FRENCH FORESTS FOR OUR ARMY

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This is the second of a series of articles on the effect of the Great War on the forests of Europe, articles based on information secured during a tour of Great Britain, France, and Belgium in December, 1918, and January and February, 1919, taken for the purpose of investigating war-time forest losses and of ascertaining how best America can aid in restoring the forests of our Allies.—Ezrao.

Tours, France, January 30, 1919.

Here is the headquarters of the 20th Regiment of Engineers composed of lumbermen and foresters, the largest regiment in the world, and the organization upon which the American Expeditionary Force depended for its lumber for war needs and for its fuel wood. Here, since the organization was completed by the merging of the two battalions of the 10th Regiment, mostly forestry troops, with the 20th Regiment, mostly lumbermen, Col. James A. Woodruff, a West Pointer and regular army officer, has been in command, with Lieut.-Col. W. B. Greeley, of the United States Forest Service and a director of the American Forestry Association, assisting him in directing the operations.

Tours, being the headquarters for the S. O. S., the Service of Supply—for the A. E. F., and being the concentration station for the supplies which are landed at Bordeaux, St. Nazaire and Brest, became the natural place to locate the directing forces of the 20th Regiment which supplied the troops with so much of the material which they needed in railroad, camp and trench construction.

Here it was possible not only to secure information regarding the work of the regiment but also, by automobile to visit some of the lumber camps to see the conditions under which the boys worked. The information received, the impressions secured, the conditions experienced I pass on to the readers of American Forestry Magazine, not so much in the effort to give a detailed account of the accomplishments of the regiment, which will come in later articles, as to convey to them outstanding facts which should be of the most general interest.

First then the feature which attracts attention at once, the fact that it is the largest regiment in the world:

The regiment is composed of 49 companies of approximately 250 men each, divided into 14 battalions and having connected with it 36 Engineer Service Companies or labor troops. The regiment originally was organized to contain 48 companies, but the 49th was added in France, being composed of members of the New England Saw Mill Unit who had spent almost two years in cutting in the Scotch forests. Three officers and 90 men of this Saw Mill Unit volunteered as a nucleus of the 49th Company of the 20th Regiment and the full complement of the company was secured by getting men from other organizations.

The chief forest cutting of the regiment was in the Vosges section with Epinal as the headquarters of the operating companies. The forests there were chiefly of Scotch pine, fir and spruce. At Eclaron was the largest single installation, a mill capable of shipping, as it did, an average of five thousand ties a day. This mill was situated in the forests of Argonne and furnished lumber, largely duck boards, bridge timbers, piles and poles, etc., for the 1st and 2nd Armies. Colonel C. S. Chapman,
TREES HERE DOING A DOUBLE SERVICE

These trees not only hid advancing French and American troops from enemy flying machine observers, but provided lumber for such dugouts as are seen. Comparatively heavy timber covered with earth provided fairly good protection from the enemy shells and forests and woodlands were always shelled because they were used to conceal troops.

CANADIANS GETTING OUT HEAVY TIMBER

Heavy timber such as shown in this photograph was used for piling, bridge building, canal repair work, etc., by the Allies, while the Germans cut quantities of it to roof dugouts. These heavy timbers covered with several feet of earth made the dugouts safe from even the heaviest shells.
with headquarters at Neufchatel had entire control of this advanced section and of all the operations in the departments of the Vosges, Doubs, Cote d'Or and Aube, so that his work consisted of supplying all the requisitions in the zone of active operations for the A. E. F.

The Eclaron mills were situated near some big ammunition dumps and as the plant was run all day and all night, being electrically lighted, it made a very good target for the German bombers. The mills were bombed several times but none of the workers were injured nor was much damage done, and finally a real American trick resulted in so misleading the German bombers that the danger was entirely overcome. This trick was devised by Major Spencer who, realizing that the electrically lighted mill was a bright target for the German bombers, ran electric wires into the heavy woods for a distance of one-third of a mile from the mill and installed a number of electric lights on the trees. Whenever an alarm of an air raid came, the lights of the mill were extinguished and the lights along the trees one-third of a mile from the mill were lighted by switching on the current and were kept blazing while the Germans wasted bombs on them and inflicted damage only on some of the trees.

Other mills up along the fighting front were also bombed frequently, but without serious damage.

The amount of wood required by an army for fuel, in winter especially, is not appreciated by the civilian. For instance, at the time the armistice was signed, Lieutenant-Colonel A. S. Peck, assisted by Major R. J. Stuart, Captain Donald Bruce, Captain Joseph Kittridge, Jr., some twenty lieutenants and twenty sergeants of the 20th had charge of 10,000 quartermaster troops, all colored, cutting fire wood for the 1st and 2nd American Armies, at the fighting front, with headquarters at Chaumont. These men, cutting hard-wood coppice, and using transportation on forty and sixty centimeter railroads, by wagon truck or any other method of carriage available, and working always to get the wood cut as near the location of the troops as possible, managed to secure and maintain a daily production of about 3,000 cords of wood a day. This amount of wood supplied fuel for approximately 1,000,000 troops.

The first mills used by the regiment when its first units reached France were French mills, but their daily production was so low that the units changed to American built mills as soon as possible, and within a few months all of the mills in operation were using machinery sent from the United States.

At the time the armistice was signed, the regiment had eighty-one lumber mills in operation and twelve more being installed. The average value of these plants was $15,000 apiece. When I was in France the sale of these saw mills and their machinery, which were of course of no further use to the American Army, was somewhat retarded, if not wholly prevented by army red tape. As one officer intimated, Congress is evidently afraid to trust an army officer to sell any army material, or so one might be led to believe, as the Act regarding the sale of army material provides that the sale price shall include not only the original cost, but also the cost of installation. As a result, many of the lumber mills will probably have to be scrapped and sold as scrap, if the officers of the 20th Regiment do not manage to get special permission to sell them at the best prices they can obtain.

The men of the regiment with whom I came in contact...
at the lumber camps were in good health and fine physical condition, despite the generally disagreeable weather conditions of the winter months, their hard work and the fact that much of their labor was performed in the rain and mud. The majority of them had put on weight, which is not surprising when one considers the fact that they are unusually well cared for, particularly as far as their physical condition and their diet is concerned. After their ten hours of hard work each day, they return to their lumber camps, strip off their wet and muddy clothing, have hot showers with plenty of water and an entire change of dry clothing for the evening. Their diet is somewhat larger than that of the men in other units, on account of the very hard work which they do. I believe the increase in ration above, other units is about seven per cent, and some of the officers stated that a ten or twelve per cent increase was most desirable. At any rate there seemed nothing lacking in the midday dinner which I had with Lieutenant-Colonel Greeley at the camp at Chenonceaux, where the 29th Company, in charge of Captain J. H. Price, was located. Here we had potroast, cut thick and}

![EFFECT OF SHELL AND RIFLE FIRE](image)

This was once a standard under copice forest near Ribercourt and on the route to Leassigny. It was practically totally destroyed by the heavy firing during a prolonged battle.

![FOREST CASUALTIES LIKE THESE ARE SEEN ALL ALONG THE FIGHTING FRONT](image)

Wherever there has been a severe military action in woodlands or forests the trees have suffered much as these have. The scene is near Verdun and heavy shell fire swept the woods.
densed milk, sugar, butter, and a large thick peach pie, cut only twice, making each portion one-quarter of a pie, and a real American pie at that. So husky and vigorous are men living under these conditions that despite their ten hours of hard work during the day, their favorite recreation at night is in some athletic exercise or game.

At first the men were rather well crowded together, a few large barracks being erected at a camp and usually sixty men being assigned to each barracks. Later, however, it was found that the men were better contented and kept in better health by being separated in squad tents, or small barracks, with eight men to a squad. This arrangement greatly facilitated the isolation of ill men. The squad tents were boarded to a height of four feet and well sodded and floored. Each had a small stove, was equipped with six or eight bunks and was easy to keep warm and dry and comfortable. In some camps where tents were not to be had, huts were built and served the same purpose.

Various units of the regiment performed particularly good work during the September drive of the Allied Armies which forced the Germans back so quickly. During one day's operation, the American fighting
two officers, Captain Harry H. MacPherson and Captain Wilford A. Fair, who were killed by German machine gunners on October 5, 1918. These men were looking for mill locations in the Argonne forests. In some manner the Germans got behind the troops in the advanced section during the night and the next morning as the two officers walked through the forests, hidden German machine gunners fired upon them. MacPherson fell, badly wounded and Fair gallantly ran forward to aid him and was killed as he knelt over his dying fellow-officer. Captain Fair was cited for gallantry.

First Lieutenant John H. Kelly was killed in a motor smash-up. Master Engineer George L. Nutter and Sergeant Alcott were killed at St. Julien by a railroad train while doing a rush loading job.

The influenza was serious at two or three camps and several men succumbed. At the Mimizan camp in the Lands Dis-

troops captured three rail heads and the immediate problem was to provide enough ties to connect these rail heads with the French railroads nearest to them. Thousands of ties were needed but by hard work with every available man, the Forest units assigned to the task of providing the ties, secured the desired number in a remarkably short time.

The 7th Battalion, which was placed at the disposal of the French Government, manufactured entirely free of cost to the French Government, the following quantities of timber: 4,468,000 board feet of lumber; 199,868 standard gauge ties; 191,604 narrow gauge ties; 127,475 poles and props; 54,847 steres of fuel wood. This is enough to build 605 barracks; 195 miles of railroad; 1,395 miles of telephone line on the basis that half the round material was poles; and warm a detachment of 500 French Infantry 150 years.

The casualties of the regiment were, of course, not large, as most of the men worked in sections far behind the range of German guns. Among the casualties, however, are those of
LUMBER USED IN TRENCH CONSTRUCTION

The sides of this trench of an advanced post of French troops along the Marne are braced by small branches woven together and nailed upright of two and three inches in diameter. The dugout is roofed with heavier timber. The trench shows the damage done by a German shell which exploded in it.

In the strict the 11th Company had a number of cases and fourteen deaths, among the dead being Corporal Charles J. Cumisky, who devoted himself to attending the sick men without thought of his own physical condition. Even after he had been stricken with the disease, he continued to work and finally fell exhausted and died shortly afterward. He was recommended for a Distinguished Service Medal.

Within an easy run from Tours by automobile, one may see scores of fine old chateaux, and among the most interesting of these is the Castle of Chambord. In the extensive grounds attached to the chateau, a considerable amount of forest cutting was done. The story of the arrangements for this cutting is interesting.

The castle was built during the sixteenth century as a hunting lodge for the Royal family and in order to keep the game in and to keep the poaching peasants out, a wall some ten or twelve feet high and about two feet thick, and twenty-one miles in circumference was built and is still standing and in good condition. When the war broke out this property, which is owned by an Austrian nobleman, was taken in charge by the French Government, under somewhat the same conditions as the Alien Property Custodian of the United States took charge of the property of aliens here, and as it contained some fine stands of pine, portions of its forests were leased to the American Forest Units and were cut.

To appreciate the manner in which the French, British, Canadians and Americans co-operated in the purchase of forests and in their lumber production it must be remembered that as early as September, 1916, because of increasing difficulties of transport, the British Army decided it would be necessary to secure its timber supplies in
France. Accordingly, General MacDougal, head of the Canadian Forestry Corps, secured mill equipment and forestry companies to handle the exploitations. The forests were supplied free of charge by the French in return for certain tonnage which France required for the transport of raw materials.

It was not until September, 1917, that the Comite Franco-Britannique de Bois de Guerre was organized by Lieutenant Sebastien, to handle the acquisition of standing timber and the purchase of manufactured lumber from Switzerland and other countries for the British and American armies, and later was joined by a Belgian delegate, Major Parlongue. Timber purchase in the war zone, which consisted chiefly of fuel, was conducted by Lieutenant-Colonel Peck working through the French Mission at Chaumont where city General Pershing established the American Expeditionary Force headquarters. Major Badrey, of the French Forestry Service.

*THE FRENCH GAS MASK*

Wood workers were often so close to the fighting that they had to wear gas masks for protection while gathering fuel wood or evenning stakes for barbed wire.

*THE FRENCH CUT LOW*

With true French thrift applied to forest cutting the French forests left stumps as low as cutting with axes or saws permitted.
were a few pole operations in central France, south of Orleans. Since this latter area was on the American line of communication, the British kindly withdrew their operations and ceded this area exclusively for American exploitation. One of the first problems was to define purchase areas for the use of the American or British services—the French retaining the right to purchase in all portions of France.

The Landes was divided so as to facilitate British water transport from Bordeaux and Bayonne to a port in northern France close to the British front. This arrangement was necessary because of shortage of rolling stock in France and the difficulties of transporting wood materials from Bordeaux north on the American lines of communication.

Similarly the Vosges and Jura timber areas were divided between the British and Americans so as to interfere to the least possible extent with their railway transport. The Vosges-Jura exploitations were particularly important for France since she secured a large per cent of her aviation material, manufactured by the Canadians, from the splendid spruce forests that make this region one of the most valuable in France. Normandy being near the British front was reserved for them.

Had it not been for the British and French co-operation, the A. E. F. undoubtedly would have paid far higher prices for their timber and would have had greater difficulty in securing it. According to Major Woolsey, of the 20th Regiment, the A. E. F. owes a debt of gratitude to Lieutenant-Colonel Sutherland and Lieutenant Sebastein of the C. I. B. G., for their co-operation. Lieutenant Sebastien, the head of the C. I. B. G. Executive, worked tirelessly in the interests of the Allied timber supply, not only having charge of the purchase of standing timber in the S. O. S. of France, but also negotiating important purchasing agreements with Switzerland, Spain, Portugal and Scandinavian countries. Repeatedly, when the situation demanded, Colonel Sutherland withdrew his claims to important forests, which were badly needed by the American Section.

On account of war speculation, the price of timber in France had more than doubled since the beginning of the war. In the Jura, timber which before the war brought $16.00 per thousand feet on the stump sold for from $32.00 to $45.00 per thousand feet, counting 3 1/2 cubic meters of standing timber as equal to one thousand board feet.

It was owing to the assistance of Lieutenant-Colonel Jouhaire, chairman of the French committee having charge of the purchase or leasing of private forests, that
the A. E. F. was able to purchase private forests at even less than the current market rate. Colonel Joubaire unquestionably saved the United States more than a million dollars because of his skill in treating with private owners.

FRENCH FORESTRY TROOPS
There is no waste in this kind of cutting nor is there any waste in disposing of tops and small branches. These are either used by the soldiers for fuel wood or civilians pay for the privilege of gathering them for fuel.

Take this as an illustration: One of the first forests operated by American troops—the Forest of Boisgenézeau—was offered for $800,000 by an Italian speculator, and when the C. I. B. G. saw that the price was exhorbitant the forest was immediately requisitioned for war needs. The appraisal of Colonel Joubaire on the value of the forest was secured and the final purchase price was close to $140,000 as opposed to $800,000 originally asked. In innumerable cases, where the demands of private owners have been exhorbitant, as they almost invariably were, Colonel Joubaire was able to reduce the price to an equitable figure. When it is considered that the A. E. F., when the final settlement is made, will have purchased some $10,000,000 of standing timber in France, the importance of the co-operation secured through the C. I. B. G. can be fully appreciated.

About 40 per cent of French forests are State forests, about 20 per cent Communal and about 40 per cent private. The prices for the State and Communal forests were fixed by a Committee of the Department of Agriculture and the stumpage prices were based on the market value, which arose to two or three times the pre-war value. The sale of private forests and the prices for them were fixed by a Committee from the Board of Armament, and it is interesting to note that the prices

for these private forests were about fifteen per cent below the prices fixed by the Committee of the Department of Agriculture. Some private forest owners desired clean cutting, so that they might take every possible advantage of the prevailing high prices for their timber. Others with an eye to future production permitted cutting on a forestry basis only, while all the cutting of State and Communal forests was entirely on a forestry basis and was so regulated that on the average the productive value of such forests was restricted not more than five years.

As France, prior to the starting of the war, imported about 1,484,000,000 board feet of manufactured material more than she produced, the French shortage must now be met by continued over-exploitation of her forest resources, by commercial imports, or by imposing a refund of German timber from German forests.

Over-exploitation is, of course, impossible because if continued it would bring erosion, floods and unfavorable climatic conditions, and would destroy local wood industries upon which many thousands of French people...
depend, in a considerable measure, for their livelihood.
Importation is undesirable because of the high cost.
What the French prefer and advocate, is a provision in the Peace Treaty for compelling Germany to refund to France the amount of timber destroyed in France. That Germany is capable of doing this is evident as she is rich in forest wealth. Her total wooded area amounts to almost 35,000,000 acres and her annual production, exclusive of fire wood, is about 8,500,000,000 board feet.

WORK FOR FOREST REGIMENT UNITS AND BRIDGE ENGINEERS

The Germans destroyed this bridge in their retreat from Chateau Thierry and positions made of lumber produced by the 5th Regiment units near the fighting line and constructed by bridge engineers were needed for the troops advancing in pursuit.

Lumbermen of the United States are naturally curious to learn of lumber trade possibilities in Europe, and it was therefore interesting to secure information regarding the possibility of American lumber finding a market in France. Some inquiries revealed the information that there is a possible market for hardwoods of the best grade for interior work, parquet flooring, furniture, coop-
erage and vehicles. Large lumber such as yellow pine, Douglas fir, etc., is desired for bridge, railroad and canal repair and construction. Most of the construction lumber and general lumber which she may need can be supplied from her own resources and after a short time may be secured from the Baltic region at lower prices than she could secure the same lumber from America. Finland has a quantity of lumber ready to ship and lacks only the shipping. This timber is from forests cut on about a fifty-year rotation period. The American lumbermen must realize the necessity in developing a market abroad, of taking advantage of the Webb Law, establishing agencies, meeting earnest competition and making a market for the sale of their best material to the high-class trade by using clever salesmen earnestly advertising their goods and quickly meeting the market conditions.

CASCARA STUMPAGE ADVERTISED ON SIUSLAW

The first advertisement of cascarabark stumpage on the National Forest is now being run. The advertisement covers some eight hundred acres on the Smith River drainage basin in the Siuksaw National Forest, which is estimated to yield twenty thousand pounds of dry cascarabark. The minimum price named is three cents per pound, which has been the prevailing price for cascarabark stumpage on the National Forest during the high prices of the last year. Many sales of cascarabark, aggregating thousands of pounds, are made every year on the Siuslaw, but most of the sales are for small amounts. Pealing of cascarabark is ordinarily distinctly a home industry, done by the settler with perhaps the help of some member of his family.