LANDSCAPING WITH FIRESMART IN MIND

13th August, 2016

Victoria Master Gardener Association

AGENDA

- What is FireSmart?
- Fire triangle
- What is FireSmart Landscaping?
  - design
  - maintenance
- Fire resistant plants
  - select the right plant
- Plants to avoid

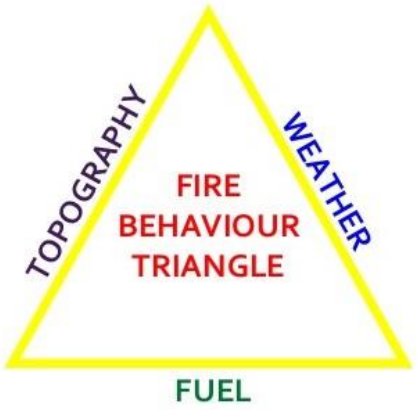
WHAT IS FIRESMART?

- FireSmart is reducing the risk to communities by living with and managing for wildland fire on our landscape.
  - The seven FireSmart disciplines help us to address the threat of wildfire:
    - Education
    - Vegetation management
    - Legislation and planning
    - Development considerations
    - Interagency cooperation
    - Emergency planning
    - Cross training

❖ https://www.firesmartcanada.ca/

FIRE BEHAVIOUR TRIANGLE

- Fire behaviour is influenced by:
    1. Fuel
    2. Weather
    3. Topography



- Fire spread and intensity is influenced by these 3 elements
- This presentation focuses on the fuel component:
    - Fuel is the most easily modified
    - Fuel is vegetation (wildland fuels) and buildings or other combustibles (built fuels).

PREVENTION

- Wildland fires are a natural part of most wildland ecosystems in Canada
- An increasing number of homes are built in or on the boundary of these wildland areas known as the wildland urban interface (WUI)
- Homeowners building and living in the wildland boundaries should take special precautions to protect their lives and property.

WHAT IS FIRESMART LANDSCAPING?

- It does not support the spread of fire
  - Most wildfires begin as surface fires
  - Effective design
    - plants are strategically placed; vertical and horizontal considerations
    - spacing of vegetation can reduce fire intensity
    - use decorative rock, pathways, retaining walls
  - Use fire-resistant plants & materials
  - Maintain

WATER USAGE

- In many wildland/urban interface areas water usage is also an ongoing concern
  - watering restrictions or bans during summer months are common
  - raises the concern of increased wildfire risk due to dry landscape vegetation
- Even in the driest regions, homeowners can conserve water, and have beautiful fire safe landscapes
- Plan your landscape for water use
  - Group plants with high water use together

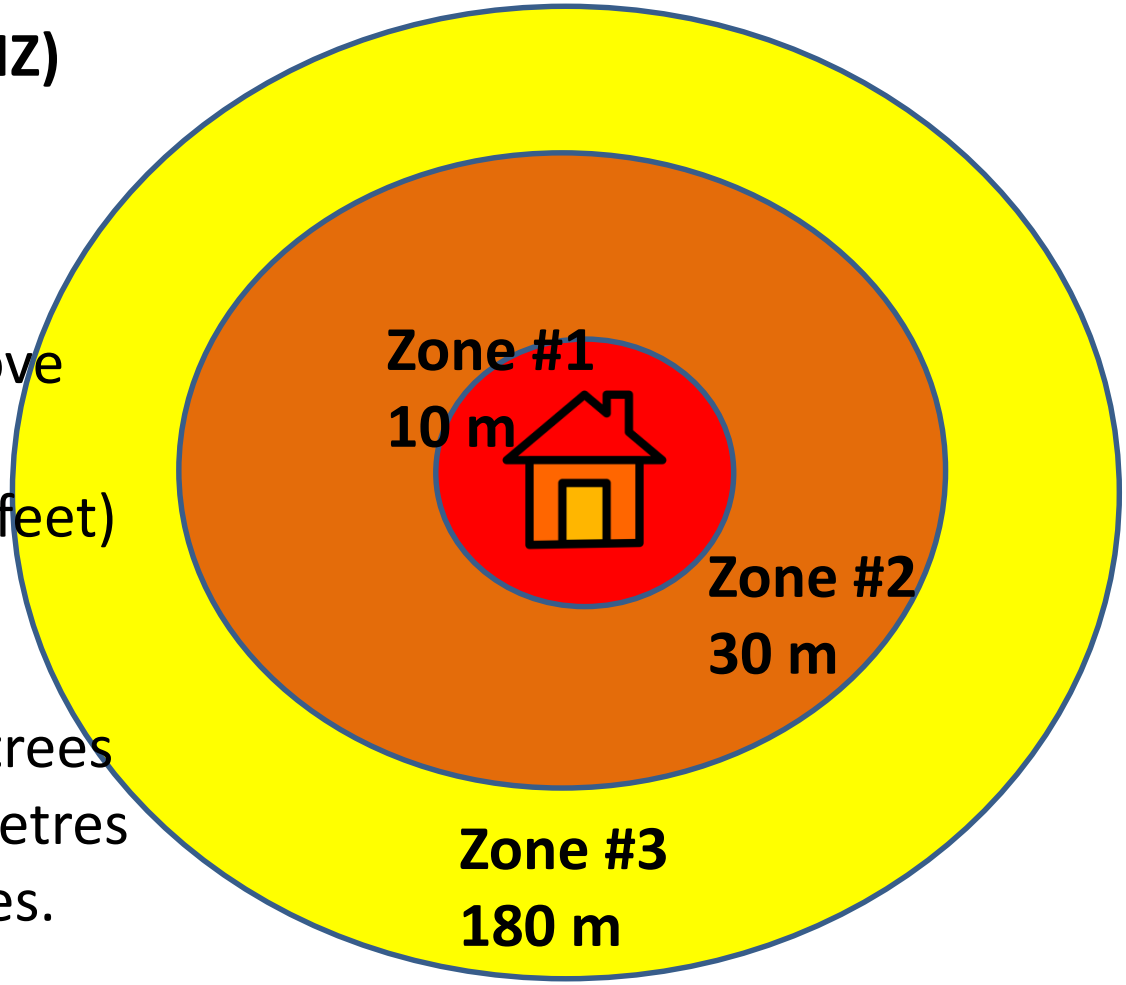
PRIORITY ZONES

Home Ignition Zones (HIZ)

- Priority Zones 1 & 2 are the most critical

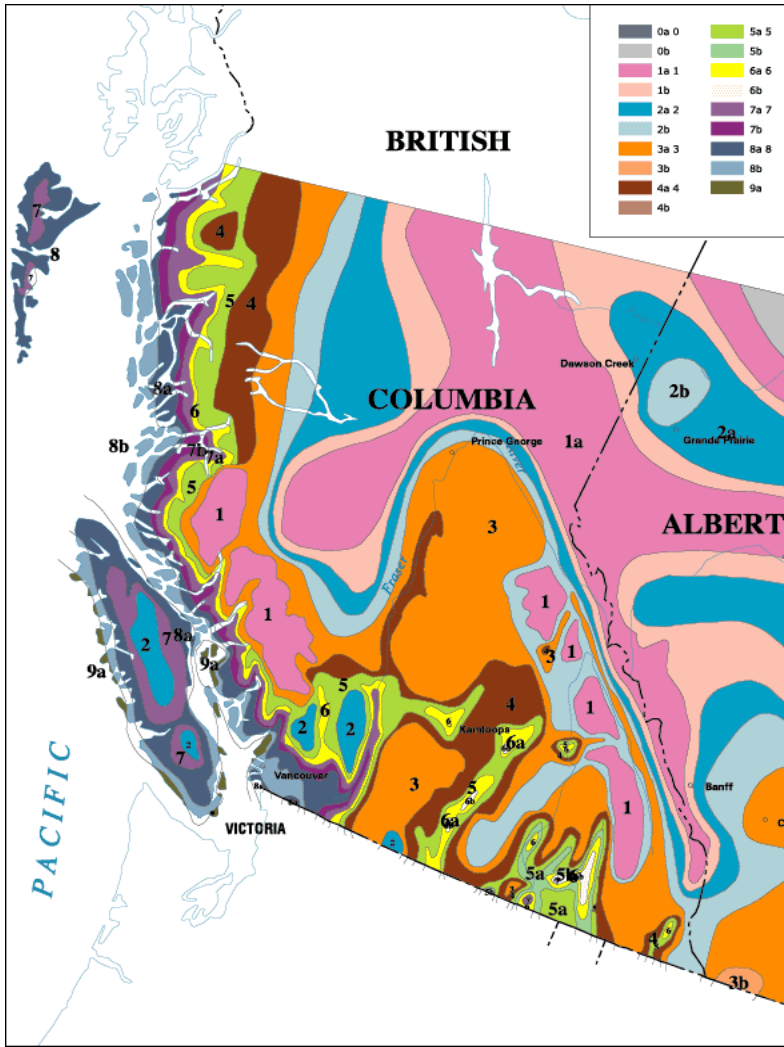
- Priority Zone 1: Remove most trees and brush within 10 metres (30 feet) of structures.

- Priority Zone 2: Thin trees and brush up to 30 metres (100 feet) of structures.

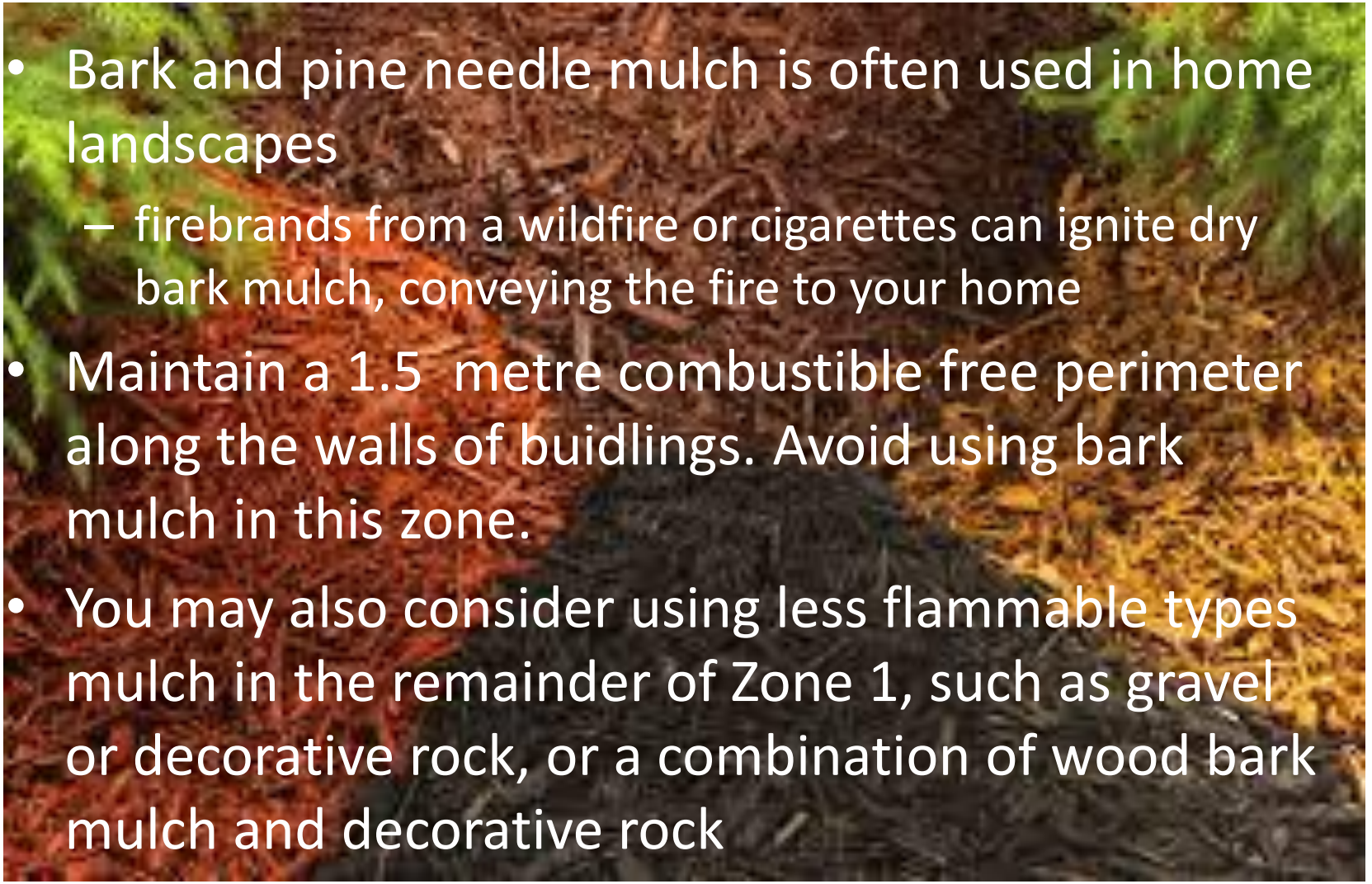


SELECT RIGHT PLANT

- Unhealthy plants can be a greater fire risk:
  - Consider wisely:
    - hardiness zone
    - location
    - maintenance
    - water requirements
    - sun/shade requirements
    - wind
    - native plants



MULCH



- Bark and pine needle mulch is often used in home landscapes
  - firebrands from a wildfire or cigarettes can ignite dry bark mulch, conveying the fire to your home
- Maintain a 1.5 metre combustible free perimeter along the walls of buidlings. Avoid using bark mulch in this zone.
- You may also consider using less flammable types mulch in the remainder of Zone 1, such as gravel or decorative rock, or a combination of wood bark mulch and decorative rock

MAINTENANCE

- Pruning
  - Well pruned:
    - prune lower tree limbs 3-5 meters from the ground
    - decrease density by increased space between branches
    - shorten plant height
- Irrigation:
  - Maintain required watering in vegetation
- Clean-up
  - Remove combustible materials from yard and roof
    - Including: firewood, twigs, needles and leaves, dry or cured grasses and shrubs, wood piles, building material, cardboard boxes and solvents
    - Compost

XERISCAPING

- Xeriscaping is the conservation of water through creative landscaping
- Fire resistant landscaping
  - uses fire resistant plants
    - plants have leaves which are small, thick, glossy, silver-grey or fuzzy - all characteristics which help them save water
  - reduces turf
  - use fire resistant mulches to retain moisture in soil
  - low maintenance
- Does not sacrifice beauty to prevent fire
- Principles of xeriscaping can be applied to any landscape style and can be as plain or elaborate as desired

LAWN

- A healthy lawn can be:
  - fire resistant landscape
  - effective fuel break
- Considerations:
  - ensure lawn is getting the right amount of water to keep it green
  - keep mowed to a max height of 10 cm
  - replace areas that are difficult to mow
  - replace sections of the lawn with more fire-resistant groundcovers and shrubs
    - May also need less water and maintenance
  - replace with hard surfaces, decorative rock, walkways, gravels
    - may also make the living space more practical?

FLAMMABLE PLANTS:

- Contain fine, dry, dead material within the plant such as twigs, needles, and leaves.
- Plant stem, branches and leaves contain volatile waxes, terpenes or oils
- Leaves are aromatic, strong odor when crushed
- Gummy, resinous sap with a strong odour
- Loose papery bark
- Age
- Volume

❖ These plants contribute to the fuel and the fire's intensity

PLANTS TO AVOID

Broom: ***Genista sp.***

Pine: ***Pinus spp***

Juniper:
Juniperus spp.

Pampas Grass: ***Cortaderia selloana***

Holly: ***Ilex spp.***

PLANTS TO AVOID

Fountain Grass:
Pennisetum spp.

Cedar, Arborvitae:
Thuja spp.

Yew: *Taxus spp.*

Colorado Spruce:
Picea pungens

INTENSITY OF A FIRE

- The 1991 Oakland Hills fire in California is a prime example of how flammable plant material (Eucalyptus trees) can act as fuel and contribute to the intensity of a wildfire. More than 3,000 homes were destroyed in that devastating wildfire.
  - contain flammable oils that encourage fire

FIRE RESISTANT PLANTS HAVE:

- Moist, supple leaves (ignite and burn slower)
- Little dead wood or accumulate dead material
- Open branching habits (less fuel for fire)
- Fewer total branches and leaves (less fuel for fire)
- Have a slow growing habit (less pruning required)
- Water-like sap with little or no odour
- Low amount of sap or resin material
- Low growing habit

❖ These plants can be damaged or even killed by fire; however, their foliage and stems do not significantly contribute to the fuel and, therefore, the fire's intensity

ANNUALS

Geranium: *Pelargonium*

Sweet Pea:
Lathyrus odoratus

Snap Dragon:
Antirrhinum majus

Salvia: *Salvia sp*

Pansy: *Viola sp*

Dusty Miller:
Senecio cineraria

PERENNIALS

Lamb's Ear:
Stachys byzantina

Lavender: *Lavandula sp*

Hostas: *Hosta sp*

Red hot poker:
Kniphofia uvaria

Oriental poppy:
Papaver orientale

Yarrow: *Achillea sp*

Bergenia:
Bergenia cordifolia

BULBS

Crocus: *Crocus*

Nodding Onion: *Allium cernuum*

Daffodil: *Narcissus sp.*

Lily: *Lillium sp*

Tulip: *Tulipa sp*

TREES

Poplar: ***Populus sp***

Dogwood: ***Cornus sp***

Cherry Tree: ***Prunus sp***

SHRUBS

Black currant: ***Ribes nigrum***

Cotoneaster: ***Cotoneaster sp***

Sumac: ***Rhus glabra***

Rugosa rose: ***Rosa rugosa***

Honeysuckle: ***Lonicera sp***

GROUND COVER

Hens & chicks: *Echeveria sp.*

Creeping Phlox: *Phlox subulata*

Sedum: *Sedum*

VEGETABLE GARDEN

WHAT ABOUT NATIVE PLANTS?

Big leaf maple:
Acer macrophyllum

Arbutus: *Arbutus menziesii*

Salal: *Gaultheria shallon*

Douglas fir:
Pseudotsuga menziesii

Oregon grape:
Mahonia aquifolium

Ocean spray:
Holodiscus discolor

Western red cedar:
Thuja plicata

CONCLUSION

- Select the right plant
  - Use fire-resistant plants
- Plant strategically
- Use non-flammable mulch
- Maintain

REFERENCES

- FireSmart https://www.firesmartcanada.ca/
- FireSmart Guide to Landscaping https://www.firesmartcanada.ca/resources-library/firesmart-guide-to-landscaping
- Master Gardeners Association of BC: http://www.mgabc.org/content/victoria
- Cal Fire: http://www.readyforwildfire.org/Fire-Safe-Landscaping/
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