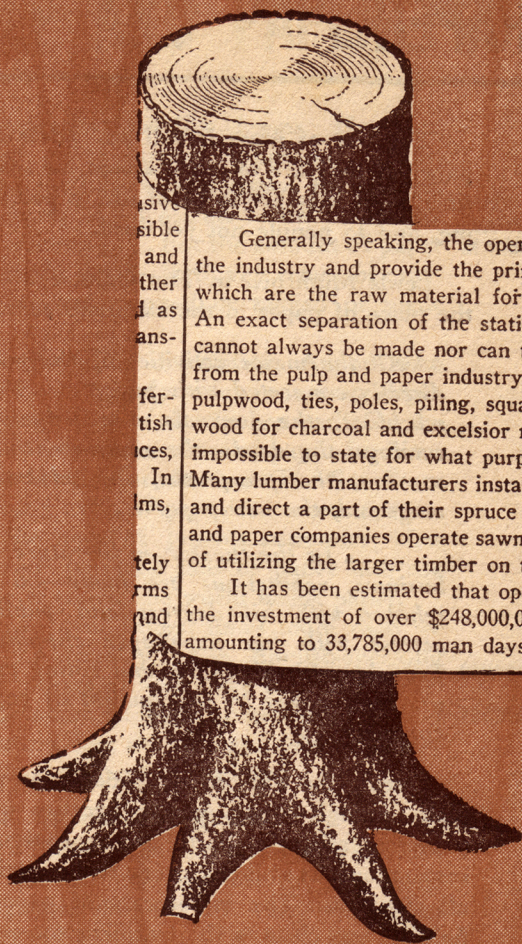


CANADIAN AFFAIRS

RECONSTRUCTION SUPPLEMENT NUMBER 4



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Generally speaking, the operations in the industry and provide the primary form which are the raw material for the mill. An exact separation of the statistics relating cannot always be made nor can the lumber from the pulp and paper industry. Woods pulpwood, ties, poles, piling, square timber wood for charcoal and excelsior manufacture impossible to state for what purpose the. Many lumber manufacturers install machinery and direct a part of their spruce and balsam and paper companies operate sawmills in connection of utilizing the larger timber on their lands.

It has been estimated that operations the investment of over \$248,000,000, gave amounting to 33,785,000 man days, and di

THE PULP AND PAPER PEOPLE

ON PAPER

The war of ideas is still on. Ideas must travel on paper, if they are to reach across the seas and the continents—if they are to be of use to people out of hearing, and to people not yet born.

Lewis Mumford in *The Culture of Cities* has put the place of paper in the twentieth century as follows:

All the major activities of the metropolis are directly connected with paper . . . the tabulating machines, the journals, the ledgers, the card-catalogs, the deeds, the contracts, the mortgages; so, too, the prospectus, the advertisement, the magazine, the newspaper

. . . . In the theater, in literature, in music, in business, reputations are made—on paper. The scholar with his degrees and publications, the actress with her newspaper clippings, and the financier with his shares and voting proxies, measure their power by the amount of paper they can command

During the war our dependence on paper has been plain enough—not merely because of the Munich paperhanger's role. Battle orders, charts, directives and instructions, as well as cartons and containers have been all about us. The importance of paper to organized fighting was clear to the Germans too—as indicated by their extreme care with paper supplies in occupied countries.

It also takes paper to make peace. Paper is an important instrument for understanding. And Canada is a leading source, producing about one-third of the world's supply of newsprint paper. Let's look at a few facts on Canadian paper.

October
1945

THE PULP AND PAPER PEOPLE

"Battlefields generally look like dumps. There are broken corrugated paper cartons, thousands of discarded paperboard shell cases, and always the stained, torn boxes which carry blood plasma to the front. All kinds of metal lie around But the amount of paper is the most astonishing detail—until you remember that every item overseas was shipped or tagged or made with paper."

PAPER
ESSENTIAL
IN WAR

That's Quentin Reynolds' description. Anyone who has worked around an orderly-room or a map depot can mention another aspect of the "paper war". On the production front, it takes three acres of paper for blueprints to get a bomber into production. The San Francisco conference used miles of paper to record its resolutions; and on the news of Japan's surrender, New Yorkers poured four hundred tons of paper into the streets. At war or at peace, the world needs paper.

Canada produces over fifteen times more than we can use within the country. The English-speaking nations, and some others as well, have depended overwhelmingly on Canadian supplies of newsprint during the war. What exactly does the pulp and paper industry mean to us as Canadians, and as workers?

CANADA
THE LEADING
PRODUCER

How did the Industry grow?

Paper-making a century ago had nothing to do with wood: rags were the raw material for the few small paper-mills in Canada, the first of which had been established in 1803 at St. Andrews, Quebec. Just about the time of Confederation two plants, at Valleyfield and Windsor Mills, Quebec, began producing *wood-pulp*. The former introduced to America the mechanical process of grinding with stones and the latter employed the chemical process of separating the wood fibres with lye. The first sulphite pulp mill was installed at Merriton, Ontario in 1887, and the first mill using the sulphate or kraft process followed in 1907.

INDUSTRY
AS OLD AS
THE NATION

The industry grew rapidly. During the years before World War I Canadian paper began to enter American markets. Our mills began to specialize in newsprint paper, of which we now supply about two and a half million tons a year to U.S. newspapers. Their total consumption is about three and a half million tons a year.

One hundred and six pulp and paper mills operated in 1943: 28 of them producing pulp only, 28 paper only, and 50 both pulp and paper.

Ever been in a Paper Mill?

Let's see what goes on in a typical newsprint mill. Four-foot sticks of peeled pulp-wood, mostly spruce, travel up a conveyor from the yard to the interior of the mill. Some go to the grinders and are crowded against revolving stones which shred the wood to a mass of short broken fibres, to be washed down with pure water as a sort of thin gruel—this is groundwood pulp.

Other sticks are chipped fine, then the chips are screened, crushed and fed into digesters, tall cylinders where they will stew for hours under steam pressure in a sulphite solution. This solution is prepared by burning raw sulphur and leading the fumes up through a tower filled with broken limestone, while water trickles down. When the hot sulphite solution has "digested" the lignin (which binds the cellulose fibres together in wood), the contents of the digester are blown out in a powerful jet against a bronze target in a pit, so that the wood falls apart into relatively long tough fibres, which are then washed and rinsed to form a soupy mass of sulphite pulp.

Now the two are mixed, eighty-five percent groundwood pulp for bulk and fifteen percent sulphite pulp for strength. After beating and refining, the thin mixture goes to the paper machine, where it flows out on a broad wire screen and, after losing most of its water, is formed into a damp continuous sheet; this passes at high speed to a heavy felt blanket which carries it between rolls and over heated cylindrical drums where it is further dried and pressed; finally it runs up over and around a series of rollers which smooth and finish the

paper. Newsprint machines deliver paper over twenty feet in width, at speeds up to 1350 feet per minute (about 15 M.P.H.)

But newsprint, though the most important, is only one product of the pulp and paper industry. Others are book and writing paper, wrapping paper, paper boards, tissues, besides various kinds of pulp dried and sold for other manufacturing, such as the high-quality cellulose used for making rayon yarns, cellophane and plastics. The industries using pulp and paper to produce new materials and finished articles, promise to increase greatly in importance in peacetime.

Why is Canada the Leading Paper Maker?

From the above we can see what are the main requirements of the industry, and why Canada leads in this field. Pulpwood, power and pure water, all in large quantities, are essential for the economic operation of a mill. More than 35% of Canada's total land area is forest, and about 493,000,000 acres of it are considered accessible—the trees on them can be got at (and got out) commercially. These vast areas are capable of producing continuous crops of timber. Only the U.S.S.R. and Brazil have greater forest resources. In 1943 nearly nine million cords of wood were cut for pulp. That would be a pile 4 feet by 4 feet by 13,333 miles—easily from Ottawa, east to Berlin and west to Tokyo. It was worth as raw pulp-wood some \$90,000,000. A considerable part of the raw material comes from farm woodlots: the pulp and paper industry buys pulpwood from farmers and settlers to the value of \$15 million or more annually.

Along with forests, Canada has vast water-power resources. Turbines with a total capacity of ten million horsepower are installed, and a great part of this power is used to turn the machines in pulp and paper mills, while some is used in electric boilers to raise steam for the digesters and drying rolls. Of the total 28 billion kilowatt hours of electrical energy used in Canada in 1939, 11 billion were used by the pulp and paper in-

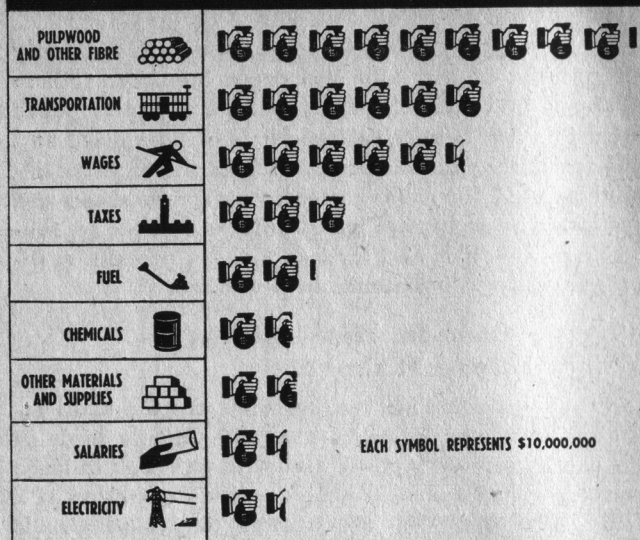
THE PRODUCTS

PULPWOOD,
POWER, WATER
AND SKILL

PULP-MILLS
THE BIGGEST
USERS OF
POWER

THE PROCESS

WHAT THE INDUSTRY SPENT — CANADA 1943



dustry. This predominance of the pulp and paper mills among the users of electric power has not been so marked during the war — both because the production of electricity increased, and because electricity was diverted for other war purposes.

What besides Wood and Power?

But other agents and ingredients as well go into the manufacture of paper. Already mentioned are pulpstones, sulphur, limestone; we may add fuel for the boilers, chlorine for bleaching, felts and wires for the paper-machines; soapstone, lime, caustic soda, salt cake, alum, china clay, starch, rosin, dyes, other chemicals, rags and waste paper.

Thus many other industries and workers are kept busy serving the pulp and paper mills. The chart above shows what the industry as a whole spent in 1943.

★ ★ ★ ★ ★ ★ ★

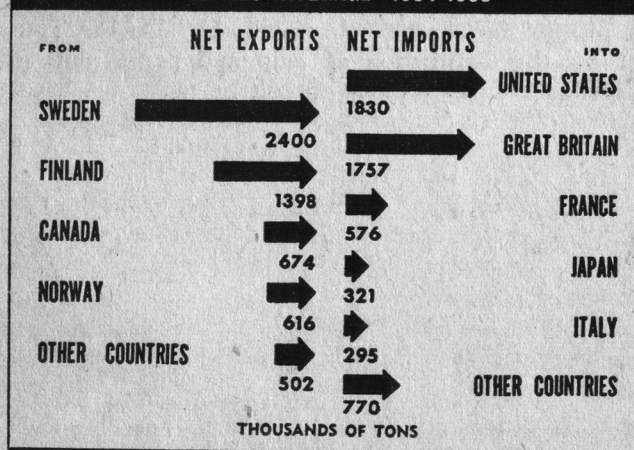
WHERE WE SELL PAPERS

2

If pulp and paper absorb the labour of Canadian producers in many fields, these commodities are likewise a very important means of cashing in the value of our resources on the world market. Worth more than our exports of wheat, gold, or any other commodity, Canadian pulp and paper sold abroad in 1939 to the value of \$155 million, nearly 17% of all Canadian exports in that almost-peacetime year. In 1943 Canadian paper exported was worth \$161 million, and wood-pulp another \$100 million. Ninety percent (by value) of our exported paper is newsprint; and ninety percent of our newsprint exports go to the United States. In 1939 the United Kingdom, Australia, Argentina, South Africa and New Zealand led among half a hundred other countries to which we sent newsprint. Canada exported nearly twice as much newsprint as all other countries

PAPER OUR
BIGGEST EXPORT

WOOD-PULP PRODUCERS AND CONSUMERS YEARLY AVERAGE 1934-1938



WHY OTHERS EXPORT MORE PULP

combined. The case of wood-pulp, however, is different, as shown in the chart on p. 7. Canada before the war was only the third exporter of pulp. The nearness of Scandinavians to the British Isles gives them a considerable advantage over Canada in that market. The fact that before the war we were not the leading exporters of pulp is explained in part by the Dominion Bureau of Statistics when they say "the products of this important industry are being exported in the more highly manufactured form of paper."

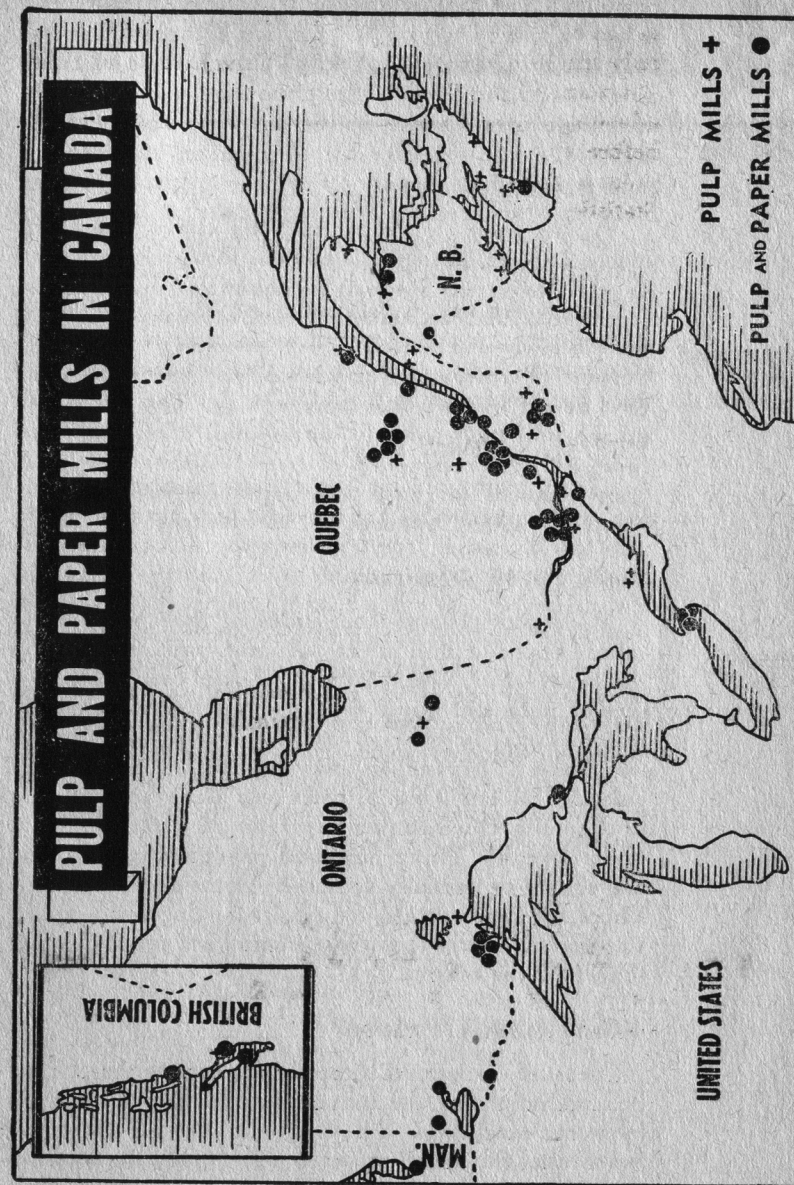
During the war, Scandinavian exports of pulp were absorbed by the enemy, and Canada increased her contribution to Britain's short supply, but increased far more her shipments to the U.S.

Mill by a Dam Site

Wood, water, power and transportation facilities combine to determine the location of pulp and paper mills in Canada. If possible, there should be a constant supply of pulpwood available for an indefinite time in the vicinity of the mill; hence either a large wooded area, or a smaller area carefully managed for continuous yield can sustain a mill. The power plant need not be in the immediate neighbourhood of a mill, but long transmission lines are expensive. Transportation facilities, from the nature of the market, will generally be planned for economical access to U.S. centres. Thus we get the distribution of pulp and paper mills in Canada shown on the map opposite.

LOCATION OF MILLS

★ ★ ★ ★ ★ ★ ★



3 LARGE SCALE UNITS USUAL

Industrial Giants

As the pulp and paper industry developed, faster machines were installed. The newsprint machines grew in size, too; some modern machines are hundreds of feet long. Other technical improvements also increased the efficiency of the mills. Sixty years ago the average capacity of a newsprint paper machine was 10 tons per day; now it is nearly 200 tons per day. The whole producing unit has grown to correspond. Half the newsprint mills have capacities of over 100,000 tons a year; three-fifths of all pulp and paper employees are in plants employing upwards of 500 workers.

And their Masters

As in nearly every other industry, there was a trend toward consolidation in the pulp and paper industry in the years after World War I. Some companies own several pulp and paper mills, power plants and transmission lines, hotels and housing developments in the mill towns. They employ crews in cutting pulpwood on extensive timber limits of their own and transporting it to the mills. One company operates six paper mills and one pulp mill. Three pulp and paper mills in Canada are wholly or partially owned by American publishers. There are some sixteen companies making newsprint in Canada; five or six of these companies produce more than half the output.

What about Prices?

Because our output is mostly for export, the policies and operations of the industry are largely determined by world conditions. The fluctuations in newsprint between the two wars reflected the highly competitive spirit obtaining between producers large and small. Both

TWENTY TIMES
BETTER
MACHINERY



No. 20

October, 1945

WOODSMEN WANTED!

WOODSMEN are wanted by the thousands these days from the slopes of the Rockies to the forests of the Maritimes. And unless men are secured for logging and lumbering this fall and winter, the houses so desperately needed in Canada will be that much longer in taking shape. The pulp and paper industry, which produces goods not only for our own use but for dozens of other countries as well, will require a heavy cut of pulp wood this year. Furthermore, Canada is being called on for large shipments of lumber to Britain and Europe to help rebuild their shattered towns and cities. Fir from B.C., soft and hard woods from Ontario, spruce from Quebec and New Brunswick wait for the woodsman's axe to start them on their way to constructive uses.

Thousands of farm workers take on jobs in the woods after the harvest season is over, but with the increased demand for woodsmen, men are being recruited from the cities and towns as well. The latest figures show

that 12,000 woodsmen are needed in the Quebec forests, 10,000 in Ontario, 8,000 in the Prairie Provinces, 5,000 in the Maritimes, and 3,000 in British Columbia. Vacancies in the logging industry increased nearly 14,500 between August 30 and September 27, 1945.

Variety of Jobs

Occupations in the woods vary from labour jobs such as building and icing roads to the skilled jobs of cutting logs or pulp wood on a piecework basis. Foremen and superintendents with a knowledge of all related trades are also on the wanted list. And there are plenty of opportunities for young men who want to make the timber industry a lifetime occupation. Operators are eager to train men as scalers, timber cruisers and camp foremen—and the old-time lumberjacks who are fast disappearing must be replaced.

What about Wages?

Woodsmen today are earning from \$70 to \$90 per month, all found, while piece workers aver-

(Continued on page 4)

REHAB ROUNDUP

25% of T.C.A. Staff are Veterans

Nearly 800 vets returned from active service overseas—most of them R.C.A.F.—have been taken on strength by the Trans-Canada Airlines. At Winnipeg T.C.A. maintains schools for reconverting veterans and civilians into peacetime pilots, radio and teletype operators, passenger agents, traffic representatives, shop forces, etc. Experiments in the use of radar are also being conducted by the T.C.A. at Winnipeg—one of the first air lines in the world to make use of this "extension of human vision".

U. of T. has Veterans' Bureau

Veterans now studying at the University of Toronto or who are making application to enter will be referred to the new University Advisory Bureau for advice on financial, educational or personal matters. Colonel William Line, former director of personnel selection for the Canadian Army, is chairman of the committee.

Freshmen Farmers

This year's freshman class at the Ontario Agricultural College is the largest ever to register. About 200 of the 300 registrants are veterans.

55,000 in Canada's Postwar Forces

Defence Minister Abbott announced in the House of Commons that Canada's postwar army, air force and navy will total 55,000 as compared with the pre-war strength of 10,000.

The army will consist of an active force of between 20,000 and 25,000 with a reserve force of six divisions. As previously stated, the navy will take in 10,000 men with a reserve of 18,000. And Air Minister Gibson had outlined plans for a postwar air force of between 15,000 and 20,000, supported by an auxiliary force of as yet unspecified strength.

The Services have also announced the formation of two-year volunteer forces to fill in the gap between general demobilization and recruiting of the permanent forces.

Here's to your Health

According to Veterans Affairs Minister Mackenzie, his department is giving in effect "a modified health insurance service to more than 650,000, or approximately one-third of Canada's male population". These services include treatment for all pensionable disabilities, treatment to all discharged members of the forces for any condition arising within 12 months of their discharge, and to all ex-servicemen who served in a theatre of war for non-pensionable conditions when the veteran is unable to provide treatment at his own expense.

Rehab Job Creates More Jobs

The Department of Veterans Affairs has 8,000 on its staff today, and by the end of the year expects to have 10,000 persons employed in rehabilitating Canada's returned soldiers, sailors and airmen. All the male jobs in the department are held by returned servicemen of this war or the last, and many positions are being held open for men still in the services. Applicants with combat duty to their credit are given priority over those with overseas non-combat service.

Veterans Think it Over

222,000 ledger sheets had been opened for veterans' re-establishment credits by the end of September. Up to that time, however, only 29,000 vets had taken out their credits. 35,000 were no longer eligible, either having taken advantage of the vocational, educational or V.L.A. benefits, or because they were non-residents of Canada. This left 158,000 re-establishment credits still on ice while the vets sized up the situation before signing on the line. The credit can be kept in storage up to ten years, but benefits for vocational or technical training must be applied for within a year after the end of the war, or a year after discharge (whichever is later), while university training must be undertaken within 15 months of discharge.

Army Artists

The second Canadian Army Art Exhibition in the National Art Gallery, Ottawa, presented the work of 36 soldier artists, ranging from portraits in oils to cartoons in ink, and depicting almost every phase of life in the army.

Brothers in Business for Themselves

Three Hamilton brothers, recently discharged from the services, have pooled their war savings and personal talents to open a hardware and radio repair shop in their home town. Harry, ex-sub-lieutenant in the navy, had chalked up 4 years' experience with an electrical manufacturing company before the war and was the organizer of this family venture. His department is to handle the general electrical problems that come into the shop. His brother Bob, a former Flight Sergeant with the R.C.A.F., is an expert in electronics, with a considerable knowledge of radar. The radio end of the business is his meat. Bill was a Flight Lieutenant flying with the Transport Command of the R.A.F., and he completes the enterprising trio as the business manager of the firm. Good luck, fellows!

What is Thine is Mine

Ex-service men and women can save themselves a lot of trouble by heeding the warning recently issued by the Department of Veterans Affairs—namely, that they need not transfer ownership of homes now in their spouses' names in order to use their re-establishment credits for repairs, modernization or purchase of a home. The credit can be used for these purposes whether the dwelling is owned by the husband or the wife.

What Gives on the Labour Market?

The speed-up in demobilization has affected the job situation in Canada. Job openings during the first part of October went down to 145,600 (a decrease of 10,500 from the previous two weeks) while the number of people seeking employment rose

by over 9,000 to a total of 133,000. The demand for bushworkers rose, and base metal and gold mines have been asking for some thousands of men. Of the industrial centres, Toronto showed the greatest number of jobs available over and above the number of unplaced applicants. But in practically half of the large centres there are more people looking for jobs than there are unfilled vacancies.

"Home Aides"

For those women who would like to earn their living or supplement their income by engaging in the domestic arts, the Department of Labour (through Canadian Vocational Training) is offering a short course in lighter housekeeping duties. A "Home Aide" may be employed for 4-hour periods during the day, so she may make it a part-time or a full-time job. In Toronto the wage was set at 40 cents an hour which compares favourably with rates paid in peacetime factory work, stores and restaurants.

Home Gets the Credit

Re-establishment credit payments to 39,030 vets had reached a grand total of \$6,618,079 by the end of September. The Department of Veterans Affairs estimates that 80% of these credits have been applied to homes, in the form of furniture, repairs, modernization, or establishment of an equity.

Employment Situation in Montreal

The local office of the National Employment Service in Montreal reports that 700 men and women are interviewed for jobs in a day, with an average of 400 being placed in positions. The majority are employed as labourers with wages ranging from 35 cents to 62 cents an hour. The construction industry pays the top rates, while manufacturing firms average about 40 cents an hour. Lighter work with less experience required pays from 35 to 38 cents an hour. Skilled workers are still in demand.

KNOW YOUR REHAB RIGHTS:

FREE MEDICAL TREATMENT • CLOTHING ALLOWANCES • REHABILITATION GRANT • REINSTATEMENT IN JOBS
RE-ESTABLISHMENT CREDIT • A HOME OUTSIDE TOWN • FARMING OPPORTUNITIES • VOCATIONAL TRAINING
UNIVERSITY TRAINING • MAINTENANCE GRANTS

How do they work? How do they affect YOUR future? They are all part of Canada's Rehabilitation Program, designed to help you on the road ahead. Keep informed. Send in your questions to Editor, Civvy Street News, Canadian Information Service, Ottawa.

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age \$6 to \$10 a day once they have acquired the necessary skills. Those in Eastern Canada who make winter woods work a profession are frequently hired by their same employers in the saw-mill in the summer. But even a seasonal job in the woods for a period of six months can reward the worker with cash savings averaging around \$400, since his room and board are provided. Most forest operations in B.C. provide year-round employment.

The camps are checked for cleanliness by the Health Departments in the various provinces and are reported to be in good condition. In many cases communities are established where homes, school facilities, etc. are provided for the men and their families.

Related Jobs

Workers in the pulp and paper mills come under both the Workmen's Compensation and Unemployment Insurance Acts. A veteran entering this industry will

therefore find that, after 15 weeks on the job, he will be credited with Unemployment Insurance for the whole length of his military service after June 30, 1941.

In sawmills, which operate on the average only 130 days in the year with 10 hours a day, the wages came to around \$5 or \$6 a day with board in 1943-44.

An Eye to the Future

Science has opened up new fields for the use of wood. Canadian industries have been transforming wood into rayon yarn, insulating materials, cellophane, etc., while newly developed plants are producing such essentials as plastics and alcohol. These new uses for wood, over and above the production of lumber, wood-pulp and newsprint, ensure the woodsmen of long-term employment in a useful occupation. About 240,000 people were employed in forest industries in 1943-44, and Canada has room for thousands more this year. Here is a job opportunity worth investigating.

will in peace-time be in direct competition with producers throughout the world.

Newsprint is generally sold under contract between individual mills and individual publishers. But when the price of newsprint fell in the nearly 1930's to the point where certain mills seemed likely to have to close, the governments of Ontario and Quebec produced a plan for the re-allocation of output according to mill capacity. The alternative might have meant disaster to whole communities whose means of livelihood were in the pulp and paper industry. This employment distribution plan was followed during the most critical years of the depression.

The price of newsprint has not risen in this war to anything like the degree it did between 1915 and 1919. Book-paper and writing-paper prices have remained quite steady.

BUSINESS
SHARED BY ALL
MILLS IN 1930's

★ ★ ★ ★ ★ ★ ★ ★



★ ★ ★ ★ ★ ★ ★ ★

WORKING CONDITIONS

The Mill-Wheel Ever Turneth

Pulp and paper mills, by the nature of their processes, run on continuous schedule. Machines turn, and the stock flows to them 24 hours a day. Many of the employees are on shift work: 8-hour shifts beginning at 8.00 a.m., 4.00 p.m., and midnight rotating weekly. Other employees work by the day with regular hours, usually from 8.00 a.m. to noon and from 1.00 p.m. to 5.00 p.m. The standard work week is 48 hours; and in 1944 the average man in the mills worked a little over 51 hours. On Sundays and, in most mills, on four holidays a year, the mills shut down with only essential maintenance and repair men on duty. The great majority of mill employees get a week's vacation with pay every year; while a large number of those with five or more years of service receive two weeks' vacation with pay.

How Many does the Industry Pay?

It is difficult to say just how many persons receive pay from the pulp and paper industry. Employment in the woods is highly seasonal; in the mills it is much less so. What is more, loggers sometimes cut for lumber and for pulp and paper on the same timber limits; neither product accounts for all the money in their pay envelopes. The simplest statement is perhaps this: in 1941 those whose main occupation was logging or forestry numbered over 90,000 in Canada. About one-third the volume of the timber they sent down to the mills was converted into pulp and paper, so they were about one-third dependent on this industry. In addition, according to unofficial estimates, some tens of thousands of persons engage in logging over and above those who count on it as their main source of income. Altogether, perhaps 100,000 Canadians get some part of their year's income from logging for the pulp and paper mills.

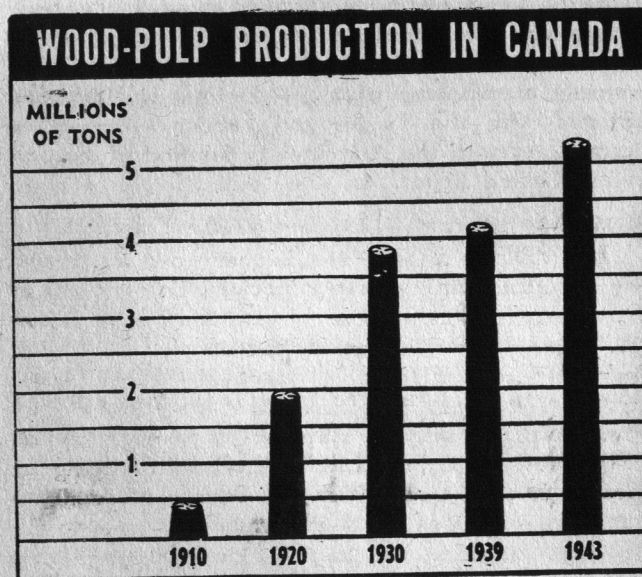
MILLS RUN ALL
DAY AND EVERY
DAY

TENS OF
THOUSANDS
IN THE WOODS

Workers are easier to count inside the mills. In January of 1945 about 37,000 were employed in pulp and paper mills. Roughly one in every ten was paid a salary; the other nine were on an hourly basis. There is considerable variation in hourly rates. Work on the paper machine is highly skilled and calls for alertness. Machine tenders, the men in charge of a paper machine crew, may earn as high as \$1.90 per hour. The base labour rate varies from 57 to 63 cents per hour, depending on the locality. Employees in pulp and paper mills averaged earnings of \$36.39 per week for the first six months of 1945, compared with \$32.64 for all manufacturing industries combined. That is an average for the industry in all Canada; wages varied slightly between regions.

OVER 35,000
IN THE MILLS

AVERAGE
INCOMES



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MAJORITY ARE
IN UNIONS

How are the Workers Organized?

Wages, hours, and working conditions were set forth in collective agreements between employers and unions in 73 out of 106 Canadian mills in 1944. Of the approximately 37,000 pulp and paper mill employees in 1944, some 26,500 belong to some union, but since agreements often cover non-members as well as members, it is estimated that at least 30,000 were covered by agreements.

The two most important unions in the industry are the International Brotherhood of Paper Makers and the International Brotherhood of Pulp, Sulphite and Paper Mill Workers. The former includes the highly skilled paper makers primarily, while the latter takes in the semi-skilled and unskilled mill workers. The Paper Makers have 53 locals with about 5,200 members, while the International Brotherhood of Pulp, Sulphite and Paper Mill Workers has 63 locals with an estimated membership of 15,500 in Canada. Both are affiliated with the Trades and Labour Congress in Canada and with the American Federation of Labour in the United States. In some mills, locals of craft unions of the carpenters, electricians, machinists, etc., have been organized, but they are relatively few in number.

The National Federation of Pulp and Paper Workers with 23 branches and approximately 5,700 members is another important workers' organization in the industry. The National Federation is affiliated with the Canadian and Catholic Confederation of Labour, and membership is confined to pulp and paper mill workers in the Province of Quebec.

★ ★ ★ ★ ★ ★ ★

THE FUTURE FOR PAPER

5

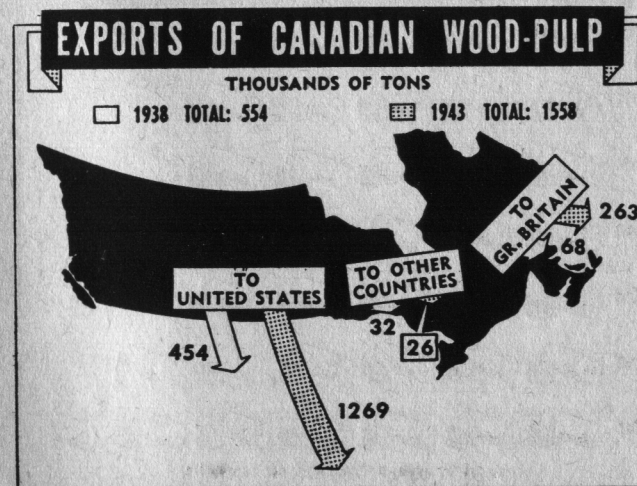
Can Paper Makers go on Exporting?

Why do Canada, Britain and the United States consume such enormous quantities of newsprint, compared with most other countries? Obviously because a large proportion of their citizens buy newspapers, and a large number of advertisers pay for space in them—because the people are not only able to read, but also to buy. If Africa, India and China had the same literacy rate and the same purchasing power, the world's newsprint output would have to be increased many times over. Democracy, popular education, a free press and economic progress throughout the world are bound to make increasing demands on the Canadian forests.

INDUSTRY
THRIVES ON
EDUCATION

In estimating the export opportunities for Canadian pulp and paper, we have to keep in mind that trade is two-sided; no country will be able to buy from us unless trade, exchange, and, if necessary, credit arrange-

TRADE MUST GO
BOTH WAYS



ments are made to give them the means of paying for their purchases.

The Canadian industry has a world-wide reputation for quality and dependability. Its wisdom in keeping prices relatively steady during this war will pay dividends when our competitors re-enter the field. In the next few years it is clear, however, that world demand for paper products will increase.

The U.S.S.R. is sometimes mentioned as a future large competitor in the world pulp and paper market. It is true that the Soviet Union has vast forest resources; but it has not the peculiarly favourable combination that Canada possesses, of wood supplies *plus* developed water power *plus* easy access to what are now the greatest markets. Moreover, the pulp and paper requirements of Soviet industry and the Soviet people are likely to leave, as in the past, little for export. Pre-war Soviet production of newsprint paper was less than one-tenth of Canada's.

Doubtless Sweden, Finland, and Norway will eventually return to their prewar position as exporters of wood-pulp, newsprint, and other paper products in

LOTS OF PAPER
WANTED

WHO WILL HAVE
A SURPLUS?



keen competition with Canada. But new uses for pulp and wood fibre have been developed which are rapidly expanding; also uses are frequently discovered for by-products which were previously lost. During the war the efficiency of Canadian pulp and paper mills has been raised to much higher levels.

MORE WAYS
TO USE WOOD

What if the Industry's Source Gives out?

The consumption and renewal of forest resources is a long term affair. Over half the land in the nine provinces is covered with forest. But over a third of the forested area is regarded as "unproductive" because the trees are exposed to site conditions—poor drainage, high altitude, and so on—which make it unlikely that they will ever grow to a size which is commercially useful. These unproductive forests are useful however in protecting watersheds, providing fuel for local use and sheltering valuable wild life.

The "productive" forests cover about 770,000 square miles, of which about 430,000 square miles are now considered "accessible," that is, easily enough reached from settled areas to be worked commercially. The total depletion of the productive forests, by fire and insects as well as by commercial use, can be replaced if the average rate of growth is about 8 or 9 cubic feet per acre each year. The government foresters say that this rate of growth "is almost certainly being maintained or exceeded." But almost all the depletion of forests takes place in the accessible areas where, to keep the balance, the growth should be upwards of 14 cubic feet per acre. Actually in 1941 (a heavy year for both war demands and accidental losses) the depletion in the accessible areas was 18½ cubic feet per acre. Complete estimates of the rates at which the forests of Canada grow are not yet available.

TO HUSBAND OR
TO SQUANDER?

In the meantime it is clear that fire and insects consume more timber, taken together, than is used for pulp and paper, or lumber, or fuel. This means that if we were to take proper care of our forests, there is no doubt that they can yield harvests in perpetuity. As

MORE TIMBER
WASTED THAN
USED FOR PULP

each pulp and paper mill represents a permanent investment worth millions of dollars, dependent on a continuous supply of wood, the industry has a vital interest in the proper management of the forests. Most companies have for years employed the best experts available, to advise the management and train the crews in good woods-keeping.

Nine-tenths of our forests are publicly owned, and licensing, research, transport and taxation policies have a lot to do with the way the woods are worked. Farm wood lots are important sources of wood for pulp and paper—and of cash to the farmers. These too should “harvest” their wood like any other crop, but over a longer period, and in accordance with good forestry practice. Public policies which will discover all the main facts about our forests, and then encourage the scientific application of these findings in the light of experience in other countries, will do much to ensure the incomes of hundreds of thousands of Canadians, for years to come.

How is Canada's Future wrapped up in Paper?

All Canadians have a stake in Canada's forests. We all need imported goods in our work and in our homes. We all want to go on enjoying sugar from the Caribbean, oranges from the United States, china from Britain and so on. Nearly one quarter of all the things we obtain abroad we get in exchange for Canadian forest products. To a very great extent, therefore, our chances of carrying on our normal pursuits—whatever they may be—depend on the efficiency of our forest industries, especially pulp and paper.

We have another kind of interest in the doings of the pulp and paper people. This world has never stood so badly in need of interchange of ideas and understanding of differing view-points.

The spreading of information is almost unthinkable without paper. And for paper the world looks first—and if we are wise, will go on looking—to Canada.

PAPER OUR
TRUMP CARD IN
FOREIGN TRADE

PAPER
ESSENTIAL
IN PEACE

OUT OF THE WOODS

The questions raised by this article are of two kinds: (a) those of main interest to people in the industry or about to enter it, and (b) those of concern to all Canadians.

The question-headings, marginal notes and graphs will suggest many points of industrial policy to be discussed. Because of the importance of one question between the industry and the public—that of the use of the nation's resources—a few quotations which may be used in discussing it are set out below. They are largely taken from public documents.

1. RESOURCES DEVELOPMENT AND JOBS

“The resources of the farm, forest,... and rivers are basic to Canadian development and prudent expenditure on their conservation and development will be true investment expenditure yielding valuable returns. The returns will be greatly enhanced, if the development and conservation of the resources of particular areas can be co-ordinated.

“Such expenditures would provide some measure of alternative income in the areas affected by declines in export markets, and thus would fight most of our depressions at the point of first contact rather than after they have spread through the economy.”

—White Paper on *Employment and Income*, Ottawa, April 1945.

2. THE FORESTS AND DOMINION-PROVINCIAL ACTION

The Dominion Government in August of this year made several proposals to the Provincial Governments with regard to forest resources. Factual and photographic surveys, maps, inventories and exploration throughout the country would be undertaken by the Federal authorities, who would distribute their findings to Provincial agencies, and would apply their conclusions in demonstration woods projects.

The Dominion Government will also consider assistance in the protection and development of Provincial forests.

“Particularly the Dominion is prepared to take an immediate and active part in.... joint control measures against forest insect depredations.”

—*Proposals of the Government of Canada*, August 1945.

3. FOREST PRODUCTS RESEARCH

“The products of Canadian forest industries compete in world markets with those of countries which maintain extensive research facilities. The Dominion Government established forest products laboratories in 1913, but their usefulness has been much restricted by insufficiency of funds and staff limitations. Financial assistance and participation in control of them by organized forest industry should produce the most effective results.”

—*Report of Sub-committee on.... Natural Resources*, Advisory Committee on Reconstruction, Ottawa, 1944.

4. FARM FORESTRY

“It has been realized in recent years that farm woodlots together make up one of the most important sections of our forest resources.... They are the

most accessible of all our forests. . . . Good management of farm woodlots increases the prosperity of the agricultural community . . ."

—Forestry, Course I (Elementary) Textbooklet No. 2, Ottawa, Canadian Legion Educational Services.

5. FORESTS AND THE FUTURE OF PULP AND PAPER

"The ultimate full development of our forest resources will not be achieved until important, even drastic, changes are made in our methods of logging, until necessary silvicultural measures are taken to stimulate growth reproduction, and until much greater progress is made in selective utilization of the various sizes and species of wood prevailing in our forests.

"To accomplish this requires much more attention to forestry matters than this industry has given in the past."

—Elliott M. Little, in *Pulp and Paper Magazine*, 1944, Vol. 45, No. 3.

6. FORESTS AND THE GENERAL PUBLIC

"The average Canadian has no firm understanding of his personal interest in the country's forest estate. One of the most important tasks awaiting immediate action is the development of a program of sustained public education to make the people of Canada forest conscious."

—Report of Sub-committee on Natural Resources, Ottawa, 1944.

20.90

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30 50
15.75
15.75
15.60

117.75

★

35.30
35.30
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123.55

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