1961–1975

1. Sugar Pines. Sequoia National Forest, California.

1

Keeping Up With The Times, 1961–1975.

Highlights

On July 1, 1876, the population of the United States, as then constituted, was roughly 46.1 million.* On July 1, 1975, our population was estimated by the Census Bureau to be 213.5 million, including the Armed Forces overseas. With this increase of 167.4 million men, women, and children in 100 years, and with our natural resources less abundant than a century earlier, there was need to stretch these resources, especially the forests, to their greatest possible, practical use. To accommodate the demands of the ever-growing population (there were 34.7 million more people in the country in 1975 than in 1961), the National Forest System was called upon to yield more wood, more water, more recreation, more range forage, and more wildlife habitat than ever before. Other Federal outdoor areas and the privately owned forests also felt the pinch.

As a consequence, the period from 1961 to 1975 was one of greater challenges for the Forest Service than it had faced before. A change of direction was needed to meet the needs of the new era efficiently and effectively. This changeover was characterized by a gradually quickening shift from short-term management concepts to fully planned, longer range management. This conscious effort to keep up with the time brought notable advances.

The Forest Service instituted the principles of the Multiple Use-Sustained Yield Act (1960) throughout the National Forest System. The purpose of the Act was to insure that all possible use and benefit might be extracted from the public forests and grasslands without endangering their future usefulness and productivity.

The activities of Forestry Research and State and Private Forestry intensified, and emphasis on the use of interdisciplinary teams increased. These teams represented a wide range of specialities, for example, wildlife biologists, landscape architects, soil scientists, range experts, engineers, and foresters. The teams began working to meet current demands on the Forest Service and to prepare plans designed to better mesh human needs with a sustained supply of natural resources for the future.

The Nation became more conscious of its environment, in a spirit akin to but more refined than that of the first decade of the 20th century. There was a new appreciation of environmental values and of the need to protect them, achieving expression in the National Environmental Policy Act of 1969, which profoundly influenced Forest Service planning and programs. In response to the heightened public awareness of federal activities, the Service launched a program in the early 1970's to "inform and involve" the people in the decisionmaking process as it affected their interests in the forests. The goal was meaningful public involvement in developing better land and resource management.

The most ambitious planning initiative of the Forest Service involved 3 years of extensive effort culminating, in mid–1974, with "A Long Term Forestry Plan (Draft)—Environmental Program for the Future." This was a comprehensive plan involving the National Forest System, Research, and State and Private Forestry. The Forest and Rangeland Renewable Resources Planning Act (PL 93–378) of August 1974 coincided with the Environmental Program for the Future and was one of the most significant Congressional conservation actions in many years to have so great an impact on the future of American forestry. This Act represented the first legislative recognition by Congress that management of our natural resources can be fully efficient only when planning and funding are done on a long-range basis, not year-to-year.

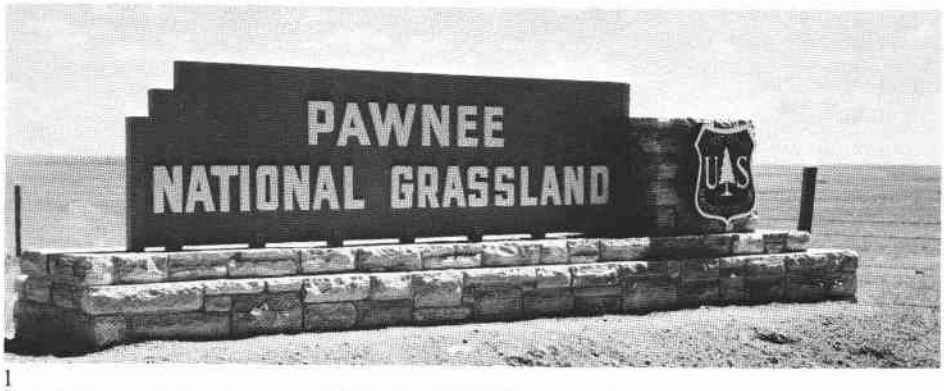
The Resources Planning Act covered all Forest Service areas of responsibilities and activities—the research and cooperative programs and National Forest System management. It required periodic analyses of present and anticipated uses, demands for, and supply of renewable resources. The international resources situation also had to be incorporated. The Act required that the first national assessment and program be submitted to Congress by the end of 1975. In complying, the Forest Service was able to draw on its own Environmental Program for the Future for pertinent material on outdoor recreation and wilderness, wildlife and fish habitat, rangeland grazing, timber, land and water, and human and community development. The experience of the first century of federal forestry thus culminated in a blueprint for the next century.

**Historical Statistics of the United States* (U.S. Department of Commerce).

1961–1975

Signs—

1. Colorado
2. California
3. New Hampshire
4. Mississippi
5. Montana
6. Oregon
7. Puerto Rico
8. Washington



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1. Water for a hundred purposes . . . (Gifford Pinchot National Forest, Washington).
2. Wood for a thousand uses . . . (Ozark National Forest, Arkansas).

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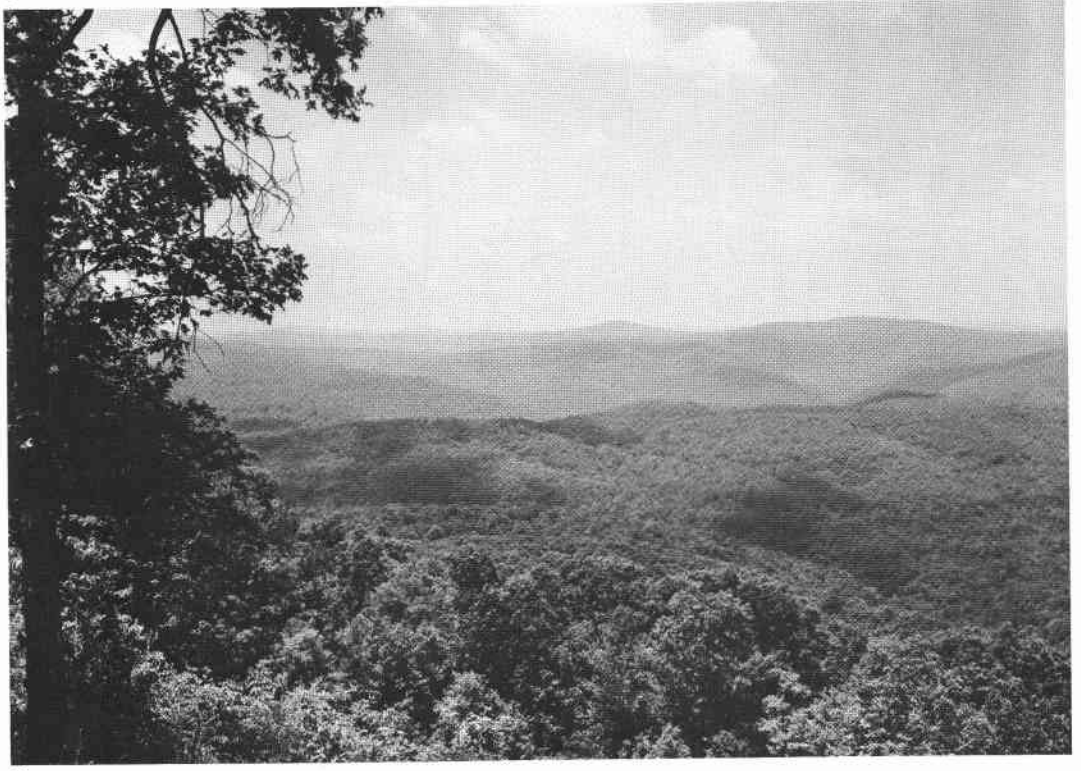

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Sidelights (1961–1975)

During this period an interesting trend began to develop, a trend with favorable portents for American forest conservation and for the Forest Service of the future. There was a special accent on youth through the Job Corps and the Youth Conservation Corps, a new emphasis on State and Private Assistance through forestry incentive programs, an introduction of modern techniques in forest management and forestry research, and an offering of new services and opportunities for *all* Americans—a general upgrading of both environmental and human resources.

The Job Corps program, starting in 1965, gave young men from deprived backgrounds basic schooling, training in skills, and valuable job experience.

The Youth Conservation Corps was launched in 1971 as a 3-year pilot program featuring summer conservation work-learn activities for young men and women from all parts of the Nation and from all walks of life. The Corps was continued beyond 1974 as a permanent entity because of its success in providing gainful employment, in accomplishing needed conservation work, and in arousing its youthful participants to a new understanding and appreciation of their Nation's environment and heritage. By 1975, State-operated projects on non-federal public lands were in full swing along with projects being carried on in National Forests, National Parks, Wildlife Refuges, and on other public lands and waters.

In 1971, new survey techniques came into being as satellite photos and imagery were used to make a sample survey of 12 million acres of forests in the Southeast.

Also, in 1971, Smokey Bear was joined by a new comrade, Woodsy Owl, a symbol for wise use of the environment that quickly captured the attention and cooperation of millions of outdoor-loving Americans. The Woodsy Owl symbol and slogan, "Give a Hoot, Don't Pollute," are authorized and protected by law, just as Smokey Bear is.

1

1. Edward P. Cliff, Chief of the Forest Service, 1962–1972.

"As the population of the country rises and demands on the timber, forage, water, wildlife, and recreation resources increase, the National Forests more and more provide for the material needs of the individual, and the economy of the towns and States, and contribute to the Nation's strength and well-being. Thus the National Forests serve the people."

Edward P. Cliff (1962–1972)

2

3

2. Fish. George Washington National Forest, Virginia.
3. Deer. Nantahala National Forest, North Carolina.
4. Sheep. Carson National Forest, New Mexico.

4

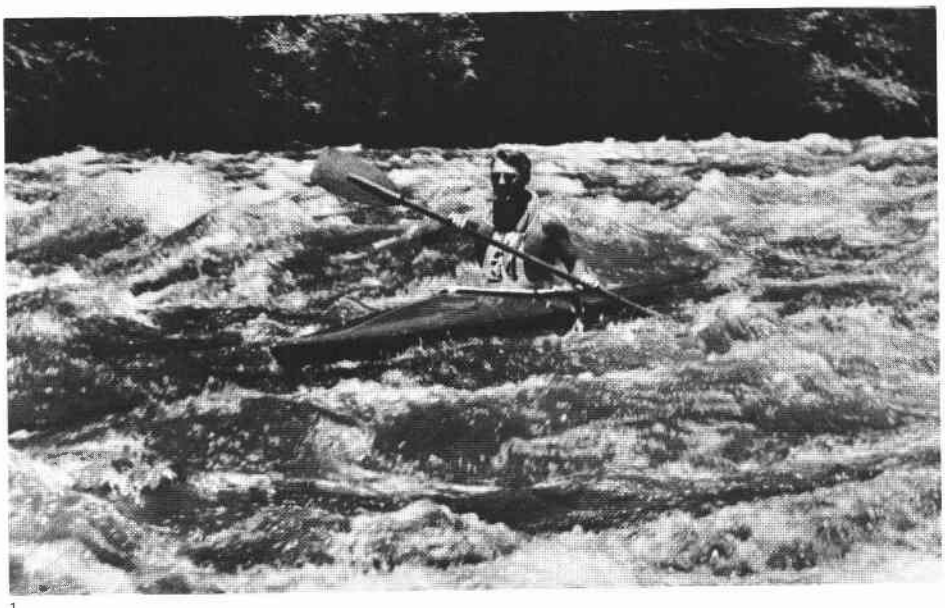
Domestic stock and wildlife . . .

Recteation to fit every taste . . .

1. Whitewatet Championship Canoe Races, Feathet Rivet, Plumas National Fotest, Califotnia (1970).
2. Skiing, Mount Hood National Fotest, Washington.

In 1974, the Golden Annivetsaty of a pticeless concept was observed when the Gila Wildetness Area in the Gila National Fotest, New Mexico, matked its 50th bitthday. (Ten years eatliet, in passing the Wildetness Act, Congtess had legally endotsed a long-standing Fotest Service policy of establishing and maintaining wildetness ateas.)

The 50th annivetsaty of the Clarke-McNary Act was also observed in 1974, teflecting a dramatic evolution of State and Ptivate Fotestry through the yeats, with evet-closet ties between the States and the Fotest Service fot the good of the public and the fotest resources.



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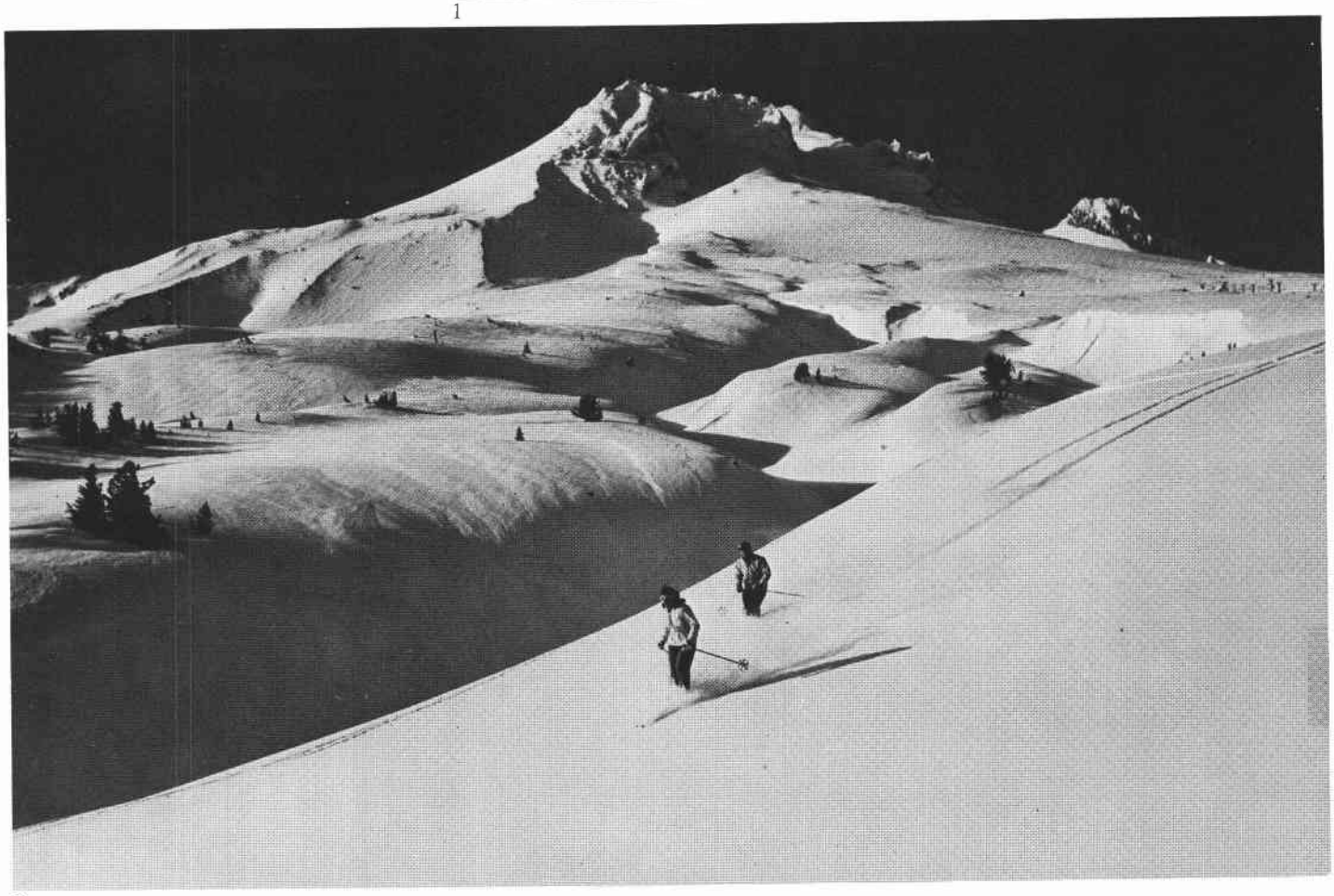

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The Visitor Information Service of the Forest Service—specially trained men and women and special facilities to further one's knowledge, to add zest to the outdoor adventure, to enhance the visitors' enjoyment.

1. Far North, in the Tongass National Forest in Alaska, the Visitor Information Center makes viewing of the Mendenhall Glacier a safer and more informative adventure.
2. The Cape Perpetua Visitor Information Center on the Pacific Ocean captures the interest of young plant examiners (Siuslaw National Forest, Oregon).
3. The annual growth rings tell the age and much more about the life of a tree—the fast-growing years and the slow ones, the dry years and the wet ones, and, quite often, there are marks of fires that had run wild through the forest (George Washington National Forest, Virginia).

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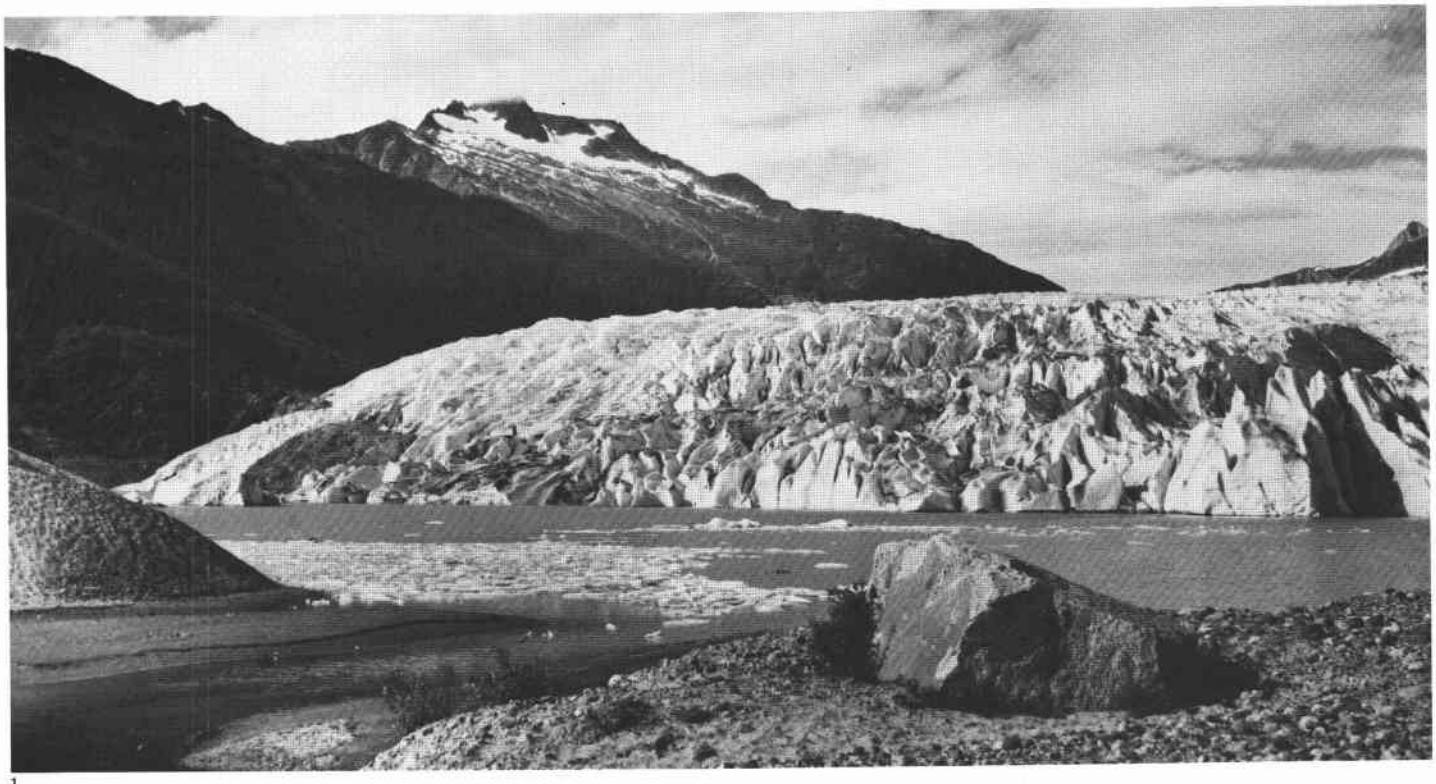
1. Face of Mendenhall Glacier across Mendenhall Lake.
2. A geological treat—Blanchard Springs Cavern in the Ozark National Forest, Arkansas.



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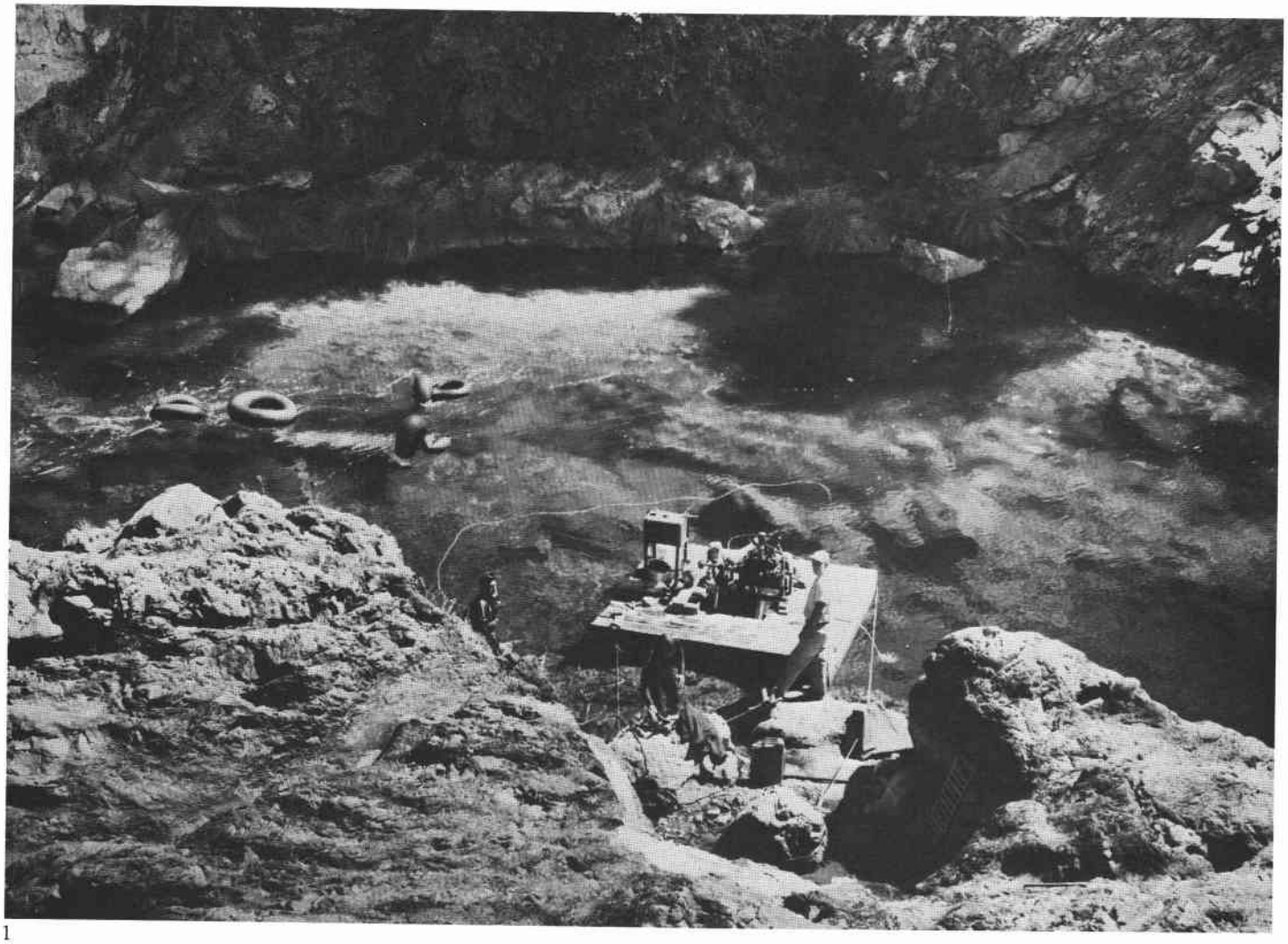
The Forest—

1. There's gold in the river. In 1962, scuba divers "vacuumed" the precious metal from the bottom of the North Yuba River in the Tahoe National Forest, California.

2. A microwave station built in the early 1960's made this part of the Helena National Forest, Montana, a high-value special-use area.

3. From farm forests in North Carolina come the raw materials for hand-crafted wooden creations that have kept many mountain and other rural residents profitably employed.



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1. In Virginia these baskets are woven from oak splits and are popular with tourists. The raw material comes from white oak from nearby farm forests.

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"All in the day's work . . ."

1. Stream habitat surveys indicate quality of the aquatic environment and provide basic management data (Bitterroot National Forest, Idaho, 1967).
2. Checking terrain for suitability for skiing (Lolo National Forest, Montana, 1966).
3. Avalanches can travel up to 100 miles per hour, and carry well over 100,000 tons of snow and debris. Anything in the path of a large avalanche is usually totally destroyed. The Forest Service supervises avalanche control activities at developed ski areas with the objective of reducing the hazard to life and property (Wasatch National Forest, Utah).
4. Measuring snow depth in February to determine summer run-off possibilities (Tahoe National Forest, California, 1970).
5. Controlling snow avalanches with 75 mm recoilless rifle fire (Gallatin National Forest, Montana, April 1970).

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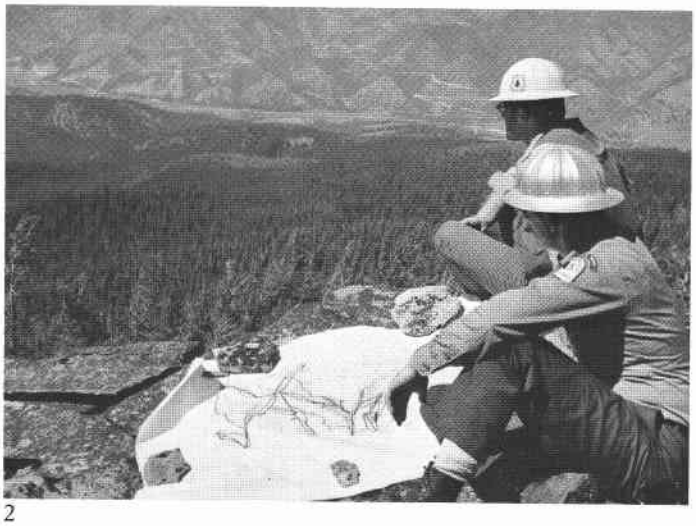

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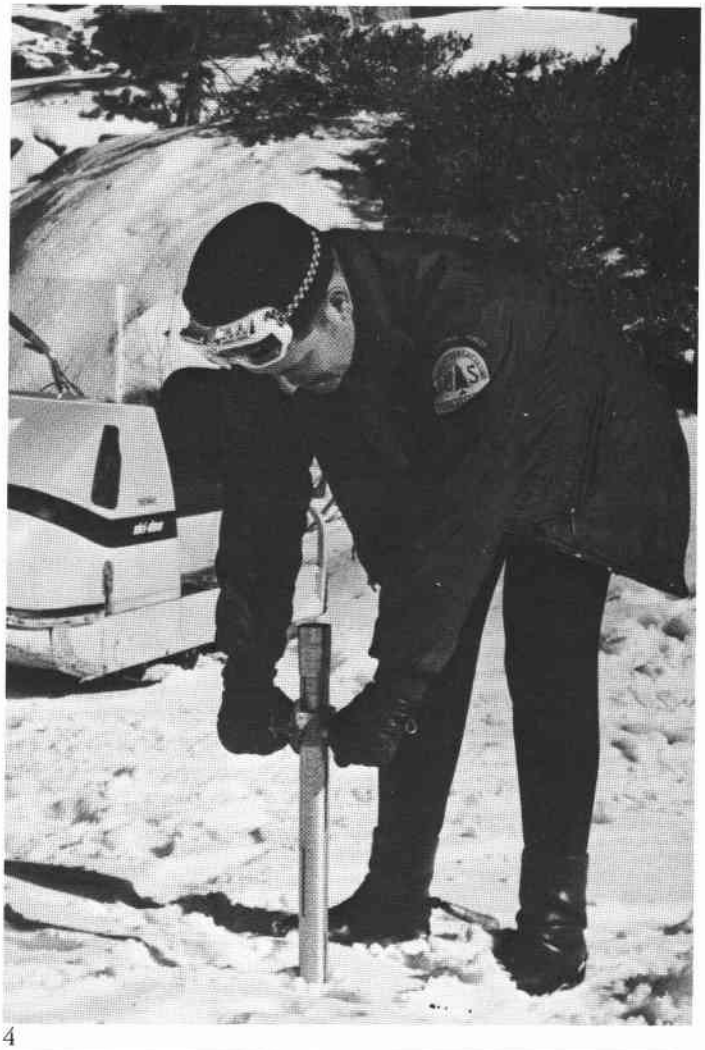

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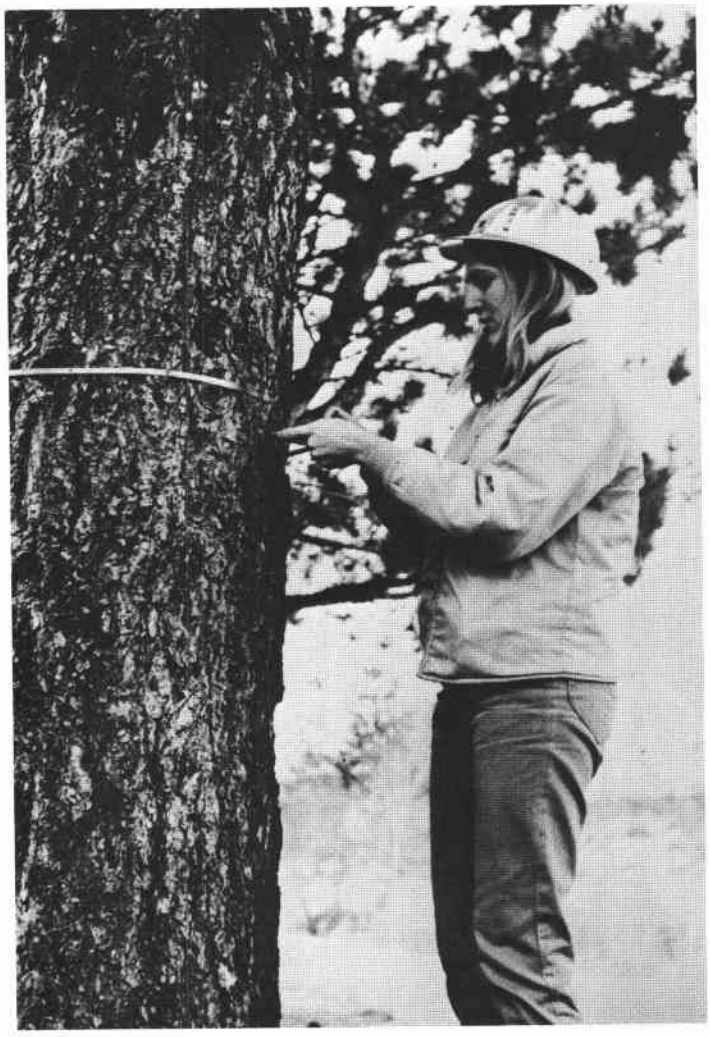
1. In the summer of 1965, a forestry technician on the Lewis and Clark National Forest in Montana measured the diameter of a tree to determine the volume of wood in it;
2. The District Forest Ranger checked the range allotment map with a ranch foreman, the two men discussing details of the grazing permit agreement, on the Routt National Forest, Colorado.
3. Meanwhile, back at a district ranger office in the Beaverhead National Forest, Montana, the District Clerk prepared a similar range allotment map;
4. And, in the Chief's headquarters in the Nation's Capital, another technician kept busy in the Automatic Data Processing Center.



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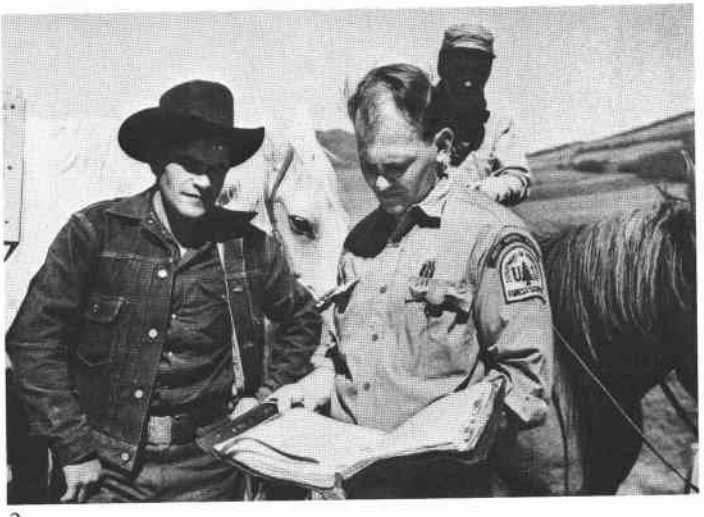

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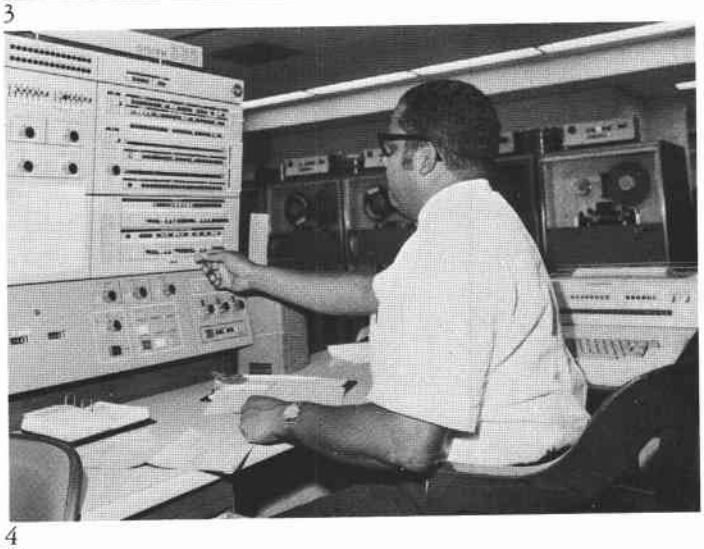

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1961–1975

Protecting the forests—a never-ending responsibility.

1. August 1961—1,650 men in 16 camps worked to control the Sleeping Child Fire in the Bitterroot National Forest, Montana. Pack strings helped supply fire camps that were inaccessible by road.

2. August 1970—fire struck heavily on the Wenatchee National Forest in Washington. Men moved up to the fire on foot.

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1. Men also moved up to the 1970 Wenatchee Fire in helicopters.
2. Water helped douse small spotfires . . .
3. And retardant was dropped from airtankers to slow down the fire's spread.

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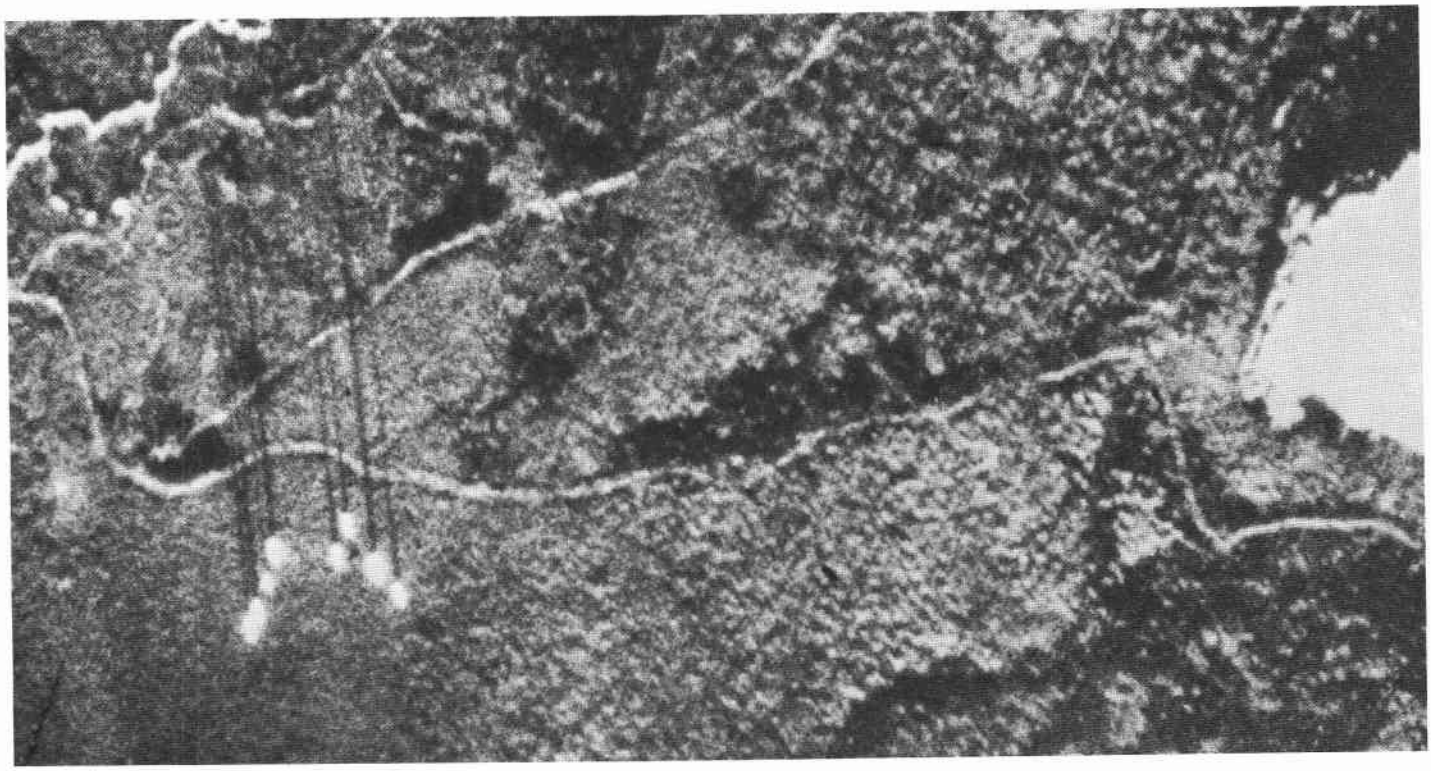
1. A different kind of spraying job took place on the Mt. Baker National Forest in Washington during the summer of 1968—spraying with an insecticide to control the ravages of the Hemlock Looper.

1

1. Infrared photography became a valuable Forest Service aid in the 1960's. The eight white lights (from eight small smudge pots) in the lower left-hand corner were photographed using infrared imagery.

2. In this photograph, made with standard camera and film, the smudge pots do not show up. Use of infrared photography makes it possible to locate fires while they are still small, before they reach a dangerous stage.



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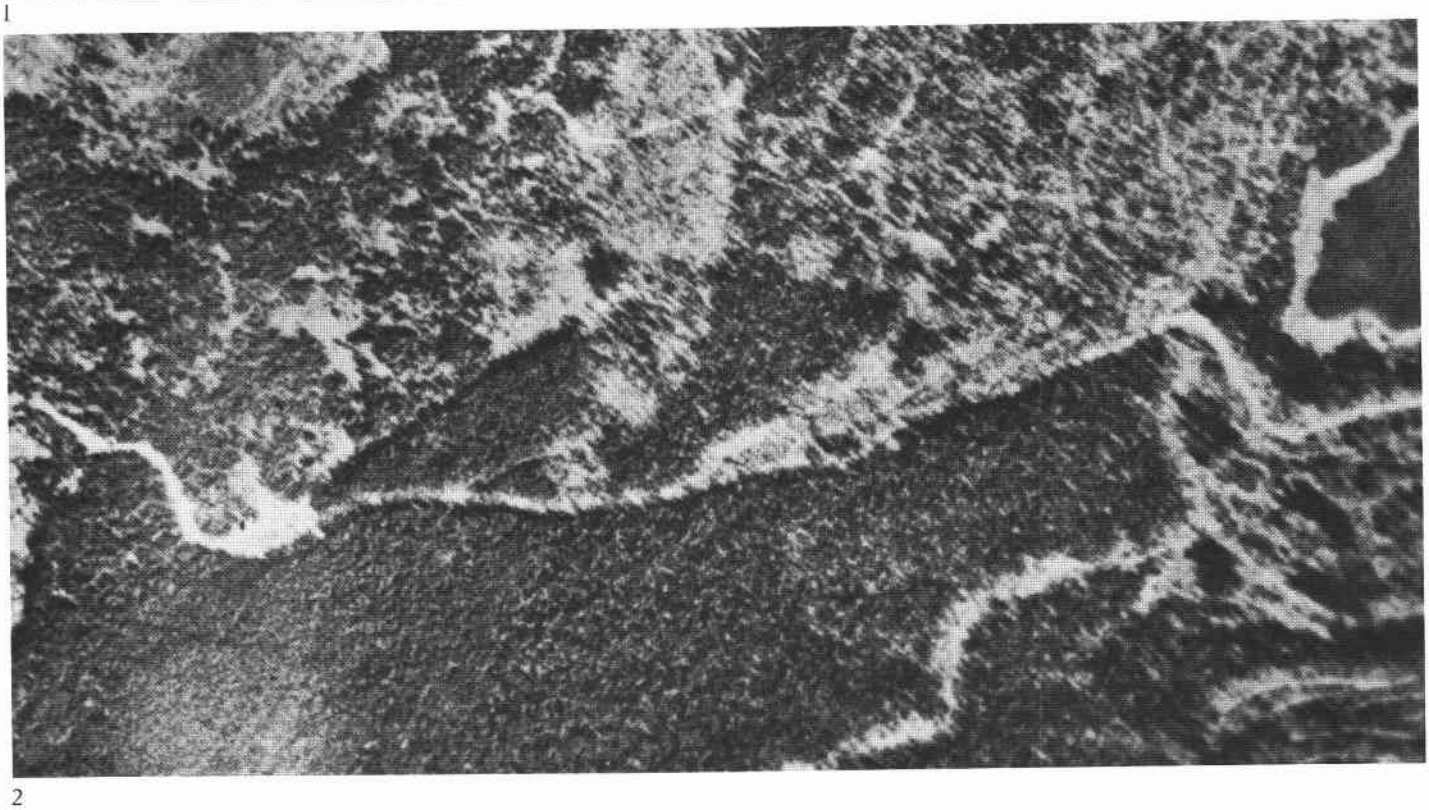

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1961–1975

Planting for the future . . .

1. Transplanting 2-year-old ponderosa pine seedlings in Savenac Nursery, Coeur d' Alene National Forest, Idaho (1963).
2. Checking the seed production area on the Ozark National Forest, Arkansas (1963).
3. Tree planter at work in a clear cut area. Gifford Pinchot National Forest, Washington (1965).

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1961–1975

1. The aftermath of the Sleeping Child Fire, Bitterroot National Forest, Montana, 1961.
2. Ten years after the Sleeping Child Fire, the forest stages a comeback (Bitterroot National Forest, Montana, 1971).
3. Stand of western larch reclaims an area damaged by a forest fire (Flathead National Forest, Montana, 1967).

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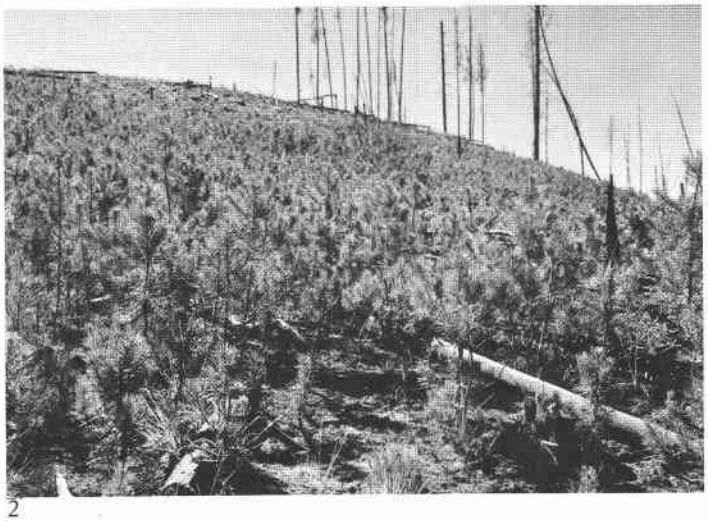

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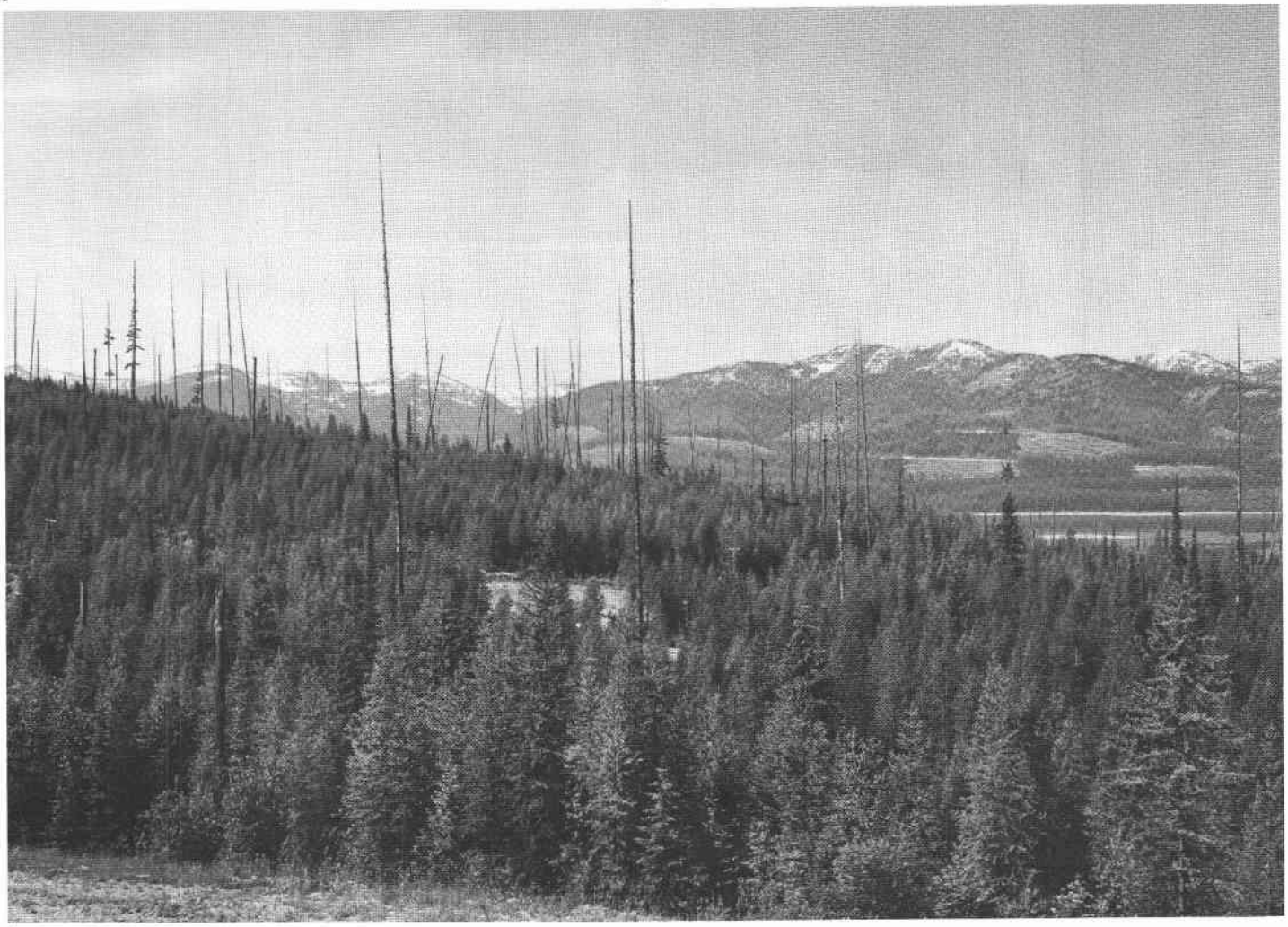

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Road building—a major activity . . .

As tools became more sophisticated and techniques more modern, the Forest Service engineer began to build his roads following straighter, safer, and faster routes. He gentled the dangerous curves, bridged rivers, and bored through mountains. More speed and more efficiency have become important as demands for wood, for recreational outlets, and forest mobility have grown. The necessity has remained, however, to maintain the beauty and integrity of the environment. In addition to building roads and trails within the National Forest System, Forest Service engineers, landscape architects, and other specialists also are responsible for the planning, location, and operation of dams, buildings, power lines, water and sewer systems, ski lifts, and generating plants—for management purposes, public use, or, under permits, for commercial use.

1. Kootenai National Forest, Montana.
2. Sumter National Forest, South Carolina.
3. Talladega National Forest, Alabama.

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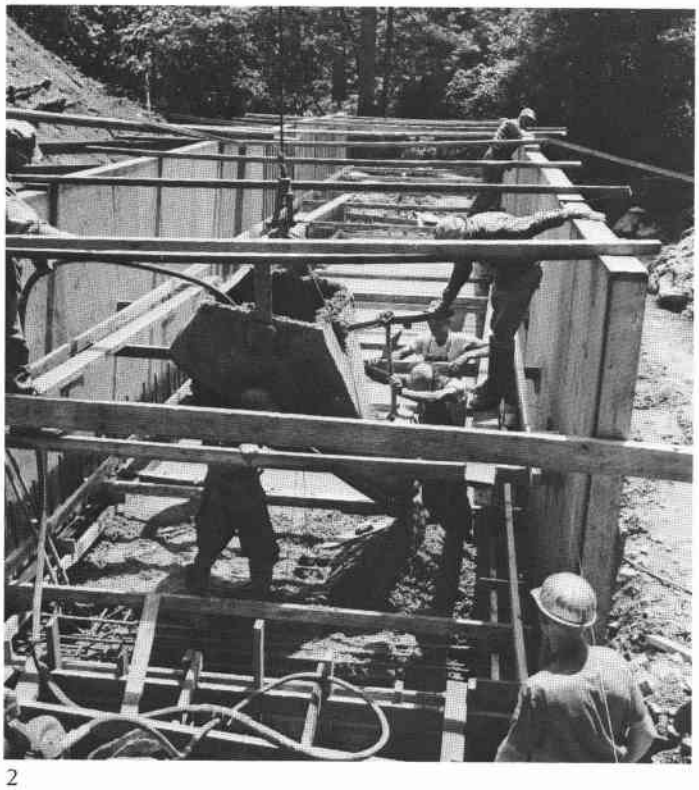

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1961–1975

1. The Forest Products Laboratory at Madison, Wisconsin, is the headquarters for the Federal Government's wood utilization research activities. Through the years, FPL has proved to be a boon to government and industry alike, with tremendous benefit to the public.

1

The Forest Products Laboratory . . .

1. Four days after an earthquake struck Anchorage, Alaska, in March 1964, FPL engineers were checking the damage to light, wood frame buildings to evaluate the quake's effects. They found that well-built wood structures generally survived the quake fairly well.
2. FPL-developed, massive, glued, laminated wood beams can stand tremendous stress and strain. A series of binding tests to get data for needed engineering design criteria was completed in 1969.
3. A key 1969 research effort developed the product "Press-Lam." It was a system developed by FPL scientists to increase the yield and quality of wood products. In the process, low-grade logs are cut into continuous sheets, $^{7}/_{16}$-inch thick, peeled from a rotating log by a knife. The resulting veneer is cut into short strips, press dried, glue laminated, and made into planks of lumber. Time: 30 minutes.
4. Sawdust (in this case, aspen) as livestock food? It was explored in the late 1960's and demonstrated its value as such.

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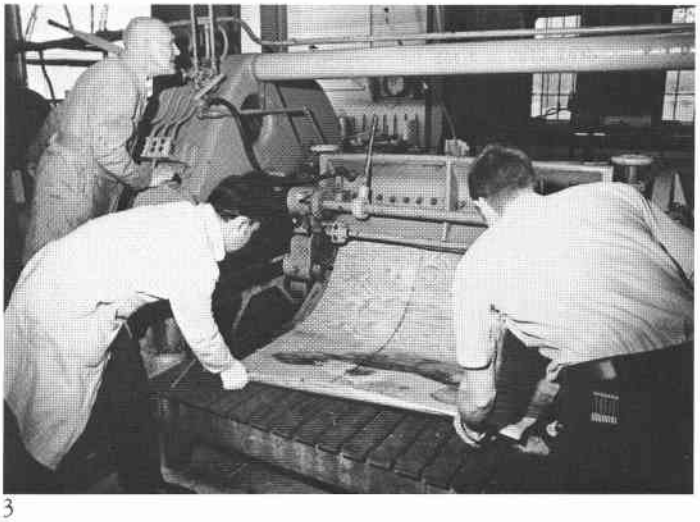

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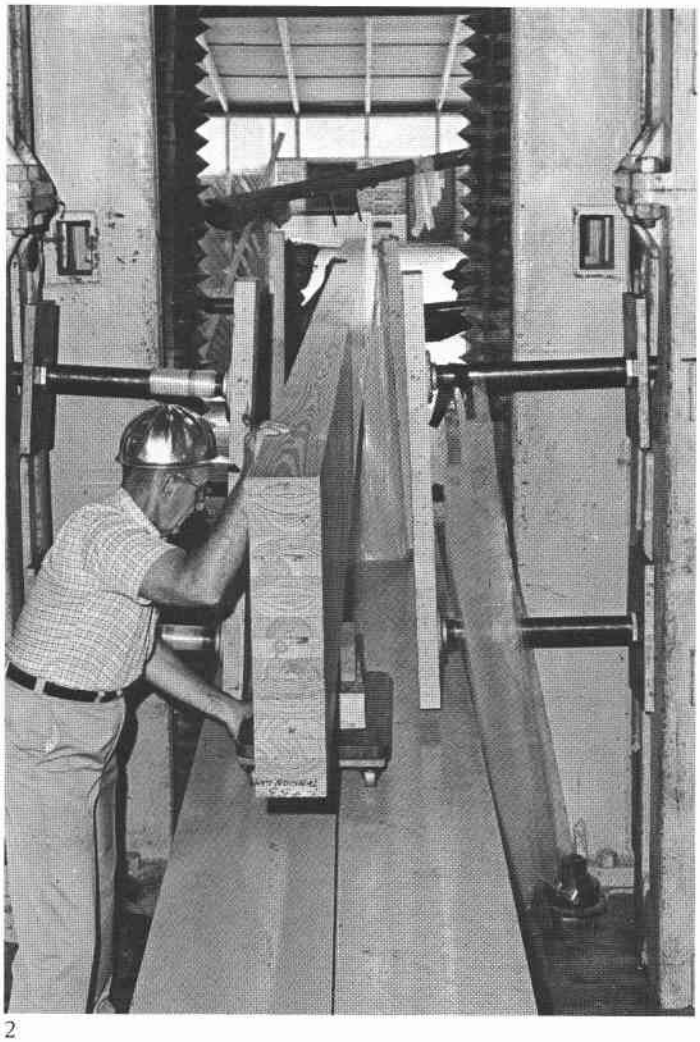

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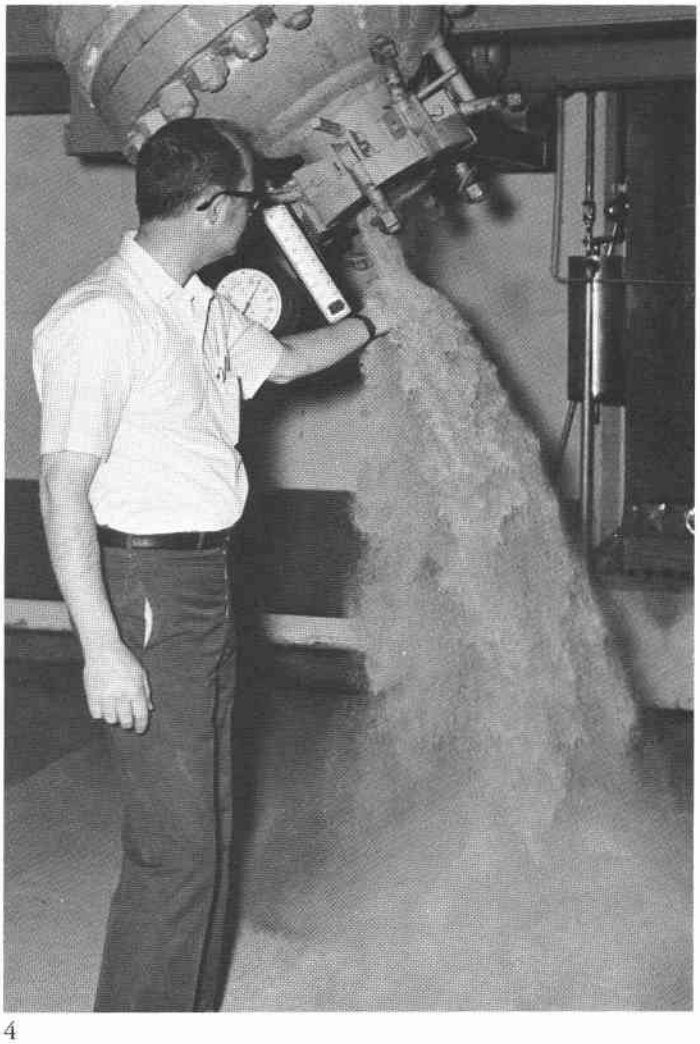

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The Pinchot Institute for Conservation Studies . . .

1. Grey Towers, family home of Gifford Pinchot, Chief Forester 1898–1910, was donated to the Forest Service by the Pinchot family, along with surrounding forest land, in 1963. It is now the headquarters for the Pinchot Institute of Conservation Studies in Milford, Pennsylvania. It has gradually developed into a center for environmental research.

2. President John F. Kennedy dedicated the Institute on September 24, 1963. This was the first stop on a nationwide conservation-oriented trip by the President.

1

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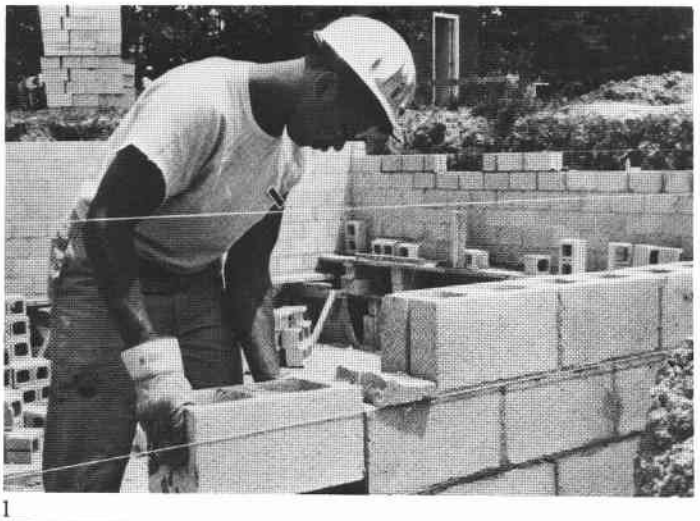
Job Corps . . .

1. In 1965, 8,000 disadvantaged 16- to 21-year-old youths in the Job Corps were receiving basic education as well as vocational-skills training in such fields as the construction of buildings . . .

2. Road surveys . . .
3. Watershed protection, and stream improvement . . .



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4. Lifesaving and waterfront safety.

4

1961–1975

The Youth Conservation Corps is administered by the Forest Service in cooperation with the Department of the Interior. The objectives: to do needed conservation work on public lands; to provide gainful summer employment for young men and women 15 to 18 years old; and to give these young people the opportunity to gain an understanding and appreciation of the Nation's environment and heritage.

1 & 2. In 1975, the YCC had almost 13,000 participants in a variety of outdoor activities, including the installation of fences . . .
3. Construction of barriers to help control erosion and improve the appearance of recreational areas . . .

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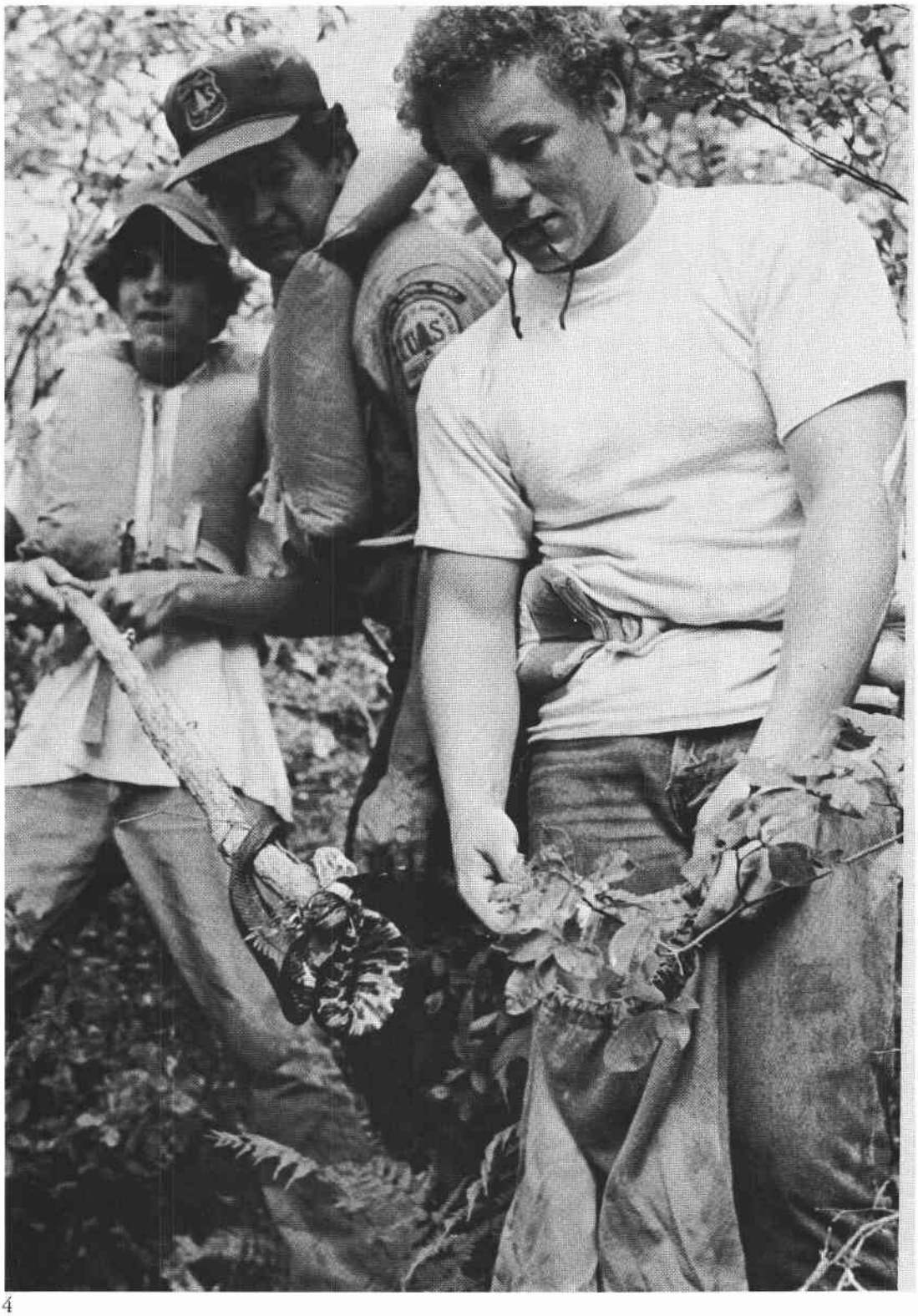
4. Engaging in environmental awareness projects—such as collecting snakes and other specimens to study for a better understanding of the natural world.



4

1961–1975

Long live Smokey Bear!

1 & 2. May 1975 saw the original living symbol of forest fire prevention retiring after 25 years at the National Zoo in Washington, D.C. On the same day, his successor was introduced to the public.

3. The Range Poster for 1973.
4 & 5. Each year there is a poster which headlines the continuing program of the nationwide forest fire prevention campaign, jointly conducted by the Forest Service and State Forestry Departments with the cooperation of The Advertising Council, Inc. Many noted artists and other professional people have supported the program in a practical way.

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The new living symbol of Smokey Bear also came from New Mexico—the original home of the first Smokey Bear. He had been abandoned and was searching for food when he was rescued. After serving as an understudy for 4 years in the National Zoo, he assumed his new role and greets the many children who come to see him.

1. At a planning meeting in 1973, Agriculture Secretary Earl Butz and Chief Forester John McGuire enjoy a laugh with Woodsy Owl, the Forest Service's symbol of environmental awareness.
2. "Give a hoot, don't pollute". . . This was the call heard throughout the land as the fire-preventing Smokey Bear welcomed a new comrade, the pollution-preventing Woodsy Owl.
3. The Woodsy Owl Program is conducted by the Forest Service with the cooperation of the State Foresters and the Public Service Council.
4. Woodsy Owl made his public debut nationally in September 1971, was legalized as a member of the U.S. Department of Agriculture conservation team by Act of Congress in 1974, and set out to capture the imagination and cooperation of young and old alike.
5. Children made the decision as to how Woodsy Owl should look. The environmental symbol represents their views, based on research interviews, rather than those of adults.

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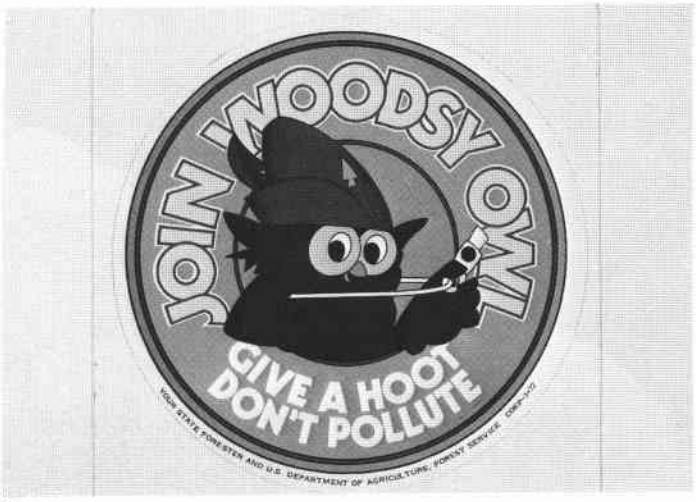

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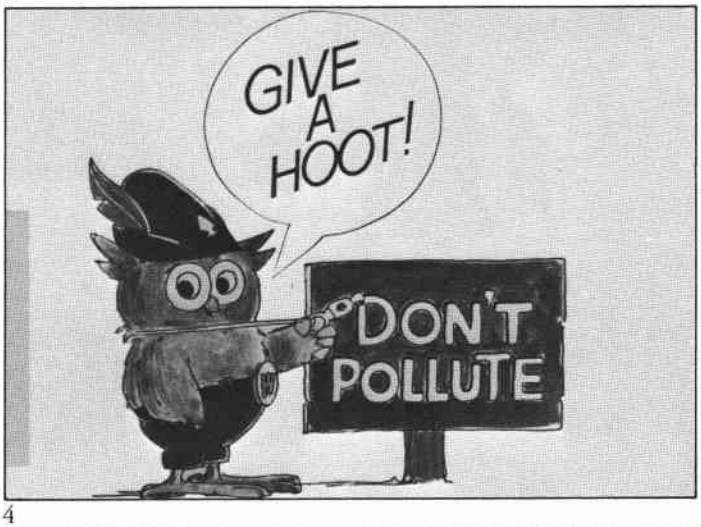

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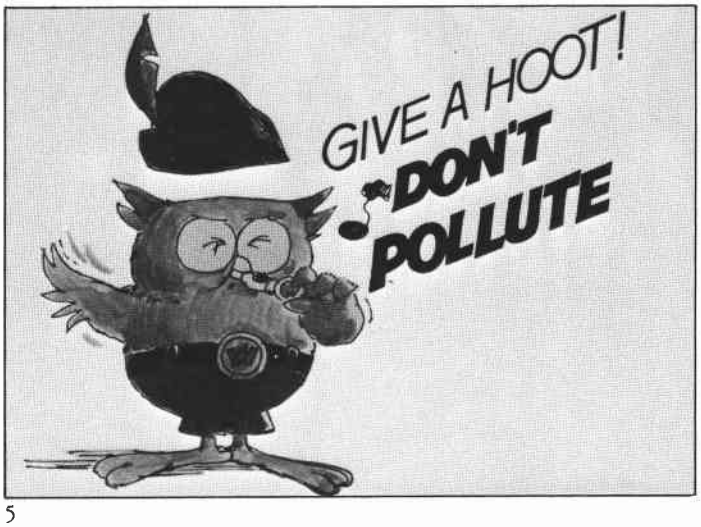

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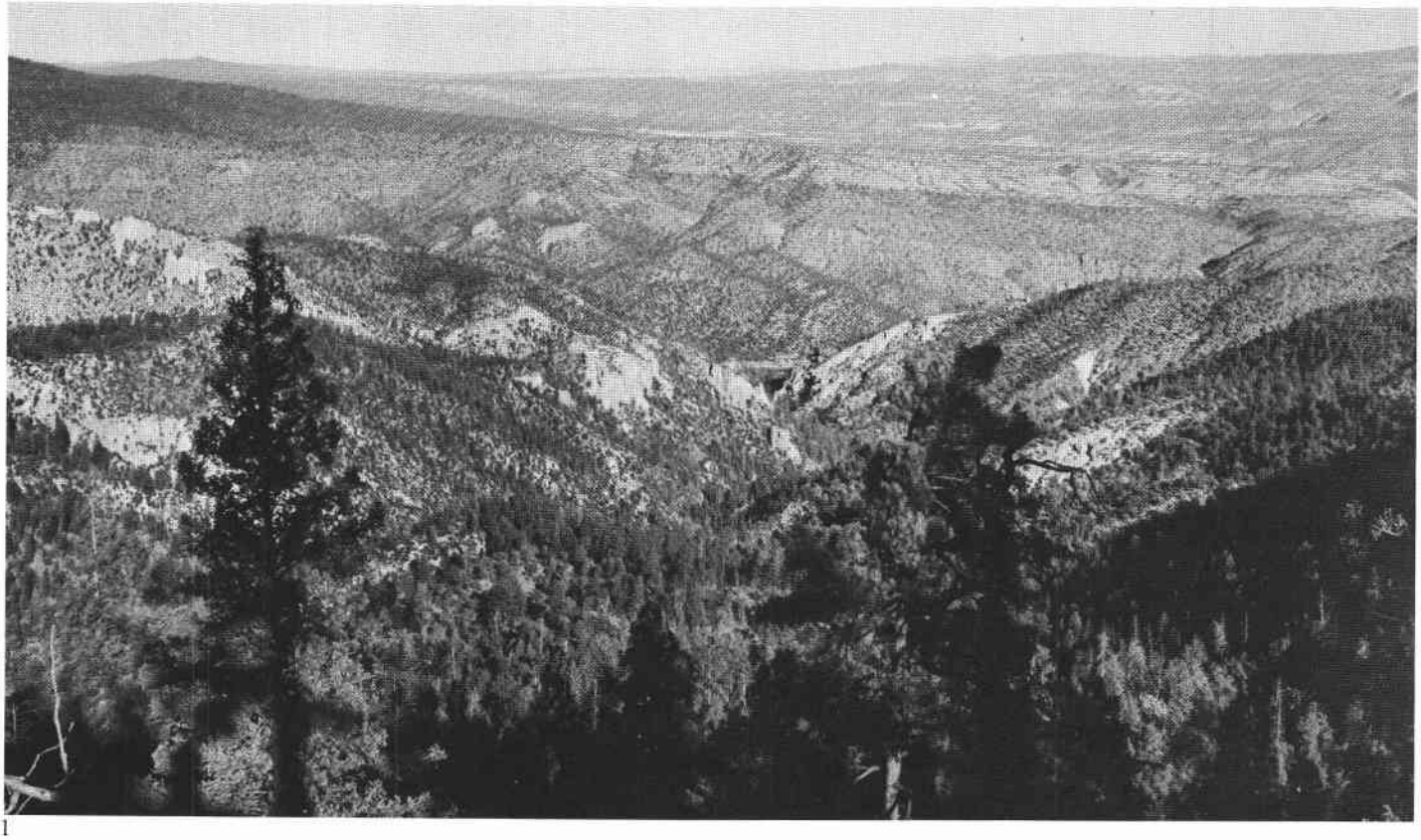
1961–1975

The Golden Anniversary
of the First Wilderness . . .
"June 3, 1924. On this date, the Forest Service of the U.S. Department of Agriculture set aside the Nation's first tract of virtually untouched National Forest (the Gila) and identified this naturalness as a resource as much so as timber, water, forage, and wildlife—and called it Wilderness . . ."
from the June 1974 "Forest Service News," Southwestern Region, Albuquerque, New Mexico
1. The first Wilderness set aside in the United States was the Gila Wilderness in the Gila National Forest, New Mexico. Today the Gila Wilderness embraces 433,690 acres of wild, unspoiled land. Part of the Mogollon Plateau lies here, and the area has steep, rugged canyons with many streams and rivers flowing through. The Gila Wilderness has been extremely popular for its unique historic features, outstanding scenery, fishing, hunting, and its solitude.



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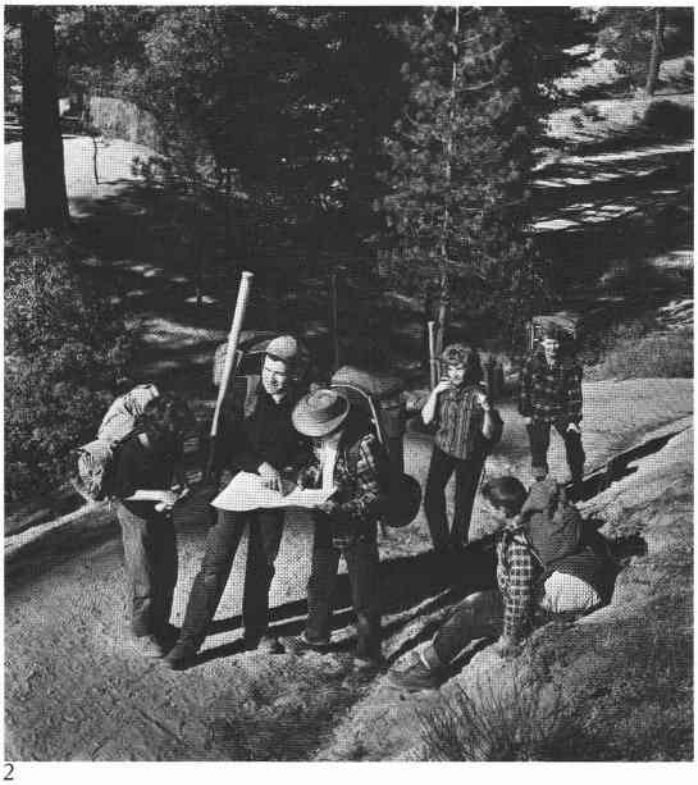
"Wilderness as a form of land-use is, of course, premised on a qualitative conception of progress. It is premised on the assumption that enlarging the range of individual experience is as important as enlarging the number of individuals; that the expansion of commerce is a means, not an end; that the environment of the American pioneers had values of its own, and was not merely a punishment which they endured in order that we might ride in motors. It is premised on the assumption that the rocks and rills and templed hills of this America are something more than economic materials, and should not be dedicated exclusively to economic use . . ."

Aldo Leopold,
Forester and Wilderness Crusader

1961–1975

1. Glacier Peak Wilderness Area, Mt. Baker National Forest, Washington.
2. This family carefully planned their trip at a picnic ground before heading into the San Gabriel Wilderness Area, Angeles National Forest, California.
3. Trail riders camp, Bob Marshall Wilderness Area, Flathead National Forest, Montana.

1



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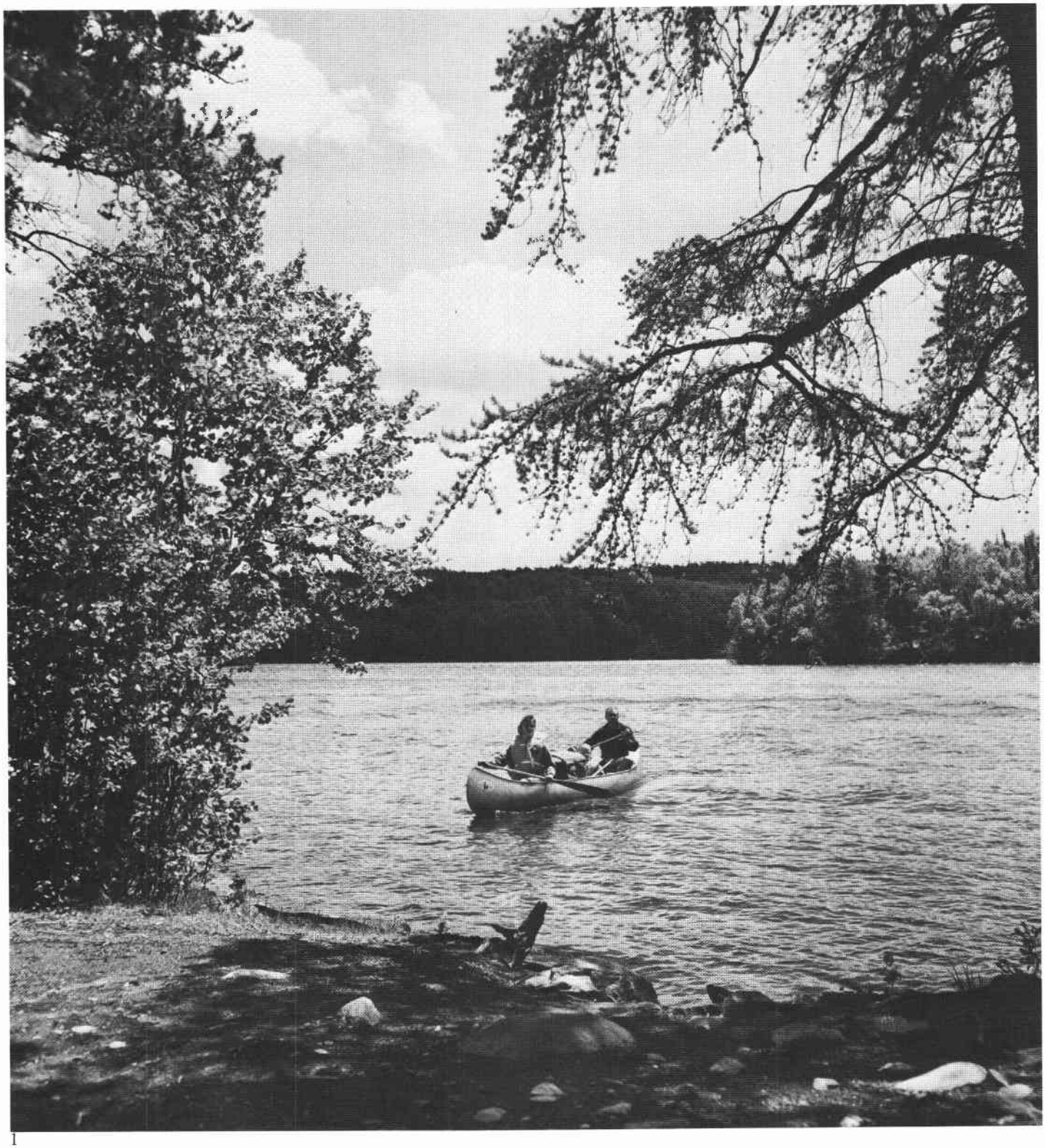
3

1961–1975

1. Heading for Moose Lake portage, Boundary Waters Canoe Area (formerly Superior Wilderness), Superior National Forest, Minnesota.



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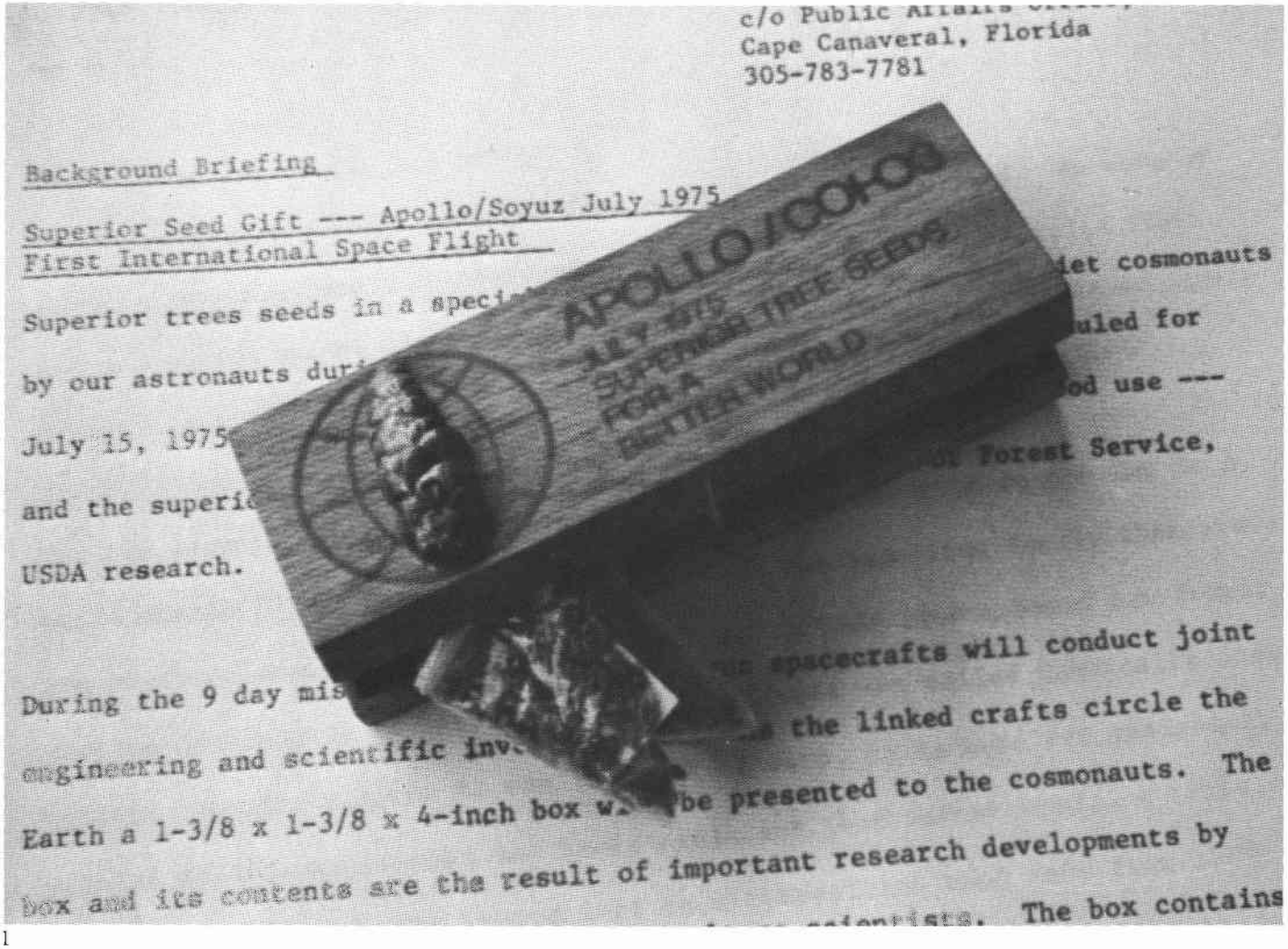
Little seeds to promote international goodwill . . . In an historic mission in July 1975, during which American and Soviet space vehicles met in space for joint engineering and scientific investigations, a small box of genetically superior white spruce seeds changed hands. The seeds were developed by Forest Service scientists at the Institute of Forest Genetics in Rhinelander, Wisconsin, and are expected to produce fast-growing trees of exceptional height and shape. Enough seeds were given to the Soviet Cosmonauts to grow an acre in the Moscow area, where the climate is similar to that of Rhinelander.

1. Small box, large implications.
2. The giving of the gift of seeds took place on July 18, after the two craft had docked in space. Apollo Commander Tom Stafford made the presentation to Soyuz Commander Aleksey Leonov.
3. Apollo (a Saturn 1B launch vehicle) took off for its space adventure with the Soyuz spacecraft in the afternoon of July 15. The Soviet launch was in the morning of the same day.



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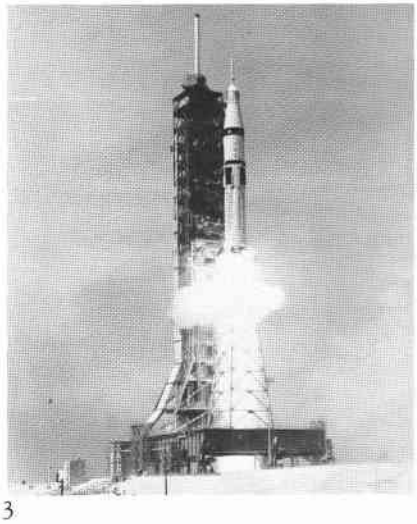

3

The American Forestry Association's Centennial feature—the Sixth American Forest Congress . . .

". . . in line with present AFA policy now in effect, the association's Directors zeroed in on the pressing need for an American Forest Policy if the nation is to avoid a future forestry crunch not unlike today's energy crunch. Forest policy, the Board said, is becoming a major national issue and guidelines set down by Congress are urgently needed to avert or solve future actions that could hamstring flexible resource management on the land . . ."

"American Forests" December 1975

Participants in AFA's Sixth American Forest Congress included Secretary of Agriculture Earl Butz; Senator Mark Hatfield (Oregon); Senator Hubert Humphrey (Minnesota), who, with Congressman John Rarick, cosponsored the Forest and Rangeland Renewable Resources Planning Act of 1974; Administrator of the Environmental Protection Agency Russell Train; and Dr. Stephen Spurr, University of Texas. These speakers and others helped launch a national debate on "The Need for an American Forest Policy."

1. American Forestry Association Centennial Emblem.

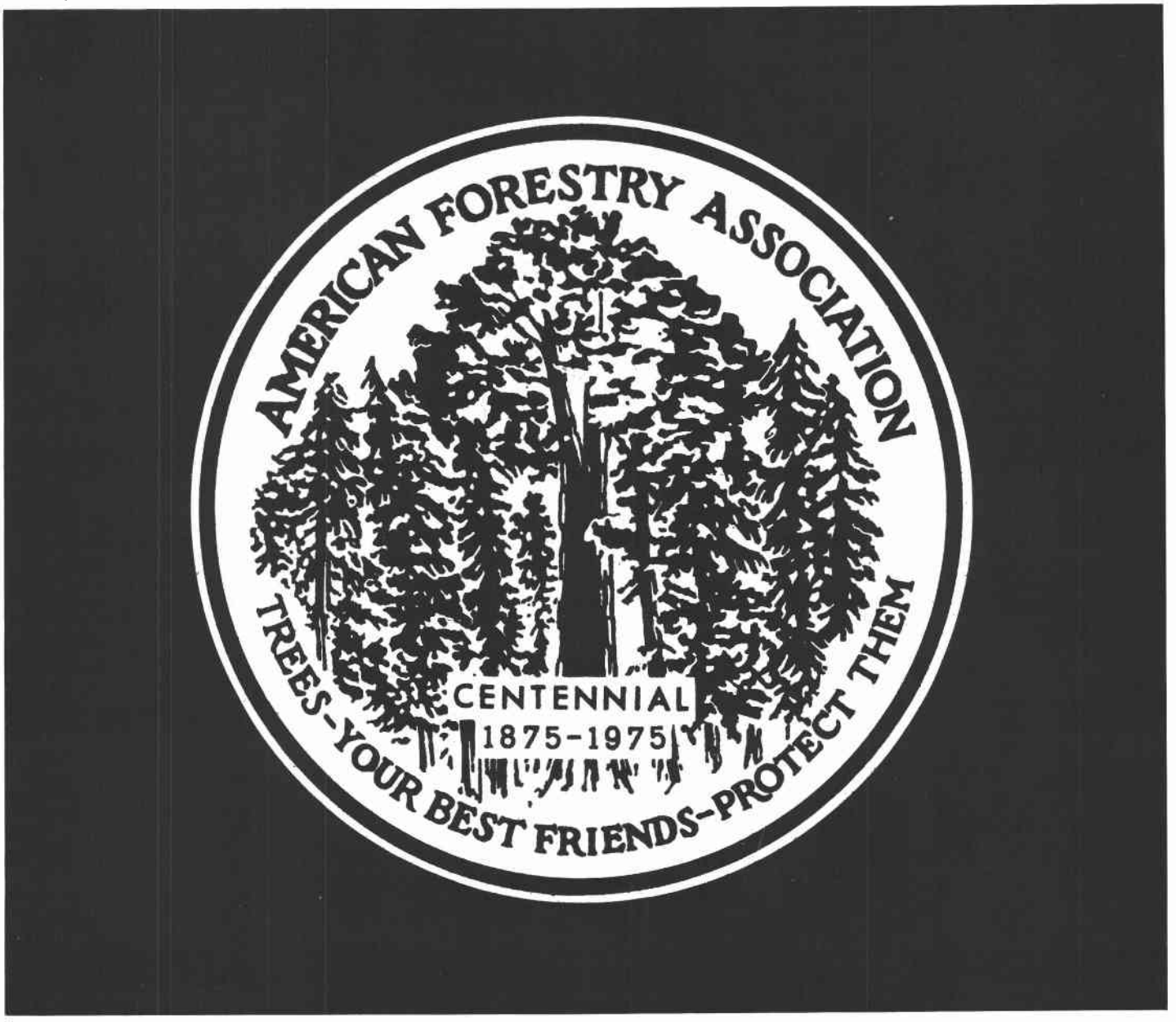
Secretary Butz

Senator Hatfield

Senator Humphrey

Professor Spurr

EPA Administrator Train



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The Look Ahead, 1976-

At the start of a new century of American forestry, the Resources Planning Act of 1974 (see "Keeping Up With The Times, 1961–1975" on page 143.) will help set the pace for Forest Service planning; for management protection, and development of the National Forest System; for the Agency's research activities; and for programs of cooperation with the States, private forest landowners, and countries abroad. Under the Act, future national assessments and programs will become more and more intensive. The assessment of future supply and demand for renewable resources from the forests and associated rangelands in public and private ownership in this country will be updated in 1979 and every 10 years thereafter. The action programs will be updated in 1980 and every 5 years after that.

There will be increasing concern for maintenance of adequate raw material supplies needed by industry, but improved techniques, accelerated forest management and protection activities, stepped up treeplanting programs, and greater production from small woodlands will help to meet the demands.

Research will play a key role in achieving better utilization from available resources. For example, Forest Service researchers, in cooperation with other government agencies and private industry, are developing more efficient wood products for the construction industry. A new technique will enable far greater use of the wood in a tree than ever before. The process includes binding together with glue the usually wasted chips, bark, shavings, and sawdust, and combining them with solid wood to form a practical, durable building material.

What does the future hold for other resources and Forest Service activities?

- There will be renewed emphasis, stemming from the Endangered Species Act of 1973, on wildlife habitat requirements on the National Forest System and on all forested lands.
- Range grazing will contribute toward saving feed grains for other uses, and will produce high quality food protein from cattle thus raised. A minimum use of fossil fuel energy is required since livestock converts forage directly to food.
- Recreation trends point to greater and greater use of the forest for all forms of outdoor recreation, particularly by families for weekend use.
- In protecting the forests against fire, researchers are emphasizing fuel management. Work is already planned that should produce sizable reductions in resource losses and firefighting costs.
- The never-ending battle against forest insects and diseases, which each year destroy more trees than wildfires do, will continue at an accelerated pace. Major research efforts will aim at finding new weapons and new methods to control such insect pests as the tussock moth, the gypsy moth, and the southern pine beetle, and such forest diseases as the rusts, root rots, and the mistletoes.

Computers will become more important in Forest Service work. By 1976, they were used for many purposes—for the usual administrative functions, for simplifying studies involving masses of statistics and information, for locating and laying out forest roads thus saving field work time and expenses, for determining exact manpower and equipment requirements for the control of active forest fires, and for simplifying the work of forest manager and researcher alike. Another new program is the planned Renewable Resources Technical Information System (RRTIS) which started to take shape within the Forest Service in 1972. RRTIS will enable the foresters and other scientists and engineers to keep track of, through computers, the technology that is basic to decisions and actions. Data bases will be accessible from remote terminals installed at various locations throughout the country. Storage and prompt retrieval of documents will be essential parts of the system.

1976–

1. John R. McGuire, Chief of the Forest Service, 1972– .
2. Old-growth redwood with typical undergrowth of dense ferns in California.

1

"Perhaps the greatest challenge facing forestry today is the calendar—namely the arrival of the 21st century. My question is, will American forestry be ready to meet the 21st century?

"A major determinant of how well American Forestry prepares for the 21st century will be cooperation in resources management. This means cooperation among Federal, State, and private ownerships; cooperation across long-standing professional barriers; and cooperation with new and different arrangements of people and organizations, a trend which is becoming more evident with each passing year. The interested general public is surprisingly knowledgeable about natural resources. Yet people still need to hear forestry's message—that sound forestry practices can provide both protection and use."

John R. McGuire (1972 -)

2

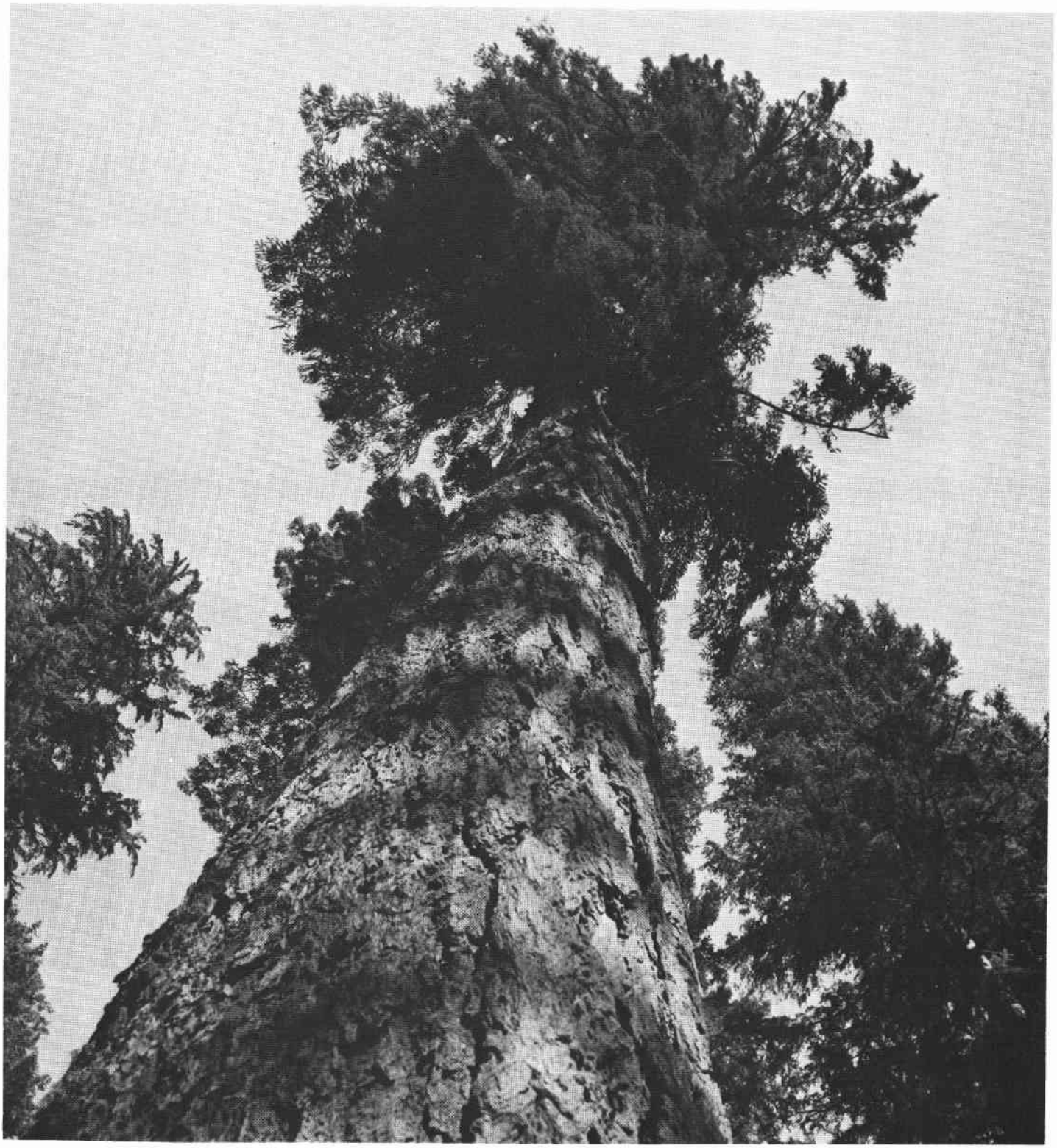
In today's research lies much of the anticipated progress of American forestry in the tomorrow ahead. Out of the Forest Service's planning and development efforts have already emerged these few exciting, photographed glimpses of new technologies, new fields of exploration, and new improvements for the public benefit in the days to come.

1. Harvesting by helicopter in inaccessible areas or steep terrain, for more efficient, more economical logging through reductions in road construction, in erosion, and in other damage to the land and remaining trees.

1.

1976–

1. Douglas-fir in Oregon.



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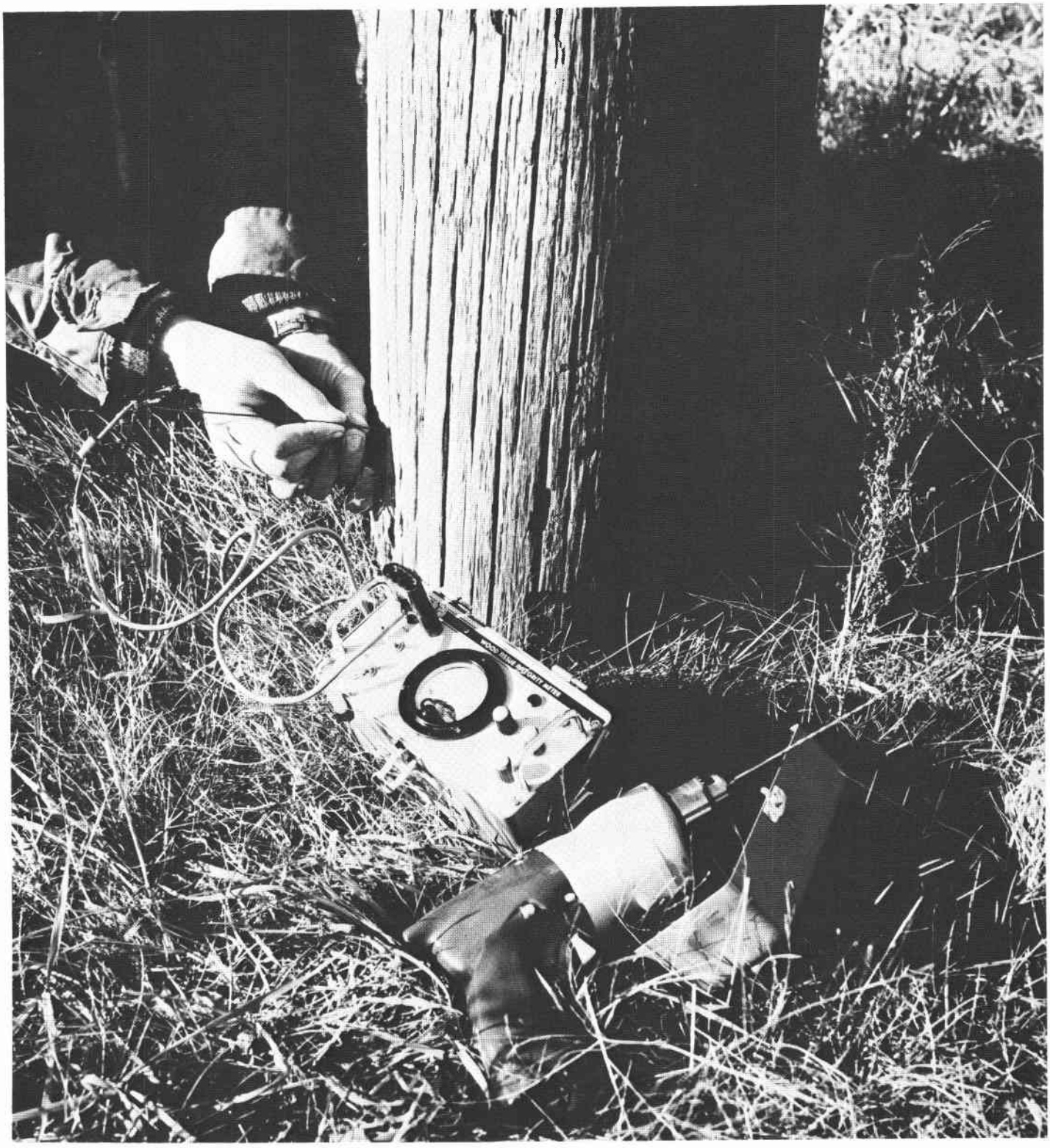
1976–

1. The Shigometer—a unique and practical instrument the significance of which could be enormous for those who grow and use timber. The Shigometer detects decay in its early stages in living trees and in utility poles, decay not readily evident except after it has caused external damage. This device can save time, expense, and the frequent failure involved in extensive late treatment, or damage that results from no treatment at all. The instrument is named for one of its principal originators, Alex Shigo, plant pathologist with the Northeastern Forest Experiment Station, Durham, New Hampshire.



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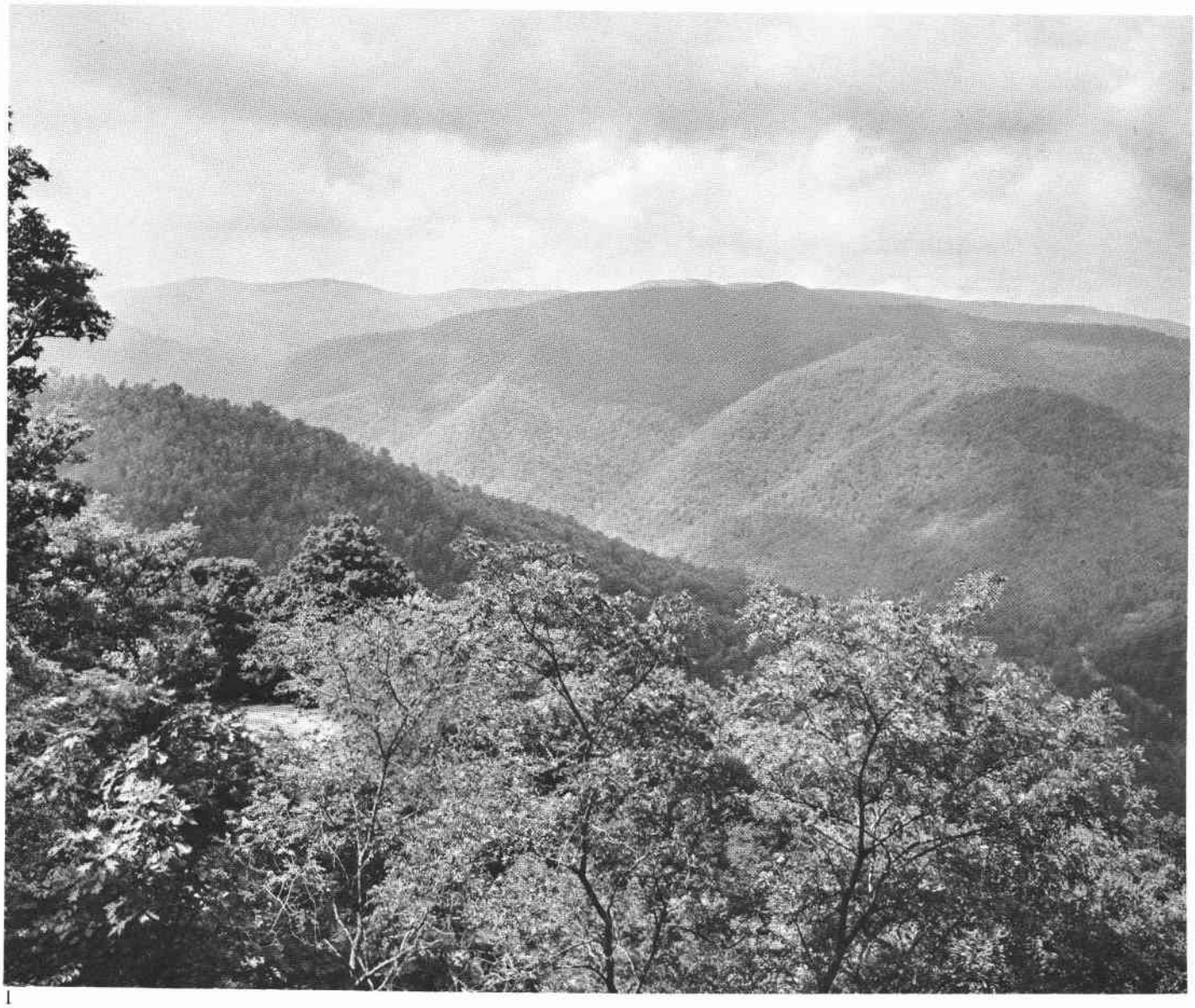
1976–

1. Pisgah National Forest,
North Carolina.



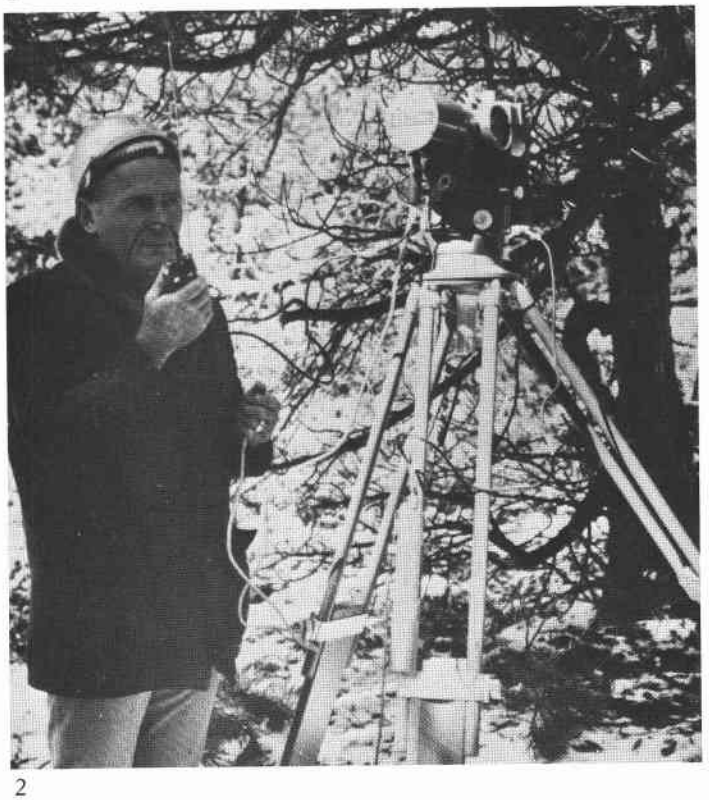
1

1976–

A new world of surveying opens up for the Forest Service with use of the laser beam—the result of a 5-year joint venture between Forest Service engineers and scientists of the National Aeronautics and Space Administration.

1. & 2. The Laser Range Pole Transmitter system and the Laser Range Pole Receiver theodolite subsystem work this way: The transmitter beams a laser signal vertically in the air at one point (property corner) and the receiver at an adjacent property corner picks up the laser signal and projects a true, direct line between the two corners. The equipment promises to reduce boundary survey time significantly.

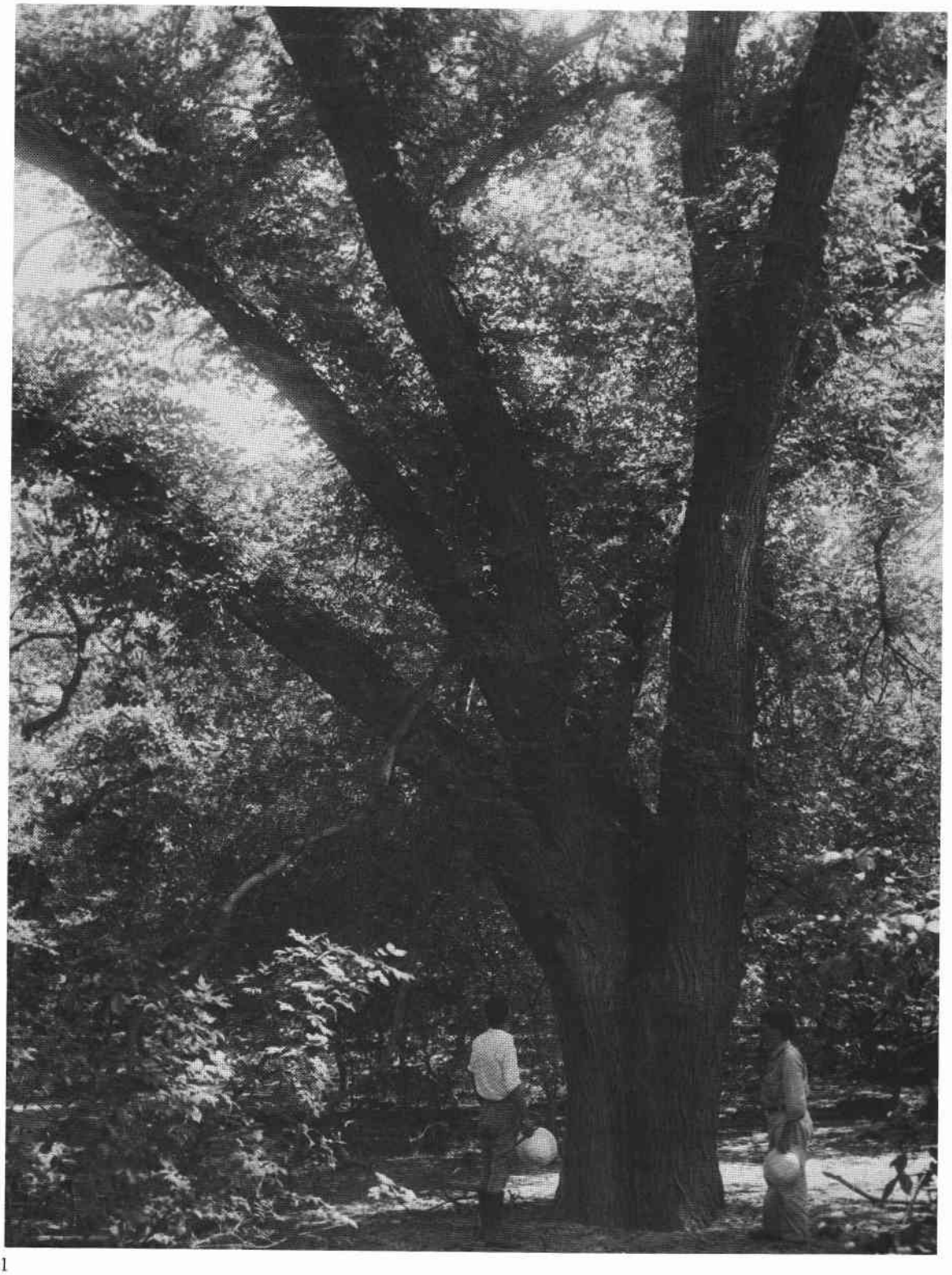
1



2

1976–

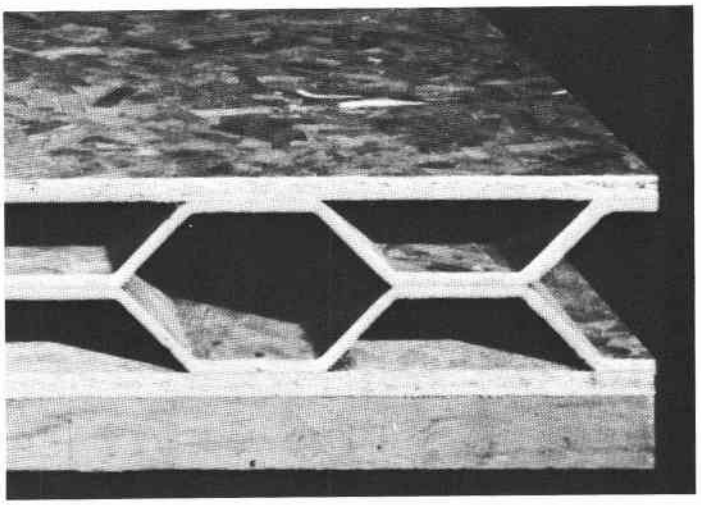
1. American elm in Kansas. This tree species is now severely threatened with extinction by the Dutch elm disease.



1

1976–

1. & 2. A leader in the race to meet America's needs in the future is the Forest Products Laboratory, where the search goes on to find new ways to use available timber more efficiently, to find uses for the less desirable trees, to improve milling and other processing practices, and to develop new products.



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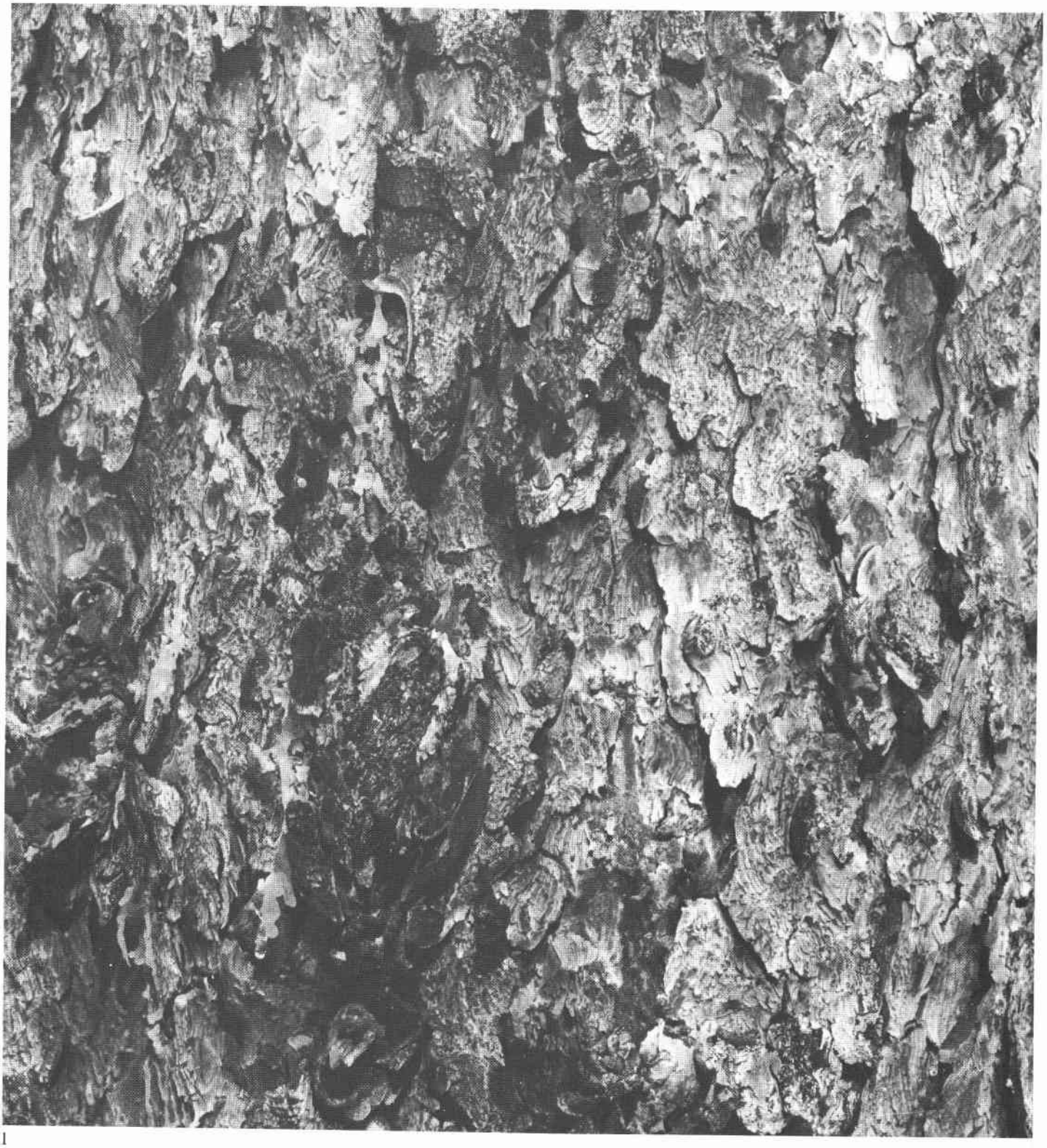
2

1976–

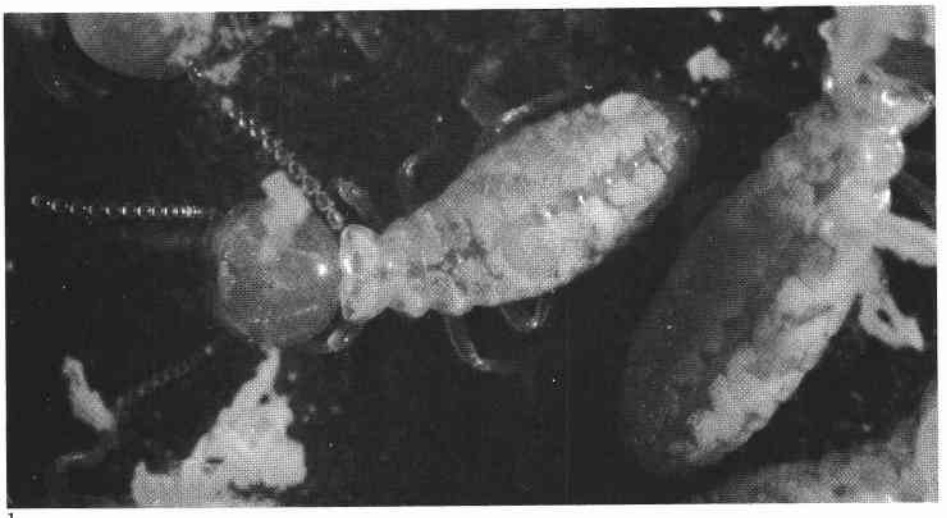
1. Bark of Engelmann spruce (Colorado).



1

Have termites, which cost American homeowners hundreds of millions of dollars every year, finally met their match? Possibly so, in the form of specially implanted "irresistible wood" that has proven fatal to termites. The wood block bait is infected with a brown-rot fungus attractive to termites, sterilized to kill the active fungus, then impregnated with a small amount of slow-acting poison which must be eaten by the termites to cause death. The termites are lured to the bait from as far away as 3 feet. Still in its research stages in 1975 (approved by the Environmental Protection Agency for research only), this wafer-bait system holds great promise for alleviating the soil-dwelling termite problems the world over. A U.S. Navy facility on Sand Island in the Midway Islands was one of the 1975 "proving grounds" for the FPL study in termite control.

1. A detailed look at termites.
2. & 3. Apparently environmentally safe and inexpensive, the wood block system is easy to use. The research program on the Midway atoll involved treating approximately 350 acres to protect 250 structures of various sizes and types, including housing. Fourteen men helped entomologists Glen Esenther (FPL) and Raymond Bell (Southern Forest Experiment Station, Gulfport, Mississippi), co-developers of the bait system, treat the entire area in the equivalent of one 40–hour week.



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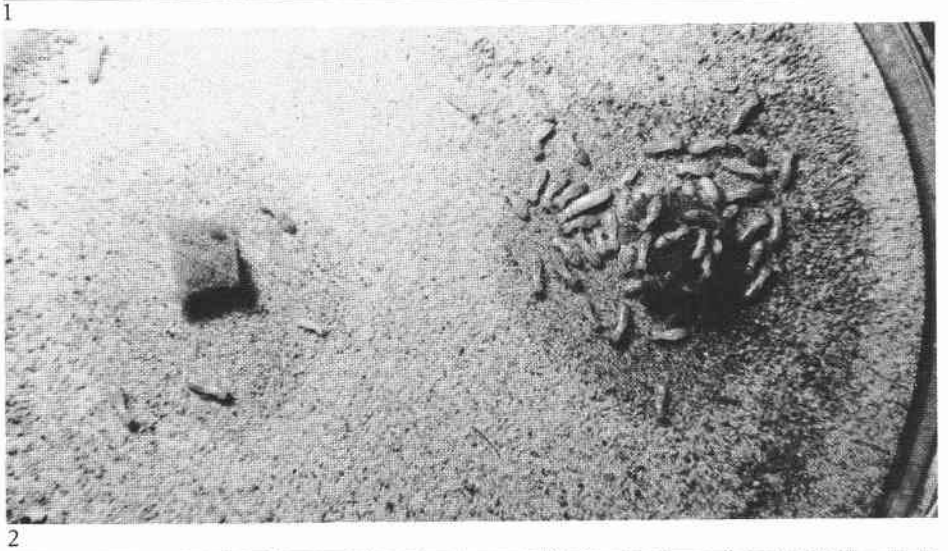

2

3

1976–

1. San Isabel National Forest, Colorado.

1

1,2, & 3. For many uses, there will never be a substitute for wood. And no sophisticated instrument, no modern technology is likely to replace the "ground troops," those who work with shovel, axe, and hose in the final stages of bringing a forest fire under control. Forestry will always require the human touch, foresters to provide person-to-person contacts, the personal handling of the thousands of tasks associated with accomplishing the business of forestry.

There is, however, a powerful electronic force that cannot be denied, a force that many foresters have eagerly sought and happily used since its beginning—the computer. The Forest Service already is deeply committed to the use of computers. This use and dependence will increase with the scheduled national assessments and expanding action programs of the future.

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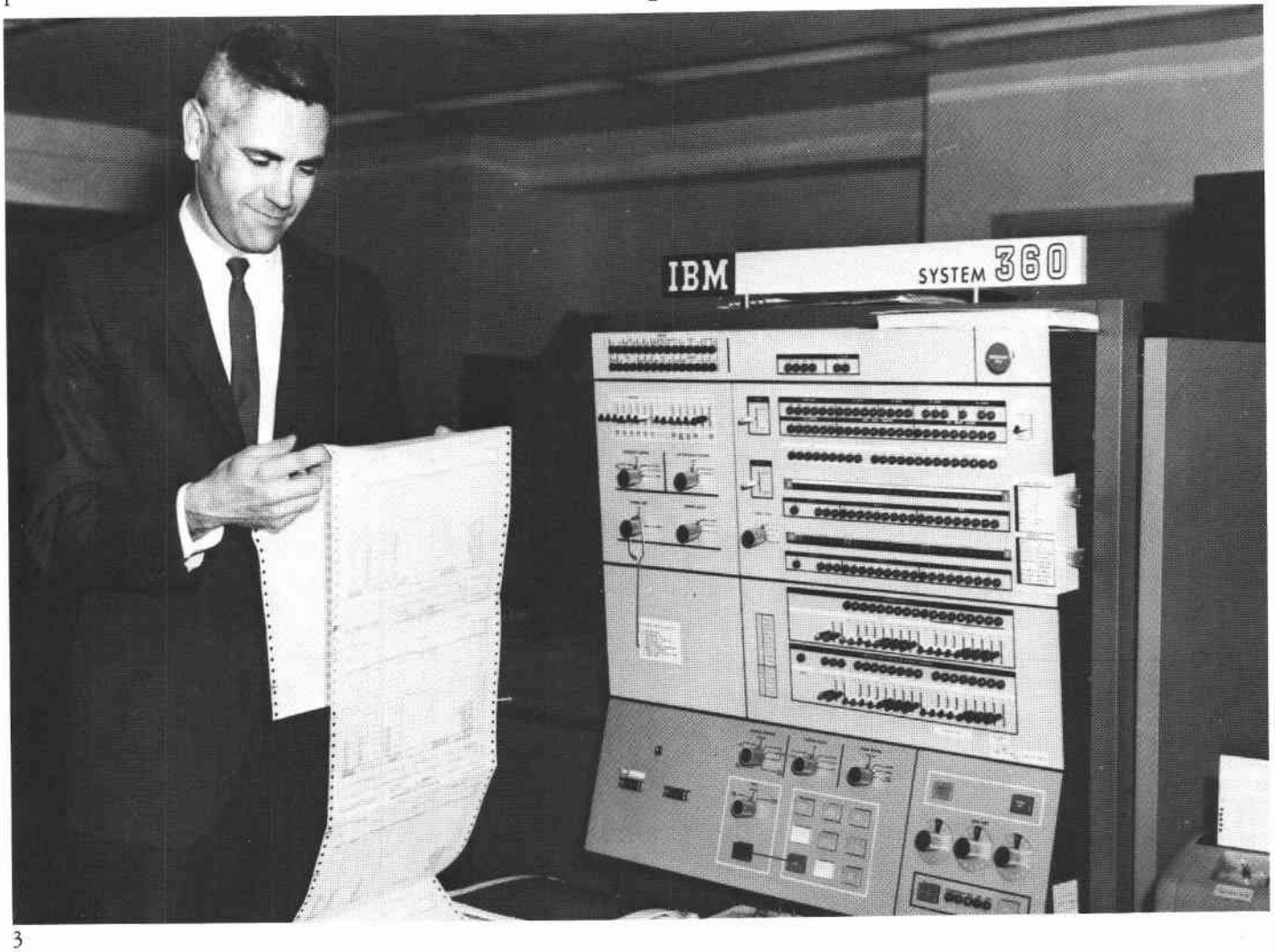

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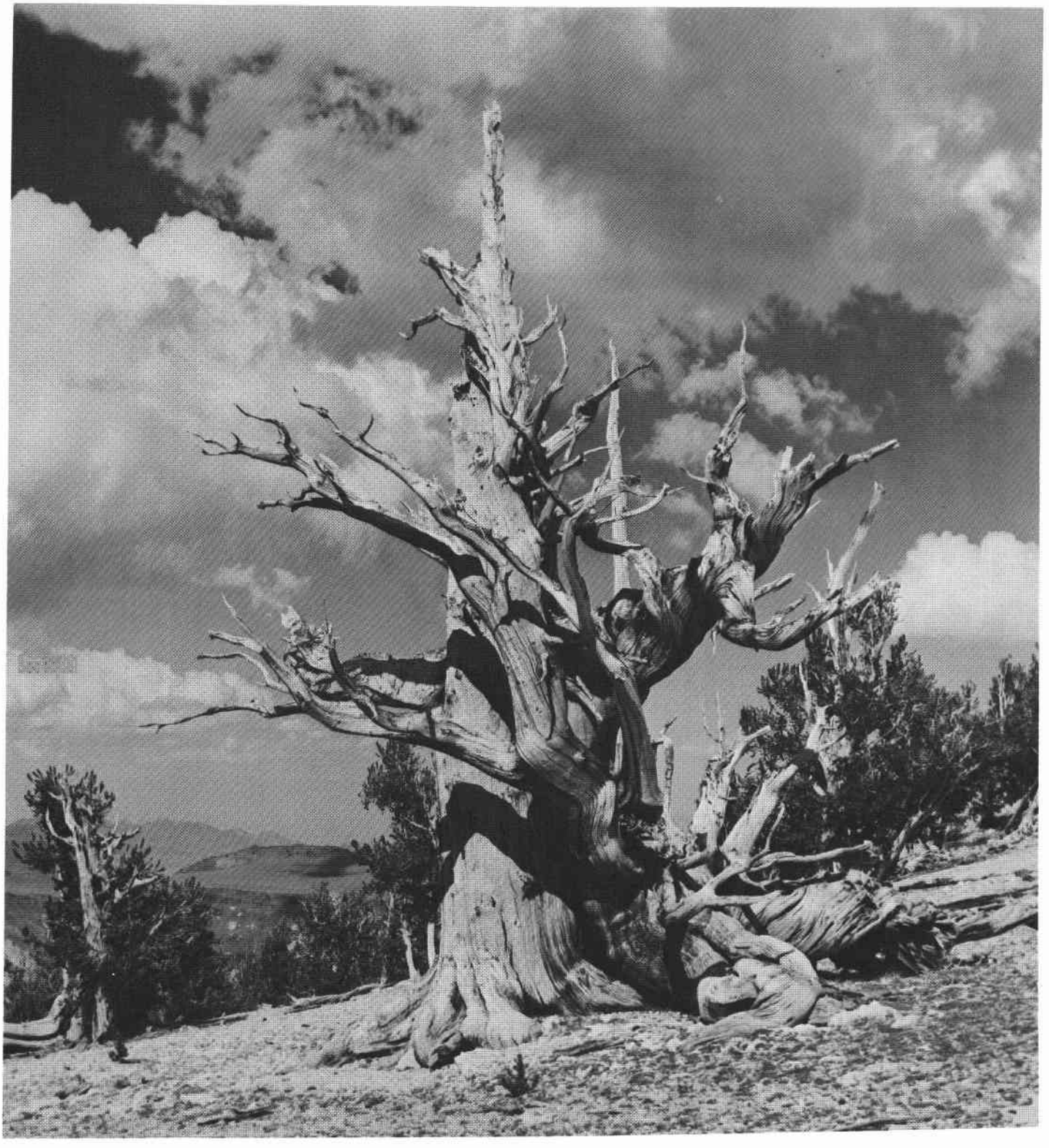

Epilogue

Within the annual growth rings that mark the life of this 3,000-year-old forest patriarch, the life and history of the Forest Service of the United States Department of Agriculture would show up as a miniscule speck. Yet, there are significant parallels between the life of this picturesque bristlecone pine and the life of the Forest Service.

The bristlecone pine has known vibrant periods of growth and periods when growth was stifled. It has had to brave harsh elements in its environment to persevere. It has been sculptured by wind, sand, and ice. It has become a symbol of strength and durability.

The Forest Service has been molded by law, by understandable conflicts, and by experience. It, too, has persevered, striving to retain its integrity and to serve the American people.

Focus—An Enduring Contribution

If, as the Chinese proverb says, "one picture is worth ten thousand words," the reader of this volume has been spared the assault of some 4½ million words. Its more than 450 photographs and other illustrations represent a small part of the pictorial treasure in the century-old collection of more than 525,000 Forest Service photographs. This collection is housed, in part, in the library of the Audio-Visual Branch of the National Archives and, in part, in the Washington Office of the Forest Service.

Gifford Pinchot began the Forest Service photographic collection. He saw in photography a valuable public educational device, an instrument to help evaluate changes in the American landscape and to aid foresters in documenting their activities for research and administrative purposes. Pinchot and his successor as Chief Forester, Henry Graves, were among the first forester-photographers. Others included Washington Office photographers A. Varela, A. Gaskill, H. B. Ayres, and W. W. Ashe, followed in later years by E. S. Shipp and Walter Shaffer. G. B. Sudworth and Edith Mosher produced a large number of photographs of the environment. Photographers working in the field (most of them technical foresters, but a few professional photographers) included: Lage Wernstedt (the northwest forest country in the early 1900's), K. D. Swan (scenic photographs of the Northern Rockies), Wally Hutchinson (Colorado and California), T.P. Lukens (the Northwest), W. J. Lubken (the Southwest), W. A. Langille (Alaska), W. R. Mattoon (State and Private Forestry activities in the East), and F. W. Cleator (recreational photographs), and thousands of researchers in the field.

More contemporary Forest Service photographers who have made large contributions to the negative files include: Freeman Heim (Lake States), "Curly" Steuerwald (Rocky Mountains), Dan Todd (Southern States), Bluford Muir (former head of the Forest Service Photo Laboratory), Ralph Fortune (current head of the Forest Service Photo Laboratory), and Lee Prater (forester-photographer and photo librarian for the Forest Service for over 30 years).

Over the years many innovations by Mr. Prater have enhanced the effectiveness, value, and permanency of the Forest Service collection. During the mid-1940's all negative captions were put on microfilm. More recently a system of computer access to this negative file was pioneered. It also provides customized catalog printouts. Nearly 100,000 of the best Forest Service negatives have been selected and transferred to the National Archives' permanent collection.

The efforts of all of the Forest Service photographers to provide coverage of the work of the agency produced a priceless source of photographic material on forestry subjects. We have used that material to form the major part of this publication.

Bill Bergoffen

November 1975

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United States Department of Agriculture Forest Service

Major Activities

NATIONAL FOREST SYSTEM

Protects and manages 187.5 million acres:
- 183.0 million acres National Forests
- 3.8 million acres National Grasslands
- 443,547 acres of Land Utilization Projects, Purchase Units, Research and Experimental Areas, and others.

On these lands are:
- More than 3.7 million big game animals.
- 217.4 million cu. ft. of standing timber (1970).
- 39 endangered wildlife species.

Fiscal Year 1975 Income:
- $373 million from National Forests as follows:
  - $341.3 million from timber sales
  - $7.7 million from grazing fees
  - $12.4 million from mineral receipts
  - $9.7 million from recreation admission and user fees
  - $.5 million from power
  - $1.4 million from land use fees

In Fiscal Year 1976:
- $89.7 million was returned to States

In Fiscal Year 1975:
- 9.2 billion bd. ft. timber harvested (under strict regulation)
- 13.6 billion bd. ft. allowable annual cut
- 1.4 million cattle grazed
- 1.5 million sheep grazed
- 578 million forest and windbarrier planting stock distributed, under cooperative programs
- 292,954 acres planted and seeded
- 68,727 acres of natural regeneration
- 454,496 acres of stand improvement
- 113.6 million tree seedlings produced in Federal nurseries
- 199 million visitor days recreational use (calendar year 1975)
- 13,713 miles of road constructed and reconstructed
- 6,843.5 miles of road constructed and reconstructed by timber purchasers
- 127,368 woodland owners assisted, affecting 10.4 million acres; .7 million bd. ft. of timber products harvested
- 10,804 fires promptly controlled on lands protected by Forest Service (calendar year 1975)
- 133,198 acres burned (calendar year 1975)

9 Regions

154 National Forests*
19 National Grasslands*
16 Land Utilization Projects*
11 Nurseries*
669 Ranger Districts*
17 Job Corps Centers

* Administered by 121 Forest Supervisors

RESEARCH

Through Science Produces
Knowledge and Technology
for
Managing Resources
- Timber
- Water
- Range
- Wildlife Habitat
- Recreation

Protecting Resources
- Fire
- Insect
- Disease
- Pollution

Utilizing Wood Resources
- Wood Products
- Marketing
- Engineering Systems

Plus

Resource Surveys and Related Economics

8 Forest and Range Experiment Stations
1 Forest Products Laboratory
1 Institute of Tropical Forestry
80 Other Research Locations
94 Experimental Forests and Ranges
119 Research Natural Areas

340 Research Projects
3,700 Individual Studies
1,112 Scientists
1,300 Publications Annually

COOPERATION

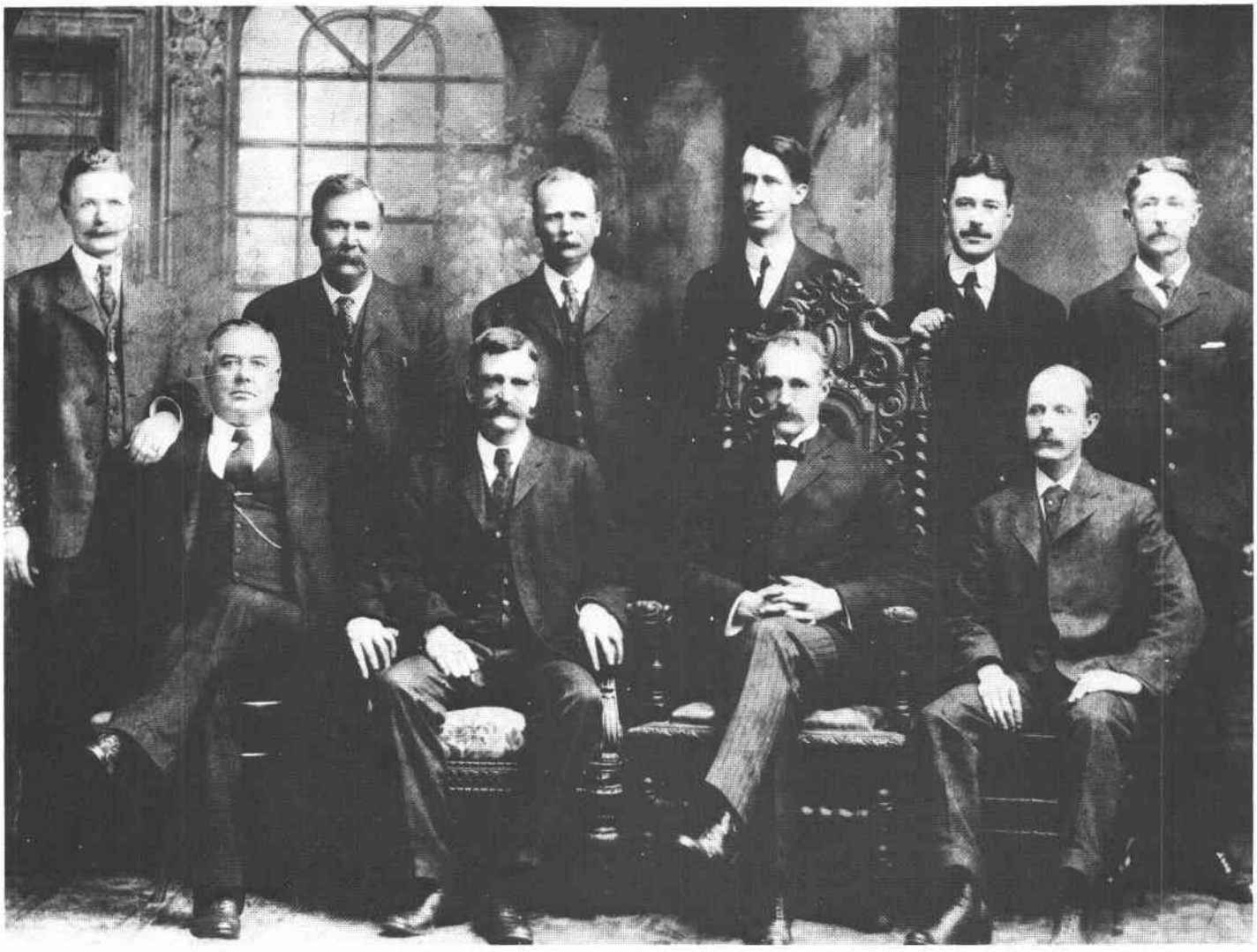
With
State and Private
Owners
on 393 Million Acres
To
Meet the Needs of an
Expanding Population
Through
Providing Protection
Reforestation
(1.6 Million Acres in 1975)
Increasing Forest Yields
Utilizing Forest Products
Reducing Wood Waste
Conserving Soil and Water
Providing Forest Recreation
Enhancing Natural Beauty
Increasing Fish and Wildlife

2 Areas and 7 Regions

Cooperation with 50 States, Puerto Rico, Guam, and the Virgin Islands

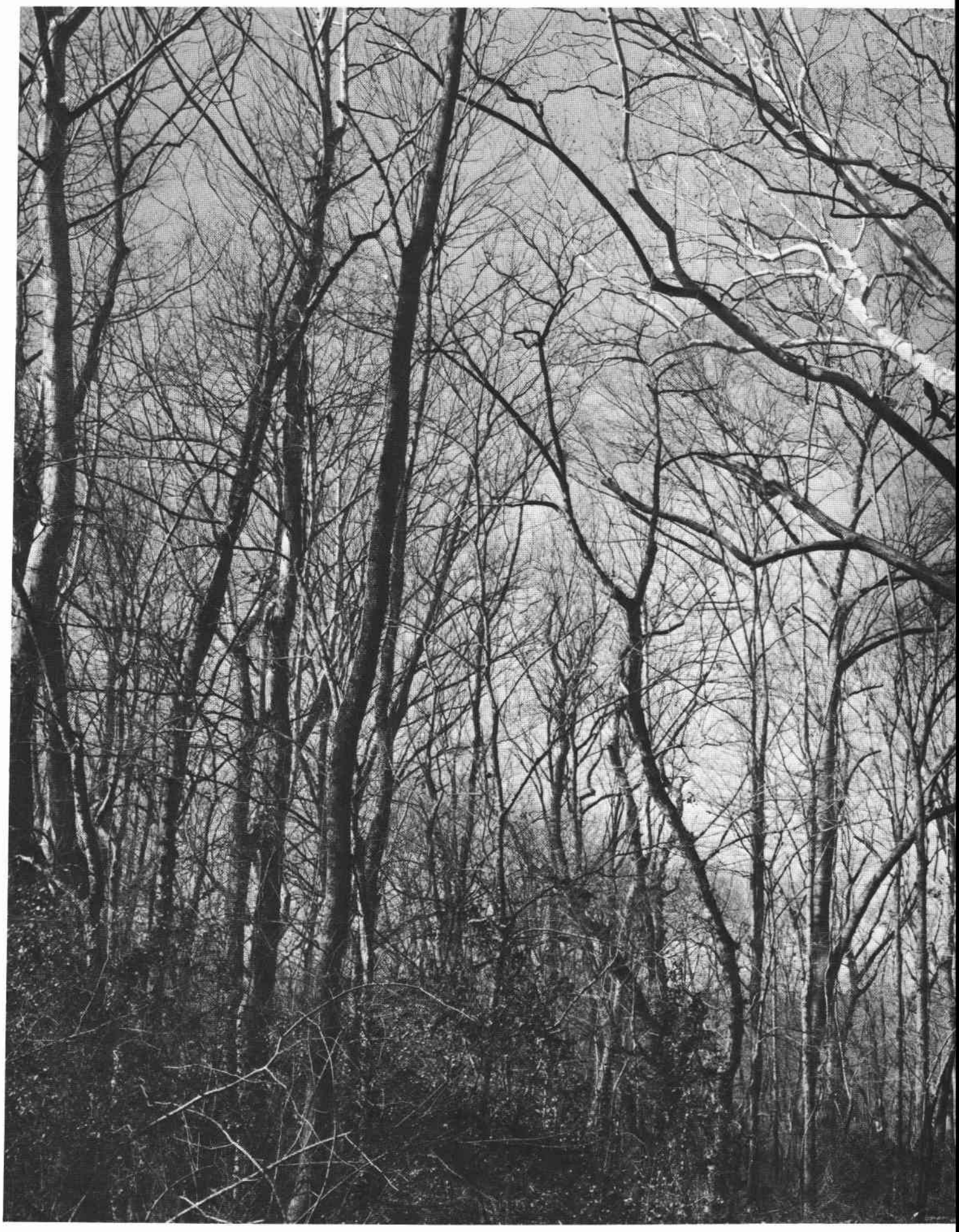
Public Agencies, Community Development Organizations, and Forest Industry

Committee appointed in the fall of 1905, at the direction of Chief Forester Gifford Pinchot, to revise the USDA Use Book, the first Forest Service manual for the operation of the Forest Reserves.



Back row, left to right.
Forest Ranger B. H. Crow, Angeles National Forest, California; Forest Supervisor Daniel Marshall, Uintah National Forest, Utah; Forest Supervisor R. E. Miller, Teton National Forest, Wyoming; Forest Supervisor Edward A. Sherman, Bitterroot National Forest, Montana; Forest Ranger Leon F. Kneipp, Pecos National Forest, New Mexico; Forest Ranger Edward S. Mainwaring, Sierra National Forest, California.

Front row, left to right.
Forest Ranger Rufus King Wade, Gila National Forest, Arizona; Forest Supervisor Seth Bullock, Black Hills National Forest, South Dakota; Chief Forester Gifford Pinchot; Assistant Chief Forester Albert F. Potter.



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