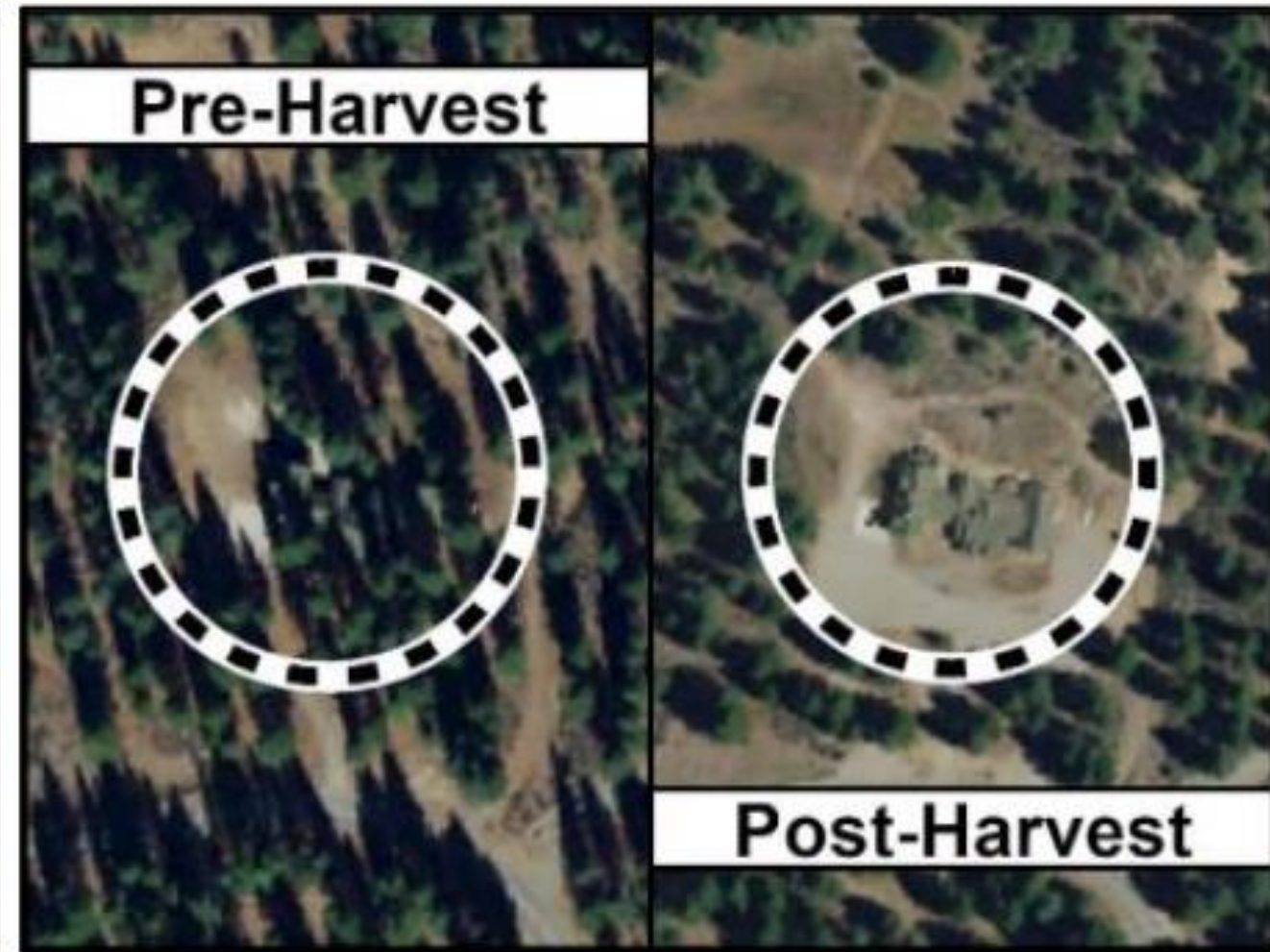


# Report on Exempt Timber Harvesting for the Reduction of Fire Hazard Within 150 Feet of Structures

## Non-Discretionary Timber Harvest Notice Use and Rule Compliance



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# Overview

- **Introduction and Background**
- EX-EM Submissions
- 1038(c) Exemption Overview
- Results
- Conclusions and Recommendations

## Report on Exempt Timber Harvesting for the Reduction of Fire Hazard Within 150 Feet of Structures Non-Discretionary Timber Harvest Notice Use and Rule Compliance



# Legislatively Mandated Monitoring

## SB 901 and others

- Address the use, compliance, and effectiveness of Exempt and Emergency timber harvests
- Monitoring is rapid and repeatable, objective, and anonymous
  - *“Are we getting the end result intended by a particular harvest permit?”*
  - Not focused on enforcement or scrutiny of individual projects
- Open to participation and input from all Review Team Agencies

# Legislatively Mandated Monitoring

## SB 901 and others

- Initiated in 2018 as pilot work, continued in 2019 with the first official report approved by the Board
  - 2019 report focused on Emergency Notices
    - (Post-fire salvage, and insect/drought related mortality)
- Monitoring is ongoing

# Overview

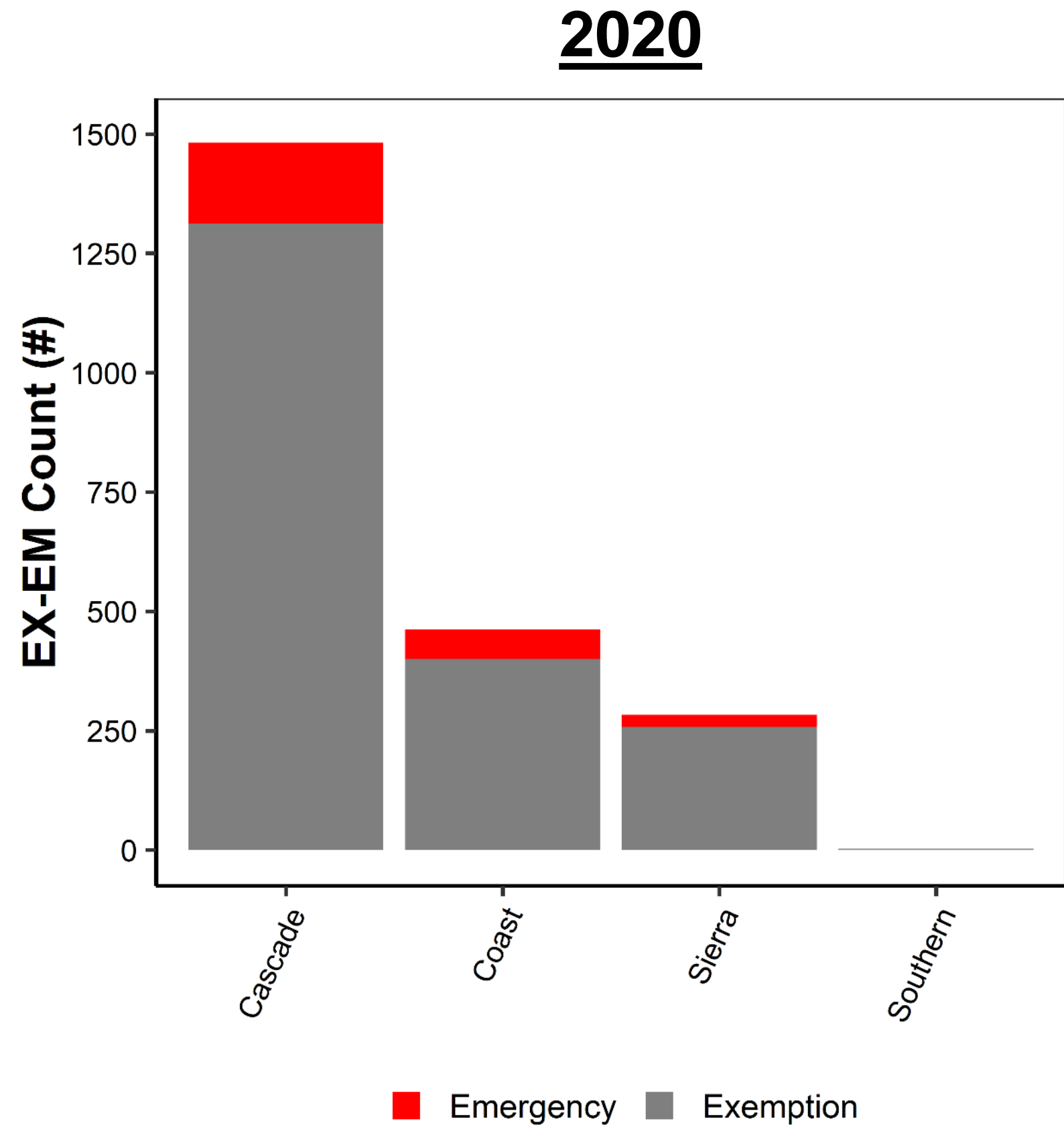
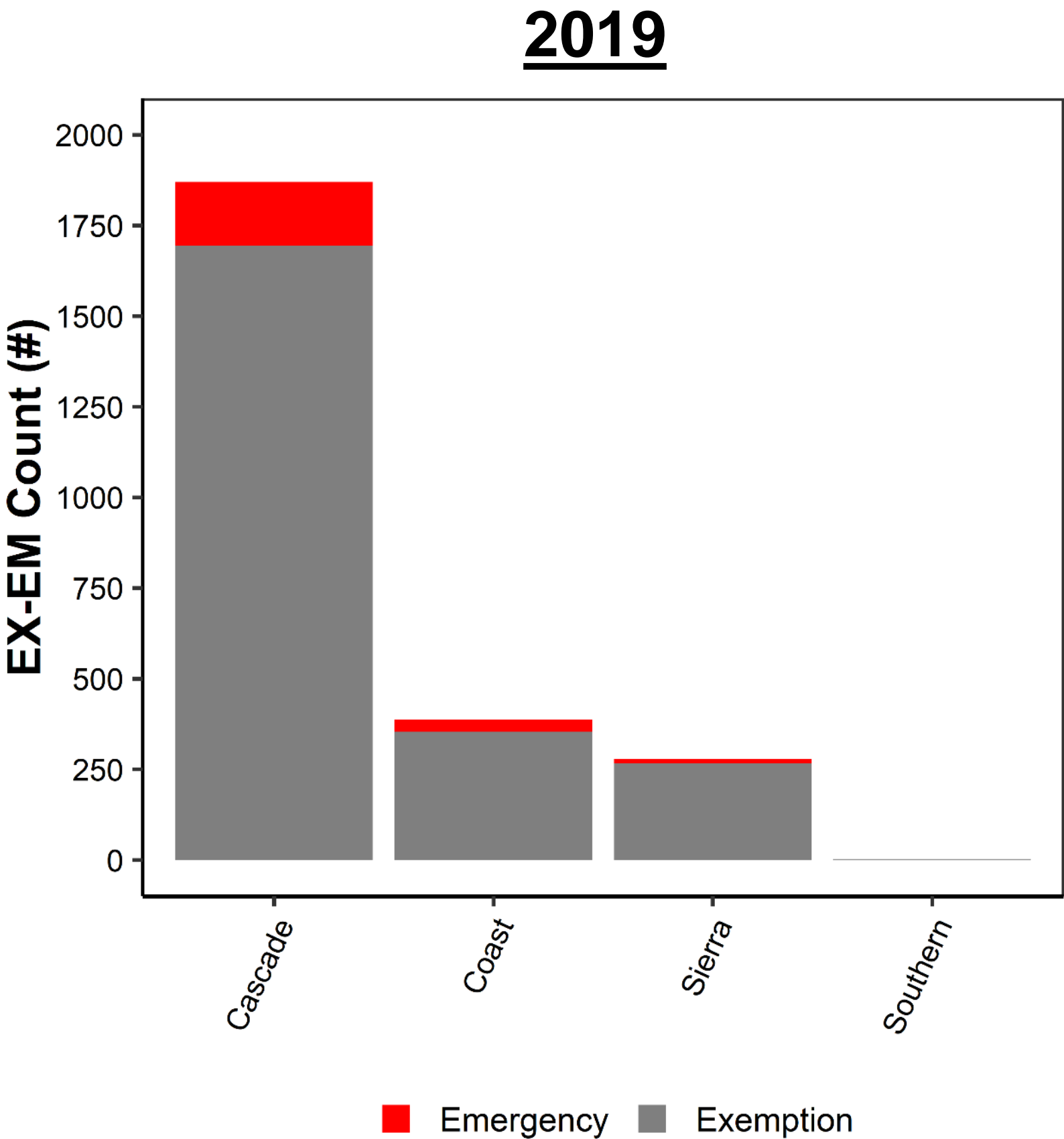
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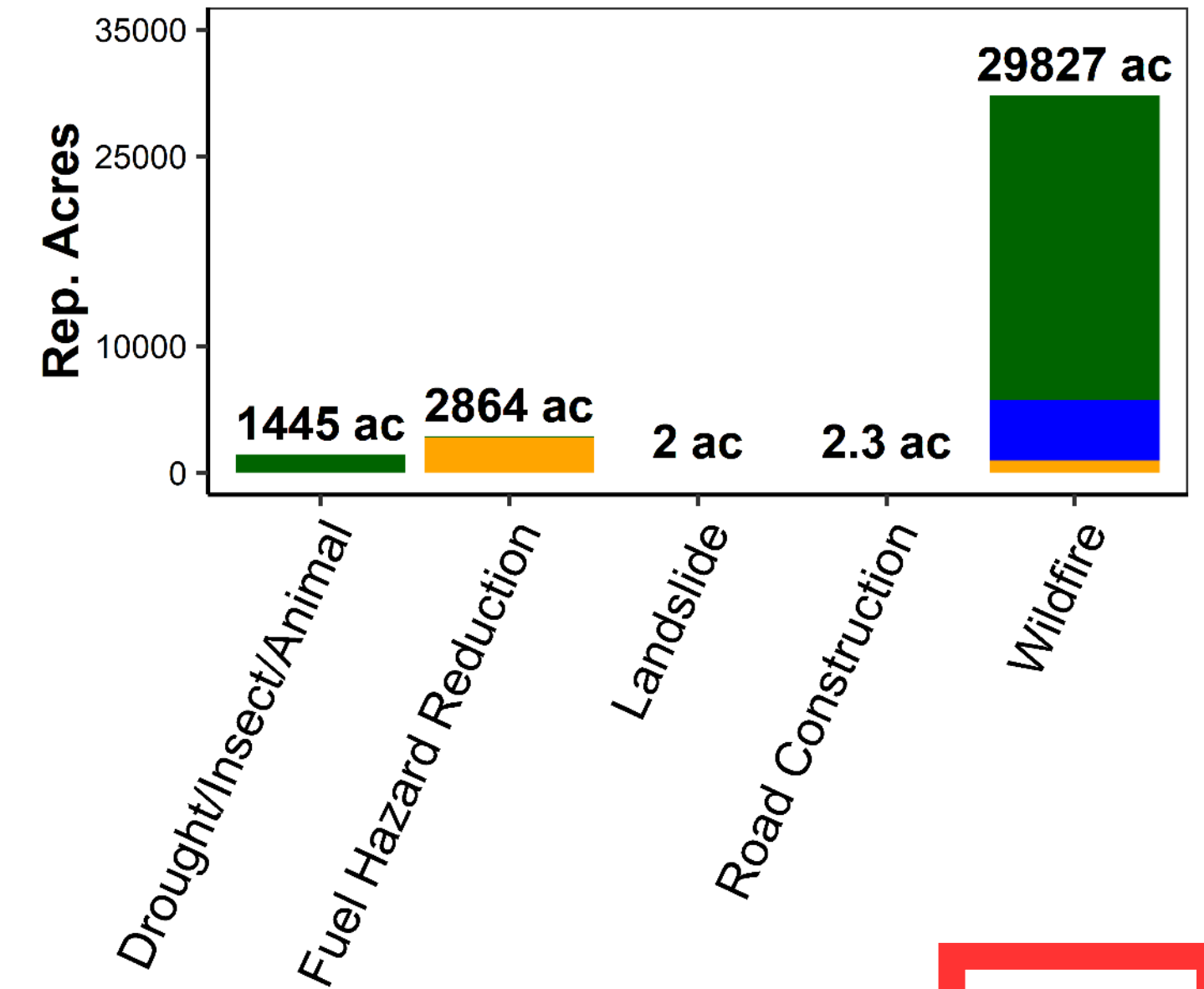
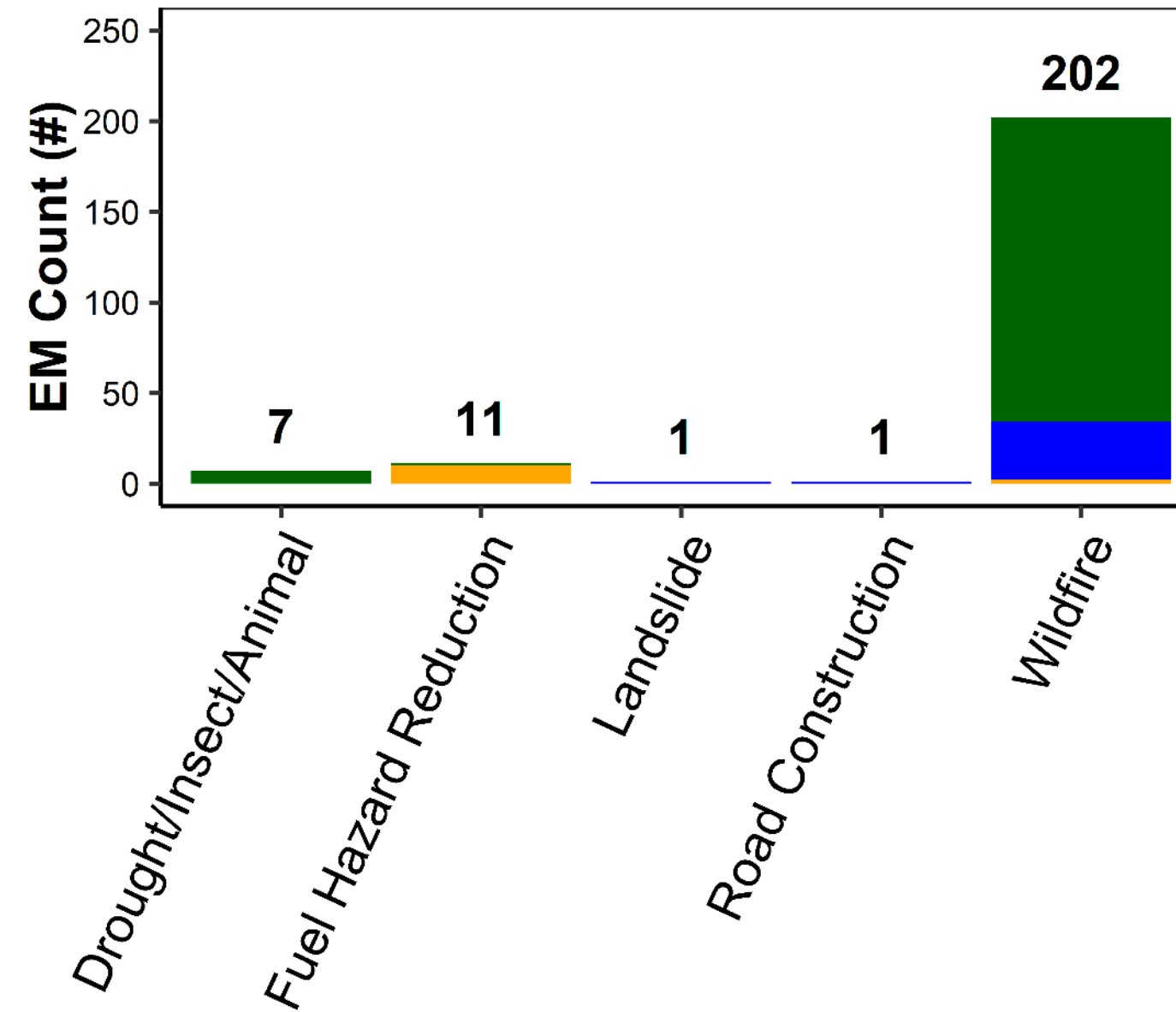
# 2019 and 2020 EX-EM #'s

- Exemptions majority of accepted Notices, most predominantly in the Cascade Forest Practice Area

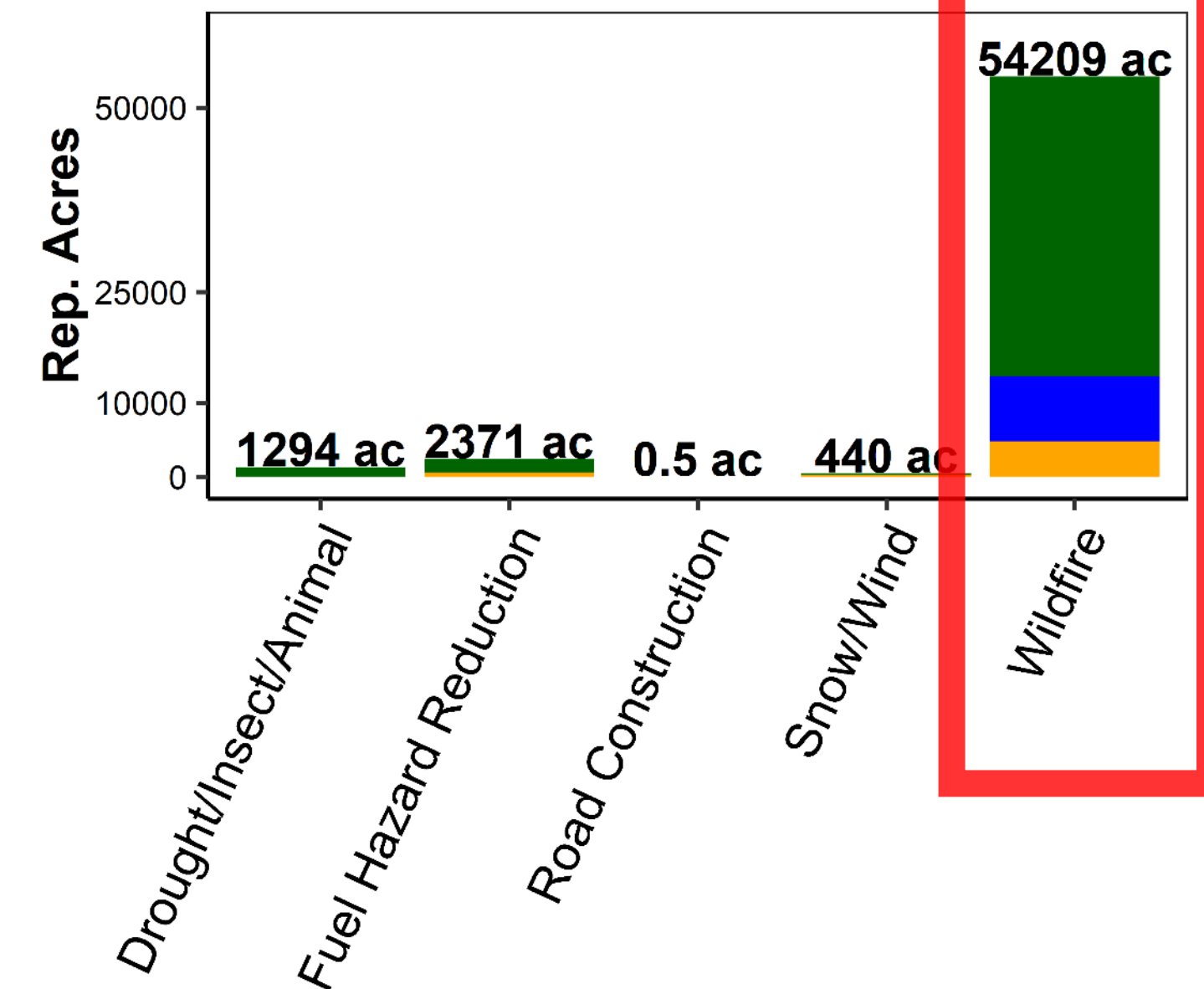
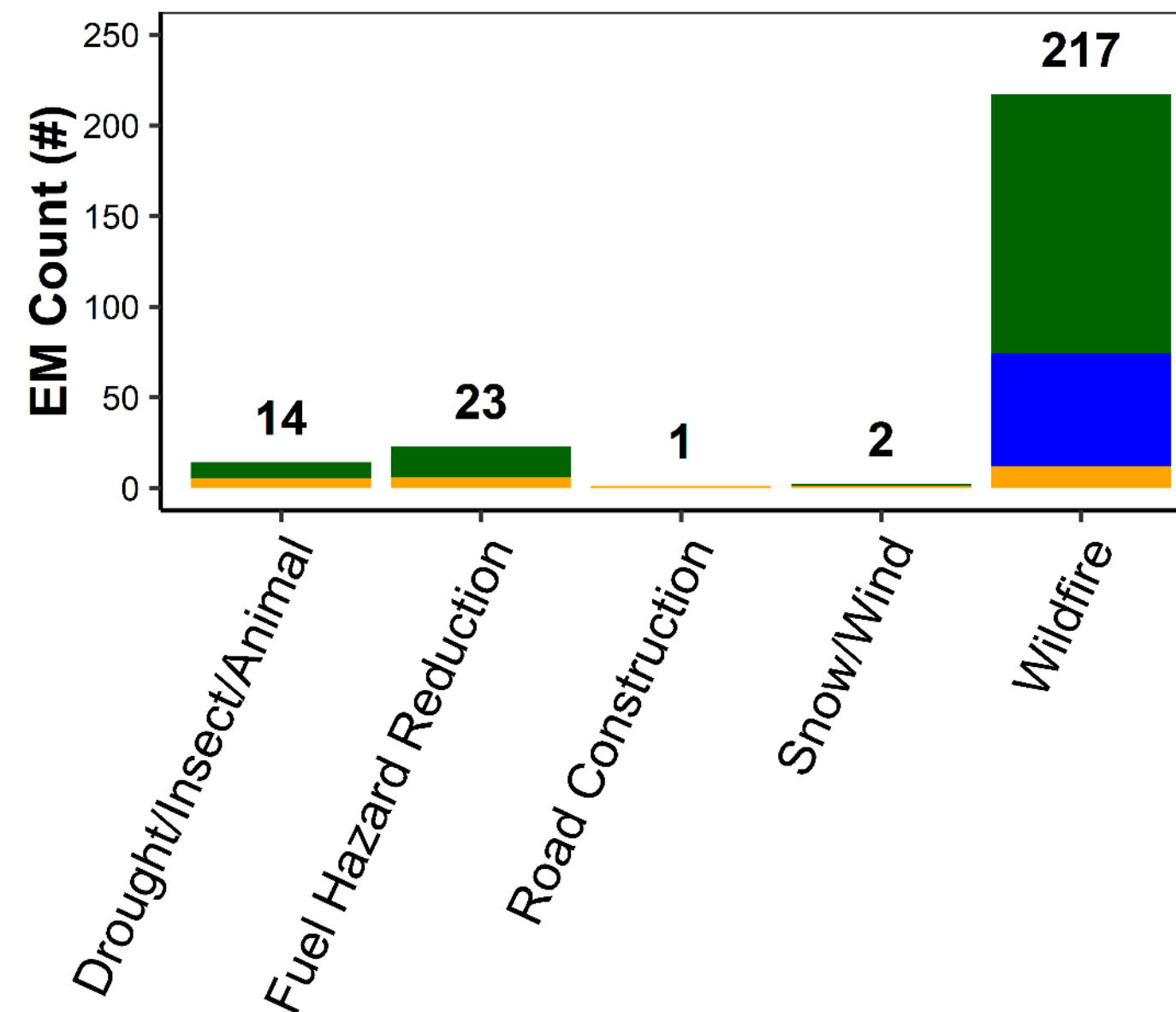


- Emergencies dominated by wildfire related harvests
- Nearly a 25,000 acre increase in 2020
- Cascade Forest Practice Area has the majority of acreage and accepted Notices

**2019**



**2020**



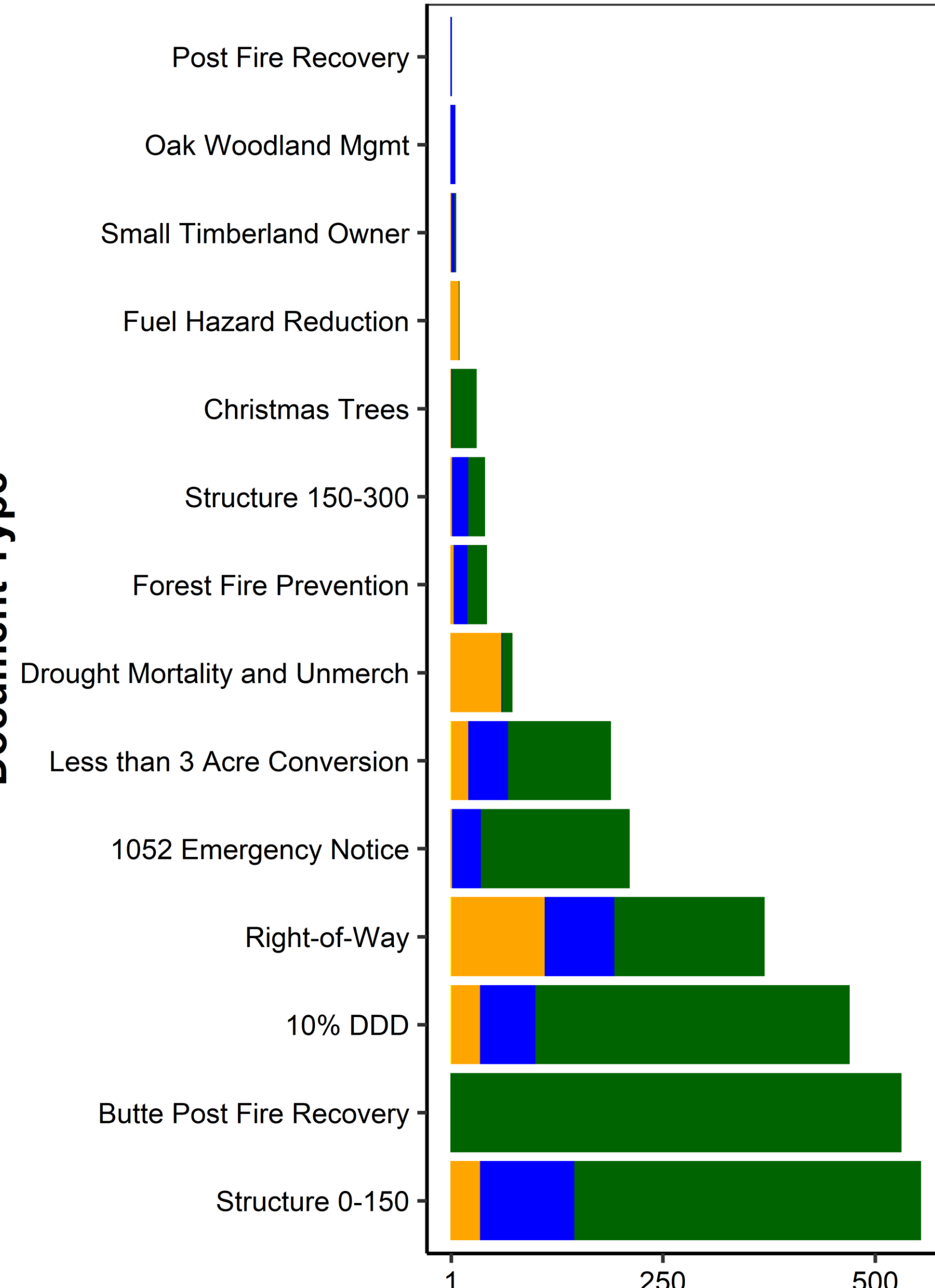
■ Cascade  
■ Sierra  
■ Coast  
■ Southern

■ Cascade  
■ Sierra  
■ Coast  
■ Southern

- Exemptions most prolific in the Cascade Forest Practice Area
- Over 500 accepted Notices for 0-150 Foot 1038(c) EX in 2019

**2019**

**Document Type**



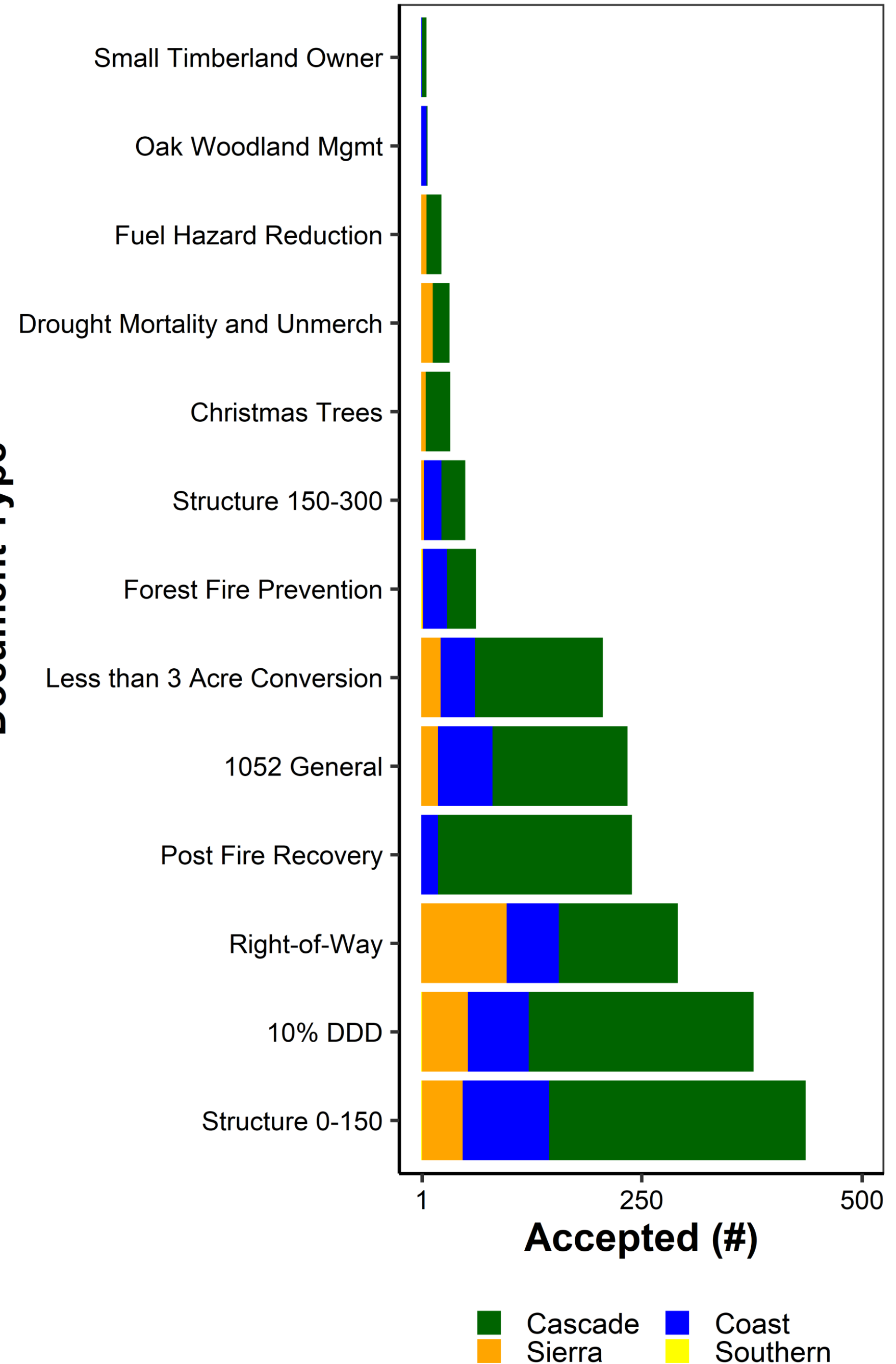
■ Cascade    ■ Coast  
■ Sierra    ■ Southern



- Exemptions most prolific in the Cascade Forest Practice Area
- 0-150 Foot 1038(c) EX again was the most accepted document type in 2020

**2020**

**Document Type**



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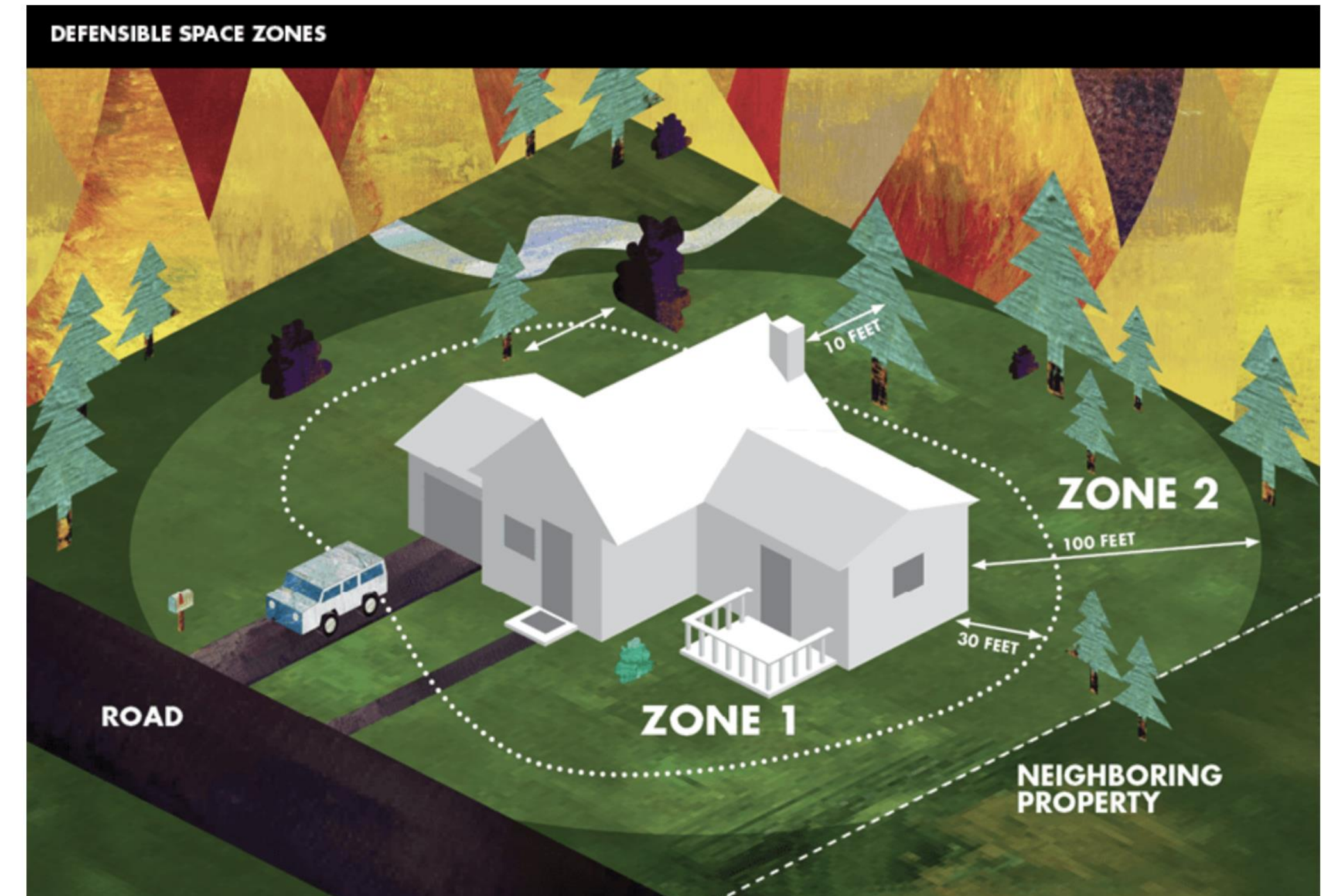
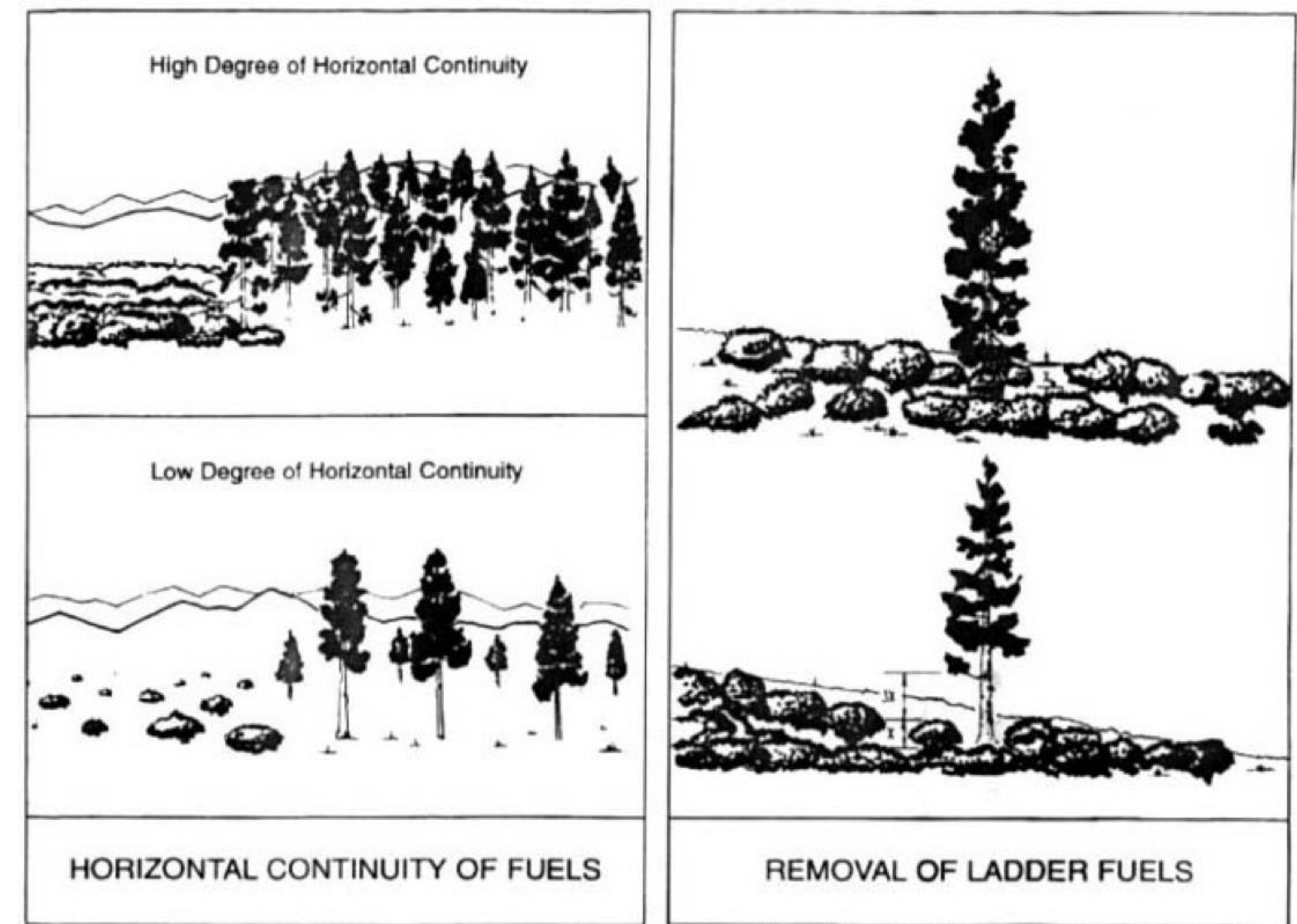
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# 2020 EX-EM Monitoring

## 1038(c) Focus

- As the most accepted Exemption type, focus was placed on the 1038(c) 0-150 Foot Fire Hazard Reduction Exemption
- **Intent**
  - Reduction of horizontal and vertical fuel continuity
  - Improvement of defensible space around legally permitted structures
- Technical Rule Addendum No. 4 visual guide

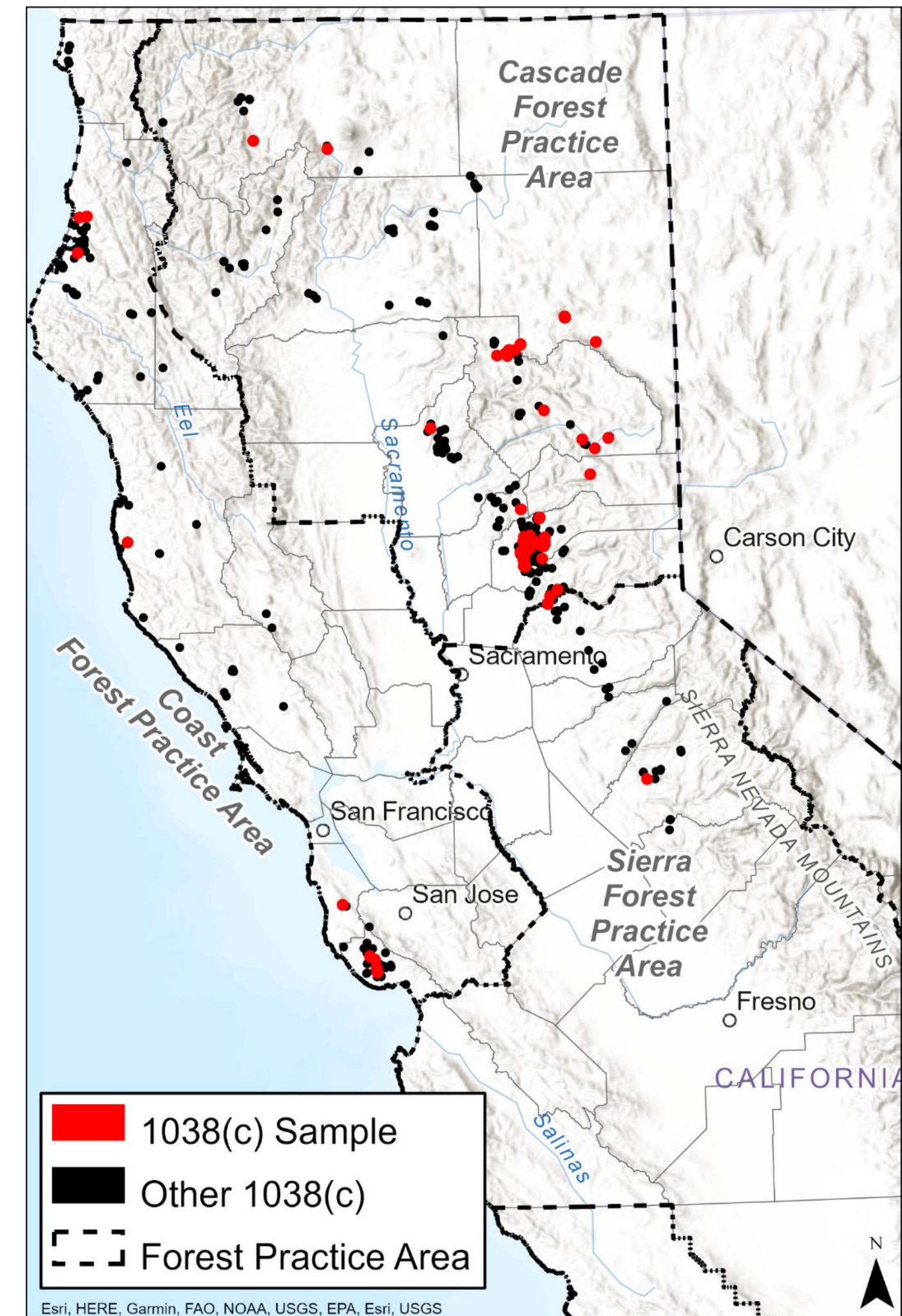


# 1038(c) Monitoring

## Overview

- Random sample of 1038(c)s accepted in 2019, stratified by fire hazard severity zone
- 75 Notices sampled, for 10% margin of error, 95% confidence level in results
- Monitoring was rapid and simple
  - Focused on 12 nearest residual conifers and stumps for up to three treated structures

Forest Practice Area	Fire Hazard Severity Zone			Total
	Moderate	High	Very High	
1 (Coast)	6	3	0	9
2 (Cascade)	0	12	52	64
4 (Sierra)	0	1	1	2
<b>Total</b>	<b>6</b>	<b>16</b>	<b>53</b>	<b>75</b>



# Overview

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- EX-EM Submissions
- 1038(c) Exemption Overview
- **Results**
- Conclusions and Recommendations

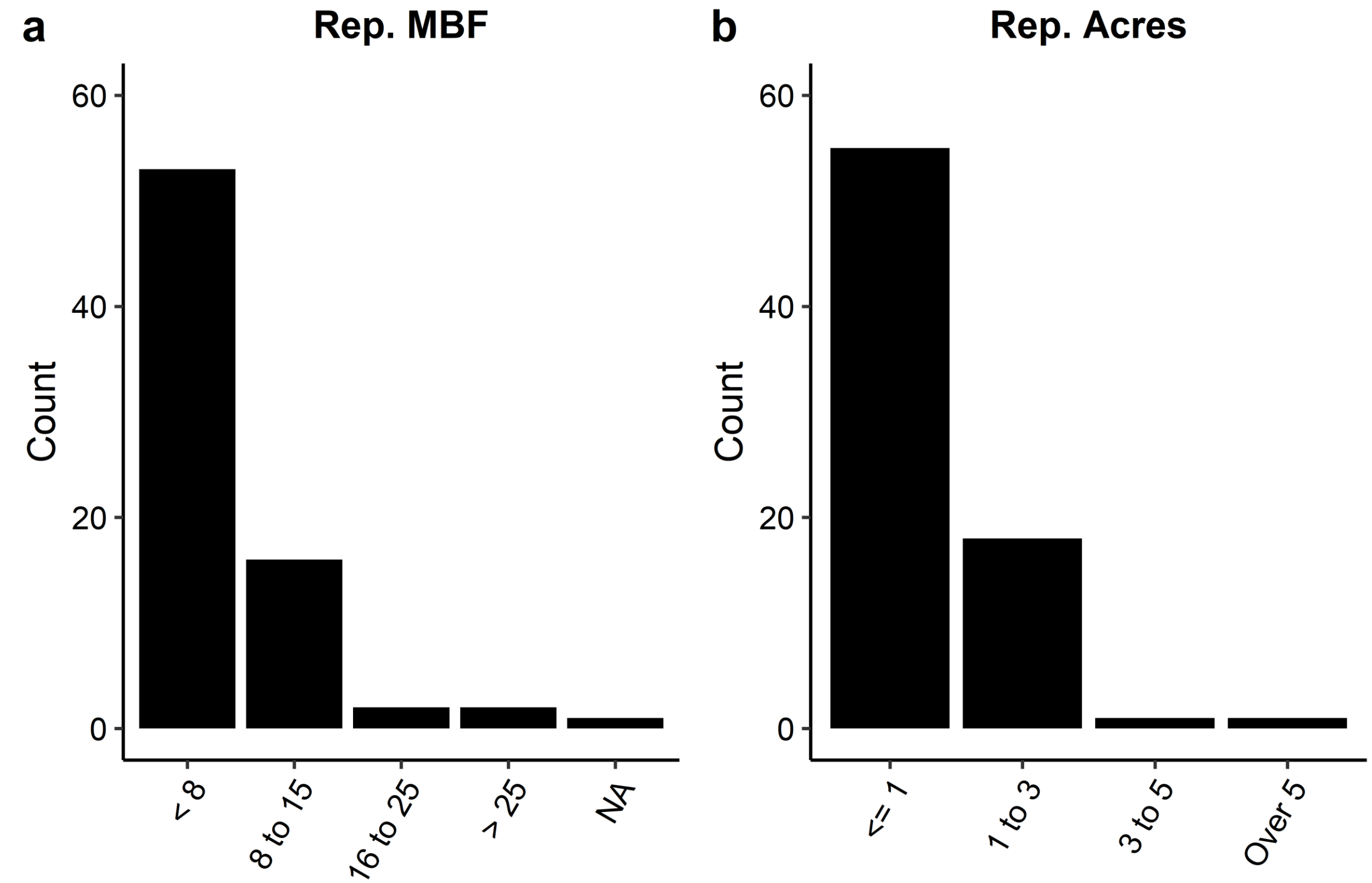
## Report on Exempt Timber Harvesting for the Reduction of Fire Hazard Within 150 Feet of Structures Non-Discretionary Timber Harvest Notice Use and Rule Compliance



# 1038(c) Monitoring

## Results

- As expected and by design, 1038(c)s had a minimal *reported* footprint and timber volume removal
- Largest reported harvest areas related to treatment of multiple structures



# 1038(c) Monitoring

## Results

- Generally treated 1-2 structures per Notice, 95% involved at least one residential home
- Others treated infrastructure such as water treatment and communications facilities

<b>Treated Permitted Structures Per Exemption (#)</b>				
<u>1 Structure</u>	<u>2 Structures</u>	<u>3 Structures</u>	<u>4 Structures</u>	<u>5 Structures</u>
34	28	10	2	1
<b>Treated Residential Homes Per Exemption (#)</b>				
<u>0 Homes</u>	<u>1 Home</u>	<u>2 Homes</u>	<u>3 Homes</u>	<u>4 Homes</u>
4	65	4	-	2

# 1038(c) Monitoring

## Results

- 36 landowners were willing to report cost estimates associated with timber ops
- Of these, 75% reported a financial loss from operations
- Estimates reported ranged from \$1,000 to \$50,000 (multiple structures), with an average of \$11,500
- Two landowners reported a profit from operations
- Seven landowners reported breaking even
  - Anecdotally, they mentioned LTOs trading labor/equipment time for timber



# 1038(c) Monitoring

## Results

- Classified watercourses found within, or associated with, 17% of 1038(c)s
  - Watercourses were overwhelmingly adequately protected from operations and sediment discharges
  - Majority were Class III and Class IV watercourses

# 1038(c) Monitoring

## Results

- Slash treatment met and exceeded expectations on nearly all Notices
- Flammable vegetation/grass/litter/duff was absent in excessive amounts near structures on most Notices, but present to some degree on many
- Hardwood/Ornamental trees were found within 30 feet of structures on over 50% of Notices

	<b>Present</b>	<b>Absent</b>
Slash >1" Diameter	37%	63%
Slash >1" Diameter, >25% of harvest area	1%	99%
Piled fuel/slash to be burned or chipped	11%	89%
Chipping or Mastication of fuels within treatment area?	51%	49%
Chipping or Mastication of fuels outside treatment area?	15%	85%
Dead Standing Conifers in treated area?	13%	87%
Dead Standing non-commercial trees in treated area?	3%	97%

# 1038(c) Monitoring

## Results

- 57% of the 1038(c)s had another structure on a separate parcel within 100 feet or less
- This represents a potential exposure source not directly treatable through forest management alone
- 74% of these occurrences were on parcel sizes < 1 acre in size



# 1038(c) Monitoring

## Results

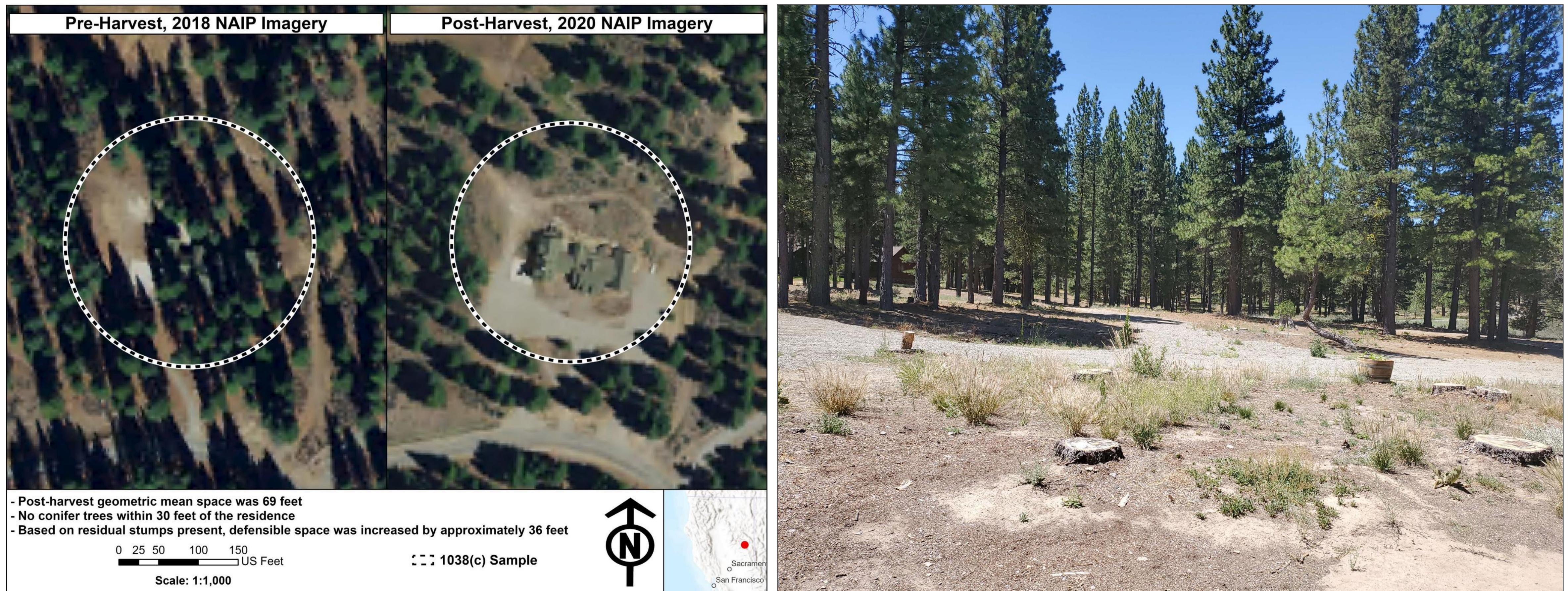
- Generally, many 1038(c)s exhibited treatments that resulted in reduced exposure to fire from residual conifers



# 1038(c) Monitoring

## Results

- Example: Post-harvest defensible space >60 feet, estimated increase of 36 feet from pre-harvest



# 1038(c) Monitoring

## Results

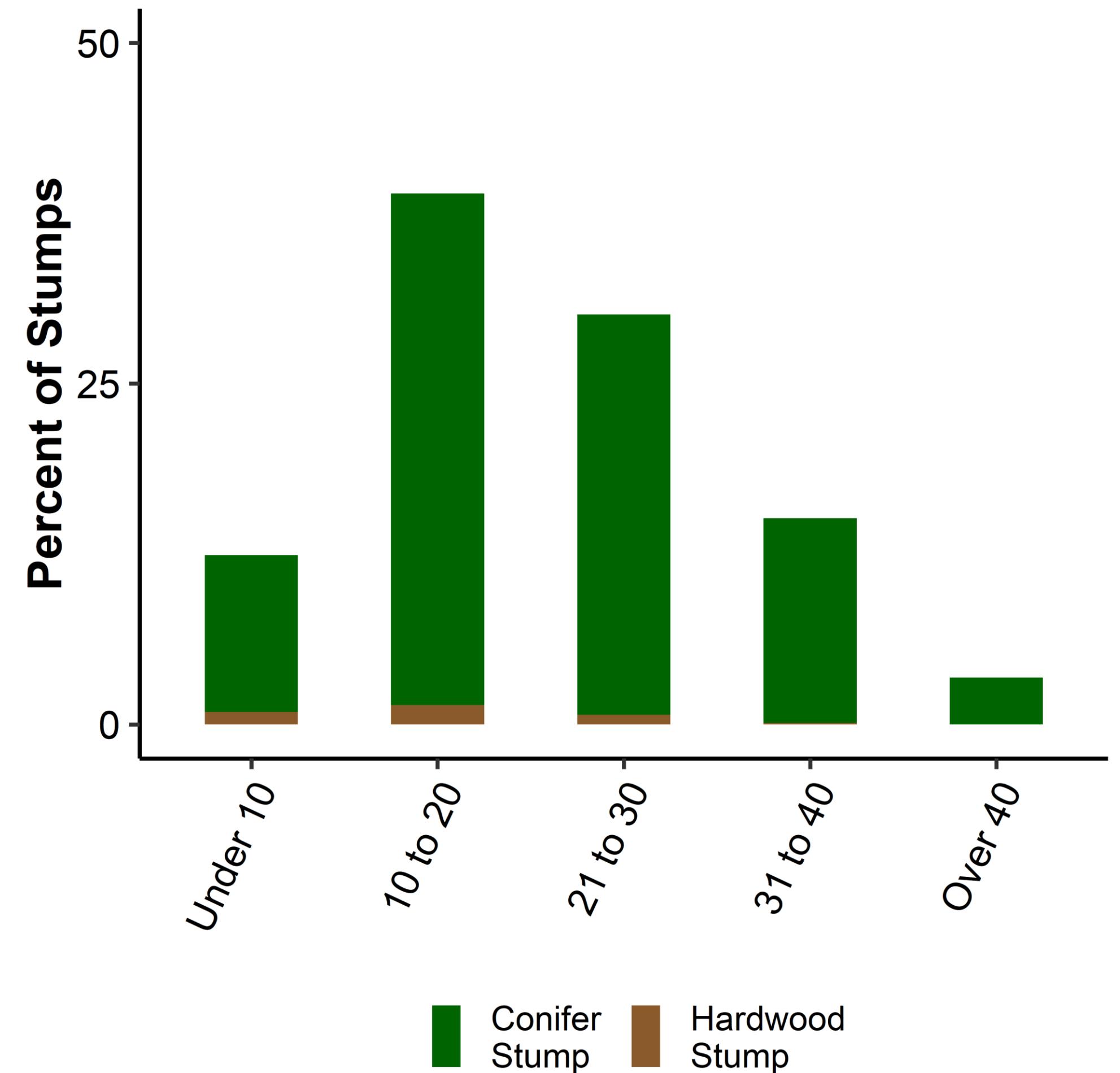
- Others represented conifer removal for non-fire related goals
  - Increasing sunlight, hazard tree removal per many landowners



# 1038(c) Monitoring

## Results

- Majority of measured stumps were 10-20 or 20-30” in diameter
- Well over 50% of stumps were at least within 50 feet of a structure
- Only two Notices had stumps >150 feet away from a structure in absence of any other harvest permit
  - The distances were not excessive or outside the realm of professional error



# 1038(c) Monitoring

## Results

- 31% of Notices met the TRA No 4 recommendation for single tree species within 30 feet of homes
- On average, 84% of Notices eliminated or had absent surface-to-crown vertical fuel continuity

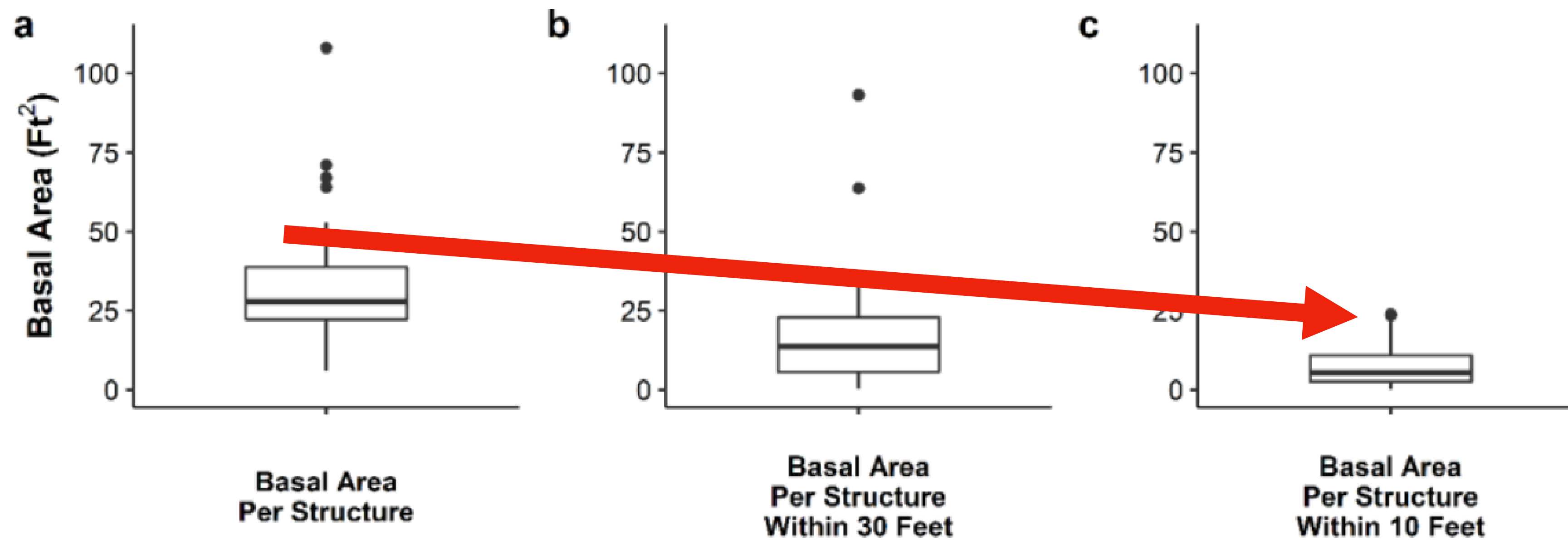




# 1038(c) Monitoring

## Results

- Basal area decreased as distance to structures decreased



# 1038(c) Monitoring

## Results

- **Just over 50% of Notices resulted in a mean defensible space of 30 feet or more following operations**



**51% of Sample**

≥30 feet mean defensible space per permitted structure

**49% of Sample**

< 30 feet mean defensible space per permitted structure



30-122 Feet, 53 Feet on average

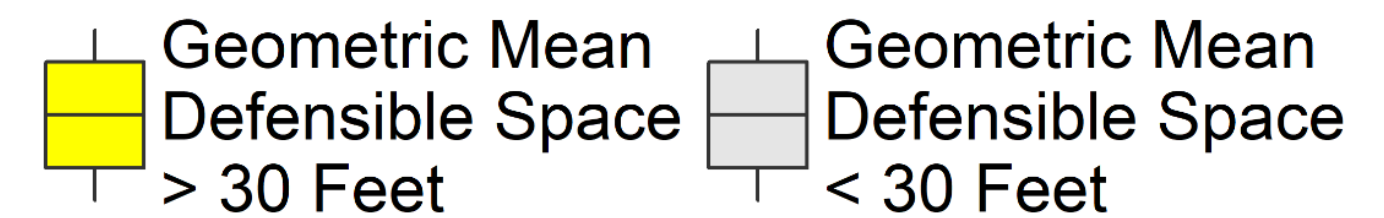
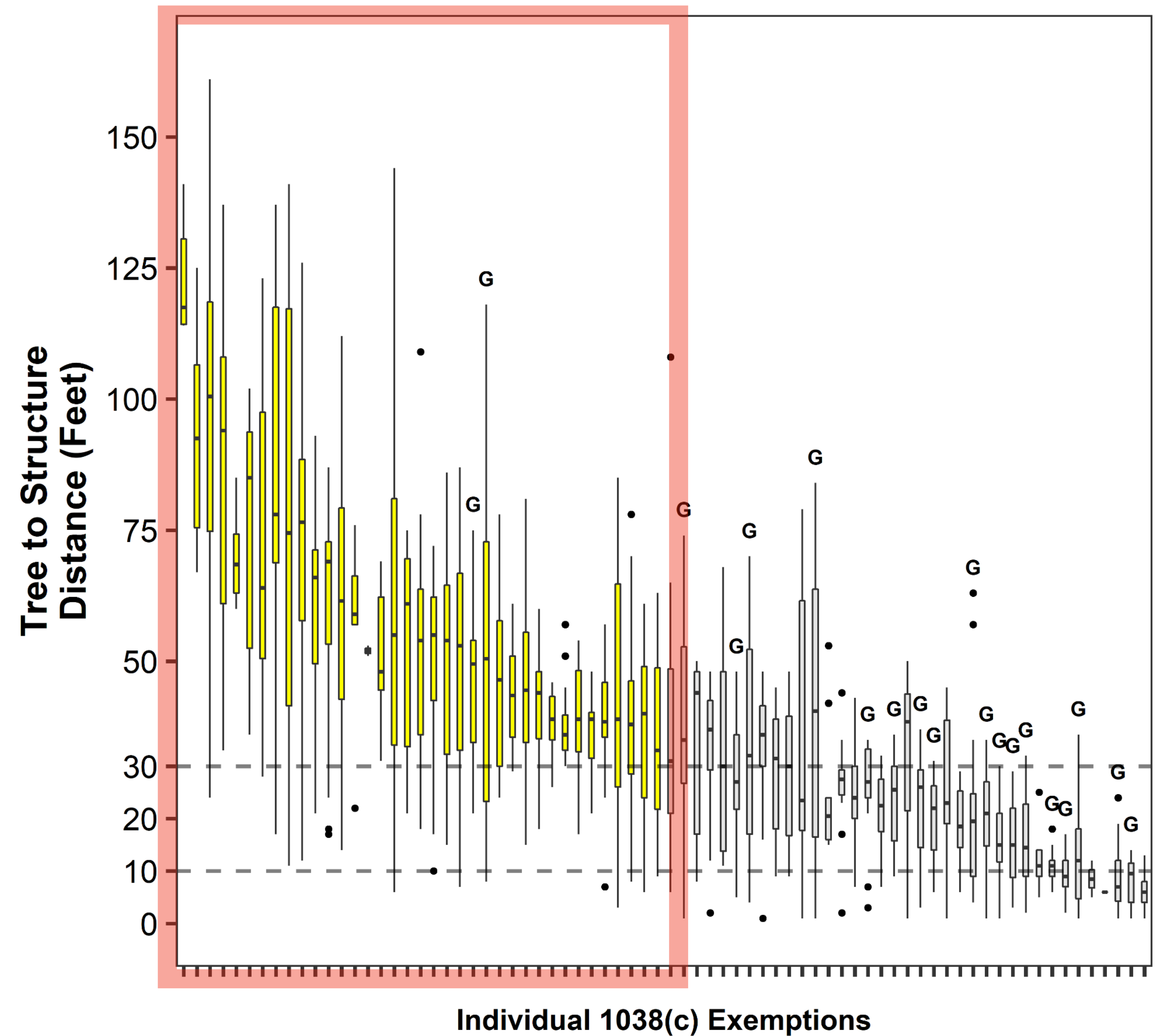


5-29 Feet, 19 Feet on average

# 1038(c) Monitoring

## Results

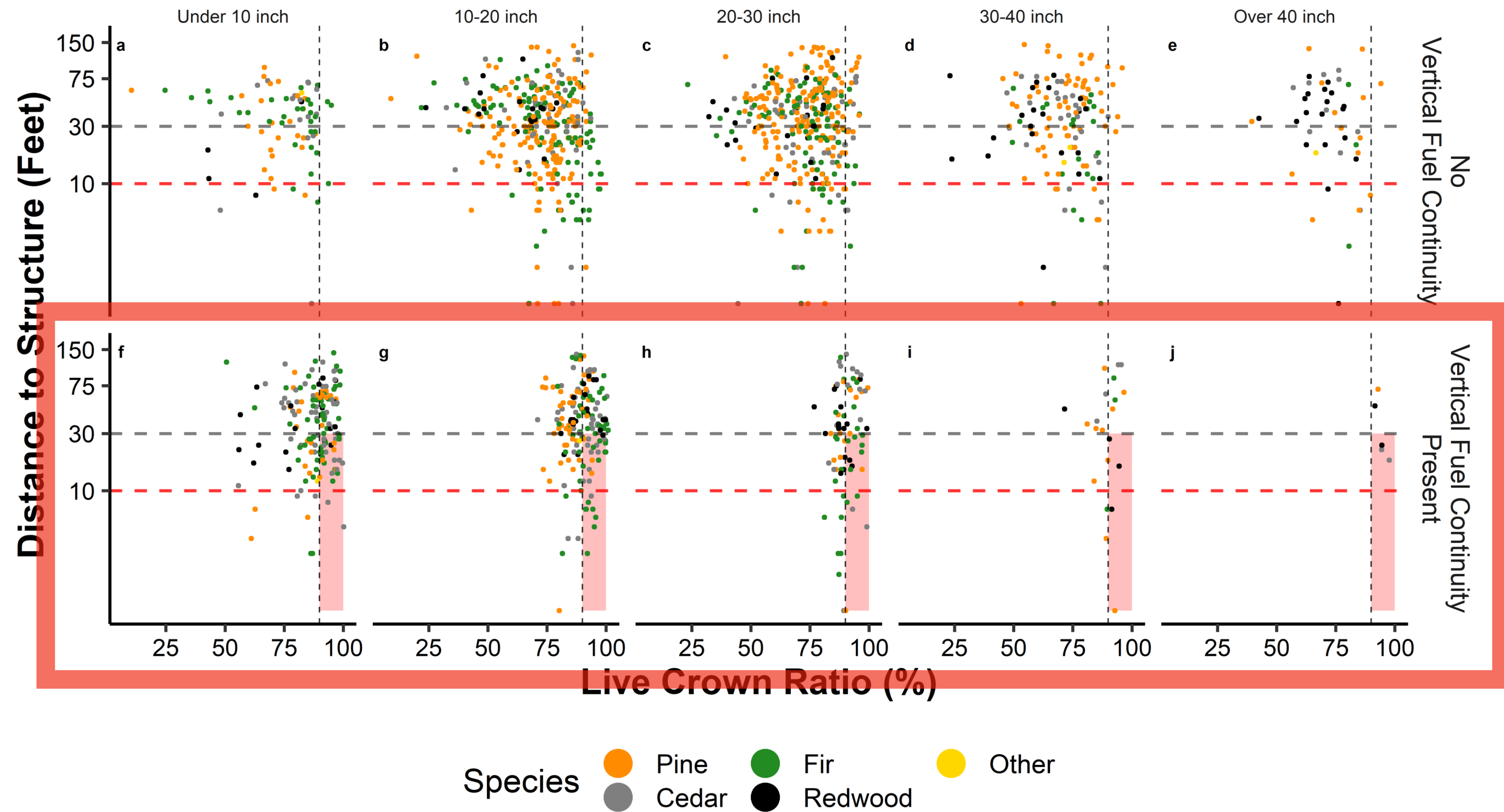
- **Just over 50% of Notices resulted in a mean defensible space of 30 feet or more following operations**



# 1038(c) Monitoring

## Results

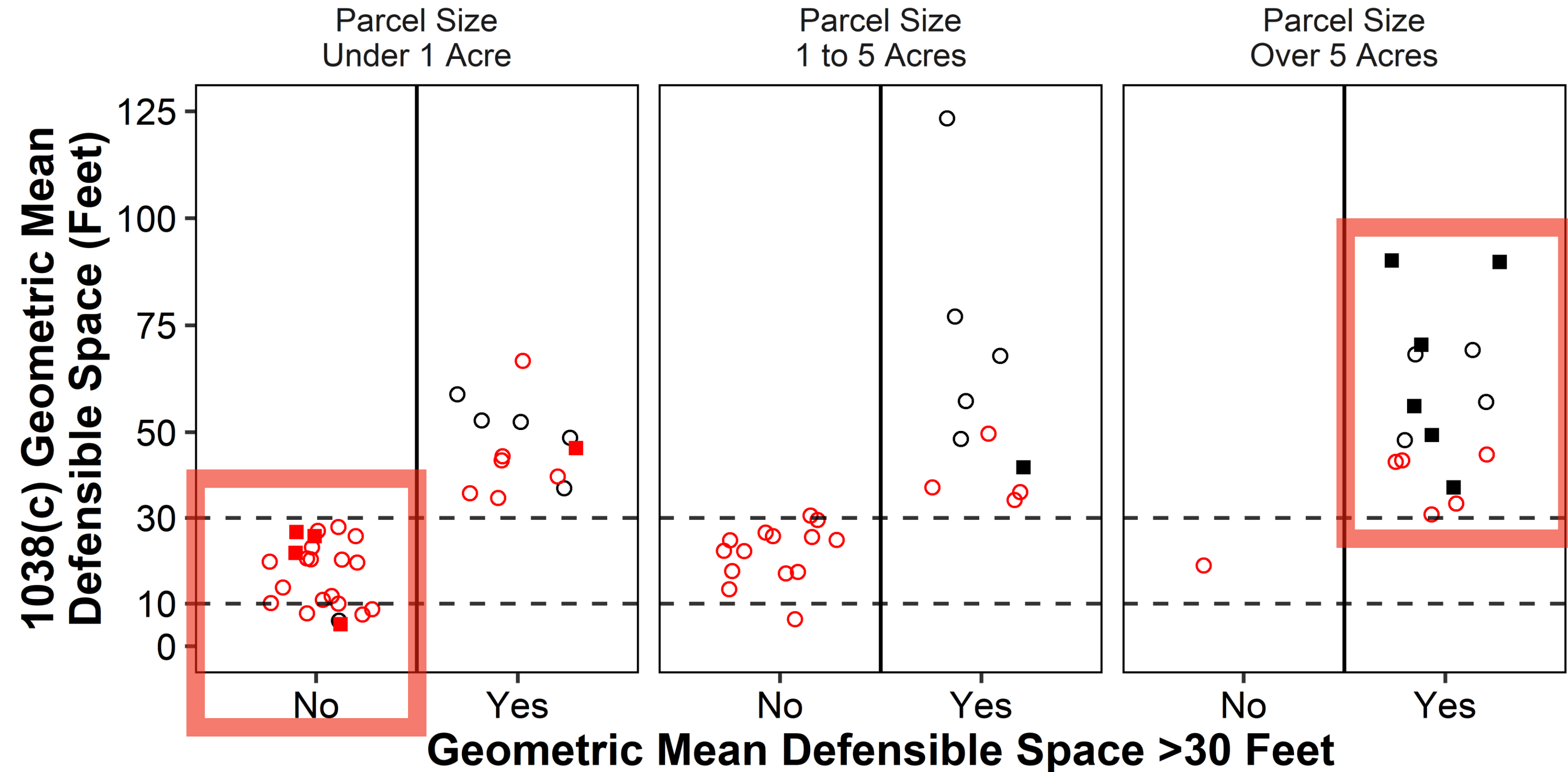
- 7% of all trees, found on 41% of 1038(c)s, represent trees that likely should have been treated per the Exemption intent
- Close proximity to structure, vertical fuel continuity present, high live crown ratio



# 1038(c) Monitoring

## Results

- Parcel size seems to heavily influence results, per TRA No. 4, PRC codes, and other FPR considerations

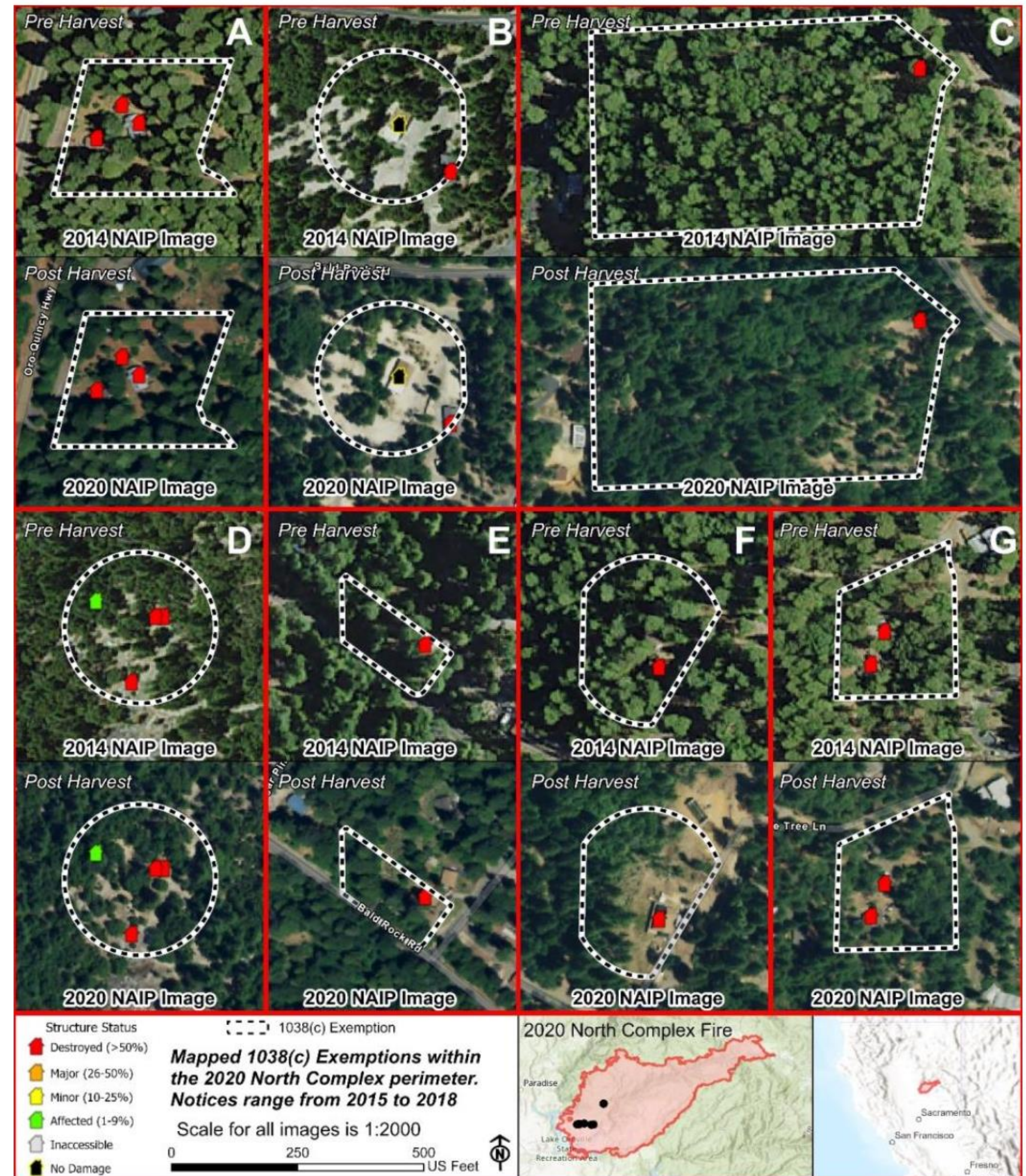


- >1 Tree Within 30 Feet, Potential Vertical Fuel Continuity
- >1 Tree Within 30 Feet, Vertical Fuel Continuity Absent
- <1 Tree Within 30 Feet, Potential Vertical Fuel Continuity
- <1 Tree Within 30 Feet, Vertical Fuel Continuity Absent

# 1038(c) Monitoring

## Results

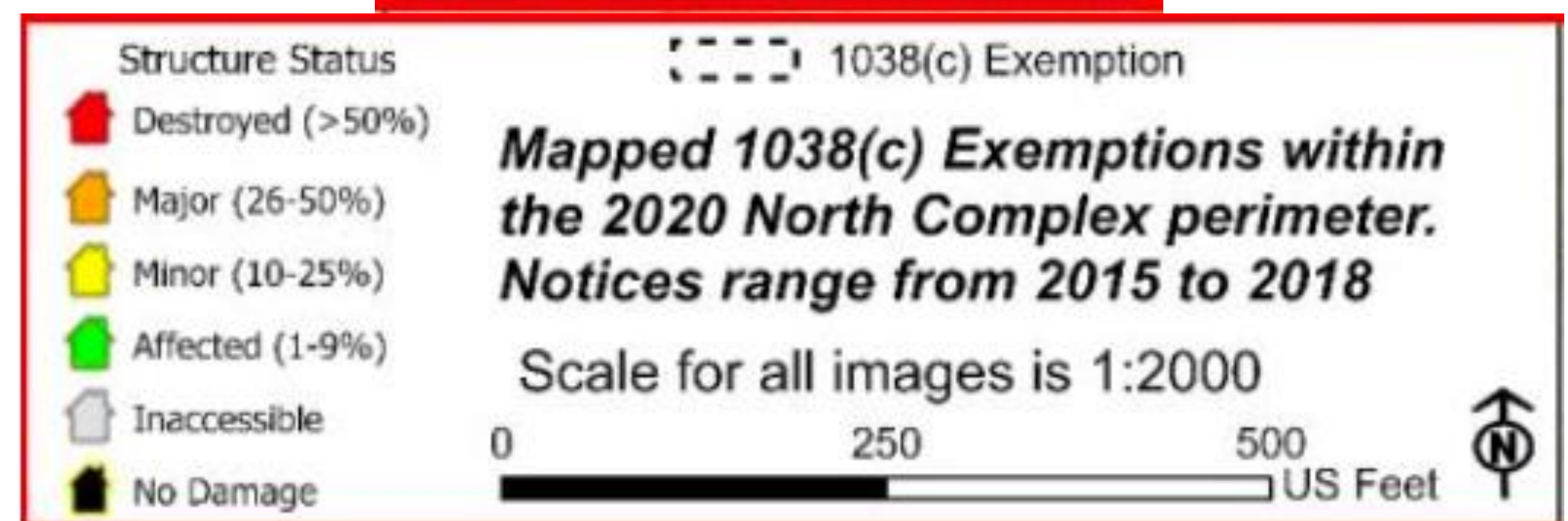
- Before/After of mapped 1038(c) boundaries
- 2020 North Complex, all treated homes were >50% damaged per DINS (Damage Inspection) data



# 1038(c) Monitoring

## Results

- Indicative of difficulty protecting homes in wind driven active crown fires
- Limited scope case study, not appropriate for broad scale inference relative to 1038(c)s
- 1038(c)s represent a perfect time for integration of Forest Practice and Defensible Space inspections, home hardening actions



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# 1038(c) Monitoring

## Conclusion

- Important Exemption type for landowners to manage timber on their property
- Not always used for intent (fire hazard reduction), sometimes just a general “catch-all”
- Compliance with watercourse protection and harvest-related slash treatment overwhelmingly positive
- Additional guidance and research needed relative to TRA No. 4, defensible space objectives, and treatment of non-commercial tree species near homes

# 1038(c) Monitoring

## Recommendations

- **CAL FIRE should develop additional guidance for landowners and Licensed Timber Operators on the requirements of the 1038(c) to ensure that the intent of the Exemption is met. Focus should be placed on the need to adequately treat the area within 30 feet of the structure.**
  - CAL FIRE could consider integration of guidance with broader landowner and LTO education on fuels and home hardening treatments, as well as guidance for implementing these treatments based upon the best available science.
- Consider revising the FPRs to provide clearer direction to landowners and LTOs on the required elements of 1038(c). This might include better integration of FPR 1038 language and Technical Rule Addendum No. 4 with the requirements of PRC §§ 4290 and 4291.
  - Revisions might include better clarification on the requirements within Zone 1 of TRA #4.
- Guidance is needed on how to treat hardwood and/or ornamental within 30 feet of the structure.

# 1038(c) Monitoring

## Recommendations

- **Broader guidance should be given on Exemptions so that landowner objectives can be coupled with the appropriate Exemption type.**
- **CAL FIRE could consider integration of Forest Practice and Defensible Space inspections where 1038(c) Exemptions are utilized. The 1038(c) Exemption presents an opportunity for achievement of both Forest Practice and Fire Prevention objectives toward structure resilience to wildfire and should be noted in Defensible Space reporting in the future.**
- If activities are explicitly identified and mapped, post-fire effectiveness of 1038(c) treatments could potentially be integrated into the incident Damage Inspection process.

# 1038(c) Monitoring and annual EX-EM Report

Thank You

