Forestry and Water Resource

Much of the South's water flows from timberlands as a natural product of land. Here one of the region's foremost authorities on the role forestry must play in a program of all-out water development, reviews the problem.

Water, soil, and timber is the tangible stuff out of which the South is forging its new economic order; and water has become the largest single raw material item of the region's mushrooming industries.

Much of this water—lifegiving and beyond price—flows from timberlands as a natural product of land, available to anyone who can capture and use it. How will the South's efforts to develop and make full use of its water resources affect forestry enterprises; and are these activities likely to create some new problems for timber growers and operators? These are largely matters for speculation but here are some of the possibilities:

Clearly, all-out development and better use of its water supplies is an economic must in the South today, and there are many indications that this is on the way. Control of damaging floods and the job of cleaning up fouled, polluted streams are nuisance aspects on which public attitudes are hardening and beginning to find expression in stepped-up legislation and remedial action. The Small Watershed programs, and the current federal-state efforts to enact laws and deal more effectively with pollution reflect this. But the South's main push in the long run is more likely to be directed toward assuring ample water, when and where needed, to run it multiplying industries and population centers.

Indeed, many southern communities and industrialized areas are already feeling the pinch for water, and everywhere the requirements—largely uninventoryed as yet—are sharply on the increase. Thus, the water used by South Carolina industries increased some 31/2 times during a recent 5-year period. Similar trends are evident elsewhere, and the southern states are beginning to do something about it.

Some of the prospective developments which will affect forestry enterprises in the years ahead include:

1. Intensive development and use of valley lands. Inevitably this will accompany the stepped-up efforts to alleviate flooding and sediment damage on low-
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lands. It will occur particularly in such sections as the Piedmont, where more than one-third of the total acreage in stream bottoms is in sanded, overgrown thickets — swampy and unfit for use. These and many millions of acres of wetlands throughout the South probably will be reclaimed for agricultural purposes by clearing and ditching them. There is strong inducement for this because most of these lands are potentially fertile or well-watered, and generally must be put into crop production to justify the heavy costs for flood prevention and drainage.

2. Construction of thousands of impoundments to store and regulate streamflow. Although the South has enormous total water supplies in excess of foreseeable needs, these mostly are poorly distributed as to time and place. In the high-yielding mountain areas and in the water-short Piedmont country as well, recurring water shortages can be avoided only by storing the variable and erratic surface flows, now largely wasted to the sea, against times of real need. In prospect, therefore, are greatly expanded systems of storage works of many kinds — some large, multi-purpose reservoirs to tame and utilize the main river flows, and numerous moderate-size or small structures on the minor stream courses for flood prevention, farm water supply, and other purposes.

3. Growing industries with insatiable water demands and new requirements. These will pose special problems which the South must deal with constructively as a condition to its continued industrial growth. In terms of quantity, the industrial water needs are prodigious and growing. Moreover, the quality and temperature requirements of some industrial water uses will increasingly impose standards that can be met only by developing new and better sources of supply. The needs for cooling and power generation — already principal industrial uses — will create difficulties of this sort. And irrigation, a developing use which returns water to the atmosphere rather than to streams, is likely to compete increasingly for scarce water supplies at times and in ways that will pose new conflicts and supply problems.

4. Effective public efforts to clean up streams and combat pollution. This is a logical first step in making water supplies go farther, and it will become more imperative when nearby sources are overdrawn and the alternatives fewer or more costly. Although industrial and municipal wastes are major offenders, so too are the sediments and debris gathered from abused watershed lands.

But just what have these regional developments to do with timber growing? Obviously, the wood-using industries and other forestry interests will share in the more dependable water supplies and other economic benefits from comprehensive water development. But there will be other impacts as well, some perhaps operating to limit timber enterprises or complicate management decisions, and others to enhance forestry efforts and create new opportunities.

For one thing, water development in the South will compete importantly as a use for land. Indeed, by appropriating sites for reservoirs and other facilities and by encouraging more intensive use of lowlands, one far-reaching effect may be to eliminate or greatly shrink bottomland hardwoods as a commercially-important type in many sections of the South. Economics, land ownership, management policies, and other factors will of course figure here and affect the outcome. But water development, in all likelihood, will shift substantial acreages of forest land into other uses including some of that in timbered uplands.

Another potent effect of water control programs will be to greatly stimulate tree (Continued on page 28)
the property of the United States; this power could reduce many western states to impotence in water regulation, because much of the total area and nearly all the water-producing area are in public domain. The power of the federal government to promote the general welfare is also interpreted to include a wide range of water-development projects, subject only to the limitation that they be for the common benefit as distinguished from mere local purpose. Add to these powers the responsibilities of the federal government in interstate controversies, and it can be seen that the federal government has many powers to be reckoned with in matters pertaining to water rights, but the states still do not hesitate to challenge those powers where they appear to conflict with states rights.

To summarize, it may be concluded that in most of the United States the subject of water rights, like water itself, is still fluid. And with increasing development and use of the resource, the problems must inevitably become increasingly complex. Unfortunately this situation leads not only to increasing confusion as to “who owns the water” but also to a haphazard development of the water resources, which is a far cry from the most beneficial utilization that could be achieved by applying our scientific knowledge and technology to best advantage. On the other hand, it can be—and sometimes is—argued that under certain circumstances haphazard development leads to fuller exploitation of the water resources and, through it, to greater production of wealth than could be achieved by controlled development under any plan that has been devised so far.

The final answer is not yet written for water, but the histories of development of our resources of petroleum and various metals may provide a suggestion: In early stages a large share of their development and production was by individuals on relatively small claims or landholdings. As the expense of development work increased, however, these individual operations became uneconomical, and they were superseded by operations involving consolidation, unitization, incorporation of major companies, and capital outlays sufficient for the larger tasks ahead. Ultimately we, the people, may elect to trade in our individual water rights—each to the best advantage that he can bargain for, no doubt—and accept instead a concept of water as a utility to be distributed upon demand and at a reasonable price by some agency, public or private, that is technically qualified and equipped for the job and is authorized by law to do it.

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article is important for the reasons that have been given, but the proper use of water for process and for disposal helps establish good community relations. It is becoming more obvious every day that good relations with the people who work in the mills and make up the communities on the streams and in the areas in which the mills are located is as important to mill management as producing paper at a satisfactory cost.

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planting, fire protection, and other forestry activities throughout the South. This influence may more than offset factors contributing to the shift of timberlands into other uses, and already is making itself felt in a big way. For example, some 40 million trees were planted on private lands in Mississippi the past season as one phase of a flood prevention project. Moreover, timber growers stand to benefit in many other ways from the developing concern about water problems.