



Module 2: Trainer's Guide

Managing Interface Forests



USING THIS MODULE

Natural resource professionals are challenged by a number of factors in the wildland-urban interface. How can they help landowners profit from harvesting trees on small ownerships? How can they help a neighboring subdivision accept a harvesting operation? What can they advise homeowners to do with nuisance wildlife? What options do landowners have if traditional markets are disappearing?

This module is dedicated to helping trainers explore management questions and issues in the wildland-urban interface. We assume that your participants will have some background in some type of resource management, though this background may be more appropriate for managing wilderness areas or downtown urban forests than interface forests. We have chosen a number of issues where work in the interface is a little bit different from either the wildland or the urban landscape. This module has three sections:

1. Understanding interface landowners
2. Opportunities realized through interface forest management
3. Vegetation management of interface forests

Many topics are relevant to interface forestry; not all are covered in this module. There are some other topics you might want to discuss that are not included in this module:

- Forest management guidelines for housing developments and homeowner associations to manage their common forest lands.
- Timber and nontimber product markets, property values, and industry relocation.
- Ecological restoration of disturbed and degraded lands.
- Regional issues caused by fragmented ecosystems: GIS, maps, trends, analysis, etc.

You can use the Microsoft PowerPoint® Presentations to introduce each of the sections so participants understand the scope and context of the material. **Presentation 2** includes all of the concepts in this module. **Presentations 2.1, 2.2, and 2.3** include only the concepts presented in each section. **Presentation 5** covers all of the case studies. You can modify these presentations as you judge appropriate for your audience and style. You can distribute the relevant fact sheets to participants, perhaps as one booklet, so that they can follow along. The exercises enable participants to





discuss interesting questions and apply this information to their regions. You may also wish to include several exercises and concepts from other modules to help make these management strategies more applicable. For example, **Fact Sheet 4.7: Addressing Misconceptions about Wildland-Urban Interface Issues** may be useful with **Exercise 2.6: Firewise Conversations** and **Exercise 4.6 Critiquing Brochures** may pave the way for **Exercise 2.3: Advertising Interface Services**. Pick and choose among the materials in this module and others to create a useful training session that meets the needs of your participants. You may also wish to invite guest speakers to discuss specific issues and guide discussions. You can design a quiz to measure participants' learning by selecting and adapting the sample questions provided behind the evaluation tab.

The main content of this module is in fact sheets. These fact sheets can be used as handouts during the training session or can be prepared by your agency for distribution during field days, workshops, or other programs for landowners. This trainer's guide provides suggestions for linking different fact sheets, exercises, and case studies together to create training programs that meet the needs of your participants.

The material presented in the fact sheets represents a careful review of the scientific literature, professional practice, and professional judgment. They do not present "facts" in the sense of being black or white, true or false. The training session should allow plenty of room for participants to offer alternative and complementary professional judgments and interpretations.



Exercises 2.12: Balancing Ecological, Social, and Economic Concerns and **2.13: Juggling Multiple Objectives** integrate the material found in all fact sheets in this module. They provide a way to review many of the points discussed. These two comprehensive facts sheets also can be used as an introduction or overview, without going through each of the fact sheets or exercises, to entice workshop participants to explore the relevant fact sheets.

This module may be presented in a number of different ways, from a brief introduction to a multiday program. *Section 1* can be used with any of the other modules to provide an overview of who lives in the interface. The remaining fact sheets and exercises can be used together or separately to launch discussions and build skills for managing interface forests. The following table lists the fact sheets, exercises, and appropriate case studies for each section of this module in the order that they are mentioned in the text.

Section	Training Materials
1. Understanding interface landowners	<ul style="list-style-type: none"> • Presentation 2.1 • Fact Sheet 2.1: Who Are Interface Landowners? • Exercise 2.1: Who Lives in the Interface? • Exercise 2.2: Creating a Department of Interface Resources • Exercise 2.3: Advertising Interface Services • Case Study 7: Interface Issues in the Georgia Mountains • Exercise 2.4: Using Case Studies • Presentation 5

Section	Training Materials
<p>2. Opportunities realized through interface forest management</p>	<ul style="list-style-type: none"> • Presentation 2.2 • Fact Sheet 2.2: Generating Income from Interface Forests • Exercise 2.5: Interface Moneymakers • Fact Sheet 2.3: Reducing Fire Risk • Exercise 2.6: Firewise Conversations • Exercise 2.13: Juggling Multiple Objectives • Case Study 21: Wildfire Preparedness in Mississippi • Case Study 11: Life on the Edge: Interface Issues in Bastrop, Texas • Exercise 2.4: Using Case Studies • Presentation 5 • Fact Sheet 2.4: Amenity Resources • Fact Sheet 2.8: Practicing Visible Stewardship • Exercise 2.7: Scenery and Trails • Fact Sheet 2.5: Forest Health • Exercise 2.8: Promoting Forest Health • Case Study 1: The Challenge of Controversial Resource Issues: Southern Pine Beetle • Fact Sheet 2.6: Wildlife • Exercise 2.9: Wild Stories • Case Study 4: Deer Debate in Hilton Head, South Carolina • Fact Sheet 2.7: Water Management • Case Study 19: Treasuring Forests in Alabama
<p>3. Vegetation management of interface forests</p>	<ul style="list-style-type: none"> • Presentation 2.3 • Fact Sheet 2.8: Practicing Visible Stewardship • Exercise 2.10: Cues-to-Care • Exercise 2.11: Debate: Cues-to-Care vs. Screening Buffers • Fact Sheet 2.9: Mechanical Vegetative Management • Exercise 2.12: Balancing Ecological, Social, and Economic Concerns • Fact Sheet 2.10: Forest Cooperatives • Case Study 3: Cooperation is the Key: Blue Ridge Forest Landowner Cooperative • Exercise 2.4: Using Case Studies • Presentation 5
<p>Summary</p>	<ul style="list-style-type: none"> • Exercise 2.12: Balancing Ecological, Social, and Economic Concerns • Exercise 2.13: Juggling Multiple Objectives • Case Study 5: The Domain: Managing Interface Forests in Tennessee

BACKGROUND

1. Understanding Interface Landowners



This section, which includes the material presented in **Fact Sheet 2.1: Who Are Interface Landowners?**, introduces participants to the characteristics and concerns of interface landowners. This fact sheet enables your participants to review the trends in interface land ownership and discuss the similarities and differences in their regions. **Exercise 2.1: Who Lives in the Interface?**, **Exercise 2.2: Creating a Department of Interface Resources**, and **Exercise 2.3: Advertising Interface Services** can be used to engage participants and allow them to discuss changing ownership patterns. You probably will not want to do all three. **Exercises 2.2** and **2.3** cover similar topics, but are directed toward different audiences (managers employed by public agencies and private consultants). **Case Study 7: Interface Issues in the Georgia Mountains** explores one community that is juggling many complex interface issues and management decisions (*see note below*).



Before reviewing the contents of **Fact Sheet 2.1** and using **Presentation 2.1** you might want to ask your participants some intentionally provocative questions to get discussion started:

- Is forest fragmentation really happening as everyone seems to think? Note that data show that most of the forests are still owned in large tracts.
- Can interface landowners have *wrong* priorities? Are some management goals the result of misinformation and misunderstanding? When, if ever, should natural resource professionals try to change landowner priorities through the use of education? In other words, how do natural resource professionals balance private property rights with professional knowledge, social responsibility, and ecological ethics?
- Do you think the priorities of interface landowners will change if they learn their timber is worth a great deal or if they find they have been victims of timber theft?

When presenting the material in **Fact Sheet 2.1** to your participants, there are several main points worth considering that you might want to emphasize. These points refer to information found in tables and figures in this fact sheet.

The numbers of owners and acres (*Table 1*)

- Sixty percent of the family forest is owned by 10 percent of the people. Stated differently, 60 percent of the forest still exists in blocks greater than 100 acres where fragmentation is less of an issue.



Note: For each of the case studies mentioned in this Trainer's Guide, discussion questions can be found in **Exercise 2.4: Using Case Studies** and slides can be found in **Presentation 5**.



- Forty percent of family forests are divided into parcels smaller than 100 acres (53 million forested acres are divided among 4 million people). Stated differently, 90 percent of the forest owners possess fewer than 100 acres, and most of these people own forests smaller than 10 acres.

Motivations for forest ownership across all forests

- Family legacy, aesthetics, and investment are important reasons for ownership. Legacy includes passing the land onto heirs. Investment involves selling land for profit (*Table 2*).
- Harvesting timber for profit is more likely to occur on large land holdings; i.e., a primary objective for 41 percent of the acres but only 11 percent of owners (*Table 2*)
- Family, aesthetics, wildlife, and nature protection are widely shared goals across all forested lands in the South (*Tables 2 and 3*).
- Threats from insect, disease, taxes, and fire are the issues that landowners worry about (*Tables 2 and 3*).
- *Table 4*, based on all Arkansas forest landowners (not just those buying small forests in the interface), suggests different landownership priorities by some owners. Two segments, timber managers and poor rural residents are much more likely to emphasize profit as the primary motive.

Motivations for owning interface forests

- The market segment profiles (*Figures 1 and 2 and Tables 5 and 6*) are based on a study of people who recently bought small forested lots (2 to 50 acres) in rapidly urbanizing counties in Virginia. Be sure to ask if the results fit what is being observed locally. *Table 4* is a similar study based on a sample of all Arkansas forest landowners. All the other tables are based on averages across all forest landowners in all southern states.
- The motivations for owning interface forests are diverse. They involve much more than producing resources such as timber, water, and wildlife. They include lifestyle, family, and community (*Table 5*).
- *Table 6* also suggests two market segments, New Pioneer Families and Planners, may be most receptive to professional advice because they are highly motivated.

Management actions on interface forests

- *Figures 1 and 2* suggest that interface landowners are more interested in amenity and ecological quality than maximizing profit. (This does not mean they are opposed to harvesting or making a profit; see *Table 6*.)

Possible points of confusion raised by the tables

- *Tables 1, 2, and 3* pertain to ALL forests in southern United States. *Table 4* pertains only to Arkansas. The remaining tables and figures pertain to people who recently bought small forested lots (2 to 50 acres) in urbanizing Virginian

counties; however the results probably can most likely be generalized across the South. Ask participants if they agree with this observation.

2. Opportunities Realized through Interface Forest Management

This section includes **Fact Sheets 2.2** through **2.7** and provides your participants with an overview of interface management issues by reviewing the numerous resources, opportunities, values, and ecosystem services that interface forest management provides (e.g., health, wildlife, scenery, profit, fire safety, property value, trails, and cooling shade). Your training session may focus on one, several, or all of these specific forest products and benefits using **Presentation 2.2**, the fact sheets, and exercises. A summary of each fact sheet and its related exercises and case studies follows.



Fact Sheet 2.2: Generating Income from Interface Forests reviews steps interface landowners must consider if they are to identify and develop markets for their products. As forests are urbanized, an economic transition occurs. An economy supported by nontimber forest products and services can emerge in the wake of departing traditional forest products markets. Most nontimber products also are compatible with a thriving timber products industry. However, most landowners are not versed in marketing these products.



Exercise 2.5: Interface Moneymakers encourages participants to identify opportunities for generating income from forested lands in addition to those available from selling timber. Participants might also benefit from a guest speaker or possible field trip.



Fact Sheet 2.3: Reducing Fire Risk provides an introduction to Firewise principles. Just about every southern state has an established and effective Firewise program with excellent literature and examples. It is likely that at least one of your participants will be associated or trained in Firewise concepts. The discussion of fire management in this training material is introductory and should be supplemented with state-specific information. If workshop participants are familiar with firewise techniques, then the material in this fact sheet could be skipped.

In addition to emphasizing firewise landscaping techniques and structural modification, you could point out that community-wide, landscape-level firewise planning is also important. Natural resource professionals should assist communities in identifying and solving these regional planning needs.

Another issue is that Firewise recommendations often conflict with other management goals and activities. In most cases, recommendations can be modified to meet multiple objectives. The simple skit and accompanying activity described in **Exercise 2.6: Firewise Conversations** can help participants to recognize that landowner objectives and goals may conflict with Firewise recommendations. This exercise can also help participants to identify methods of achieving Firewise goals in conjunction with other landscaping goals. **Exercise 2.13: Juggling Multiple Objectives** enables participants to discuss the conflicts and opportunities associated with Firewise landscape management principles and could be used in conjunction with **Fact Sheet 2.3** or as a way to summarize numerous fact sheets.



Case Study 21: Wildfire Preparedness in Mississippi gives a snapshot of how one interface county is reducing their fire risk. **Case Study 11: Life on the Edge: Interface Issues in Bastrop, Texas** demonstrates how fire connects many interface issues (see note on page 4).



Fact Sheet 2.4: Amenity Resources discusses scenery, privacy, cooling, trails, and other resources that are often the most desired resources produced by interface forests. Amenity resources raise property values, motivate land purchases, and direct land management. Scenery is among the most sought after qualities of interface forests and this fact sheet reviews several ways that scenery can be improved through management. The material presented in **Fact Sheet 2.8: Practicing Visible Stewardship** is closely related to managing for scenic views. The visual appearance of forests advertises the stewardship ethic of managers, thus playing an important role in public relations. If management of visual quality is of interest to participants, then the trainer should consider jointly presenting the material from **Fact Sheet 2.4** and **Fact Sheet 2.8**.



Harvesting activities also provide opportunities to build a trail system on the property. Roads, landings, and skid trails can be located with a trail system in mind. **Fact Sheet 2.4** reviews the basics of trail design as well as several websites offering additional information. No exercise is specifically associated with trail building, but you can integrate discussion of trails with the discussion of aesthetic timber harvest techniques.

The challenge of aesthetic timber harvests is balancing aesthetics with costs. Use **Exercise 2.7: Scenery and Trails** to engage participants in a discussion of these trade-offs. Be sure to encourage the discussion of how harvesting operations can provide an ideal opportunity to enhance and increase aesthetics by increasing the size of meadows, wildlife habitat, trails, and access to vistas—operations landowners might not otherwise be able to afford.



Fact Sheet 2.5: Forest Health covers some of the major forest health factors in the interface and provides some suggested courses of action. From proper site management to abiotic threats to diseases, there are many forest health issues that resource professionals need to be aware of. Your participants may already have knowledge and experience related to forest health issues. It is important to encourage them to focus on the different factors, challenges, and solutions that play a role in the health of interface forests.



Fact Sheet 2.5 also contains a list of biotic and abiotic stressors. Call attention to these health threats. You may want to review a few that are particularly relevant to your area or that have been in the news recently. You may even want to ask a local expert to present this section or to develop a presentation that provides details about identification and treatment of certain health risks. **Exercise 2.8: Promoting Forest Health** helps participants think about various definitions of forest health and how it applies to interface management. **Case Study 1: The Challenge of Controversial Resource Issues: Southern Pine Beetle** provides an interesting context that you can use to discuss forest health issues. (See note on page 4.)





Fact Sheet 2.6: Wildlife explores wildlife as both a major attraction and a nuisance in the interface. **Exercise 2.9: Wild Stories** encourages participants to share ideas about how people have solved wildlife issues. Be prepared to hear some good stories! You might also consider asking an expert in interface wildlife issues to develop a more detailed and regionalized presentation on the local wildlife issues in your area. **Case Study 4: Deer Debate in Hilton Head, South Carolina** enables participants to explore a common concern in the interface—too many deer.

Fact Sheet: 2.7: Water Management discusses some of the major threats to water pollution and strategies that developers and communities can use to protect water quality and quantity in the interface. Natural resource professionals should understand the effects that urbanization can have on hydrology, how these effects influence natural systems and human well-being, and what can be done to conserve and protect water supplies.

When presenting the material in this section, here are several main points that you may want to emphasize to your participants:

- Interface forest management presents new challenges because many landowners want to manage their land for a variety of different objectives. In addition, some interface forests can actually produce more products and opportunities than rural forests. Thus, interface forests may be MORE valuable than rural forests (i.e., more reasons to value them and more people to value them). If these comments seem counterintuitive to your participants, then you might want to discuss this observation and provide local examples.
- Timber is just one product, but an important one. Many other opportunities flowing from interface forests are compatible with careful timber production. There is nothing wrong with emphasizing timber or income generation on interface forests, but in your training, try to avoid making “timber” the center of everything and talking about everything else as “nontimber.” That is a false dichotomy that turns off interface landowners and reinforces a bias within forestry towards timber management.
- Timber production can be a benefit to interface landowners because it helps them pay for land management expenses such as putting in trails, opening up vistas, removing hazard trees, creating wildlife habitat, and reducing fire risk. **Case Study 19: Treasuring Forests in Alabama** may provide some ideas for discussion. Remember that there are supplemental resources to help you with the case studies (see note on page 4).



3. Vegetation Management of Interface Forests

The last section of this module focuses on manipulating vegetation to produce the products and services that satisfy the objectives of interface landowners.

Presentation 2.3 and **Fact Sheets 2.8** through **2.10** cover these topics.

Fact Sheet 2.8: Practicing Visible Stewardship is relevant to interface land management because it is critical to making forest management socially acceptable. You can



use **Exercise 2.10: Cues-to-Care** to help participants understand the cues that promote visible stewardship and increase social acceptability of interface management. A brewing controversy exists about whether forest land management should hide from view the management techniques required to produce the resources people consume. **Exercise 2.11: Debate: Cues-to-Care vs. Screening Buffers** is designed to promote a debate about whether we should maintain screening buffers to conceal natural resource management actions and if so, what are the implications for society and for natural resource professions.



Fact Sheet 2.9: Mechanical Vegetative Management reviews small forestry operations to help participants select equipment that minimizes danger, cost, and damage to forests. Taking advantage of the opportunities of interface forests requires manipulation of vegetation. Any effort to cut or move trees or other vegetation requires using equipment that is potentially dangerous, costly, and environmentally damaging. While brush hogs and chippers are important tools for interface forest management, most of this fact sheet focuses on operational systems designed for cutting trees on small acreage forests.

You will need to carefully match the content presented in **Fact Sheet 2.9** with the needs of workshop participants. Participants familiar with forest harvesting will be bored by general discussions of silviculture and harvesting plans and may want to skip much of this material. On the other hand, if resource managers have had little experience with the types of small-scale harvesting equipment that are becoming more attractive in the interface, consider emphasizing this section. Little is known about the actual economic and environmental costs and benefits of various equipment choices. This fact sheet provides some information and creates opportunities for discussion among participants.

Some of the key challenges to conducting forestry operations in the interface are finding a workforce to carry out the operation, keeping that workforce safe, and setting a fee-structure that encourages operators to protect amenities and forest health rather than removing the most profitable trees. **Exercise 2.12: Balancing Ecological, Social, and Economic Concerns** addresses these and other issues and provides an opportunity to integrate and apply many of the topics discussed in all sections of this training module.



Fact Sheet 2.10: Forest Cooperatives discusses issues related to coordination among different landowners. Many landowners and land managers cannot achieve their desired outcomes because they do not own enough land to make operations economically feasible or do not have enough land to create the desired opportunities. For example, harvesting timber or prescribed burning may be more economical if done on large areas. Likewise, creating wildlife habitat, opening vistas, or creating hiking trails may require larger acreages and more diverse resource conditions than available on one property.



Coordination among multiple land holdings is one means to overcome these obstacles. Yet coordination presents challenges because many stakeholders with different understandings and expectations are involved. This fact sheet provides an



opportunity to make participants aware of the need to think beyond individual land holdings. **Case Study 3: Cooperation is the Key: Blue Ridge Forest Landowner Cooperative** illustrates one landowner cooperative program (*remember to use the supplementary materials mentioned in the note on page 4*).

Summary



If your training program emphasizes management skills, you may wish to conclude with **Exercises 2.12: Balancing Ecological, Social, and Economic Concerns** and **2.13: Juggling Multiple Objects**. These exercises enable participants to reflect on a number of management issues and integrate them with landowner objectives. **Case Study 5: The Domain: Managing Interface Forests in Tennessee** provides a glimpse of the many factors that must be considered as foresters develop plans and policies for forest fragments.

If you have decided to include an action step with your training program, you may wish to conclude the management portion with several exercises about communicating management principles to landowners (**Module 4**) or to policy makers and community leaders (**Module 3**).



In the wildland-urban interface natural resource professionals may find that implementing management goals can only be done with good communication skills and policy initiatives. It may be difficult to separate these elements because in practice they are used concurrently.