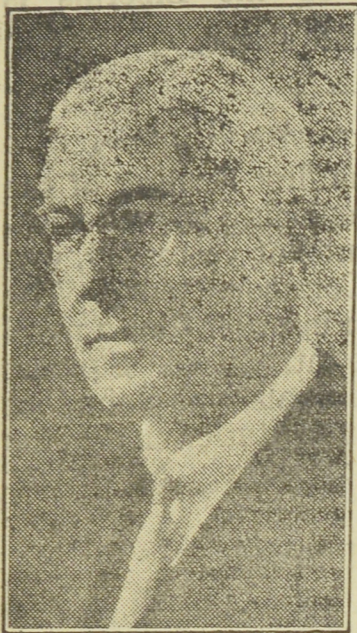


THE USE OF AIRCRAFT IS A MOST IMPORTANT FACTOR IN THE PROTECTION OF FORESTS

Perhaps the most important factor in post-war aviation development in Canada has been the use of aircraft in the protection and appraisal of forest resources, Roland D. Craig, F. E., forest resources specialist of the Department of Interior, declared this afternoon in a paper he delivered before the Canadian Society of Forest Engineers, which is holding its annual meeting in the Provincial Government's new Forestry and Geology Building at the University of New Brunswick here.

The vast forest areas in which means of transportation were slow



ROLAND D. CRAIG
Forest Resources Specialist, Federal Forest Service of Canada, Ottawa

and laborious, but which nevertheless demanded adequate protection from fire, and from which information was required as to their available supplies of timber, provided a useful field for the employment of the trained airmen whose brilliant accomplishments brought fame and honor to the name of Canada during the Great War, Mr. Craig said.

At the close of the war, the general public, still skeptical of the safety of flying, was not prepared to use this new means of transportation for ordinary civilian purposes, but foresters and surveyors, who knew the limitations and difficulties of travel in these remote regions were among the first to realize the advantages of the aeroplane not only as a transportation medium, but as a medium for observing ground conditions.

No doubt, Mr. Craig hazarded, the fact that in the early years of aviation in Canada all the pilots were experienced men accounted for the fact that there were few accidents and the resultant growth of public confidence in flying.

Common-Place Sound
"It is hard to realize," he said, "that now, although less than 12 years have passed since aircraft was first used in Canada except for military and stunt purposes, mail and passengers are carried by plane winter and summer on regular schedules and the drone of the aeroplane engine is a common-place sound to the forest dwellers and even the Eskimos in the Arctic."

He paid tribute to Ellwood Wilson of Grand Mere, who, in 1919, first demonstrated the use of aircraft for patrolling forests with two flying boat borrowed from the Department of Marine and Fisheries. This same year the Dominion, with aircraft and equipment to the value of \$5,000,000 presented to it by the Imperial Government, organized an air force, and as transportation in the remote regions of Canada and the protection and survey of forests were considered the most promising fields for flying, bases were established in 1920 at Vancouver, B. C., Morely, Alta., and Roberval, Quebec, for forestry work. A small unit was also formed at Ottawa for experimental work in connection with aerial photograph, wireless and other phases of aeronautics, a winter base for planes was established at Halifax and Camp Borden was prepared for the accommodation and training of officers of the Air Force.

In 1919, said Mr. Craig, the Department of Interior, under the direction of Dr. E. Deville, Surveyor-General, conducted a series of investigations into aerial photographic surveys, and it is due to the surveyor general and one of his able assistants, A. M. Narraway, that the methods of plotting from aerial photographs were developed.

A Steady Advance
Mr. Craig traced the steady advance of aviation in Canada. In 1923 it was placed under the Department of National Defense and the Royal Canadian Air Force was organized.

However, though a military organization, the R. C. A. F. had always devoted its efforts primarily to the development of civil operations.

Aerial Forest surveys were conducted in three ways, by sketching, oblique photography and vertical photography, Mr. Craig said. Sketching, the first method, was necessarily inaccurate as to detail but was of great assistance as a preliminary to ground crushing.

Oblique photography, essentially a Canadian method of survey, was applicable to large areas where a fine degree of accuracy was not required. From these photographs it was possible to map both the topographical features and the forest types for three miles on each side of the line of flight and from 360 to 600 square miles could be photographed in an hour, depending on the speed of the plane.

Vertical Photography
Vertical photography is more accurate than oblique but it costs about three times as much. Vertical photographs, Mr. Craig said, were usually taken from higher altitudes, 5,000 to 13,000 feet, and even higher, and the scale varied with the altitude and focal length of the camera.

From 10,000 feet with a focal length of 8 inches each photo covers 3.87 square miles, whereas from 5,000 feet, only .88 square mile is covered.

Winter pictures, taken from aeroplanes equipped with skis, were better than summer pictures for forest mapping because the conifers stood out in much greater contrast from deciduous trees and the shadows were longer and more distinct, enabling the measurement of tree heights with greater accuracy. Trees, Mr. Craig said, have characteristic crowns, and when these characteristics are known will be almost as easy to recognize from above as from the side.

H. E. Seely, a graduate of the University of New Brunswick, now with the Dominion Forest Service, had developed a method of measuring tree heights from the shadows in vertical photographs which is in daily use in forest mapping to distinguish young growth from merchantable timber. Mr. Craig continued, and knowing the height of the tree and the number per acre it was possible for the surveyor to estimate the volume of timber per acre fairly accurately.

Concluding his paper, Mr. Craig declared that he believed the time was not far distant when it would be possible to secure a better estimate of the stand from aerial photographic surveys than is now being secured from the ordinary extensive ground cruise where the cruising lines are run 20 chains or more apart.

GREAT BRITAIN'S AIR MAIL HAS INCREASE

London, England, Jan. 22—Air mail sent from Great Britain during the quarter ending Sept. 30, showed an increase of 20 per cent. over the same 1929 period, according to the post office.

Uniform combined air fee and postage to European destinations which was introduced in June and the introduction of new dark blue pillar boxes for air mail are reasons given for the increases.

Money goes further than it did, experts claim. It also stays away longer.

NEWSPAPER PUBLICITY AN IMPORTANT AGENCY IN WAR AGAINST THE RED TERROR

The newspaper was pictured as perhaps the most powerful of all weapons in the relentless war that must be continually carried on against forest fires, by W. H. Crosbie, district forester of the Ontario Department of Lands and Forests at Teed, in a paper on Securing Public Co-operation in Forest Protection at the 23rd annual meeting of the Canadian Society of Forest Engineers concluding today at the Provincial Government's new Forestry and Geology Building at University of New Brunswick here.

Mr. Crosbie stated that 90 per cent of all forest fires were the result of human action, and that the only way to combat there was by education. The press had been of immeasurable value and had had a tremendous effect in creating in the public mind an awareness of forest value and the necessity of care with the forests.

"These facts," he said, "are as yet not fully appreciated, but through continued work on the part of the press this awareness will become more general and the public will demand greater expenditures of the nation's money for the conservation of our forests and will, at a personal sacrifice, assist the various organizations in this work of forest protection."

"Press activities may be divided into publicity of articles prepared, reporting of addresses given, editorials written and published, paid advertising, and reporting of the activities of the various forest protection services."

"We are justly proud of progress along this line," he continued, "but we should not be satisfied to continue without progress toward better and greater publicity for the future. In other words, all forestry publicity should be built up to a high standard of quality. Meagre or stilted publicity is not in keeping with the important place that the forests of Canada occupy in our economic life."

Indifference

"Unfortunately, much valuable publicity has been lost through the indifference of forest services to make their activities known to the press."

"That the columns of newspapers and pages of magazines should be devoted to forest fire prevention proves its importance. It is largely through these means that the greater fundamental issues are brought before the people. Organizations that are doing forest protection work will find a ready response from most of the editors of the country."

"Paid advertising has been much used to acquaint the public with the necessity of care of fire in the forest. Much of these has been presented in the form of cold, hard-boiled facts. It is realized that there is no one best method of advertising. The selection of our method of presentation must depend upon where we want our message to go and we should select that medium which will present the message with maximum clarity interest and speed."

"We can learn much from commercial advertising. One has only to read the better class of advertisements to realize how skillfully and subtly the established laws of psychology are used in the appeal for the sale of a particular product."

Mr. Crosbie then referred to the forest fire prevention work being done by the Canadian Forestry Association, which, he said, was a specialized agent of publicity employing not only the press, but other valuable instruments such as the platform and the motion pictures. The travelling lecturers and motion picture tours sponsored by the Association had done much good.

The radio had also been employed very effectively in requesting greater care with fire in the woods. However while splendid addresses had been given through this medium, many of them had been cold and uninteresting. The appeal to be effective should carry a human appeal to influence the masses, Mr. Crosbie said, and much could be learned from the commercial advertisers who used the radio most effectively. Radio to a limited extent, had been used to issue warnings in times of high fire hazard, and he believed this service could be enlarged with good effect.

Posters and signs played an important

part in direct publicity, particularly in the forest. These had immeasurable value in their appeal at the proper time and place. The appeal should be short but impressive, giving food for thought, and there was a tendency to be too polite in most sign appeals.

Value of Legislation

"I will but briefly mention the value of legislation to forest services," said Mr. Crosbie. "Government is founded on law, which may be defined as the rules of conduct adopted for the discipline of the whole people. Forest fire laws have been enacted to protect the rights and privileges of the people in forest regions and to attempt to assure an adequate supply of timber for the future."

"However, forest protection will be effected principally through co-operation and not through coercion. The administration policy must be a fair and impartial enforcement of the laws; the attitude should not be of officious or overbearing but simply administered in the best interests of the State. Forest protection service have no quarrel with persons who wish to use their lands for lawful and useful purposes. For instance, the burning of new land is not a forest fire, but great care must be exercised that it does not result in one. Laws restricting the use of fires are essential."

"Incendary fires unfortunately occur—the deliberate and intentional setting on fire for the sake of burning woods for some reason or other. Education will reach some of the individuals who cause incendary fires but mostly they are 'old timers' whose ideas we hope will die with them." Mr. Crosbie said he believed the best method to combat incendary fires was by posters making known a reward for information leading to the arrest and prosecution of anyone responsible for an incendary fire.

Mr. Crosbie concluded his paper with a discussion of the best method of securing public co-operation through the actions of the personnel of the

UNIT COST ACCOUNTING IS IMPORTANT

L. A. Nix, of Bathurst, Deals With the Subject at Convention of Forest Engineers.

L. A. Nix, manager of the Woods Department of the Bathurst Power and Paper Company, of Bathurst, N. B., gave a comprehensive outline of unit cost accounting in logging management in a paper which he read here today before the annual meeting of the Canadian Forest Engineers' Society at the new Forestry and Geology Building of the University of New Brunswick.

Introducing his paper with a brief statement of the relation of logging

Forest Protection Services. Members of the services, he said, should be chosen for qualities of pleasing personality, sobriety, industry, good judgment, faithfulness and effectiveness, and thoroughly trained by manuals of instructions, circulars of instructions, personal contact, field inspection, proper delegation of responsibility, field field instruction classes, dissemination of information relative to field work, and by exchanges of the duties of the personnel.

A Chatham Man

Mr. Crosbie was a native of Chatham, N. B. He attended public school and the high school at Chatham and went overseas in 1915 with the C. M. R.'s serving in France until 1916. In 1917 he was awarded a scholarship to the University of Edinburgh, Scotland, by the Lord Kitchener Memorial Fund, and he studied at that institution until 1919, when he was awarded a diploma in forestry. From 1919 to 1923 he attended the forest school of the University of Toronto, graduating in 1923 with the degree of B. Sc. F. The same year, he was employed by the Ontario Forestry Branch, serving as assistant to district foresters at Sudbury and Tweed, and in 1926 he was appointed district forester at Teed, the post he still holds.

to forestry practice, he traced the history of woods accounting from the early days of logging up to the present time. He took up the question of forest management, and showed, by means of a chart, the proper method of laying out and surveying a tract of timberland so that forestry and logging can be practised more economically, and unit cost accounting can be built into the management of these activities.

Mr. Nix's description of a sample woods organization, illustrated by a chart showing the different sub-departments and the functions of each and their relation in the management of a woods operation, was followed by a discussion of the accounting sub-department.

Such functions of the accounting department as filing and recording reports, budgeting and estimating and compiling statistical reports on various phases of logging management, were outlined by Mr. Nix, who also described how a woods manager uses unit cost data and statistical reports in future planning. In concluding, he summarized the benefits which accrue from unit costs and lead to better management in woods organizations.

Mr. Nix graduated from the New York State College of Forestry at Syracuse University with Bachelor of Science and Master of Forestry degrees. He has had extensive experience in forestry in the U. S. Forest Service, the U. S. Department of Interior, and as employee of big lumber interests in both Canada and the United States.

He is a senior member of the Society of American Foresters a member of the American Association for the Advancement of Science, a member of the Canadian Forestry Association, the American Forestry Association, the woodlands section of the Canadian Pulp and Paper Association and the woodlands section of the American Pulp and Paper Association.

ENGLISH COW HOLDS RECORD FOR MILK

Tittensor, Staffordshire, England, Jan. 22—What is claimed to be a new record has been established by a Frisian cow owned by L. J. Evans, which has given 1827 gallons of milk.

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