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Sommario/riassunto	Destruction of homes and businesses from Wildland Urban Interface (WUI) fires has been steadily escalating as have the fire suppression costs associated with them. Since 2000, in the United States, over 3,000 homes per year are lost to WUI fires. This is compared to about 900 homes in the 1990s, and 400 homes in the 1970s. In 2011, in Texas alone, over 2,000 homes were destroyed during WUI fires.^The WUI fire problem affects both existing communities and new construction.^In the U.S, the problem is most acute in the western and southern states; however, WUI fires have also recently destroyed homes in the Mid-Atlantic States and the Pacific Northwest.^One of the fundamental issues driving the destruction of homes at the interface is

the very limited coupling between building codes and standards and potential fire and ember exposure.<sup>4</sup> The limited exposure information currently available does not address the full range of realistic WUI exposures and offers little context for the design of ignition resistant landscapes and buildings. While the principles of ignition and fire spread at the WUI have been known, actual exposure quantification has been very limited.<sup>5</sup> The resulting gap between exposure and structure ignition has therefore resulted in a lack of tested and implementable hazard mitigation solutions.<sup>6</sup> As an example, there is currently little quantifiable information that links the ember generation from wildland fuels to building assemblies testing.<sup>7</sup> A WUI fire and ember exposure scale (WUI-scale) needs to be created to help consistently quantify the expected severity of WUI fire events based on measures, or scales, of expected ember and fire exposure.<sup>8</sup> Once established, these technically based ember and fire exposures for the WUI can form the technical foundation for the development of a set of performance based building codes aimed at providing a level of structure ignition protection commensurate with the expected fire and/or ember exposure. The concept is based on quantifying expected fire and ember exposure throughout an existing WUI community.<sup>9</sup> The proposed WUI-scale can be used to explicitly identify WUI areas that have a fire problem, as opposed to areas that meet housing density or wildland vegetation requirements as is frequently done.<sup>10</sup> The scale can therefore be used to provide the boundaries where specific land use and/or building construction regulations would apply.<sup>11</sup> Finally, the exposure scale can be used for both new and existing WUI communities.

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