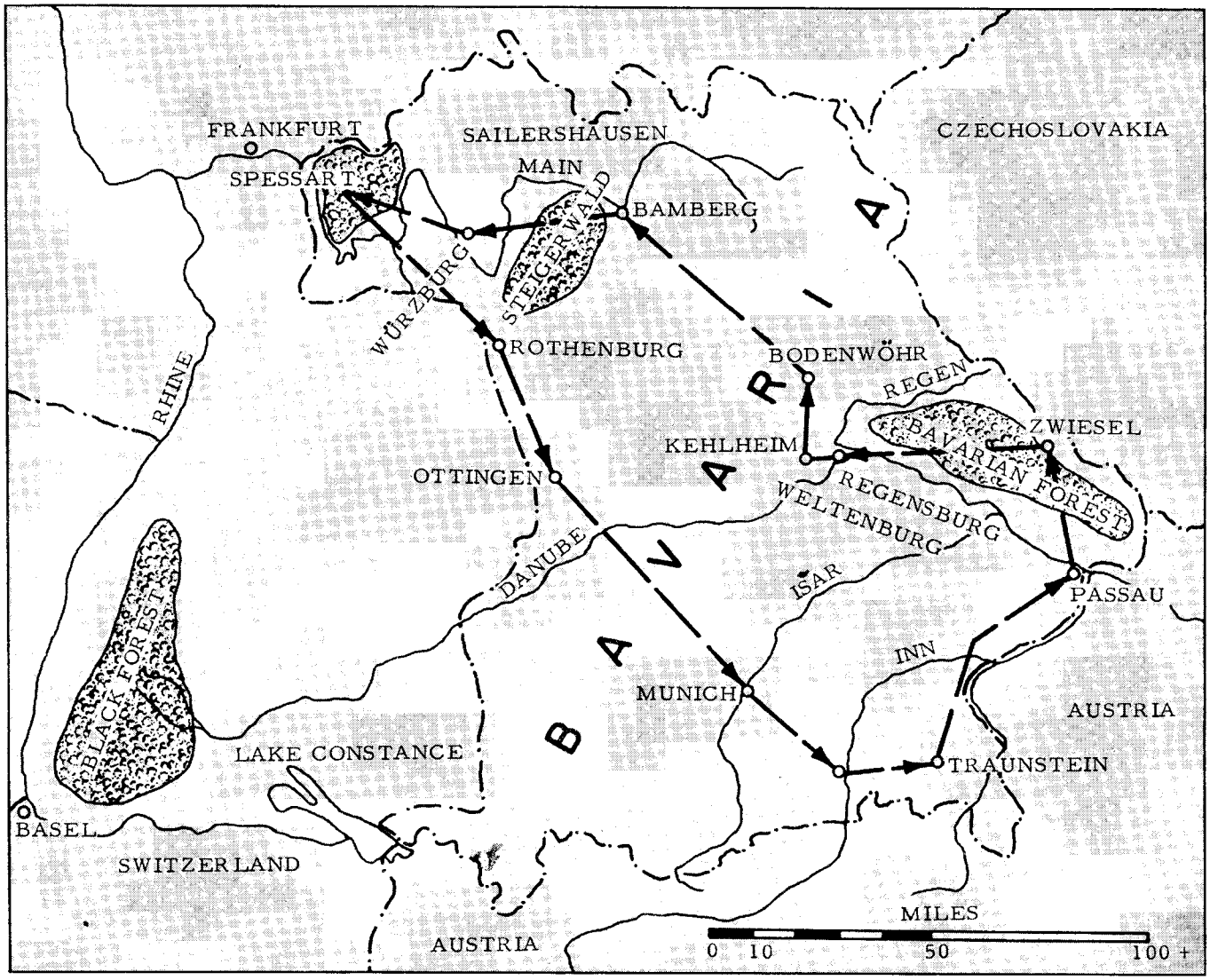
Some Observations On Forestry in Present-Day Germany

Richard K. Hermann

THE AUTHOR is assistant professor, Oregon State University, Corvallis.



Broken line indicates route taken by the author on his tour from Munich—through ancient Passau to the Bavarian Forest, thence to Bamberg and the beach forests of the Steigerwald and the oak forests of the Spessart.

ONE of the benefits of attending the 14th meeting of the International Union of Forest Research Organization was the opportunity to take a first-hand look at present-day forestry in Germany. Discussions with foresters and visits to various forests, supplemented by printed information, helped me to become acquainted with current aims and problems of German forestry.

The IUFRO Congress, held September 4-9 at the University of Munich, was attended by approximately 1,000 research foresters and administrators from 44 countries. The largest delegation came from Germany—188. The United States had 86, Sweden 55. The Iron Curtain countries were represented by 66 delegates. More than 400 papers were presented in one of the three official languages—German, English, and French.

Social events, such as the receptions given by Munich's mayor in the old city hall, and by the Bavarian prime minister in the residence of the former Bavarian kings, provided additional opportunities for participants to meet old and new acquaintances.

Several post-congress tours were organized by the Union of German Forest Research Institutes as part of the general program. The one in which I participated traveled by bus for seven days through Bavaria. Members belonged to 14 nations and spoke 10 different languages. The route was well planned and led through nearly all of Bavaria's major forest types. We were given folders containing maps and travel literature, information on history, site characteristics, special problems, and management procedures and goals of each forest district to be visited. Officers of the Bavarian Forest Service accompanied the group along the entire route.

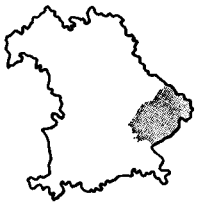
Upper Bavaria

We departed from Munich on a rainy Sunday morning. The area to the south, extending into the Alps, is commonly referred to as Upper Bavaria. Forests in this region are predominantly sub-alpine, with Norway spruce as principal tree species. Our route took us along its northern fringe through the spruce forests of a hugh gravel plain of glacial origin. The European nun moth and a bad storm had destroyed many of the former stands. This resulted in one of the largest reforestation projects ever undertaken in southern Germany. Today, the trees in these plantations, composed of spruce, some Scots pine, and alder, are about 10 feet high. Dense stocking indicates that mortality of planted seedlings must have been very low.

An interesting contrast to the even-aged spruce monocultures of the gravel plain was offered by the city forest of Traunstein. Containing European silver fir, Norway spruce, and European beech of all age classes, this provided a good example of a selection forest.

When we asked about the origin of the German term for it, we were told that *Plenterwald* is thought to be derived from the word *Pluenderwald*, which freely translated means high-grading forest. Apparently, the selection forest, as a form of management, has developed from the practice of farmers cutting only the oldest and best trees in their woodlands.

Lower Bavaria



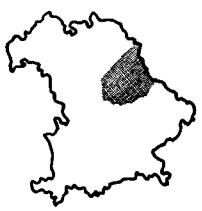
Dark had fallen when we reached Passau, the capital of Lower Bavaria, a region encompassing the central eastern part of the state. Once a Roman frontier outpost, the town was made an episcopal see in the eighth century. The bishops of Passau were temporal lords of substantial territory until 1803 when the bishopric was secularized and given to Bavaria. All that the church has retained is a beautiful cathedral with an organ that is reputedly the largest in Europe.

From Passau, we drove north into the Bavarian Forest, a mountain range extending along the border between Lower Bavaria and Czechoslovakia, and one of the few remaining areas in Germany still covered by extensive forests. Because of its severe climate, the region has also been referred to as the Bavarian Siberia. Bypassed by major traffic routes, it remained in economic isolation for years, regarded by the rest of the state as "underdeveloped." Lumbering and the manfacture of glass were the mainstay of the region's economy.

The existing remnants of virgin forest in this Lower Bavarian area are probably attributable to its isolation. We visited such a stand and found that dimensions of the trees, mainly silver fir and beech, approached those we are accustomed to finding in the American West. This particular stand has been declared a nature preserve.

I found the "Wood Museum" at Zwiesel, a small town in the heart of the Bavarian Forest, of considerable interest. Exhibits were skillfully arranged to acquaint the visitor with the history of the local forests, their present composition, the soils they grow in, wildlife found in them, the raw materials they provide, and the finished products of the local wood products industries. Also included was a section on the local glass industry, which had depended on charcoal from the nearby woods for its furnaces.

Upper Palatinate



Our next stop was in Regensburg, capital of the Upper Palatinate. Established as a Celtic settlement about 500 B.C., it was taken over by the Romans and given city status in A.D. 179. The stone with the inscription commemorating this occasion, excavated some time ago, is considered to be the oldest existing city charter in Germany.

The Upper Palatinate comprises the northeastern part of Bavaria and is the poorest and least populated region of the state. During the middle ages, iron

smelters and foundries brought wealth to the region. Decline and disappearance of this industry resulted in economic depression and population growth stagnated.

We began our third day with a visit to the Kehlheim Forest District, where we found mixtures of hardwoods and softwoods in which a silvicultural system, known as "Bavarian Femelschlag," is used. It consists of cutting groups of trees and gradually enlarging small clearings after regeneration has been secured. This procedure is continued until all mature timber has been removed. Progress can be very slow. We were shown an area where regeneration cuttings had been started 70 years ago and were only now about to be finished.

We had lunch at the inn of the Benedictine monastery of Weltenbur, and visited briefiy its beautiful baroque church.

After a short boat ride on a scenic stretch where the Danube has cut its way through high limestone hills, we continued our journey on winding and narrow roads to the Forest District of Bodenwoehr, situated in the center of a large Scots pine area. Here litter removal (used as bedding material for livestock) practiced by farmers for hundreds of years, has impoverished forest soils and lowered yield of the forest. Today this practice has ceased. Farmers ceded their litter rights to the Forest Service and accepted cash settlements.

Following clearcutting of the mature pine stands, amelioration, such as stump removal, deep plowing, and fertilization, takes place. The cost may run as high as $200 an acre. These areas are then machine-planted with 1-0 Scots pine seedlings, about 15,000 an acre, and fenced. Planting and fencing add from $200 to $300 to the total cost for each acre.

Achievement of better wood quality was given as the reason for the spacing of seedlings, unbelievably close by American standards. Recovery of the large initial investment seems unlikely with the 140-year rotation in this timber type. Nevertheless, local foresters consider the expenditures justified, partly because of what they believe is the necessity to restore productivity, and partly because of the increasing importance of recreational use of forests.

Upper Franconia

Before viewing the forests of Upper Franconia we visited the splendid Bamberg cathedral, built by Emperor Henry II nearly a thousand years ago. His tomb, standing in the center of the cathedral, is one of the great masterpieces of medieval sculpture. For approximately 800 years, until 1802, Bamberg was the capital of a powerful ecclesiastical state. The Hauptsmoorwald, which was next on our itinerary, was one of its possessions. This forest is famous for its high-quality Scots pine. The wood is especially desirable for production of veneer, paneling, topflooring, and doors.

Only a few miles separate the Scots pine forests near Bamberg from the beech forests of the *Steigerwald*. Here, occurrence of many geologic formations in a mosaic-like pattern has resulted in a great variety of soil types. This condition, along with a considerable climatic change over short distances, makes for greater diversity in local silvicultural practices.

Perhaps the most beautiful sight in the *Steigerwald* is a 160-year-old stand of European beech. These trees are truly majestic. However, from a strictly economic view, the market for beech is steadily declining, and the balance between costs and earnings is becoming more and more unfavorable in districts where beech is the dominant species. Because of this foresters dislike seeing large areas covered with beech.

Lower Franconia

In the late afternoon of our fourth day, we came to Wuerzburg, capital of Lower Franconia and center of a wine-producing region. Nearly obliterated in the second world war, the town has been completely rebuilt. A pleasant experience awaited our group in the evening. We were invited to sample Franconian wines in the residence of the Princebishop. The setting, a large cellar illuminated by candles and walls flanked by huge wine barrels, was very romantic. And we found the wines excellent.

From the capital city we visited the Forest District of *Sailershausen*. In 1582, the Princebishop of Wuerzburg gave the forests of this district to the newly founded University of Wuerzburg as a source of revenue—probably one of the earliest land grants made to a university. Today, Wuerzburg is a state university and the forests of *Sailershausen* are under the administration of the Bavarian Forest Service. Managed for centuries as coppice with standards, the woodlands today are in the process of conversion to high forest. Lack of a market for fuel and for tanning bark has made such a conversion essential.

On the rainy forenoon of the sixth day, we were in the High Spessart visiting with a group of students from the Ranger School at Lohr. They gave us a fine demonstration of blowing the hunting horn, a skill almost every forester mastered in former times because of its importance as a means of communication on chase hunts. Nowadays, the sound of the hunting horn is seldom heard because the skill of playing it has largely been lost.

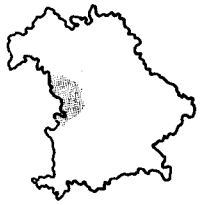
The famous oak forests of the Spessart owe their existence to the hunting passion of the medieval princes of the church. This area was the hunting domain of the Princebishops of Wuerzburg, and logging of any kind was forbidden. After Bavaria acquired the Spessart in the early 19th century timber, not game, became the main object of management. The century-long ban on logging resulted in the formation of oak forests that were up to 400 years old. The value of these stands as a source for high-grade veneer wood was quickly recognized, and management procedures were developed to guarantee a continuous supply.

Rotation for oak is about 300 years. New stands are established by artifical seeding. When the oak is between 60 and 100 years old, the stands are under-

planted with beech to shade in time the oak's stems and to prevent epicormic sprouts. Buyers will pay as much as $1,000 for one cubic meter of high-grade veneer logs.

After leaving the Spessart, we turned south again and drove on to Rothenburg, our last overnight stop.

Suabia



So far, we had seen only state and communal forests; but on the last day of our trip, we were given a chance to visit private ownerships in northern Suabia. In the forenoon, we toured forests of Prince Oettingen. His lands had been largely in hardwoods, with a high percentage of beech. About 40 years ago, conversion to pure conifers and mixtures of softwoods and hardwoods was begun to increase financial yields. All went fine until last spring when a severe storm caused enormous windthrow of pole-sized Norway spruce. The quantity downed is roughly equivalent to the annual cut for the next 10 years. Timber of this dimension does not readily sell, and with the large amounts that now come on the market, prices can be expected to decrease even further. Windthrown timber has to be salvaged rapidly, however, to prevent outbreak of a bark-beetle epidemic and to avoid losses even greater than have already been sustained.

Paper-manufacturing companies in Germany ordinarily do not own forest lands. The Leinfelder Company, although its holdings are minute by American standards, is among the exceptions. When the company acquired these lands, they had a depleted growing stock and an unbalanced age-class distribution. After a few decades of ownership, the company has been able to put its forest management on a sustained-yield basis.

Our trip was formally ended with a Bavarian *Brotzeit* in an ancient country inn. A *Brotzeit* is a hearty meal of sausages, ham, eggs, radishes, cheese, black bread and butter, and much good Bavarian beer.

General Observations

Conversations with German foresters, observations on the tour through Bavaria, and nearly a month's travels through other parts of Germany provided the impression that German forestry is undergoing many changes. The post-war period of high demand for wood of any kind has given way to a slow market for wood products and depressed prices for logs. The reasons are manifold: wood is no longer used as fuel; many mines have closed, and the demand for mining timbers has ceased; aluminum pipes have replaced wooden poles in scaffolding; and on and on the list goes, of the many uses where wood has been replaced by other materials.

Fifteen years ago, the term "pre-commerical" thinning was unknown to German foresters because they could sell everything regardless of size or quality. Today, they are very familiar with the meaning of this term. In 1966. all the state forest services (Germany does not have a federal forest service) were operating in the red with the exception of Bavaria. And there were indications that its forest service will have a deficit within the near future.

The labor market is adding to present difficulties. Rapid post-war expansion of German industry created a tremendous demand for workmen and brought wages to an unprecedented high. Easy working conditions and high pay attracted many of the men who had worked in the woods, so forestry was left with an acute shortage of manpower.

The consequences can be seen. Wherever possible, mechanization is pushed hard to reduce manual labor. Thinning schedules are drastically reduced, and abandonment of costly regeneration procedures is being advocated. Small and medium-size private ownerships are in a precarious financial situation because revenues are often barely sufficient to cover taxes.

A rapidly increasing population is a factor that influences German forestry even more deeply than the present economic situation. The Federal Republic (West Germany) has a population of almost 60 million in an area about the size of Oregon. In recent years, recreational demands on forest lands have increased heavily. If this development continues, recreation and watershed will probably become more important objectives of management than the production of timber.

In Germany, forestry is a profession that has prestige and tradition. I noticed the names and dates of tenure of all the "Forstmeisters" who had been in charge of the district since 1507 listed on a wall hanging at the headquarters of the Pressath Forest District, in northern Bavaria.

For a long time, more than enough young men wanted to make forestry their career, but this is also changing. A shortage of graduates from ranger schools already exists—and is anticipated for college-trained foresters. Low salaries and long periods of "on-the-job training" following graduation are probably the main reasons why a career in forestry is becoming less attractive to young people. The forest services are combining ranger districts so they can handle their administrative units with fewer people. Low-cost modern housing and other fringe benefits are provided to employees to make jobs more attractive.

The new houses built by the Bavarian Forest Service not only help in recruiting forest workers, but serve to advertise use of wood in construction. Wood of native species is going into floors, paneling, stairs, doors, and other components of the house. These promotional efforts by a governmental agency were among the very few that I noticed.

All these changes have caused some German foresters to become deeply concerned about the inadequacy of today's education in forestry. They consider that present curricula in their forest schools still reflect philosophies that are not well suited to prepare students to think in terms of the tasks they will face in the future. In the United States, we are concerned with the same problem, and it should be interesting to observe the approaches that will be used toward its solution in Germany. □