

Bay at noon, a distance of 120 miles, when the District Supervisor and a number of the Rangers were met by appointment. After lunch the party proceeded to Drury Inlet, a further distance of 100 miles, where two logging operations were inspected and two field officers consulted on an important matter. After a two hour stop the party flew to Quatsino on the other side of Vancouver Island almost at the extreme north end. Some business of importance was transacted and local officials interviewed and a return flight made to Alert Bay where the party spent the night. Total miles flown for the day—400 miles. Notes were made on the trip over a strip of country which was badly damaged by a windstorm some years ago. The next morning the party left Alert Bay and lunched at Thurston Bay, making an inspection of the Repair Station and Hydro Electric plant. The return trip was made to Vancouver that afternoon. Total distance covered 600 miles, total time flown, 9 hours in two days. The time required to make this trip by ordinary means of travel would be not under two weeks.

Estimating Damage.

The first undertaking this year of reconnaissance work by aeroplane was a survey of the damage caused to Vancouver Island and Mainland timber by the great wind storm of January 29th, 1921.

Thirty hours flying was done on this work and practically the whole of the five million acres of timberland affected were covered. Results of this reconnaissance were checked up in two of the areas most

affected by a party of cruisers on the ground, and the aeroplane reports found to be approximately correct. Omissions occurred on the first few trips due to the inexperience of the observer, but in the end a very comprehensive survey of the situation as a whole was obtained. It was found that first reports of the damage were greatly exaggerated. It was found that on the whole five million acres affected carrying a total stand of timber in the neighborhood of one hundred billion feet, less than one quarter of one per cent of this stand had been damaged on the whole, and the total loss suffered was not over 200 million feet of timber. This will, of course, be in excess of the average annual depreciation due to windfall but as a part will be salvaged, is not excessively alarming. To have covered this area by ordinary methods would have taken months and would have cost thousands of dollars.

A similar undertaking was carried out on the Olympic Peninsula about the same time. Aeroplane reconnaissance there showed a vastly greater damage done, according to a U.S. F.S. report. A total of twenty-three and a half hours flying was done on the wind-damaged area in Washington. The total area covered was 2,200 square miles. Three hundred and fifty-four photographs were taken and an estimate made of the damage done. The total figures obtained as a result of this reconnaissance was that approximately six billion three hundred million feet of timber had been blown down, which would approximate about three times the total yearly cut of the whole of this Province.

During the season on a number of the flights, lumbermen and other business men were taken along as passengers where space permitted. I think the general conclusions arrived at by Department officials are backed up by the majority of those men who have seen for themselves.

It is my personal opinion that the aeroplane in Forest Work has proved its usefulness along certain definite lines. It is my opinion also that past results justify further experiment along certain lines and full support and encouragement for the development of exact technical work such as extensive surveys and reconnaissance.

For quick transportation to enable inspection and supervision in any business whose interests are scattered over a wide territory where commercial lines of transportation are not developed, the aeroplane has proven that it is reliable, efficient and economical.

For quick transportation in emergency where loss of time is costly and liable to be disastrous, the aeroplane has no rival.

Given time locomotion by air is coming as came the steam locomotive and the automobile, nothing can stop it. This might as well be recognized first as last. It only requires development and the backing of public opinion. Forest work will be one of its useful fields. The solution of the Forest Fire problem in the country depends to a large extent on the development of mechanical appliances for fire suppression, the portable pump, etc. Prevention is the best cure brought about by public recognition and public backing for the conservation of a great exhaustable natural resource.

Experience with Tree Seed on Our Prairies

Doomore, Manitoba, June 16th, 1921.

The Editor "Canadian Forestry Magazine":

I read with interest Mr. Otto Schico-beck's article in the April number. Here in Western Canada conifers were badly injured during the winter of 1919-20. Some people were of the opinion that this injury was caused by a blight disease, but it is my opinion that the main cause of injury was the lack of hardiness in the trees affected, and I think the following notes on the behaviour of some of my conifers will bear out my contention.

Abies balsamea, grown from commercial seed secured in the United States and probably collected in the east, only one specimen came through uninjured, four others were badly injured but grew from the terminal shoot; the balance were cut to the snowline and in some cases outright.

Abies sebirica, seed secured from Johannes Rafr, collected in the Urals;

the largest specimens were about 20 inches high and were uninjured though one of them was growing within three feet of a specimen of *A. balsamea* which was killed outright.

Abies concolor, from Colorado seed: this beautiful conifer kills to the snowline with me every winter; it showed no more injury than usual.

Picea alba, of unknown origin, quite uninjured.

Picea nigra, native, also uninjured.

Picea excelsa, from commercial European seed: a small percentage of these proved hardy and are now from six to ten feet high; these came through uninjured.

Picea excelsa septentrionalis, from Finnish seed, a large proportion of this form proved hardy and though some of them had the terminal growth injured the majority started from the terminal bud.

Picea obovata, Siberian seed: these were about two feet high and showed no sign of injury. This is a very promising

spruce and is now making growths of over eighteen inches annually.

P. pungens, commercial seed from U.S.A., said to be collected in Colorado: practically all of these showed a certain amount of injury, more especially those which had just the previous year's growth above the snow; most injury occurred near the snow line and extending from 6 inches to a foot above and below that line.

Pinus flexilis, commercial seed collected in Colorado; these were about 2 feet high and only one came through uninjured, the balance had their leaders destroyed.

P. Banksiana, commercial seed from U.S.A., these were from three to five feet high; only one came through uninjured, the balance were killed to snowline.

P. Sylvestris, commercial seed bought in Canada, these were from six to twenty feet high; some of these were killed outright while others were more or less injured; several have started into growth again after losing practically all their leaves.