

Appendix 4 – CDFW Habitat Elements Pilot Protocol

Purpose

The California Department of Fish and Wildlife (CDFW) appreciates the time and effort put forth by CAL FIRE staff to develop and implement the 2019 1052 Emergency monitoring protocol and survey efforts. CDFW has a legislative mandate to assist CAL FIRE in the formulation and implementation of monitoring activities intended to inform the Legislature of the efficacy of the Forest Practice Rules that govern Exemption and Emergency timber harvesting activities (Pub. Resources Code § 4589 (a)). CDFW is excited to be working with CAL FIRE and other Review Team Agencies on this project and believes it is a timely opportunity to explore projects that do not receive much post-operational attention. In this context, CDFW became interested in developing a more robust wildlife/habitat component to the Exemption and Emergency Monitoring Study. In the summer of 2019, the CDFW Timberland Conservation Program developed a short habitat element pilot protocol to be conducted in conjunction with the 2019 CAL FIRE protocol.

CDFW recognized the need to develop monitoring criteria that fit into the existing rapid assessment methodology and had quantitative outcomes, so a modest number of additional criteria were incorporated into the pilot protocol. The intent of the additional protocol was to assess the feasibility of incorporating additional data fields, inform future protocol development, and provide additional data for resource protection and habitat evaluation. CDFW feels strongly that additional survey criteria can positively contribute to addressing concerns related to Exemption and Emergency timber harvesting documents and associated operations and activities.

For the 2019 field season, data collected included the following elements:

Within each fixed radius plot:

- Presence of multistory canopy
- Presence of hardwoods smaller than <6" DBH
- Large woody debris in two size classes
- Presence of slash
- Average shrub age
- Herbaceous layer height
- Invasive species presence

Within each variable radius plot, for each tree measured:

- Presence of cavities or broken tops on green trees
- Presence of lichen or nests
- Presence of stump sprouting for hardwood trees

CDFW staff were able to collect this additional habitat criteria on twelve of the Emergency Notices sampled between August and October 2019.

Discussion

Efforts to keep the pilot protocol simple and brief were effective and CDFW staff were able to collect the additional habitat element pilot data within the scope of the rapid assessment process. Within the fixed radius plots, some criteria examined were more challenging to evaluate in a post-fire environment, such as average shrub age. These criteria may be easier and more valuable to collect in future years when exemptions are monitored. Invasive plant species were positively identified in five of the twelve emergency notices sampled, with an equal number of sites listed as presence unknown. Based on feedback from both CDFW and CAL FIRE staff, future efforts to collect invasive species data may benefit from focusing on several regionally specific species of concern in combination with additional training or materials to assist with species identification in the field. Both average shrub age and herbaceous layer height have the potential to provide valuable wildlife habitat insight but would potentially benefit from being combined with additional percent cover estimates collected through the CAL FIRE protocol. Similarly, noting the presence or absence of slash may also be more valuable in combination with another parameter such as percent cover or depth. Within the variable radius plots, almost no trees with cavities, broken tops, or nests were observed. These criteria, along with shrub age, may prove more useful with a larger sample size, or in future years when exemptions are monitored. Presence of lichen was noted on approximately seven percent of trees, and while easy to collect, is not particularly valuable without more time-consuming species identification not practical for this type of rapid assessment. CDFW recommends incorporating many of the habitat elements from the pilot protocol into future protocols with some revisions or modifications based on the specific type of emergency or exemption being evaluated.

Even though only a small number of sites were sampled with this pilot protocol in 2019, the inclusion of these criteria provided valuable data for development of future protocols. Through funding as a result of the SB 901 (2018) budgetary process, CDFW will have additional staff available in 2020 to participate comprehensively in this monitoring process, including protocol development, field monitoring, data analysis, and report preparation. CDFW looks forward to engaging with CAL FIRE and other Review Team Agencies in an ongoing constructive and collaborative nature, with the intention of providing a more comprehensive monitoring program for the legislature, the public, and ultimately, sensitive state resources.

CDFW Recommended Habitat Elements for Exemption-Emergency Monitoring: A Pilot
FIXED PLOT

For the fixed plots, what habitat elements exist post-harvest?				
Multistory canopy present		Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Hardwoods < 6" dbh present		Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Log(s) present (≥ 4' length)				
No <input type="checkbox"/>	Medium (10"-20" DBH) <input type="checkbox"/>		Large (> 20" DBH) <input type="checkbox"/>	
Slash present		Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Shrub average age¹				
Shrubs not present <input type="checkbox"/>	S1 seedling (< 3 yrs) <input type="checkbox"/>	S2 young (< 1% dead) <input type="checkbox"/>	S3 mature (1-25% dead) <input type="checkbox"/>	S4 decadent (> 25% dead) <input type="checkbox"/>
Herbaceous layer height²				
No herbaceous layer <input type="checkbox"/>	< 12" <input type="checkbox"/>	> 12" <input type="checkbox"/>		
Invasive plants present³	Presence unknown <input type="checkbox"/>	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Invasive species observed:				

1. Shrub average age is meant to be an estimate of the age of the majority of shrubs present in the fixed plot. Different age classes provide different habitat for various species. Considering all shrubs present, determine which age class is most appropriate:

- S1. Shrubs are seedlings approximately under three years old.
- S2. Shrubs are young with <1% dead material.
- S3. Shrubs are mature with 1-25% dead material.
- S4. Shrubs are old with >25% dead material.

2. Herbaceous layer height applies to the majority of the herbaceous plants in the fixed plot, e.g., are >50% of herbaceous plants under 12 inches tall or greater than 12 inches tall?

3. Invasive plants may be present in the fixed plots. An invasive plant is a non-native species that outcompetes native plants and aggressively spreads across an area. If the data collector is unfamiliar with invasive plants or unsure whether they are present, use the "presence unknown" box. Only check the "No" box if positive that no invasive plants are present. If invasive plants are present, check the "yes" box and list the species observed in the space provided.

