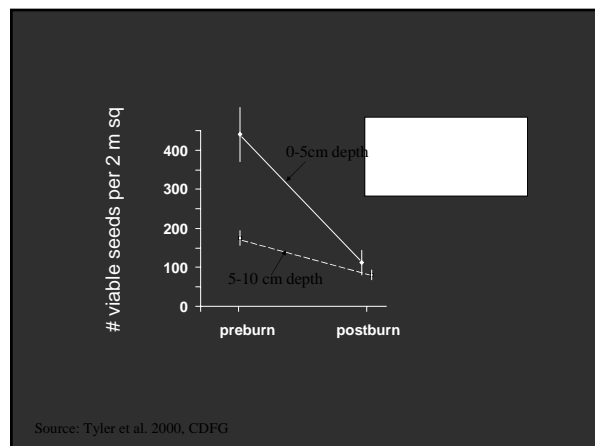
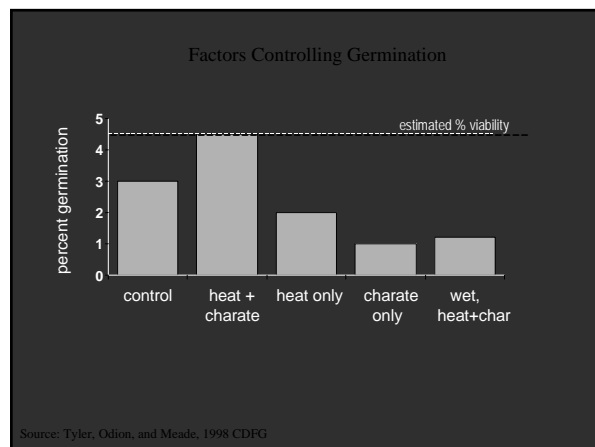
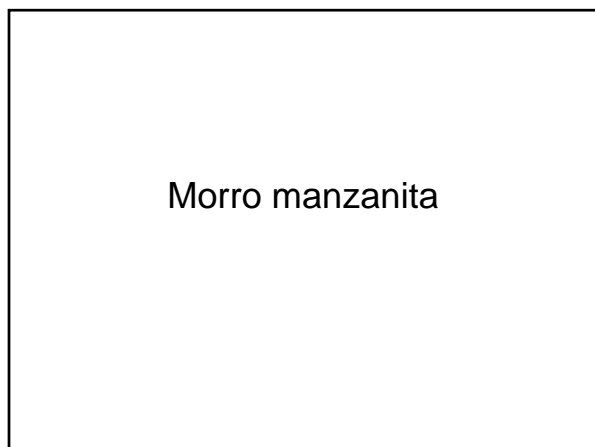
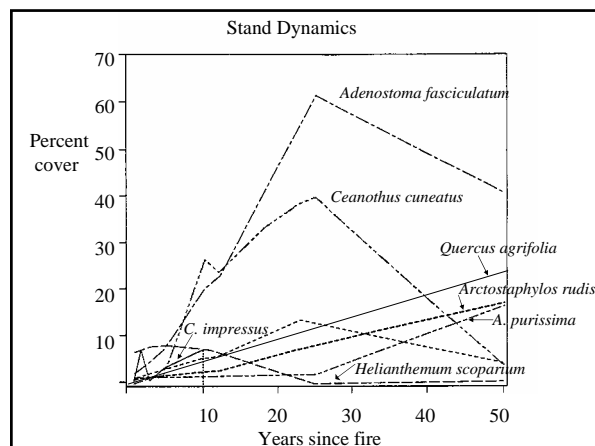
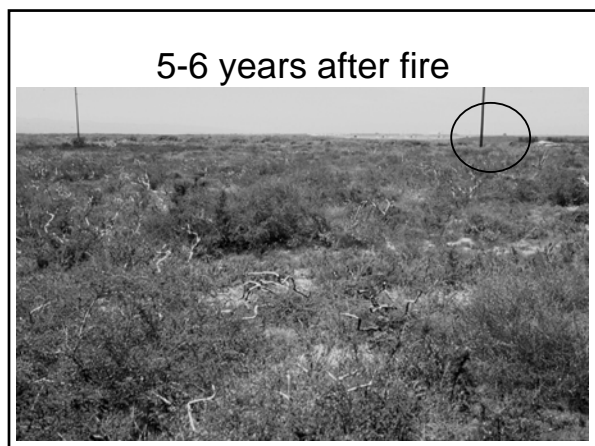
Burton Mesa

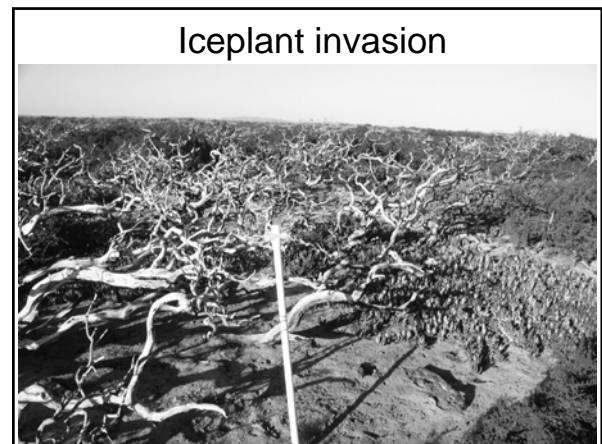
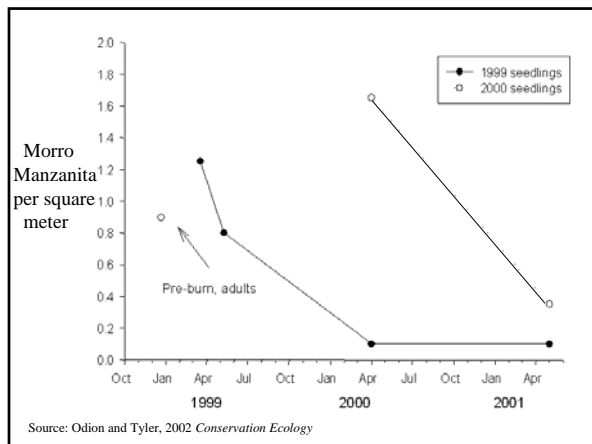
Immediate post-burn late fall 1987



2-3 years after fire







Morro Bay Manzanita Chaparral

Threats

- Stands may be too young to regenerate after fire.
- Exotic species invasion following fire or clearing.

Take home messages from 2003....

- We are in the center of the manzanita universe
- Maritime chaparral contains a number of rare and endangered species
- Maritime chaparral is fire dependent
- What you see isn't all that is there: seed banks reveal diversity after fire
- Caution about too long or too short fire intervals

Since the 2003 Workshop

- Large areas of maritime chaparral protected by the Elkhorn Slough Foundation & Big Sur Land Trust
- Improvements in regulators' approach to maritime chaparral
- One additional county government knows that they have this protected habitat: Marin
- Land managers planning longer fire return intervals
- Increased invasive exotic control

Since the 2003 Workshop

- Increased property rights concern with designation of maritime chaparral as ESHA in coastal zone
- Winter prescribed burn in maritime chaparral
- Continued destruction of habitat

In Near Term

- Conservation banking for maritime chaparral in Santa Cruz and Monterey Counties
- Fort Ord HCP
- HCP's and long-term management plans for significant maritime chaparral areas in Santa Cruz, San Luis Obispo, and Santa Barbara Counties
- Community education on significance and status of maritime chaparral in Big Sur

In your packet....and handouts

- Packet
 - Contact list of attendees
 - 24 consultants; 17 land managers; 11 regulators; 12 researchers
 - Agenda
 - Copies of 2 of today's presentations
- Handouts
 - Peer-reviewed articles
 - Answers to common questions
 - Field trip information

Questions for today

- What regulatory tools are currently being used to protect maritime chaparral?
- Are conservation techniques maintaining and restoring the entire suite of maritime chaparral species?
- How do we better plan for the protection of maritime chaparral in the future?