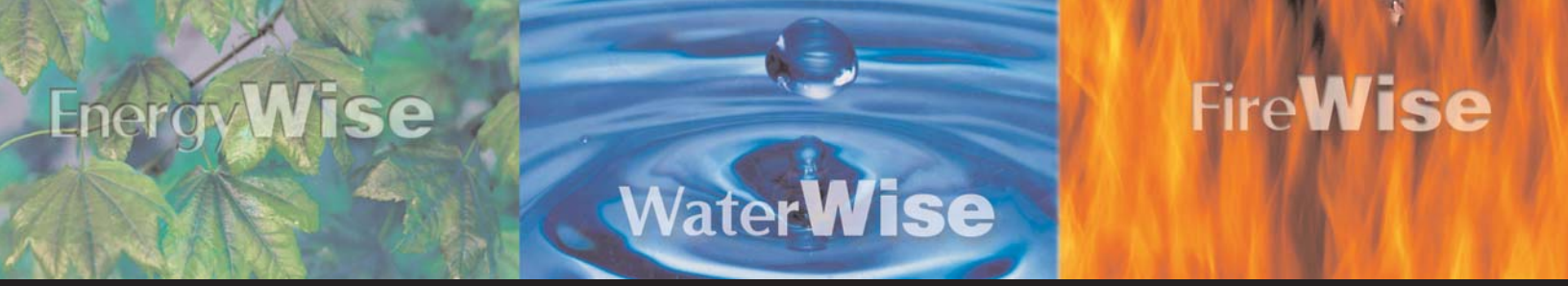

Alternative Prescriptions for FireWise Residential Landscapes

FireWise: A Component of ecoSmart Design Software

In the United States 42 million homes are located in the wildland-urban interface. Landscaping on these properties directly influences the threat of loss in fires. Pre-fire actions by individuals responsible for the design and maintenance of these private properties can prevent disasters. Agencies have developed guidance for improving the fire safety of properties in the wildland-urban interface, but this general guidance may conflict with the desires of an owner for the appearance of the home exterior, use of the land, views, privacy, and wildlife habitat. FireWise is an interactive, flexible, graphical tool designed to help residents make fire safety choices while considering ways to enhance beauty, retain native vegetation, ensure privacy, conserve water, and save energy.

The user places their home on the lot and interactively adds, removes, grows, and prunes trees. A bar shows the likelihood of structural ignition by changing from green (low), to yellow, to red (high) in response to changing amounts of radiant heat on the house. The fire physics incorporated into the software is based on research conducted at the National Institute of Standards and Technology. The FireWise software is written in Java by Earthview Computing for web application.

Future development will integrate WaterWise and EnergyWise modules to estimate impacts of strategic vegetation placement on stormwater runoff, landscape water use, and energy use. FireWise will be available for use free of charge this winter at *www.ecoSmart.gov.*

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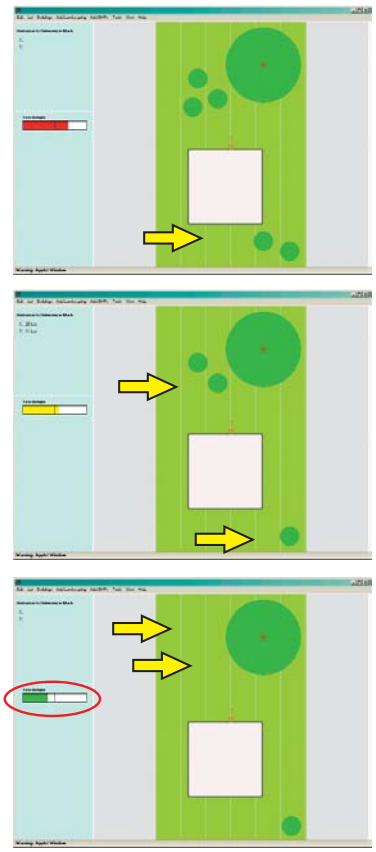
Step 1: Build lot and landscape to determine current fire hazard.

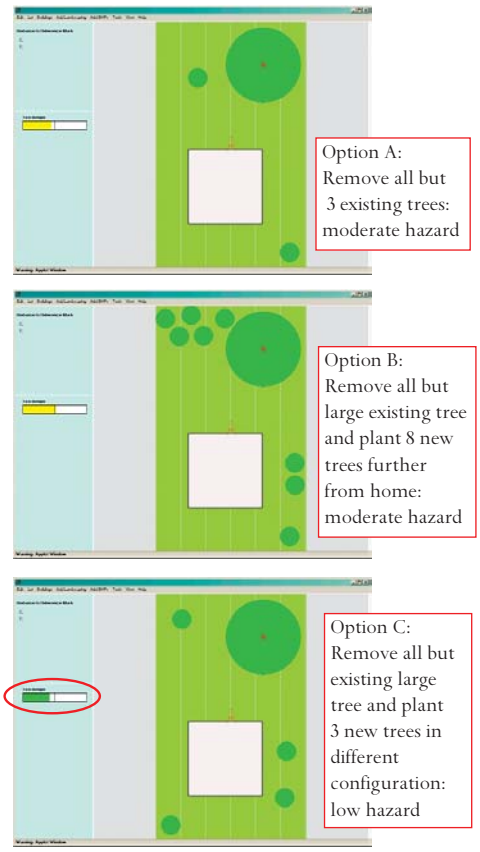
Current landscape is very hazardous

Step 2: Watch the effect of tree removal (at arrows) on fire hazards



Hazard is lowered, but there are few trees left.

Step 3: Identify trade-offs and options for future firewise landscaping



Hazard is lowered, but now with more trees

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ecoSmart design software