

USING NATIVE PLANTS IN A CHANGING CLIMATE TO CREATE A FIRE-RESISTANT LANDSCAPE

Saving water

Saving homes

Enriching habitat

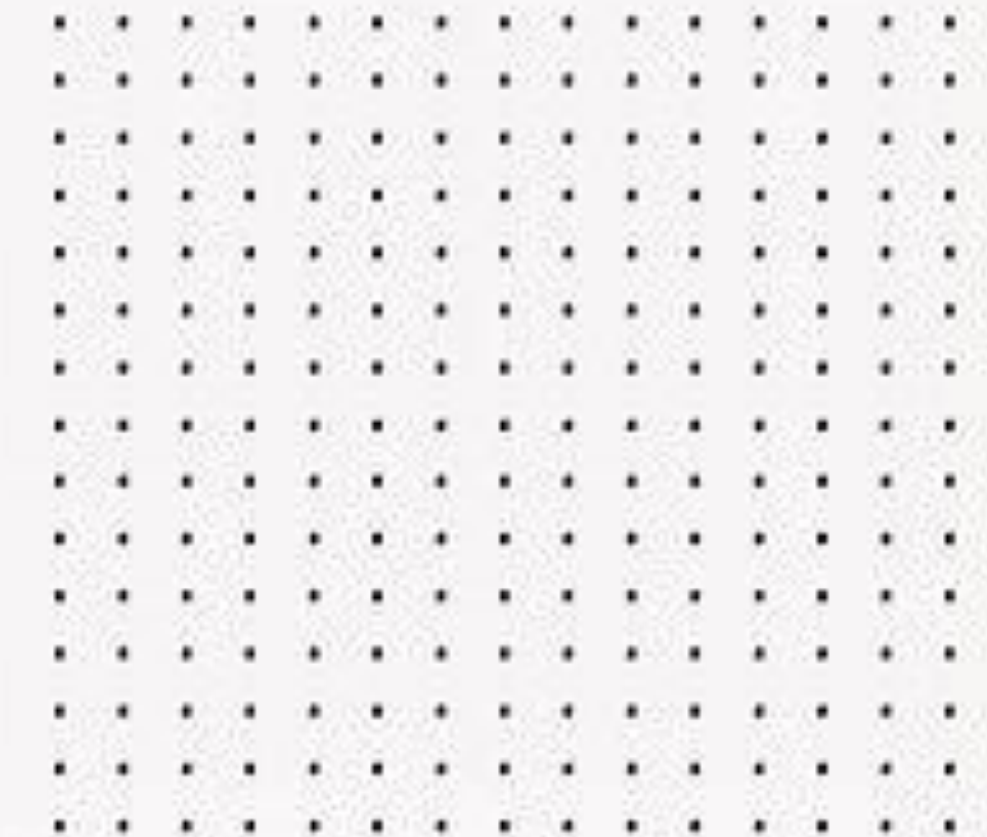
Reducing maintenance

PURPOSE:

Share information on planting selected fire-resistant native vegetation to create a safe, beautiful, and biodiverse landscape in a changing, fire prone environment

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, located in the lower right quadrant of the slide.

CONNECT THE DOTS



The first player draws a single line between two adjacent dots. The line can only be made vertically or horizontally and can only connect two dots together. The next player draws the next, and the game continues like this. The object of the game is to connect complete lines (lines composed of two lines connected between four dots). When a player has completed a square, he starts his next line exactly inside the square. When a player has completed a line and finished it by going around two corners starting from its own square and there are no more moves left, count the number of lines each player has finished. The winner is the one with the most lines.

Climate Change is real, and it is here



▶ Weather vs, Climate

▶ Daily Decades



▶ **Extremes in conditions/**

▶ **Temps,**


▶ **Precipitation,**


▶ **Winds/Storms**

40-120 AVERAGE 80

0- 20 AVERAGE 10



- ▶ **What are the correct plants to have?????**
 - ▶ **Plants with a wide range of variable**
 - ▶ **Xeric (low water requirements)**
- 

- ▶ **Adaptive to changing conditions**
 - ▶ **Eisenhower's statement on Planning**
- 

DEFINITIONS

Native plant

- A plant species that is found in a region because it developed and evolved in that region over thousands of years.
Plants that existed in a region prior to settlement - sometimes referred to as indigenous plants

Naturalized plant

- An exotic plant that was introduced into an area, escaped from cultivation and reproduces on its own (includes exotic invasive plants).
Many plants commonly thought to be natives were introduced by early settlers.

DEFINITIONS

Xeric or Xeriscape

- - refers to plants or a landscape that flourishes with very little water. Xeric plants require very little, if any, supplemental watering after the plant is fully established.

Biodiversity

- - the variety of living organisms in a particular habitat or ecosystem.

DEFINITIONS

Fire-resistant- The ability of a plant or material, to withstand fire or give protection from fire for a period of time.

Fire- resilient – A plant that “resists damage and recovers quickly from disturbances (fire)

Fire-tolerant- plants that can withstand severe heating and survive anyway

Fire-adapted- life history traits of plants that help them survive wildfire

SHRUB-STEPPE ECOSYSTEM:

Shrub – A woody plant with several stems arising at or near the ground

Steppe- A large areas of flat grassy land where there are few trees--- an area with bunchgrasses, numerous annual and perennial where wildflowers thrive in the spaces between shrubs and bunchgrasses.

GEOLOGY/GEOGRAPHY OF NORTH CENTRAL WASHINGTON

Mixed conifer

Dry forest

Sage-steppe



GEOLOGY

GEOGRAPHY

CLIMATE

SOILS

PLANTS

ANIMALS



▶ Shrub steppe



0305509 © Mark Turner
www.turnerphotographics.com

Shrub/dry forest Ecotone



Dry Forest



▶ Mixed conifer



CATEGORIES OF PLANTS IN AN ECOSYSTEM

Trees

Shrubs

Grasses


Forbes (herbaceous perennials and annuals)

QUESTIONS??

On what we have covered so far

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom-left towards the top-right, located in the lower right quadrant of the slide.

ATTRIBUTES OF FIRE-RESISTANT VEGETATION AND MAY BE MORE ADAPTIVE TO CHANGE

- ▶ **Low growing**
 - ▶ **Open Configuration**
 - ▶ **High moisture content/ succulent parts**
 - ▶ **Water like sap**
 - ▶ **Broad- leaves**
 - ▶ **Herbaceous plant parts**
 - ▶ **Low accumulation of dead materials**
 - ▶ **Tight bark**
- 

FIRE RESISTANT VS FIRE PRONE VEGETATION

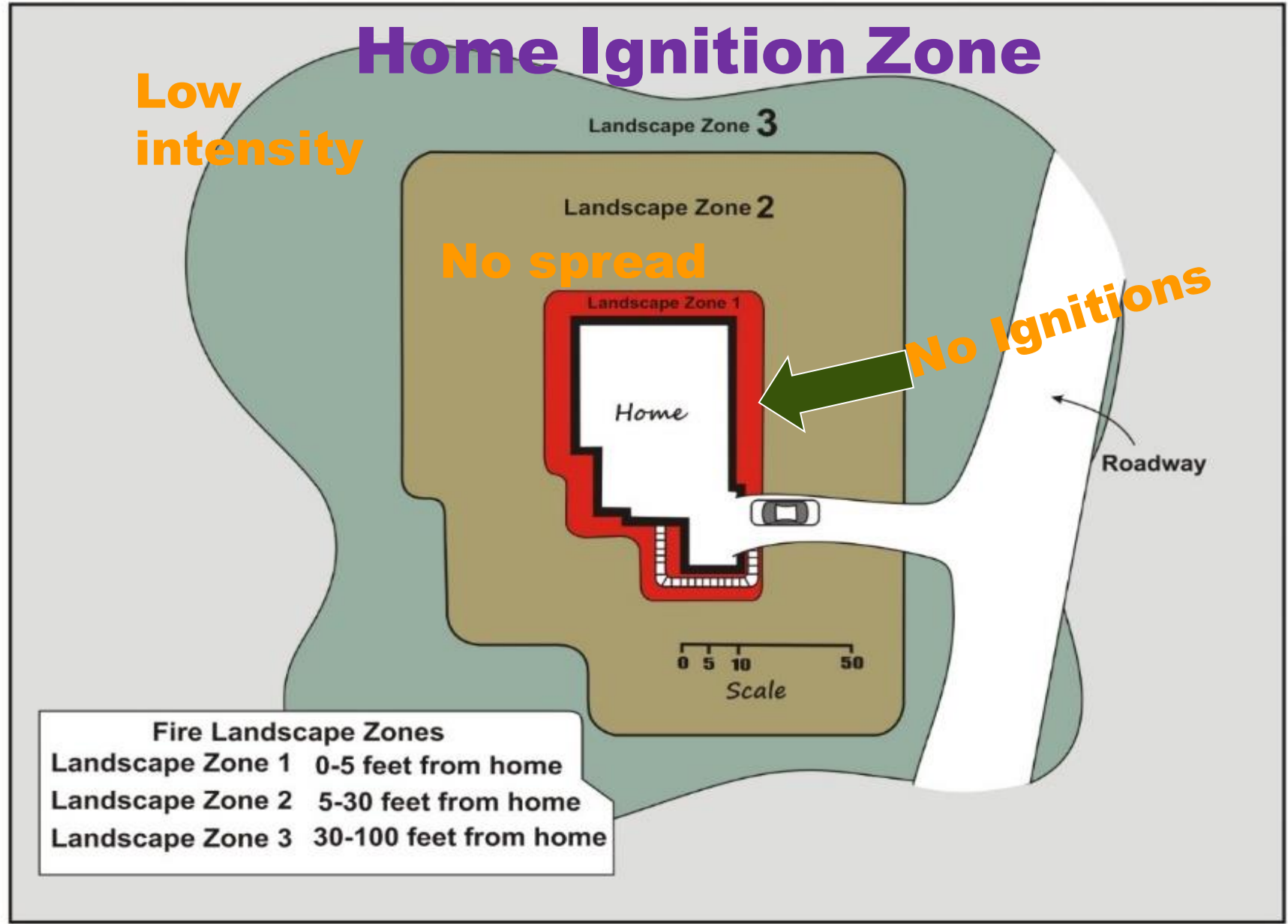
- ▶ Short vs. **Tall**
 - ▶ Herbaceous vs. **Woody**
 - ▶ Deciduous vs. **Evergreen**
 - ▶ Spread out vs. **Thick/dense**
 - ▶ Tight vs. **Loose Bark/wood**
 - ▶ Watery vs. **Thick/sticky sap**
- 

Home Ignition Zone

Low
intensity

No spread

No Ignitions



Fire Landscape Zones	
Landscape Zone 1	0-5 feet from home
Landscape Zone 2	5-30 feet from home
Landscape Zone 3	30-100 feet from home

HOME IGNITION ZONE

THREE LANDSCAPE ZONES

- ▶ **Zone 1** 0-5 feet (10ft)- basically non-flammable – Nothing Burnable
- ▶ **Zone 2** 5-30 feet – Well spaced, pruned up, green, no dead fuels - No Spread
- ▶ **Zone 3** 30-100 feet – well spaced wildland fuels and pruned up so nothing can ignite crowns – Low Intensity

CATEGORIES OF VEGETATION AND WHERE THEY BEST FIT IN THE LANDSCAPE ZONES

Landscape Zone 1

Ground Covers

Herbaceous Perennials and Annuals (**Forbes**)


Vines (Herbaceous)

Short Grasses

LANDSCAPE ZONE 1

- ▶ Vegetation within 0-10/5 feet of the structure – **(Ignition Management)**
 - ▶ No trees or shrubs
 - ▶ No organic mulch
 - ▶ Low flammable plants
 - ▶ Inorganic mulch

ATTRIBUTES OF FIRE-RESISTANT VEGETATION AND MAY BE MORE ADAPTIVE TO CHANGE

- ▶ **Low growing**
 - ▶ **Open Configuration**
 - ▶ **High moisture content/ succulent parts**
 - ▶ **Water like sap**
 - ▶ **Broad- leaves**
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 - ▶ **Low accumulation of dead materials**
 - ▶ **Tight bark**
- 

FORBES (WILDFLOWERS)

- ▶ Inter- bunchgrass niche
 - ▶ Insects
 - ▶ Birds
 - ▶ Critters
 - ▶ Food/Medicine
- 



PENSTEMON & LUPINE



Columbine & Strawberry



YARROW & PHLOX

CLARKIA AND FIREWEED



BITTERROOT & SCARLET GILIA

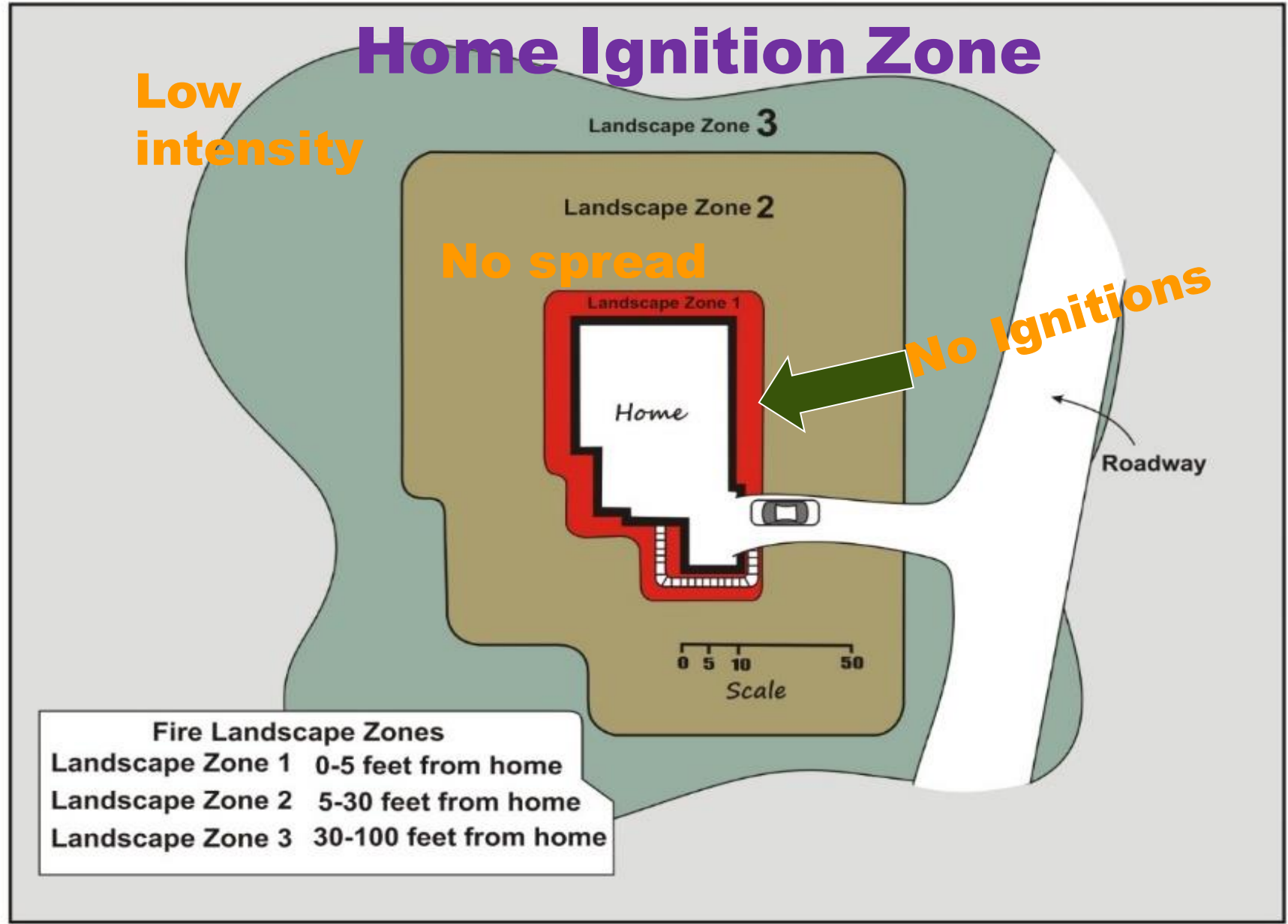


Home Ignition Zone

Low intensity

No spread

No Ignitions



Fire Landscape Zones	
Landscape Zone 1	0-5 feet from home
Landscape Zone 2	5-30 feet from home
Landscape Zone 3	30-100 feet from home

QUESTIONS??

Are the Dots starting to make sense?

A series of several parallel white lines of varying lengths and positions, all slanted diagonally from the bottom-left towards the top-right, located in the lower right quadrant of the slide.

CATEGORIES OF VEGETATION AND WHERE THEY BEST FIT IN THE LANDSCAPE ZONES


Landscape Zone 2

Native Grasses (Mostly)

Shrubs

Small Deciduous Trees

LANDSCAPE ZONE 2

- ▶ **Vegetation in the 5-30 feet from the structure (Manage for no fire spread)**
 - ▶ **Lean, Clean and Green Zone**
 - ▶ **Single trees pruned at least 10'**
 - ▶ **Single shrubs well groomed**
 - ▶ **No dead fuels**
 - ▶ **No continuous ground fuel**
- 

GRASSES

Native Grasses

Root Systems

Xeric

Bunchgrasses



SANDBERGS BLUEGRASS & IDAHO FESCUE



NEEDLE AND THREAD & INDIAN RICE GRASS





Sand Dropseed & Prairie Junegrass

BLUE BUNCH WHEATGRASS & BASIN WILD RYE





PINE GRASS



SEDGES



SHRUBS

VARIETY

XERIC

FOOD SOURCE

SHADE/COVER

SERVICE BERRY & WOODS ROSE



ELDERBERRY & GOLDEN CURRANT



SPIREA



SHRUBBY CINQUEFOIL





Kinnikinic & Oregon Grape

MOCK ORANGE & RED OSIER DOGWOOD



Minimum Horizontal Clearance

SHRUBS

From edge of one shrub to the edge of the next

Flat to mild slope
(0% to 20% slope)

Two times (2x) the height of the shrub
(Two shrubs 2' high should be spaced 4' apart)



Mild to moderate slope
(20% to 40% slope)

Four times (4x) the height of the shrub
(Two shrubs 2' high should be spaced 8' apart)



Moderate to steep slope
(greater than 40% slope)

Six times (6x) the height of the shrub
(Two shrubs 2' high should be spaced 12' apart)



TREES

From edge of one tree canopy to the edge of the next

Flat to mild slope
(0% to 20% slope)

10 feet



Mild to moderate slope
(20% to 40% slope)

20 feet



Moderate to steep slope
(greater than 40% slope)

30 feet



QUESTIONS??

Are the dots starting to connect??

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CATEGORIES OF VEGETATION AND WHERE THEY BEST FIT IN THE LANDSCAPE ZONES

Landscape Zone 3

Large trees

Larger Native/Adaptive Shrubs

Native/Adaptive grasses

LANDSCAPE ZONE 3

▶ **Native vegetation within 30-100 feet of structure: (Manage for low fire Intensity)**

Trees well spaced

No ladder fuels

Shrubs cared for and clean

Dead fuels removed

Surface and ground fuels discontinuous/low

Trees pruned up least 10'

TREES

Native Trees
Root Systems
Xeric



Trees



ASPEN



COTTONWOOD

Trees



NETLEAF HACKBERRY



PACIFIC WILLOW

Trees



OREGON VALLEY OAK



BIG LEAF MAPLE



PONDEROSA PINE



Categories of Vegetation and where they best fit in Fire-Resistant landscape zones

Landscape Zones 1

Ground Covers

Herbaceous Perennials and Annuals

Vines

Turf Grasses

Landscape Zones 2 or 3

Shrubs

Trees

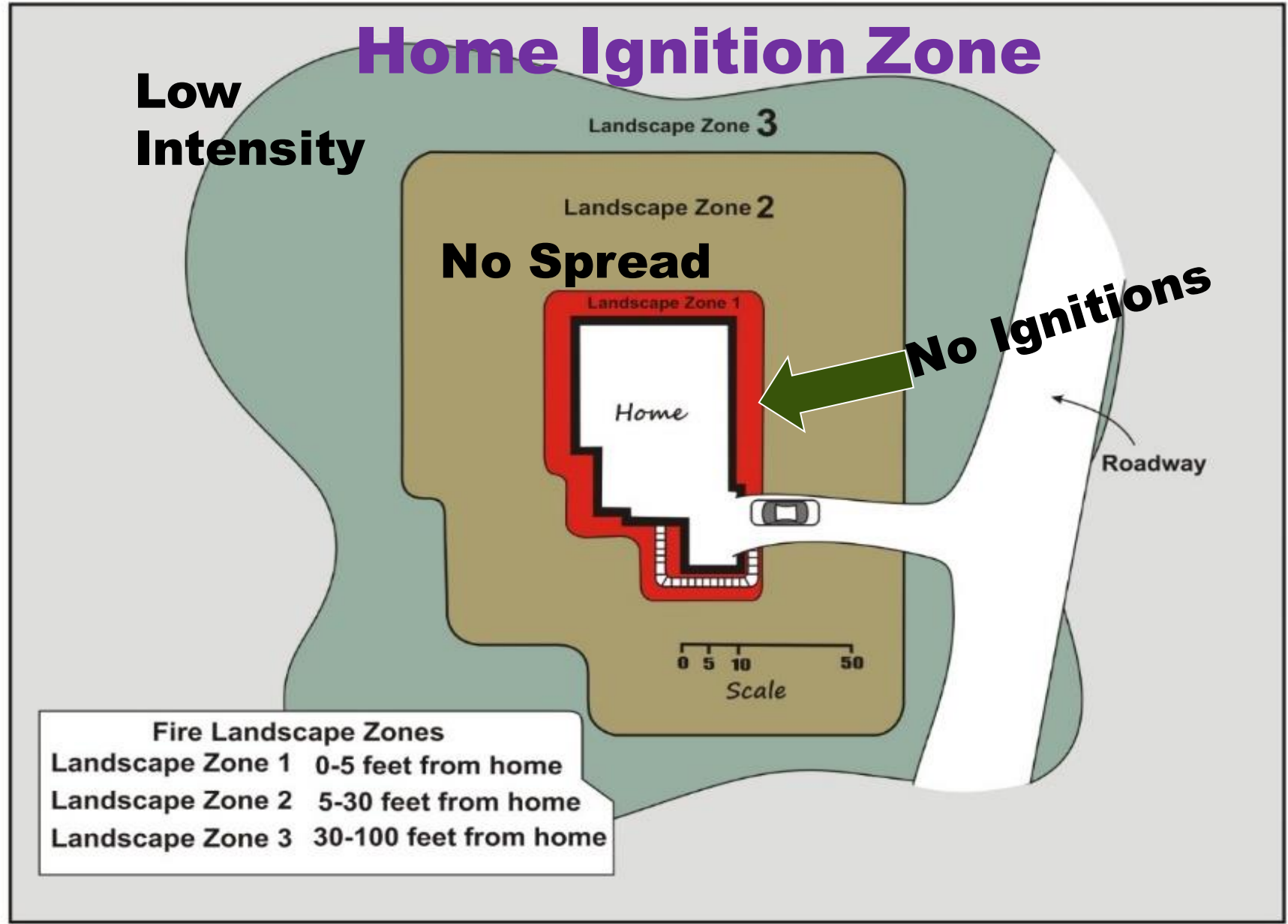
Large Native/Adaptive grasses

Home Ignition Zone

Low Intensity

No Spread

No Ignitions



Fire Landscape Zones	
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Landscape Zone 3	30-100 feet from home

MAINTENANCE PRACTICES TO REDUCE FIRE HAZARD

- ▶ Washing out plants
 - ▶ Pruning/Thinning/Spacing
 - ▶ Raking
 - ▶ Weeding
 - ▶ Mowing/Weed Eating
 - ▶ Mulches
 - ▶ Organic
 - ▶ Inorganic near structures
 - ▶ Watering
 - ▶ Roofs and Gutters
 - ▶ Clean-up and proper yard waste disposal
- 

THE VALUE OF NATIVE PLANTS

▶ **Hardy plants**

A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.

THE VALUE OF NATIVE PLANTS

- ▶ Hardy plants
 - ▶ **Xeric**



THE VALUE OF NATIVE PLANTS

- ▶ Hardy plants
 - ▶ Xeric
- ▶ **Fire Adaptive**



THE VALUE OF NATIVE PLANTS

- ▶ Hardy plants
 - ▶ Xeric
 - ▶ Fire Adaptive
 - ▶ **Low manintance**
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a dark green background.

THE VALUE OF NATIVE PLANTS

- ▶ Hardy plants
 - ▶ Xeric
 - ▶ Fire Adaptive
 - ▶ Low manintance
 - ▶ Provide Habitat for beneficial Insects and critters
- 

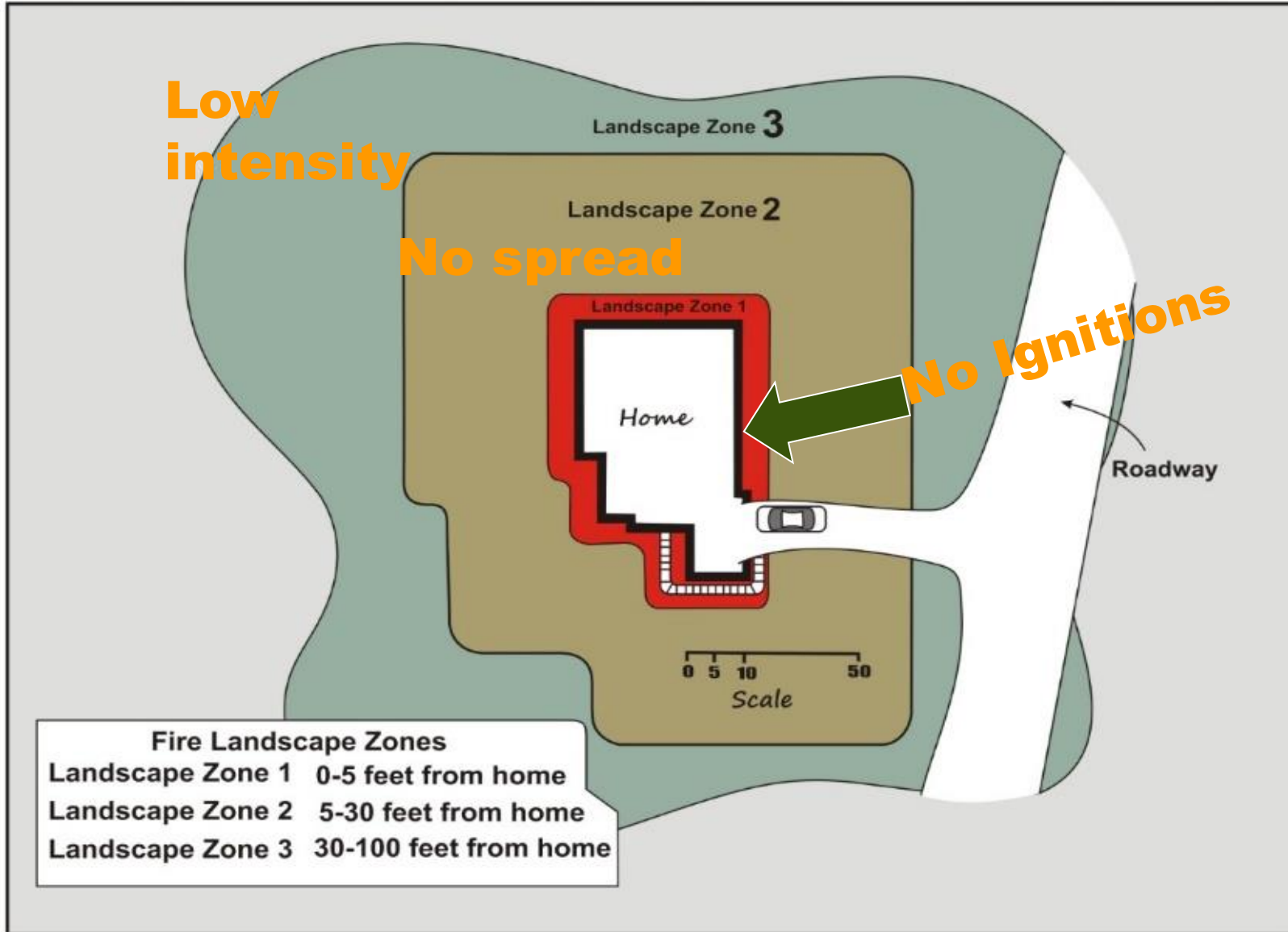
THE VALUE OF NATIVE PLANTS

- ▶ Hardy plants
 - ▶ Xeric
 - ▶ Fire Adaptive
 - ▶ Low manintance
- ▶ Provide Habitat for beneficial Insects and small critters
 - ▶ They are in harmony with the local environment

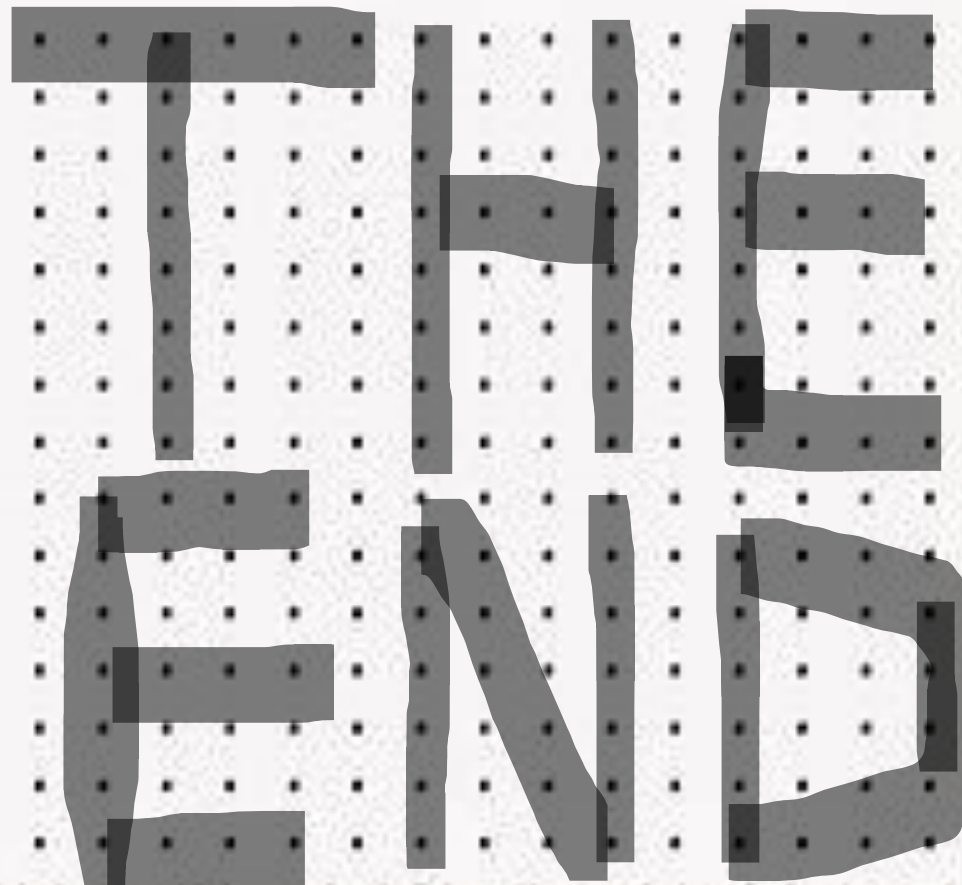
THE VALUE OF NATIVE PLANTS

- ▶ Hardy plants
- ▶ Xeric
- ▶ Fire Adaptive
- ▶ Low maintenance
- ▶ Provide Habitat for beneficial Insects and critters
- ▶ They are in harmony with the local environment
- ▶ Available locally (Don't have to order on Amazon)

Home Ignition Zone



CONNECT THE DOTS



The first player to connect two rows from adjacent dots. The line can only be made vertically or horizontally and can only connect two lines together. The next player does the same, and the game continues like this. The object of the game is to connect complete lines (lines consisting of four lines connected between four dots). When a player has completed a square, he starts his next line usually towards the square. When a player has completed a line and finished it in the green square box, (usually starting from a square) and there are no more moves left, I mark the number of lines each player has finished. The winner is the one with the most lines.

FURTHER READING/WEBSITES

- Fire-Resistant Landscapes for Eastern Washington (<https://extension.wsu.edu/Chelan/Douglas/gardening>)
- www.bentler.us/eastern-washington/plants/wildflowers.aspx
- <https://derbycanyonnatives.com/> - Mel Asher's native plant nursery
- Flora of the Pacific Northwest: An Illustrated Manual
4th printing by [C. Leo Hitchcock](#), [Arthur Cronquist](#)
- [Map Creation | USDA Plant Hardiness Zone Map](#)

Questions?