Presentation to Inter-Agency Sub-Committee

Regional Vegetation Monitoring Meeting

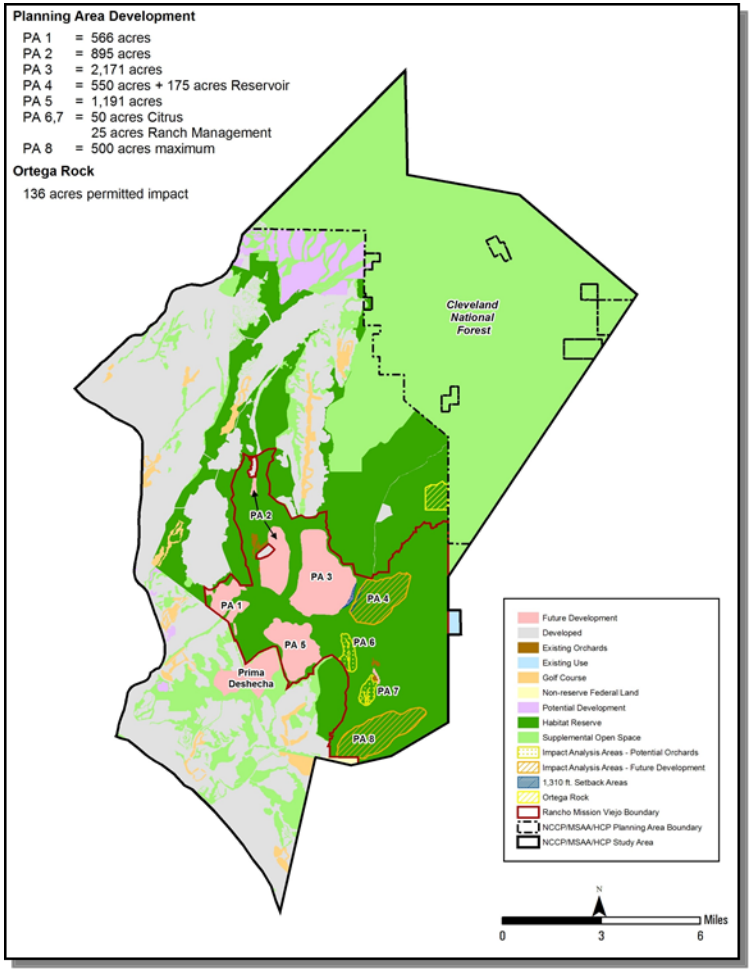
By

Rancho Mission Viejo

May 2017

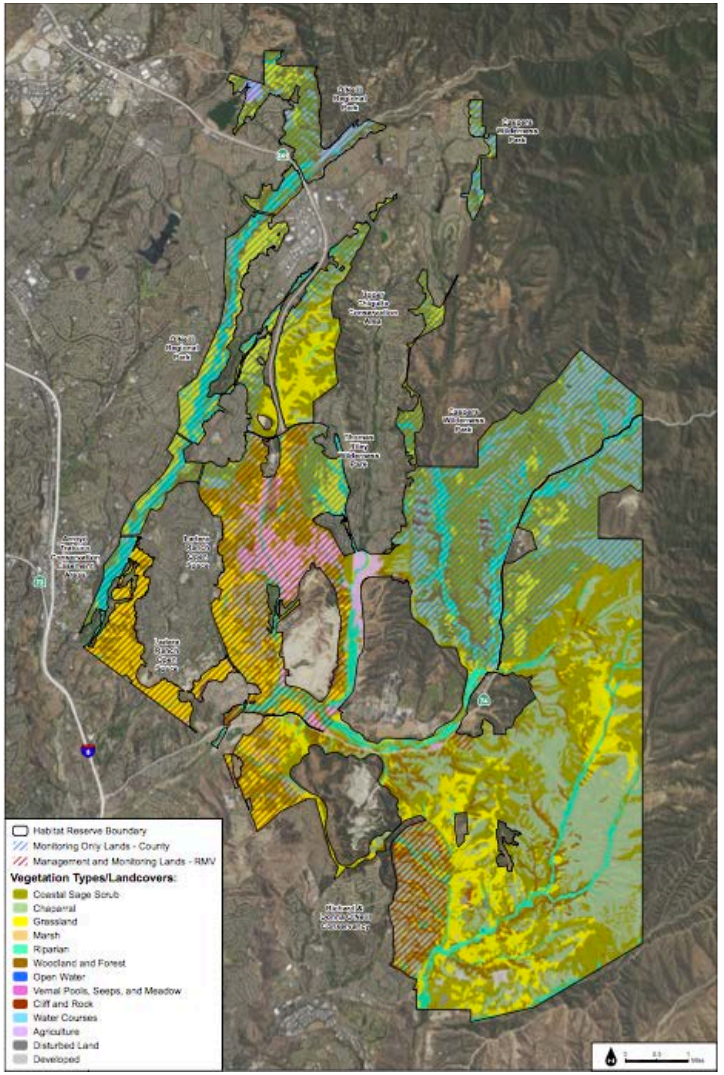
Southern Subregion Habitat Conservation Plan

- Hard Line Habitat Reserve
- 32,818 acres
  - Orange County: 11,950 acres
  - RMV: 20,868 acres
- 9 Conserved Vegetation Communities
- 32 Covered Species
- Phased Dedication Program Tied to Development



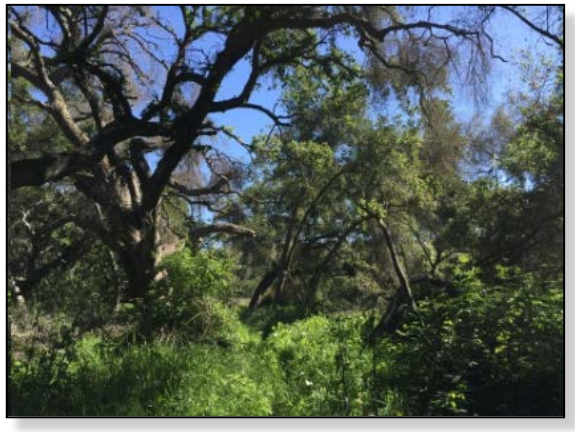
Geographic Area to be Monitored

- **County Parks**
  - Caspers Wilderness Park
  - O'Neill Regional Park
  - Thomas Riley Wilderness Park
- **Rancho Mission Viejo**
  - **Pre-Existing Conservancies**
    - Ladera Ranch Open Space
    - Richard & Donna O'Neil Conservancy
  - **Ranch Plan Open Space**
    - PA 2, Subareas 2.3, 2.4 & 2.5
    - PA 3, Subarea 3.4 (partial)
    - PA 4 (partial)
- **Total Enrolled Acres**
  - 19,664 acres



Focal Vegetation Communities

- **Coastal Sage Scrub (7,877 acres)**
- **Riparian/Wetlands (1,573 acres)**
- **Woodland & Forest (1,549 acres)**



* Coastal sage scrub, riparian/wetlands, and woodland & forest make up approximately 56% of the currently enrolled Habitat Reserve

Goals & Objectives

Oak Woodlands

Maintain existing structure and composition of oak woodland communities across the Habitat Reserve.

Riparian/Wetlands

Maintain a dynamic riparian/wetland system that reflects the existing diversity and distribution of flora and fauna across the Habitat Reserve

Coastal Sage Scrub

Maintain the existing structure and composition of coastal scrub communities across the Habitat Reserve.

Goals & Objectives

Oak Woodlands

Maintain existing structure and composition of oak woodland communities across the Habitat Reserve.

Oak 1.1 Maintain acreage of oak woodland communities in the Habitat Reserve in 2018 within 5% of 2008 baseline values.

Oak 1.2 Maintain high level of health of oak woodlands throughout the Habitat Reserve, including healthy trees, diverse age structure, and adequate recruitment to maintain woodlands in perpetuity. Manage potential oak woodland stressors, including fire, altered hydrology, disease and pathogens, cattle-related effects, new invasive species, and other anthropogenic effects.

Oak 1.3 Maintain acreage of oak woodland communities in the identified habitat linkages and corridors in 2018 within 5% of 2008 baseline values..

Previous Studies

Vegetation Type	Survey Area	Monitoring Variable	Survey Method	Frequency	Years Completed
Vegetation Mapping Update	32,818 acres Habitat Reserve (HR)	Acreage of conserved veg communities	Combination of semi-automated GIS remote sensing, field surveys	5 years	2013
Coastal sage scrub	5 sites	Species cover, species richness	Tested using visual cover estimation methods, including 1) invisible point-intercept transects, 2) quadrat-based plant size estimates, and 3) Releve visual estimation. Used point-intercept transects as quantitative cover estimation method.	Pilot study	2010, 2011
Riparian/wetlands	4 sites along Arroyo Trabuco	Species cover, tree/shrub height, species richness, tree count, count of snags and logs.	Point-intercept transects (canopy cover), visual estimation in 1x1m plots (herbaceous cover).	Pilot study	2010, 2011
Riparian/wetlands	40, 100-meter long sites along Arroyo Trabuco, Bell Creek, and San Juan Creek.	Riparian condition score (QBR index)	Assessment of riparian condition using 100 meter segments and qualitative rankings based on vegetation cover, cover structure, cover quality and channel alterations. Based on QBR index (Munné et al. 2003, Colwell and Hix 2008).	Pilot study	2012
Oak woodlands	4 sites	Standard forestry metrics for tree and woodland health including recruitment, disease/pathogens. Understory species cover, species richness.	Plot-sampling for adult tree data, recruitment; point-intercept transects for canopy cover, understory cover.	Pilot study	2011

Current Studies

Vegetation Type	Survey Area	Monitoring Variable	Survey Method	Frequency	Years Completed
Vegetation Mapping Update	32,818 acres Habitat Reserve (HR)	Acreage of conserved veg communities	Combination of semi-automated GIS remote sensing, field surveys	5 years	2013, planned 2018
Coastal sage scrub	Spatially-balanced sampling at 37 permanent monitoring sites within 7,877 acres CSS in enrolled HR	Species cover, species richness	Point-intercept transect surveys, plot sampling within 20x20m permanent monitoring sites distributed via spatially-balanced sampling (SBS).	3 years	2013, 2016,
Riparian/wetlands	2,158 acres within riparian/wetland in enrolled HR.	Functional scores	CRAM functional assessment of buffer and landscape context, hydrology, physical structure, biotic structure	3 years	2013, 2016
Oak woodlands	Spatially-balanced sampling at 32 permanent sites within 1,542 acres oak woodlands in enrolled HR.	Standard forestry metrics for tree and woodland health including recruitment, disease/pathogens. Understory species cover, species richness.	Two-stage tree-based sampling of spatially-balanced sites.	3 years	2012, 2015
Oak woodlands	1,542 acres oak woodlands in enrolled HR		Plot-based sampling within targeted woodlands	Annually	2011-2016, planned 2017


Thank you
Questions?