REACHING OUT: DEVELOPING A VIDEO SCRIPT FOR NATURAL RESOURCE MANAGERS TO USE WITH RESIDENTS IN THE WILDLAND-URBAN INTERFACE

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A TECHNICAL REPORT PRESENTED TO THE SCHOOL OF FOREST RESOURCES AND CONSERVATION IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF FOREST RESOURCES AND CONSERVATION

UNIVERSITY OF FLORIDA

DECEMBER, 2004

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ACKNOWLEDGEMENTS

I would like to thank my committee members, Annie Hermansen-Baéz and Dr. Ricky Telg for their guidance and support. I would especially like to thank my committee chair, Dr. Martha Monroe for her patient and thoughtful assistance with this project. She is the kind of mentor most students wish for.

I would also like to thank my parents for their encouragement and unwavering belief in me. I thank my husband for his support, sacrifices, and late-night pep talks. And finally thanks to all the other family members, friends, and colleagues for their love and encouragement along the way.

Abstract of Technical Report Presented to the School
of Forest Resources and Conservation in Partial Fulfillment of the
Requirements for the Degree of Master of Forest Resources and Conservation

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DECEMBER, 2004

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Population growth and changing land use preferences in the southern United States are impacting natural resources in the wildland-urban interface. A series of focus groups of interface communities in the South identified challenges, opportunities, and needs relating to natural resources in the southern interface. Natural resource managers need new skills to effectively respond to interface challenges. Interface resident cooperation is also necessary for effective resource management across multiple jurisdictions and property lines. The Wildland-Urban Interface Professional Development Program aims to help managers enhance their skills to respond to interface challenges. A video will be included to serve both as an outreach tool for managers to use with interface residents and also as an introduction to interface issues for participants in the training program. This technical project includes the script, trainer instructions, discussion questions, and evaluation forms for the video. This report defines and describes the wildland-urban interface, discusses advantages of video as a tool for training and education programs, and explains what makes an effective video. Principles from the Elaboration Likelihood Model, Social Marketing, Reasonable Person Model, and Theory

of Planned Behavior were used in the video script's development to facilitate increased manager-resident cooperation. The professional development program and video aim to improve environmental quality in the wildland-urban interface by facilitating resident-manager cooperation and providing resource managers with the skills they need to communicate and manage natural resources effectively in the wildland-urban interface.

Technical Report

Introduction

The roles of natural resource managers are rapidly expanding and changing (Hermansen and Macie 2002; Monroe, Bowers, Hermansen 2003). In the dynamic and challenging wildland-urban interface, managers are in need of new skills to enable them to address complex issues. In the interest of effective management and protection of natural resources, informed and forward-thinking policy and planning decisions, and the education and cooperation of the public, it is essential that managers receive the information and training they need. The Wildland-Urban Interface Professional Development Program is assisting resource agencies in addressing these needs in the South.

In 1998 severe wildfires in Florida demonstrated the complexities of natural resource management in the wildland-urban interface. Following these fires, the Chief of the USDA Forest Service declared the wildland-urban interface as one of the major challenges facing the Forest Service in the southern United States (Roussopoulos 2002). In the summer of 2000 a series of focus groups was conducted in six wildland-urban interface communities across the southern U.S. The focus groups were part of the Southern Wildland-Urban Interface Assessment which aimed to better understand common dimensions to interface issues, challenges, opportunities, as well as research and program needs (Monroe et al. 2003). Participants included Federal and State agency staff, public officials, community and transportation planners, educators, extension agents, and other stakeholders. The focus groups revealed that natural resource managers feel hindered and sometimes helpless when addressing issues created by rapidly changing

land use in the interface (Hermansen and Macie 2002). Because population and development pressures are increasing in the South and there is less publicly managed land than in the West, natural resource managers often play a different role in interface land and resource management than in other regions. Managers often work across multiple properties and jurisdictions, and must communicate with a variety of stakeholders to effectively manage resources in the interface. The issues and needs identified in the Wildland-Urban Interface Assessment prompted the development of the Wildland-Urban Interface Professional Development Program.

The Wildland-Urban Interface Professional Development Program is the collaborative effort of the School of Forest Resources and Conservation of the University of Florida, the Southern Research Station of the United States Department of Agriculture Forest Service, and the Southern Group of State Foresters. It is designed to help resource managers develop the skills necessary to address complex interface issues, communicate with interface residents, effectively manage natural resources in the interface, and assist with local policy-making and community planning decisions. The program targets 13 Southern states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Tennessee, Texas, South Carolina, and Virginia. The program is comprised of four modules that each include trainer information, power point presentations, fact sheets, case studies, exercises, additional resources, and evaluation tools. Module One provides an overview of the wildland-urban interface, key issues, and the interrelatedness and complexities of these issues. Module Two builds communication skills, describes methods for identifying the needs, values, and objectives of interface stakeholders, and addresses special considerations for communicating with a diverse

interface audience. Module Three covers environmental and land use policy relevant to the interface, community planning, and strategies for becoming a part of the policy-making process. Module Four illustrates techniques for managing natural resources in the dynamic interface, particularly for fostering forest health while meeting a variety of landowner objectives.

During a February 2003 meeting of the Southern Wildland-Urban Interface Council, members discussed the training program and recommended developing the training program and including with it a 15-minute video to introduce the wildland-urban interface and related issues. Participants of a program stakeholder meeting in November, 2003 reinforced the need for a video and suggested it serve both as an introduction to the interface for trainees and also as an outreach tool for resource managers to use with interface residents. The video component's specific goals are to increase overall understanding of the wildland-urban interface, the interconnectedness of its related issues, and how residents and natural resource managers can work together to address these issues. This technical project is the development of the script and ancillary materials for the Wildland-Urban Interface Professional Development Program video. To better appreciate the need for the program and video it is important to understand characteristics of the wildland-urban interface and how interface issues can create complex management challenges.

Defining the Interface

The wildland-urban interface, also labeled the "rural-urban interface," the "residential-wildland interface," the "urban/forest interface," may be defined using many different parameters (Lee 1984, Vaux 1982). Geographical and spatial qualities, vegetative and

ecological features, human population and housing densities, or socio-political characteristics have been used to define the interface (Hermansen 2002; Radeloff et al. 2004; Vaux 1982). The interface can also be defined specifically from a wildfire perspective, characterizing how vegetation and development in the interface make preventing and controlling wildfires extremely challenging. The interface can consist of scattered, isolated structures surrounded by vast areas of vegetation or can be the result of sprawling urban and suburban development creeping into undeveloped natural communities (Hermansen and Macie 2002). The interface has also been characterized as a natural resource "ecotone," serving as a transition strip between urban and natural communities, containing attributes of both as well as its own unique qualities (Ewert 1991). Finally, the interface can refer to an area where increased human influence and land use conversion, especially new residential development, presses against public and private wildlands and consequently impacts natural resource goods, services, and management (Hughs 1987; Hermansen and Macie 2002).

The Growing Interface

The wildland-urban interface is growing and changing at an astounding rate. One major reason for this is population increase. Between 1970 and 1990, the U.S. population grew by 22.5 percent and 21 million acres were converted to urban land uses (Garkovich 2000). In April 2000, the U.S. population was more than 281 million with over 91 million living in the 13 Southern states (U.S. Department of Commerce, Bureau of the Census 2000). Changes in population are driven by three factors: birth rates, death rates, and migration rates. The overall estimated birth rate in the South in 2000 was 16.5 people per

1,000 per year, while the death rate was 10.2, resulting in a natural increase of 6.3 people per 1,000 per year. That led to a natural increase of about 600,000 people in the southern population that year (U.S. Department of Commerce, Bureau of the Census 2000).

Within the South, migration includes international legal and illegal immigration as well as migration from other U.S. states. Net immigration between 1981 and 1990 in the U.S. was over 5.7 million (U.S. Department of Commerce, Bureau of the Census 1992). Illegal immigration is estimated to be over 1 million per year. Florida, with the third highest immigration rate in the country, became home to 357,000 legal immigrants between January 2000 and March 2002 (Bouvier, Leonard, and Martin 1995). Migration to the South from other parts of the U.S. is also a significant source of population change. Between 1995 and 2000 a net population increase of about 1.8 million occurred in the South due to migration from other regions (U.S. Department of Commerce, Bureau of the Census 2003). Increases from migration are typically concentrated in and around metropolitan areas such as Miami FL, Houston TX, and Atlanta GA adding to development pressures that can lead to increased development in the wildland-urban interface (Hermansen and Macie 2002).

The changing demographics of the growing southern population also play a factor in interface growth. Increasing diversity brings with it a variety of land use preferences, needs, and values. Between 1980 and 1990 the South experienced a 25.7 percent increase in residents over 65 (Woods and Poole Economics, Incorporated 1997). Many of these older Americans are retirees in search of second homes, retirement communities, and recreational facilities such as golf courses, which require large tracts of land and use natural resources (Woods and Poole Economics, Incorporated 1997). Increases in racial

and ethnic diversity are also occurring in southern populations. European Americans are becoming a smaller percentage of the total population (Cordell and Macie 2002). By 2020 Hispanic American populations are predicted to make up about 16.2 percent of the population, African American populations 19.5 percent, and Asian American and others around 3 percent (Woods and Poole Economics, Incorporated 1997). The values and preferred uses for southern forests and other natural resources differ among various ethnic groups (Cordell and Macie 2002.). These differences will continue to be reflected in public opinions that influence natural resource management and protection. Communicating with an increasingly diverse public, whether in terms of age, ethnicity, or other factors such as language, literacy, or disability, requires special skills and attention from natural resource managers.

Many people are choosing to move to rural areas for a variety of reasons. Some want to take advantage of less expensive land and houses in rural areas, others want less crime and more privacy, some want to be closer to natural areas, others want land to pass on to their children. Many people simply want larger parcels land and bigger houses than they can have in urban areas. These preferences drive development that contributes to interface expansion. Between 1992 and 1997, almost 16 million acres of rural land were converted to urban uses across the country, with a significant portion of conversion occurring in the South (Woods and Poole Economics, Incorporated 1997). The South is predicted to lose 12 million forest acres to development between 1992 and 2020. Another 19 million forest acres are expected to be developed between 2020 and 2040 (Wear 2002). These trends are not likely to change; between 2000 and 2020, the population of the southern U.S. is expected to increase by 23.8 million. Population growth drives urban

expansion and consumer demand drives changes in land use; both contribute to the expanding interface. It is essential that natural resource managers be equipped to respond to the new demands of their professions brought about by these changes. The Wildland-Urban Interface Professional Development Program and corresponding video will help respond to these new needs.

Interface Issues

Because of its dynamic and unique characteristics, resource management in the wildland-urban interface increasingly requires an understanding of changing land cover, economic, cultural, social, political, and historical factors that influence the area (Webb and Gering, 2002). The mix of land use, cultures, values, objectives, infrastructure, laws and jurisdictions that occurs in the interface can easily lead to conflict. Resource managers, policymakers, and residents are frequently faced with addressing such conflicts.

Many natural resource issues that commonly occur in purely urban or natural areas become more complex in the wildand-urban interface. For example wildfire, the most commonly mentioned interface issue, is considerably more difficult to manage in the interface than in undeveloped areas. Fire is suppressed near human development, even in fire-dependent ecosystems, removing the natural processes of disturbance, and fuel control. Build-up of vegetative fuels can create much larger and more intense fires when they occur, jeopardizing the health and safety of the forest ecosystem, wildlife, and interface dwellers (Monroe 2002). In the interface, houses are often scattered throughout forested areas and almost every fire that occurs threatens human safety and property and

becomes a major emergency (Monroe 2002). When fires get out of control, firefighters are forced to make split-second decisions about what is most important to save. In undeveloped forests it is much easier to protect natural resources but in interface areas, protecting people's safety and property are top priority.

Ecological issues are often exacerbated in the interface because development can fragment forests and increase their exposure to disturbance. Forest fragmentation occurs when connected forested tracts are broken into smaller and less connected pieces, usually by human development (Southern Forest Resource Assessment 2001). Fragmentation negatively affects native biodiversity by reducing suitable habitat, changing microclimates, and isolating existing populations (Noss and Csuti 1994; Saunders, Hobbs, and Margules 1991). Reduction in habitat can lead to frustrating and dangerous interactions between humans and wildlife. Animals grazing on landscape plants, rummaging through garbage, and nesting in attics are seldom welcome. Fragmentation also exposes forest edges to greater wind turbulence, drier site conditions, increased parasitism and predation, increased light penetration, and greater temperature fluctuation (Zipperer 2002). Residents who move into the interface may introduce domestic animals or non-native invasive plants that can harm wildlife and out-compete native plants.

Human influence in the wildand-urban interface can also affect water. Watersheds may be vulnerable to pollution hazards because of residential or commercial chemical use, illegal dumping, or leaking septic tanks. Increasing demands for water from interface development also may threaten the water supply and lead to shortages that impact humans, wildlife, and ecosystems.

Interface development often contributes to urban sprawl because it eventually requires new infrastructure such as roads, schools, fire departments, and power lines. It also increases the use of automobiles. For example, between 1987 and 1997 the number of miles per driver increased by more than 60 percent in Virginia (Southern Environmental Law Center 1999). Automobile use threatens wildlife safety and produces air pollutants that can injure plant tissue, reduce forest productivity, and make forest systems vulnerable to other stresses. Roads and other paved surfaces also lead to increased run-off, decreased infiltration, and altered flood regimes (Zipperer 2002).

One of the most significant characteristics of interface issues is that they are interconnected. This interconnectedness can make natural resource more complex and challenging. For instance, non-native invasive plants can out-compete native plants that wildlife depend on for food. Water shortages and drought conditions can increase the likelihood of fires and make them harder to control. Forest fragmentation can expose forests to non-native invasive plants and disease. As one interface problem grows it can create or worsen others.

The mixing of values, objectives, and cultures can sometimes result in conflict. For instance, when subdivisions, public lands, farms, and timber operations become neighbors in the interface, conflicts frequently arise. People who move to the interface have certain expectations of what their new life will be like. They imagine a quiet existence with privacy, beautiful vistas, and fresh air. If their land borders a chicken farm, interface life fails to meet their expectations. Noise, odors, and other side-effects of certain rural land uses may displease new interface residents and lead to arguments and even litigation. Conflicts can also arise when rural land prices and property taxes increase

as new development crowds older farms and homes. Farmers may be forced to sell their land if property taxes increase dramatically. New development next to public lands creates special challenges for managers; prescribed burning, plant, animal, and disease control, or forest thinning can be difficult or even impossible if homeowners disapprove.

Another common characteristic of natural resources issues in the wildland-urban interface is that they can be more complex than those in strictly rural or urban areas. Southern urban communities are often fast-growing with dense human populations and less wildlife or forested areas. Rural communities are typically slower-growing, and have more undeveloped land, protected areas, agriculture, and forestry. The wildland-urban interface represents a zone where urban and rural qualities, activities, and objectives overlap and sometimes clash. People move to the interface to enjoy the very conditions their collective impact threatens to deplete. Human needs and land-use objectives must be balanced with what is required to maintain healthy forest systems, watersheds, and wildlife populations. Ignoring any of these needs will ultimately impact human health and well-being. Understanding these challenges and their connections will help natural resource managers and interface residents begin to form strategies for dealing with them. Just as most interface problems are interrelated, so are their solutions. Communicating these connections, providing examples, and illustrating success stories is an important aspect of understanding and addressing challenges. Video is a useful tool for communicating these ideas. The video will be included in Module One of the Wildland-Urban Interface Professional Development Program. Information is provided for trainers about how they can introduce and use the video (see Appendix E).

Benefits of Video

Video provides a relatively inexpensive way to disseminate consistent information to large audiences. It can be an interesting and even entertaining way to communicate ideas. It also allows for the use of text and graphics to help emphasize and clarify ideas, and footage and photos that provide examples. Once a video is made it can be reproduced inexpensively and even converted to a digital format to be edited, to add subtitles, or to be posted on the internet (Telg 2004). These advantages make video an attractive medium for the Wildland-Urban Interface Professional Development Program. In outreach efforts, managers can combine the video with personal delivery of a program, encouraging discussion and answering questions. Discussion questions will be included to facilitate manager-resident conversation.

Script Development

The first step in developing a video script is defining the audience. This video has one principal target audience, but two general purposes. The target audience is residents living in the interface, however the video is also intended to introduce natural resource managers to basic interface issues. While the video's main purpose is as an outreach tool for natural resource managers working with interface residents, it also serves as an introduction to interface issues for managers participating in the wildland-urban interface professional development program and helps lay the foundation for material in the rest of the program. While some managers have extensive experience with interface issues, many do not and the video serves as a gateway to the program. Many managers focus only on fire as an interface issue and the video will help broaden their perspectives of

interface issues. Writing for one main audience, but two purposes was a challenge. The narration in the video script is directed towards interface residents. This helps engage them and makes the information personally relevant, which is important when communicating behavior change ideas. This will be discussed in a later section. It also made sense to focus the narration on residents because the video will be used primarily for outreach purposes. Managers will be able to understand and process the content of the video regardless of who the narrator speaks to. They will also be aware of the video's purpose as an outreach tool when they watch it. Directing the video to residents also provides managers with a model of how to talk to residents and explain issues effectively.

The second step in developing a video script is to define the objectives of the video (Telg 2003a). The objectives of this video are to 1) briefly define and describe the wildland-urban interface, 2) provide examples of interface issues and how they are interconnected, 3) explain how these interconnections provide unique challenges and opportunities for natural resource managers, 4) describe how solutions to interface problems share connections too, and 5) encourage manager-resident cooperation.

The objectives were used to develop an outline and determine video content. A draft video script was written and sent to my masters advisory committee for feedback. The committee's suggestions were incorporated and case studies from southern states were added. In the summer of 2004 the U.S. Fish and Wildlife Service came on as a partner for the video project and agreed to help shoot and produce the video. A revised draft script was sent to various stakeholders including the professional development program committee members, Southern Wildland-Urban Interface Council members, the U.S. Fish and Wildlife Service, and other people with interface or video script-writing

background. Stakeholders recommended that the video include footage that visually represents all 13 southern states. They also wanted the video to describe common issues found throughout the South while empowering the audience to act. The stakeholders' feedback was incorporated into the most recent version of the script (see Appendix A) and shooting and production are planned for Spring 2005. Changes may be made to the script as production progresses.

Content

The interface video script generally follows the defined objectives and provides examples of challenges and approaches in the South. It defines and describes the wildland-urban interface. It discusses interface issues including wildfire, forest and habitat fragmentation, non-native invasive plants, human-wildlife conflicts, and water quality and quantity issues. It illustrates the interconnections of these interface issues. It discusses possible solutions and their potential to ameliorate other interface problems. The script features several interviews with natural resource managers and extension agents describing issues and opportunities from their southern interface communities. The script also emphasizes the importance of partnerships between interface residents and managers in protecting natural resources and quality of life in the interface. Main points are listed and reviewed and additional resources for more information are provided. The content is as thorough and technical as possible without sacrificing conversational style and clarity.

Characteristics of an Effective Video Script

The structure of a video script is similar to the standard keyhole essay format with an introduction, a body, and a conclusion or the familiar instructional formula: “Tell the audience what you are going to tell them, tell them, and tell them what you told them” (Telg 2003a). The introduction attracts the audience’s attention and prepares them for what is coming, the body presents the information to the audience, and the conclusion summarizes the content of the body and leaves the viewers with emphasis on the take-home message. Video scripts are usually written in a two-column format with descriptions of visual content in the left column and audio in the right (Telg 2003b).

Video scripts differ from other writing styles in several ways. They are designed to be heard, not read, and therefore must be conversational, simple, and concise (Telg 2003a). The script should emphasize the video’s visual components and generally refer to one image or idea per sentence. Language ought to be natural and familiar; jargon should be avoided. Reading the script aloud during its development is helpful. Information included ought to be specific, clear, and accurate (Telg 2000a). Content should flow smoothly from one idea to another with appropriate transitions. The pace of the video ought to be brisk enough to maintain audience interest and involvement, yet sufficient time must be provided to allow them to absorb the information presented. Pace refers to the speed, timing, or rhythm as perceived by the audience (Telg 2003c).

There are other considerations to think about when developing a video. For instance, will the narrator be onscreen or off? Will interviews be included? What are the audience members’ interests? How long can audience attention be maintained? What roles will onscreen text, music and special effects play (Telg 2003d)? For this video script we decided to use an off-screen narrator to reduce costs and increase flexibility of

shooting time and location. Interviews are used throughout the script to provide examples that managers and residents can relate to, depict social norms, establish credibility and broaden the perceived relevance of the content. Questions were developed to guide the information provided by interviewees, but to avoid the need for an onscreen narrator the video will only feature interviewee responses (see Appendix B). Music and natural sounds are included to indicate transitions and create interest and variety. Graphics and text are used to emphasize important points within the body of the video (Telg 2003b).

Once the script is finished, pre-shot video footage can be compiled, interviews and other footage can be shot, narration recorded, footage edited, stakeholder approval obtained, and the final product duplicated for distribution. The script will help define what footage is needed. The video will most likely be shot in Betacam SP because it is high quality and can be reproduced without significant loss in quality (Telg 2003d). The video can also be converted into digital format in the future to be posted on the Internet. Typically, video production costs run between $1,000 and $1,500 per finished minute of video (Telg 2003d). Creating a video is a time-consuming process with many steps. Developing a clear and interesting script is essential for defining what footage will be needed and for producing an effective video product.

Theories and Models

Part of the video's purpose is to elicit behavior changes from both resource managers and residents. Some natural resource managers have limited interaction with residents, others are used to working with longtime interface dwellers and have trouble communicating with newer residents. The video aims to facilitate communication that

will lead to partnerships between managers and residents. The video script is also designed to introduce interface residents to some simple actions they can take to reduce resource problems. The intent is not to get residents to adopt all of the specific behaviors discussed in the video, or feel guilty if they do not, but rather to introduce the information and encourage conversation about possible approaches. The video will also serve as a foundation for the follow-up presentation of skill-building, procedural information and encouraging additional discussion (see Appendices C and D). The intended behavior change for both managers and residents is increased manager-resident communication and cooperation which will open the door for additional positive interactions. With this in mind, behavior change theories from social and educational psychology and conservation behavior studies were incorporated into the script's design.

When communicating with any audience a few principles for effective communication hold true. It is vital to know the audience. The message must be tailored to the audience's knowledge-level, cultural climate, age, available resources, values and attitudes. The video script includes plans for footage of a diverse range of interface residents and resident activities from a variety of southern communities. It also includes resource managers with different responsibilities, concerns, and experiences. These features are intended to help viewers from both audiences relate to what is going on in the video and consider the message to be personally relevant.

The message should be attention-grabbing and accompanied by appealing, interesting audio-visual qualities. The video features attractive footage of natural settings, activity, music, and graphics. The goal is to keep the audience's attention long enough to present the message and to make the message memorable (Nickerson 2003).

The information provided needs to be clear and credible and complex principles must be simplified without reducing accuracy (Nehiley 2000). The use of expert interviews in the video script helps establish credibility. It was challenging to keep the content simple enough for residents to grasp, yet thorough enough to be technically accurate, interesting, and useful for resource managers. The script uses clear, truthful concepts described in plain, conversational language.

Several behavior change models and theories were used in the development of the video script. The Elaboration Likelihood Model describes two ways for audience members to evaluate a persuasive message and suggests an approach for achieving more lasting attitude and behavior change. The Social Marketing Theory discusses the importance of identifying barriers and benefits, demonstrating norms, and using effective communication techniques in behavior change programs. The Reasonable Person Model emphasizes that people tend to be more reasonable and cooperative when their informational needs are met. It also suggests that programs must appeal to self-interest in order to be effective and that people like to be involved in choosing their own solutions to problems. The Theory of Planned Behavior discusses the importance of people's attitudes, subjective norms, and perceived behavioral control in determining their behavior. These behavior change models and theories were incorporated into the video script to make it more effective in fostering manger-resident partnerships.

Elaboration Likelihood Model

The Elaboration Likelihood Model is a behavior change theory that provides insight for developing an effective video script. This model suggests that behavior is

influenced by attitudes and that persuasive messages can affect these attitudes. In order for a behavior change program to be successful it must be persuasive (Petty and Cacioppo 1986a and 1986b). The model describes the two routes to persuasion as the central route and the peripheral route. Persuasion that occurs in the central route requires cognitive effort where a person uses prior experience or knowledge to carefully evaluate new information. Audience members who are motivated and able to pay attention may make conscious decisions about the information using the central route. This can result in permanent attitude change (Petty and Cacioppo 1986a and 1986b). Persuasion via the peripheral route involves much less cognitive effort and attitude change is triggered by simple cues. Audience members who are not engaged in the logical evaluation of the persuasive message, but instead are swayed because they like the narrator's voice or attractive forest scenes are receiving messages through their peripheral route. Attitude changes as a result are usual temporary (Petty and Cacioppo 1986a and 1986b). The video script includes information that is personally relevant to its audience members because these types of information are more likely to persuade via the central route. The video script also attempts to capture the audience's attention by using onscreen text and graphics. By engaging the audience and trying to use the central route of persuasion the video may be able to affect the audience's attitudes, and contribute to appropriate behavior.

Social Marketing

McKenzie-Mohr and Smith (1999) suggest that identifying barriers and benefits for desired behaviors are key steps in fostering behavior change. Barriers may be internal

such as the lack of motivation or knowledge, or external, such as the lack of supporting infrastructure. The video script aims to reduce the audience's lack of knowledge. To address this barrier, it supplies basic information about interface issues, connections, solutions, and available support often through examples of communication where problems have been resolved. While knowledge alone does not change behavior, it is one prerequisite for behavior change. The information provided will help residents and resource managers understand the importance of working together to address problems in the interface. It will also increase resident awareness that support is available. The evaluations and discussion questions for both resource managers and residents aim to gain more information about the barriers that prevent manager-resident cooperation (see Appendices C, D, F and G). The video script also identifies some of the benefits of manager-resident partnerships. For residents, benefits include access to skill-based information, expert management advice, and enhanced quality of life. Benefits for managers, although conveyed more explicitly in other parts of the professional development program, include increased resident tolerance and cooperation with management activities, opportunities for communication with and education of residents, and greater influence on how land is managed throughout the interface.

Social marketing also emphasizes the importance of norms; social standards that help define acceptable behavior (McKenzie-Mohr and Smith 1999). Norms are illustrated in the video script by featuring resource managers and residents engaging in communication and partnership-building, thereby supporting the idea that it is socially acceptable. Norms provide boundaries for human behavior by supporting and encouraging certain actions while discouraging others. Including examples of people and

communities who are working together successfully to address similar problems provides hope and inspiration for the audience. If the audience sees other interface residents participating in certain behaviors that improve natural resource conditions in the interface, they are more likely to mirror those behaviors (McKenzie-Mohr and Smith 1999). In both the natural resource manager trainings and resident outreach programs the video will be shown in group settings, typically followed by discussion. These forums will further build supportive norms.

How behavior change messages are communicated is also important. The Social marketing recommends using captivating information, knowing the audience, using a credible source, and emphasizing personal contact (McKenzie-Mohr and Smith). Furthermore, it must be decided whether using a one-sided or two-sided message will be more effective. A one-sided message focuses on one perspective of an issue, while a two-sided message shows two perspectives on the same issue. For instance, a one-sided message might emphasize the benefits of an issue or behavior while a two-sided message would show its positive and negative aspects. One-sided messages are typically more persuasive with audiences who know little or nothing about the subject. As knowledge becomes more enhanced, however, two-sided messages become more convincing (McKenzie-Mohr and Smith 1999). To effectively communicate its message, the video script includes captivating information that is relevant and useful to the audience. There is a defined audience, although again, specific challenges come with developing a dual-purpose script. Natural resource managers from federal and state agencies are interviewed in the video to help establish credibility. Finally, personal contact is highly encouraged by the video and the professional development program. It is anticipated that natural

resource mangers will use the video as part of outreach programs, increasing opportunities for behavior change.

In deciding whether to use a one-sided or two-sided message, audience background knowledge was considered. Since the video is designed to be an introduction to interface issues and the audience is expected to have little or no understanding of the subjects, a one-sided message is appropriate in most cases. For instance, there is little value in presenting the arguments for and against water conservation. Although information in the script is intended to be unbiased and accurate, two-sided arguments in cases like this can confuse or overwhelm the audience. A two-sided argument was selected, however, for discussing wildlife issues. The script suggests that while it is important to protect wildlife habitat in the interface, human-wildlife conflicts can arise that must be mitigated. In this example, interface residents are likely to be familiar with both the importance of wildlife habitat, and the risks associated with sharing one's backyard with wildlife, making a two-sided message more clear and persuasive.

Reasonable Person Model

Kaplan (2000) suggests that people are naturally curious beings who are driven to understand what is going on around them and to avoid feeling confused and helpless. He states that people are more reasonable, cooperative, helpful, and satisfied when their basic informational needs are supported. The video script aims to present clear, truthful information that will empower the audience and foster cooperation in addressing problems that directly affect them. These ideas are presented as life-enhancing, not as requiring sacrifice or altruism. Behavior change programs must appeal to the audience's

self-interest in order to be effective. The idea that the proposed behaviors provide no direct benefit to participants leads people to believe that it reduces quality of life (Kaplan 2000). In the video script behaviors that protect and maintain natural resources in the interface are linked with increased quality of life to appeal to audience self-interest. If cooperative efforts to protect natural resources in the interface are seen as life-enhancing, rather than self-denying, people will have more positive perceptions of the suggested changes.

The Reasonable Person Model also suggests that people prefer learning new information at their own pace and choosing their own solutions to problems affecting them (Kaplan 2000). The video script presents an introduction to new information at a moderate pace, but also encourages residents to continue learning more from local natural resource managers on their own. By illustrating the interconnectedness of interface problems and solutions, residents and managers see that there are many approaches they can take to improve natural resource conditions in the interface.

Theory of Planned Behavior

Ajzen (1985) suggests that a person's behavior is determined by their intention. Intentions are formed by three factors: attitudes, subjective norms, and perceived behavioral control (Ajzen 1985). Attitudes define how much a person values, positively or negatively, performing a given behavior. Subjective norms are the perceived social pressures to perform or not perform a behavior. They are usually based on norms established by people whose opinion is important to an individual. For instance, if a person cares about a friend's opinions and that friend insists that driving a hybrid car is

the only right thing to do, the individual is more likely to drive a hybrid car. Perceived behavioral control is a person's perception of his or her ability to perform a certain behavior (Ajzen 1985). For example, if someone demonstrates how to build and use a compost bin, onlookers may feel more capable of doing it themselves, thereby increasing their perceived behavioral control. These concepts were considered during video script development.

The video script's emphasis on the benefits of the desired behaviors, such as increase quality of life, attempts to foster a positive attitude toward the behaviors. The video script models manager-resident communication and cooperation as constructive, creating positive attitudes towards the behavior.

Since subjective norms may be different for each person, they are difficult to address. It is safe to say that natural resource managers probably value what their employers care about. As part of a regional professional development program, the video will be approved by agency leaders, establishing subjective norms for resource mangers. Agency support will be needed to facilitate change in behavior. Pressure from neighbors to participate may also help establish subjective norms for residents, although not all homeowners care about what their neighbors think. Ajzen states "people intend to perform a behavior when they evaluate it positively and when they believe that important others think they should perform it" (Ajzen 1985). The video script aims to create these perceptions of manager-resident communication and cooperation.

Finally, the video script addresses perceived behavioral control by providing information about how residents and natural resource managers can reduce problems in the interface. By including success stories it demonstrates that the behavior can

accomplish what it intends to. The video script speaks to managers and residents from a variety of backgrounds and perspectives and provides a range of ideas that may be adjusted and re-invented to meet the needs of various people and communities. By providing information and resources for skill-building and support, the video script aims to increase perceived behavioral control for managers and residents and build the confidence needed for action. Although the video and training program emphasize the importance of manager support in interface communities, it cannot ensure it. Agency history, supervisor priorities, local government and community support are external factors that could influence success.

Evaluation

Evaluation forms were developed for manager program participants and interface residents to allow them to comment about the video's effectiveness and usefulness, audience perceptions and misconceptions of interface issues, barriers to manager-resident cooperation, and intended future manager use of the video. Both evaluations forms are short because time in both settings may be limited and the most important feedback will likely result from group discussions in both cases. Resident evaluation response data may be used by agencies to improve education programs and address barriers to manager-resident partnerships. Program developers from the U.S. Forest Service and the University of Florida will review response data from participants in the Professional Development Program to determine the video's effectiveness and plan future improvements.

Summary

The wildland-urban interface is a dynamic area where changes in land use and human influences are having new impacts on natural resources. Population growth and demographic and land use changes in the South are affecting development trends and natural resource use. The roles of natural resource managers who work in the wildland-urban interface are rapidly changing and expanding. Resource managers need new information and skills to enable them to effectively communicate with interface residents, work with community planners and policy makers, and assess and manage natural resources in the interface. The Wildland-Urban Interface Professional Development Program aims to provide these skills and information. The video component of the program will serve as an introduction to interface issues for participants and as an outreach tool for mangers to use with interface residents. Video is a valuable educational tool because it is flexible yet stable and can provide the foundation for effective manager-resident discussion.

The video needs to communicate a variety of keys points including interface characteristics, issues, and the interconnectedness of issues and solutions. Footage that depicts each of the 13 southern states needs to be included in the video. It also needs to convey a sense of empowerment by providing examples of how natural resource managers and interface residents have successfully tackled problems in the interface. An effective video must be organized, conversational, and clear and in order to be part of a successful behavior change program and must be designed with consideration to behavior change theory. The video script was developed with these criteria in mind. A well-developed video can be a valuable tool for communicating ideas and stimulating

discussion. A thoughtfully prepared video script provides a solid foundation for the production of an effective video.

Appendix A: Wildland-Urban Interface Video Script

Wildland-Urban Interface Video Script		
	Graphics	**Script**
1	FADE UP TO EXTERIOR OF ATTRACTIVE WUI HOUSE PEOPLE RECREATING CHILDREN PLAYING HOME NEAR A FARMHOUSE	BIRDS SINGING UNDER NARRATOR: Ah, the peaceful country life – away from the hustle and bustle of the city. It's your own little piece of paradise where it's quiet and beautiful. Like you, more and more people are choosing to move closer to natural areas where they can enjoy outdoor activities right in their own backyards. This trend is creating an area of overlap where natural and rural lands meet human development. It's called the wildland-urban interface. But when more people are attracted to these areas, the integrity of the community changes – both for people and the environment. Some concerns can be prevented and others resolved.
2	BULLETED POINTS (4) (appear as they're mentioned) 1) Wildland-urban interface 2) Concerns 3) Interconnected 4) Residents and natural resource managers working together	N: In this video we're going to explore discuss the wildland-urban interface, the kinds of natural resource problems that arise in these areas, how problems and their solutions are interconnected, and how residents and natural resource managers can work together to reduce problems more effectively in the interface.
3	WUI DEFINITION GRAPHIC	N: The wildland-urban interface can be defined as any area where increased human influence and land use change are affecting natural resources and resource management.
4	- RIVER - KIDS PLAYING OUTSIDE - FOREST WITH WILDLIFE	N: People move to the interface for different reasons. Some look for privacy, others enjoy the natural beauty and wildlife; some want land they can pass on to their kids while others want more acreage and house for their dollar. With all the benefits of life in the interface comes the responsibility to protect and care for the natural features that make it such a special place to live.
5	*INTERVIEW*: LONGTERM INTERFACE RESIDENT NAME LOCATION (About 15 seconds)	RESIDENT– Discussing how living in the interface improves quality of life and one or two concerns or challenges. Something like, "I've lived in the country for years, and have always loved it here, but things have been changing lately. Big, fancy, new subdivisions are springing up around us and they're really changing the look and feel of our community."

Wildland-Urban Interface Video Script		
	Graphics	**Script**
6	*INTERVIEW*: RESIDENT #2 NAME LOCATION (About 15 seconds)	RESIDENT– Discussing how living in the interface improves quality of life and one or two different concerns or challenges. Something like, "We love that our kids can run and play in the woods, but we do worry about the potential for wildfires."
7	- FOOTAGE OF ATTRACTIVE FOREST LAND - CHARISMATIC WILDLIFE - A RIPPLING BROOK. - TRASH-FILLED RIVER - PEOPLE IN WUI – GARDENING - RESIDENTS NRM's WALKING IN THE FOREST (LIKE THEY'RE DISCUSSING MGMT OPTIONS)	NARRATOR: Living in the interface has its advantages and challenges, and as these residents have realized, their presence in the interface inevitably affects their surroundings. You can make choices that will help reduce your impact on natural resources and improve conditions that affect forest, wildlife, and human well being. Different issues require different approaches. Let's see how interface residents and natural resource managers across the south are working on these issues together.
8	- FIRE FOOTAGE IN THE WUI (2-3 shots)	N: Fire is often the main wildland-urban interface issue people think about. Although most wildfires are caused by human carelessness, some happen naturally. If allowed to burn , they help maintain fire-dependent ecosystems. But with more and more houses scattered throughout the interface, almost every fire that occurs threatens human safety and property and becomes a major emergency.
9	FIREFIGHTERS SPRAYING BURNING INTERFACE HOMES (2-3 shots)	N: When fires are out of control, firefighters are forced to make split-second decisions about what's most important to save. Protecting fragmented interface areas where people's safety and property are top priority can be more difficult than defending large forested areas.

Wildland-Urban Interface Video Script		
	Graphics	**Script**
10	*INTERVIEW*: FIREFIGHTER TFS - Bastrop, TX NAME, TITLE, LOCATION (about 10 seconds) FOOTAGE OF BASTROP WUI, FIRECAP PROGRAM ACTIVITIES, RESIDENTS SHOW DEMONSTRATION AREAS THEY BUILT	FIREFIGHTER: Something like: "In Tahitian Village, an interface community at the edge of Bastrop, Texas residents are taking the risk of wildfire seriously. During the summer of 1998 Bastrop was placed on high alert for wildfires. Volunteer firefighters and the Texas Forest Service worked with the Homeowners Association to launch a major education effort."
11	- BULLDOZER CLEARING LOT FOR DEVELOPMENT - UNHEALTHY-LOOKING FRAGMENTED FORESTS (1-2 shots)	NARRATOR: Another common consequence of land use change in the interface is forest fragmentation. Fragmentation occurs when connected forested tracts are broken up into smaller and less connected pieces usually by human development.
12	*INTERVIEW:* FL FOREST ECOLOGIST NAME, TITLE, AGENCY (about 15 seconds) - FLORIDA DEVELOPMENT (occurring and existing) - FLORIDA FOREST FRAGMENTATION	FOREST ECOLOGIST: Discussing examples of how forest fragmentation and other related changes affects forest health in Florida. "Like many states in the U.S., Florida has experienced uncontrolled development. This, along with taxation, especially estate taxes and loss of timber industry contributes to forest fragmentation. This has affected forest health …" (mention non-native invasive plants and forest disease)
13	- AERIAL SHOTS OF FRAGMENTED FOREST - BEAR/PANTHER NEXT TO ROAD OR DEVELOPMENT	N: Fragmented forests also have many negative impacts on wildlife. Many animals need large, connected areas of undeveloped land in order to find food, reproduce, and simply survive. Animals whose range is fragmented by development are exposed to a host of problems.
14	*INTERVIEW* : FL WILDLIFE BIOLOGIST NAME, TITLE, AGNECY (about 15 seconds)	WILDLIFE BIOLOGIST: Discussing how habitat fragmentation can be a problem for wildlife such as the FL panther and black bear. Also how fragmentation can enable concentrations of predators for threaten other wildlife - even domestic cats' predation of birds etc.
15	FOOTAGE OF OBVIOUS NON-NATIVE INVASIVE PLANTS IN WUI OR FOREST	N: Fragmentation also makes it easier for non-native invasives to creep into natural areas. A non-native invasive plant is one that can spread out of control and cause economic, and environmental harm or, harm to human health.

Wildland-Urban Interface Video Script		
	Graphics	**Script**
16	GA FORESTER INTERVIEW: NAME, TITLE, AGENCY (about 15 to 20 seconds) - SHOTS OF MENTIONED NON-NATIVE INVASIVES WITH NAMES - INVASIVES TAKING OVER FORESTED AREAS	FORESTER INTERVIEW: Something like: "Some non-native invasive plants that are currently a problem in Georgia and other parts of the southern United States include: Chinese privet, hydrilla, kudzu, and Japanese honeysuckle." Discuss example from Georgia and management challenges. "Many homeowners use these plants in their landscaping, unaware that they're invasive, or aren't sure how to remove already established problem plants. Disturbance caused by home or road building can make interface areas more vulnerable to the spreading of unwelcome plants which can harm forested ecosystems by choking out native vegetation."
17	- BIRDS AT BIRD FEEDER - BEAR RUMMAGING TROUGH GARBAGE - ALLIGATOR - ROADKILL DEER WITH SMASHED CAR	NARRATOR: Living in the interface often means sharing your property with wildlife. While this can be a benefit of living in the interface, it can also become a nuisance. Whether it's deer treating your garden like an all-you-can-eat buffet, or bears rummaging through your garbage – wildlife *can* sometimes make life frustrating or even dangerous. As more development occurs in the interface, animals end up having to cross boundaries that only humans are aware of. When humans and wildlife collide, the effects can be troubling for both.
18	- HILTON HEAD - DEER GRAZING LANDSCAPING PLANTS	N: In beautiful Hilton Head Island, South Carolina many residents are getting fed up with the overabundant local deer population.
19	*INTERVIEW:* HILTON HEAD WIDLIFE MANAGER NAME, TITLE (about 15 seconds) - DEER IN PARKING LOTS AND YARDS	WILDLIFE MANAGER: Discussing problems with unchecked deer population – car accidents, landscaping, ticks and Lyme disease. Also conflicts about how to reduce population.

Wildland-Urban Interface Video Script		
	Graphics	**Script**
20	- RIVER OR WATERFALL - PERSON WATERING A BIG, GREEN LAWN IN THE WUI - WELL PUMP - DRY POND - FARM	NARRATOR: Another major interface issue is water quality. In many parts of the United States, fresh, clean water is becoming scarce. Some southern areas are already experiencing water shortages and are negotiating to take water from other watersheds. Water shortages can be devastating to forest and wildlife health and can create serious problems for farmers, timber growers, and homeowners.
21	*INTERVIEW:* KY RESOURCE MANAGER OR EDUCATOR NAME, TITLE AGENCY (about 10 seconds) - DUMPED DRUMS OR PAINT CANS - PROGRAM ACTIVITIES - RESIDENTS WITH MANAGERS / EDUCATORS - SEPTIC TANK	NRM / EDUCATOR: Discussing water issues in their region, especially in the interface and how they are being addressed. Something like, "The use of chemical fertilizers and pesticides on lawns as well as the dumping of oil and other chemicals on the ground are jeopardizing the water supply. Septic tanks, which are common in the interface, can develop leaks and also contribute to water pollution. It's tricky because there are many different people to deal with in trying to manage the problem. We're addressing this by …"
22	5 MULTI-COLORED PUZZLE PIECES CONNECTED, PROBLEM NAMES APPEARING ONE AT A TIME (music)	N: These are some of the main environmental problems that can occur in the wildland-urban interface. An important characteristic of all interface issues is that they are *interconnected.*
23	CLEAR GRAPHIC SCREEN – IN COMES THE WORDS "INVASIVES", CONNECT "INVASIVES" TO "FIRE" WITH LINE - FIRE FOOTAGE (brief)	N: For instance, let's look at non-native invasive plants. Certain invasive plants, such as melaleuca, are extremely flammable and provide prime fuel material for wildfires.
24	CONNECT "INVASIVES" TO "WILDLIFE ISSUES" (as the Narrator says the first sentence – may help viewers connect the visual with the spoken info) - DEER OR BIRD EATING FROM NATIVE PLANT	N: There's a connection to wildlife issues here too. Invasives sometimes take over native vegetation that wildlife depend on for food and habitat. This can reduce wildlife survival in the interface.

Wildland-Urban Interface Video Script		
	Graphics	**Script**
25	CONNECT “FOREST FRAGMENTATION” TO “FIRE”	NARRATOR: We talked earlier about how forest fragmentation affects wildlife and can lead to increased invasives and forest disease, but it can also expose forests to human activities that can start fires.
26	CONNECT “WILDFIRE” TO “WILDLIFE ISSUES”	N: Fire and wildlife issues are also connected. Controlled burns can actually help wildlife by maintaining suitable habitat conditions. However, severe wildfires that burn out of control because of fuel build-up can temporarily destroy habitat, especially for ground-nesting birds and small mammals.
27	CONNECT “WATER ISSUES” TO “FIRE”	N: Water shortages and drought conditions can increase chances for fires and make them harder to control.
28	GRAPHIC – ALL WORDS CONNECTED	N: These are only a few examples of how interface issues are connected.
29	“YOU” GRAPHIC COMES IN, ALL POINTS CONNECT TO IT WITH DIFFERENT COLOR LINES - FOOTAGE ZOOMS IN SHOWING 4 OR 5 QUICK SHOTS OF INTERFACE DWELLERS	N: And each of these factors can directly or indirectly impact <u>your</u> health, safety, property value and overall quality of life as an interface resident.
30	PROBLEMS PUZZLE, FADE TO YELLOW (bring in inspirational music)	N: These interconnections can make interface issues complicated to resolve. Choices that people make in the interface may produce unintended impacts.
31	- 5 SHOTS OF DIFFERENT SOLUTIONS APPEAR ON SAME SCREEN - PEELS-OFF AND MULTI-COLORED PUZZLE REAPPEARS	N: The good news is that with careful planning, responsible actions in the wildland-urban interface can help reduce several problems at once.

Wildland-Urban Interface Video Script		
	Graphics	**Script**
32	- ANMIMAL EATING PLANT - RIPARIAN BUFFER TYPE PLANTING - DEFENSIBLE SPACE	N: How you landscape your yard can affect more than you think. Controlling non-native invasives and planting native plants in outlying areas can provide food and habitat for wildlife, and protect water quality. Doing so while avoiding dense vegetation directly around your home can reduce the potential for wildfires.
33	- PUZZLE SHOT - COMMUNITY MEETING SHOT ZOOMS IN - SMARTGROWTH DEVELOPMENT AERIAL SHOT - FAMILIES ENJOYING GREENSPACE IN SMARTGROWTH COMMUNITY	NARRATOR: Community planning is also a powerful tool for protecting natural resources in the interface. You can help create a vision that will guide future development in your area. Encourage community leaders, planners, and developers to keep forest health in mind when developing interface communities. This will also help protect wildlife, contribute to water quality, and reduce the forest's vulnerability to invasive plants. Protecting and defending homes from wildfire is more possible when homes are clustered, rather than spread out. And the demand for clustered homes with big greenspaces nearby is growing quickly and that can translate into higher property values for you!
34	*INTERVIEW:* NC COMMUNITY PLANNING EXPERT NAME, TITLE, LOCATION (about 15 seconds)	PLANNING EXPERT: Discussing techniques that are successful in protecting forest connectivity and also attractive and profitable. Mention challenges resulting from a complex and formal decision making process and dealing with jurisdictional boundaries."
35	- WATER PIECE ZOOMS FORWARD TO WHOLE SCREEN - WUI RESIDENT WATERING GARDEN? - TAKING HAZMATS TO TOXIC ROUND-UP (sign visible)	N: Having an abundant source of clean water is essential to human health. Protecting our water supply is something everyone needs to do regardless of where they live. Making choices that conserve and protect water sources is a simple way to help care for forests, wildlife and your health and safety too!
36	*INTERVIEW* : KY NRM NAME, TITLE, AGENCY (about 15 seconds)	NRM: Discussing simple specific solutions to interface problems (e.g., reduce use of lawn chemicals, ways to conserve water, proper maintenance and care for septic tanks etc.) and how they can improve problems (e.g., protecting wildlife health). Use examples from their area.

Wildland-Urban Interface Video Script		
	Graphics	**Script**
37	*INTERVIEW* : EXTENSION AGENT NAME, TITLE, LOCATION (about 15 seconds)	AGENT: Discussing specific interface solutions and their connections to other problems. (ex. conservation easements as a solution for forest fragmentation and many other problems).
38	- PUZZLE SHOT - THE 5 SOLUTION SHOTS ZOOM IN FULL SCREEN (one at a time)	NARRATOR: Since interface issues and solutions are interconnected, if you work to solve one interface problem, you might be able to improve others!
39	- FOREST SHOTS - 2 OR 3 NRMs AND RESIDENTS WALKING THROUGH FOREST AND AROUND HOUSE TALKING - NRM/RESIDENT SHAKING HANDS - COMMUNITY MEETING	N: You're not alone in your efforts to protect natural resources in the interface. Your state and local foresters, wildlife managers, county extension agents, and other resource managers share your concern for keeping your land healthy. They can provide you with information and skills you need to maintain and protect your land.. Natural resource managers and interface residents are ideal partners in the protection of resources in the wildland-urban interface. You can also work with your local community planners and government officials. Sharing your concerns and ideas about interface development and management can help guide future decisions.
40	*INTERVIEW:* NATURAL RESOURCE MANAGER: NAME, TITLE, AGENCY (about 10 seconds)	NRM: Discussing support NRM's and agency programs can provide for interface residents (e.g., non-native invasive control, wildlife – attracting, while discouraging conflicts, water conservation etc.)
41	*INTERVIEW:* NATURAL RESOURCE MANAGER NAME, TITLE, AGENCY (about 10 seconds)	NRM: Discussing examples of resident / manager partnerships resulting in positive management decisions.
42	*INTERVIEW*: RESIDENT NAME, LOCATION (about 10 seconds)	RESIDENT: Discussing how resource managers have helped them address a problem on their interface property.
43	*INTERVIEW*: RESIDENT NAME, LOCATION (about 10 seconds)	RESIDENT: Discussing how resource managers have helped them address a problem on their interface property.

Wildland-Urban Interface Video Script		
	Graphics	**Script**
45	BULLETS	Summary: NARRATOR: So let's review. The wildland-urban interface is any area where increased human influence and changes in land use are affecting the health of our natural areas. Common interface problems include fire, non-native invasive plants, forest fragmentation, wildlife issues, and water quality and quantity. These problems are interconnected. But solutions to one problem may help improve others. And building partnerships with natural resource managers and extension professionals is an important step in protecting the health and beauty of the natural resources in the wildland-urban interface.
46	For more information contact:	(to be added)
44	AERIAL SHOTS OF WUI IN SEVERAL PARTS OF THE SOUTH	N: The wildland-urban interface is an expanding area with special conditions and challenges. If you have the right information, support and commitment, you can help maintain and improve natural resource conditions in your area. Interface residents in cooperation with natural resource managers can work to protect the beauty and vitality of the natural resources.

Appendix B: Interviewer Questions

Interviews #1 and #2: Interface Residents
"How does living in the interface improve your quality of life? What are one or two concerns or challenges you experience living here?"

Interview #3: Firefighter from Bastrop, TX
"Tell me about the community's efforts to increase wildfire preparedness. What prompted the program? Who was involved? What measures were and are being taken? Have they been effective?"

Interview #4: Forest Ecologist in FL
"What are the causes of forest fragmentation in Florida? How has forest fragmentation affected forest health? What are some of the long-term impacts of forest fragmentation?"

Interview #5: Wildlife Biologist in FL
"How do fragmented forests affect the survival of wildlife such as the FL panther and black bear? What threats to wildlife safety and health increase with habitat fragmentation? Please give some examples."

Interview #6: Forester
"What non-native invasive plants are prevalent in the Southern U.S.? What are some examples of negative impacts of non-native invasives from your community? How do some homeowners contribute to the non-native invasive problem? What characteristics of the wildland-urban interface make it more susceptible to non-native invasive plants?"

Interview #7: Wildlife manager from Hilton Head Island, SC
"Tell me about the wildlife conflicts in your area, specifically the deer overpopulation problem. What have been some of the impacts of deer overpopulation in Hilton Head? What are the management challenges? How has the public reacted to the deer problem? How have they reacted to proposed management options? What is currently being done? Have efforts been effective?"

Interview #8: Natural Resource Manager or Educator in KY
"What are some of the water issues in your region – particularly in the wildland-urban interface? How do some homeowners contribute to these issues? How are these issues being addressed? What are the objectives of the water education program?"

Interview #9: Community Planner in NC
"What general planning and design techniques can be used to preserve forest connectivity and maintain aesthetics and value? What are buyers reactions to homes and communities built with these principles in mind?"

Interview #10: Natural Resource Manger
"What are some specific actions homeowners in the wildland-urban interface can take to conserve water and prevent water pollution? How can some of these actions provide solutions to issues of concern such as forest and wildlife health? Please give examples from your community."

Interview #11: Extension Agent
"What are some actions interface homeowners can take to reduce their impact on the natural resources around them? What's one way they can reduce forest fragmentation? (Conservation easements etc.) How can this improve other interface conditions?"

Interview #12: Natural Resource Manager
"What kinds of support can natural resource managers and agency programs in your area offer interface residents in your area? In what ways are you willing to work with interface residents to reduce their impacts on natural resources and manage their land effectively?"

Interview #13: Natural Resource Manger
"How have managers and residents worked together in your community? Have there been successful partnerships? If so, what have they accomplished?"

Interview #14: Interface Resident
"How has a natural resource manager or mangers worked with you to deal with a problem on your land? Was this support helpful? Would you recommend that other interface residents work with managers when making land-management decisions?"

Interview #15:
"How has a natural resource manager or mangers worked with you to deal with a problem on your land? Was this support helpful? Would you recommend that other interface residents work with managers when making land-management decisions?"

Appendix C: Discussion Questions for Trainees

1) Did anything in the video surprise you? If so, what and why?

2) Have you had firsthand experience with any of the interface issues discussed in the video? Describe it briefly.

3) How does the wildland-urban interface affect your job?

4) What new skills do you think you will need for work in the wildland-urban interface?

5) How can your agency help support your work with interface issues?

6) What barriers keep managers and residents from working on these issues together?

7) What can you do to reduce these barriers? What can your agency do?

8) What partners could you work with in your area?

9) Can you imagine yourself using this video in the future? If so, how?

Appendix D: Discussion Questions for Interface Residents

1) Did anything in the video surprise you? If so, what and why?

2) Have you had firsthand experience with any of the interface issues discussed in the video? Describe it briefly.

3) What interface issue concerns you most? What makes these issues difficult to resolve?

4) Do you intend to do anything differently because of what you learned from the video?

5) Is there something you have already been doing to reduce your impact on the natural resources around you? If so, what? Do you feel this has been successful?

6) How can natural resource managers and agencies help you care for your wildland-urban interface? What can they do to help you reduce your impact on natural resources in the interface?

7) What, if anything, could make it more likely that other residents will call on local natural resource managers for help?

8) Is there something you would like to learn more about relating to wildland-urban interface issues?

Appendix E: Presenter Preparation for Video Portion of Module 1

Wildland-Urban Interface Video

Enclosed you will find the Wildland-Urban Interface Video. The video is primarily a tool for natural resource managers to use in interface resident education programs. It gives a brief introduction to the wildland-urban interface and stimulates discussion about experiences, concerns, and opportunities in your region. It defines the interface, gives examples of interface issues, describes how these issues are interconnected, and encourages resource mangers and interface residents to work together to resolve problems in the interface.

You can use the video in anyway that meets your needs, but because the content is fairly basic it is recommended that it be used in the beginning of your training program. In addition to the video, you have a list of suggested discussion questions to promote interaction among participants and a post-video evaluation sheet. For managers' future use of the video with interface residents, different discussion questions and an evaluation sheet are also included.

You could begin by telling your trainees that they will be watching a 15-minute video that introduces a range of interface issues found in the South and their interconnections. Explain the dual-purpose of the video as an outreach tool for their work with interface residents as well as an introduction for them. Ask them to be thinking about situations where the video could be useful as they watch it. Once they have watched the video, hand out the evaluation sheets. After training participants have completed and handed back the evaluations, ask the discussion questions encouraging input from all participants. Allow as much discussion as possible. Later, review the

evaluation sheets for insights about the video's effectiveness, trainee perspectives, and potential for video use in resident education efforts. If there is time and it would be helpful, discuss evaluation responses.

Appendix F: Manager Trainee Evaluation

1. How useful to you were the concepts covered in the video? Not at all --------Very

1.	Defining the wildland-urban interface	1 2 3 4 5
2.	Wildland-urban interface issues	1 2 3 4 5
3.	Issue interconnections	1 2 3 4 5
4.	Examples of issues or approaches to problems	1 2 3 4 5
5.	Resource manager-resident cooperation	1 2 3 4 5

2. How well did the video convey these ideas? Not at all --------Very

1.	Defining the wildland-urban interface	1 2 3 4 5
2.	Wildland-urban interface issues	1 2 3 4 5
3.	Issue interconnections	1 2 3 4 5
4.	Examples of issues or approaches to problems	1 2 3 4 5
5.	Resource manager-resident cooperation	1 2 3 4 5

3. What three things from the video will be most useful to you as you think about working on wildland-urban interface issues?

4. How could the video be improved?

5. How well do the following descriptions support what you learned about the wildland-urban interface from the video? Not at all ---------- Very

1.	My role as a manager may be different in the interface than in rural or urban areas.	1 2 3 4 5
2.	Managers only need to be concerned with public land.	1 2 3 4 5
3.	Fire is the most important interface issue.	1 2 3 4 5
4.	Managers have no role in community planning.	1 2 3 4 5

6. How accurate are the following statements based on what you know?

Not at all ---------- Very

1. Interface issue interconnections always make matters worse. 1 2 3 4 5
2. People choose to live in the interface for many reasons. 1 2 3 4 5
3. Resource management in the interface requires new skills. 1 2 3 4 5
4. Manager-resident cooperation is not necessary for effective resource management in the interface. 1 2 3 4 5

7. Why are interface issue interconnections important to resource mangers? (choose as many as apply.)

a. Because they make issues impossible to address.
b. Because they can give clues about how to more successfully manage and think about resources.
c. Because they always make natural resource management simple.
d. Because they require less interaction with interface residents.

8. In thinking about using the video for resident education, what are its advantages? (choose as many as apply.)

a. It does all the communication for you.
b. It provides a good introduction to issues and stimulates discussion.
c. It gives a general overview of interface issues.
d. Residents will be eager to do everything you think they should.

9. How comfortable do you feel using the video in your work?

Not at all ---------- Very
1 2 3 4 5

10. How comfortable do you feel leading discussion about the concepts covered in the video with interface resident? Not at all ---------- Very
1 2 3 4 5

11. How useful do you think the video will be with your resident outreach efforts?

Not at all ---------- Very
1 2 3 4 5

Appendix G: Interface Resident Evaluation

1. How useful to you were the concepts covered in the video? Not at all --------Very

    1. Defining the wildland-urban interface 1 2 3 4 5
    2. Wildland-urban interface issues 1 2 3 4 5
    3. Issue interconnections 1 2 3 4 5
    4. Examples of issues or approaches to problems 1 2 3 4 5
    5. Resource manager-resident cooperation 1 2 3 4 5

2. How well did the video convey these ideas? Not at all --------Very

    1. Defining the wildland-urban interface 1 2 3 4 5
    2. Wildland-urban interface issues 1 2 3 4 5
    3. Issue interconnections 1 2 3 4 5
    4. Examples of issues or approaches to problems 1 2 3 4 5
    5. Resource manager-resident cooperation 1 2 3 4 5

3. What three things from the video will be most useful to you as an interface resident?

4. How could the video have improved?

5. How well do the following descriptions support what you know about the wildland-urban interface?

    Not at all ---------- Very

    1. Interface issue interconnections always make matters worse. 1 2 3 4 5
    2. People choose to live in the interface for many reasons. 1 2 3 4 5
    3. Fire is the only interface issue. 1 2 3 4 5
    4. Manager-resident cooperation is an important component of effective resource management in the interface.. 1 2 3 4 5

6. Why are interface issue interconnections important to interface residents?

    a. Because they make issues impossible to address.
    b. Because they can give clues about how to more successfully manage and think about resources.
    c. Because they always make natural resource management simple.

7. How likely is it that you will engage in the following activities within the next six months? Not at all ---------- Very

1.	Contact your local natural resource agency if you have a question.	1 2 3 4 5
2.	Look into ways you can reduce your impact on natural resources around your home.	1 2 3 4 5
3.	Control non-native invasive plants.	1 2 3 4 5
4.	Plant native plants.	1 2 3 4 5
5.	Attend a community planning meeting	1 2 3 4 5
6.	Reduce your use of lawn chemicals.	1 2 3 4 5
7.	Reduce household and yard water consumption.	1 2 3 4 5
8.	Organize or become involved in a community action group to reduce negative impacts to natural resources in the interface.	1 2 3 4 5

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