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located. That this system is practicable, and that results can be, and are, obtained in this way is demonstrated by the following description of the way in which fires were handled on at least one occasion this summer.

## Lightning Starts Fires.

During the latter part of July the weather in the Norway House district was very sultry, culminating in heavy thunderstorms on Saturday, July 29th. In the morning there was a good deal of lightning and thunder, but very little rain fell. About 2 p.m., the writer was standing on the western side of the Island watching a storm rolling up across Ross Island towards little Playgreen Lake, when lightning was observed to strike at two points near the shore, and immediately afterwards white smoke began to curl up through the trees. Mr. Fisher, the Chief Forest Ranger, was notified, and he, knowing the danger under such conditions, started out at once with the pilot to size up the situation. If reference is made to the keyed map accompanying this article, it will be much easier for developments to be followed. The first two fires noticed were at the points marked "A" and "B" on the Nelson River, and although comparatively small fires, these were located in heavy timber. While in the air, three other fires were observed in the country to the East; one on the shore of Molson Lake ("C"), another in the open bush about 25 miles northeast of Forestry Island, ("D") and a fifth, ("E"), just South of Round Lake on the Gunisao River. The plane flew over each one of these fires in succession, and Mr. Fisher was able to determine which were the most serious, how many men would be required for each one, and how best to reach them. Two hours and a half after the plane left, all this information had been secured, and the Chief Ranger was back at Forestry Island assembling his fire fighters with their equipment and supplies. Fires "A", "B" and "C" were the most serious and, of course, were given first consideration, and a motor launch landed parties at the first two places before six o'clock that evening. The fire on Molson's Lake was handled by a crew of four men, taken in late Saturday night by plane, the machine returning to the Island again early Sunday morning. Fires "D" and "E" were not so dangerous and, as they were not easily reached by plane, Mr. Fisher himself with one other fire ranger left early Sunday morning by canoe to investigate these two locations. It might be interesting at this point to note the time that would have been required to cover these fires by canoe in the ordinary way. Fires "A" and "B" would have required five hours by canoe; fire "C" two and a half days; fires "D" and "E" actually required sixty hours, but even at that the trip was a very strenuous one.

Mr. Fisher was of the opinion that all these fires had been set by lightning, due to the fact that very little rain had accompanied the storms. The weather cleared somewhat on Sunday morning, but during the afternoon, thunderstorms were again in evidence and at half past three a large fire was observed almost due South of the station. The aeroplane was immediately put into commission, and the pilot with three men, tools and rations, left at 4.15 p.m. to investigate the fire. It was located at a point about six miles north of Warren's Landing and was found to have already spread over an area of about ten acres. The plane dropped the men at the fire and immediately proceeded to Warren's Landing for further assistance. Arrangements were made for a crew to be sent up by canoe with full equipment and rations but, as a temporary measure, four additional

men were taken in by plane and landed at the fire by six o'clock. About nine o'clock on Sunday night, a short observation flight was made, and it was found that the fires to which men had already been sent were very much subdued, the first two being apparently out, and the third one well under control. The one near Warren's Landing was still serious.

## Viewing Thunderstorm From Air.

On Tuesday, August 1st, the writer had to go to Cross Lake on business, and while thunderstorms were still quite prevalent, it seemed to clear up towards noon. Mr. Fisher and the writer, with Captain Moore, the pilot, left about 12.30 p.m. to fly to the Mission at Cross Lake. Shortly after leaving Norway House we ran into heavy storms and were frequently flying through rain clouds. The writer was in the bow, acting as observer, and as it was the first time that he had had an opportunity to observe a thunderstorm from the air, a very close watch was kept with the idea of ascertaining whether any phenomena could be observed in the cloud just previous to a discharge. A very heavy bolt of lightning was observed to strike in a patch of heavy timber close to a small lake and not more than half a mile distant from the plane. Sticks and underbrush flew into the air and immediately white smoke began to curl up from the green timber. About five miles further on, the same thing was observed again, but this time a little farther away from the plane. These two fires have been marked as Nos. 2 and 3. A note was made at this time of the exact locations so that fire fighters could be sent in at the first opportunity. So far as is known, this is the first case on record when an observer in an aeroplane has been able to witness, at close range, the start of a fire due to a discharge of electricity from cloud to earth.

Visibility up to this time had been very poor, but shortly afterwards we ran into clearer weather, and a very large fire was seen on our left at the point marked "4" on the map. This was a very heavy spruce and tamarack swamp situated between Kiskittogisu and Kiskito Lakes; this fire had apparently been burning for some time as it extended over quite a considerable front. The reason why this fire had not been observed previously must have been due to its distance from Norway House, and to the fact of the poor visibility and low lying clouds. As soon as the plane had landed at Cross Lake, Mr. Fisher engaged a crew of ten men from the Indian Treaty Camp and sent them down along the West branch of the Nelson River in charge of a man from the Hudson Bay Company who was acquainted with the country in that vicinity. The party left at once by canoe and arrived at their destination early next morning. The plane returned late that evening to Norway House, and, on the way back, another fire was discovered, evidently due to lightning, on an off-shoot from Little Playgreen Lake, but in a very valuable belt of spruce and jack pine (see No. 5).

On account of the weather, it was impossible for us to land and investigate any of these fires as we were flying through almost continuous storms, and the wind was driving the rain with such force that landing would have been dangerous. Fire No. 1, which had been observed shortly after we left Norway House at noon, was investigated on the return trip, but proved to be of no importance as it was situated in a very wet muskeg. The aeroplane with three fire fighters and a fire ranger left at six o'clock the following morning to investigate fires No. 2, 3 and 5, and to observe the progress of No. 4. The

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