

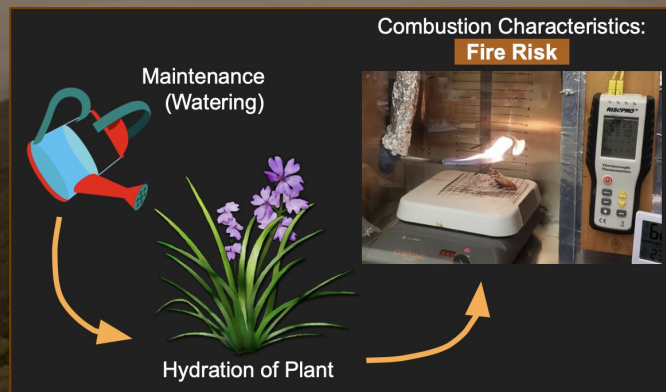
Plant Distribution, Maintenance, and Flammability in Santa Barbara, CA

What plants are commonly found within defensible space (100 ft from homes) in Santa Barbara's wildland urban interface communities, how are they maintained, how do residents value the plants near their homes with regard to ecosystem services? How do common and desirable plants perform under lab based flammability testing given common maintenance (watering) regimes? *How can we give our findings back to the community?*

Phase 1: Community Survey

Data collection: Volunteers will be contacted with the aid of community partners, distributed to their listservs and Whatsapp groups. The survey will be conducted digitally through Qualtrics, a survey platform that is compliant with data protection standards and provides technology to facilitate removal of personal data from survey, ability to access and delete individual survey records on request.

Survey content: Initial questions relate to the participant's view of and interaction with the plants around their home, where they will rank the relevance of different statements to their plants, such as "Food or Home Garden" and will answer multiple choice questions on time spent in their garden/yard, any maintenance practices, and a select desirable plant traits, such as "Flowering", that they value in plants near their home. Participants will be asked to submit photos or names of the most prominent plants near their homes and their address which will be identified using I-Naturalist.



Phase 2: Flammability Testing

Water is scarce in Santa Barbara, therefore identify optimal water management strategies by defining the hydration-flammability response of common species in the WUI.

Plant selection and maintenance (hydration) protocol will be informed by the community survey. Ten to fifteen centimeter plant samples will be burned to characterize ignitability, sustainability, combustibility, and consumability of the sample. Video and temperature data will be recorded, then analyzed for:

- Time to ignition
- Flaming duration
- Glow duration
- Flame height
- Maximum temperature

To evaluate risk of how likely a burning plant would be to ignite a nearby structure, we will also directly measure how burning plants release heat throughout combustion.

Phase 3: Outreach!

Together with the Santa Barbara Botanic Garden (SBBG) we have identified a selection of ways to present our findings to the community:

- Horticultural bookmarks
- New signs for the SBBG Waterwise Home Garden Exhibit
- Digital media for the SBBG's touch screen kiosk and website
- SBBG-hosted workshop or socially distant webinar

Free tickets and materials will be distributed broadly through community partners with the goal of reaching communities not well represented or reached by existing wildfire preparedness groups. Survey respondents will have the option to enter contact information to receive these materials.