



City Council Presentation Ellwood Mesa Open Space Monarch Butterfly Habitat Conditions

Presentation by:

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Cory Meyer, Certified Arborist, Althouse and Meade

July 18, 2017

Topics



- Habitat Conditions Update
- Tree Health Survey Results
- Pest Survey Results
- Effects on Monarch Butterflies
- Tree Management Recommendations
- Joint Powers Insurance Authority Recommendations
- Next Steps
- Public Outreach

Ellwood Mesa Butterfly Habitat Areas



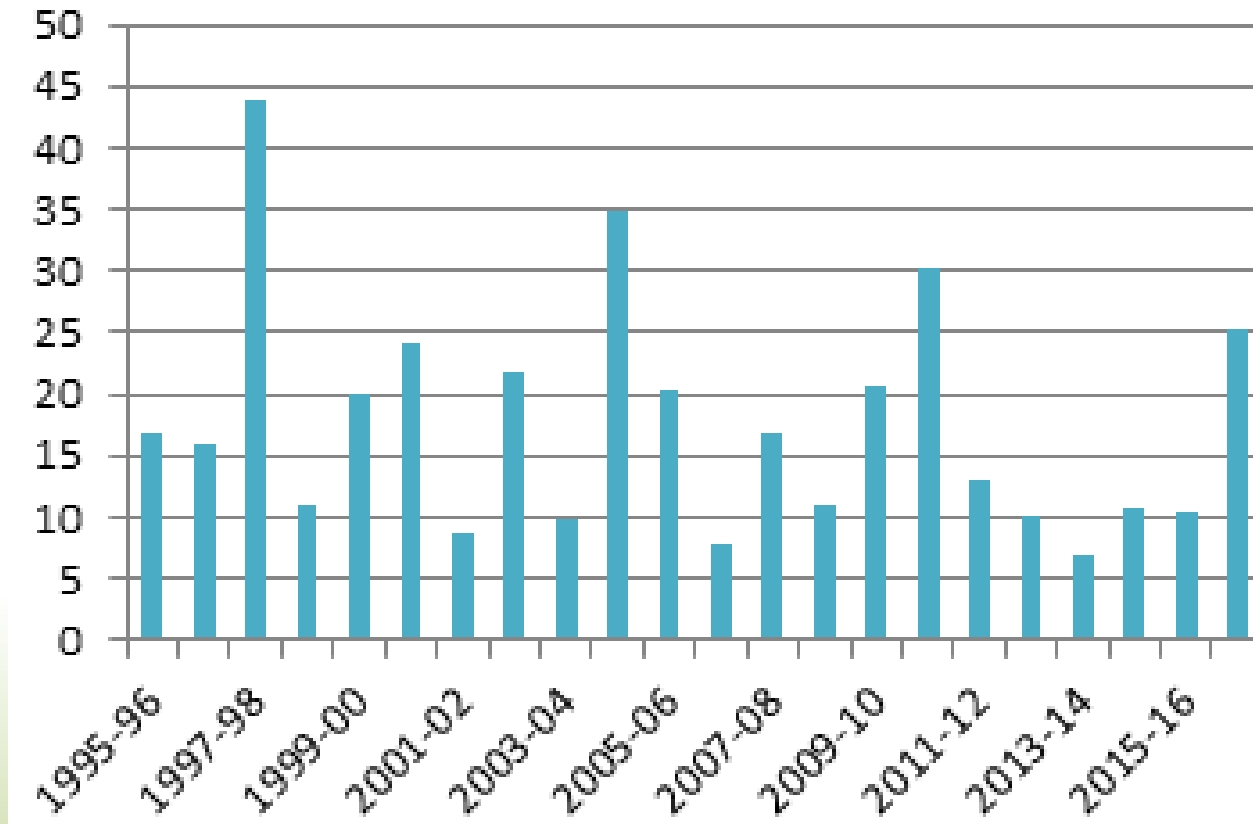
Habitat (Grove) Conditions



Ellwood Main - June 2017

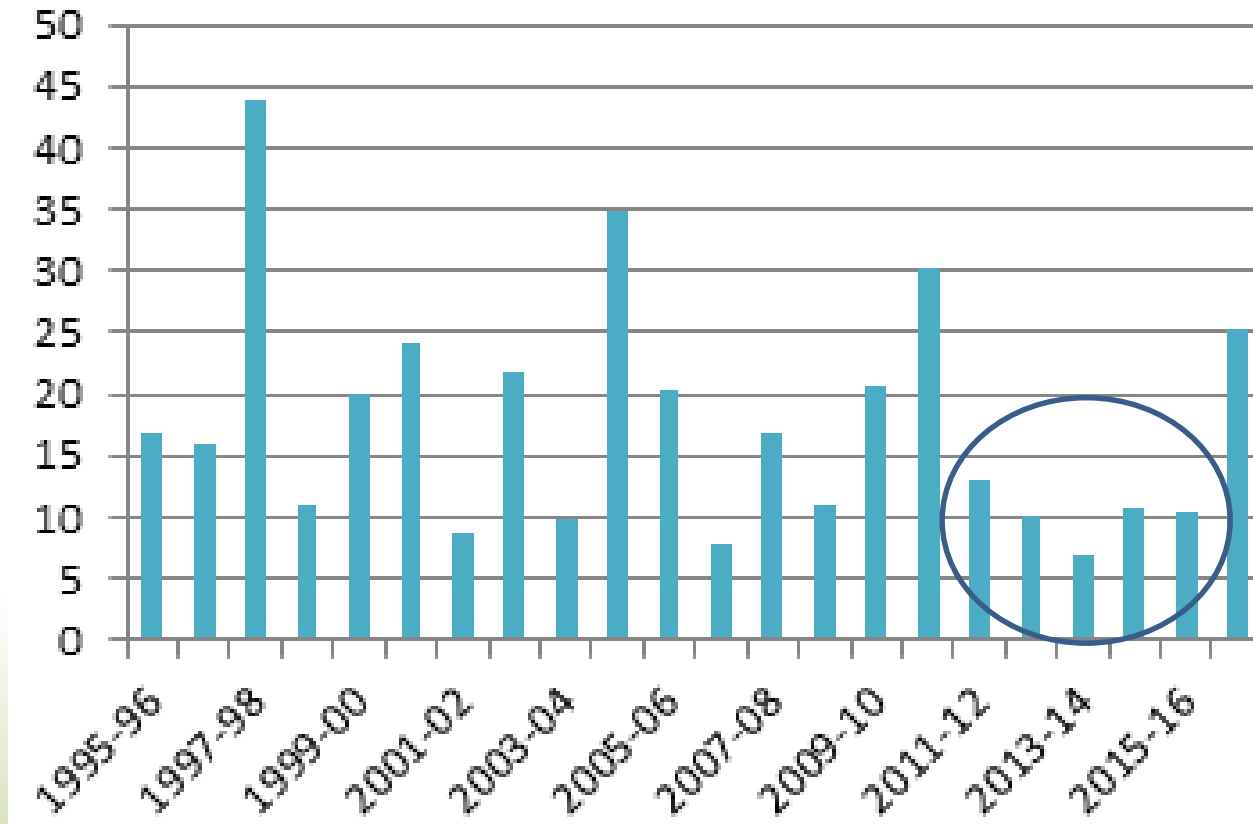
Goleta Rainfall Record

SB County – Flood Control District , Goleta Water District station

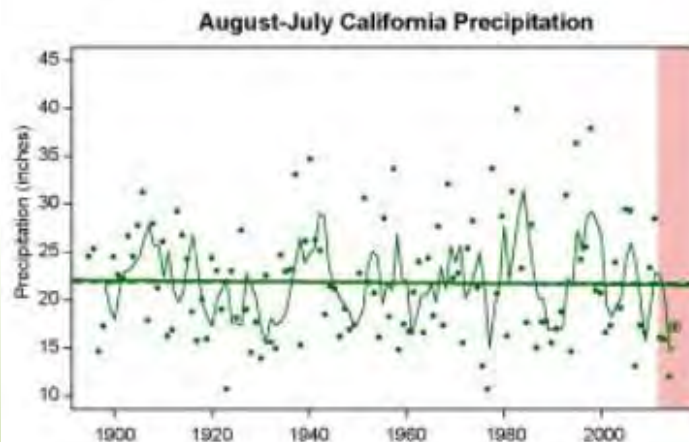
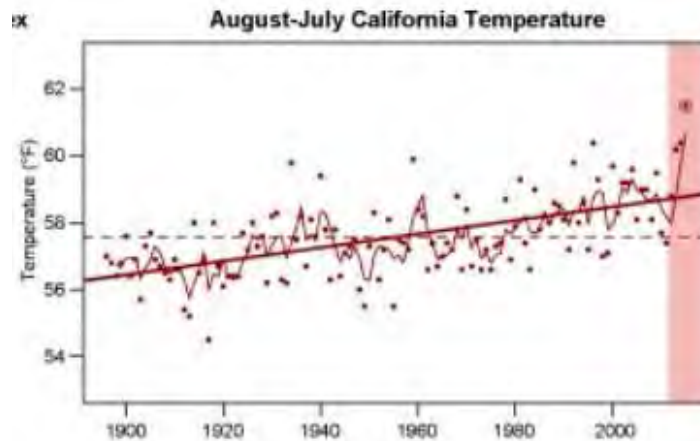


Goleta Rainfall Record

SB County – Flood Control District , Goleta Water District station



Temperature and Rainfall 1900-2015



Trends in atmospheric patterns conducive to seasonal precipitation and temperature extremes in California
Daniel L. Swain, Daniel E. Horton, Deepti Singh, and Noah S. Diffenbaugh

Science Advances 01 Apr 2016:
Vol. 2, no. 4, e1501344
DOI: 10.1126/sciadv.1501344

Ellwood North



2011



2017



Ellwood North



Natural Resources - such as Monarch Butterflies, Raptors, Western Snowy Plovers, Vernal Pools, Riparian Areas, and Native Grasslands occur within the open space area. To protect these and other natural resources, please adhere to Park rules.

<ul style="list-style-type: none">• Parking Lot Hours: 4 A.M. to 10 P.M.• Violators Will Be Cited and Towed• Pedestrians Must Remain on Trails• Dog Owners Must Remove Dog Waste• Discharge of Fire Works Prohibited• Equestrian and Bicycle Use Restricted to Designated Trails• Equestrians Must Remove Horse Waste	<ul style="list-style-type: none">• Horse Trailers / Oversized Vehicles Prohibited From Using Perimeter Parking Spaces• No Overnight Parking• No Camping• Gates Close at 10 P.M.• No Fires• No Smoking• Property Dispose of all Litter• All Motorized Vehicles are Prohibited
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June 2017

Ellwood North



June 2017

Ellwood North



June 2017

Epicormic Growth



Ellwood North



Sandpiper



2011



2017



Ellwood Main



2010



2017



Ellwood Main

Ellwood Main viewing area







Ellwood Main



February 2011



June 2017





Ellwood Main



July 2011



June 2017



Ellwood Main



July 2011



June 2017



June 2017



Devereux Creek



2011 July



2017 June



Arborist Tree Health Rating Scale



0 – Deceased Tree

(should be removed)

1 - Dying or Hazardous Tree

(should be removed)

2 - Distressed Tree; Poor Structure, Some Pests, and Poor Health

(some may need to be removed depending on their importance to aggregation site)

3 - Tree with Some Pests and Minor Structural Defects That Can be Mitigated

(could stay)

4 - Tree with Minor Structural Defects and Overall Good Health

(could stay)

5 – Relatively Healthy Tree that can be Left in its Natural State

7, 8, 9 – Tree with Arboricultural Pruning/Attention or Have No Apparent Structural Defect

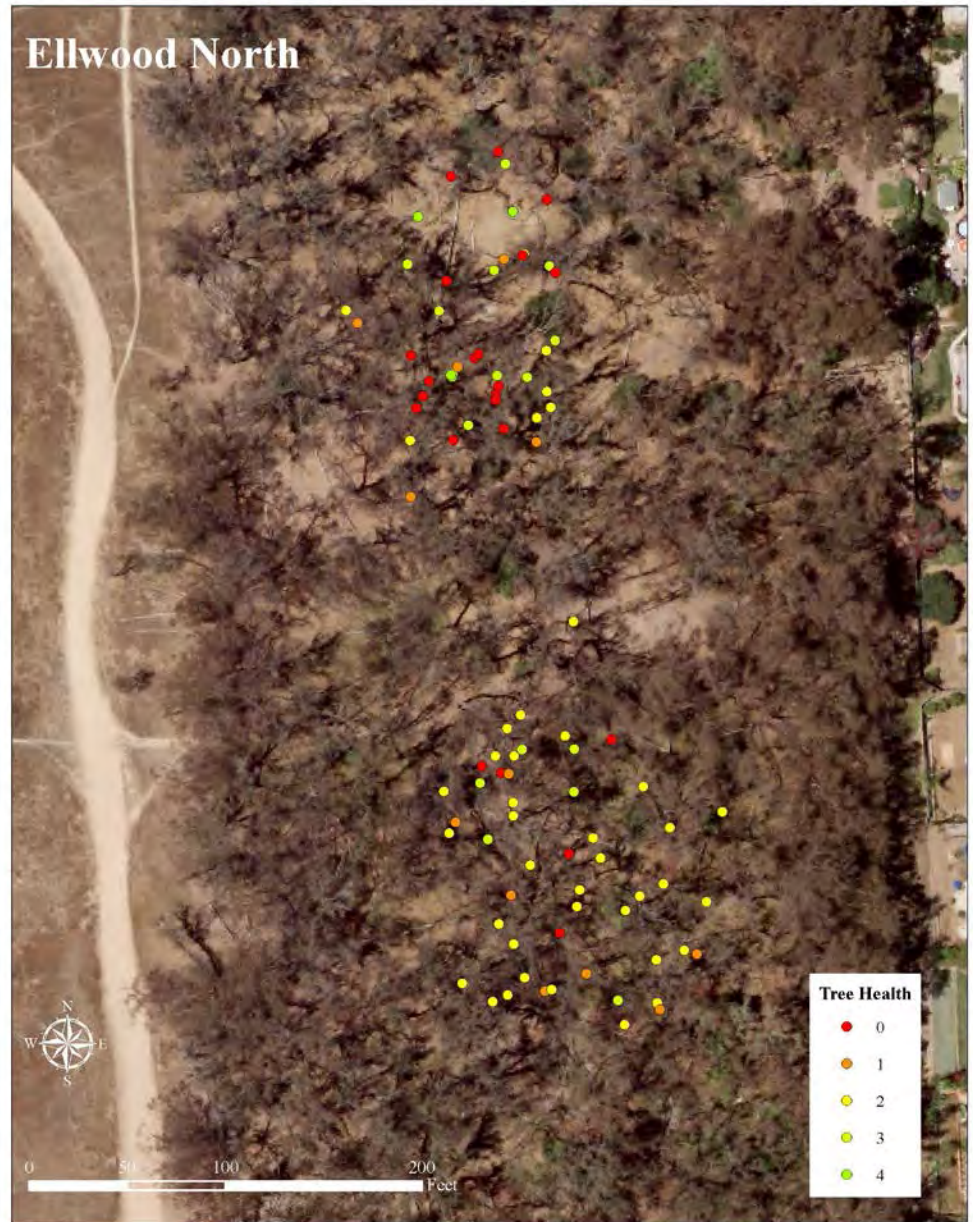
10 – Specimen Tree with Perfect Shape, Structure and Foliage

Tree Health Survey – Aggregation Sites



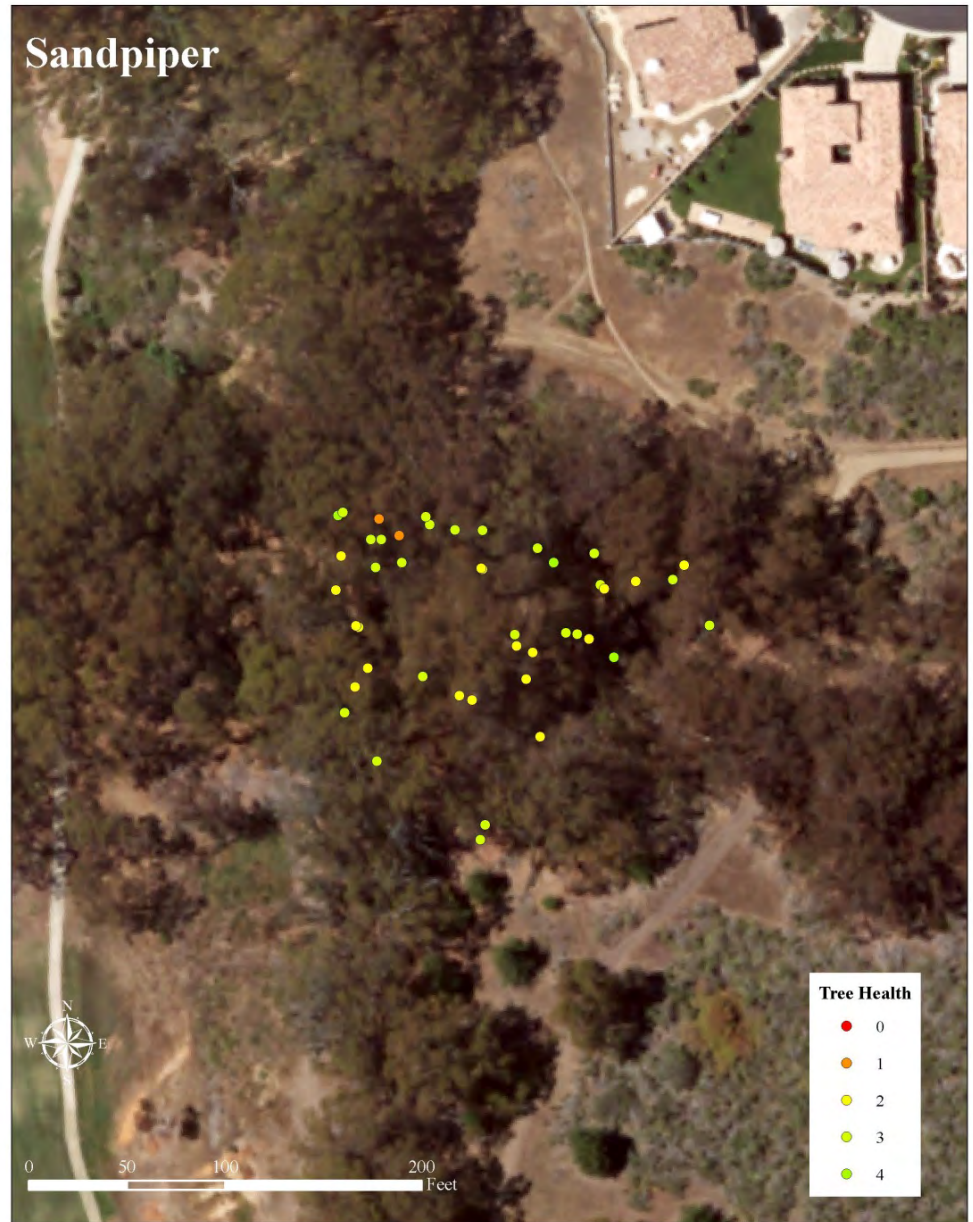
Ellwood North Tree Assessment

Total trees assessed	94
Health rating average	1.6
Dead	22 (23%)
Remove 0-1	34 (36%)
Dead or distressed 0-2	73 (78%)
Avg. ht. dead trees	65 ft.



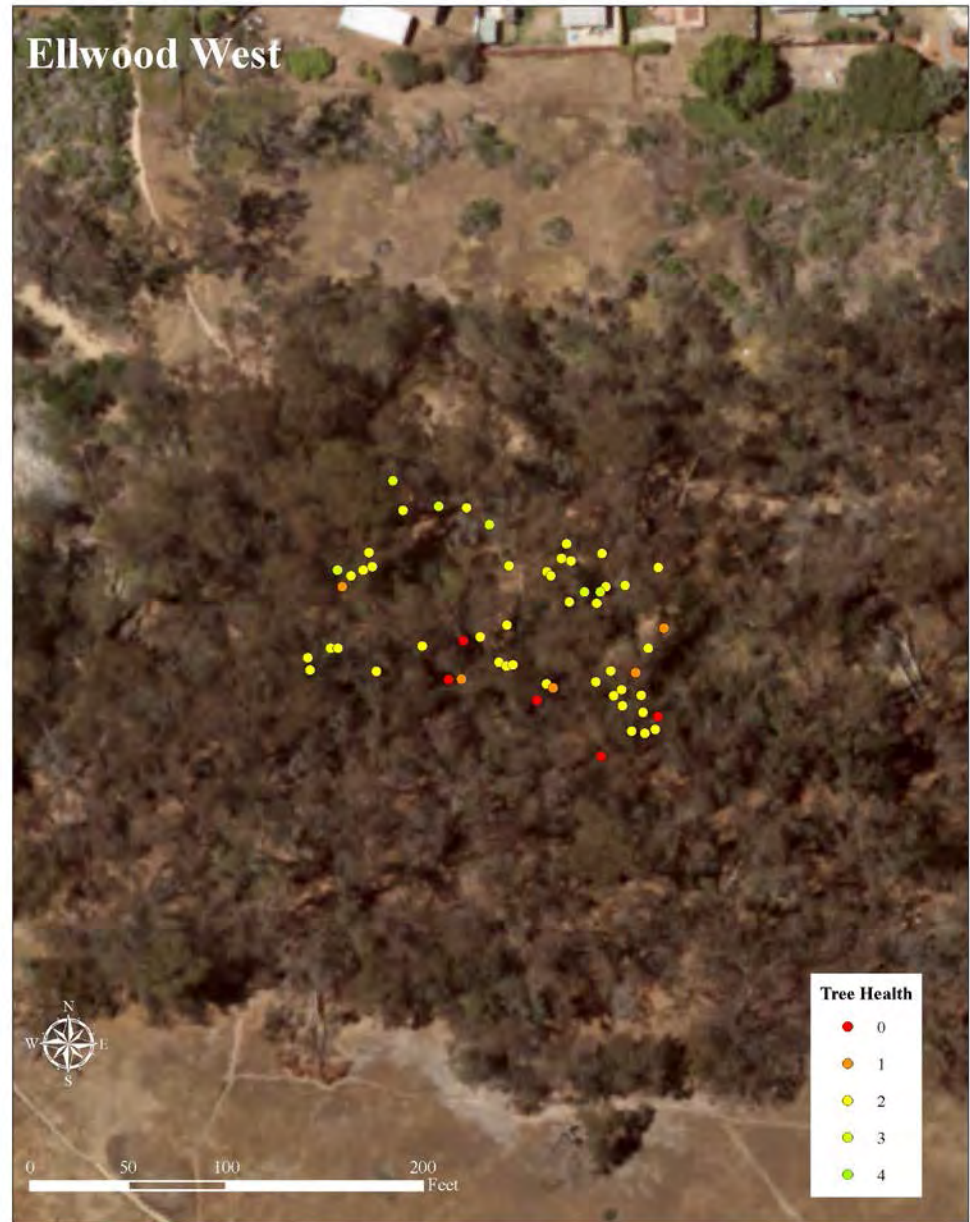
Sandpiper Grove Tree Assessment

Total trees assessed	47
Health rating average	2.55
Dead	0
Remove 0-1	0
Dead or distressed 0-2	23 (49%)
Avg. ht. dead trees	n/a



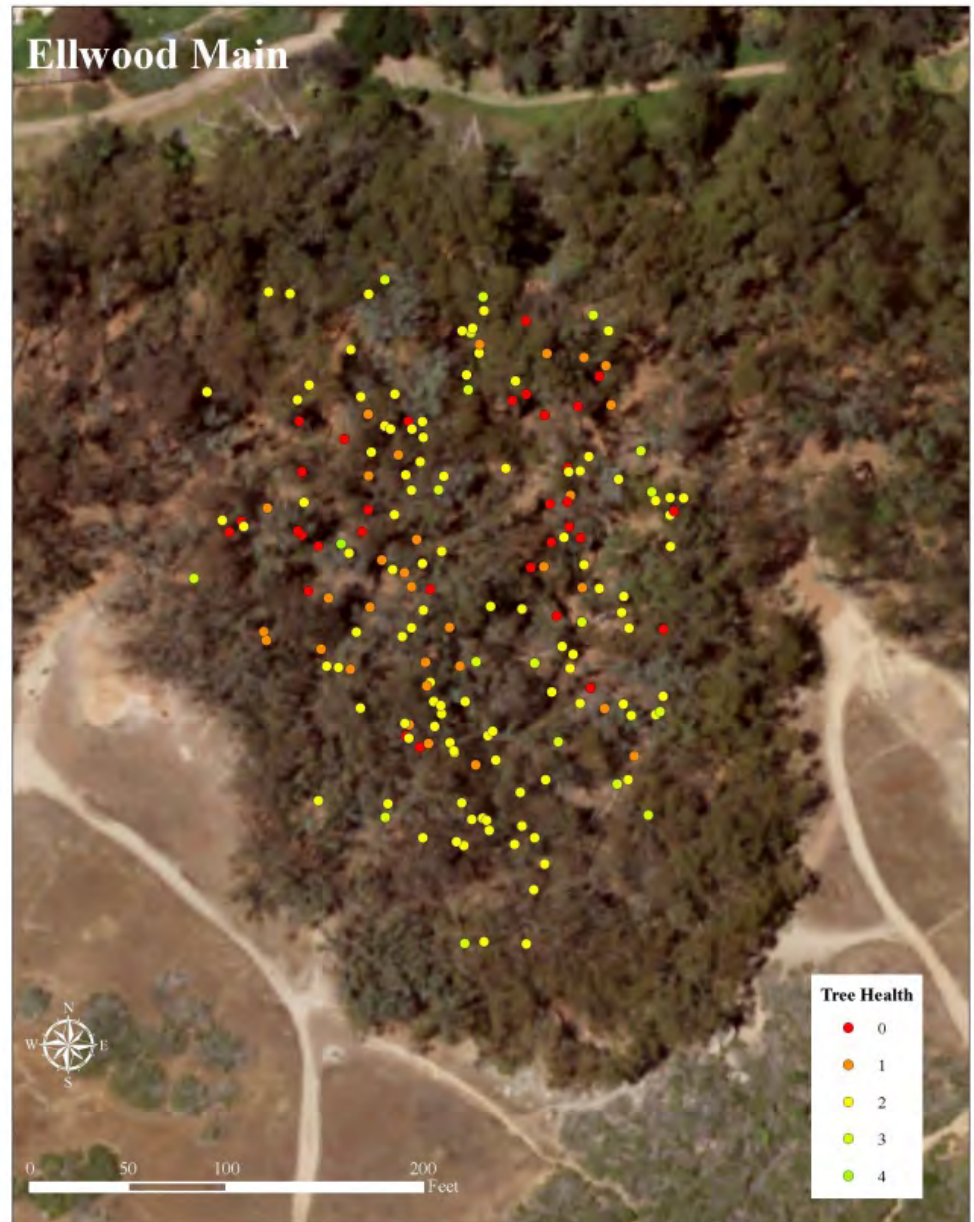
Ellwood West Tree Assessment

Total trees assessed	54
Health rating average	1.75
Dead	5 (9%)
Remove 0-1	10 (19%)
Dead or distressed 0-2	49 (91%)
Avg. ht. dead trees	70 ft.



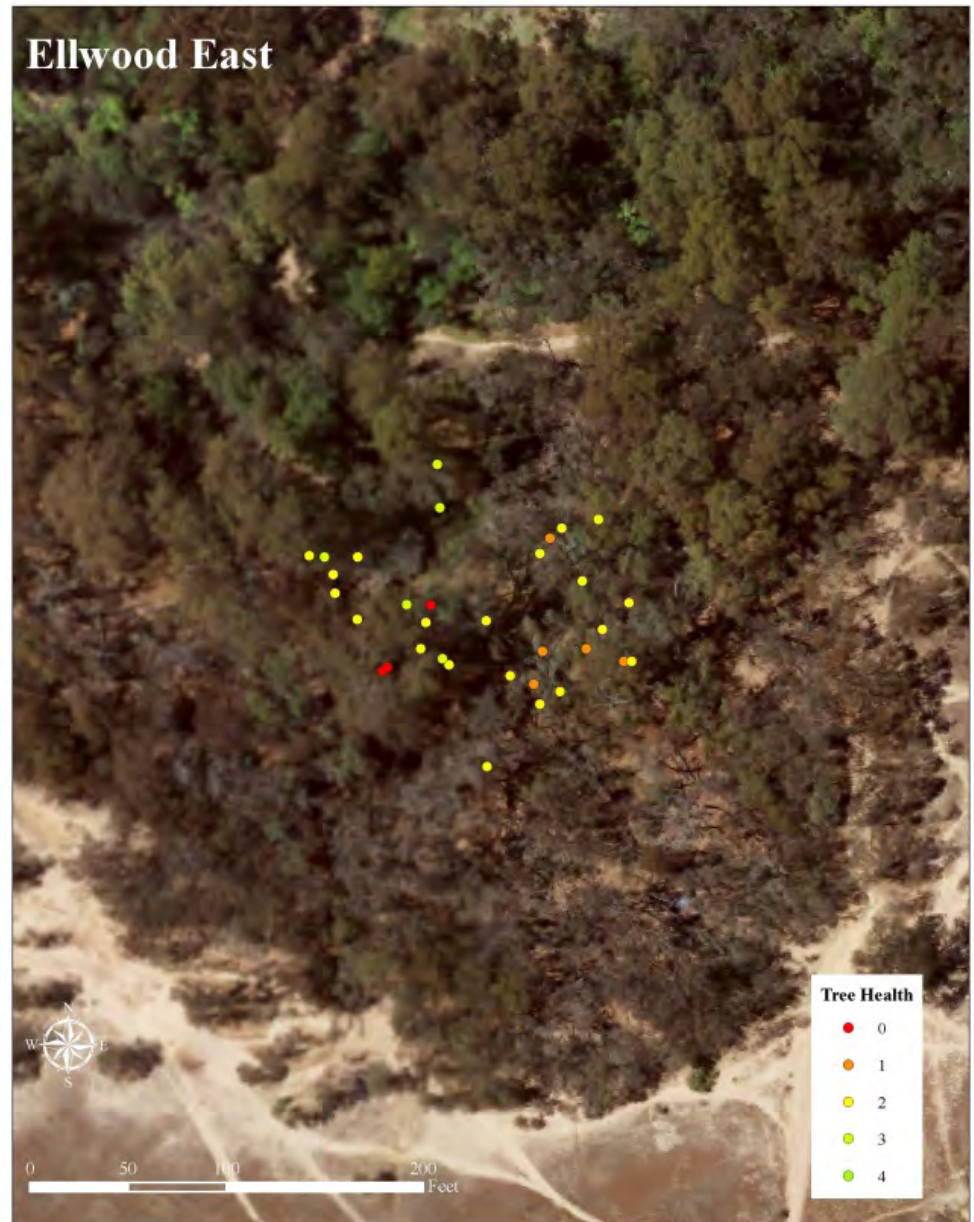
Ellwood Main Tree Assessment

Total trees assessed	184
Health rating average	1.6
Dead	32 (17%)
Remove 0-1	63 (34%)
Dead or distressed 0-2	165 (90%)
Avg. height dead	67 ft.



Ellwood East Tree Assessment

Total trees assessed	33
Health rating average	1.75
Dead	3 (9%)
Remove 0-1	8 (24%)
Dead or distressed 0-2	28 (84%)
Ave. ht. dead trees	67 ft.



Tree Health - Modeling

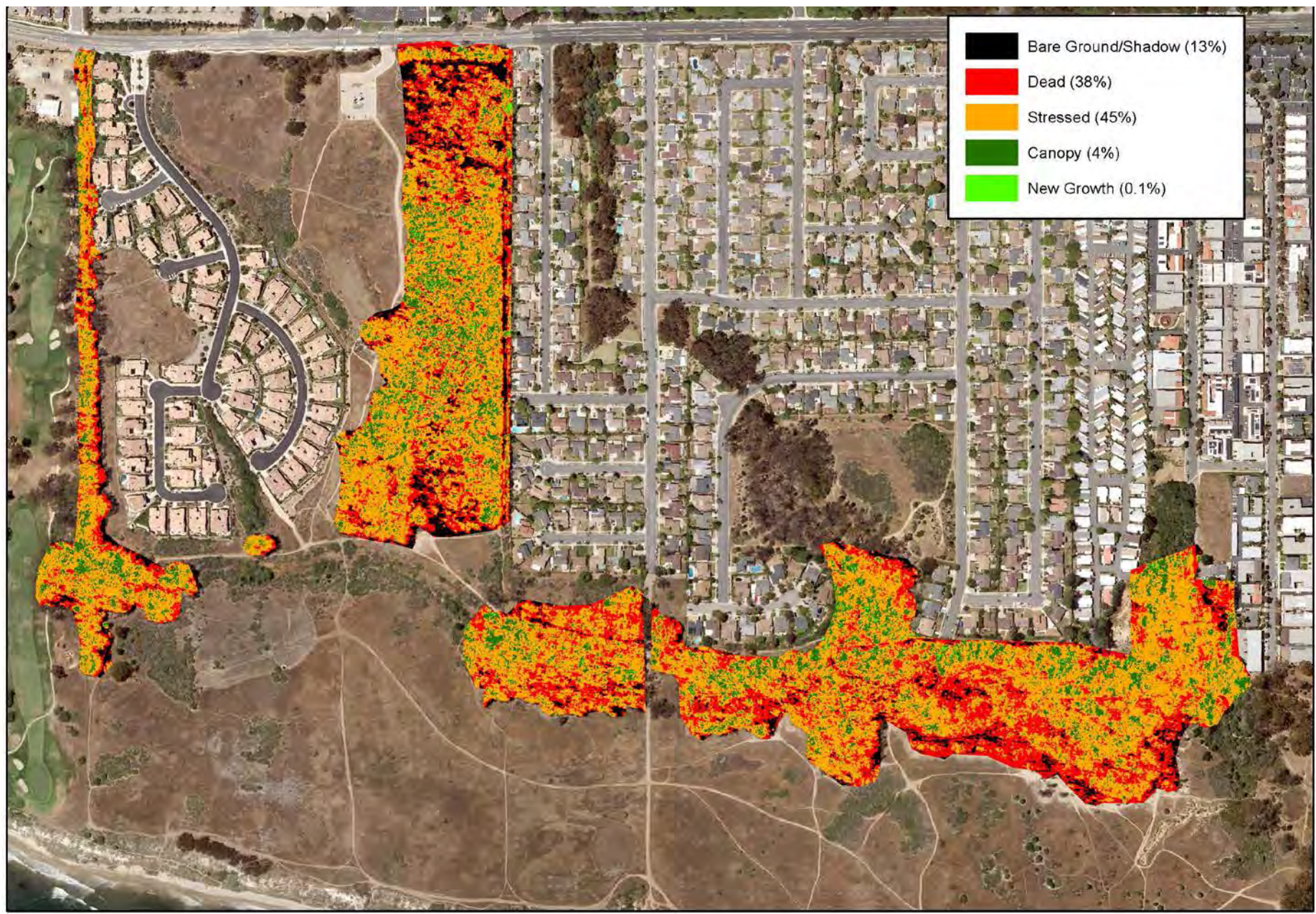


© 2017 Google

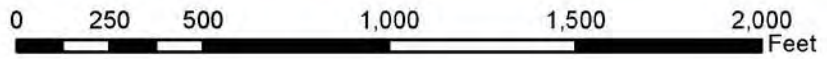
Google Earth

1994

Imagery Date: 10/2/2016 lat 34.425153° lon -119.891259° elev 33 ft eye alt 6708 ft



Black	Bare Ground/Shadow (13%)
Red	Dead (38%)
Orange	Stressed (45%)
Green	Canopy (4%)
Bright Green	New Growth (0.1%)



Normalized Difference Vegetation Index
ArcMap Tool using June 26, 2017 CIR Image

Tree Health - Modeling



0 100 200 400 600 800 1,000 Feet



Tree Health - Modeling



0 100 200 400 600 800 1,000 Feet



Tree Health - Modeling



0 100 200 400 600 800 1,000 Feet



Pest Survey Results



Tortoise beetle larvae



Tortoise beetle larva and adult



Pests



Eucalyptus Longhorned Borer *Phoracantha semipunctata* 1984 – Orange County



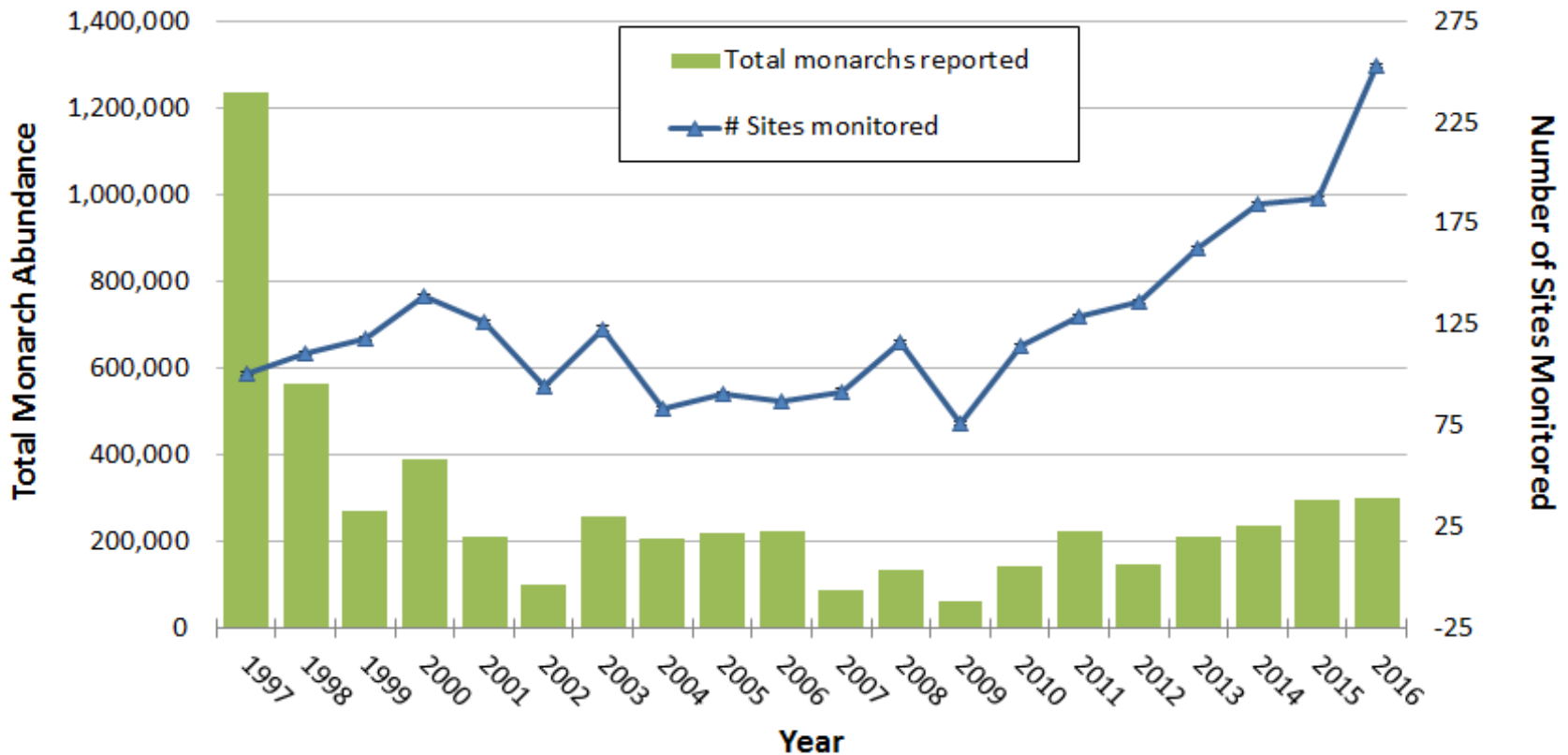


Effects on Monarch Butterflies



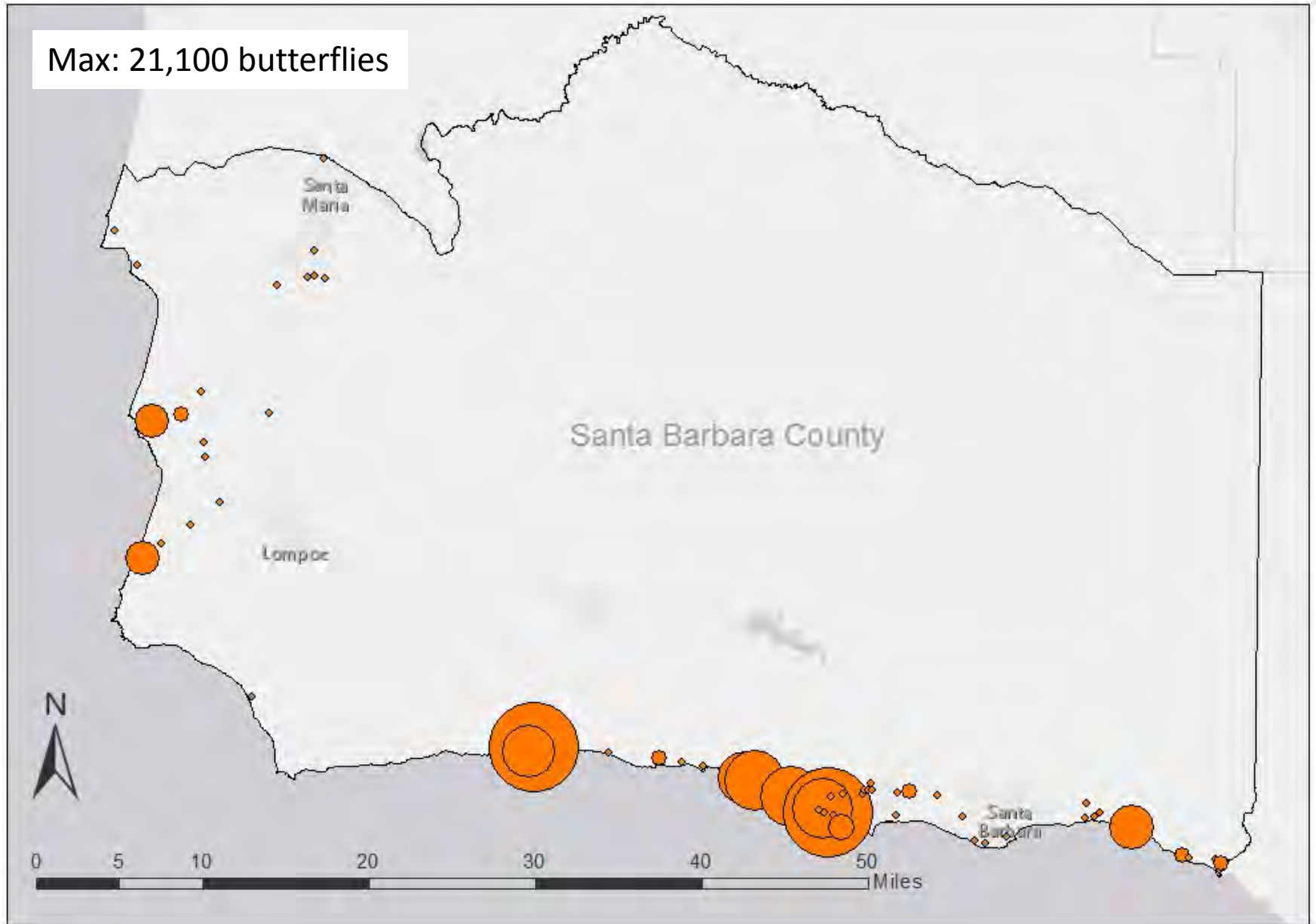
Western Monarch Thanksgiving Count
Total Abundance Estimates w/ Number of Sites Monitored
from 1997-2016
(Monroe *et al.* 2017)

© The Xerces Society for Invertebrate Conservation 2017



November 1999 Counts

Max: 21,100 butterflies



Santa Barbara County Butterfly Count



	October 2016	November 2016	December 2016	January 2017	November 1998
Sites counted	93	121	65	108	103
Sites with clustering monarchs	20	45	40	37	70
Percent of sites with clustering monarchs	22%	37%	--	34%	68%
Total number of monarchs	15,068	70,601	62,426	46,060	161,514
Average number of monarchs per occupied cluster site	753	1,569	1,561	1,245	2,307

Santa Barbara County Butterfly Count



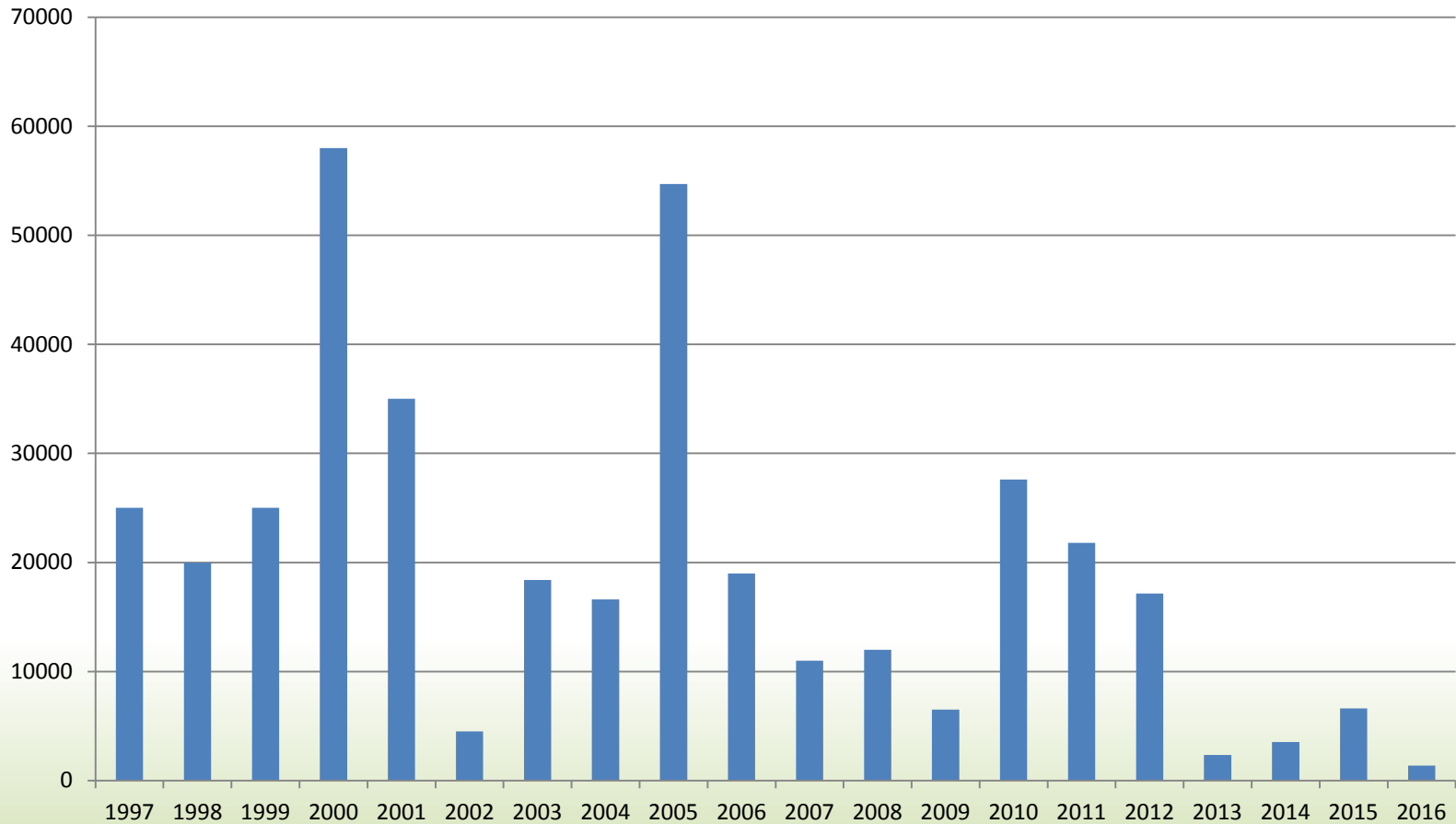
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Ellwood Main Butterfly Counts



Ellwood Butterfly Counts 2016-2017



Butterflies per month

	10/5	11/14	12/5	1/7	2/1
Ellwood Main, Goleta	13	1365	2120	123	0
Ellwood North, Goleta	10	25	1580	1490	453
Ellwood West, Goleta	4	1920	1730	1145	527
Ellwood East, Goleta	5	1175	1200	2670	20
Ellwood / Sandpiper Golf Course	90	3051	4495	2860	858
Total Count:	122	7,536	11,125	8,288	1,858

Tree Management Recommendations (Aggregation Sites)



Location	Mean Health Ranking	Dead Trees	Percent Dead	Trees Assessed	Live trees without pests/disease	Trees recommended for removal (rank 0 & 1)	Percent removals	Trees dead or dying (rank 0 to 2)	Percent dead or dying
Ellwood East	1.75	3	9.1	33	0	8	24.2	28	84
Ellwood Main	1.59	32	17	184	1	63	34	165	90
Ellwood North	1.61	22	23	94	2	34	36	73	77
Ellwood West	1.75	5	8.9	54	0	10	19	49	91
Sandpiper	2.55	1	2.1	47	0	1	2.1	23	49

116

338

Tree Management Recommendations



Aggregation Sites Only

Tree Removals (0-1)	116
<u>Safety trimming (2)</u>	<u>222</u>
<i>Total</i>	<i>338</i>



Tree Management Recommendations



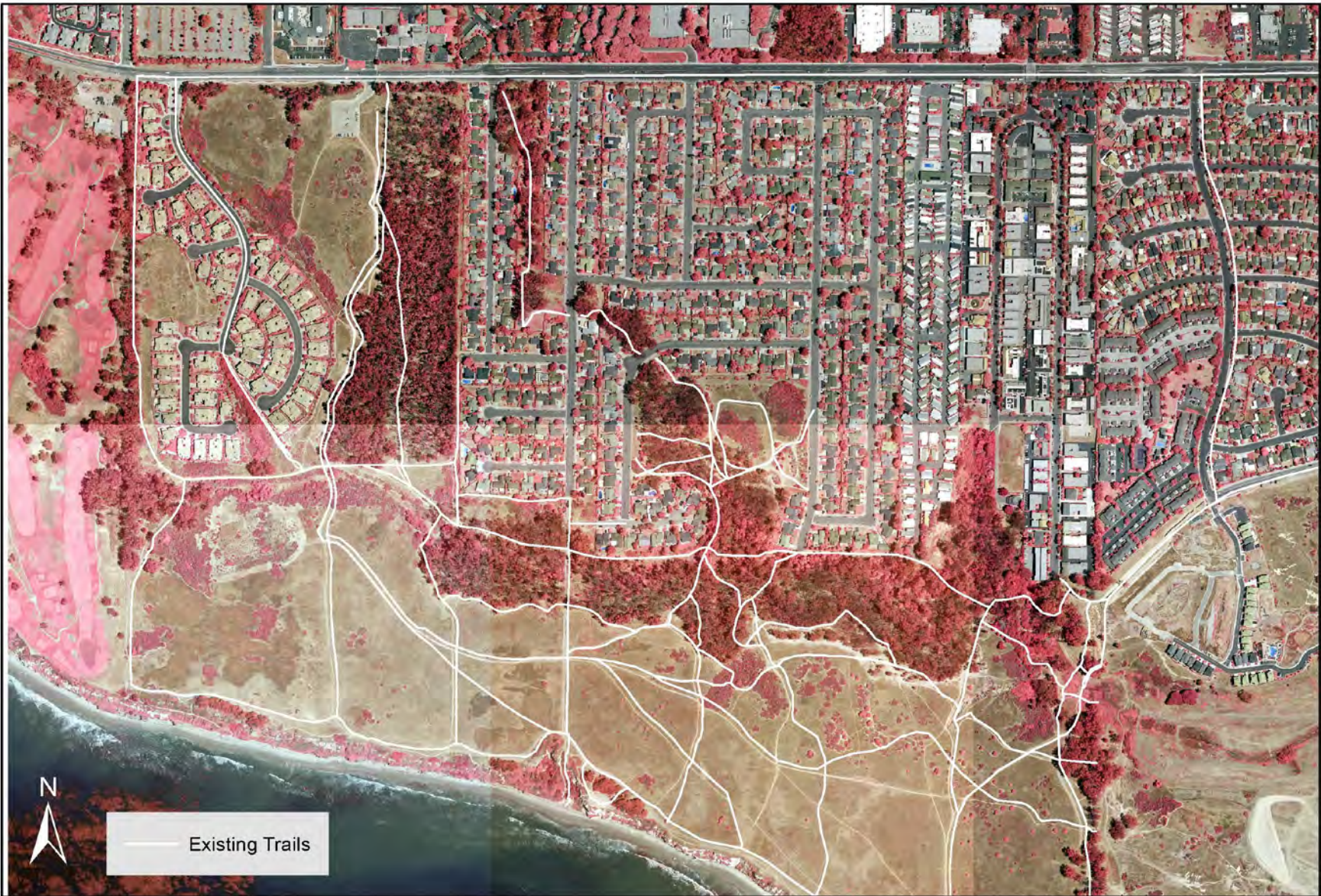
Ellwood Forest

Grove #1 Dead Trees	343
Grove #2 Dead Trees	<u>168</u>
	511

Other Areas

Dead Tree Estimate	100
Safety trim	<u>222</u>
	322

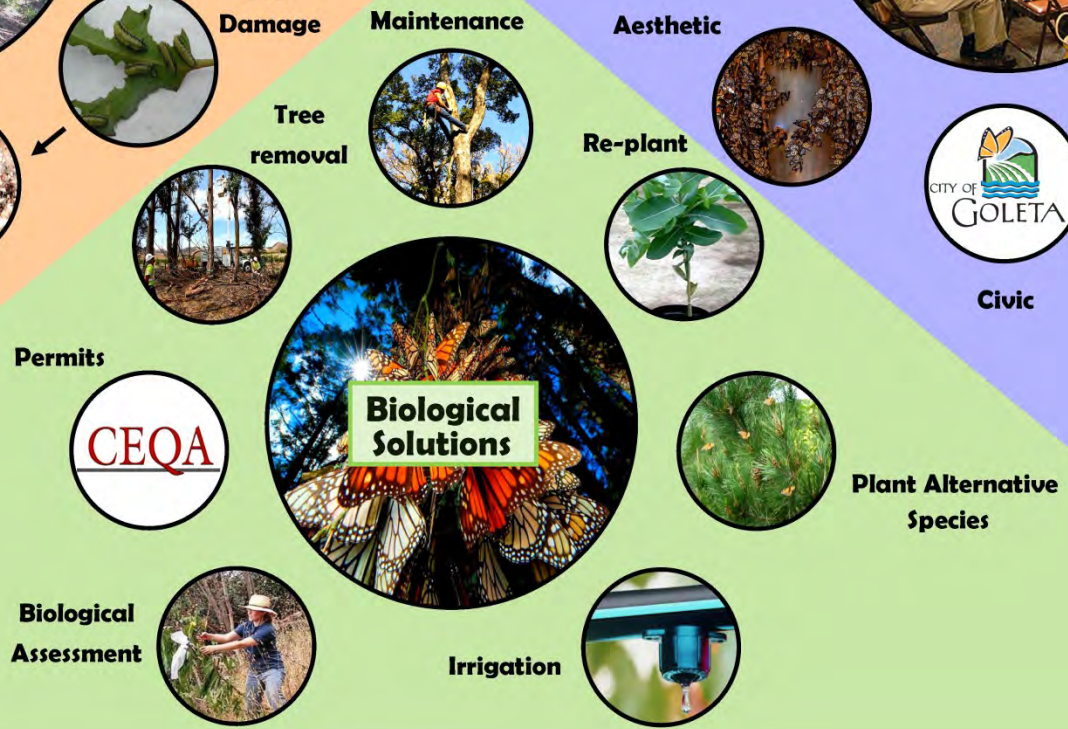
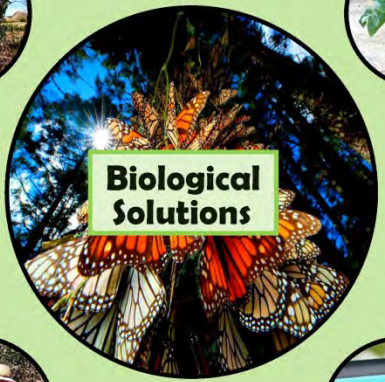
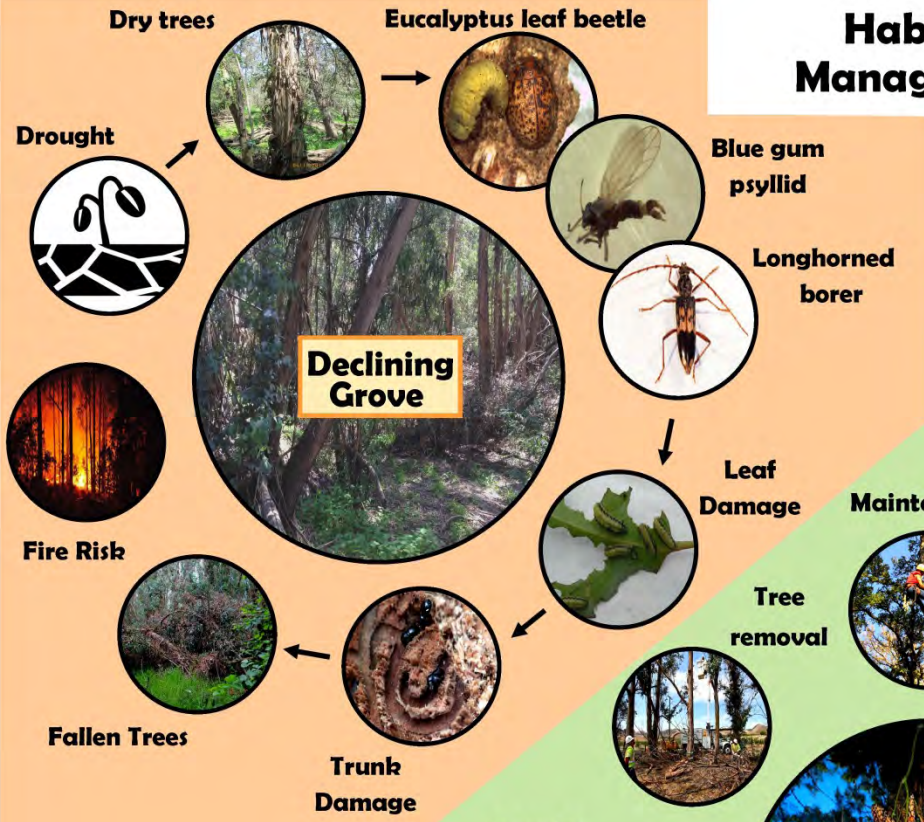
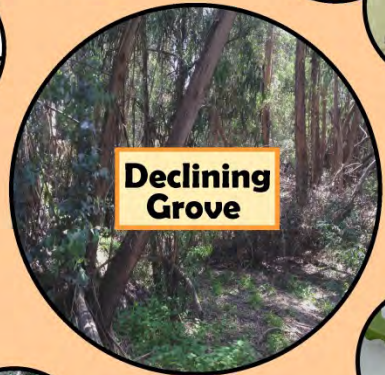
Net Estimated Total Trees 833



— Existing Trails

0 500 1,000 2,000 3,000 4,000 Feet

Habitat Management



City's Insurance Provider (JPIA) Recommendations:

- Prepare an action plan to top off and remove dead and dying trees (trees marked 0 and 1).
- Periodically inspect trails to remove make-shift swings and encampments.
- Install signage warning users of the hazards and potential for injury. Close certain areas that post additional risks.
- Post the known hazard and trail closures on the City's website.

Next Steps



Short-Term Actions (Through September 30, 2017)

- Continue to Coordinate with Coastal Commission and Fish & Game
- Finalize Trail Closure and Sign Location Plan
- Close Trails in Eucalyptus Grove on Ellwood Mesa
- Post Signs Notifying Public of Hazardous Tree Conditions
- Finalize Tree Management Action Plan
- Identify Funding to Implement Action Plan
- Retain Contractor
- Implement Action Plan

Long-Term Actions

- Prepare Habitat Management Plan and Involve Parks and Recreation Commission

Public Outreach



- General Updates
- Trail Warning and Closure Outreach
- Public Meeting Outreach (July 26, 2017)
- Ongoing Public Outreach (Short- and Long-term)

WWW.CITYOFGOLETA.ORG

Please join us for a meeting on the status of the Ellwood Mesa habitat conditions, trail closures and next steps

JULY 26, 2017, 5:30-7 P.M.
GOLETA CITY HALL, COUNCIL CHAMBERS
130 CREMONA DRIVE, SUITE B

Por favor acompañenos en una reunión sobre el estado de las condiciones del hábitat de Ellwood Mesa y los próximos pasos

26 DE JULIO DE 2017, 5: 30-7:00 PM
EL AYUNTAMIENTO DE GOLETA,
130 CREMONA DRIVE, SUITE B

The flyer features a background image of a natural landscape with trees and hills. The text is centered and uses a mix of bold and regular fonts to highlight key information.

