MCBCP Coastal Sage/Chaparral Monitoring Protocol







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Completed Plans:

- Riparian. Purpose: Recovery post large scale arundo tamarisk treatment
- ❖ Dunes. Purpose: Dune Plant species diversity post invasive plant treatment
- Grasslands. Purpose: Document Invasive plant dominance
- Oak-woodlands. Purpose: Diversity age classes and beetle monitoring
- Wetlands. Purpose: No net loss size function and values (CRAM and National Classification and mapping)

Developing Monitoring Plans

- Vernal Pools. Purpose: No net loss size function and values (CRAM and National Classification and mapping)
- Shrublands. Purpose: Ecosystem Integrity with increased wildfire frequency

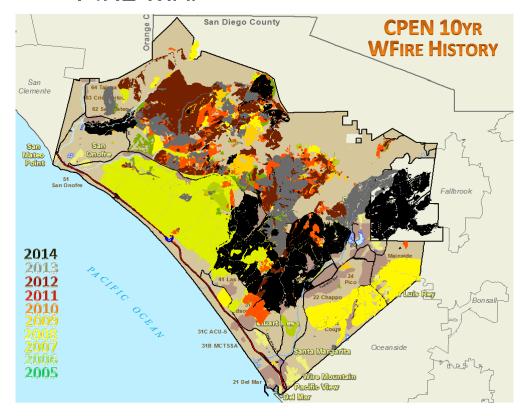
MCB CAMP PENDLETON 10 YEAR WILDLAND FIRE HISTORY

DATA BREAKDOWN

* WFire Management Support Increase

Year	Fires	Acres
2005	61	16,357
2006	30	8,068
2007	57	21,926
2008	30	13,653
*2009	85	12,879
2010	126	10,771
2011	214	14,582
2012	145	15,564
2013	189	11,222
2014	125	24,114
10yr Ave	106	14,914
*5yr Ave	160	15,251

FIRE MAP



Goals

Determine if shrublands (CSS and Chaparral) are degraded.

Document if increased wildfire frequency is type converting shrublands to a disturbed state.

Regionalized Protocol works across boundaries

Simplified color coded reporting apparatus

Our primary concern is fire driven typeconversion



Detailed Conceptual Model

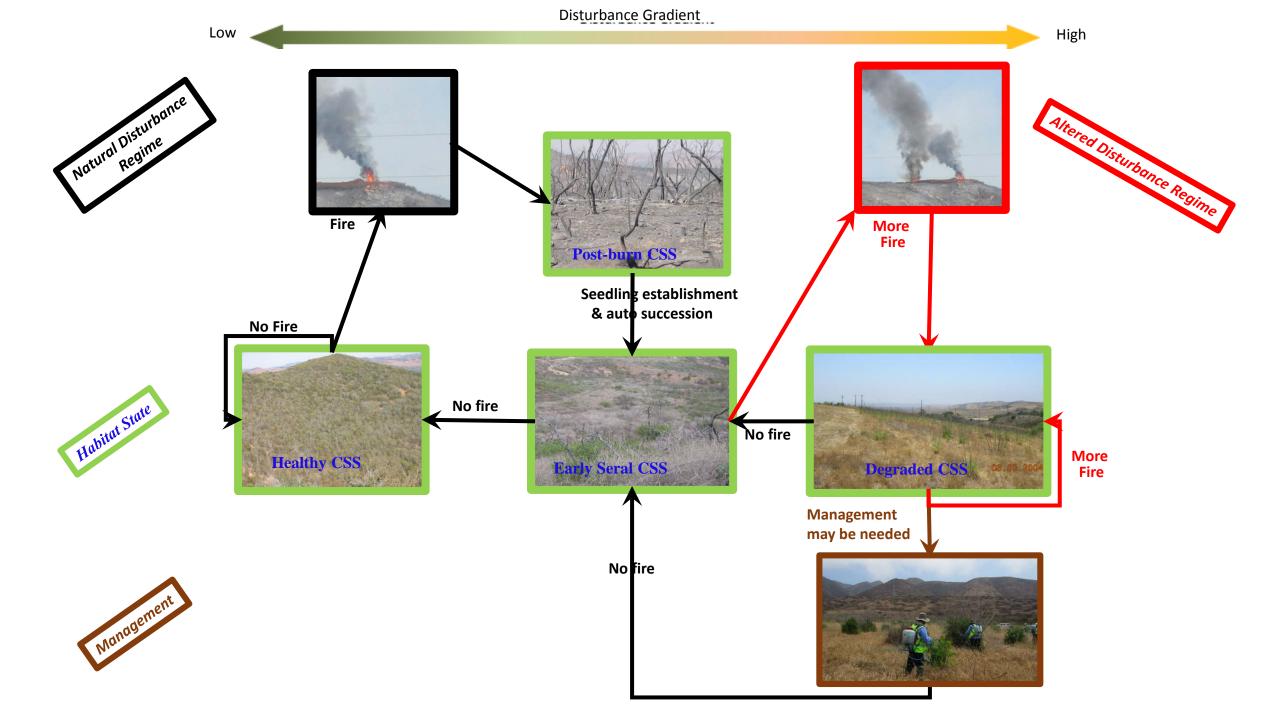
management

CONCEPTUAL MODEL

invasive annuals

increase

Simple Model



Working Model

Coastal Sage Scrub

High Integrity – high shrub cover

Medium
Integritymoderate shrub
cover &
abundant annual
grasses

Low
Integrity –
annual
grass
dominated

High Integrityhigh shrub cover Chaparral

Medium
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Low
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Thresholds between integrity classes defined by shrub and annual grass cover and for stands recovering from fire – shrub density

Coastal Sage Scrub Chaparral Long fire interval High 130 Vears High Long fire interval Integrity-15 Vears Integrity – high high shrub shrub fire interval Medium Medium cover fire interval 5-X-15 years cover Integrity-Integrity-10<X<30 years moderate shrub moderate cover & shrub cover & abundant annual abundant Short fire interval grasses annual grasses <10 years Fire interval Uncertain time <10 years & Wanagement ~10 Years Low & Management Integrity – Low low cover Integrity – &diversity Fire interval annual <10 years Low grass Chaparral/ Integrity – dominated CSS species recruit CSS scrub annual into openings (OS grass do not recruit) Moderate to dominated high shrub cover, low shrub diversity

do not recruit

CSS

species

recruit

Protocol Elements

- Uses **community integrity** defined by the degree of non-native grasses, **to define condition**.
- Based on ecosystem components (shrub and grass composition) readily understood by non-specialists.
- 1) categorizes shrublands into three ecosystem integrity classes,
- 2) forecasts integrity class changes caused by threats (e.g. short fire interval) and environmental conditions (e.g. annual patterns in precipitation), and
- 3) provides a simple reporting mechanism (annual maps) that can be overlain with data on conservation status and vulnerabilities.