The Y-LT Revisited:
Looking Back After 10 Years
by
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Abstract
This assessment surveys the changes in the softwood timber resource of the former Yazoo-Little Tallahatchie Flood Prevention Project (Y-LT) area between 1985, when the project closed, and 1995, when the latest Forest Inventory was completed. Located over a 19-county area in North Mississippi, economic and forest inventory data for the Y-LT area were compared with similar data for the State of Mississippi to evaluate parity. During the 10-year period in the Y-LT counties, total softwood timberland area increased; total softwood volume decreased; the number of 2” to 6” DBH class live softwood trees increased substantially; and the ratio of planted to naturally regenerated pine stands increased. The Y-LT economy increased significantly in terms of population, employment, per-capita income, value added, and total industrial output. The Conservation Reserve Program (CRP) will have a major impact on the future softwood supplies for both the Y-LT counties and the State. Although softwood removals exceeded softwood growth in 1994 for both the Y-LT counties and the State, softwood growth will likely exceed softwood removals in the near future if harvesting does not increase materially above 1994 harvesting levels. Y-LT stumpage prices increased considerably over the 10-year period, which probably encouraged landowners to reinvest in growing softwood timber rather than converting their harvested timberlands to agricultural uses. The data suggest that the forest economy of the Y-LT counties has reached relative parity with the State of Mississippi.

INTRODUCTION
During its heyday, the Yazoo-Little Tallahatchie Flood Prevention Project (Y-LT) was the largest tree planting project that the United States had ever undertaken. It was the result of federal legislation that ensued after nearly one hundred years of exploitative logging, land clearing, and farming in north Mississippi. By the 1940s, much of the highly-erodible loessial soils, and the underlying sands, of the Yazoo and Little Tallahatchie River watersheds had washed from fields and forests into the stream channels and fertile bottomlands. Sixty-five percent of the bottomland fields suffered annual flooding and large depositions of sterile sand. The land -- and the people -- had become impoverished.

Congress was convinced that a federal flood control program was needed. It passed the Flood Control Act of 1944. This Act was the most important piece of federal flood control legislation in the nation’s history. It explicitly committed the Federal government to massive flood control work -- including erosion control work on privately-owned lands. As a result, the Y-LT Flood Prevention Project was officially launched in 1947. Its major objectives were: reduction of flood water and sedimentation damage, proper land use, channel stabilization, and improvement of the affected local economies. Congress appropriated funding for the program to the USDA Soil Conservation Service (SCS), which then allocated funds for forestry activities to the USDA Forest Service (USFS).

All or parts of 19 counties were included in the Y-LT Project area. Its boundaries included all of Calhoun, Grenada, Lafayette, Panola, and Yalobusha counties; most of Carroll, DeSoto, Holmes, Marshall, and Tate counties; substantial acreages in Benton, Pontotoc, Tallahatchie, and Union counties; and small portions of Chickasaw, Montgomery, Tippah, Webster, and Yazoo counties.

The Y-LT was a multi-agency project. Along with the SCS and the USFS, other federal agencies involved included the Agricultural Stabilization and Conservation Service (ASCS), the U.S. Army Corps of Engineers, and the Farmer’s Home Administration. State cooperating organizations included the Mississippi Forestry Commission, Mississippi Cooperative Extension Service, and the Mississippi Forestry Association. The SCS was assigned the overall program responsibility, as well as authority, to plan programs for open land, structures, road banks, and stream channel improvements.

The primary role of the USFS was to plant

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trees for erosion control. Other USFS duties included: controlling gullies, providing forest management planning and assistance to landowners, providing hydrologic stand improvement (HSI), and promoting good forest management through an information and education program.

Over a period of 35 years of tree planting, a grand total of 835,893 acres were successfully reforested within the Y-LT counties utilizing over 918 million tree seedlings. The Project was completed and closed out in 1985 (Williston 1988).

Within a short time after the Project closed, word spread that a large inventory of merchantable timber would soon be available. Several forest industries located new plants in the former Y-LT Area, and harvesting increased at an astonishing rate. By 1994, many began to wonder if the supply of softwood timber would be sustainable. One factor did help: from 1986 through 1994, an additional 134,000 acres in the 19 Y-LT counties had been reforested, mostly to loblolly pine, under the Conservation Reserve Program (CRP).

**OBJECTIVES**

The purpose of this assessment was to evaluate the 1995 condition of the forest resources of the former Y-LT Project, and to assess the contribution of forest resources to the local and regional economy. The following questions were to be addressed:

1. What was the status of the forest resources when the Y-LT Project closed in 1985, and what were they in 1995, using the most recent data available?

2. What did the 1995 forest resources contribute to the local and regional economies in terms of employment, personal income, total industrial output and value added?

3. What were landowners doing with their forestlands after harvest; i.e., were they converting them to agricultural or other uses?

4. What special actions, if any, are needed by the USDA Forest Service, the Mississippi Forestry Commission, or others to ensure continued stewardship and protection of the forest resources of the former Y-LT Project area?

**PROCEDURE**

**Methods**

A three-part process was used to address the above questions. The first part was to interview forestry and other experts working in, residing in, or familiar with the forest resource situation in the former Y-LT area, and the State of Mississippi. Next, economic questions were addressed using IMPLAN – an input/output model to describe the local timber economy to estimate impacts of timber sales from forest lands. Statistics from the Mississippi Employment Security Commission were used to show changes in economic variables over time. The third part was to use USFS Forest Inventory and Analysis (FIA) data for survey years 1987 and 1994 in the 19 Y-LT counties and the State.

**Persons interviewed** - Twenty seven people were interviewed, either in person or by telephone. These included representatives from: the Mississippi Forestry Commission, the Mississippi Cooperative Extension Service, the USDA Soil Conservation Service (now the Natural Resources Conservation Service), USDA Forest Service; forest industry; private forestry consultants, and nonindustrial private landowners.
Level of decision- Even though the Y-LT included only portions of several of the 19 counties, for the purpose of this assessment the county was the lowest level used. The reason is because the county is the primary level for input and output for both IMPLAN and FIA statistical data (see map). The assumption was made that the Y-LT area was not a closed system but an integral part of a larger forest resource area.

Strategy- A basic three-part strategy was used to: 1) determine the changes in timberland attributes in the 19 Y-LT counties and the State between the 1987 and 1994 FIA survey years, 2) determine the changes in the loblolly-pine forest type in the Y-LT counties and the State between the same survey years (because loblolly was the primary species planted during the Project), and 3) compare economic and forest inventory data between the Y-LT counties and the State of Mississippi to evaluate parity.

RESULTS

Personal Interviews

Personal interviews were conducted during June through October, 1994. At that time, the 1994 FIA survey had been completed and published for all of the Y-LT counties except for Holmes, Tallahatchie, and Yazoo counties. Opinions ranged from mild concern to outright alarm. Most of the consultants were quite satisfied with the present situation, one stating that it was a good time to be a consultant in North Mississippi because there was plenty of work for everybody. Since the FIA data at that time had only recently been published, most of the interviewees had not had time to digest the information. All persons interviewed, though, were concerned about the increased harvesting levels – especially the industry foresters.

Forest Inventory and Analysis

Area- Based on the FIA data, between the 1987 and 1994 forest survey years, total softwood timberland area in the Y-LT counties increased about 346,000 acres or 11 percent, and the loblolly-shortleaf pine forest type area increased about 128,000 acres or 20 percent. A major shift occurred from the sawtimber stand-size class area to the sapling-seedling stand-size class area (Figure 1). The ratio between planted and naturally regenerated pine timberland area increased significantly in favor of planted pine timberlands (from 42 percent to 74 percent). These changes were due in large part to the conversion of former agricultural lands to timberland under the CRP mentioned above. The federal Forestry Incentive Program (FIP) and the Mississippi Forest Resource Development Program (FRDP) also contributed to this increased reforestation.
Likewise, for the State of Mississippi, pine timberland area increased about 20 percent (including longleaf and slash pine), and the percentage ratio between planted and naturally regenerated pine timberland area changed significantly in favor of planted timberlands (from 32 percent to 51 percent). Much of these gains, also, can be attributed to the CRP, FIP and FRDP.

**Volume** - In the Y-LT counties, total softwood volume was about 246 million cubic feet less in 1994 than in 1987, but the percentage ratio between shortleaf and loblolly pine volume reversed. In 1987, shortleaf comprised 55 percent of the total volume of the pine growing stock while loblolly comprised 45 percent. By 1994, loblolly had increased to 56 percent of the total pine growing stock and shortleaf had dropped to 44 percent.

In 1994, softwood removals exceeded softwood growth for both the Y-LT counties and the State. Both the Y-LT counties and the State sustained considerable harvesting activity between 1987 and 1994. Based on growth to removal ratios (G/R), the Y-LT counties were harvested at a somewhat higher, but comparable, rate than the State (Figure 2).

**Number of Trees** - The number of 2" to 6" DBH live softwood trees was considerably greater in 1994 than in 1987 for both the Y-LT counties and the State. Again, these increases, in large part, can be attributed to the CRP, FIP and FRDP (Figures 3 and 4).

**ECONOMY**

**Implan**

Economic activity in the Y-LT counties has increased significantly. From 1959 to 1990, population increased 18 percent in the Y-LT counties, compared with 20 percent with the State, and 40 percent for the U.S. From 1961 to 1990, employment surprisingly grew an average of 3.7 percent annually compared with 1.8 percent for the State, and 2 percent for the U.S. Per capita income (adjusted for inflation) in the Y-LT counties grew substantially from $4,400 in 1959 to $11,800 in 1990, a 3.2 percent average annual increase, compared with 2.8 percent for the State, and 2.1 percent for the U.S.

In the Y-LT counties, the forest-based industries share of the total economy was greater in 1990 than in 1977 in terms of total industrial output, value added, and employment. Oriented strand board, particle board, and paper are now the major forest products in the Y-LT counties, in terms of impact on income, total industrial output, and value added.
Figure 3. Number of live softwood trees on timberland, by diameter class (2"-20")
Y-LT counties

Source: FIA

Figure 4. Number of live softwood trees on timberland, by diameter class (2"-20")
State of Mississippi

Source: FIA
Lumber, sawtimber export, and cordwood export comprise a much lesser share of the impacts (Figure 5). Nearly $711 million of 1992 stumpage in the Y-LT counties led to $483 million in industrial output, $166 million in labor income, $180 million in value added, and 4,456 jobs.

The Y-LT counties have also become less dependent on agriculture and more diversified with services, trade and government employment. The agricultural share (excluding forestry) of total industrial output decreased almost 31 percent from 1977 to 1990.

### Stumpage Prices
From 1985 to 1995, Y-LT standing pine sawtimber stumpage prices and standing pine pulpwood prices nearly doubled, even when adjusted for inflation. This is a direct reflection of the increased demand for the stumpage needed to support the growing consumption of the wood products industry in the Y-LT counties.

### CONCLUSIONS
The Conservation Reserve Program (CRP) will have a major impact on the future timberland resources in both the Y-LT counties and the State of Mississippi. Presently, softwood removals exceed softwood growth in the Y-LT counties; however, 45 percent of the loblolly-shortleaf pine timberland area is in the seedling-sapling stand-size class. Softwood growth will likely exceed removals in the near future, unless harvesting increases substantially above 1994 levels. While harvesting activities in the Y-LT counties have increased for both softwoods and hardwoods, they also have for the State. In fact, they are closely comparable.

Based on personal interviews with forestry experts familiar with forestry activities within the Y-LT counties and the State, it appears that most harvested timberland is not being converted back into agriculture. In fact, the opposite appears to be happening. As pine timberlands are harvested, most are regenerated back to pine, either by planting or natural regeneration, and mostly to loblolly pine. The FIA data tend to bear this out.

Forest industry has made some significant gains in utilization of wood residues which, in effect, has extended the available wood supply. A substantial small roundwood/small sawtimber forest products market has developed in the Y-LT counties to produce oriented strand board, particle board and paper. Stumpage prices have increased considerably for both pine sawtimber and pine pulpwood, which has likely served as an incentive for private landowners to reinvest in growing timber on their harvested timberlands. As a result, the economy has increased significantly in terms of employment, income, and
regional output, which was one of the primary objectives of the original Y-LT Project.

Generally, the forest economy of the Y-LT counties has reached relative parity with the forest economy of the State of Mississippi. Current government programs appear to be sufficient to sustain the present forest resources situation in the Y-LT counties. Hence, no special program specifically designed for the Y-LT area is needed.

Literature Cited