



THE FIRE PROTECTION RESEARCH FOUNDATION

Addressing Community Wildfire Risk: A Review and Assessment of Regulatory and Planning Tools

PROJECT SUMMARY

8 April 2011

Background: The risk of catastrophic fire occurrence in the wildland urban interface (WUI) is a major issue in today's fire protection community. There are many potential tools for zoning administrators, planners, and fire/emergency managers to consider when addressing their community's wildfire risk. These tools include comprehensive planning, land use regulation, building codes and standards, voluntary programs (e.g. Firewise Communities/USA recognition program), Community Wildfire Protection Plans, and hazard mitigation planning.

Various forms of regulatory tools are available for fire protection professionals, and the focus of this study is to identify and evaluate the effectiveness of these regulatory tools. There is a lack of information about the prevalence of regulation in its various forms directed at wildfire risk, and an evaluation of the effectiveness in the intent and enforceability of these tools is needed.

Research Goal: The overall goal of this project is to review and assess the effectiveness of regulatory planning tools designed to address community wildfire risk, and to communicate lessons learned to communities considering such regulation. Achieving this goal will be accomplished by defining the WUI regulatory landscape through the identification of regulatory tools, categorizing these tools, and evaluating them to clarify their effectiveness. The deliverables of this project will be used as the basis for a follow-up effort to promote the use of regulations and planning tools designed to reduce wildland fire risk to lives and property in the Wildland Urban Interface.

Project Tasks: This project involves the following tasks to define, categorize, and assess the regulatory landscape:

- 1) **Task 1: Review of Literature.** Perform a comprehensive review of WUI literature over a time period of at least the last 20 years, with a focus on research and studies of WUI regulation efforts and their effectiveness, including case studies and other pertinent literature and data.
- 2) **Task 2: Regulatory Review and Categorization.** Provide a comprehensive review of regulations at the community and higher level that identifies the implementation of regulatory and planning tools designed to mitigate wildfire risk to people and property, with input from the Project Technical Panel. Compile and summarize the types of identified regulatory tools, and establish a categorization methodology based on critical factors such as perceived barriers to their implementation. Develop a preliminary interview plan (for Task 3) with the assistance of the Project Technical Panel. The comprehensive review of regulations at the community and higher level is intended to define the U.S. regulatory landscape with an emphasis on local, regional and state regulatory tools, but not excluding applicable U.S. federal regulations. Specifically, for this project regulatory and planning tools are intended to include:

- Zoning and land-use ordinances;
- Building and fire codes;
- WUI code regulations (including NFPA and ICC codes and excerpts);
- Landscaping ordinances; and
- “Comprehensive plan policies” that target natural hazards including wildfire, land use and development code regulations (e.g. fire codes, etc).

For this project regulatory and planning tools are intended to exclude:

- Community wildfire protection plans;
- Hazard mitigation plans;
- Firewise plans, or
- Regulations that were designed to specifically address other hazards.

- 3) Task 3: Facilitated Interviews. Interview representatives of communities, to provide input to the regulatory review and categorization (Task 2). Finalize and implement the interview plan with the assistance of the Project Technical Panel; communities will be selected based on their geographic location, type of regulatory tool, and other pertinent factors identified through the review and categorization process (Task 2). This interviews should include, but not be limited to:

- Motivation for the regulation (e.g. a devastating fire in or near the community);
- Intent and target of the regulation/policy (e.g. new development, retrofits, hazardous landscapes, etc); Administration and enforcement of the regulation (e.g., Zoning Administrator, Fire Chief, Emergency Management Director, etc), including technical expertise and resources required for implementation;
- Real-world usage based on events that allow measurement of effectiveness; and
- Perceived barriers to implementation and enforcement of the regulatory tools.

- 4) Task 4: Regulatory Assessment and Development of Lessons Learned. Provide a comprehensive assessment of the identified regulatory tools (Task 2) based on factors such as relevance, perceived impact, usage, ease of implementation, resources required, etc, and modified according to the outcome of the evaluations using facilitated interviews (Task 3). The documentation should be in a format and style to enable widespread dissemination of the lessons learned.

Task 5: Report. Finalize the documentation and provide a written project report, with the intention that this work will be used as the basis for a follow-up effort to promote the use of regulations and planning tools designed to reduce wildland fire risk to lives and property in the Wildland Urban Interface. Present findings to the NFPA Wildland Fire Operations Division and their Division Advisory Committee.

Implementation: This research program will be conducted under the auspices of the Fire Protection Research Foundation and will be guided by a Project Technical Panel who will provide input to the project, recommend contractor selection, review periodic reports of progress and research results, and review the final project report. The Panel will meet by teleconference periodically to review deliverables, provide input and assistance.

Reporting and Deliverables: The project will be completed as follows: Task 2 by 1 August 2011 and Task 5 by 1 December 2011. After completion of the final report a presentation will be made to the next available meeting of the NFPA Wildland Fire Operations Division and their Division Advisory Committee. The Research Foundation will retain rights to the project report which will be published on the Foundation website.