# Poinsettia Fire 5-Year Habitat Recovery Monitoring

## Final Report

Alanna Sullivan

*HMP Preserve Steward*



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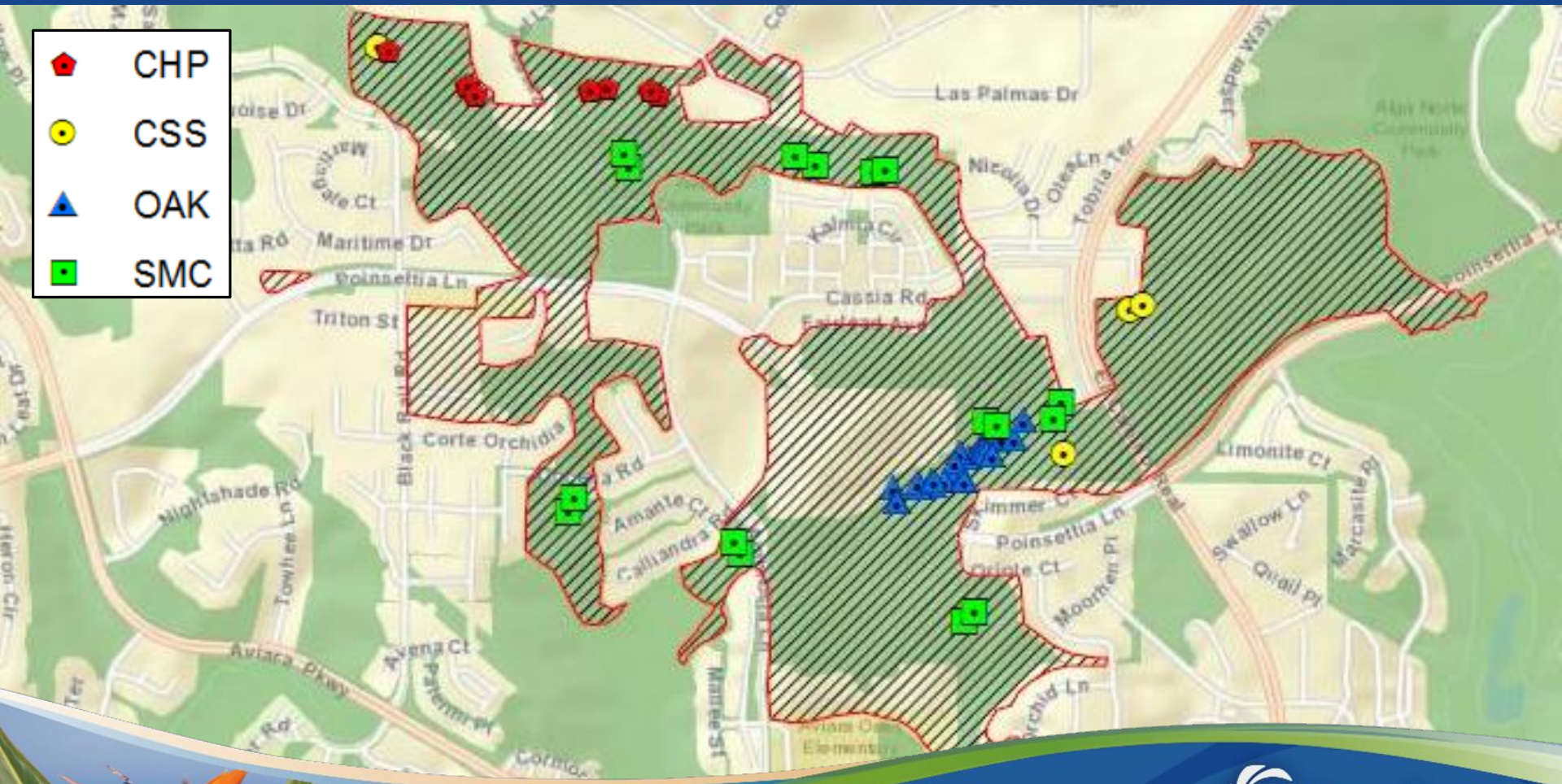
# 2014 Poinsettia Fire, 360 acres burned



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# *Fires*

- 95% of fires are human-caused
- Natural vegetation communities that have burned can transition to grassland → creating more fuel for future fires
- Reduce quality of habitat for native plants and wildlife
- Goal of this study: Document and determine recovery



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# *Methodology*

- 24 transects
- 2019: 4 Reference transects

- Native and non-native cover
- Species richness
- Resprouting shrubs
- Photo monitoring



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# *Southern Mixed Chaparral (2015)*



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# *Southern Mixed Chaparral (2016)*



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# *Southern Mixed Chaparral (2017)*



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# *Southern Mixed Chaparral (2018)*



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# *Southern Mixed Chaparral (2019)*



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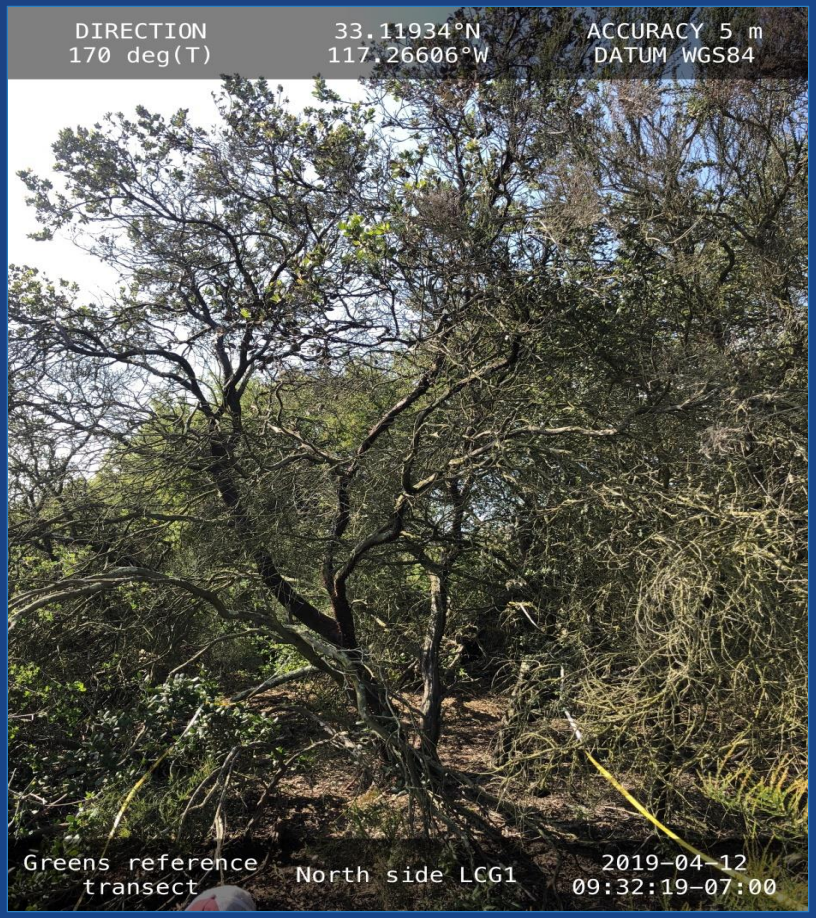
# *Southern Mixed Chaparral– Reference*

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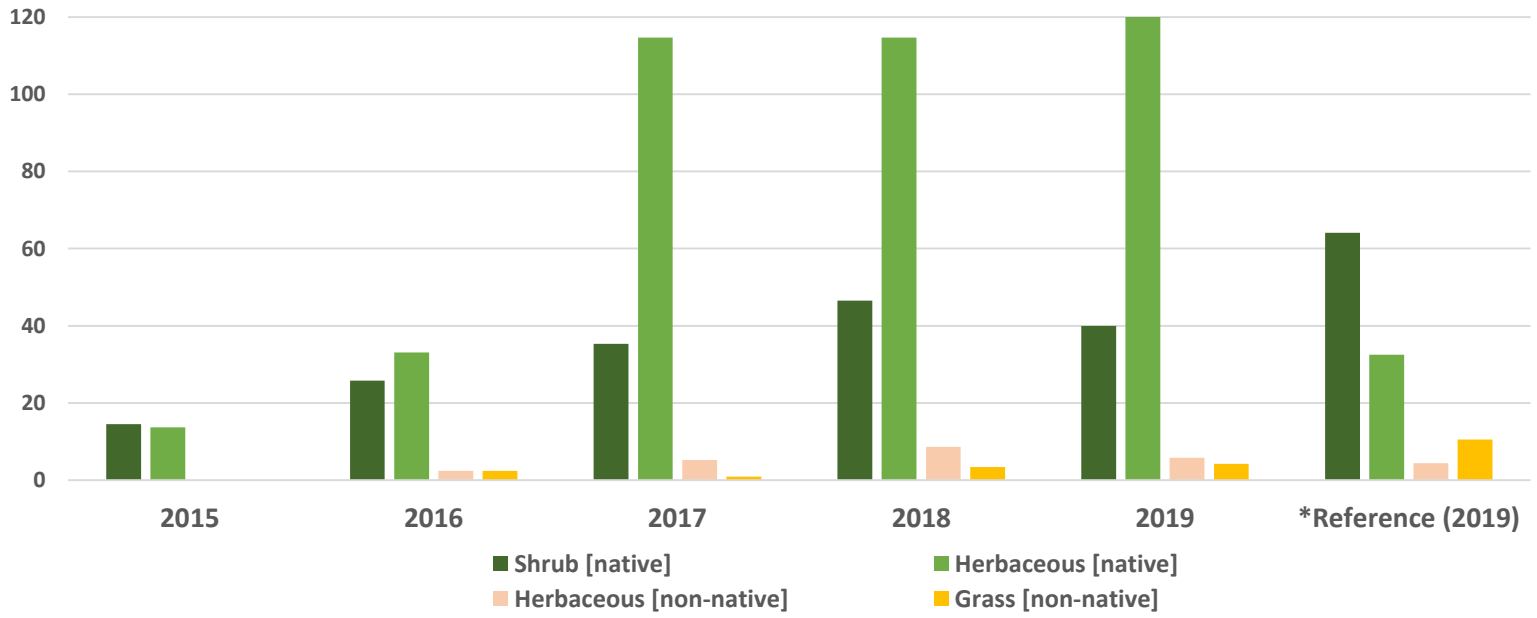
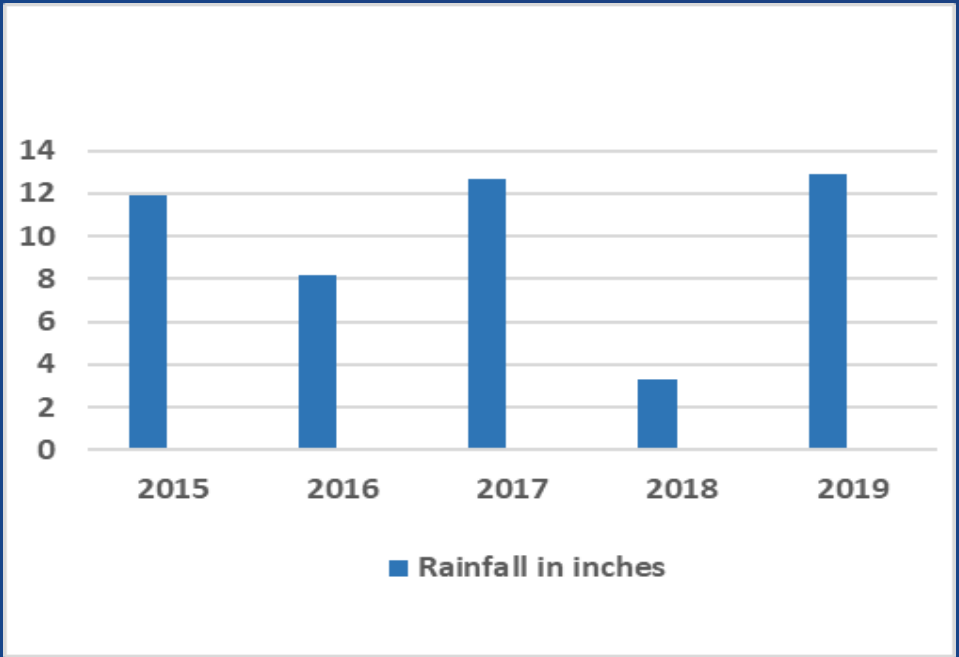
# Southern Mixed Chaparral Percent Cover




| Vegetation Type | 2015 | 2016 | 2017 | 2018 | 2019 | Ref |
|---|---|---|---|---|---|---|
| Shrub [native] | 14.5 | 25.8 | 35.3 | 46.5 | 40 | 64.1 |
| Herbaceous [native] | 13.7 | 33.1 | 114.7 | 114.7 | 121.7 | 32.5 |
| Herbaceous [non-native] | 0 | 2.4 | 5.2 | 8.6 | 5.8 | 4.4 |
| Grass [non-native] | 0 | 2.4 | 0.9 | 3.4 | 4.2 | 10.5 |

## Post-Fire Monitoring

# Rainfall 2015-2019




| Water Year (Oct-Sep) | Actual Rainfall (in.) | Normal Rainfall (in.) | % of Normal |
|---|---|---|---|
| **2015** | 11.9 | 10.3 | 115 |
| **2016** | 8.2 | 10.3 | 79 |
| **2017** | 12.7 | 10.3 | 123 |
| **2018** | 3.3 | 10.3 | 32 |
| **2019** | 12.9 | 10.3 | 125 |



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# *Coastal Sage Scrub (2015)*



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# *Coastal Sage Scrub (2016)*



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# *Coastal Sage Scrub (2017)*



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# *Coastal Sage Scrub (2018)*



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# *Coastal Sage Scrub (2019)*



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# *Coastal Sage Scrub–Reference*



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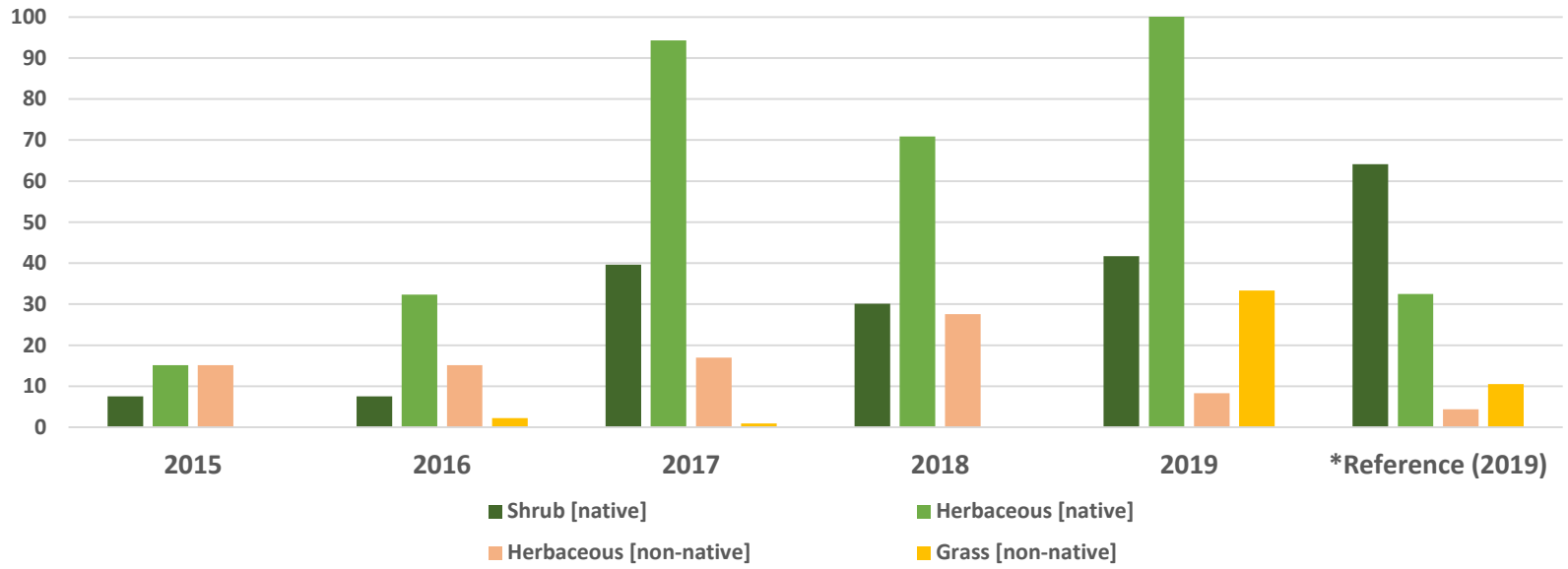
# Coastal Sage Scrub Percent Cover




| Vegetation Type | 2015 | 2016 | 2017 | 2018 | 2019 | *Ref |
|---|---|---|---|---|---|---|
| Shrub [native] | 7.5 | 7.5 | 39.6 | 30.1 | 41.7 | 64.1 |
| Herbaceous [native] | 15.1 | 32.3 | 94.3 | 70.9 | 123.3 | 32.5 |
| Herbaceous [non-native] | 15.1 | 15.1 | 17 | 27.6 | 8.3 | 27.6 |
| Grass [non-native] | 0 | 2.2 | 0.9 | 0 | 33.3 | 0 |

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# *Southern Maritime Chaparral (2015)*



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# *Southern Maritime Chaparral (2016)*



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# *Southern Maritime Chaparral (2017)*



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# *Southern Maritime Chaparral (2018)*



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# *Southern Maritime Chaparral (2019)*



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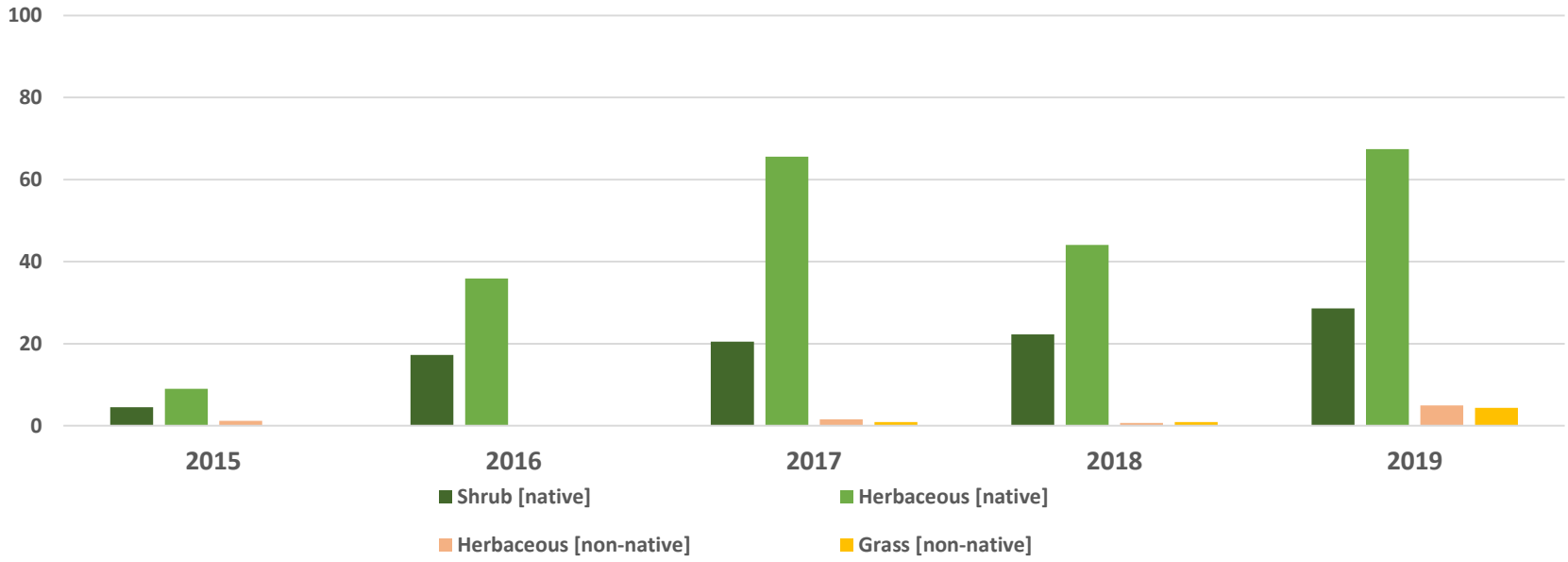
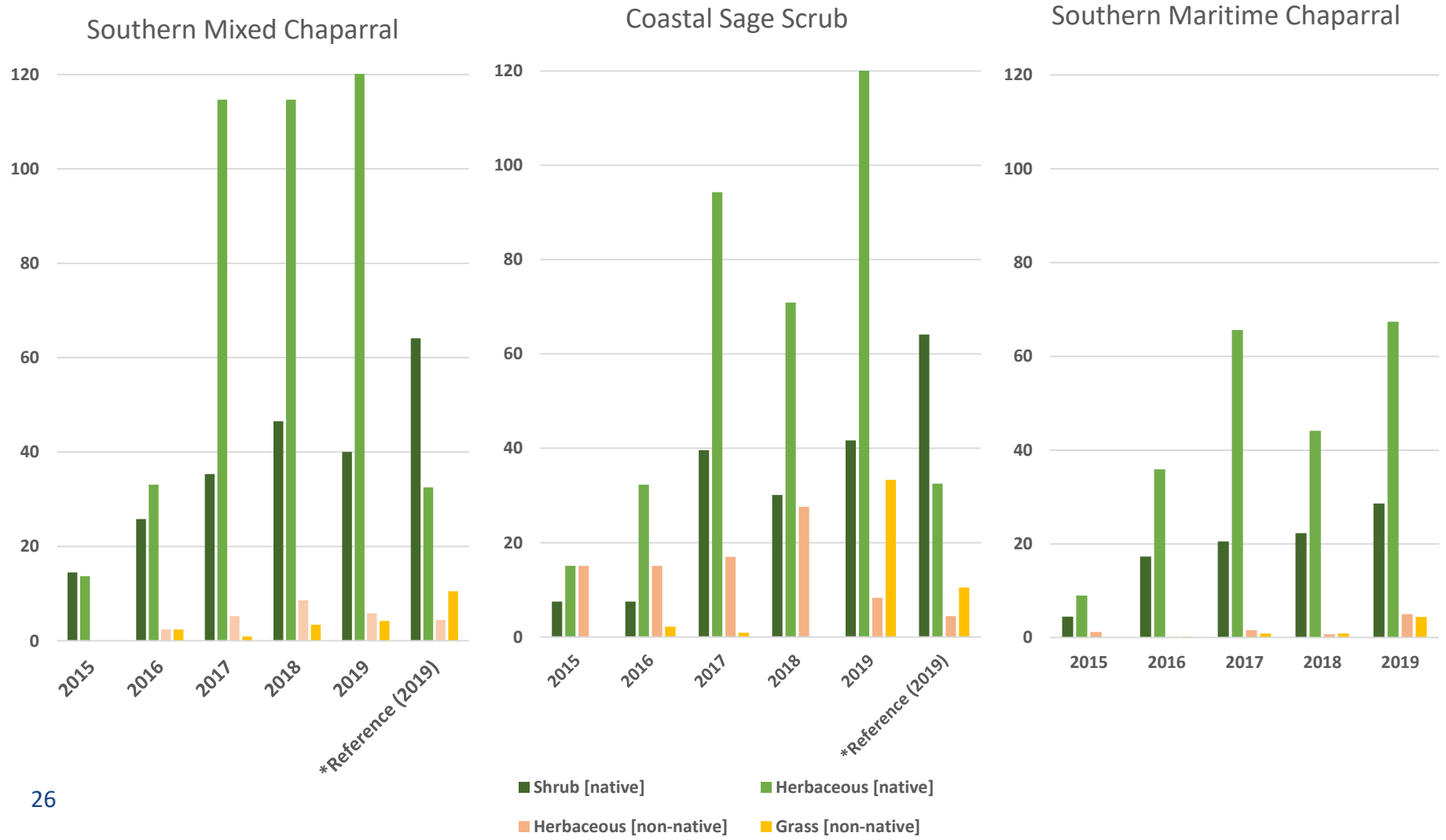
# Southern Maritime Chaparral Percent Cover




| Vegetation Type | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| **Shrub [native]** | 4.5 | 17.3 | 20.5 | 22.3 | 28.6 |
| **Herbaceous [native]** | 9 | 35.9 | 65.6 | 44.1 | 67.4 |
| **Herbaceous [non-native]** | 1.2 | 0.2 | 1.6 | 0.7 | 5 |
| **Grass [non-native]** | trace | 0.2 | 0.9 | 0.9 | 4.4 |

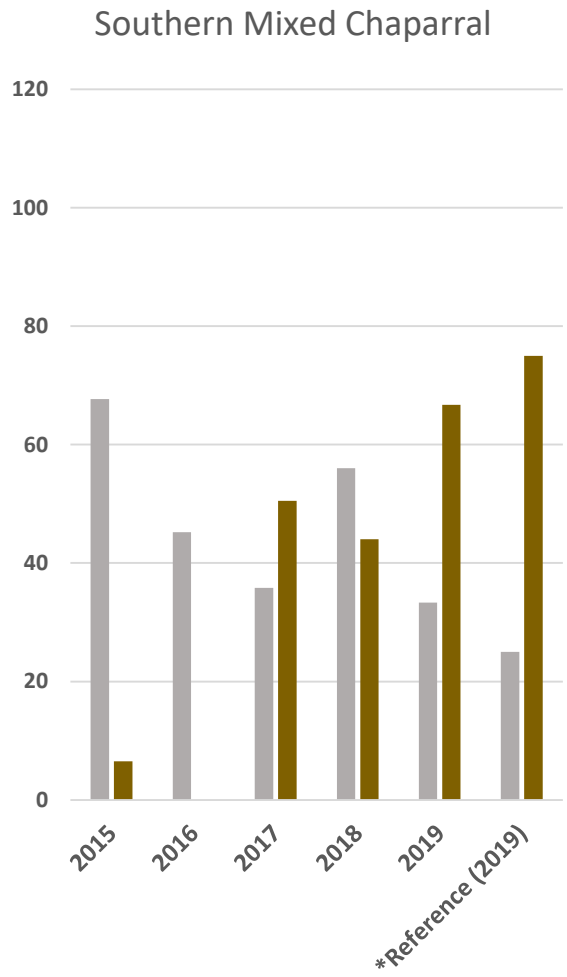
## Vegetation Type Comparison

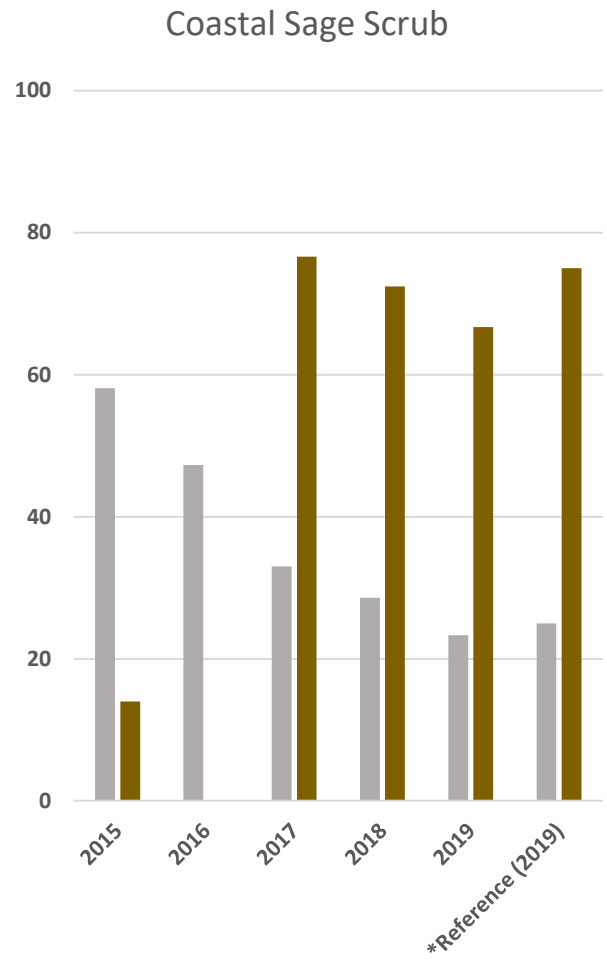
# Shrubs & Herbs (Native and Non-Native)

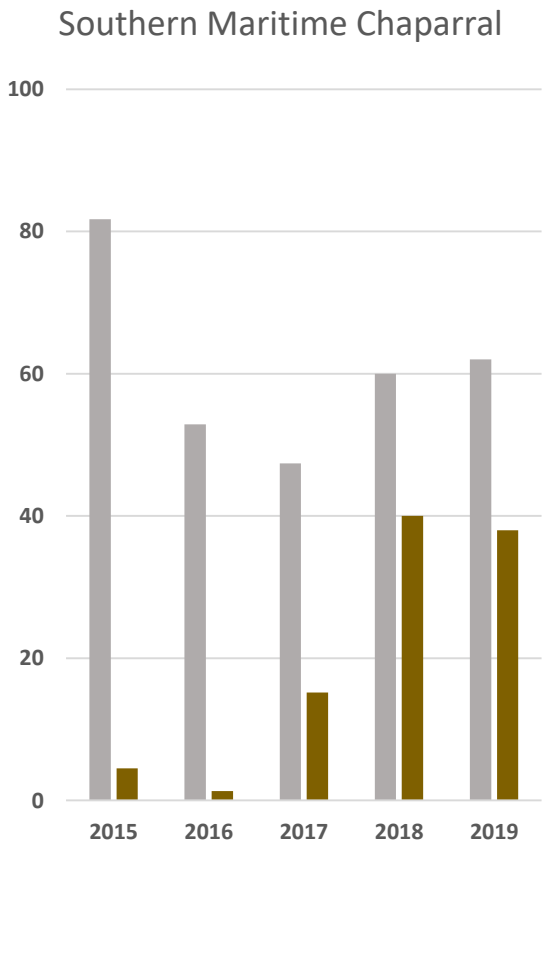


## *Vegetation Type Comparison*

# *Bare Ground and Litter*




Bare Ground  Litter

# Oak Recovery



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# *Oak Recovery*

2015

2019



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# *Oak Recovery*

2015

2019



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# *Oak Recovery*

2015

2019



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# *Oak Results*

- At Manzanita Partners, 20 Coast Live Oak
  - 7 dead, 13 alive = 65% survival

- At Rancho La Costa Greens,
  - 47 Coast Live Oak, 44 alive = 94% survival
  - 7 Engelmann Oak, 5 alive = 71% survival



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# *Results*

- Good trajectory toward recovery, but habitats still immature
- Weed cover low in chaparral, but higher in CSS. Also invasive perennials are establishing sporadically
- Oaks recovering slowly; little recruitment



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# *Thank you!*

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