

cally and thoroughly, that our general system of forest management is far from provident. But there is one deadly enemy of our forests whose worst visitations can never be entirely recovered from, and that is the great forest fires. It is not only the timber they destroy that makes these fires so bad, for in a generation or two it may be partially restored, but it is the permanent injury they do to much of our soil whereby its capacity to produce trees for the future is permanently lessened or even practically destroyed. Where naturally the soil is thin, as it is over the rocky hills underlying much of our forest land, the roots and other organic matter binding it together is utterly burnt out by the great fires, and the rain washes the earth off into the streams, leaving behind but the naked rocks, hostile to vegetation. Most of that soil was placed there originally by the ice of the glacial period, and has ever since been held in position by its continuous covering of vegetation; once removed it can be restored only with the most extreme slowness. An awful example of this practically permanent destruction is to be found in an area many miles square on the upper Lepreau river; the still standing rampikes and great stumps show how fine a forest once clothed this land, which now is but a stony desert that not for generations, and perhaps never, can again bear trees. Here is a tract of country that might to-day be yielding a revenue to the province and supporting a considerable village at the mouth of the river, but it lies waste and useless because a fire twenty years ago was not stopped in time. This is an extreme case, but large areas in the province have suffered in but little less degree. The prevention of forest fires is the first problem of forestry in any country, and it has to be solved not only by stringent laws upon railroads, lumbermen, hunters and settlers, but also by a ranger service, a corps of men whose business it is to watch for fires in the dangerous season, and to extinguish them at their beginning. The ranger service may well be combined with that of fish and game wardens, and even with some phases of lumber surveying.

But in addition to loss of timber and permanent injury to the soil, there are yet other losses suffered through the deforesting of a country.* Aside from the still unsettled question as to the effect of forests upon

* The reader who wishes further information upon these subjects will do well to turn to the publications of the Division of Forestry of the U. S. Department of Agriculture, including their recent "Primer of Forestry" and articles in the Year Books of the Department, and also to the reports of the Maine Forestry Board.