

WILDLAND-URBAN INTERFACE ISSUES AND APPROACHES

L. Annie Hermansen, *USDA Forest Service, Southern Center for Wildland Urban Gainesville, FL*

ABSTRACT: *The wildland-urban interface poses numerous risks for ecosystems and human communities and requires that natural resource management be adapted to this changing environment. The Southern Center for Wildland-Urban Interface Research and Information is taking several approaches to address these issues.*

Population growth and low-density housing development are among the main factors contributing to rapid land use change and profound influences on forest ecosystems in the United States. Such areas of rapid change are common in the wildland-urban interface (WUI), where human settlement meets undeveloped land. The USDA Forest Service conducted an assessment of the factors driving change in the southern wildland-urban interface, as well as the consequences of such changes (Macie and Hermansen 2002). The assessment also identified key areas of research and information needed to address the challenges of the interface. A series of focus group discussions conducted in six Southern States (Monroe et al. 2003) and input from the Southern Wildland-Urban Interface Council¹ helped define the issues of importance addressed in the assessment.

The assessment pointed to increased population growth and corresponding development, land use planning and policy issues, and economic and taxation issues as key factors driving rapid land use change and increased human influences on forest ecosystems. Forest fragmentation and reduction of total forest area are the most obvious effects of increased development, but there are many indirect effects (Zipperer 2002). Participants in every focus group discussion pointed out that because of urbanization, air quality, wildlife habitat, water quality and quantity, species composition, pollution, and other environmental attributes are changing (Monroe et al. 2003). Ecosystems and human communities are at increased risk from catastrophic events resulting from altered disturbance regimes. By suppressing disturbances, such as wildland fires and floods, the frequency, severity, and magnitude of natural disturbances increase.

In an increasingly fragmented landscape, traditional forestry tools are often inappropriate. New skills, such as cross boundary and small-scale management techniques, are desperately needed. Wildlife managers must be able to address both consumptive and nonconsumptive uses of wildlife (e.g. hunting vs. bird watching) and possess the communication skills to resolve people-wildlife conflicts. Providing high quality water for an expanding population, while meeting the increased demands for water-based recreation and aquatic species habitat is a serious challenge. Urban interface residents may not accept the use of prescribed fire and/or herbicides to reduce hazardous fuel loads (Duryea and Hermansen 2002). These are but a few of the management challenges that natural resource managers currently face.

Natural resource professionals must be equipped with adaptive management techniques and communication skills to address a diverse public. They must also better understand and influence public policies related to natural resources. The USDA Forest Service, Southern Center for Wildland-Urban Interface Research and Information (Center) was established in 2002 in Gainesville, FL (in partnership with the Southern Group of State Foresters and the University of Florida) to address these and other concerns related to human influences on forest ecosystems in the Southern United States. The mission of the Center is to develop and communicate guidelines, models, and tools needed by natural resource managers, policymakers, planners, and citizens to reduce risks to ecosystems and human communities in urban and urbanizing landscapes.

Though the initial focus is on the exchange of information and research to address fire issues in the interface, the Center will expand in future years to address other identified concerns. The Center currently uses several methods for disseminating and exchanging new and existing information about current interface issues and is involved in several fire research projects.

The Center's website, InterfaceSouth.org, serves as a clearinghouse of interface information and promotes dialogue about and heightens awareness of interface issues. Key sections of [InterfaceSouth](http://InterfaceSouth.org) include: (1) WUI Literature Database; (2) Upcoming WUI Events; (3) Current WUI news articles; (4) Fire Research; and much more.

The Southern Wildland-Urban Interface Network (SWUINET) is an electronic mailing list that the Center employs to distribute and facilitate the exchange of interface information. Instructions for joining SWUINET can be found on [InterfaceSouth](http://InterfaceSouth.org). The [InterfaceSouth](http://InterfaceSouth.org) Update is distributed bi-weekly through SWUINET and highlights current research, events, websites, news articles, and literature on selected interface topics.

A wildland-urban interface fire research project titled "Assessing and Mitigating Fire Risk for Landowners in the Southern Wildland-Urban Interface" is being conducted through a cooperative agreement with the School of Forest Resources and Conservation, at the University of Florida. The primary goal of this project is to develop detailed guidelines that provide southern landowners with the ability to assess their particular risk of fire and to evaluate the various options they can use to mitigate such risk. As part of this project, a "Fire in the Interface" extension fact sheet series is in development. Several are already available and can be found on EDIS, of Florida Cooperative Extension's electronic data information source (edis.ifas.ufl.edu, under "Natural Resources and the Environment"). Brochures, fact sheets, and technical bulletins on other interface topics are also being developed through the Center.

Several other resources are in various stages of development. One of these is a book titled, "Forest Management and Urbanization: The Wildland-Urban Interface", which will be a useful resource guide for state and federal forestry and natural resource agency personnel, urban foresters, arborists, horticulturists, industry and consulting foresters, public parks and recreation personnel and, state, county and city planners. Its primary purpose is to provide information and tools for managers to enhance natural resource management and to participate in planning and policy-making for the WUI. The book is organized by the University of Florida (edited by Susan Vince and Mary Duryea) and will be published by CRC Press in 2004.

Another important resource being developed through a partnership with the University of Florida and other southern universities is a wildland-urban interface professional development program. The program will consist of a series of flexible modules that can be adapted locally and can be implemented in a variety of ways. Module topics include: (1) Introduction to natural resource issues and concerns in the wildland urban interface; (2) Resource management techniques appropriate to interface forests; (3) Knowing, communicating, and working with interface dwellers; and (4) Processes for influencing local land use policy. This professional development program will be useful for a variety of natural resource agencies, including state forestry agencies, fish and wildlife agencies, and many more. It will include all the tools needed for a natural resource agency to successfully implement an in-service training for field resource staff.

New approaches are needed to address issues related to land use change and resulting consequences on forest ecosystems. The Southern Center for Wildland-Urban Interface Research and Information is adopting several approaches to disseminate new and existing information to help natural resource professionals, landowners, policymakers and others with interface issues. Though the focus of the Center is on the Southern Region, the resources being developed can be adapted to a much wider audience.

Footnotes

¹ The Southern Wildland-Urban Interface Council (SWUIC) serves as the advisory council for the Center. The Council is composed of members from State Forestry Agencies, the USDA Forest Service, Academia, Cooperative Extension, and non-government organizations. The objectives of SWUIC are to: (1) assist the Center by identifying emerging WUI issues and by advising research and information needs; (2) serve as a liaison to the States for the delivery of tech transfer products; (3) assist the Center in planning education and tech transfer activities; and (4) identify and communicate the needs of other stakeholders.

References

- Duryea, M.D., L.A. Hermansen, 2002. Challenges to forest resource management and conservation. In Human Influences on Forest Ecosystems: The Southern Wildland-Urban Interface Assessment, E. Macie, L.A. Hermansen (eds.), Asheville, North Carolina, U.S. Department of Agriculture, Forest Service, Southern Research Station, General Technical Report SRS-55, pp. 93-113.
- Macie, E.A., and L.A. Hermansen, 2002. Human influences on forest ecosystems: The southern wildland-urban interface assessment, Asheville, North Carolina, U.S. Department of Agriculture, Forest Service, Southern Research Station, General Technical Report SRS-55. 160 p.
- Monroe, M.C., A.W. Bowers, L.A. Hermansen, 2003. The moving edge: perspectives on the southern interface, southern wildland-urban interface assessment focus group report. Asheville, NC: U.S. Department of Agriculture, Forest service, Southern Research Station, General Technical Report SRS-63, 35 p.
- Zipperer, W., 2002. Urban influences on forest ecosystems. In Human Influences on Forest Ecosystems: The Southern Wildland-Urban Interface Assessment, E. Macie, L.A. Hermansen (eds.), Asheville, North Carolina, U.S. Department of Agriculture, Forest Service, Southern Research Station, General Technical Report SRS-55, pp. 73-91.