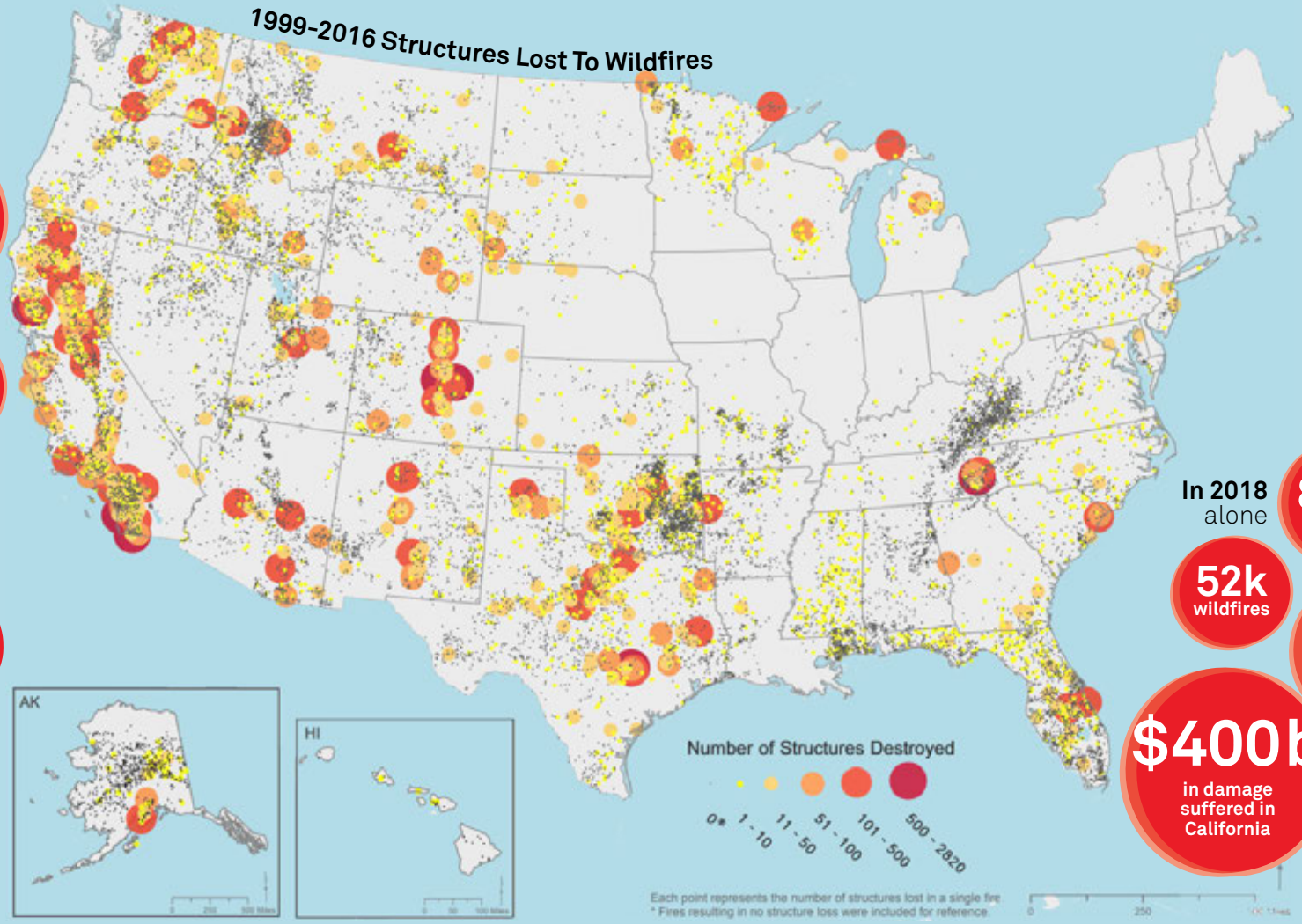
COMMUNICATING WILDFIRE PLANNING AND DESIGN CONCEPTS

1 In 2018, over 8.5 million acres burned across the country. With increasing development in at-risk areas, devastating fires are becoming common place. It should come as no surprise that more communities are being affected by this natural hazard.

THE ERA OF

MEGAFIRES



Since 1970 wildfires

- Increased **400%**
- season extended **2 Months** longer
- burned **6X** the land area

MEGAFIRES

- **9** 1918 to 1996
- **189** Since 1997

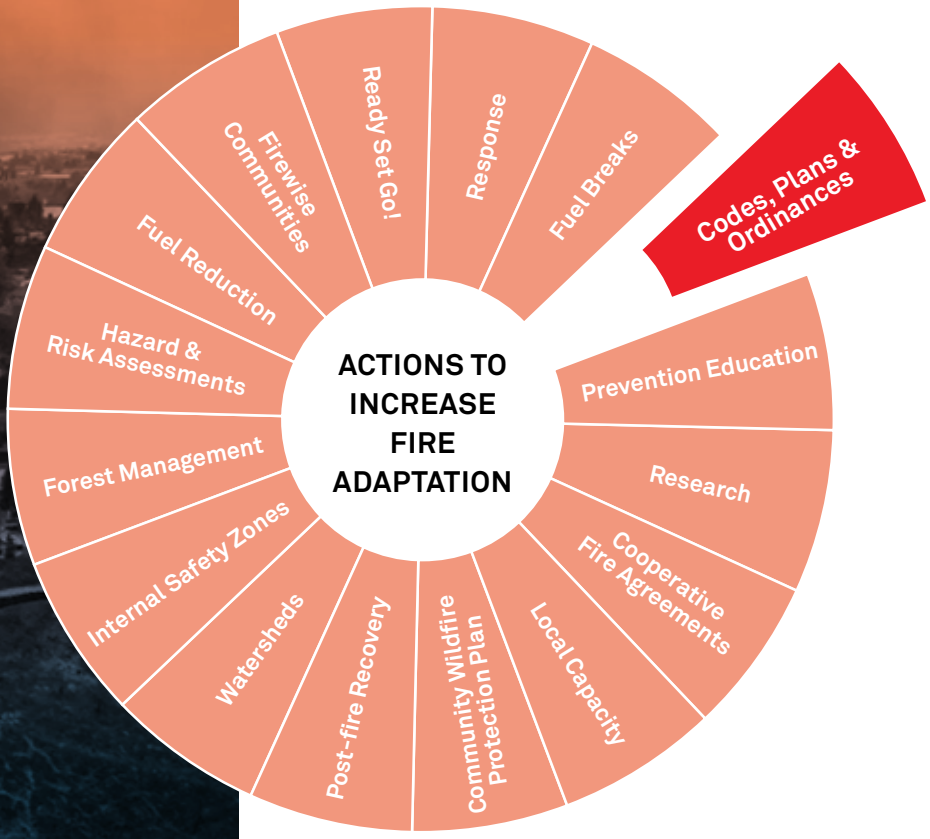
In 2018 alone

- **8.5m** arces burned
- **52k** wildfires
- **~85** lives lost in California wildfires
- **$400b** in damage suffered in California

2 Loss of life and property is hitting record highs. 189 megafires have occurred since 1997. In contrast, only 9 megafires occurred between 1918 to 1996. Experts predict that we are facing a fire regime unprecedented in the last 10,000 years.

REDEFINING THE APPROACH

Traditional fuel mitigation and wildfire suppression cannot be 100 percent effective at fire suppression. Preparing communities through integrating planning and mitigation techniques can drastically reduce the impact of wildfire and allow for more effective suppression response.



Fortunately, the CPAW program has emerged empowering communities, designers and planners to engage in effective solutions. Under the program, multidisciplinary teams (planners, foresters, risk modelers, and researchers) provide recommendations to communities to improve plans, policies, and regulations.

COMMUNICATING RISK

WILD FIRE

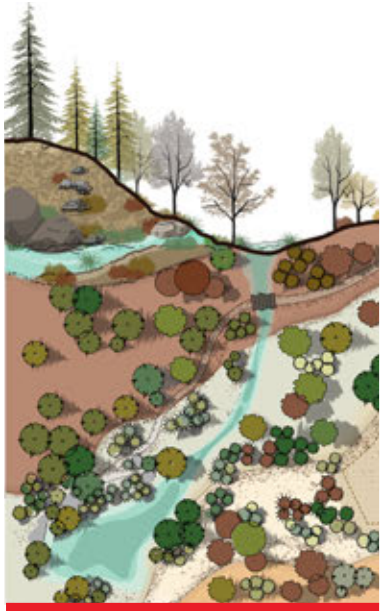
WILDLANDS

INTERMIX

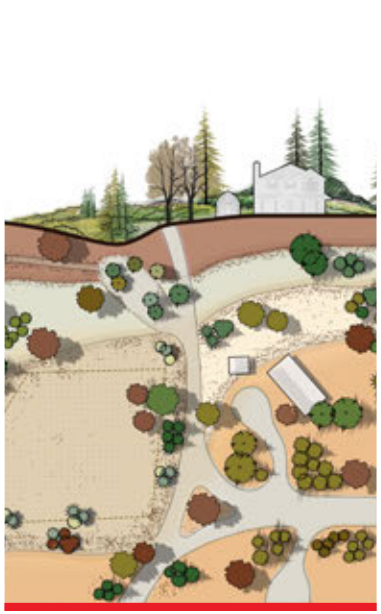
INTERFACE

OCCLUDED

EMBER ZONE



WILDLANDS



RURAL

SUBURBAN

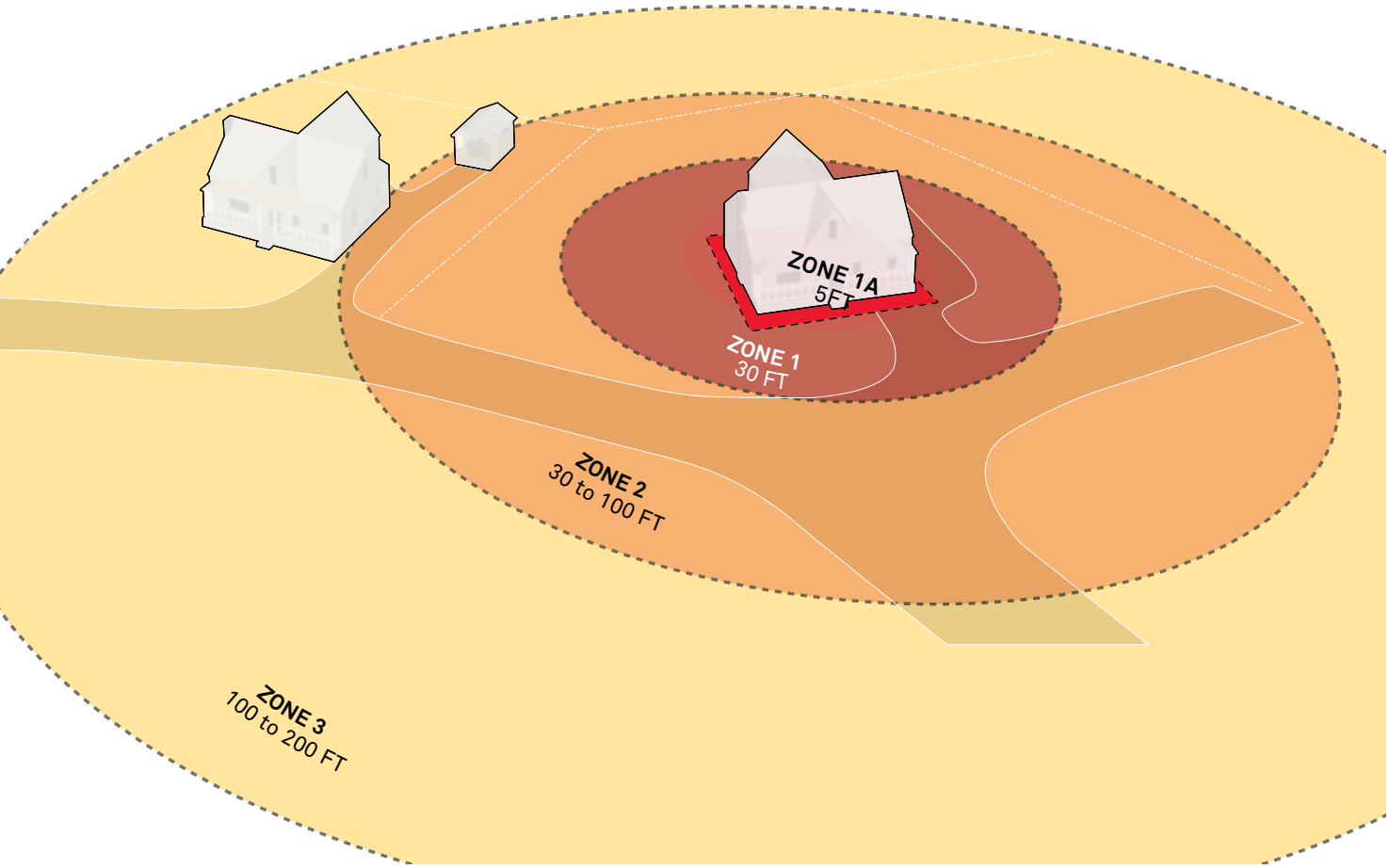
GENERAL RESIDENTIAL

URBAN / TOWN CENTER

To accurately educate the public, elected officials, and other audiences on wildfire mitigation and planning concepts, the landscape architect was enlisted to develop a series of foundational visuals to aid in communications when discussing wildfire planning policies and regulations.

HOME

IGNITION ZONE



ZONE 1A

Eliminated Combustible Material

- ☐ Maintain a 5FT non-combustible buffer around the furthest extension of the structure, including porches and decks
- ☐ All accessory structures within 50FT should be mitigated to primary structure standards

ZONE 1

Reduced, Discontinous, and Intensively Maintained Vegetation

- ☐ Limit trees to provide adequate horizontal and vertical spacing
- ☐ Allow only low flammability plants
- Encourage use of ignition resistant landscape features
- ☐ Remove firewood and combustible materials within 30FT of structure
- ☐ Maintain grass to a maximum height of 6IN
- ☐ Create fuel breaks using driveways, walkways, and lawns

ZONE 2

Spaced, Pruned, and Limited Low-Growing Surface Vegetation

- ☐ Prune trees 6FT to max 1/3 of tree height from ground
- ☐ Create distance between conifer tree crowns in Zones 2 and 3, dependent on site conditions
- ☐ Trees can be grouped with spacing maintained between groups
- ☐ Encourage deciduous trees to replace conifer trees in all Zones
- ☐ Limit shrubs to small, discontinuous groups; no flammable shrubs below tree canopies
- ☐ Appropriately maintain grasslands, through mowing, grazing, or prescribed fire

ZONE 3

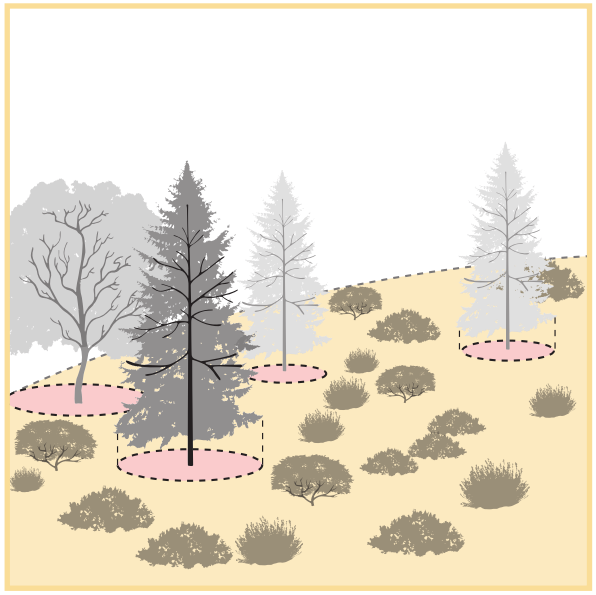
Thinned, Pruned Trees, and Reduced Surface Vegetation

- ☐ Encourage a mix of age, size, and species of appropriately spaced and pruned trees
- ☐ Conifers should be thinned and/or pruned
- ☐ Surface vegetation should be reduced
- ☐ Appropriately maintain grasslands, through mowing, grazing, or prescribed fire

To depict foundational site planning and design concepts, the series began by illustrating the Home Ignition Zone concept and best practices for each zone to address wildfire risk.

IGNITION ZONE

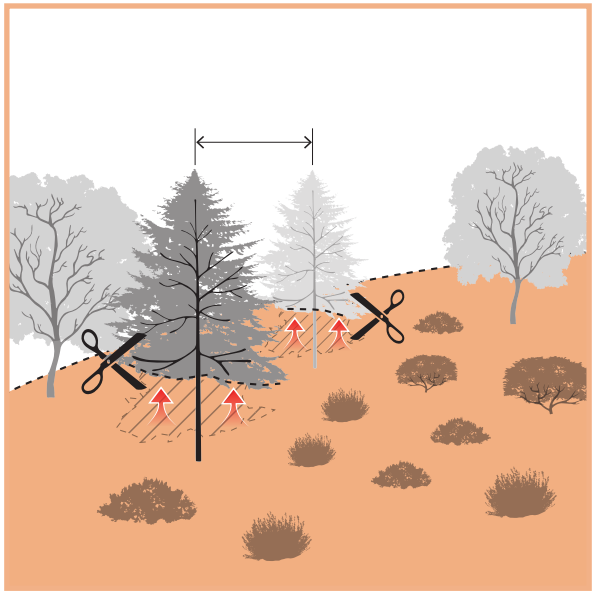
PRINCIPLES



ZONE 3

Thinned, Pruned Trees, and Reduced Surface Vegetation

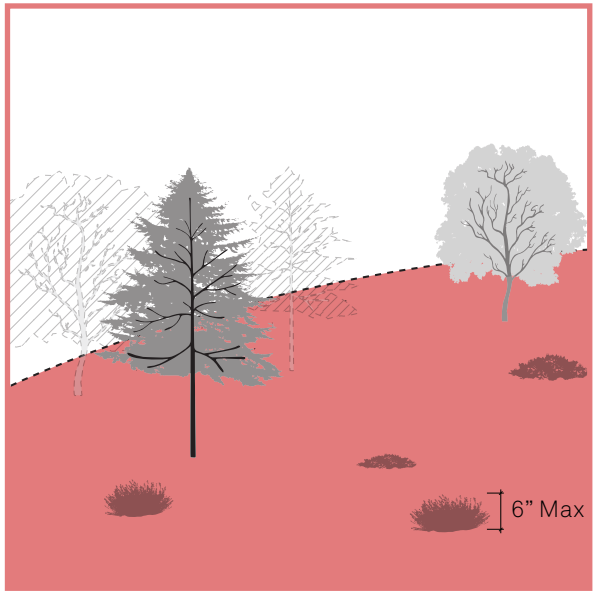
- Encourage a mix of age, size, and species of appropriately spaced and pruned trees
- Appropriately maintain grasslands, through mowing, grazing, or prescribed fire



ZONE 2

Spaced, Pruned, and Limited Low-Growing Surface Vegetation

- Prune trees 6FT to max 1/3 of tree height from ground
- Create distance between conifer tree crowns in Zones 2 and 3, dependent on site conditions



ZONE 1

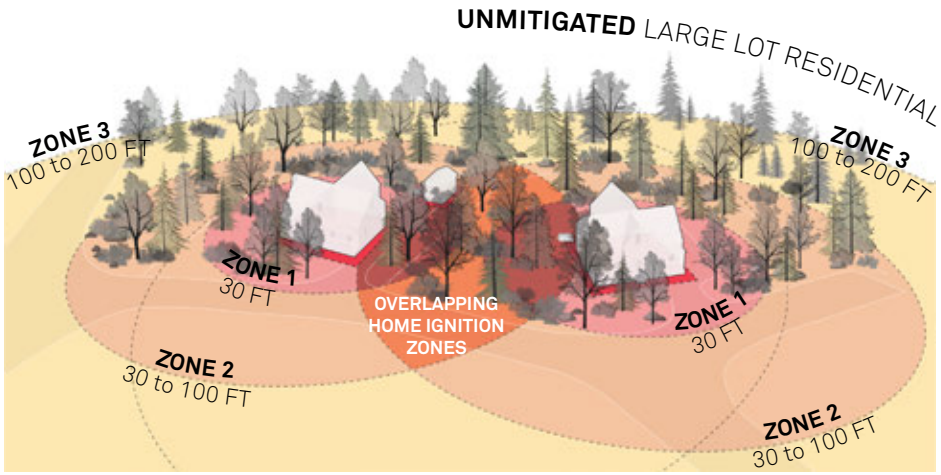
Reduced, Discontinous, and Intensively Maintained Vegetation

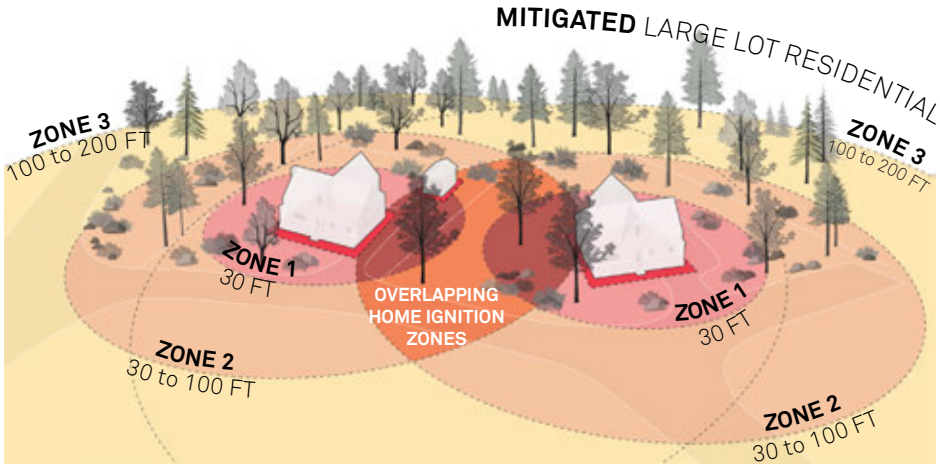
- Limit trees to provide adequate horizontal and vertical spacing
- Maintain grass to a maximum height of 6IN

Each home ignition zone requires unique strategies to reduce losses of life and property during a wildfire. This new library of assets translates technical concepts related to wildfire, vulnerability, and mitigation into visual resources that are easier to understand.

RURAL

PATTERNS





ZONE 1A
Eliminated Combustible Material

ZONE 1
Reduced, Discontinous, and Intensively Maintained Vegetation

ZONE 2
Spaced, Pruned, and Limited Low-Growing Surface Vegetation

ZONE 3
Thinned, Pruned Trees, and Reduced Surface Vegetation

LARGE LOT RESIDENTIAL AVERAGE LOT SIZE

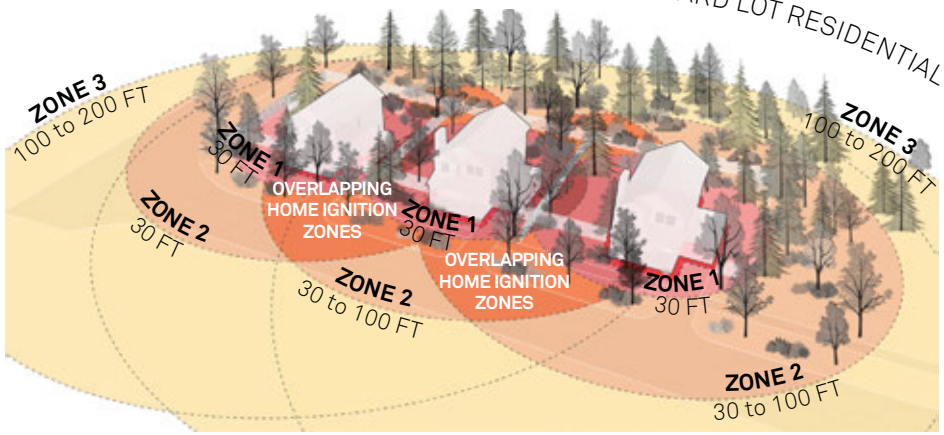
<1/2 ACRE

In at-risk areas, development intensities from rural to urban are susceptible to wildfire. The visuals expanded on typical defensible space diagrams, which are overly general and ignore specific development challenges.

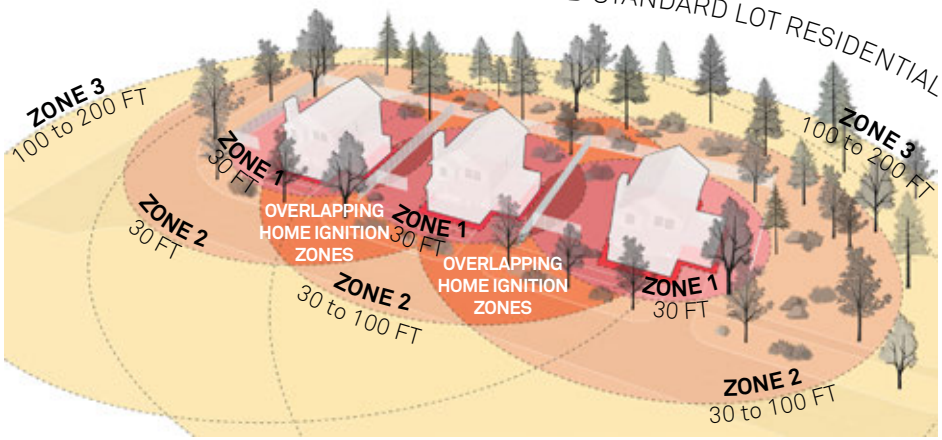
SUBURBAN

PATTERNS

UNMITIGATED STANDARD LOT RESIDENTIAL



MITIGATED STANDARD LOT RESIDENTIAL



ZONE 1A
Eliminated Combustible Material

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ZONE 3
Thinned, Pruned Trees, and Reduced Surface Vegetation

STANDARD LOT RESIDENTIAL AVERAGE LOT SIZE

>1/2 ACRE

Successive images depict interactions of each Home Ignition Zone to clearly communicate how planning and design concepts can be adapted to various structure densities and layouts - driving home the importance of collective community decisions, not just individual homeowner actions.

SLOPE

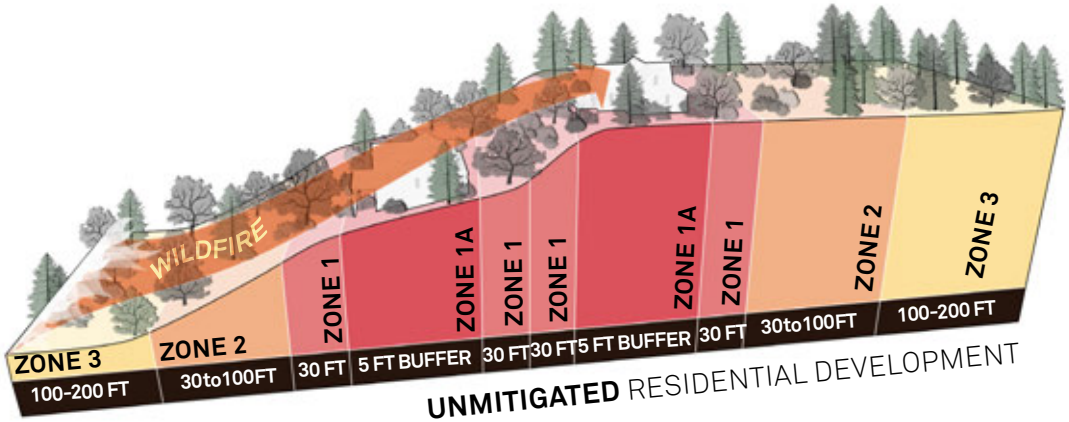
CONSIDERATIONS

ZONE 1A
Eliminated Combustible Material

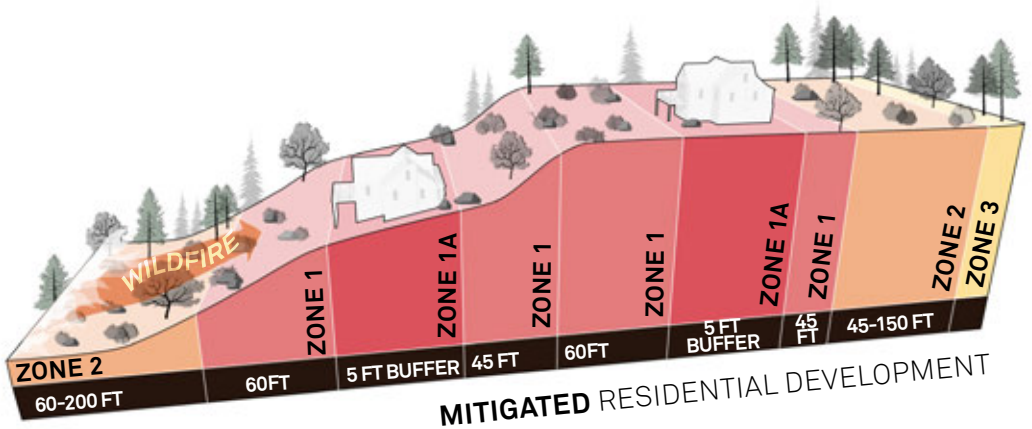
ZONE 1
Reduced, Discontinous, and Intensively Maintained Vegetation

ZONE 2
Spaced, Pruned, and Limited Low-Growing Surface Vegetation

ZONE 3
Thinned, Pruned Trees, and Reduced Surface Vegetation



UNMITIGATED RESIDENTIAL DEVELOPMENT



MITIGATED RESIDENTIAL DEVELOPMENT

ALL 3 ZONES INCREASE ON SLOPE SITES

ON A 30% SLOPE
ZONES DOWNHILL OF A STRUCTURE
DOUBLE
IN DISTANCE (30 FT x 2 = 60 FT)

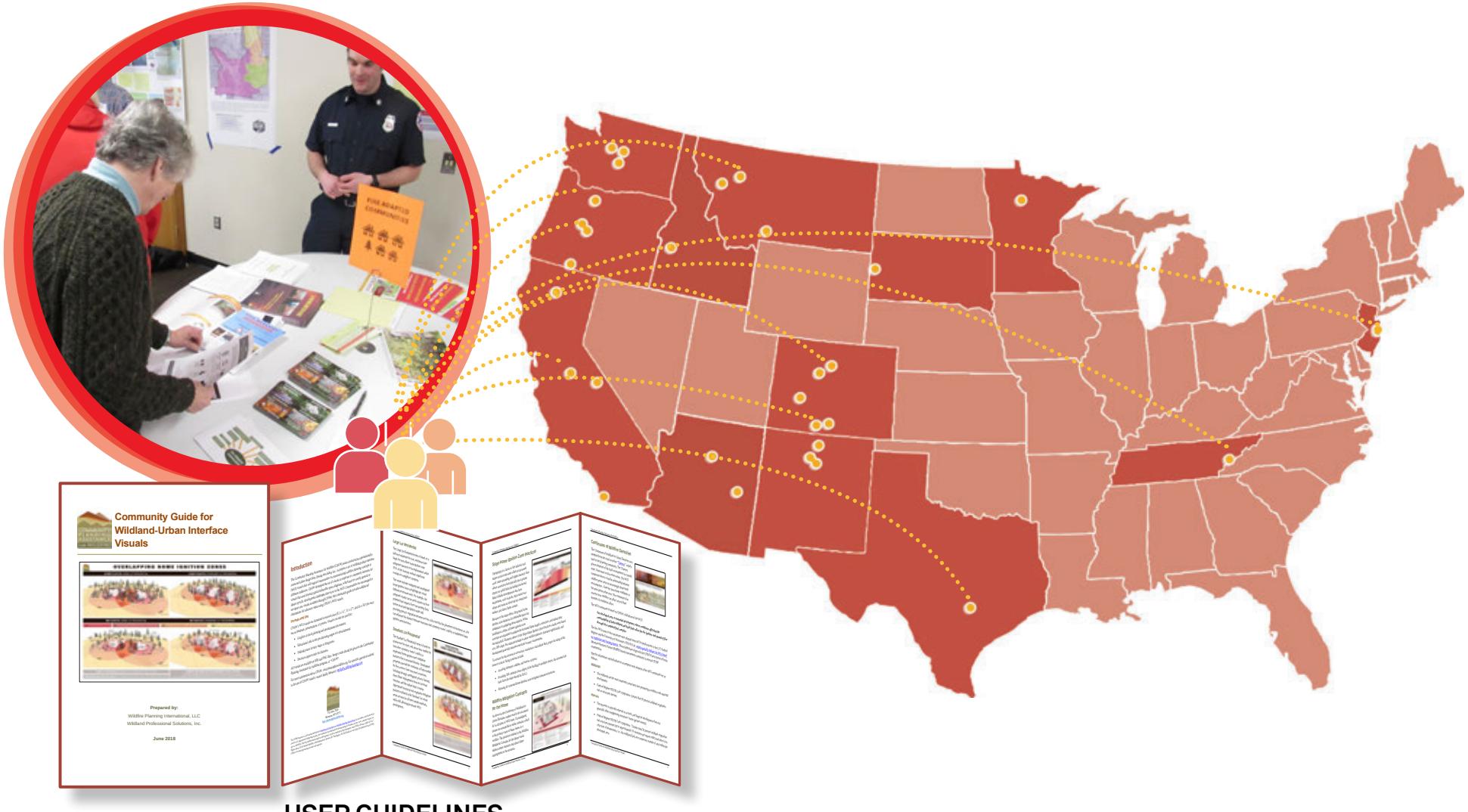
ON A 30% SLOPE
ZONES UPHILL OF A STRUCTURE
INCREASE 1.5X
IN DISTANCE (30 FT x 1.5 = 45 FT)

ON SIDE SLOPES
INCREASE 1.5X
IN DISTANCE (30 FT x 1.5 = 45 FT)

Typically, best practices are illustrated on a flat landscape. However, fire behavior changes considerably on a slope. The new visuals show the required extension of Home Ignition Zones, structure setbacks considerations, and adjusted building height limitations.

KNOWLEDGE

SHARING

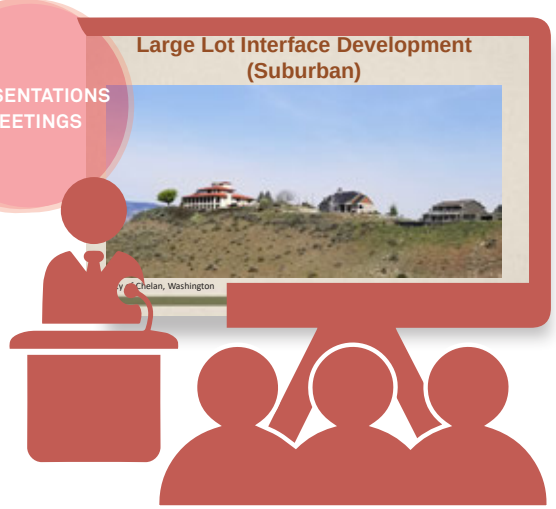


USER GUIDELINES

As smoke clears and communities recognize suppression and fuel mitigation are limited, they often want to understand what more can be done. This “how-to” guide empowers communities to use the visuals in educating wildfire planning concepts to different audiences.

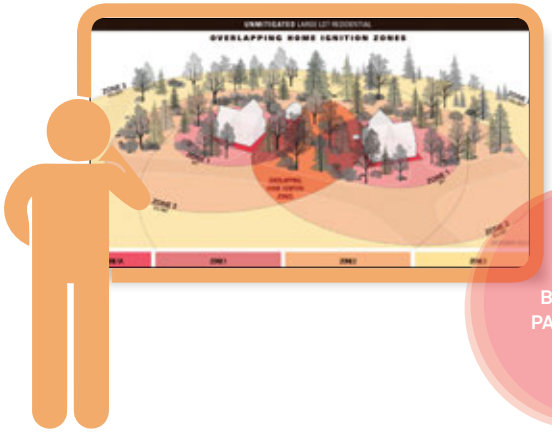
METHODS OF
DISTRIBUTION

PRESENTATIONS
MEETINGS



DIGITAL
PRESENTATION
WEBINARS
BLOGS

EMBEDDED
GRAPHICS



POSTER
BOARDS +
PAMPHLETS

MEETINGS
WITH LOCAL
DECISION-MAKERS

 Visuals were adapted for multiple formats to enable communication in a presentation format, a pamphlet, or embedded in a guiding document such as a comprehensive plan. Technical accuracy was balanced to remain relevant to communities in a variety of environments.

TOOLS FOR

LAND USE DECISION MAKERS

Bend, Oregon

Flagstaff, Arizona

Ashland, Oregon

Bemidji, Minnesota

PUBLIC

San Diego, California

Wasco County,

Boise, Idaho

Austin, Texas

Los Alamos County, New Mexico

Santa Fe, New Mexico

Park County, Montana

PLANNERS

City of Chelan, Washington

Taos County, New Mexico

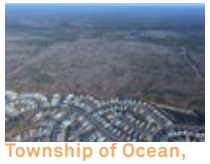
Summit County, Colorado

Deadwood, South Dakota

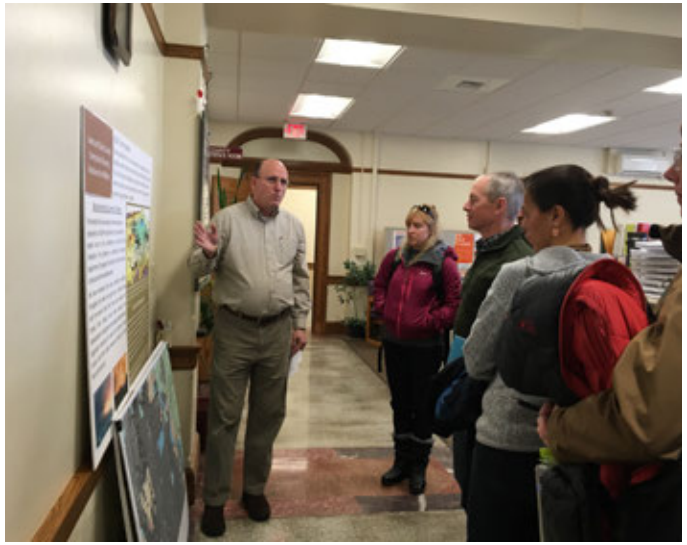
Missoula County, Montana

Mammoth Lake, California

Pigeon Forge, Tennessee



Township of Ocean, New Jersey



Lewis & Clark County,MOntana

DESIGNERS

Huerfano County, Colorado

Gunnison County, Colorado

San Luis Valley, Colorado

Sisters, Oregon

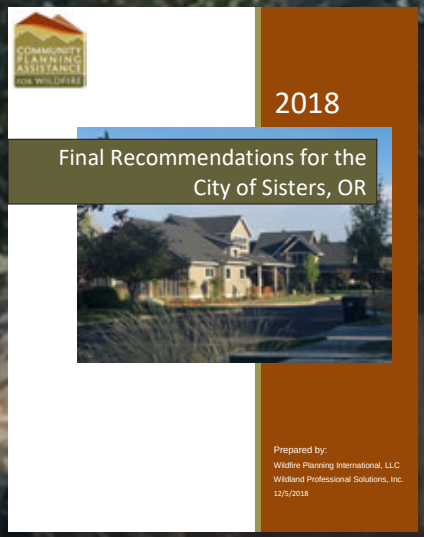
Boulder County, Colorado

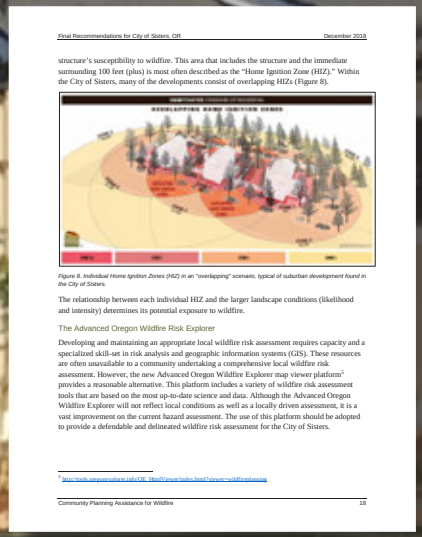
Mariposa County, California

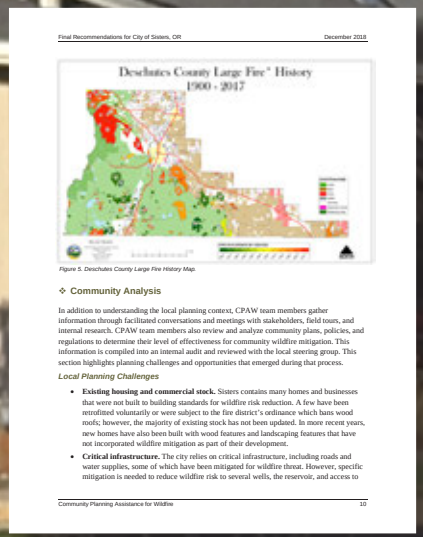
ELECTED OFFICIALS

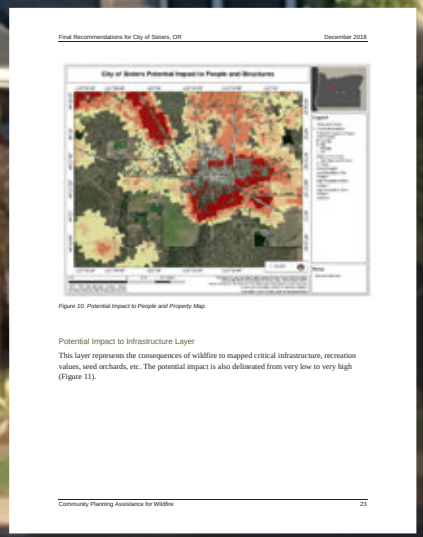
To date, the program has engaged 26 communities from across the country. The library of visuals initiated with this foundational series enables efficient communication with a growing list of communities and land use decision-makers in different fire regimes.

INFORMING DECISIONS









As a result, the new visuals promote increased uptake of wildfire planning mitigation techniques across multiple jurisdictions. Addressing our wildfire problem takes a multi-pronged approach; planners and designers are an important part of the solution.