Nipisiguit river, were burned over a second time between 30 and 40 years ago. On them nature came to the rescue again, producing another crop of spruce, balsam and pine, birch and poplar within one decade. Thus are found, side by side on the same type, two even-aged stands, one 85 to 95 years old, the other 25 to 35 years old.

For each of these areas representative stand tables and growth studies have been obtained. The old or first stand was cut to an 8-inch diameter limit in 1920 yielding, from 139 trees, 1,025 cubic feet or 11.4 cords per acre. The largest number of stumps in a single diameter class was 31 of 9 inches (8 inches D.B.H.). There were less than 16 in any class above 9 inches. More than 75 per cent by numbers or 58 per cent by volume of the cut was less than 9 inches D.B.H. The spruce now standing are: 95 free trees, and 43 suppressed trees, having a total volume of 342 cubic feet or 3.9 cords.

The following table shows the composition of the two stands immediately previous to the cut: of diameter growth occurred on stand No. 1 during the first 50 pears, after which accretion was remarkably slow. It required 25 years on the average, to produce the last inch in diameter.

On the other hand, the spruce on the second stand is growing at the rate of one inch in six years. The breast height diameter of the average spruce is 2.8 inches, of the average balsam is 1.9 inches. If the present rate of growth should continue for twenty years the diameter of the average spruce will be 6 inches which is the culminating diameter of the first stand.

In the second stand there are now 45 spruce in the 3-inch class, 30 in the 4inch class and 10 in the 5-inch class. Twenty years hence these should have reached the 6, 7 and 8-inch classes respectively and should yield a merchantable volume of 497 cubic feet or about 5.6 cords.

The balsam are younger and smaller. There are now 21 3-inch trees and 6 4inch trees which should be in the 6 and 7-inch classes twenty years hence with a volume of 137 cubic feet or about 1.5 cords. Both species should yield over 7 cords per acre.

These calculations do not take mortality into account. Since the stand is even-aged young and thrifty there is little likelihood of loss by wind. The balsam is still too young to be very susceptible to the spruce budworm. But if the entire balsam and pine stock be considered to represent the mortality there will still be a cut of nearly six cords per acre when the stand is fifty years old.

The deductions from the foregoing comparisons are that the most profitable time to harvest the crop from the second stand will be at an early date after its fiftieth year, before the closing crown cover and shortage of soil nourishment seriously retard growth, and before mortality makes material inroads into the stand.

	Spr	uce.	Balsam.		Pin	Pine.		Poplar.		P. Birch		Others.	
First Stand	No. 363 158	p.c. 54 24	No. 29 176	p.c. 4 27	No.	р.с. б	No. 74 151	p.c. 11 23	No. 167 134	p.c. 25 20	No. 31	p.c. 6 	664 656

In the first stand 38 per cent of the spruce, 12 per cent of the balsam, 30 per cent of the poplar and 8 per cent of the birch were dead. The number of dead trees that had decayed beyond recognition can only be surmised. They would probably be at least half as many more.

In stand number two, however, there was no mortality except in the poplar of which 12 per cent was in a dying condition. This mortality economy in the younger stand should not be overlooked.

The shortage of balsam in the first stand is very probably due to an attack of spruce budworm which swept the area some thirty years ago.

The two stands were about equal from the point of numbers and reproduction conditions. In the first stand the largest number of trees was found in the 6-inch diameter class in every species except poplar, which culminated in the 8-inch class. The 2-inch and 3-inch classes were almost absent since the stand was evenaged without recent reproduction. A similar condition obtains on the second stand where the culminating diameter classes are balsam 1-inch, spruce 2-inch, pine 3-inch and birch and poplar 5-inch.

When Growth Occurred.

Growth studies reveal that 75 per cent

Lighted tobacco and matches are especially destructive in the forests. Live forests mean employment; dead forests employ nobody. Do not be responsible for a dead forest.

Portable gasoline pumps up to ten horse power and capable of forcing water through 1,500 feet of hose are now used in fighting forest fires by Canadian federal and provincial forest services.

