SO YOU WANT TO BE IN FORESTRY

The Society of American Foresters
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Gifford Pinchot and six other pioneer foresters founded the Society of American Foresters (Society, SAF) in 1900. The Society, with more than 18,000 members, is the national organization representing the forestry profession in the United States. SAF includes public and private scientists and practitioners, administrators, educators, and forestry students as its members. It is also the accreditation authority for professional forestry education in the United States.

The mission of the Society of American Foresters is to advance the science, education, technology, and practice of forestry; to enhance the competency of its members; to establish professional excellence; and to use the knowledge, skills, and conservation ethic of the profession to ensure the continued health and use of forest ecosystems and the present and future availability of forest resources to benefit society.

Society members subscribe to a code of ethics, the foundation for their professional behavior in relations with the land, the public, their employers (including clients), and with each other. Stewardship of the land is the cornerstone of the forestry profession. As such, SAF members advocate and practice land management consistent with ecologically sound principles.

If you are interested in a career in forestry, this booklet is for you. It will help you better understand what forestry is, what foresters and forest technicians do, and how to pursue a career in forestry.

Like many young people, you may be attracted to forestry for the obvious appeal of the outdoors. Perhaps you have decided on a forestry career because you are concerned about the environment. Maybe you’re interested in the biological sciences and see forestry as a way to go forward with that interest. Or perhaps you see forestry education as a general base or stepping stone to a later career decision.

A satisfying career in forestry, like any other field, requires hard work and deep commitment. What makes forestry special, though, is that it appeals to a variety of interests—in the outdoors, the natural environment, and the biological sciences—while providing you an excellent college education blending biology with social
science and liberal arts. Later, we’ll talk about some hypothetical career paths foresters and forest technicians are taking these days and the education and experience that helped them gain their present status. But first, before we discuss forestry as a possible career choice, let’s talk about what the science of forestry is all about.

What Is Forestry?

To understand forestry, we need to look at what forest resources are, where they are, and who owns them. Further, we need to appreciate the many benefits forests provide, while considering what is involved in assuring that these benefits continue to be available.

Forest Resources

Forest resources are more than just trees. They are everything in and associated with forests—trees and a number of other organisms in complex ecological linkages. America’s forests are vast, ranging from the urbanizing areas of the continental U.S. to the yet undeveloped expanses of Alaska. They cover about 30 percent of the nation’s land and are owned by a multitude of individuals, corporations, and government agencies.

Perhaps the most familiar forests are our National Forests, owned by all citizens and managed by the U.S. Forest Service. There are wildlife refuges, 156 National Forests, western grazing lands, military reservations,
Job opportunities are greatly varied. Forester at left measures trees in remote forest while forester above checks for insect damage on trees along a city street.
and other areas. Still other public forest lands are in state and local forests and in state, county, and municipal parks.

The largest part of our nation's forests, however, is in private ownership. In fact, individuals (non-industrial private owners) own 58 percent, and corporations (primarily forest-product companies) own 14 percent of U.S. forests.

The diversity of ownership suggests a great variety of benefits expected from our forests. Forests serve a public need, as the existence of our National Forests and other public forests show. Those forests are dedicated in the aggregate to providing continuing benefits of wood products, recreation, wildlife habitat, water, forage, and environmental protection. Of no less importance in providing these benefits are privately owned forests.

**Forest Benefits**

Our needs from the forest are great. It has been estimated that Americans come in contact each day with over 10,000 items that come from forests. We consume some of these items at a surprising rate. For example, each of us uses 663 pounds of paper in a single year. Forests are renewable, however, and with proper harvesting and regeneration can continue to provide these products.

Much of the grazing area in the west is on forested lands. It is on these lands that cattle, sheep, and other livestock help meet our needs for meat, leather goods, and other products.

Forests make a near-invaluable contribution to water quality and water production. The forested slopes of the Rocky Mountains, for example, filter rainfall, control snowmelt, and help replenish both surface and underground water supplies.

Forest-based recreation takes many forms, depending on our individual needs and interests. Recreation may be passive, such as enjoying a view or simply listening to the wind in the trees. Recreation may also be active, varying from downhill skiing to quietly stalking a wary trout.

Forests cleanse the air, hold back the wind, and protect the soil. They provide, in the words of the poet, "places for foxes to play, deer to bound, and loons to laugh. . . ."

**Management Considerations**

The necessity of managing our forests better now and in the future
is the challenge of the forestry profession. There are many factors influencing our forest resources—ever-increasing demands for forest products, an increasing population seeking more and new forms of recreation, a need for more clean water, and the physical intrusion of urbanization. To these must also be added the complication that some benefits are often incompatible with others. In short, we have more people wanting more from our forests with fewer forests to meet those needs.

Forestry involves managing trees and other organisms through various biological techniques. It requires a close relationship with people, a sensitivity to their needs, and an understanding of the various social, economic, and political factors that influence human behavior. Forestry, whether public or private, also involves business management and application of the latest in modern technology.

Forestry must be considered in an international sense as well. Expanding world trade is influencing the marketing and consumption of forest products. Increasing world travel is intensifying the recreational demands on forests. Also, environmental factors such as acid rain and global temperature changes know no international boundaries.
What Is A Forester?

As we have just discussed, forestry is a science that involves managing forest resources in an increasingly complex world. Forestry is also the profession that must answer that challenge, and therefore requires extensive education and training in science and liberal arts. Thus, a forester is a person educated in the science and art of forestry and engaged in forestry work.

To possess the title of “forester,” you generally must have a college degree from a school offering professional forestry education. There are, however, many disciplines related to forestry, and many people who work in forestry have professional training in other fields. These people are usually not called foresters but have titles reflecting their specialties, such as forest pathologist, forest entomologist, landscape architect, or soil scientist. We will look at these and other related fields in more detail in a later section.

Forestry education may begin with work toward a two-year Associate degree. Graduates of these programs generally work as forest technicians, often performing or supervising field activities in many forestry and related fields. Employment may be in private industry or with government agencies. Many colleges with four-year Bachelor degree programs accept transfer credits from graduates of Associate degree forest technician programs.

Graduates of Bachelor degree programs generally start in entry-level positions, but may proceed up the career ladder to management positions. Masters and Ph.D. degrees are usually required for positions in

Forester at right contemplates the trials and triumphs of his career in the woods as the next generation of foresters (below) learns about the brave new world of forestry.
Fire is increasingly recognized as a natural part of the forest environment. Here, a forester helps direct a controlled burn to ensure seedling regeneration.
teaching, research, and highly specialized areas.

With this brief background, let's look now at what foresters and forest technicians do. We will then revisit the schools to see what is required to become a forester.

What Does A Forester Do?

Foresters may be found in the woods, in mills, in offices, laboratories, classrooms, board rooms, even in the halls of Congress. Foresters can expect diversity in their jobs. As a forester, perhaps you will be fighting a fire in the morning and making a presentation at a board meeting in the afternoon. It is easy to see why today's foresters need to be nearly as comfortable in business attire as they are in a T-shirt.

As we have seen, forestry includes a broad array of resources, benefits, and issues, with foresters involved in all aspects. Following are some examples of what foresters and forest technicians do. The examples, while typical, cannot cover the entire range of forestry. They do, however, suggest the great diversity of forestry positions and daily activities. You should realize, though, that foresters entering the field are generally assigned to positions, often in woods work, where practical experience can build on formal training.

♦ Jim is a unit manager for a major pulp and paper company in the southeast. He is responsible for all forest management activities on 30,000 acres of company-owned and leased

Technology has brought the Relaskop, and more recently, the microcomputer, into the forester's world.
lands. Six years out of college, he has been promoted to this position after various job assignments involving forest inventory, harvesting, and regeneration. He has surveyed forest boundaries, estimated timber volumes, marked trees for harvest, supervised planting crews, fought fires, and checked permits giving access to company lands during hunting season. He now supervises all of these activities, administers timber sales contracts, negotiates leases, and prepares operational plans and budgets.

* The title “District Ranger” is specific to this position in the Forest Service. Although the word “ranger” is often perceived as synonymous with “forester,” only a few foresters carry the title “district ranger”—640 to be exact, one heading up each of the 640 ranger districts in the Forest Service.

Helen is a district ranger* on a National Forest in the Pacific Northwest. She is the manager of a district covering over 200 square miles of both forests and grasslands. As such, Helen has responsibility for management of these lands to assure wildlife habitat, sustained timber yields, forage production, watershed values, and recreational opportunities for over one million forest visitors each year. In her job as a forester, Helen must be highly skilled not only in vegetation management but in planning and budgeting, personnel management, and public relations. She oversees five foresters, four forest technicians, and 25 other employees.

Steve is a consulting forester in New England. He provides specialized services to private forestland owners. His clients are farmers, professional people, and small forest-product companies. Steve has built his business over the past nine years, and is involved daily in such activities as preparing woodlot management plans, administering timber sales, evaluating insect and storm damage, and meeting with clients. Steve holds a real estate appraiser’s license in his home state. He has also become an expert in forest taxation.

Joe is an urban forester. With a degree in forestry, including special courses in urban forest vegetation, communications, planning, city gov-
ernment, and urban sociology, he is one of a growing number of foresters bringing their special skills to the urban environment. Employed by a mid-size city in the east, he has just completed an inventory of all streetside and park trees. The inventory information, available from his computer, will aid the city forestry department in a systems approach to managing the urban forest.

♦ Connie is a field forester for a large land management company in the east central states. She has recently completed a computerized forest site inventory and is currently working with a wildlife biologist to enhance wild turkey habitat. Connie's company is also cooperating with forestry researchers from a local university to assess the long-term ecological effects of gypsy-moth infestations on the forest.

♦ Miguel is a forest geneticist. He has recently earned a Ph.D. and is now employed by a major university. Involved in both teaching and research, he is leading a long-term project in tree improvement—selecting, testing, and developing new trees for better quality, faster growth, and resistance to insects and disease. Miguel's area of research is a primary key to assuring an adequate supply of forest products in the future.

♦ Gene works for a tree seedling nursery in the Lake States. He earned an Associate degree in forestry four years ago and is now responsible for supervising seed collection, seeding and management of nursery beds, and lifting (digging) of seedlings.

♦ Carl is a forestry technician for a state forestry department. After completing a two-year forestry program in his home state, he served two years in the Peace Corps. He is now responsible for vegetation management on
four high-use recreation areas on state forest lands. He develops work sched-
ules and supervises planting, pruning, fertilizing, and other maintenance
work of trees, shrubs, and other vegetation. Carl has just completed a two-
day refresher course in tree fertiliza-
tion.

♦ Carol is employed by the National Air and Space Administration. With a
degree in forestry and specialized training in cartography, she is respon-
sible for analyses of satellite photo-
graphs. She has recently developed a
computer program to forecast the reac-
tions of sub-arctic vegetation to
predicted ozone layer changes.

♦ Kim is a budget analyst for the Office of Management and Budget in
Washington, DC. She has a Bachelor’s
degree in forestry and a Master’s de-
gree in public administration. She
reviews natural-resource agency budgets to assure technical needs and correct procedures. She works closely with officials of federal agencies and Congress and meets often with special-interest groups and associations. In addition to her knowledge of forestry, Kim is very skilled in interpersonal communications, budgeting, management, and political science. She is thinking of running for Congress someday.

Danny is a public affairs officer for a large western National Forest. He took this job after spending 19 years as District Ranger and fire staff officer. His duties include preparing speeches for forest officers, furnishing information about the forest to the public, conducting meetings to provide forest users a chance to express their ideas about the forest’s objectives and management, and issuing press, radio, and television news releases. You may have seen Danny on TV during the summer fire season.

The examples could go on and on. In fact, the Society of American Foresters lists over 700 job categories and nearly 14,000 separate employers among its members. We hope that the examples not only show what foresters and technicians traditionally do but also give a glimpse of the dynamic nature of forestry and of future opportunities.

How Do You Become A Forester?

A Bachelor’s degree in forestry usually requires four years of college work. During your first two years, you may expect to take “general” courses in social and biological sciences, mathematics, and communications, with introductory courses in forestry. Coursework during your junior and senior years will be more specific to forestry, with opportunities to intensify your studies in areas of your own interest. Most forestry curricula offer different options, or “tracks”—for example, forest manage-
Above: Tree nurseries provide millions of seedlings for reforestation.
Right: Forest researcher monitors rainfall for acid content.

ment, forest hydrology, or forest recreation. You may also take elective courses, which will allow you to develop your specific interests further.

Your coursework will be in the classroom, the laboratory, and the field. Many universities require a summer school at a field location, or a tour of major forestry operations in the nation. Many forestry students also obtain summer jobs with forestry agencies—often on National Forests and other public lands. Credit hours are given by some universities for summer work.

In general, your college work will help you gain a broad understanding of biological, social, and physical science concepts and how they apply to forestry. You will also develop the skills necessary to apply these concepts to your chosen area of forestry.

Graduate study at the Master’s degree level permits you to either specialize in a certain area, or broaden your general knowledge of forestry or related fields. Work at the Ph.D. level tends to be highly specialized, requiring research in a specific area.

Some forestry students continue on into graduate school right away. Other foresters return to school after working in the profession for a number of years. While such decisions must be based on individual circumstances, those returning to school after work experience often have a better idea about their field of specialization.

If you wish to become a forest technician, Associate degree programs are offered by some community, junior, and private colleges. Technician training emphasizes the more practical aspects of forestry and is aimed at developing the skills necessary to
carry out field forestry work. Several options are available, such as forest management, urban forestry, nursery production, forest pest control, and park operations. Courses of study provide opportunities for hands-on experience, but with technical instruction necessary to understanding both the “why” and the “how” of field operations.

If you are still in high school and plan to study forestry in college, you may wish to take an extra course or two in science, math, or communications. Also, being familiar with computers will give you an advantage.

It is recommended that you write or visit one or more schools offering forestry education. They will be happy to furnish detailed information on courses, curricula, and other requirements. A list of colleges and universities having forestry programs is available. Please see page 16 for information on how to obtain a current list of schools.

Opportunities Following Graduation

After you graduate, career openings are available in private industry as well as all levels of government. As we have seen, forestry employment is extremely diverse.

Employment opportunities in private industry are primarily with companies that manage forest lands for lumber, pulpwood, and other products. Forestry employment may also be found with companies that utilize forest products and with suppliers of forestry equipment and materials. Other possible job sources are private estates, tree service companies, and forestry consulting firms.

Most forestry positions in the federal government are with the U.S. Forest Service, but opportunities also exist with other agencies, such as the Soil Conservation Service, the Bureau of Land Management, the National Park Service, and the U.S. Army Corps of Engineers.
Extension Service employs foresters in both state and county positions. County and municipal governments also have forestry positions involving planning, urban forestry, recreation management, and watershed forestry.

Beginning salaries in forestry are comparable with other resource-based professions. Advancement opportunities are abundant, depending largely upon individual capability and initiative. As we have discussed, opening positions in forestry often involve field work under the supervision of more experienced foresters. Such work may be in rural locations and may also require frequent moving.

Forestry is constantly changing. New products, equipment, and techniques are being developed, and new issues emerge almost daily. Thus, you must keep current. A wide variety of continuing education opportunities will be available to you—conferences, seminars, publications, and audio and video presentations. In addition, you may have to become licensed or registered, depending upon the laws of the state in which you work. Also, if you work with chemical pesticides, training and certification will be necessary.

A good way to learn about potential forestry jobs or just to get first-hand information about the forestry profession is to call or visit your state's de-
partment of natural resources or division of forestry, or visit your local forester.

Finally, your professional development can be enhanced by participation in the Society of American Foresters and The American Forestry Association.

**Related Fields**

Forestry education provides a solid background for those who wish to enter into related natural resource careers. Forestry provides a good base for specialization through graduate study or other training in areas such as range science, wildlife biology, and water and soil sciences. Conversely, many individuals with basic education in these fields plus others such as engineers, landscape architects, pathologists, entomologists, and social scientists, are involved in forestry. Forestry relies upon the assistance of related specialties, just as these fields rely upon the expertise of those trained in forestry.

Thus, you do not necessarily have to be a forester to work in forestry. You must, however, have specific education in forestry to be a forester.

The Society of American Foresters is the official agency for accrediting professional forestry and recognizing forest technician educational programs in the U.S. For a list of forestry schools presently accredited or recognized by the Society of American Foresters, write to SOCIETY OF AMERICAN FORESTERS, 5400 Grosvenor Lane, Bethesda, MD 20814.

To learn more about forests and forestry, The American Forestry Association invites you to become a member. AMERICAN FORESTS magazine will keep you informed about your chosen field, while an AFA membership will show college admission offices that you’re really interested in a forestry career. For more information about the benefits of AFA membership, write the AMERICAN FORESTRY ASSOCIATION, P.O. Box 2000, Washington, DC 20013.
Foresters can pride themselves in knowing that they have nurtured life.