

Fire and maritime chaparral in Santa Barbara and San Luis Obispo Counties Dennis Odion & Claudia Tyler

Fire and the maritime chaparral of Santa Barbara and San Luis Obispo Counties

Dennis C. Odion
and
Claudia M. Tyler*

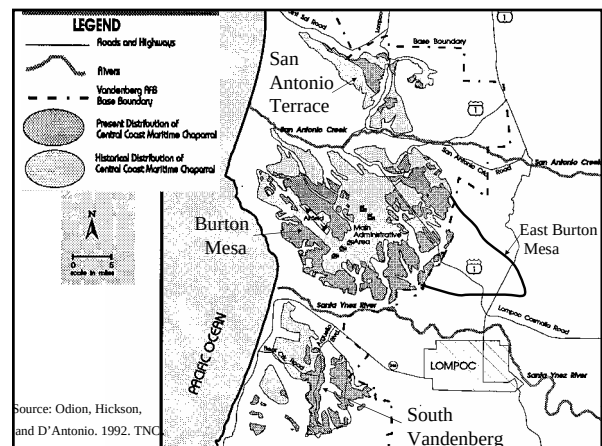
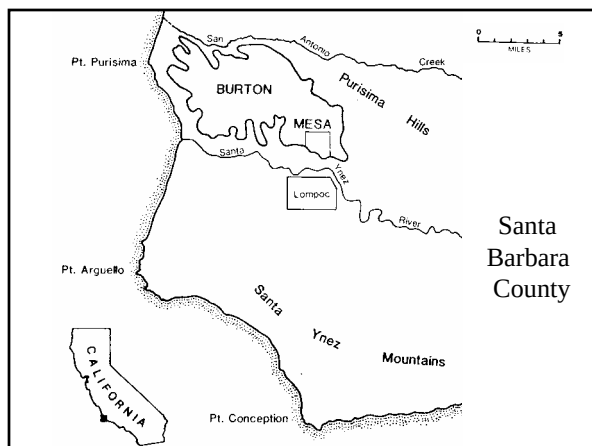
*Research Collaborators: Diana Hickson, Carla
D'Antonio, Frank Davis, Mark Borchert and Max Moritz.

maritime chaparral



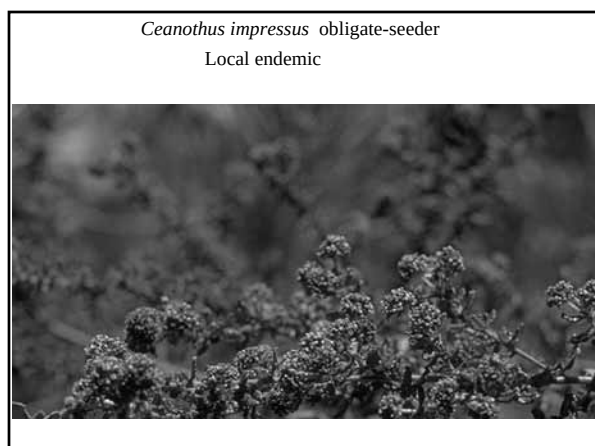
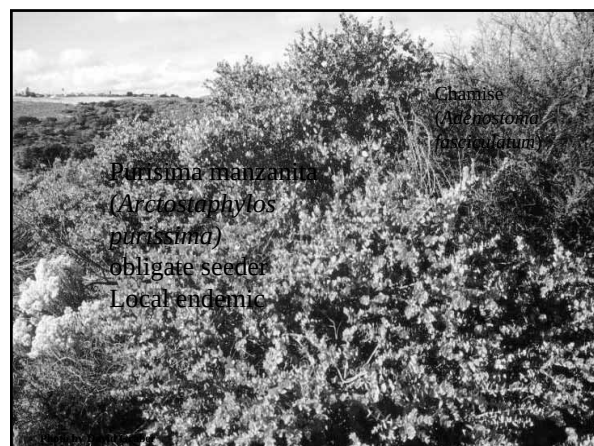
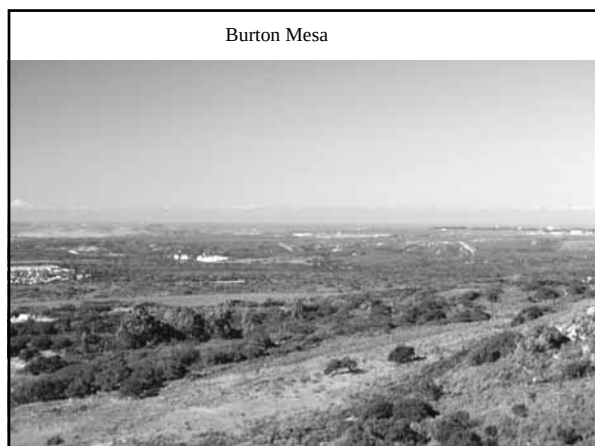
Maritime Chaparral in S.B. and SLO. Counties

- Evergreen, leathery-leaved shrub vegetation.
- Dominated by locally endemic *Ceanothus* and *manzanita*.
- Eolian sands.
- Regionally low precipitation augmented by fog, otherwise coastal sage scrub would occur.

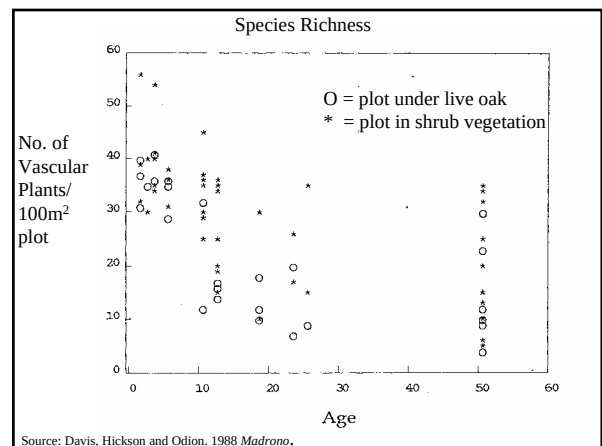
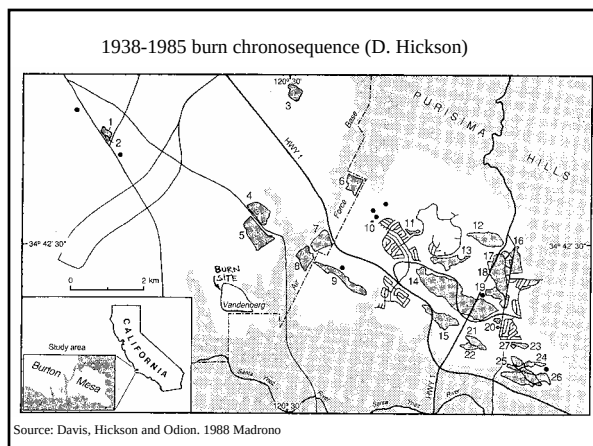
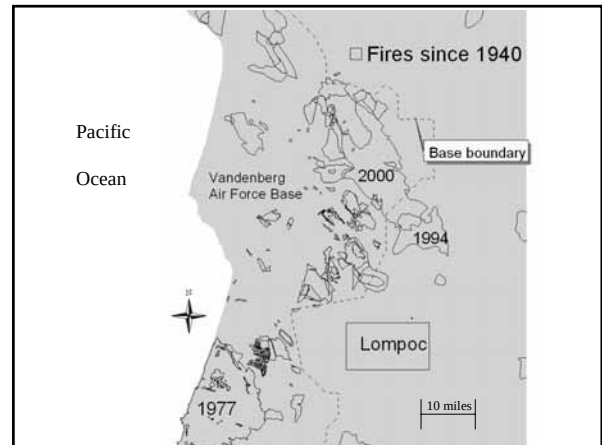
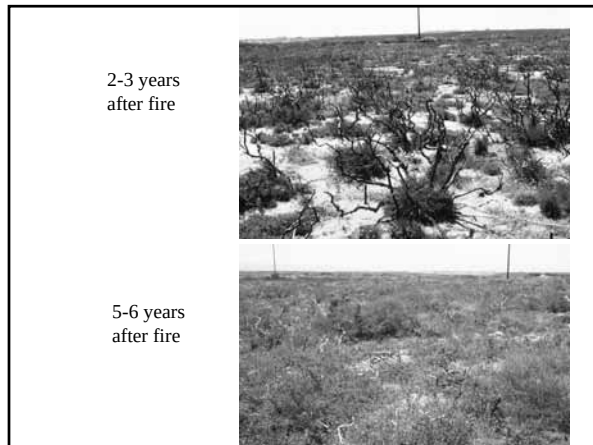
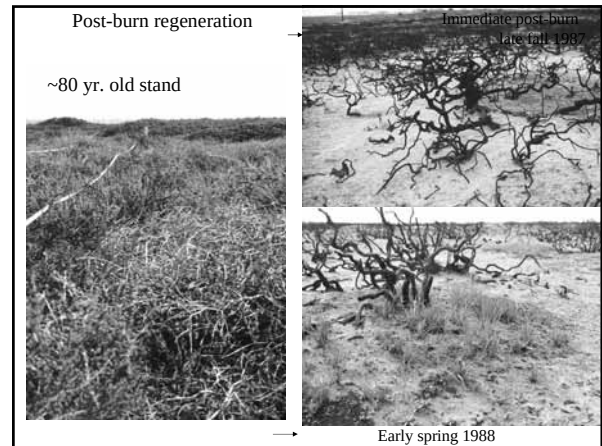


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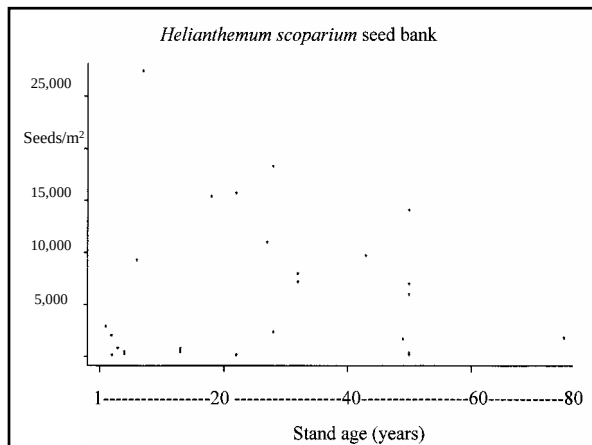
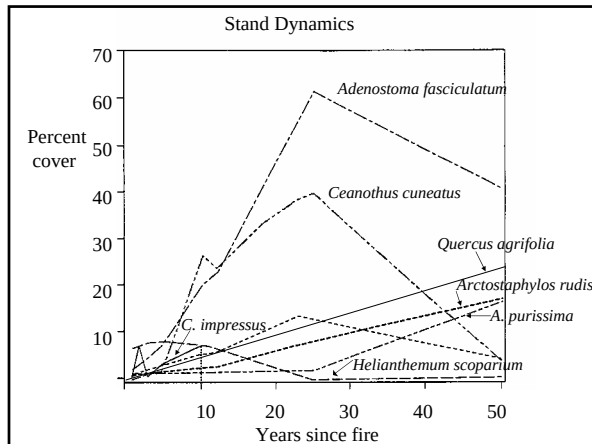


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Seeds and Seedlings/m²

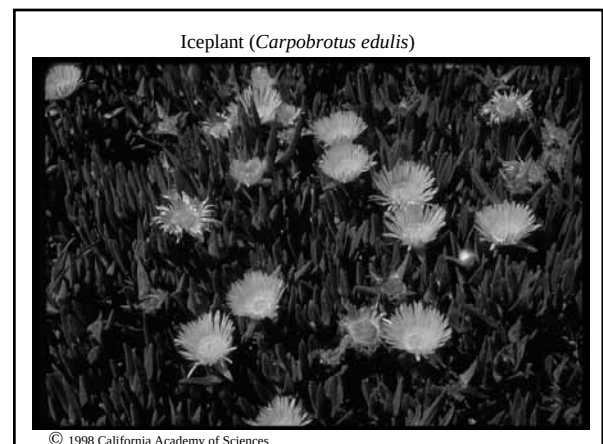
	pre-burn		post-burn		field
	0-2.5	2.5-7.5	0-2.5	2.5-7.5	
Shrubs					
<i>Adenostoma fasciculatum</i>	240.1	52.92	53.9	8.8	5.4
<i>Arctostaphylos purissima</i>	44.1	141.1	36.8	26.5	10.6
Subshrubs					
<i>Helianthemum scoparium</i>	411.6	582.6	88.2	145.6	47.0
Annual herbs					
<i>Apiastrum angustifolium</i>	245.0	26.5	0	17.6	0.8
<i>Centaurium davyi</i>	1396.5	608.6	558.6	185.2	0
<i>Crassula connata</i>	6056.4	1525.9	1166.2	493.9	1.6
<i>Cryptantha clevelandii</i>	78.4	17.6	0	0	0.1
<i>Lotus strigosus</i>	83.3	88.2	19.6	79.4	11.0
<i>Navaretia atractyloides</i>	3013.5	299.9	274.4	61.7	29.7

Source: Odion, 2000 *Madrono*

Santa Barbara County Maritime Chaparral

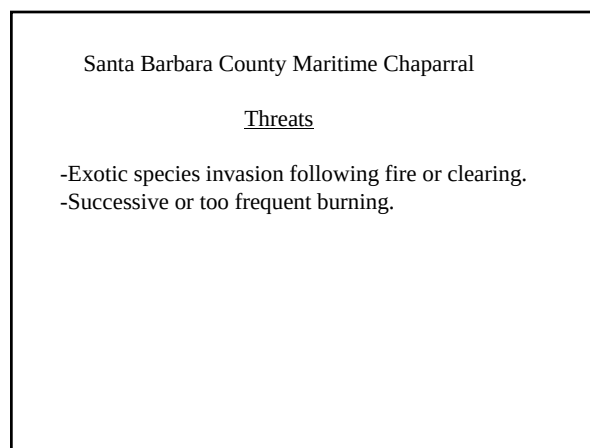
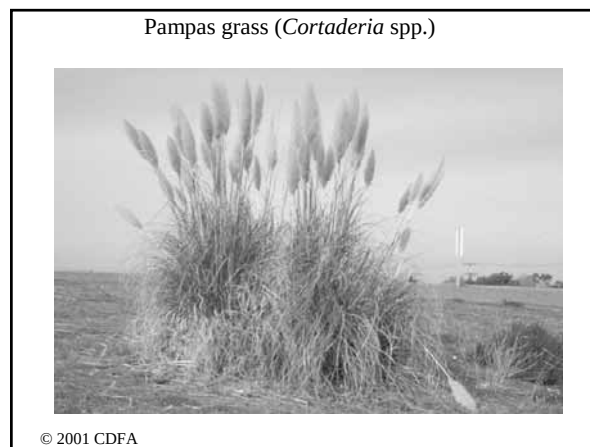
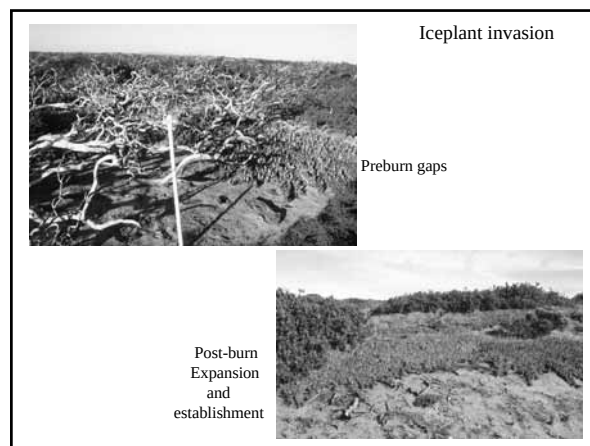
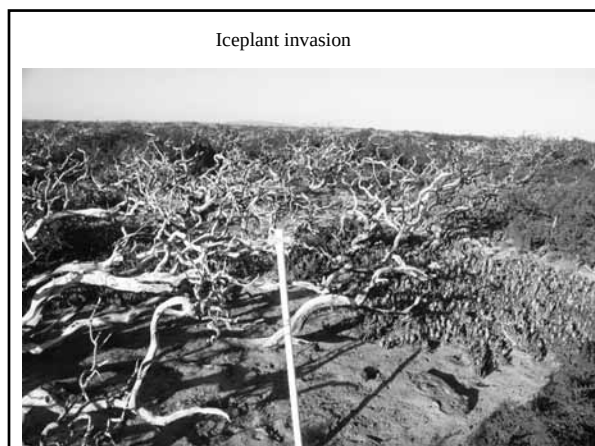
Threats

-Exotic species invasion following fire or land clearing.

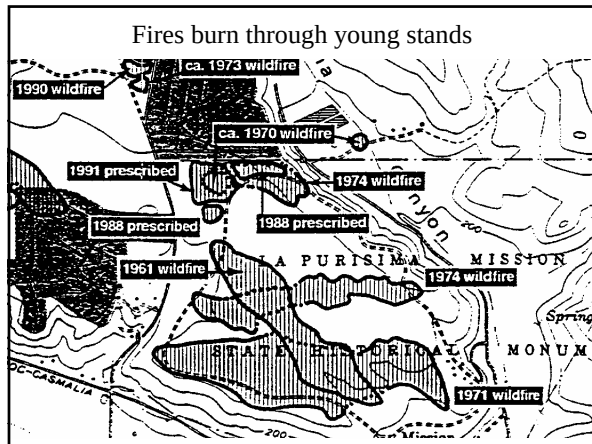


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Santa Barbara County Maritime Chaparral

Threats

- Exotic species invasion following fire or clearing.
- Successive or too frequent burning.
- Fuel management.



Chaparral Fire

Protecting Homes From Wildfires

- Homes do not ignite from severe fire beyond 100' (Jack Cohen, USFS).
- Efforts need to focus on home and 100' zone surrounding it, the home ignition zone.
- Non-combustible roof and 30' clearance alone eliminates cause of virtually all ignitions, firebrands.
- Focus on wildlands around urban areas directs managers away from the problem, which is home ignitability.

Santa Barbara County Maritime Chaparral

Threats

- Successive or too frequent burning.
- Fuel management.
- Exotic species invasion following fire or clearing.

Not Presently Threats

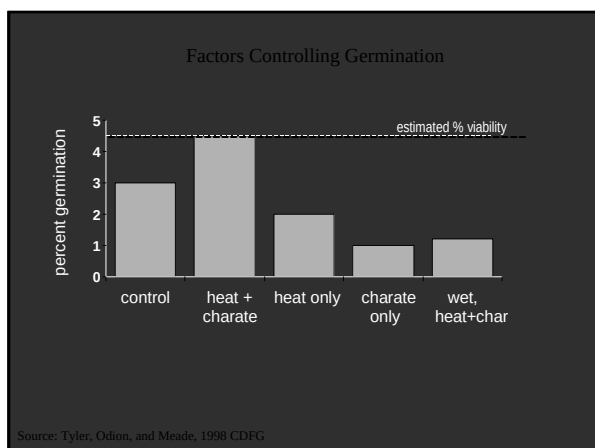
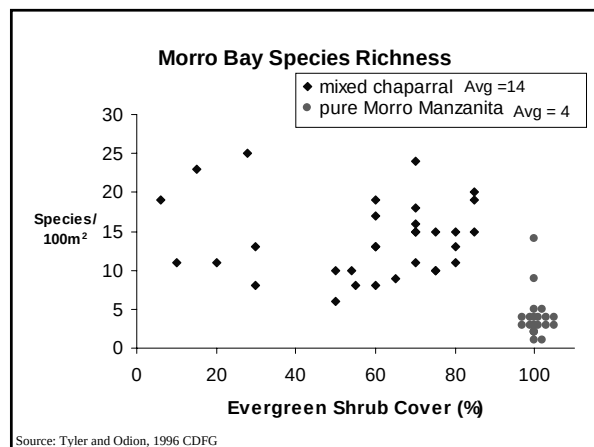
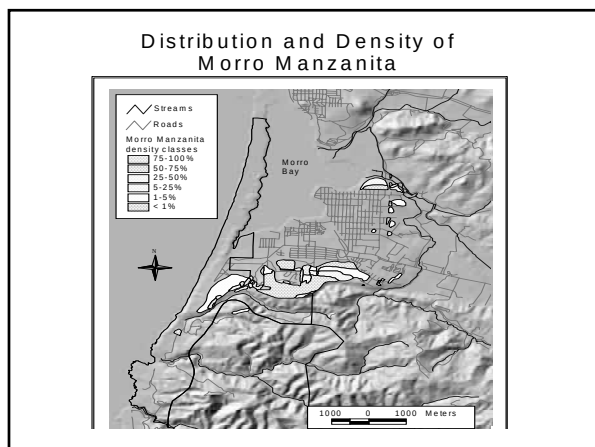
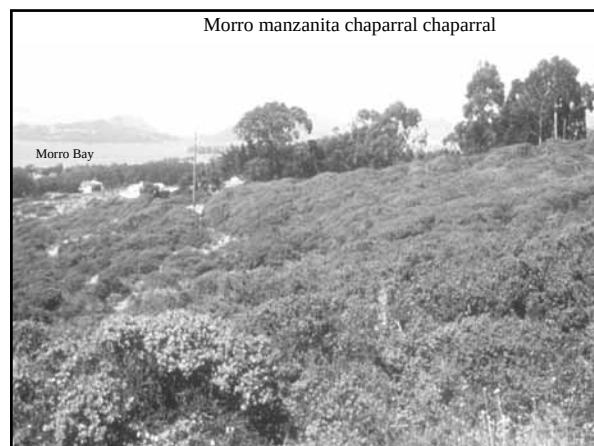
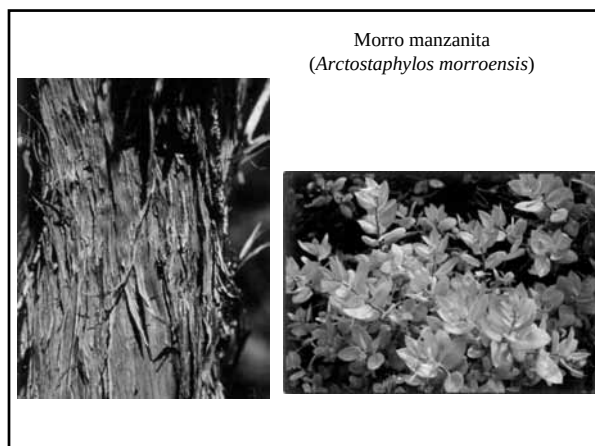
- Absence of fire.
- Intensive development leading to further habitat loss and fragmentation.



Morro manzanita (*Arctostaphylos morroensis*)
oblong seed

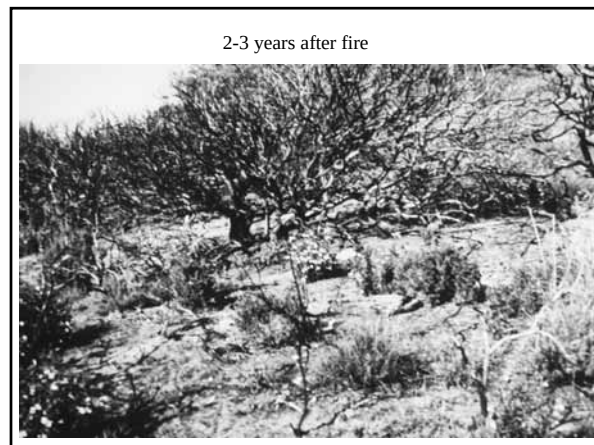
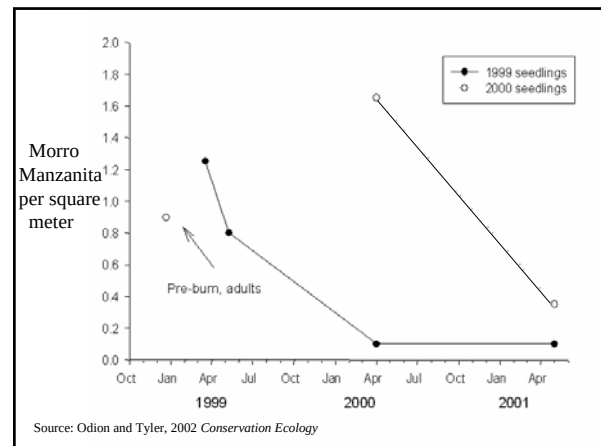
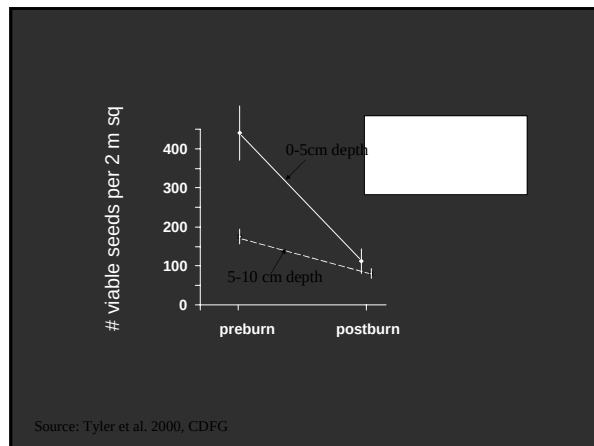
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	Pre burn		3 years after fire	
	mean	%	mean	%
shrubs	% cover	frequency	% cover	frequency
<i>Arctostaphylos morroensis</i>	99.5	100	<1	30
<i>Artemisia californica</i>	0.4	8	7	61
<i>Baccharis pilularis</i>	0	0	4	38
<i>Ceanothus cuneatus</i>	0	0	<1	2
subshrubs				
<i>Ericameria ericoides</i>	0	0	<1	1
<i>Eriophyllum confertiflorum</i>	<1	8	1	1
<i>Lotus scoparius</i>	0	0	5	23
<i>Mimulus aurantiacus</i>	<1	8	2	2
<i>Solanum umbelliferum</i>	0	0	3	46
herbs and grasses				
<i>Amsinkia spectabilis</i>	0	0	2	38
<i>Chorizanthe angustifolia</i>	0	0	1	2
<i>Claytonia perfoliata</i>	0	0	1	46
<i>Conocostia pugioniformis*</i>	0	0	<1	15
<i>Conyza canadensis</i>	0	0	1	1
<i>Cryptantha spp.</i>	0	0	2	23
<i>Ehrharta calycina*</i>	0	0	2	23
<i>Gnaphalium bicolor</i>	0	0	2	23
<i>Gnaphalium ramosissimum</i>	0	0	3	23

Source: Odion and Tyler, 2002 Conservation Ecology

Morro Bay Manzanita Chaparral

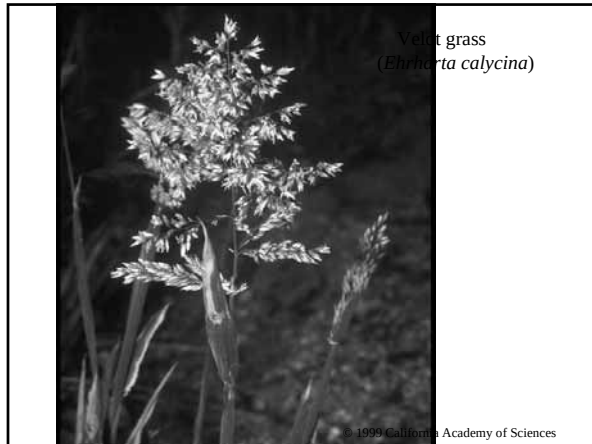
Threats

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



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Morro Bay Manzanita Chaparral

Threats

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

Not Presently Threats

- Absence of fire.
- Intensive development leading to further habitat loss and fragmentation.

Conclusions

Management actions in maritime chaparral in Santa Barbara and San Luis Obispo Counties need to focus on:

- Preventing fire with non-intrusive suppression.
- Eradicating non-native pest plants.
- Protecting homes by treating the cause of structure ignitions.