

## FOREST MANAGEMENT IN VIRGINIA

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Abstract.--Virginia's Forest Management Program places emphasis on increasing sound timberland management on the small private ownerships and the regeneration of poorly stocked and cutover stands. This is done by providing technical services, financial assistance, vendors and specialized forestry equipment. The future will demand bold innovations and new technology in forest management techniques. Forestry programs must meet this challenge to insure an adequate forest resource for future generations.

Reforestation or forest tree planting has been on the increase since 1956 in Virginia and has leveled off to approximately 85,000 acres annually. In 1972, a mile stone was reached when the small private, non-industrial forest landowners planted more acreage than the forest industry. This was an important accomplishment for Virginia since the small private landowners own about 77% of our total commercial forestland.

Our 1966 Forest Survey indicated that the pine resource was in danger due to overcutting. Statewide, the pine was being cut about 15% faster than growth. In the Coastal Plain and Southern Piedmont Regions, where the majority of the pine is located, the situation was bad. The drain exceeded growth by 33% in the Coastal Plain and 25% in the Southern Piedmont. As a result, Virginia enacted the first state incentive program for reforestation work in the Nation. Our 1977 Forest Survey shows very encouraging results. The pine drain has been reduced from 33% to 7.8% in the Coastal Plain. In the Southern Piedmont, the pine growth now exceeds the drain by 22%.

The small private non-industrial forest landowners own about twelve and one-half million acres of the total commercial forestland in Virginia. They are the "key" to our future forest resource supply. Also, about 185,000 acres must be regenerated annually just to replace harvested stands. Thus, priority must be given to the regeneration of each acre harvested and retained in commercial forest. Therefore, the forestry programs in Virginia are directed towards increasing sound timberland management on small ownerships and the regeneration of poorly stocked and recently cutover stands.

There are 75 County Foresters in Virginia. Also, each county has a Chief Forest Warden, who is a non-professional, on a full time basis. The County Forester concentrates on the Forest Management Program to assist non-industrial landowners even though he is responsible for all Division activities within his area. The Chief Forest Wardens' main responsibility is Fire Control. However, both individuals become involved in all Division activities and, as a result, they form a strong team on the local level.

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Our County Foresters will follow their recommendations to the landowner through to completion. He will assist the landowner in any way possible within the framework of policy that is necessary to get the job done. If he recommended drum chopping, prescribed burning and planting, the forester will make all the necessary arrangements to have the private vendors, equipment and manpower available to do the forestry work. To insure good quality seedlings for planting projects, the County Forester or the Chief Forest Warden will deliver the seedlings at regular intervals, depending upon weather, to the planting crews. This has been made possible due to our cold storage units located throughout the state. Planting bags are also provided to the planting crews to encourage proper handling of the seedlings during planting. In addition, they will inspect the job during and after completion to insure quality work.

Our foresters are also required to make reinspections of two and three year old projects to see the results of their advice. This gives the forester the opportunity to assess the results and make further recommendations to the landowner, if needed. As a result, from these reinspections, this year we chemically released, by air, 9,000 acres of pine from competing poor quality hardwoods. This strong follow-up program has increased our forestry accomplishments with the private non-industrial landowner in Virginia.

Forestry incentive programs have been very successful in Virginia. In fact, they have proven to be the catalyst needed to interest the private, non-industrial landowner to do intensive forest management. There are three separate incentive programs in Virginia. They are the State program, known as the Reforestation of Timberlands or RT, and the two Federal Programs (FIP and ACP). Together, these three incentive programs are responsible for 50,000 acres being planted or improved for timber production annually for the past four years. This year, approximately 1.5 million dollars of incentive funds will be spent for this purpose. If we take the landowner's cost into account, about 2.2 million dollars will be spent on forest management by the private, non-industrial landowners in Virginia in 1978. Virginia has a ten year goal to plant 800,000 acres of pine by 1980 in order to bring the growth of pine into balance with drain. At the present time, the past seven year average for planting is 82,000 acres which is a very encouraging figure. If we maintain this average, we should top our pine planting goal in 1980. It is estimated that 90% of the reforestation accomplishments on small private ownerships in Virginia has been the direct result of the State and Federal incentive programs. We feel that the loss of any segment of this effort would hamper the end results and endanger the future of our forest resource.

There must be someone available to do the work on the tract in order to get the forestry work completed. To meet this end, our organization had to interest and train private vendors to do all types of forestry work. This requires a lot of time, patience and constant insisting on quality work by our foresters. As a result, we now have available over 350 to 400 private vendors that will do various kinds of forestry work. In this way, we can be assured that when a forester recommends a forestry practice, there will be a contractor available to do the work. It has been our policy to develop private enterprise to provide the needed forestry services on a business basis.

In addition, the forest industry in Virginia has been very cooperative in assisting the landowner in doing forestry work. They have used their own personnel and equipment for either the site preparation work or doing the total reforestation job. Together, the private vendors and the forest industry have made it possible for the private, non-industrial landowner to do the forestry work as recommended by the forester.

Forestry work requires specialized equipment such as drum choppers, heavy disks and open field and wildland tree planters. Due to their limited use and costs, most private vendors and landowners cannot afford to purchase this type of equipment. Therefore, our organization purchased specialized forestry equipment to be rented to landowners and vendors to assist them in doing forestry work. At the present time, we have:

- (a) 27 drum choppers ranging in length from 7 to 10 feet; the majority being 8 feet. In 1977, 11,500 acres were chopped on private, non-industrial land. (Rental fee \$2.50 per acre.)
- (b) 9 two ton bush and bog disks (\$2.00 per acre).
- (c) 2 five ton bush and bog disks (\$5.00 per acre).
- (d) 51 open field planters (\$1.25 per acre).
- (e) 15 wildland tree planters (\$2.50 per acre).
- (f) 11 back pack mist blowers (\$1.00 per acre).
- (g) 1,800 planting bars free on request.
- (h) 1,500 planting bags for planting crews.

The County Foresters keep close contact with the vendors who are willing to use this equipment on private land and he coordinates its use within his area of responsibility. If necessary, the County Forester will take the time to train vendors in the use of this equipment. According to our policy, here we are trying to develop private enterprise to do the needed forestry work in Virginia. This policy has had a significant impact on the local economy by providing employment for additional persons.

Virginia has a Seed Tree Law that requires landowners or timber operators to leave eight pine or two yellow poplar seed trees per acre when timber is harvested. However, in lieu of leaving seed trees, a landowner or timber operator may apply to the State Forester for an Alternate Management Plan which requires the establishment of pine by planting or direct seeding within a specified period of time. The applicant must do all the necessary site preparation such as drum chopping, prescribed burning, disking or bulldozing in preparation for planting. He is also required to have a minimum of 400 surviving seedlings per acre at the end of the first growing season. At the present time, there are 900 Alternate Management Plans to be completed amounting to 48,000 acres. Approximately 300 Alternate Management Plans are processed or completed annually totalling about 16,000 acres.

We have been pleased with our accomplishments in our forest management program for the small private, non-industrial landowner. We have found that to reach the small landowner, we must provide the technical assistance, financial incentives, the necessary equipment and vendors to do the work. Also, forestry programs must take the needs and objectives of the landowner into account. In most instances, landowners are ready and willing if they can be shown how it can be done.

It was not my intent or purpose to tell you that Virginia has solved the problem with the small forest landowner. We have not. There are many challenges that we must solve to meet the forest resource needs of the future. These challenges are:

1. Utilization: The increasing demand for forest products, environmental concerns and pollution control are all making us more aware of the need to minimize waste and to maximize yield in the field and at the sawmill.

2. Tree Improvement: Today, greater attention is being given to reforestation practices. The South, in particular, has undertaken an ambitious tree breeding program designed to increase the yield of the next pine forest. Trees with superior traits have already been selected and orchards have been established for seed production.

3. Quality Seedlings: We need quality seedlings to meet the demands for reforestation. Nurseries must be in a position to produce quality seedlings. This will require careful attention to irrigation, fertility, weed control, root pruning and other cultural treatments.

4. Site Preparation: Adequate site preparation is now recognized as a vital component in reforestation. Additional research efforts should concentrate on more cost effective methods of site preparation.

5. Regeneration Techniques: Improvements in planting and seeding technology must complement tree improvement, nursery and site preparation programs. Due to rising labor cost, there are opportunities for mechanization and low cost operations.

6. Environmental: Attention is now being focused on the environmental impact of all forestry activities. As a result, we may be required to develop new technology in forest management techniques.

7. Urbanization: Public recognition of the numerous benefits derived from the forest resource, other than pulpwood and lumber, is one of the outstanding developments of recent years. Forests are valuable for aesthetic, recreation, open space, noise abatement, greenbelts, wildlife and watershed purposes. We must develop our programs to meet these needs.

8. Private Ownerships: Finally, sound forest management must be extended to the idle forestland owned by small private ownerships. In the South alone, 70% of the commercial forests are in this ownership class, so this is a critical area and the key to our future forest resource.

In summary, there is quite a challenge facing forestry today. It will demand bold innovations as well as changing or modifying existing methods and techniques. The success of the future in forestry will be highly dependent on all of us.

#### LITERATURE CITED

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