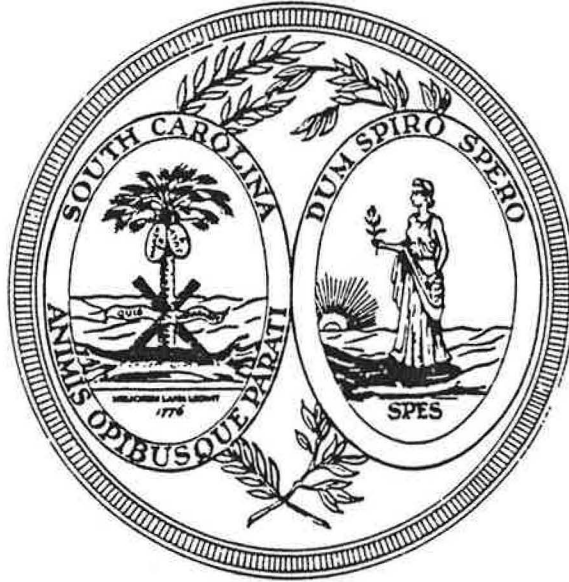


South Carolina General Assembly



Legislative Audit Council



The State of South Carolina
General Assembly
Legislative Audit Council
A Management and Performance
Audit of the South Carolina
Forestry Commission
June 9, 1987

THE STATE OF SOUTH CAROLINA

GENERAL ASSEMBLY

LEGISLATIVE AUDIT COUNCIL

A MANAGEMENT AND PERFORMANCE AUDIT

OF THE SOUTH CAROLINA FORESTRY COMMISSION

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REPORT SUMMARY

At the request of the General Assembly, the Legislative Audit Council conducted a management and performance audit of the South Carolina Forestry Commission. In reviewing financial, programmatic and personnel management decisions, the Audit Council found that the Forestry Commission needs to be more accountable to the General Assembly and more responsive to laws, regulations and sound management principles.

Management has not ensured accountability of state and federal funds. The Forestry Commission does not allocate funds to its seven district offices by program. As a result, it cannot be determined if funds appropriated for specific programs are actually spent in those programs (see p. 10). Further, when program expenditures cannot be identified, the assessment of program efficiency is made more difficult. In addition, the agency cannot accurately support budget requests when information on programmatic spending is not available. The problems noted below indicate a need for improved financial management:

- Federal grant funds are commingled in one account and not budgeted by grant program as required by federal regulations. Also, quarterly status reports on grant expenditures have not been submitted to the United States Forest Service since January 1984 (see p. 12).
- Federal grant reimbursements have not been returned to the General Fund, but have instead been retained and expended by the Commission. As a result, the agency may have received \$600,000 more than the General Assembly intended to appropriate for grant programs (see p. 14).

Management in several programmatic areas also needs improvement.

- The allocation of fire control personnel is inefficient. Areas of the state that have historically experienced more fires and greater loss of forested land have not been staffed in proportion to their workload. Further, South Carolina has the largest number of permanent fire control personnel per acre

protected in the Southeast; therefore, the Commission may be overstaffed (see p. 34).

- Fire Control equipment is underused. Equipment use in other southeastern states is as much as four times greater than use in South Carolina. The Commission may be replacing equipment because of age rather than wear (see p. 39).
- An aircraft fleet operated by the Commission may have unnecessarily cost the state from \$33,000 to \$117,000 from FY 84-85 to FY 85-86. A detailed cost study comparing use of fleet to contracted aircraft should be conducted (see p. 43).
- Each year approximately 55,000 more wooded acres in South Carolina are harvested than reforested. More could be done to encourage reforestation by implementing program alternatives developed in several other southeastern states. Also, South Carolina's cost-sharing incentive program is the most expensive per acre of the six southeastern states with such programs (see p. 59).
- Fees charged for SCFC services to landowners do not cover the cost to the Commission. As a result, the Commission has subsidized one service by as much as \$68,000 in FY 85-86 (see p. 68). Further, fees charged for each species of seedling grown in Commission nurseries cannot be evaluated due to inadequate cost records (see p. 71).
- More could be done to develop South Carolina's potential in secondary forest industry. South Carolina ranks tenth nationally in timber removed, but ranks 25th in the production of higher valued wood products (see p. 63).

Personnel management problems identified by the Audit Council included the following:

- The Forestry Commission ranks 66th of 78 state agencies in attainment of affirmative action goals. Further, the agency has not placed nonforesters in positions where expertise in areas other than forestry is needed (see p. 17).
- Position openings for foresters are not announced by agency management. Foresters have not been able to apply for promotion or transfer opportunities within the agency (see p. 21).

The Audit Council also found that the Commission has initiated an extensive safety program for fire control personnel. Safety training is provided and the safety equipment issued to field employees was comparable to, or exceeded, that issued by other southeastern states. However, the agency has been slow to respond to health-related employee complaints which result from prescribed burning of areas treated with herbicides.

The following chapters discuss, in detail, these problems and others found at the Forestry Commission. Recommendations for improvement are also included. The terms Forestry Commission, SCFC and Commission are used interchangeably throughout the report.

Appendix B contains the responses of Commission employees to a survey administered by the Audit Council in May 1986.

RECOMMENDATIONS

THE FORESTRY COMMISSION SHOULD WORK WITH
THE STATE AUDITOR'S OFFICE TO IMPLEMENT
A PROGRAM BUDGETING SYSTEM.

PROGRESS OF IMPLEMENTATION OF THIS
SYSTEM SHOULD BE REPORTED TO THE GENERAL
ASSEMBLY WITHIN ONE YEAR.

CHAPTER I
BACKGROUND AND HISTORY

The Forestry Commission (SCFC) was created by an act of the General Assembly in 1927, but was without funding until 1928, when \$4,000 was appropriated for the State Forester's salary. The first fire tower in the state was constructed, and in 1930, the state was divided into four districts.

The first major work force organized to help control forest fires and to promote forest management resulted from the creation of the Civilian Conservation Corps (CCC), in the early 1930s. Thirteen coastal counties developed fire plans due to rampant woods fires throughout the tidewater section of the state.

In 1933, the General Assembly placed supervision of the State Forest Parks under the SCFC; the first parks were opened for public use in 1936. Thirty-three years of administration of the 28 state parks by the SCFC ended with creation of the South Carolina Department of Parks, Recreation and Tourism in 1967.

In 1941, the General Assembly passed an act providing forest management assistance to landowners. A corps of trained foresters for this purpose was not available, however, until after World War II. In 1943, the General Assembly provided for some measure of fire control in every county, thereby recognizing state responsibility for protecting all forest land and maintaining a statewide forest fire control organization. Fire suppression and prevention activities expanded significantly with the passage of the Statewide Forest Fire Protection Act in 1945. The 1945 Act also established five-member County Forestry Boards, which approve County Fire Protection plans, and approve hiring in their respective counties. Board members are appointed by the Forestry Commission on recommendation of the majority of the County Legislative Delegations.

Legislation enacted in 1954 provided for South Carolina to enter into a Southeastern States Forest Fire Compact, comprised of ten neighboring states. Among other purposes of this legislation was the promotion of effective prevention and control of forest fires through mutual aid. To further enforce the state's forest fire laws, all key fire control personnel were commissioned by the Governor in 1961 as law enforcement officers. Several laws were passed in the 1960s to strengthen the state's authority in fire control; in 1967, the Intentional Forest Fire Law was passed, and in 1969, the Notification of Intent to Burn Law was passed.

The Forestry Commission's Urban Forestry program was established in Columbia in 1973, in Greenville-Spartanburg in 1974, and in Charleston in 1977. The technical services of the urban foresters assigned to these three areas are available to homeowners, contractors, city planners, and developers.

A major step toward aiding reforestation efforts in the state was taken by Congress in 1974, with passage of the Forestry Incentives Program (FIP). This Program provides cost-sharing funds for forest improvement practices on privately owned woodlands, as does an earlier federal program, the Agricultural Conservation Program (ACP). A similar state cost-share program, the Forest Renewal Program (FRP) was initiated by the Commission in 1981, also with the goal of encouraging good forestry practices, and reforestation, on private woodland.

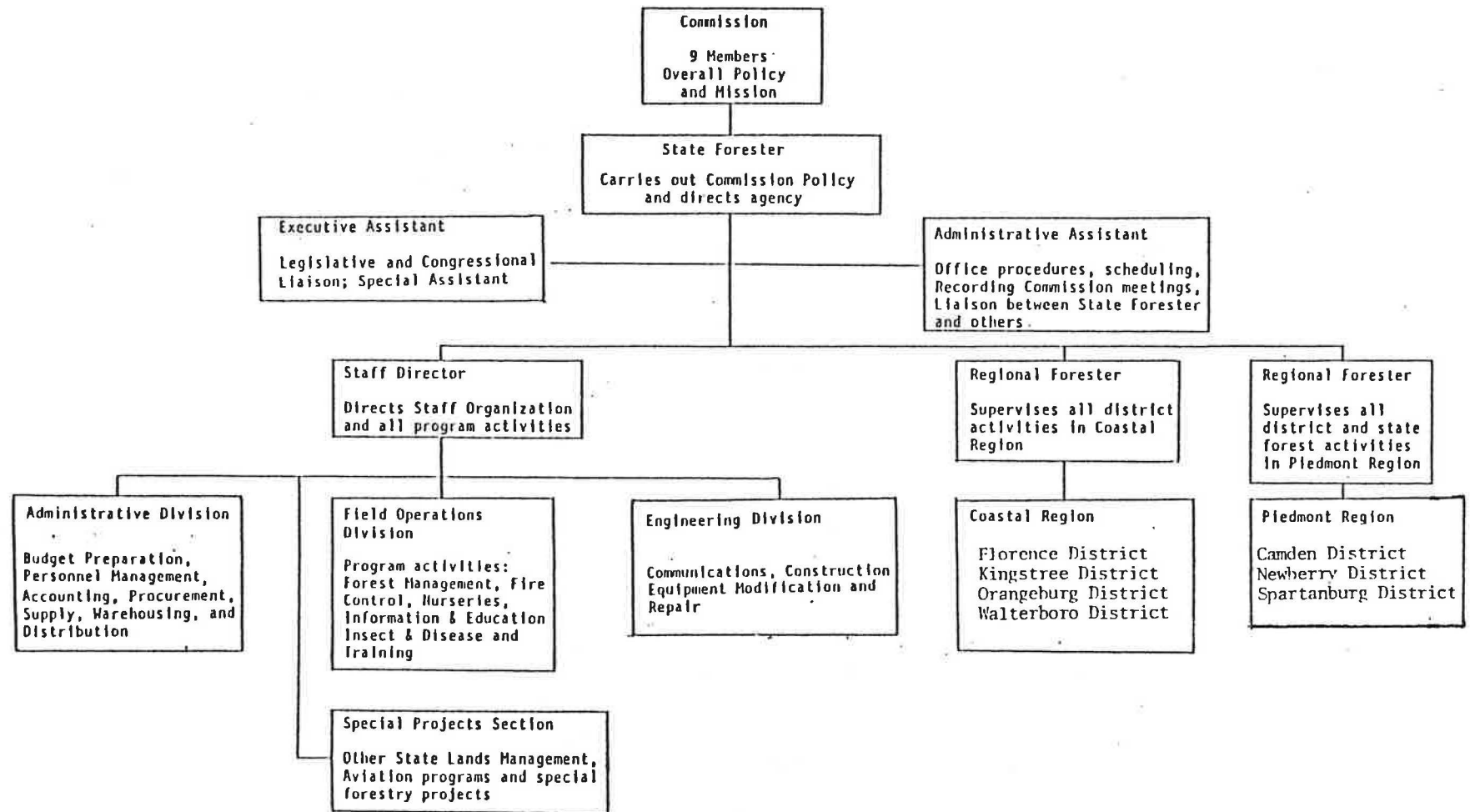
Funding and Organization

The Commission of Forestry (SCFC) has approximately 600 full-time equivalent positions, two-thirds of which are involved primarily in fire control duties. In FY 85-86, the Commission had expenditures of \$16 million. The Commission's revenues included approximately \$14.6 million in state funds, \$983,000 in federal funds, and over \$500,000

were collected in various licenses, rents, assessments, sales and miscellaneous revenue.

Administration and supervision of SCFC programs is accomplished by organizing the 46 counties into Region 1 (Coastal) with four districts, and Region 2 (Piedmont) with three districts. Operations are supervised by a Regional Forester for each region, and by seven district foresters (see Figure 1).

SOUTH CAROLINA FORESTRY COMMISSION



Source: South Carolina Forestry Commission, February 3, 1986.

TABLE 1
SOUTH CAROLINA FORESTRY COMMISSION
SOURCE OF REVENUES AND EXPENDITURES

<u>Revenues</u>	<u>FY 81-82</u>	<u>FY 82-83</u>	<u>FY 83-84</u>	<u>FY 84-85</u>	<u>FY 85-86¹</u>
State General Fund	\$ 9,534,238	\$10,056,145	\$10,976,529	\$13,958,416	\$14,553,021
Federal Funds	1,858,238	1,534,431	1,478,382	1,366,727	983,457
Other Funds	71,441	142,788	640,476	885,529	503,519
TOTAL Revenues	\$11,463,917	\$11,733,364	\$13,095,387	\$16,210,672	\$16,039,997
<u>Expenditures</u>					
Administration	\$ 1,001,376	\$ 953,109	\$ 1,038,433	\$ 1,118,945	\$ 1,283,898
Forest Landowner Assistance	8,463,837	8,732,497	9,660,178	10,558,340	11,476,927
State Forests	570,140	555,188	757,462	706,494	450,411
Employee Benefits	1,428,564	1,492,570	1,639,314	1,772,010	2,127,644
Nonrecurring Appropriations	-	-	-	2,054,883	701,117
TOTAL Expenditures	\$11,463,917	\$11,733,364	\$13,095,387	\$16,210,672	\$16,039,997
TOTAL Personnel	631.14	610.14	596.52	600.43	600.43

¹ FY 85-86 information from South Carolina Forestry Commission Statement of Revenues and Expenditures.

Source: South Carolina State Budgets, State Budget and Control Board.

FIGURE 1
SOUTH CAROLINA FORESTRY COMMISSION
ADMINISTRATIVE DISTRICTS



Source: South Carolina Forestry Commission,
FY 84-85 Annual Report.

CHAPTER II

ADMINISTRATION

The South Carolina Forestry Commission's (SCFC) Administrative Division is responsible for budget preparation, accounting, personnel management, procurement and distribution. This chapter includes reviews of the financial management of the agency and of personnel management, as well as several miscellaneous administrative issues.

FINANCIAL MANAGEMENT

The following problems were found in the financial management of state and federal funds.

Accountability of State Funds

The South Carolina Forestry Commission does not have an adequate system to account for state funds appropriated for forestry programs. The General Assembly appropriates funds to the Forestry Commission in five broad budget categories, such as State Forests and Forest Landowner Assistance (see p. 8). Within the Forest Landowner Assistance budget category are approximately 25 diverse programs including Fire Suppression, Insect and Disease Control and Woodlands Management Assistance. Problems were noted with the agency's budgeting system. First, the Commission does not allocate all funds to programs within its working budget (\$565,000 was not allocated in FY 85-86 and FY 86-87). Secondly, funds are allocated by administrative unit, but not by program. As a result of these weaknesses, the Audit Council could not verify if state funds are being spent in the programs for which they were appropriated.

For example, the agency was granted a \$165,000 increase in Insect and Disease Control funding for FY 86-87. This increase included \$81,000 for personal services and \$84,000

in operating funds (15 times the FY 85-86 budget). However, the Audit Council could verify only an \$18,000 increase to this program's operating budget. Agency officials could not document how the remaining funds would be spent.

In October 1986, Commission officials told the Audit Council that the \$66,000 not allocated to the program was included in an amount of \$200,000 which was set aside for an anticipated budget cut. However, the agency could not document this. In December 1986, agency records indicate that the budget cut was instead taken entirely from personal service funds.

Section 11-9-10 of the South Carolina Code of Laws states that it shall be unlawful for any funds to be expended for any purpose or activity except that for which it is specifically appropriated.

According to a Budget and Control Board official, the agency's budget should account for funds appropriated for specific programs. All funds should be allocated by program with records to identify the source of funds transferred from or within the program budget.

Unless all state funds are allocated and identified by the programs for which they were allocated, it cannot be determined if funds are spent for the purpose for which they were specifically appropriated. Program budgeting is an important means by which government is held accountable for its actions. The lack of reliable program expenditure information makes evaluation of program efficiency difficult. Program budgeting provides "program information" and "resource information"; the former informs as to what government does and related accomplishments, and the latter informs as to the various costs necessary.

Program budgeting is therefore key to legislative oversight, both in allowing the agency to accurately support budget requests, and in permitting accurate reviews of program efficiency.

RECOMMENDATION

THE SOUTH CAROLINA FORESTRY COMMISSION
SHOULD ALLOCATE ALL STATE FUNDS IN ITS
INTERNAL BUDGET BY PROGRAM.

Federal Grant Accounting

The South Carolina Forestry Commission does not properly account for federal grants, in that grant funds are commingled and not accounted for separately by program. Further, grant expenditures are not identified by program as payment is made, nor are program cost allocation reports compiled. Cost allocation reports allow expenditures to be identified by program according to a predetermined allocation system. As a result, the Audit Council could not verify grant program expenditures.

In FY 85-86, the Commission received approximately \$660,000 in federal funds from the United States Forest Service. Most of these funds are matching funds to supplement specific programs conducted by the Commission. Federal grants require the agency to spend a specified amount to "earn" these federal funds. When the Commission has spent the required amount, the agency is reimbursed with federal grant funds. Problems were also noted with the agency's expenditure of reimbursed funds (see p. 14).

For example, the Pine Beetle Suppression program required total funding of \$99,286 (\$57,586 state share and \$41,700 federal share) in FY 85-86. The Commission was required by law to document expenditures of the entire \$99,286 toward Pine Beetle Suppression before it became eligible for \$41,700 in federal reimbursements. However, the Audit Council could not verify that expenditures of \$99,286 were actually made toward Pine Beetle Suppression, even though federal matching funds were received by the Commission. Further, the Audit Council could not determine how the federal reimbursement was spent.

The Code of Federal Regulations (7 CFR 3015.73) requires recipients of federal grants to maintain updated records. Grant programs should be budgeted separately to identify each grant and its respective cash on hand, revenue, and expenditures. The Commission's accounting system has the capability to account for grants in this manner. However, management has not implemented this system.

Each grant program has specific objectives. Federal funds are provided to the state to assist in meeting these objectives. When grant funds for different programs are commingled, accountability for expenditures in each program is diminished or eliminated. Therefore, an evaluation of each program's progress towards meeting its stated objectives is difficult or impossible.

Also, without better accountability, the Commission cannot submit timely and accurate status reports on federal grant programs. Although the United States Forest Service requires the Commission to submit a report at least annually documenting expenditures for each grant, the last report submitted was for the period ending September 1983. In January 1984, a State Auditor's report cited the agency for not submitting timely reports. However, as of January 1987, the agency has not submitted a report.

RECOMMENDATIONS

THE SOUTH CAROLINA FORESTRY COMMISSION
SHOULD ACCOUNT FOR FEDERAL GRANT
PROGRAMS SEPARATELY. GRANT PROGRAMS
SHOULD BE BUDGETED SEPARATELY TO
IDENTIFY EACH GRANT AND ITS RESPECTIVE
CASH ON HAND, REVENUE, AND EXPENDITURES.

THE SOUTH CAROLINA FORESTRY COMMISSION
SHOULD SUBMIT QUARTERLY STATUS REPORTS
TO THE UNITED STATES FOREST SERVICE.

Grant Reimbursements Not Returned to General Fund

Federal grant fund reimbursements received by the Forestry Commission are not returned to the General Fund. These funds are instead retained and expended by the agency.

Section 159 of the 1985-86 Appropriation Act states:

Notwithstanding any laws, rules, regulations or practices to the contrary, it is the intent of the General Assembly that where expenditures of state funds are reimbursed by federal or other funds, ...such reimbursement shall be returned to the General Fund of the State.... It is the further intent of the General Assembly that the Governor's Office of Grants Services, the Joint Appropriations Review Committee, and the Budget and Control Board shall continually monitor the activities of the various state agencies to insure that the wishes of the General Assembly are carried out.
[Emphasis Added]

According to the Joint Appropriations Review Committee (JARC), the Forestry Commission has no exemption from this provision. In November 1985, another state agency requested JARC approval to retain federal reimbursements for program use. However, the Committee disapproved this proposal and recommended that the federal funds be returned to the General Fund.

Included in the Forest Landowner Assistance program are nine federal grants. In eight of the nine grant programs, SCFC must spend state funds before "earning" federal reimbursements.

In FY 85-86, SCFC earned a total of approximately \$600,000 in federal reimbursements, but did not return them to the General Fund. The Audit Council could not determine the programs for which these retained funds were spent. However, the Council could document one previous instance when reimbursements were diverted to other programs. From FY 78-79 to FY 80-81, records show that \$153,000 (54%) of \$283,750 in federal reimbursements for the Southern Pine

Beetle Suppression Program were used for projects other than pine beetle suppression. According to a Budget and Control Board official, these funds should have been returned to the General Fund.

Because funds have been diverted to other programs, the Commission could be receiving as much as \$600,000 more in state funds than necessary to carry out grant program objectives. Also, the funds which were retained and not returned to the General Fund have not been available for use in other state programs.

The administration of federal grant reimbursements received and retained by the Forestry Commission has not historically been monitored. The lack of federal grant accountability makes it difficult to determine the amount of excess state funding for these grant programs (see p. 12).

RECOMMENDATIONS

THE JOINT APPROPRIATIONS REVIEW
COMMITTEE (JARC) SHOULD REVIEW FORESTRY
COMMISSION GRANTS AND DETERMINE IF
FEDERAL REIMBURSEMENTS SHOULD BE
RETURNED TO THE GENERAL FUND.

IF JARC DETERMINES THAT REIMBURSEMENTS
CAN BE RETAINED AND EXPENDED BY THE
COMMISSION, MANAGEMENT SHOULD ENSURE
THAT THESE REIMBURSEMENTS ARE EXPENDED
IN THE PROGRAM FOR WHICH THEY WERE
RECEIVED.

Fees Not Returned to General Fund

The South Carolina Forestry Commission retains all fees earned from providing forest services on federal lands, but must return to the General Fund all fees earned from providing services on other lands. As a result, the agency

retained approximately \$20,000 in FY 85-86 which could have been available to the state for other purposes.

Section 48-23-295 of the South Carolina Code of Laws allows the Forestry Commission to provide certain services to landowners, including counties, municipalities and state agencies. Receipts from these forest services must be deposited in the General Fund. These earned funds can be expended by the agency only up to the amount appropriated by the Legislature for this program. Forest service fees collected by the agency in excess of the appropriation must be deposited in the General Fund and cannot be expended by the agency. Fees earned by providing services for the federal government are not addressed by this section.

Section 48-23-85 allows the Forestry Commission to provide certain services to the federal government. All fees earned from providing these services on federal lands can be used by the agency to offset the cost of providing the services. This is not consistent with §48-23-295 since the fees are not required to be deposited in the General Fund, and there is no limit to the amount that can be expended by the agency.

The Commission deposited approximately \$171,000 in forest service fees to the General Fund in FY 85-86, of which \$168,000 (the appropriated amount) could be expended by the agency. However, Commission records indicate that approximately \$20,000 (fees earned from federal lands) collected in excess of the appropriated amount was not deposited to the General Fund. These funds were deposited in another account and used in other forestry programs.

RECOMMENDATION

THE GENERAL ASSEMBLY SHOULD CONSIDER
AMENDING §48-23-295 OF THE SOUTH
CAROLINA CODE OF LAWS TO REQUIRE FEES
EARNED FROM PROVIDING FORESTRY SERVICES

ON FEDERAL LANDS BE DEPOSITED IN THE
GENERAL FUND.

PERSONNEL MANAGEMENT

Personnel policies and practices at SCFC were examined, and the following problems found.

More Effort Needed in Affirmative Action

Although forestry is not a traditional field of study for blacks and women, the Commission could do more in minority hiring.

Affirmative Action Goals Not Met

In 1987, the South Carolina Human Affairs Commission rated the Forestry Commission 66th of 78 state agencies ranked for attainment of affirmative action goals. The Forestry Commission work force is 91% white; in federal FY 85-86, 91% of the Commission's hiring and promotion opportunities went to whites.

The Forestry Commission employs no blacks in executive, professional or technical positions as identified by the Human Affairs Commission. In addition, the Human Affairs Commission reported:

White females have not benefited over the years. The agency achieved only 41 percent of its goal to hire white females in the E2 - Professionals category and zero percent of its goal for this group in the E3 - Technicians category.

As seen in Table 2, employment of blacks and women is clustered around the protective services and service maintenance categories. Blacks achieved "fair representation" in only one category, service maintenance. White females achieved "fair representation" in the protective services and secretarial/clerical areas. No women are employed in the skilled craft category.

TABLE 2

FORESTRY COMMISSION AFFIRMATIVE ACTION ACTIVITIES FEDERAL FY 85-86

TOTAL EMPLOYEES: 573

<u>EEO Category</u>	<u>Actual Work Force</u> <u>September 30, 1986</u>				<u>Annual Goals</u>				<u>New Hires and Promotions</u> <u>October 1, 1985 through September 30, 1986</u>			
	WM	BM	WF	BF	WM	BM	WF	BF	WM	BM	WF	BF
Executive	22	-	-	-	-	-----No Hiring Opportunity-----				-	-	-
Professional	66	-	5	-	-	2	5	2	24	-	2	-
Technical	38	-	2	-	-	*	1	*	2	-	-	-
Protective Services	218	17	106	3	-	6	**	4	22	4	13	1
Secretary/Clerical	1	1	26	3	-	*	**	1	-	-	6	1
Skilled Craft	23	5	-	-	-	**	*	*	2	-	-	-
Service Maintenance	12	14	2	9	-	**	*	**	-	1	-	-
TOTAL	380	37	141	15					50	5	21	2

WM = White Male
 BM = Black Male
 WF = White Female
 BF = Black Female

* Less than one person.

**Fair representation achieved.

Source: South Carolina Human Affairs Commission Report on the Status of State Agencies' Affirmative Action Plans and Programs, February 1, 1987.

Affirmative action goals are designed to achieve fair representation of minorities in various job categories. Availability of qualified individuals for these jobs is an element in establishing these goals, and each state agency participates in writing its plan.

Although minorities and women have not chosen forestry as a career in the past, Clemson University has experienced growth in the number of women and blacks enrolled in the forestry program. A Clemson Department of Forestry official indicated that women have made up 20% of the enrollment in forestry for the past four years. In addition, there has been some increase in black enrollment, although not as significant as for women.

Forestry Commission officials have indicated to the Human Affairs Commission that the few minorities who do graduate with forestry degrees go into private industry. The Forestry Commission also indicated that low job turnover makes minority hiring difficult.

Placement of Foresters in Nonforestry Positions

Almost 40% of SCFC's central office staff are foresters. This is a relatively high percentage compared with other southeastern forestry commissions that are "freestanding," (not associated with a larger agency). Table 3 compares South Carolina's central office staff to that of the other five freestanding commissions.

TABLE 3
STAFFING OF "FREESTANDING" SOUTHEASTERN FORESTRY COMMISSIONS¹

<u>State</u>	<u>Full-time Employees</u>	<u>Full-time Employees At Central Office</u>	<u>Foresters At Central Office</u>	<u>Percentage of Foresters on Central Office Staff</u>
Alabama	420	60	16	27%
Arkansas	462	34	8	24%
Georgia	870	92	28	30%
Mississippi	639	45	13	29%
South Carolina	600	64	25	39%
Virginia	367	41	17	41%

¹Data may represent approximations from Forestry Commission personnel departments.

Source: Legislative Audit Council telephone survey, February 1987.

The South Carolina Forestry Commission employs professional foresters in some administrative positions which do not require an expertise in forestry. For example, the director of administration is a forester, as are the section chiefs for training, information and education, and engineering and logistics. In addition, staff foresters are routinely placed in these sections where persons trained in disciplines directly related to the section's mission could be hired. Agencies with similar programs and activities fill business positions with personnel trained in finance, accounting and related areas.

Employment of minorities and women at SCFC is minimal, in part, because individuals with forestry degrees are placed in positions which do not require expertise in forestry. The Forestry Commission could benefit from hiring individuals with experience and knowledge in finance and business. Financial planning, budgeting and related activities could be improved (see p. 10).

RECOMMENDATIONS

THE FORESTRY COMMISSION SHOULD MAKE A
GREATER EFFORT TO PLACE MINORITIES AND

WOMEN IN EXECUTIVE, PROFESSIONAL AND
TECHNICAL POSITIONS.

THE FORESTRY COMMISSION SHOULD REQUEST
THE DIVISION OF HUMAN RESOURCE
MANAGEMENT CONDUCT A STUDY TO IDENTIFY
POSITIONS NONFORESTERS COULD HOLD, AND
SHOULD RECRUIT MINORITY AND WOMEN
APPLICANTS.

Promotions and Transfers of Foresters

None of the 20 openings for transfer or promotion of foresters in FY 85-86 were announced internally. All such decisions were made by the State Forester, upon recommendations of an internal committee. The Forestry Commission's administration of transfers and promotions of foresters prevents interested personnel from applying for jobs for which they may be qualified, and exposes the Commission to employee grievances under state personnel law.

The Forestry Commission's personnel policy on promotion and transfer of foresters, effective July 8, 1986 states, "All eligible foresters will be considered for each position." There is no procedure to implement this policy in the agency's procedures manual. In practice, foresters slated for transfer or promotion are offered the transfer or promotion by the Regional Forester, after an internal committee makes a recommendation to the State Forester. No one can apply for a transfer or promotion because the vacancy is not announced.

Although state law and personnel policy do not require an agency to post opportunities for transfers or promotions internally, the Division of Human Resource Management (HRM) strongly recommends an agency do so, to avoid employee grievances. One HRM official noted that many agencies have included the posting of job vacancies in their internal policy manuals.

SCFC agreed to send job announcements to minority and placement organizations, including the South Carolina Job Service, in its affirmative action plan last year. However, an official with the Job Service stated he could find no file for the Forestry Commission.

The Commission's approach to transfers and promotions of foresters also contributes to employee morale problems. The LAC survey of SCFC staff indicates that although 95% of foresters replying liked and enjoyed their work, 49% believed promotion practices at the agency did not emphasize merit, and some expressed concern in their comments, (see Appendix B).

RECOMMENDATIONS

THE FORESTRY COMMISSION SHOULD ADOPT A POLICY THAT REQUIRES INTERNAL ANNOUNCEMENTS OF JOB OPPORTUNITIES FOR FORESTERS.

THE FORESTRY COMMISSION SHOULD DEVELOP AND PUBLISH PROCEDURES TO ENSURE ALL INTERESTED APPLICANTS FOR TRANSFERS OR PROMOTIONS ARE NOTIFIED OF VACANCIES AND ARE CONSIDERED FOR AVAILABLE POSITIONS.

Evaluation System Needs Improvement

Forestry Commission management has not implemented a timely and effective employee evaluation system. Over one-third of all Forestry Commission employees were not formally evaluated in 1986. Further, agency records indicate that 64% of SCFC staff working at the Columbia headquarters were not evaluated last year. Also, seven of the twenty professional foresters who were promoted from FY 85-86 to the present have overdue performance appraisals; six of these seven have not been evaluated in at least two years.

State Regulation 19-702.04 of the South Carolina Budget and Control Board, Division of Human Resource Management, establishes a formal performance review date for all state employees of at least once every twelve months. Staff members who have not been evaluated on at least a yearly basis are not informed of how management views their job performance. These workers are deprived of an opportunity to improve if their performance is unsatisfactory. This could also lead to diminished employee morale.

Without formal evaluation of employees, an agency cannot document employees' strengths, weaknesses, and expected improvements. Promotion of personnel who have not been reviewed in more than a year raises questions of fair treatment toward certain employees. In addition, SCFC would have difficulty substantiating substandard work by an employee who has not been evaluated in a timely fashion. Lack of formal documentation would make the agency vulnerable to an employee grievance where disciplinary action was taken.

RECOMMENDATION

THE FORESTRY COMMISSION SHOULD ENSURE
THAT EVERY EMPLOYEE RECEIVES A
PERFORMANCE APPRAISAL EVERY YEAR AT OR
NEAR THE EMPLOYEE'S ANNUAL REVIEW DATE.

Overly Restrictive Personnel Policies

The Forestry Commission enforces two overly restrictive personnel policies relating to employee activities outside of work.

- (1) All Commission employees are required to complete and sign a form disclosing all outside activities, commitments, employment or self-employment which could interfere with their agency duties or present a conflict of interest. Activity forms are reviewed by the employee's direct supervisor who recommends approval or disapproval to the Regional Forester or Staff Director.

- (2) A Commission policy, dating back to 1945, restricts agency employees' political activities.¹ Included in the list of prohibited acts are: soliciting votes, helping voters on registration and election days, serving as election officials, assisting in vote counting, managing political funds, distributing campaign materials, and affixing political stickers to privately owned motor vehicles used in conducting official state business.

The first policy is more restrictive than state personnel regulations. Only outside employment of state workers is addressed by these regulations. The Commission's policy is beyond the scope of state regulation by requiring disclosure of outside activities. The second policy prohibits activities which are allowed under federal law and state personnel policy.

Both policies may interfere with the free exercise of First Amendment rights guaranteed by the United States Constitution. For example, a Forestry Commission employee who does volunteer work for the League of Women Voters, the National Association for the Advancement of Colored People (NAACP), or a local church must have this outside activity approved by agency management. Required disclosure may have a chilling effect on staff activities, and represents a potential for litigation.

The Division of Human Resource Management of the Budget and Control Board (HRM) takes the position that agency policies on employee activities outside of work should be no more restrictive than what is required by law. South Carolina law does not address political activities of state employees, other than the prohibition against dual office holding. State personnel regulations do not address the area. Forestry Commission employees involved primarily in

¹Although the Commission promulgated a policy in 1986 conforming to the federal Hatch Act, no evidence was found establishing that this policy was implemented.

programs funded by state funds are not under any restrictions on political activities, except those drawn by the agency itself.

The Hatch Act, which governs political activities of federal employees and certain employees of state and local government may apply to some Forestry Commission employees. However, SCFC's current policy is more restrictive than the Hatch Act. For example, the Hatch Act does allow participation in meetings of political parties and in campaigns, service at election polls and distribution and display of campaign material.

One Forestry Commission official indicated that these policies were needed to ensure that employees will be available to work when called. Approximately 65% of Commission employees are subject to call requiring prompt response outside of normal working hours (see p. 76).

RECOMMENDATIONS

THE FORESTRY COMMISSION SHOULD SUBMIT
POLICIES RELATING TO EMPLOYEE ACTIVITIES
OUTSIDE OF WORK TO THE DIVISION OF HUMAN
RESOURCE MANAGEMENT FOR REVIEW.

THE COMMISSION SHOULD IMPLEMENT ANY
CHANGES RECOMMENDED BY HRM.

OTHER MANAGEMENT ISSUES

Two additional management issues follow, as does a review of the Commission's Ranger Technician Program.

Perquisite Provided to Employees

The Forestry Commission allows Commission employees to use an agency owned cabin at Piedmont Nursery for recreational activities. Employees are permitted to reserve the cabin for weekend and holiday use at no cost. As a

result, employees are receiving benefits in excess of those allowed under the 1986-87 Appropriation Act.

During the period 1984-1986, the cabin was used by Forestry Commission employees on 43 (28%) of 156 weekends. Agency officials stated that they were not required to reimburse the agency for use of the cabin.

Section 138 of the 1986-87 Appropriation Act states:

That salaries paid to officers and employees of the State...shall be in full for all services rendered, and no perquisites of office or of employment shall be allowed in addition thereto, but such perquisites...shall be charged for at the prevailing local value....

The 1984-85 and 1985-86 Appropriation Acts contain identical provisions. Further, SCFC policy states that all real property owned by the Forestry Commission shall be restricted to official use and activities prescribed by the Forestry Commission.

According to agency records, SCFC is planning to invest \$7,600 in permanent improvements to the cabin between FY 86-87 and FY 90-91. In addition, state funds are used to maintain the cabin in useable condition for recreational and other activities.

According to an agency official, the cabin was obtained from a utility company when the nursery land was acquired. The cabin is also used less frequently during the week to accommodate Forestry Commission and United States Forest Service employees working in the area.

RECOMMENDATION

THE FORESTRY COMMISSION SHOULD CHARGE EMPLOYEES USING THE CABIN AT PIEDMONT NURSERY AS REQUIRED BY STATE LAW OR DISCONTINUE THE PRACTICE OF PROVIDING THE FACILITY FOR RECREATIONAL USE BY SCFC EMPLOYEES.

Attendance at Commission Meetings

One Commission member has a poor record of attendance at Commission meetings. Minutes of Commission meetings from January 1983 through July 1986 indicate that this member had an attendance rate of 32%. During that period, five other current members had attendance records ranging from 58% to 100%.

Regular attendance at Commission meetings enables members to keep informed about issues and problems affecting the agency. The Forestry Commission does not have a policy regarding member attendance at Commission meetings.

When Commission members do not attend Commission meetings, the public is not represented. This Commission member is a member selected to represent the public-at-large. The public experiences a reduction in oversight of agency activities when Commission members are not present to discuss and vote on important issues affecting the Commission.

RECOMMENDATION

THE COMMISSION MEMBERS SHOULD ENACT AN
ATTENDANCE POLICY TO ENCOURAGE MEMBERS
TO ATTEND COMMISSION MEETINGS.

Ranger Technician Program

In 1980, the SCFC initiated an educational program to allow county rangers to study for Certification in Forest Technology. The Audit Council found this program well-designed to increase agency productivity and to manage personnel resources efficiently, and commends the Commission. This program reflects the State Forester's commitment to an "integrated approach" for the agency; "cross-trained" individuals are able to provide services in forest management in addition to fire control.

Each of South Carolina's 46 counties has a county ranger position, which requires a high school diploma.

County rangers manage the county fire fighting organizations. Because fire fighting is a seasonal occupation, leaving rangers not fully occupied, this program was begun to train rangers in forest technology. Taught primarily by SCFC Foresters, the program is divided into 13 courses and is equivalent to a two-year degree. A test is taken after each of the 13 courses, for a candidate to progress. The program is required for new rangers, but is elective for rangers who were on the job at the program's inception. As of January 1987, 26 individuals had completed the program and 21 individuals were in progress.

After successful completion, rangers receive a two grade increase in position, and become assistants to the County's Project Forester. When the ranger technician is not involved in fire fighting duties, the technician will assist the Project Forester in various forestry projects.

CHAPTER III
FIRE CONTROL

The Forestry Commission is responsible for protecting nearly 13 million acres of state and private land from wildfire. For the ten-year period 1976-1985, South Carolina averaged 8,291 fires per year. Approximately 46,884 of the 13 million protected acres were burned each year. The Audit Council estimates that in FY 85-86, expenditures related to fire control were over \$10 million (see Table 4). As of November 1986, the primary responsibility of 376 (65%) of the 577 Forestry Commission employees was fire control.

TABLE 4
FIRE CONTROL EXPENDITURES FY 85-86

<u>Source</u>	<u>Expenditures</u>
District and County Expenditures	\$ 6,656,359
Columbia Office-Direct Costs	1,163,484
Indirect Costs-Administration	780,323
Fringe Benefit Allocation	<u>1,439,052</u>
TOTAL	<u>\$10,039,217</u>

Source: Legislative Audit Council analysis based on
FY 85-86 information provided by South Carolina
Forestry Commission.

Problems and issues identified in review of SCFC's fire control functions follow.

Fire Control in South Carolina

The costs associated with the fire detection and suppression functions of the Forestry Commission could exceed the benefits derived from current fire control practices in some forestry districts. During the ten-year

period 1976-1985, South Carolina had a relatively large number of fires compared to ten other southeastern states. However, these fires were relatively small in size compared to those in other states. In addition, only two other states spend significantly more, based on FY 85-86 expenditures, to extinguish an acre of fire than does South Carolina (see Table 5).

Audit Council analysis also shows that South Carolina has the highest ratio of fire suppression units (tractor and fire plow) per acre protected (see p. 40) and the largest number of permanent fire control personnel per acre protected in the Southeast. Based on FY 85-86 expenditures, Audit Council analysis shows that the cost of detecting and suppressing an acre of fire actually exceeded the value of a "composite" forested acre of land in five of the seven forestry districts. **In one of the five districts, the cost of suppressing a fire exceeded the value of the timber by \$339 per acre (see Table 6).**

Although South Carolina has been effective at keeping fires small, the cost of providing the fire protection necessary to achieve that level of effectiveness is high compared to other southeastern states. The United States Forest Service has not established standards for either staffing or equipping state fire control programs. The relationship between fire control effectiveness (average number of acres burned per fire) and efficiency (cost of extinguishing each acre burned) is unclear. However, an August 1986 study by the Tennessee Division of State Audit found that fire control expenditures in the southeastern United States were closely related to the number of protected acres burned. Therefore, the number of protected acres burned has a more significant relationship to fire control expenditures than the number of fires.

Reductions in fire detection and suppression personnel or equipment could result in larger fires and an increase in the amount of timber and other resources lost to fire.

However, current staffing and equipment levels indicate a less efficient use of resources than in many other states.

TABLE 5
FIRE STATISTICS FOR SOUTHEASTERN STATES

State	Acres Protected	Acres Burned	Ten-Year Average (1976-1985)			FY 85-86 ¹ Fire Control Expenditures	Expenditures Per Acre ² Protected ²		Expenditures Per Acre ² Burned ²	
			# of Fires	Mean Acres Burned/Fire	% Protected Acres Burned			Rank		Rank
Alabama	24,991,000	158,177	7,237	21.86	0.63%	\$10,780,000	\$0.43	6	\$ 68.15	10
Arkansas	19,700,000	64,127	3,260	19.67	0.33	6,239,000	0.32	9T	97.29	8
Florida	27,100,000	194,977	7,844	24.86	0.72	20,552,000	0.76	2	105.41	7
Georgia	27,300,000	56,063	11,988	4.68	0.21	19,769,000	0.72	4	352.62	2
Kentucky	16,900,000	103,619	2,609	39.72	0.61	5,390,000	0.32	9T	52.02	11
Louisiana ³	20,900,000	70,832	6,429	11.02	0.34	8,314,000	0.40	7	117.38	6
Mississippi	19,800,000	91,414	6,766	13.51	0.46	6,546,000	0.33	8	71.61	9
North Carolina	19,500,000	63,514	5,017	12.66	0.33	14,597,000	0.75	3	229.82	3
South Carolina	12,873,000	46,884	8,291	5.65	0.36	10,039,000	0.78	1	214.10	4
Tennessee	12,800,000	43,857	4,165	10.53	0.34	7,208,000	0.56	5	164.35	5
Virginia	18,200,000	8,341	1,564	5.33	0.05	3,900,000	0.21	11	467.57	1
AVERAGE	20,005,818	81,982	5,925	15.41	0.40%	\$10,303,091	\$0.52	-	\$125.68	-

¹Total expenditures data was taken from National Association of State Foresters 1986 report.

²Expenditures per acre protected and per acre burned were for an average fire year during the period 1976-1985.

³Louisiana expenditures for FY 85-86 were provided by Louisiana Office of Forestry.

Source: Legislative Audit Council analysis based on information collected by the Georgia Forestry Commission, 1986.

TABLE 6
FIRE CONTROL EXPENDITURES AND VALUE OF COMPOSITE ACRE OF LAND
BY DISTRICT

<u>District</u>	<u>Value of Composite Acre¹ Protected Land</u>	<u>Total Forested Acres Protected</u>	<u>Value of Total Acreage</u>	<u>Expenditures Per Acre Burned FY 85-86²</u>	<u>Difference Between Value of Land And Expenditures</u>
Camden	\$105.00	1,653,420	\$ 173,609,100.00	\$155.66	\$ (50.66)
Florence	135.51	1,496,890	202,843,563.90	161.48	(25.97)
Kingstree	132.59	1,383,255	183,405,780.45	112.73	19.86
33 Newberry	160.12	2,163,906	346,484,628.72	471.03	(310.91)
Orangeburg	103.45	1,657,371	171,455,029.95	212.49	(109.04)
Spartanburg	95.15	1,942,148	184,795,382.20	434.60	(339.45)
Walterboro	140.33	<u>1,734,100</u>	<u>243,346,253.00</u>	106.74	33.59
TOTAL	-	<u>12,031,090</u>	<u>\$1,505,939,738.22</u>	-	-
AVERAGE	\$125.17	-	-	\$175.02	\$ 49.85

¹ Composite acres values were calculated using forest survey data compiled by the United States Forest Service in 1980.

² FY 85-86 expenditures only include district and county expenditures. Costs per acre of fire control in an average year for South Carolina during the ten-year period, based on FY 85-86 expenditures, was \$214.10.

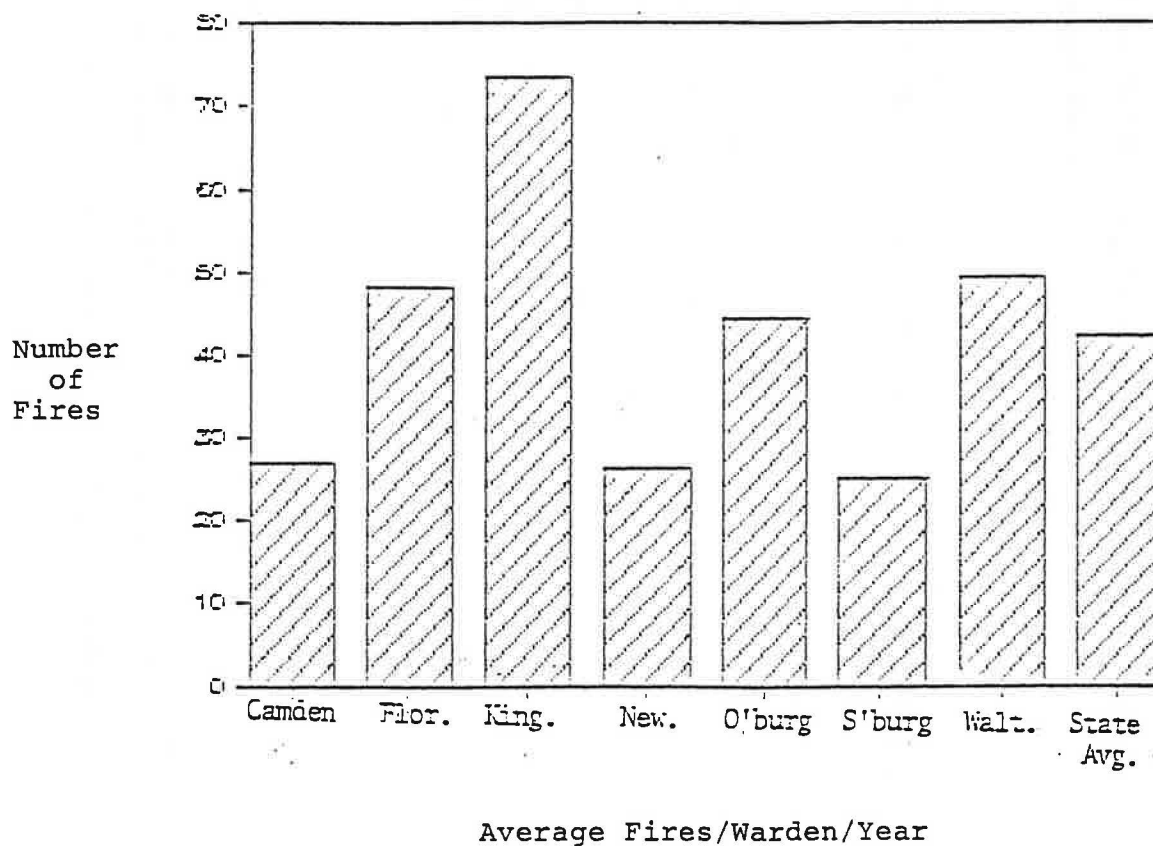
Source: Legislative Audit Council analysis based on data provided by South Carolina Forestry Commission, 1986.

Allocation of Fire Control Personnel

Variations in Forestry Commission fire control staffing levels show an inefficient allocation of personnel. According to Forestry Commission records, the number of fires responded to by fire wardens has varied by as much as 290% from district to district (see Graph 1). From FY 79-80 through FY 85-86, fire wardens fought an average of 73 fires per warden per year in Kingstree District versus an average of 25 fires fought per warden per year in Spartanburg District. Further, fires in Kingstree District were, on average, twice as large as fires in Spartanburg District.

GRAPH 1

FIRE DISTRIBUTION FY 79-80 THROUGH FY 85-86



Source: South Carolina Forestry Commission Monthly Fire Reports, FY 79-80 through FY 85-86.

Personnel should be allocated so that areas which have historically experienced more fires, and loss of forested land, receive a greater proportion of fire protection and suppression staff. Equalized warden workloads could improve fire control effectiveness in areas that have suffered greater loss of forested acreage. Preliminary analyses have been conducted by the Commission using a United States Forest Service computer software program to evaluate the economic efficiency of current uses of fire control personnel and equipment. These studies have also indicated the current district staffing practices may not be the best use of resources.

Although several factors influence both the likelihood and size of fires from district to district, current fire control staffing practices may lead to larger, more damaging fires in some areas. In other areas, Commission funds are used to staff districts in excess of their historical needs. For example, in FY 85-86, the Kingstree District had more than two times as many fires and lost more than three times more forested acreage to fire than Newberry District, yet Newberry District has 25 wardens and Kingstree District has 24 wardens assigned to fire control.

According to Forestry Commission officials, county and district staffing patterns have traditionally been influenced by political factors (see below). Because political influences must be taken into account, reallocation of staff based on fire incidence has not occurred.

County Boards of Forestry

The authority of county boards of forestry to determine county forest fire protection plans and to control the hiring and firing of state fire protection employees in the counties is unnecessary. County boards were established by legislation in 1945 to assist in the efficient performance of county forestry programs. However, an Audit Council

review of county board involvement shows that these boards create an unnecessary level of bureaucracy and may impede efficient district-wide and statewide personnel practices. Of 25 county boards reviewed, only two met more than once yearly in 1984 or 1985, and eight boards did not have a quorum of members attending the annual meeting in at least one of those years.

Section 48-33-60 of the South Carolina Code of Laws establishes the duties and responsibilities of county boards. No other southeastern state has county or district boards of forestry with other than advisory authority. The Audit Council could not identify any agency other than the South Carolina Department of Social Services (DSS) which authorizes a county board to hire or fire any state employee. DSS County Boards are permitted to hire and fire County Directors of Social Services. The DSS County Boards have no direct involvement in the hirings and firings of other county staff.

The authority to approve the hiring and firing of state fire protection employees can allow the county boards to oppose the hiring of qualified personnel who are recommended for positions by district Forestry Commission officials. In one county, a county ranger position remained unfilled for ten months because the county board would not approve the individual recommended by the District Forester. The county board instead recommended a relative of the former ranger for the position. In another county, the ranger position was vacant for two years because of a county board and district office disagreement regarding the promotion of a fire warden to the position.

Also, the District Forester's ability to carry out fire prevention activities at the county level is eroded because authority over county employees is shared with the board. Further, when approval of fire protection plans by the county boards is necessary, the implementation of efficient

district-wide practices, such as the allocation of resources by district rather than by county, may be inhibited.

Fire Protection Assessment

Forest landowners, who receive the primary benefits of fire control provided by the Forestry Commission, pay no direct fee for this protection. As a result, these landowners are subsidized by other taxpayers, who receive fewer benefits from fire control. Although approximately 11.5 million acres (92% of all forested land) in South Carolina is owned by industry or private landowners, \$14.5 million (91% of all Forestry Commission revenues in FY 85-86) come from state appropriations. No revenue is generated through forest land assessments by county or state governments.

In seven of ten southeastern states, forest landowners pay an assessment for fire protection. These assessments range from .02¢/acre in Mississippi to .10¢/acre in some Alabama counties. According to a Florida fire control official, these assessments stabilize fire control funding and ensure a correlation between the benefits received and the costs associated with fire protection.

Although other state residents receive indirect benefits from fire control, such as erosion protection, enhanced recreational opportunities and protection of wildlife habitat, the greatest benefits of this service accrue to the landowner. An assessment on forest land to cover, in part, the cost of forest fire protection would more effectively distribute costs in proportion to benefits. An assessment of .10¢/acre in South Carolina would generate \$1.15 million in revenue annually, or approximately 11% of the Commission's Fire Control budget for FY 85-86.

RECOMMENDATIONS

THE FORESTRY COMMISSION SHOULD CONSIDER
REALLOCATION, OR REDUCTION BY ATTRITION

IN OVERSTAFFED DISTRICTS, OF FIRE CONTROL PERSONNEL TO EQUALIZE WORKLOADS AND CREATE STAFFING PATTERNS WHICH MORE CLOSELY REFLECT HISTORICAL FIRE OCCURRENCE.

THE FORESTRY COMMISSION SHOULD CONTINUALLY EVALUATE PERSONNEL ALLOCATIONS BASED ON FIRE INCIDENCE, FIRE SEVERITY, AND FIRE WARDEN WORKLOADS.

THE GENERAL ASSEMBLY SHOULD CONSIDER AMENDING §48-33-60 OF THE SOUTH CAROLINA CODE OF LAWS TO DELETE THE REQUIREMENT FOR COUNTY BOARD APPROVAL OF FIRE PROTECTION PLANS AND COUNTY BOARD APPROVAL OVER PERSONNEL MATTERS.

THE GENERAL ASSEMBLY SHOULD CONSIDER ENACTING LEGISLATION PROVIDING FOR A FOREST LAND ASSESSMENT ON PRIVATE LANDOWNERS TO COVER, IN PART, THE COST OF FOREST FIRE PROTECTION.

EQUIPMENT

The replacement schedule for motorized vehicles was reviewed, as was the agency's safety equipment program. The Forestry Commission operates over 470 motorized vehicles in association with fire control activities. These vehicles include pickup trucks, crawler tractors and larger trucks, which are used to transport the tractors to the location of the fire. In FY 85-86, the transport trucks and tractors were used 88% of the time for fire control, and 12% for

providing forest services, such as firebreak plowing (see p. 68).

Commission Equipment is Underused

Forestry Commission transport trucks and crawler tractors are underused. Equipment use in other southeastern states is as much as four times greater than use in South Carolina. As a result, crawler tractors and transports operated by the Forestry Commission are more costly to operate per hour or per mile than similar equipment in other states.

The Audit Council compared the age and use of transports and tractors in six southeastern states, including South Carolina (see Table 7). Although South Carolina had the highest average age of equipment scheduled to be replaced, the average mileage and hours of use on South Carolina equipment was the lowest of the six states reviewed. Crawler tractors in other southeastern states accumulate up to four times more hours of use than those in South Carolina. Transport trucks in other states average 36,000 miles more upon replacement than do South Carolina transports. As a result of underuse, when the state replaces transports and tractors, the replacement is based more on age than equipment wear.

TABLE 7

SOUTHEASTERN STATES AVERAGE USE OF VEHICLE AT TIME OF REPLACEMENT

<u>State</u>	<u>Medium Transport</u> <u>(Years) - (Miles)</u>		<u>Crawler Tractor</u> <u>(Years) - (Hours)</u>	
Alabama	7	- 75,000	12	- 1,350
Florida	10	- 82,500	12	- 2,250
Georgia	10	- 55,000	13	- 2,000
Mississippi	8	- 100,000	10	- 2,000
North Carolina ¹	11	- 50,000	14	- 3,000
South Carolina	15	- 37,500	15	- 750

¹Represents schedule replacement for South Carolina vehicles based on average use over a 15-year period.

Source: Legislative Audit Council Analysis, January 1987.

Comparative analysis shows that South Carolina has the greatest number of tractor/transport units per acre protected in the Southeast (see Table 8). One factor which contributes to the underuse of these units could be that they are responsible for fire control on fewer acres per unit than units in other states. Therefore, less use is required of many units in South Carolina than those in other southeastern states.

TABLE 8
SOUTHEASTERN STATES
COMPARISON OF TRACTOR UNITS AND ACRES PROTECTED

<u>State</u>	<u>Tractor Units</u>	<u>Acres Protected Per Unit</u>
Alabama	169	147,876
Florida	230	117,826
Georgia	349	78,223
Mississippi	194	102,062
North Carolina	87	224,138
South Carolina	204	63,103

Source: Georgia Forestry Commission, August 1986.

In FY 85-86, older tractor and transport units did not cost significantly more to operate than newer units. An analysis of the cost of maintenance and repair of transports and tractors which meet or exceed SCFC replacement criteria for age and/or usage indicates that the repair and maintenance costs per hour for tractors was less (\$7.45/hr. versus \$8.44/hr.) for vehicles which exceed SCFC replacement criteria. Similar results were found with transport trucks, where the older vehicles cost only 1.3¢ mile more to repair and maintain than other transports.

Unnecessary replacement of aged, but underused, tractors and transports by the Forestry Commission could cost the state as much as \$600,000 annually (based on

average usage in other southeastern states) if the replacement schedule is met. In addition, fire control vehicles disposed of before the end of their useful work life contribute to higher vehicle operating costs.

Vehicle Costs

Forestry Commission replacement schedules are not accurate. The Commission does not capture all necessary cost data on motorized equipment to determine replacement criteria. Commission calculations of maintenance cost does not include labor or district shop overhead costs. In addition, equipment depreciation is not taken into consideration when the cost per mile or cost per hour of operation are derived. Further, mileage and fuel consumption records submitted by the districts are not monitored or reviewed by central office personnel to ensure accuracy. As a result, current equipment could be replaced prior to the end of its useful life.

The Government Finance Officers Association recommends the use of cost analysis to determine the full economic cost of governmental services and to evaluate life-cycle costs for procurement. In 1981, the South Carolina Department of Education received a consultant report which included an analysis of school bus acquisition and replacement. This report outlined a methodology for computing life-cycle costs which included depreciation, parts and materials, labor and overhead. Using this methodology, an optimal replacement schedule was developed for the school bus fleet. In addition, the Alabama State Forestry Commission is currently developing a computerized cost analysis program which will allow for comparison and evaluation of cost data.

When all cost data is not captured, replacement schedules cannot be accurate. Inaccurate replacement schedules can lead to equipment disposal prior to the end of its useful life and thus a greater expense to the state. For example, if the Forestry Commission replacement schedule

for crawler tractors and transports indicates replacement one year too soon, the additional annual cost to the state (if the replacement schedule is met) would be approximately \$65,000 per year. In other words, if each of the 204 tractors and 204 transports were replaced one year too early, the actual additional cost to the state over a 15-year replacement schedule could be nearly \$1 million.

RECOMMENDATIONS

THE FORESTRY COMMISSION SHOULD CAPTURE ALL COSTS ASSOCIATED WITH MOTORIZED EQUIPMENT OPERATIONS.

THE FORESTRY COMMISSION SHOULD DEVELOP AN EQUIPMENT REPLACEMENT SCHEDULE BASED UPON THE ACTUAL COSTS OF OPERATING MOTORIZED EQUIPMENT.

THE FORESTRY COMMISSION SHOULD REVIEW THE SIZE OF THE MOTORIZED EQUIPMENT FLEET AND MAKE ADJUSTMENTS TO ENSURE THAT VEHICLES ARE NOT DISPOSED OF PRIOR TO THE END OF THEIR USEFUL WORK LIFE.

Safety Equipment

The Forestry Commission has initiated an extensive safety program for its employees. SCFC conducts safety training sessions for personnel, has established safety committees in each district, and has supplied safety equipment to field personnel.

The SCFC Training and Safety Section incorporates fire safety and the use of safety equipment in the initial training of new employees. Also, according to the SCFC Training and Safety Chief, training sessions are held each year regarding fire fighting tactics and fire weather. Most sessions are instructed by Forestry Commission personnel.

However, other schools and instructors such as the United States Forestry Service and Clemson University Department of Forestry are also used when available.

In 1985, the Commission established a District Safety Committee in each of the seven SCFC districts. These committees, composed of five to six employees from the district, meet quarterly to discuss and resolve potential and existing safety hazards. Committee members are selected on a rotating basis by the District Forester. In 1986, the committees achieved a goal of having at least one SCFC employee in each county with first aid training and certification as a "First Responder" by the American Red Cross.

Furthermore, the Forestry Commission has supplied to each field employee, as standard equipment issue, safety equipment such as safety helmets, goggles, fire retardant clothing, and earplugs. Heavy equipment, such as tractors, are equipped with fire blankets, protective fire tents, and first aid kits. The Audit Council found that SCFC personnel safety equipment was at least comparable to (or exceeded) equipment issued forestry personnel in Georgia, North Carolina, Florida, and Tennessee. However, SCFC should consider providing air filtering equipment to fire suppression personnel working in heavy smoke areas (see p. 51).

Most Forestry Commission field personnel work in positions with a high risk of injury. By conducting safety training sessions, recognizing and resolving safety hazards on the district level, and issuing adequate safety equipment the Commission helps reduce the potential for occupational hazards among employees.

AIRCRAFT

The Audit Council reviewed the use of aircraft by SCFC for fire detection and suppression. Although no practicable

alternatives could be identified to the aerial tanker program, more economical alternatives were found for other aircraft operations.

Aircraft Management

The South Carolina Forestry Commission may be operating its aircraft fleet at a higher cost than if the agency only contracted aircraft from private vendors. Information necessary to accurately assess program costs, and to determine program efficiency, has not been maintained by the Forestry Commission. As a result, the Commission may have spent from \$33,000 to \$117,000 more than the cost of contracted aircraft during FY 84-85 and FY 85-86.

Since FY 79-80, SCFC has operated aircraft received from the United States Forest Service and the Federal Excess Property Program. The aircraft are provided to SCFC for forest fire control at no cost. However, the Forestry Commission must provide fuel, maintenance, insurance, and other costs for operating the aircraft. By FY 85-86, SCFC had obtained nine fixed-wing aircraft and two helicopters. The Commission also contracts aircraft from private vendors for insect and disease surveys and additional fire detection. From FY 84-85 through FY 85-86, contracted aircraft accounted for 31% of the total flight hours.

Audit Council analysis of available data indicates that the operating costs for FY 84-85 ranged from \$59 to \$68 per flight hour. Costs for FY 85-86 ranged from \$84 to \$137 per flight hour. The average cost for contract aircraft during this period was approximately \$59 per flight hour. The major factor contributing to the large ranges in cost estimates per flight hour is that of personnel. The Forestry Commission does not maintain an accurate accounting of personnel time spent on aviation-related activities. According to Forestry Commission personnel records, 50% of the work schedules for the Commission's Pilot-Technicians consists of flying or flight-related activities. However,

Commission management estimates that actual aviation-related activities comprise approximately 24% of the Pilot-Technician work time.

Some other southeastern state forestry organizations do not use federal surplus aircraft. Tennessee, Texas and Virginia contract aircraft for all aerial detection at rates from \$38.50 to \$65 per flight hour.

All direct costs that can be attributed to the operation of a program must be included in order to accurately account for program expenditures. The Forestry Commission does not use a program budget approach to equitably allocate costs to agency programs. As a result, the Commission does not have the ability to control current costs, assess the efficiency of aircraft operations, or justify future appropriations to the aircraft program.

RECOMMENDATION

THE FORESTRY COMMISSION SHOULD CONDUCT A DETAILED TWO-YEAR, COST-EFFICIENCY STUDY OF THE AIRCRAFT PROGRAM, AND REPORT RESULTS TO THE GENERAL ASSEMBLY.

Noncompliance with Air Operations Manual

The South Carolina Forestry Commission (SCFC) management has not ensured that aviation personnel are complying with the SCFC Air Operations Manual. The manual establishes the operating policies and procedures for assignment, maintenance, duty and flight time, and use of aircraft operated and leased by the Forestry Commission.

The Audit Council identified three areas of significant noncompliance with the SCFC Air Operations Manual.

All excess property aircraft will be flown at least three hours each month, weather permitting, to maintain aircraft readiness.

A review of the SCFC monthly flight records for FY 85-86 revealed 32 instances in which aircraft were flown

fewer than three hours each month. In over one-third of the occasions (12 of 32), the aircraft were not flown during the month.

Flight time will not exceed 10 hours per day and not more than 24 hours in any consecutive 3 day period.

The Council found a flight in which the pilot flew more than ten hours in a day. Additionally, the Council located two instances during March and April 1985 in which SCFC pilots flew more than 24 hours in a three-consecutive-day period.

Aircraft use will be limited to fire control use which will normally involve detection and suppression of forest fires.

Forestry Commission aircraft are being used for insect and disease control, in addition to fire control and suppression uses as stated in the Air Operations Manual. However, an SCFC official stated that only four flights for insect and disease control had been conducted with SCFC aircraft; other flights for this purpose had been conducted with contracted aircraft. The Audit Council could not determine the number of insect and disease control flights from the SCFC flight logs.

In 1984, the United States Forest Service, which provides the SCFC with aircraft through the Federal Excess Property Program, outlined the following criteria for use of federal surplus equipment.

This equipment is obtained for fire control purposes, and the State Forester must retain and have exclusive use for fire control purposes.

If it is not used within these guidelines, the equipment must be returned to the Forest Service for disposal. [Emphasis Added]

The National Business Aircraft Association (NBAA) assists corporate flight departments which operate under

Title 14, Code of Federal Regulations, Part 91 as does the Forestry Commission. The National Transportation Safety Board, in a 1978 letter to the NBAA, suggested basic policies and procedures be documented in a flight manual. The letter stated, in part:

The Safety Board believes that a flight operations manual is the most practical means to establish and promulgate common administrative and flight operation policies and procedures to ensure that a strong measure of standardization is conveyed to company pilots.

The NBAA views an operations manual as the cornerstone of a safe and efficient aircraft operation. Furthermore, the NBAA states, "Acceptance of procedures and policies espoused in the manual should be mandatory for aircrews." If SCFC aviation personnel are not complying with the Air Operations Manual, the safety, efficiency, and uniformity of operation of SCFC aircraft may be compromised.

RECOMMENDATION

FORESTRY COMMISSION MANAGEMENT SHOULD
ENSURE COMPLIANCE WITH THE AIR
OPERATIONS MANUAL.

SMOKE MANAGEMENT

Problems found with the regulation of open burning, and with the burning of herbicide-treated woodlands, follow.

Smoke Management Guidelines

The smoke management guidelines developed by the South Carolina Forestry Commission (SCFC) need to be strengthened. Intentional burning, or "prescribed burning" is an accepted practice among foresters to clear dead vegetative debris (i.e., pine needles, leaves, grass) underneath growing stands of timber. The Forestry Commission, which oversees

intentional burning activities, cannot ensure compliance with smoke management because the guidelines are voluntary.

Voluntary smoke management guidelines were developed in 1980 by a committee of the South Carolina Forestry Association in cooperation with the Forestry Commission. The objective of the guidelines is to minimize concentrations of smoke in smoke-sensitive areas (such as homes, highways, and schools) resulting from intentional burning activities. The guidelines identify the volume of vegetative debris (tons) that may be burned on days with acceptable smoke dispersal. The range of smoke dispersal is defined in the guidelines by five categories. For example, Category 1 indicates a day with no smoke dispersal and when no burning should be conducted; Category 5 indicates excellent smoke dispersal.

Since 1969, individuals or companies have been required to notify SCFC of their intent to burn. The smoke management guidelines require notification of the appropriate SCFC district office of the purpose of the burn, acreage and tonnage of debris to be burned, location of the burn, and the distance to smoke-sensitive areas surrounding the burning activity. The Commission reviews the information and makes recommendations to the individuals conducting the burning activity regarding compliance with the guidelines. The Audit Council examined the SCFC smoke management burning requests from July 1984 to June 1986, and identified 221 of 3,604 instances of noncompliance with the guidelines. During this period, approximately 134,000 of 2,019,940 tons of vegetative debris were burned in excess of the allowable maximums recommended by smoke management guidelines. The Council found that timber companies were responsible for 70% (154 of 221) of the violations and private individuals were responsible for 30% (67 of 221).

Noncompliance with these guidelines can create hazardous conditions in smoke-sensitive areas such as

highways and roads. The following incidents are examples of hazards created through noncompliance.

- Smoke from a November 1982 prescribed burn in Saluda County resulted in six collisions involving 12 vehicles and two injuries. The timber company responsible for the fire informed the SCFC district office that the nearest smoke sensitive area was ten miles away. However, a newspaper account of the incident stated that the fire was 1½ miles from the highway where the accidents occurred. Furthermore, the amount of debris burned exceeded the maximum allowable limits by approximately 450 tons. No penalties were imposed.
- A December 1983 fire in Charleston County caused a seven-car accident. According to a newspaper account, a state highway patrolman stated that "unlimited" visibility in the area was reduced to "less than one foot." Eight people were hospitalized. No smoke management plans were reported to SCFC for the fire. No penalties were imposed.
- In November 1984, smoke from a Marion County fire caused approximately 13 vehicles to be involved in traffic accidents before the highway could be closed. No smoke management information was reported on this fire. The individual responsible for the fire was charged with "careless and negligent" burning and fined \$25 for not maintaining adequate fire lines.
- Prescribed burning by a timber company in Aiken County in November 1984 resulted in multiple car accidents involving minor injuries. A nearby middle school was evacuated. According to SCFC estimates, the timber company burned approximately ten times the permissible limits under smoke management guidelines. A Forestry employee witnessed the burn. SCFC employees had previously discussed the guidelines with the timber company. No penalties were imposed.

Florida requires permission from the Division of Forestry to conduct any open burning. Burning authorization generally applies for one day only and can be denied because of potential fire danger or air pollution. Alabama also requires permission to conduct open burning. The Alabama Forestry Commission has established ten toll-free telephone numbers to their district offices to facilitate the process of obtaining a burning authorization. In South Carolina, Horry County has proposed an ordinance that would regulate

open burning by requiring a permit to burn. However, a Clemson University forestry professor stated that state regulation of open burning could eliminate the need for counties and municipalities in South Carolina to adopt local ordinances on open burning.

Without enforcement of forestry burning through regulation, there is no incentive for compliance with smoke management guidelines. Violators of smoke management regulations would be subject to legal sanctions for nonconformity.

RECOMMENDATIONS

SCFC SHOULD FOLLOW THE ADMINISTRATIVE PROCEDURES ACT TO PROMULGATE REGULATIONS CONCERNING SMOKE MANAGEMENT AND BURNING AUTHORIZATION.

WHEN REGULATIONS ARE PROMULGATED REGARDING SMOKE MANAGEMENT, THE GENERAL ASSEMBLY SHOULD CONSIDER LEGISLATION IMPOSING CRIMINAL PENALTIES FOR VIOLATION OF SMOKE MANAGEMENT REGULATIONS.

SCFC SHOULD ADOPT A PERMIT SYSTEM TO OBTAIN AUTHORIZATION FOR CONDUCTING OPEN BURNING. AUTHORIZATION SHOULD BE BASED ON ENVIRONMENTAL DATA, POTENTIAL FIRE DANGER, PROXIMITY TO SMOKE SENSITIVE AREAS, AND TONNAGE TO BE BURNED.

SCFC SHOULD INVESTIGATE SMOKE MANAGEMENT VIOLATIONS AND SMOKE HAZARD INCIDENTS. THESE REQUIREMENTS SHOULD BE INCLUDED IN THE SCFC POLICIES AND PROCEDURES MANUAL.

Precautions Needed in Burning Herbicide-Treated Woodlands

The Forestry Commission has not taken safety precautions to protect personnel from smoke and fumes during the burning of herbicide-treated woodlands. SCFC personnel have complained to management of adverse physical reactions such as throat infections, nausea, and bleeding due to smoke from burning herbicide-treated areas. Forestry Commission management has not attempted to resolve these employee complaints.

Woodland tracts scheduled to be replanted are often first sprayed with herbicides or "site prepared" to kill existing vegetation, then burned to clear the land for replanting. Since 1979, the use of herbicides in forestry management and agriculture has been a controversial issue. Some herbicides have been associated with the development of cancer. In 1984, the United States District Court required all herbicide use by the Forest Service in Oregon and Washington stopped.

In October 1985, a Forestry Commission employee sent a memorandum to the Assistant State Forester for Field Operations stating that SCFC employees had experienced adverse physical reactions due to smoke from burning herbicide-treated areas. The employee stated that all of the personnel from one county had contracted throat infections and cold-like symptoms following this type of burning; one employee required treatment from a physician for complications. Other reactions included skin rashes and nausea. The Assistant State Forester for Field Operations informed the employee that a study on the effects of burning herbicide-treated areas would be conducted. However, as of January 1987, this study had not been initiated.

SCFC employees made a similar complaint to the Department of Health and Environmental Control (DHEC) in July 1986. The State Toxicologist at DHEC conducted a study of potential health effects from burning herbicide-treated areas. The study, concluded, in part:

...adequate data are not currently available to incriminate or exonerate adverse health effects from contact with combustion products of herbicide-treated burning vegetation. A combination of well-planned animal studies, human epidemiological studies and combustion product assays must be performed before a definitive assessment can be made of adverse health effects or lack of the same. [Emphasis Added]

The study also recommended that workers exposed to burning herbicide-treated areas take safety precautions such as standing upwind during burning and/or wearing respiratory masks with charcoal absorbent filters during periods of exposure.

Forestry commissions in Georgia, North Carolina, Florida and Tennessee issue air filtering equipment (dust masks or respirators) to each field employee as standard equipment. Florida and North Carolina require employees to wear these devices when fighting fires. The South Carolina Forestry Commission does not provide its employees with air filtering equipment.

No current evidence indicates that smoke from the prescribed burning of herbicide-treated vegetation results in long-term health risks. In separate studies, the National Cancer Institute and the United States Environmental Protection Agency are continuing to research a herbicide used in the forestry industry and encountered by SCFC personnel. However, by continuing to burn herbicide-treated woodlands, the Forestry Commission could be putting employees at risk if exposure to herbicide smoke is injurious to human health.

RECOMMENDATIONS

SCFC SHOULD ISSUE AIR FILTERING
EQUIPMENT TO FIELD EMPLOYEES AS STANDARD
EQUIPMENT.

SCFC SHOULD REVIEW AND RESPOND TO
EMPLOYEE COMPLAINTS REGARDING SITE
PREPARATION BURNING.

SCFC SHOULD CONSIDER DISCONTINUING
BURNING ON HERBICIDE-TREATED LAND UNTIL
RESEARCH ESTABLISHES THAT NO SIGNIFICANT
HEALTH RISKS ARE ASSOCIATED WITH THIS
PRACTICE.

Complaint Investigations

The Forestry Commission cannot accurately determine if complaints received by the agency are adequately investigated and does not monitor complaint follow-up from the central office in Columbia. The Commission does not maintain a centralized log of complaints received from the public. All complaints identified by the Audit Council related to smoke from prescribed burning.

An SCFC official stated that no centralized complaint log is maintained but that the district offices received and processed complaints from the public. However, the Audit Council found that none of the seven Forestry Commission district offices maintain a complaint log, although all district offices have received complaints from the public. SCFC district officials stated that each complaint was verbally or informally investigated by a district or county employee.

Other commissions and state agencies in South Carolina recognize the need for a centralized complaint log. For example, the Department of Health and Environmental Control (DHEC), the Department of Highways and Public Transportation (DHPT), and the Department of Social Services (DSS) maintain logs documenting the receipt and processing of complaints from the general public. Furthermore, the Council of State Governments (1978) recommends that "complaints should be

investigated and resolved in a manner which is satisfactory and credible to the public."

Without an adequate complaint handling system, SCFC cannot ensure adequate investigation of complaints. Additionally, systematic recording and monitoring of complaints would be useful in determining noncompliance with the SCFC Voluntary Smoke Management Guidelines (see p. 47).

RECOMMENDATIONS

SCFC SHOULD DEVELOP PROCEDURES FOR THE ASSIGNMENT, INVESTIGATION, AND RESOLUTION OF COMPLAINTS FROM THE PUBLIC.

COMPLAINTS RECEIVED BY THE SCFC DISTRICT OFFICES SHOULD BE PROCESSED AND FORWARDED TO THE COLUMBIA OFFICE TO BE INCLUDED IN A CENTRALIZED COMPLAINT LOG.

DISTRICT PRACTICES

During review of the South Carolina Forestry Commission, the Audit Council was made aware of administrative problems in one of the Commission's district offices. The following three problems could be verified, and have been referred to the Attorney General's Office for review.

Noncompliance with Surplus Property Guidelines

In May 1986, one district office improperly disposed of surplus scrap metal. The District Forester, who authorized the disposition, did not comply with §11-35-4020 of the South Carolina Code of Laws which requires all agency sales of unserviceable supplies be publicly made to the highest bidder after advertising the sale for 15 days. Also, procedures established by the Division of General

Services and the internal policies and procedures of the Forestry Commission were violated.

The District Forester stated that a local company agreed to remove the scrap metal (ten to 15 truckloads) from the premises for the appraised (\$125) value. The transaction occurred in May 1986 but the receipt for the metal was not issued until January 1987. The receipt, which does not indicate the quantity of metal removed, shows that no money was exchanged in this transaction.

Unrecorded district transactions prevent the Commission from accurately determining the revenues and expenditures of the agency. Without adequate records and timely reporting, there is no way to monitor agency purchases and sales. Further, transactions may not be cost effective or may be made in unofficial capacities. Also, unrecorded transactions could result in misuse of public funds for personal gain.

Questionable Landowner Referral

The Audit Council found an instance in which a landowner was referred to a District Forester's business associate for tree planting services. There is no evidence that the landowner was offered the option of selecting a different private consulting forester based on his choice.

The Forestry Commission has no written policies or procedures which prohibit referrals to specific consulting foresters. However, §8-13-410 of the South Carolina Code of Laws states that no public official or employee shall use his position for personal financial gain. Further, agencies should avoid practices which lend the appearance of impropriety to the public. Agency personnel should not place themselves in positions where personal business could benefit by or conflict with public position.

Improper Bidding Practices

During bid solicitation for office furnishings, two of three bids received by the district were submitted by the same individual, who was employed by two different companies. The contract was awarded by the District Forester to one of the two companies.

The South Carolina Consolidated Procurement Code is designed to "foster broad-based competition for public procurement." By allowing the same individual to submit more than one bid, the District Forester is not ensuring fair and equitable treatment of persons who deal with the state procurement system. Furthermore, when such practices occur, the public and other potential bidders cannot be certain that the state's procurement laws are adequately enforced.

RECOMMENDATIONS

DISTRICT OFFICES SHOULD FOLLOW
PROCEDURES OUTLINED BY THE DIVISION OF
GENERAL SERVICES AND THE FORESTRY
COMMISSION WHEN DISPOSING OF SURPLUS
MATERIALS.

THE FORESTRY COMMISSION SHOULD CLARIFY
WRITTEN POLICIES AND PROCEDURES FOR
REFERRAL OF LANDOWNERS TO PRIVATE
CONSULTING FORESTERS.

DISTRICT OFFICES SHOULD ADHERE TO
GUIDELINES OF THE CONSOLIDATED
PROCUREMENT CODE WHEN SOLICITING BIDS
FOR GOODS AND SERVICES.

CHAPTER IV

FORESTRY

The Forestry Commission assists South Carolinians with management and development of forest resources. This chapter reviews the Commission's efforts in encouraging replenishment of harvested timber tracts, in the development of forest industry, and in the provision of forest services to landowners.

The Reforestation Problem in South Carolina

Approximately one-third of the SCFC budget is spent to promote good forestry practices, and to provide services and assistance to forest landowners. The reforestation of harvested acreage is a major problem facing South Carolina. The "base" of softwood tracts is declining, and the demand for softwood is projected to nearly double in the next 40 years. South Carolina's incentive program for encouraging reforestation is relatively inefficient compared to similar programs in the Southeast. Features of other southeastern state programs may prove useful in addressing South Carolina's reforestation problems.

Annual Shortfall

Each year, more wooded acreage in South Carolina is harvested than is regenerated, resulting in an annual shortfall of approximately 55,000 acres. Of the state's 12.2 million wooded acres, approximately two million acres (16%) are characterized as having become idle, unproductive woodland. Most of the wooded acreage (68%) is owned by private landowners, rather than by government or by industry.

A 1983 Interim Survey by the United States Forest Service showed that private landowners regenerated fewer than one in four acres harvested, while industry regenerated four of every five acres harvested. Among the reasons for

the lack of regeneration on the part of private landowners is an economic one; it is expensive to regenerate, (see Appendix C) and the realization of profit may take 30 to 40 years.

Decline in South Carolina's Softwood

In South Carolina, as in most of the South, softwoods are more commercially important than hardwoods. South Carolina softwoods are cultivated not only for pulp, but also for production of materials such as building-quality plywood and lumber.

As of the most recent United States Forest Service survey, (1986), nearly half of the wooded acres in South Carolina are in softwood. In 1983, the United States Forest Service found that the "merchantable" volume of all yellow pine in South Carolina had decreased by 0.3%, and the net annual growth had also declined. The most significant increase (35%) in annual removals of pine timber was found on privately owned land.

Future Demand Concentrated in the South

A 1982 United States Forest Service study projected the greatest imbalances between timber demand and supply through the year 2030 to be for softwood; the demand for softwood is projected to nearly double. In addition, the study showed that much of the economic opportunity for increasing timber growth is concentrated in the South and recommended intensified management.

Although substantial investments will be required, the study finds that the benefits of intensified management not only accrue to woodland owners, but also to society generally. Increasing supply will result in lower prices to consumers of goods such as houses and furniture.

Encouraging Reforestation in South Carolina

From FY 82-83 through FY 85-86, an average of approximately 150,000 acres were reforested annually in South Carolina. Sixteen percent of these 150,000 acres were reforested under the auspices of a federal or state "cost-share" program. The cost-share programs allow private, nonindustrial landowners to offset the cost of reforestation an average of 50% through government assistance. Since FY 82-83, the two federal cost-share programs provided 80% of all cost-shared reforestation in South Carolina. The state program (Forest Renewal Program) provided cost-share on over 17,000 acres (20% of the total).

In addition to the Forest Renewal Program, the Forestry Commission provides various forms of technical assistance to woodland owners, including forest management advice and written management plans. As described elsewhere in this report, a variety of fee-based services are also provided.

The private South Carolina Forestry Association organized a Forest Productivity Task Force, which began in FY 84-85 and will end in FY 86-87. The Task Force has organized County Committees to contact landowners with cutover or unproductive lands, and to encourage reforestation. Since the Task Force's inception, over 22,600 acres have been reforested under the program. However, the Audit Council found that nearly half the acres reforested (48%) were concentrated in seven counties. Conversely, ten other counties showed fewer than 2% of the acres reforested in the program.

More Could be Done to Encourage Private Reforestation

The Audit Council's survey of 12 southern states showed that additional approaches are available to encourage private reforestation. The state's cost-share program could be "stretched" and/or refocused to reach more landowners, and implementing aspects of other states' programs could result in more acreage reforested.

South Carolina's Cost-Share Program Most Expensive

A cost-share program priority system based on application expense, or reduction or limit of state cost-share percentage or outlay per acre should be considered. A review of the FY 85-86 budgets of the six state cost-share programs in the South showed South Carolina's program to be the most expensive per acre. Table 9 shows the differences in funding per acre.

TABLE 9

SOUTHEASTERN STATES WITH STATE COST-SHARE PROGRAMS FOR REFORESTATION

FY 85-86

<u>State</u>	<u>Program Budget</u>	<u>Total Acres Reforested and/or Improved</u>	<u>Cost Per Acre for³ Reforestation</u>
Alabama	\$ 800,000	--- ²	--- ²
Mississippi ¹	2,557,400	60,167	\$ 44.00
North Carolina	1,800,000	28,000	67.50
South Carolina	425,000	5,146	85.00
Texas ¹	433,765	8,870	51.75
Virginia	1,366,258	44,167	38.00

¹Budget and acreage figures for these states based on the averages for calendar years 1985 and 1986.

²This program began in October 1985; due to start-up costs and activities, accurate figures are not yet available for cost per acre.

³These cost per acre figures are for reforestation only; costs for improvement only (timber stand improvement; also called "release acreage") are not reflected in these figures.

Source: Legislative Audit Council survey, December 1986 through March 1987.

Of these five other states with cost-share programs, four set priorities to limit eligibility and/or funding per landowner, so that more landowners are served. Variations on South Carolina's program are as follows.

1. **Reduce state cost-share or limit amount per application or acre:**

South Carolina's program shares the cost of reforestation with landowners on a 50/50 basis, but

North Carolina's share is 40% of the cost; Virginia is considering a change from funding 50% of the cost to 40%. In addition, Virginia limits the state portion of the cost-share to \$60 an acre, and Alabama limits cost-share on tree planting to \$35 an acre. Lowering the state's share would increase the number of acres reforested. Alabama limits the state cost-share per landowner per year to \$3,500.

2. **Fund least expensive applications first:**

South Carolina's program operates strictly on a first-come, first-serve basis. Other than a landowner not working in or owning a timber-related business, there are no eligibility requirements for the program. (For example, a large southeastern department store chain was allotted 60% [\$8,000] of the FY 86-87 FRP funds in one Region Two county. In FY 84-85, a low-level radioactive waste disposal corporation received 40% of the funds allotted in one Region One county.) No landowner may apply for reforestation on more than 100 acres in one application. The total cost share to the state can be as high as \$10,000; nearly half the counties receive less than \$11,000 a year for this program. In FY 85-86, 11 counties funded one landowner each, and 11 counties funded two landowners.

In Alabama, the least expensive applications (on a per acre basis) are funded first. In North Carolina, approximately 40% of the acres reforested under the state program are funded under the "Plant Only Program," i.e., if only planting without site preparation is required. Texas employs a similar priority system, in that the more money the landowner is willing to provide, the higher the application's priority. In other words, the lower the cost per acre to the program, the higher the priority of the application.

3. **Limit Program Eligibility:**

In Kentucky, the provision of forest services by the Division of Forestry (woodland management plans and other assistance) is restricted to landowners with fewer than 500 acres.

Research has shown that users of cost-share programs have higher incomes as a group than do landowners in general. Restricting land ownership to an amount such as 500 acres, or using some type of income criteria, for

participation in cost-share may provide more equity in the distribution of program funds.

Other Programs to Encourage Reforestation

Other states have effectively used different approaches to encourage reforestation.

1. Active community and committee involvement:

In FY 85-86, over 425,000 acres were reforested in **Georgia**, more than in any other southeastern state. The percentage of harvested acreage replanted in FY 85-86, 66%, was higher than the southeastern average of 58%. Georgia does not operate a state cost-share program; according to an official, "the profile of people who receive cost-share often shows them to have considerable resources."

The Georgia Forestry Commission has organized and supported very active County Reforestation Committees instead of operating state incentive programs. The Committees are comprised of "leaders in forestry at all levels," primarily procurement foresters and government foresters. The Committees operate on the local, county level, and encourage landowners to reforest.

2. Seedling reimbursement program:

In **Florida**, 29,000 acres at \$15/\$20 an acre were planted under this program, compared to **South Carolina's** cost-share program, which reforested 5,146 acres at approximately \$85 an acre in FY 85-86. Donations are solicited, in cooperation with the state forestry association, to purchase seedlings. Private landowners purchase and plant the seedlings; once the work is inspected and approved, landowners are reimbursed for the seedlings.

3. Mandatory seed-tree law:

Landowners in **Virginia** are required by law to leave seed trees after harvest, if at least 10% of the trees harvested are pine, and if the landowner has no other reforestation plans. An official with the Virginia Division of Forestry stated that the program has been successful because some type of reforestation must occur. It should be noted that the law does not apply to 79% of the wooded acres in Virginia since these acres are in hardwood.

RECOMMENDATIONS

THE FORESTRY COMMISSION SHOULD LIMIT THE STATE SHARE OF FOREST RENEWAL PROGRAM FUNDING PER ACRE TO NO MORE THAN THE SOUTHEASTERN AVERAGE. ATTEMPTS SHOULD BE MADE TO REACH ALL PRIVATE WOODLAND OWNERS IN THE STATE WITH COST-SHARE PROGRAM ALTERNATIVES.

MORE EFFORT SHOULD BE MADE BY SCFC TO ORGANIZE AND PROMOTE ACTIVE COUNTY REFORESTATION COMMITTEES.

Secondary Forest Industry

The forestry industry, estimated to be South Carolina's fourth largest, contributes over \$3 billion to the state's economy, employs approximately 36,000 workers and provided over \$762 million in wages in 1985. While South Carolina's secondary forestry industry has increased since 1977 due to new paper and allied products manufacturing plants in the state, more effort could be focused on developing the potential in this area. The Audit Council also made recommendations in this area in a Review and Assessment of the State's Economic Development Activities in April 1985.

Development of Secondary Forest Industry

South Carolina has significant secondary forestry industrial potential that is not being developed. A 1977 study by United States Forest Service showed the state ranked tenth among 48 states in volume of timber removed, but ranked only 25th in "value added" to the timber in the state by secondary or manufacturing industries. The United States Forest Service ranked South Carolina ninth among the 13 southern states in wood-based industry value added in 1982.

Secondary forest industries use raw and primary wood products to produce manufactured products such as furniture, pallets, papers, trusses and other items. Manufactured wood products produce a higher valued product than do primary industries, which harvest and process timber. South Carolina is shipping both raw and primary forest products to other states and countries. A Forestry Commission official estimates approximately 70% of the state's hardwood lumber and a smaller percentage of the state's softwood are shipped to other states. Over 38% of the hardwood pulp is shipped to neighboring states.

Despite the vastness of the state timber resources and projected increase in demand (see p. 58), forestry is not a targeted industry by the State Development Board. In addition, no marketing plan has been established for the industry. The state's major marketing efforts are given to targeted industries by the State Development Board. Currently, the Commission employs one marketing forester, but the Commission has no formalized working relationship with the State Development Board.

Other southern states are focusing on development of their timber resources. North Carolina's Division of Forest Resources is developing pilot wood industrial development programs in three of its heavily wooded counties. Its Forest Resources Division has a Market Development Section which works closely with the state's Department of Commerce and other state agencies on wood-based industrial development. Forestry is Alabama's largest industry. The Alabama Forestry Commission's Development Division works closely with the Alabama Development Office. The Alabama Forestry Commission and the Development Office have cooperatively established a Wood Products Task Force to professionally and efficiently plan for the growth and placement of the state's forestry industry. The Commission has a marketing forester from its Development section assigned to the University of Alabama International Trade

Center. In Georgia, the State Forestry Commission's marketing forester is assigned to the state's economic development agency.

Due to lack of sufficient information, the Audit Council was unable to estimate the potential impact of increased development in the industry. General information on the industry is not developed routinely by the Commission or by the Development Board. Clemson University requested \$95,000 of the \$1 million that the Budget and Control Board is asking the General Assembly approve for special economic development projects in FY 87-88. Clemson planned to develop an industry profile, identify compatible secondary wood-based industries, and develop marketing strategies for the industry. The project was not recommended for funding by the Coordinating Council for Economic Development, but Clemson has been offered staff assistance by the Development Board for the planning phase.

RECOMMENDATION

THE STATE DEVELOPMENT BOARD, THE FORESTRY COMMISSION, CLEMSON UNIVERSITY, AND THE STATE DEPARTMENT OF AGRICULTURE SHOULD STUDY THE STATE'S WOOD INDUSTRY TO DEVELOP AN INDUSTRY PROFILE, ASSESS THE POTENTIAL FOR SECONDARY FOREST INDUSTRY DEVELOPMENT IN THE STATE AND DEVELOP AND IMPLEMENT MARKETING PLANS.

The Southern Pine Beetle Program

The southern pine beetle has been described by forest experts as the most destructive insect killer of pines in the Southeast. South Carolina has experienced pine beetle infestation for decades. An estimated 24,000 acres of pine have been lost over the past two years due to the beetle.

Once an area of infestation has been identified, Forestry Commission personnel notify the landowner and offer assistance. Since there is no effective treatment to save infested trees, the goal is to limit spread of the beetle to healthy stands. The preferred method to control pine beetle infestation is the salvage removal approach. With this method infested trees are removed, and the landowner can receive financial return. Pine beetle-killed wood can be used for pulpwood, and in some instances, plywood, but it must be salvaged within months of infestation.

The Audit Council reviewed the operations and records of the Insect and Disease Control Section, and found prompt response to requests for technical assistance and efficient record-keeping. However, more could be done in the area of wood salvage.

Salvage of Beetle-Infested Wood

More could be done to encourage private industry to purchase beetle-killed wood in lieu of green wood. Salvage rates for pine beetle wood have declined in South Carolina from estimates of 50-70% during earlier epidemics to approximately 21% during the last two calendar years.

Although market forces do influence the amount of wood salvaged, the State of Georgia experienced a 47% salvage rate in 1986. Two states, Alabama and Louisiana, have been successful in establishing salvage rates of greater than 50% for pine beetle-killed wood.

For five years, Alabama has administered an incentive program to encourage salvage of beetle-killed wood by private industry. Federal pine beetle grant funds are used to pay dealers \$10 a cord, up to 35 cords per infested area, for beetle affected wood which is identified and marked by Alabama's Forestry Commission personnel. Also, one Alabama official noted that this program has the added utility of introducing industry to forested areas not otherwise served.

Alabama's salvage rate was estimated at 70% for 1985, and 50% for 1986 due to a tight lumber market.

Louisiana's salvage rate for beetle-killed wood was 76% in 1985 and 71% in 1986. The Louisiana Forestry Commission sought industry's cooperation in encouraging the harvest and purchase of beetle-killed wood. Although the same amount of fiber is present in a load of beetle-killed wood and a load of green wood, salvage wood will weigh less due to loss of moisture. The Louisiana Forestry Commission asked dealers to pay contractors by volume. Industry encouraged the harvest of beetle-killed wood by asking that contractors cut a percentage of salvage wood to green wood. The Louisiana Forestry Commission used its timber sales from state forests to encourage salvage of beetle-killed wood, by granting extensions of time to buyers who were cutting salvage wood in other areas.

Forestry officials note that landowners often ignore beetle infestation where the market for salvage is poor. Beetle spots left alone continue to grow and infestation spreads to healthy trees. Sale of beetle-killed wood instead of healthy stock permits the unaffected timber to continue to grow, while allowing landowners to profit from wood which will otherwise lose its value in months.

RECOMMENDATION

THE SOUTH CAROLINA FORESTRY COMMISSION
SHOULD WORK WITH INDUSTRY TO DEVELOP
STRATEGIES TO ENCOURAGE USE OF
BEETLE-KILLED WOOD.

FOREST SERVICES

The forest services program allows the Commission to provide landowners forestry services to assist in

reforestation, and to maximize production from their woodland. The Commission charges inadequate fees for services such as prescribed burning and firebreak plowing.

Fees for Firebreak Plowing Need Review

The state is heavily subsidizing the cost of firebreak plowing provided landowners by the Forestry Commission. Less than 42% of the actual cost (\$30 of \$73) of firebreak plowing is paid by the landowner. The remaining costs are made up through state appropriated funds, although in its Annual Report (FY 84-85), the Commission stated that landowners are charged the cost of the services.

There are two primary problems with the Commission's method of deriving these fees. First, all costs are not included in the Commission's computation of operating costs of the equipment used in providing these services (see p. 41). For example, on crawler tractors, approximately 25% of actual depreciation is used when computing operating cost. Second, outdated information from one fiscal year is used in the computation. The Commission has used operating cost data from FY 82-83 for the last three years, although cost variables have fluctuated. For example, the FY 82-83 operating cost for crawler tractors is \$1.60 less per hour than the average operating cost per hour for the last three fiscal years.

Although a recent (1981) state law allows the Forestry Commission to subsidize forest services, the agency should reflect the costs of providing the service and recover as much of the cost as would be reasonable. Generally accepted accounting principles (GAAP) emphasize the importance of accurate cost information to determine the full cost of governmental services, including depreciation. Other services provided by the Commission are not subsidized at this level.

In FY 85-86, the state did not recover approximately \$60,000 of the cost of firebreak plowing for landowners.

Further, because the same equipment is used for fire control and firebreak plowing, the useful life of the equipment for fire fighting is reduced. Agency records for FY 85-86 indicate that approximately 12% of all crawler tractor hours are spent plowing firebreaks. Under the Forestry Commission's 15-year, or 750 hours of use replacement schedule, firebreak plowing could reduce the useful life of the tractor as fire fighting equipment by 2.1 years. As a result, the agency must purchase 1.6 additional tractors (at a cost of approximately \$60,000) each year to meet the current replacement criteria. However, problems also exist with the replacement schedule (see p. 38).

According to Forestry Commission officials, the total cost is not charged because the agency believes that higher costs would reduce the number of breaks that landowners request.

RECOMMENDATIONS

THE COMMISSION SHOULD REVIEW ITS FOREST SERVICE FEES.

THE COMMISSION SHOULD CONSIDER INCLUDING ALL COSTS IN DEVELOPING SERVICE CHARGES.

THE COMMISSION SHOULD USE AVERAGE ANNUAL COSTS OF THE LAST THREE YEARS IN COMPUTING EQUIPMENT OPERATING COST.

Inequities in Forest Services Fees

The Commission's flat fee structure for firebreak plowing and prescribed burning is inequitable on a regional basis. It costs more to provide these services in Region II (Piedmont) than in Region I (Coastal Plains) and yet, fees are the same.

For prescribed burning services, landowners in Region II are paying 40% to 45% less than cost, while

Region I landowners are paying 17% more than cost for prescribed burning and 17% less than cost for standby prescribed burning. Region I landowners are paying the actual cost for firebreak construction, while Region II landowners are paying 25% less than actual cost (see Table 10).

TABLE 10
COMPARISON OF COSTS¹ AND FEES FOR FOREST SERVICES
FY 85-86

<u>Service</u>	<u>Fee</u>	<u>Region I Cost</u>	<u>Region II Cost</u>
Prescribed Burning	\$ 3.00/acre	\$ 2.50/acre	\$ 5.00/acre
Standby Prescribed Burning	10.00/hour	12.00/hour	18.00/hour
Firebreak Construction	30.00/hour	30.00/hour	40.00/hour

¹Cost figures have been rounded.

Source: Legislative Audit Council based on information from the South Carolina Forestry Commission.

In addition, prescribed burning fees are not adequately adjusted to account for "economies of scale." Generally, the larger the acreage, the lower the cost per acre for prescribed burning. Therefore, landowners with larger woodland tracts are paying fees in excess of the actual cost due to the flat rate charged by the Commission.

Section 48-23-295 of the South Carolina Code of Laws states:

For such services...a reasonable fee, representing the Commission's estimate of not less than the cost of such services shall be charged. When the State Forester deems it in the public interest such services may be provided without charge to encourage the use of approved scientific forestry practices on private or other forestlands in the State....

While the Commission is authorized to set fees at lower than cost, its fees are required to be reasonable and therefore should be equitable. Fees should reflect significant variances in costs between regions, and variances in costs due to economies of scale. North Carolina uses a regional fee structure and several other southeastern states use variable fees for prescribed burning based on acreage.

RECOMMENDATIONS

THE FORESTRY COMMISSION SHOULD DEVELOP
AND IMPLEMENT A REGIONAL FEE STRUCTURE
FOR FOREST SERVICES.

THE COMMISSION SHOULD CONSIDER
IMPLEMENTING SCALED FEES FOR PRESCRIBED
BURNING SERVICES.

Tree Seedling Costs

The Audit Council cannot determine the cost of tree seedlings produced by the Forestry Commission. Further, the Audit Council could not verify how cost figures were derived for or allocated to the five major species of tree seedlings. As a result, the Commission could be charging more for seedlings than allowed by law or may not be recovering all of the costs to produce them.

Section 48-23-100 of the South Carolina Code of Laws states that the Commission shall sell tree seedlings at a cost not to exceed the average cost to produce these seedlings. Also, state law does not authorize the Commission to subsidize the costs of producing seedlings.

According to agency records, the Commission produced approximately 70 million seedlings in FY 85-86 at a total cost of approximately \$1.5 million. Approximately 90% of the seedlings produced were loblolly pine seedlings. Although a Commission official stated that other species of seedlings cost more to produce than the loblolly pine

seedling, the Commission does not keep cost data to document this fact. Other states, North Carolina and Mississippi, maintain cost records which identify how much it costs to produce each species. Since agency cost records are not maintained by seedling species, the Commission cannot accurately reflect the actual cost to produce each type seedling.

If costs are not allocated accurately to each species, agency revenue could be affected. For example, if loblolly pine seedling costs were underestimated by one dollar per thousand seedlings, the Commission could lose as much as \$65,000 in revenue. If costs were overestimated by the same amount, the agency would receive approximately \$65,000 more than allowed by law if all seedlings were sold.

According to a publication of southern state nurseries, ten of 11 nurseries charge a higher price for loblolly pine seedlings than South Carolina. The average price charged by these 11 states for loblolly seedlings is \$5 per thousand (24%) more than South Carolina. If this average price were closer to the Commission's cost to produce loblolly seedlings, an additional \$300,000 might be generated from seedling sales.

RECOMMENDATIONS

THE SOUTH CAROLINA FORESTRY COMMISSION
SHOULD DEVELOP PRODUCTION COST
GUIDELINES FOR DETERMINING THE COST TO
PRODUCE EACH SPECIES OF TREE SEEDLING.

AN IN-DEPTH COST ANALYSIS BY SPECIES
SHOULD BE PERFORMED EACH YEAR WITH
DOCUMENTATION TO SUPPORT ALL FIGURES.
THESE FIGURES FOR THE PAST THREE YEARS
SHOULD THEN BE AVERAGED TO DETERMINE THE
COST TO PRODUCE EACH SPECIES.

APPENDICES

APPENDIX A

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APPENDIX B

South Carolina Forestry Commission Employee Survey

The Audit Council surveyed SCFC employees in the spring of 1986 to gauge job satisfaction and to identify noteworthy areas and/or problems in the agency's operations. Of the 588 employees surveyed, 396 (67%) returned surveys to the Audit Council. Of 343 respondents who identified the location of their work, 171 (50%) worked in one of the four Region 1 (Piedmont) districts and 114 (33%) worked in one of the three Region 2 (Coastal) districts; 45 (13%) worked in the State Office.

The survey instrument and responses to each question appear on page 78 of this report. The following paragraphs highlight survey results.

Job Satisfaction

Most respondents (95%) "like and enjoy" their work at SCFC, 79% feel connected with a successful office which renders good service, and 81% believe that they work with well-qualified associates.

Public Health and Safety

Two questions surveyed employees regarding the quality of management response they would expect to incidents involving public safety. Ninety-one percent of survey respondents would not be afraid to report incidents involving public health and safety to management and 76% of respondents are confident of fair and appropriate action in response to such reports.

Evaluation, Merit and Promotion

Both the multiple-choice questions regarding promotion and merit on the survey and some responses to open-ended

questions indicate that the agency needs to review evaluation and promotion practices. See page 21 of this report for a discussion of these problems.

Over 50% of the survey respondents were not satisfied with their chances to be promoted to a better position in the future. Nearly 60% of the survey respondents did not agree that the promotion practices of the department emphasized merit.

"Standby Employees"

Approximately 20 Forestry Commission employees responding to the Audit Council survey indicated dissatisfaction with the Forestry Commission's policy for employees who must "standby" to respond to fire calls. Approximately 65% of SCFC employees are on-call for fire duty. The Commission compensates only those employees who are called to report for duty.

The Commission's fire readiness plan determines the response time required for fire control personnel to report to work. In severe fire conditions, the plan requires immediate response time. Forestry personnel subject to this plan must adjust their off-work activities to accommodate the plan's response time.

The federal Fair Labor Standards Act (FLSA) governs calculations of compensation for overtime work. According to an official of the Wage and Hour Division of the United States Department of Labor, the time a person has to wait to respond to a call to report to work at another location is not considered "hours worked" under FLSA regulations, and therefore, compensation for that time is not required.

Alabama, Georgia, Louisiana, and North Carolina forestry agencies do not compensate employees unless they are called to work. Florida pays on-call employees \$1 an hour, and 25% of the minimum of the pay grade or \$1 for weekends. Kentucky pays employees hired during the fire

season who are called to work on an as-needed basis even if they are not called out to a fire.

State agencies in South Carolina must receive special approval from the Budget and Control Board to pay compensation for on-call workers. The Department of Corrections is currently studying compensation for on-call personnel. Employees at the Department of Mental Health are scheduled for on-call status in advance and receive \$1 an hour (mental health professionals are reimbursed at a different rate). The Department of Mental Retardation and the Department of Youth Services do not compensate on-call workers.

APPENDIX B (CONTINUED)

STATE COMMISSION OF FORESTRY

EMPLOYEE SURVEY RESULTS

(n = 396)¹

Please respond to each statement by showing how much you personally agree or disagree with it, using the following codes and circling only one for each statement:

% in each Category					
1	2	3	4	N/R	
					1 - Definitely Agree
					2 - Inclined to Agree
					3 - Inclined to Disagree
					4 - Definitely Disagree
76	19	3	2	1	1. I like and enjoy my work here.
44	29	15	11	0	2. My supervisor does all he/she should to ensure getting good work (e.g., checks on assigned work, reviews performance, measures accomplishments against established goals, etc.)
43	29	17	10	1	3. My supervisor gives proper credit for those suggestions and ideas submitted to him/her.
15	17	26	41	2	4. I cannot tell if my work is satisfactory to my supervisor.
25	21	18	35	1	5. I am satisfied with my chances to be promoted to a better position in the future.
25	26	19	28	2	6. The work in this office provides me with opportunity to grow professionally.
40	24	19	15	2	7. The policies and organizational structure of this office have been clearly set forth and explained.
48	31	12	6	2	8. I feel connected with a successful office which renders good services.
35	31	19	14	1	9. There has been sufficient effort devoted to reviewing and evaluating my performance in terms of specific objectives established for my job.
44	36	13	5	1	10. My job involves working with well-qualified associates.
19	21	25	32	3	11. The promotion practices of the Commission emphasize merit.
33	27	22	15	2	12. There is a need for improvement in the teamwork of staff in this office.
41	39	11	7	2	13. Unexpected situations and emergencies are (or would be) handled in an effective manner in this office.
77	15	4	4	1	14. I am not (or would not be) afraid to report incidents involving public health and safety to management.
48	28	13	9	1	15. I am confident that when incidents involving public health and safety are reported, fair and appropriate action will be taken to resolve the matter.
36	36	18	8	2	16. Investigations of the above matters are (or would be) handled consistently.
					17. The following hurt the efficiency and effective operations of the Department:
27	22	24	20	6	A. Lack of coordination and communication with other units, supervisors, and districts.
13	19	34	28	7	B. Lack of skills and training.
29	25	18	21	7	C. Lack of sufficient staff.
35	24	18	18	5	D. Lack of adequate facilities and equipment.
21	3	2	4	69	E. Other _____
31	40	19	8	2	18. The work in my department has been structured into an effective and efficient pattern.
35	32	17	13	3	19. I think higher management backs up the decisions of my supervisor.

¹Of 588 surveys sent out by the Audit Council, 396 South Carolina Forestry Commission employees responded.

(Use back of page if more room is needed for your response.)

(These questions were "open-ended"; surveyed employees elected to respond as they wished.)

20. What factors help you to get your job done as you think it should be done? Is there anything you have been able to do that you consider outstanding or innovative?

21. What problems or obstacles keep you from doing your job as effectively as you would like?

22. Which aspects of your job would you like to see changed? Do you have any suggestions to improve the efficiency and/or effectiveness of your work unit, or of the Commission?

Yes - 0%
No - 100%

23. Has anyone from your agency tried to influence your response to this survey? (Please circle:) yes no

The answers to the following questions are optional.

(Check if applicable)

24. _____ I work in the:
- | | | |
|--|----------------------|-----|
| (a) Columbia State Office: | Administration | 5% |
| | Field Operations | 5% |
| | Engineering Division | 2% |
| | Special Projects | 0% |
| _____ (b) Coastal region:
(check district) | Florence | 11% |
| | Kingstree | 7% |
| | Orangeburg | 12% |
| | Walterboro | 13% |
| _____ (c) Piedmont Region:
(check district) | Camden | 7% |
| | Newberry | 8% |
| | Spartanburg | 13% |
| | Sand Hills/Cassatt | 2% |
| | Manchester | 2% |

25. My position title or job type is _____

26. My name is (optional) _____

APPENDIX C
REGENERATION OF HARVESTED ACREAGE

The most common ways to regenerate forested acreage after a harvest are: (1) natural regeneration, (2) seeding, and (3) planting seedlings. In all three cases, "site preparation" is generally required. Site preparation may involve prescribed burning, at \$2 to \$6 per acre and/or herbicide treatment, at \$90 to \$160 per acre. The land may require mechanical clearing, the price of which is partially dependent upon the type of machinery used.

Natural regeneration involves leaving suitable seed trees after the timber harvest, which over time will seed and regenerate a new stand. For natural regeneration to occur, the seedbed must be adequately prepared, and other environmental factors must also be favorable. This is an involved method of regeneration for softwoods, but is depended on extensively for hardwood regeneration in states such as Kentucky, which are forested primarily in hardwood. In states such as South Carolina, brush and undesirable hardwood species are likely to "take over" before softwood seed trees have an opportunity to regenerate.

Survival rates are highest, according to the United States Forest Service, where adequate site preparation has preceded planting, or direct seeding. Direct seeding may be successful 60% of the time; six of ten tracts will usually regenerate after seeding. Each acre may cost \$15 to \$55 in seeds; the cost per acre of seed distribution by helicopter will vary by the amount of acreage involved. Relatively little regeneration in South Carolina is accomplished by direct seeding.

Direct seeding is not recommended by the SCFC due to the many uncertainties involved, compared to planting seedlings. Regeneration by planting seedlings offers close to a 75% rate of success. Depending on the type of

seedlings planted and method of planting, it may cost from \$30 to \$100 an acre.

South Carolina Forestry Commission



LEONARD A. KILIAN, JR. STATE FORESTER

P.O. BOX 21707 COLUMBIA, S.C. 29221 (803) 737-8800

June 3, 1987

Mr. George L. Schroeder, Director
Legislative Audit Council
620 NCNB Tower
Columbia, SC 29201

Dear Mr. Schroeder:

You and your personnel conducted a wide ranging review of the activities of the Forestry Commission in what we believe to be an unbiased and objective manner. All Audit Council personnel were courteous and professional in their approach to our agency and employees.

We agree with many of the report's recommendations. However, there are some which we feel are value judgments concerning the best way to solve natural resource problems and others that we disagree with the rationale to reach a conclusion with which we also disagree. In a few recommendations, we disagree with the rationale and agree with the conclusion.

Overall the report has value in that the issues raised should be examined and solutions either reaffirmed or new ones initiated to improve the protection and development of South Carolina's Forest Resources.

We will address the recommendations in the same order as the report.

RECOMMENDATION - THE FORESTRY COMMISSION SHOULD WORK WITH THE STATE AUDITORS OFFICE TO IMPLEMENT A PROGRAM BUDGETING SYSTEM.

PROGRESS OF IMPLEMENTATION OF THIS SYSTEM SHOULD BE REPORTED TO THE GENERAL ASSEMBLY WITHIN ONE YEAR.

THE SOUTH CAROLINA FORESTRY COMMISSION SHOULD ALLOCATE ALL STATE FUNDS IN ITS INTERNAL BUDGET BY PROGRAM.

We concur in the implied objective of accountability of state funds. The General Assembly appropriates funds to the SCFC in broad program areas such as; Administration, State Forests and Forest Landowner Assistance. Forest Landowner Assistance includes all functional activities that provide information and services to the public such as; forest fire protection, forest management, insect and disease protection and nurseries. Our agency's current approach of integration of effort to become more effective, efficient, and thereby more accountable, exhibits, we believe, a more desirable result with each dollar appropriated.

The majority of these services are offered and performed out of 14 field offices. Forestry activities are mostly seasonal as dictated by

nature including the annual weather changes reflecting our climate. Our personnel all work periodically in most of these landowner assistance functions. During forest fire season, they may spend a great deal of time in fire suppression, while at other times they are involved in forest management, insect and disease or nursery activities.

The constant crossing of functional lines is also true of personnel who have primary responsibility in forest fire protection. Many of our Rangers are now qualified Forest Technicians and perform forest management tasks. Fire personnel have been active in many construction and nursery activities.

Effort has been made to eliminate the feeling among our personnel that they belong to one specific functional activity. This approach has reduced inefficiencies caused by the "fire station standby" attitude and the number of man-days spent waiting for a fire to occur. Such time is now used to provide forest management, insect and disease, and other landowner assistance service.

This integrated approach is commended in another section of the audit under the heading, Ranger Technician Program. The same concept applies throughout the new agency approach to budgeting approved by the B & C Bd. planning staff in 1979 and that same year by the Legislature approving the revised budget in the Appropriations Act. This has helped reduce the polarization of the organization, and has helped unify the agency. Budgeting in the broad program category of Forest Landowner Assistance rather than specific individual functional activities has helped us achieve this.

In regards to the internal agency allocation comment the following considerations were made necessary by a situation involving all state agencies and the overall state budget.

After examining the SCFC budget in July of 1986, it was thought to be very probable that the B & C Bd. would make a mid-year budget cut of considerable magnitude. The Forestry Commissioners were so informed during a meeting July 16. They agreed that it would be prudent to institute a selective hiring freeze and not allocate some funds that were either newly appropriated or for purchases that could be deferred. Subsequent events give an excellent perspective of the relative wisdom of those management decisions.

When the first of the two mid-year budget cuts was directed, the accumulated salary savings were sufficient to cover the reduction. When the second mid-year budget cut was assessed, supply fund savings resulting from favorable forest fire weather conditions were used to meet the reduction.

Since the total of both cuts did not require the elimination of the new insect and disease funds, the positions were then filled and expenditures were made. The majority of the program was put into operation as envisioned by the request.

In our opinion, these actions were within our prerogatives as an agency. Lack of such action would have resulted in considerable agency confusion and personal hardship to employees that would have been RIF'ed.

RECOMMENDATION - THE SCFC SHOULD ACCOUNT FOR FEDERAL GRANT PROGRAMS SEPARATELY. GRANT PROGRAMS SHOULD BE BUDGETED SEPARATELY TO IDENTIFY EACH GRANT AND ITS RESPECTIVE CASH ON HAND, REVENUE, AND EXPENDITURES.

Over the years the SCFC records have met standards required by the federal government in its grant requirements. These requirements have been satisfied by accomplishing work objectives and goals, approved in advance, by the U.S. Forest Service. These goals and objectives are very specific and care is taken by the SCFC to see that they are accomplished.

RECOMMENDATION - THE JOINT APPROPRIATIONS REVIEW COMMITTEE (JARC) SHOULD REVIEW FORESTRY COMMISSION GRANTS AND DETERMINE IF FEDERAL REIMBURSEMENTS SHOULD BE RETURNED TO THE GENERAL FUND.

IF JARC DETERMINES THAT REIMBURSEMENTS CAN BE RETAINED AND EXPENDED BY THE COMMISSION, MANAGEMENT SHOULD ENSURE THAT THESE REIMBURSEMENTS ARE EXPENDED IN THE PROGRAM FOR WHICH THEY WERE RECEIVED.

Each year the SCFC submits to the B & C Board a Budget Request. The Expense Section is a proposal for expenditure of funds requested by SCFC, and in the revenue section under Federal Grants is a listing of proposed or expected funds to be received that are included in the expenditure section. We also submit FPR Forms to JARC for each grant listed in the Revenue Section. The information contained in the Budget Request and FPR Forms is then presented to the Legislature for approval in the Appropriation. Therefore, SCFC not only has the approval of JARC, but also the Legislature for expenditure of these funds as authorized in the Appropriation. The SCFC follows the approved procedures to request changes to the appropriation authorization when Federal grants are received after the submission of the Budget Request.

RECOMMENDATION - THE GENERAL ASSEMBLY SHOULD CONSIDER AMENDING 48-23-295 OF THE SOUTH CAROLINA CODE OF LAWS TO REQUIRE FEES EARNED FROM PROVIDING FORESTRY SERVICES ON FEDERAL LANDS BE DEPOSITED IN THE GENERAL FUND.

This 1983 law allows the SCFC to provide forest fire detection, suppression and suppression services on federal lands. Receipts are used by the SCFC to offset costs of providing these services. We believe this law and the procedure it authorizes is the best solution to the problems of unpredictable state and federal forest fire cooperation.

RECOMMENDATION - THE SCFC SHOULD MAKE A GREATER EFFORT TO PLACE MINORITIES AND WOMEN IN EXECUTIVE, PROFESSIONAL AND TECHNICAL POSITIONS.

We concur and fully realize that the lack of availability of black foresters is a long standing problem throughout the forestry profession. Recruitment of blacks and females will continue to be a priority.

RECOMMENDATION - THE SCFC SHOULD REQUEST THE DIVISION OF HUMAN RESOURCE MANAGEMENT CONDUCT A STUDY TO IDENTIFY POSITIONS NONFORESTERS COULD HOLD, AND SHOULD RECRUIT MINORITY AND WOMEN APPLICANTS.

We will seek the assistance of HRM and this recommendation will be considered when it becomes necessary to replace current employees. The specific positions mentioned represent four out of eighty-five forester positions. In each case, these positions have been classified by HRM and the incumbents meet or exceed the requirements for the positions.

RECOMMENDATION - THE FORESTRY COMMISSION SHOULD ADOPT A POLICY THAT REQUIRES INTERNAL ANNOUNCEMENTS OF JOB OPPORTUNITIES FOR FORESTERS.

All foresters working for the SCFC are considered for promotion to positions for which qualified when a promotional opportunity occurs. Although the posting of internal promotional opportunities is not required, a new promotion policy and procedure will be developed that includes an announcement and application process.

RECOMMENDATION - THE FORESTRY COMMISSION SHOULD ENSURE THAT EVERY EMPLOYEE RECEIVES A PERFORMANCE APPRAISAL EVERY YEAR AT OR NEAR THE EMPLOYEE'S ANNUAL REVIEW DATE.

We concur. The SCFC does have an employee evaluation procedure that has been in place since its approval by HRM in 1982. More than 450 employees received a formal evaluation under the EPMS procedure in 1986, and approximately 28% did not receive a formal review. The failure on the part of some supervisors to comply with the SCFC's EPMS procedure is actually a symptom of a much larger problem throughout State Government. That is, the failure to adequately fund a merit increase program or any other type of performance pay incentive system. According to HRM, our problem is not unusual and many agencies are experiencing a similar or greater problem. Our Personnel Section will intensify its monitoring of EPMS appraisals and advise supervisors of all overdue reviews.

RECOMMENDATION - THE FORESTRY COMMISSION SHOULD SUBMIT POLICIES RELATING TO EMPLOYEE ACTIVITIES OUTSIDE OF WORK TO THE DIVISION OF HUMAN RESOURCE MANAGEMENT FOR REVIEW.

The policy on outside employment and activities is based on job related availability to respond to emergency forest fire control needs. Outside employment and activity is permitted if there is no job related conflict. As an emergency response organization, potential conflicts must be resolved before an emergency situation occurs. While we must accomplish the mission of the SCFC, we do not wish to improperly impose upon the individual rights of employees who have chosen to work for the SCFC. In this regard, we will request the HMR to review the Outside Activities and Employment policy and provide recommendations. We will request that the review also include political activities. We will implement the changes that may be necessary to fully comply with applicable regulations or laws and at the same time permit SCFC to carry out its required mission.

RECOMMENDATION - THE SCFC SHOULD CHARGE EMPLOYEES USING THE CABIN AT PIEDMONT NURSERY AS REQUIRED BY STATE LAW OR DISCONTINUE THE PRACTICE OF PROVIDING THE FACILITY FOR RECREATIONAL USE BY SCFC EMPLOYEES.

SCFC will discontinue non-business related use of this facility.

RECOMMENDATION - THE SCFC SHOULD CONSIDER REALLOCATION, OR REDUCTION BY ATTRITION IN OVERSTAFFED DISTRICTS, OF FIRE CONTROL PERSONNEL TO EQUALIZE WORKLOADS AND CREATE STAFFING PATTERNS WHICH MORE CLOSELY REFLECT HISTORICAL FIRE OCCURRENCE.

THE SCFC SHOULD CONTINUALLY EVALUATE PERSONNEL ALLOCATIONS BASED ON FIRE INCIDENCE, FIRE SEVERITY, AND FIRE WARDEN WORKLOADS.

An economic analysis to provide insight as to resource utilization for each SCFC district has been completed. A statewide composite will be prepared from these reports which will provide guidance for prudent resource allocation.

RECOMMENDATION - THE GENERAL ASSEMBLY SHOULD CONSIDER AMENDING 48-33-60 TO DELETE THE REQUIREMENT FOR COUNTY BOARD APPROVAL OF FIRE PROTECTION PLANS AND COUNTY BOARD APPROVAL OVER PERSONNEL MATTERS.

The SCFC feels that Forestry Boards, acting in an advisory role, can be of significant benefit in regard to the productivity of their counties' woodland.

RECOMMENDATION - THE GENERAL ASSEMBLY SHOULD CONSIDER ENACTING LEGISLATION PROVIDING FOR A FOREST LAND ASSESSMENT ON PRIVATE LANDOWNERS TO COVER, IN PART, THE COST OF FOREST FIRE PROTECTION.

Due to the recent economic and financial stress in rural SC, the SCFC does not feel that taxes of farmers and other forest landowners should be increased at this time. It should also be noted that the entire populace of our state benefits from forest provided jobs, recreation, watershed protection, wildlife habitat and scenic vistas.

RECOMMENDATION - THE SCFC SHOULD CAPTURE ALL COSTS ASSOCIATED WITH MOTORIZED EQUIPMENT OPERATIONS.

THE SCFC SHOULD DEVELOP AN EQUIPMENT REPLACEMENT SCHEDULE BASED UPON THE ACTUAL COSTS OF OPERATING MOTORIZED EQUIPMENT.

The primary purpose of the SCFC equipment fleet is to maintain adequate fire protection for the forests of South Carolina. The use of this tactical equipment resource varies greatly from year to year, but must be maintained in a high state of readiness. Forest fire control equipment compares closely with one's local municipal fire department, and its operation cannot be completely justified on the times activated, but must be related to the resource it protects. In this case, it is the forest resource that contributes nearly \$3 billion annually to the economy.

We concur with the recommendation of developing an economically sound equipment replacement schedule, but also advocate assessing its appropriateness regularly. One must also be aware of budgeting and appropriations limitations and how they could affect emergency response capabilities. During the past seven (7) years appropriated funds have allowed for the purchase of only 13 crawler tractors and 16 transport trucks, an average of approximately 2/year rather than the 14/year as programmed in our replacement schedule.

Reassessing our equipment replacement schedules by incorporating all the variables of forest fire control will be a part of our continuing effort to protect the state's forest resource as efficiently and economically as possible.

RECOMMENDATION - THE FORESTRY COMMISSION SHOULD REVIEW THE SIZE OF THE MOTORIZED EQUIPMENT FLEET AND MAKE ADJUSTMENTS TO ENSURE THAT VEHICLES ARE NOT DISPOSED OF PRIOR TO THE END OF THEIR USEFUL WORK LIFE.

The Economic Fire Analysis, recently completed in all districts, and the currently planned State Analysis will provide the SCFC with new statistics relating to forest fire equipment and personnel needs.

As these Analysis factors are reviewed and considered with other basic changes such as population density and suburban development, the SCFC will be able to respond with adjustments dealing with personnel and equipment locations.

A factor that may be the most important, relates to the safety that must be provided for the equipment operator. This equipment is primarily utilized to fight wildfires, and must therefore be highly reliable considering the nature of fire. Fire is unpredictable, and it can endanger individuals as well as woodlands. Loss of life due to wildfire is an ever present factor, and the SCFC is very proud of the fact that since its establishment not a single firefighter's life has been lost due to wildfire. This record is due in part to the quality of the equipment that renders this essential service to the woodland owners of S. C.

RECOMMENDATION - THE SCFC SHOULD CONDUCT A DETAILED TWO-YEAR, COST-EFFICIENCY STUDY OF THE AIRCRAFT PROGRAM, AND REPORT RESULTS TO THE GENERAL ASSEMBLY.

The SCFC will conduct a cost-efficiency study as recommended by the Audit Council. Current Commission studies amortizing the cost of major repairs, aircraft engines and radio purchases over their useful life and apportioning pilot/technician hours as to actual time spent by program indicate costs of operation from \$46 to \$55/hour. Contract aircraft cost an average of \$59/hour. However, in the contract aircraft, an SCFC observer valued at \$16/hr. is necessary to safely conduct tactical air to ground coordination. This brings the total contract figure up to \$75/hour. The SCFC feels that this \$20-31/hr. advantage for SCFC aircraft represents a distinct savings to the State. Aside from this direct savings the Commission can maintain immediate emergency response, improve communications by providing permanent radios in its planes, and utilize its own pilots who are trained in fire fighting and at the same time release higher salaried personnel for other technical fire control duties.

RECOMMENDATION - SCFC MANAGEMENT SHOULD ENSURE COMPLIANCE WITH THE AIR OPERATIONS MANUAL.

We concur. Supervisory personnel will emphasize the compliance of the Air Operations Policies and Procedures. Minimum monthly aircraft flight hours will be closely observed, and pilots have been cautioned to avoid exceeding maximum flight hours during periods of high fire occurrence. Periodic flights for insect and disease detection and control are closely related to fire control activities through the location of killed timber that produces potential wildfire hot-spots. Supervisory emphasis to ensure Policy and Procedure compliance will be increased.

RECOMMENDATIONS - SCFC SHOULD FOLLOW THE ADMINISTRATIVE PROCEDURES ACT TO PROMULGATE REGULATIONS CONCERNING SMOKE MANAGEMENT AND BURNING AUTHORIZATION.

WHEN REGULATIONS ARE PROMULGATED REGARDING SMOKE MANAGEMENT, THE GENERAL ASSEMBLY SHOULD CONSIDER LEGISLATION IMPOSING CRIMINAL PENALTIES FOR VIOLATION OF SMOKE MANAGEMENT REGULATIONS.

SCFC SHOULD ADOPT A PERMIT SYSTEM TO OBTAIN AUTHORIZATION FOR CONDUCTING OPEN BURNING. AUTHORIZATION SHOULD BE BASED ON ENVIRONMENTAL DATA, POTENTIAL FIRE DANGER, PROXIMITY TO SMOKE SENSITIVE AREAS, AND TONNAGE TO BE BURNED.

SCFC SHOULD INVESTIGATE SMOKE MANAGEMENT VIOLATIONS AND SMOKE HAZARD INCIDENTS. THESE REQUIREMENTS SHOULD BE INCLUDED IN THE SCFC POLICIES AND PROCEDURES MANUAL.

It is felt that, at the present time, voluntary guidelines are more attuned to the citizenry of South Carolina than are mandatory guidelines administered under a permitting system. All smoke hazard incidents are investigated but current Policy and Procedures do not address the subject. This will be done.

RECOMMENDATION - SCFC SHOULD ISSUE AIR FILTERING EQUIPMENT TO FIELD EMPLOYEES AS STANDARD EQUIPMENT.

Air filtering equipment is currently being field evaluated. This is a complex issue. Some experts maintain that such equipment can cause more harm than good by allowing and encouraging personnel to stay in areas where concentrated carbon monoxide may exist, thus giving fire fighters a false sense of security. Action will be taken when evaluation is complete.

RECOMMENDATION - SCFC SHOULD REVIEW AND RESPOND TO EMPLOYEE COMPLAINTS REGARDING SITE PREPARATION BURNING.

SCFC SHOULD CONSIDER DISCONTINUING BURNING ON HERBICIDE-TREATED LAND UNTIL RESEARCH ESTABLISHES THAT NO SIGNIFICANT HEALTH RISKS ARE ASSOCIATED WITH THIS PRACTICE.

The SCFC has been very concerned with complaints regarding employee physical symptoms following involvement with prescribed burning of areas treated with herbicides. We have communicated with US Forest Service, DHEC, Clemson, and indirectly with Auburn Herbicide Coop. Other southern states that offer burning service have been consulted and we did not find any that prohibit burning of herbicide treated areas. The employees have been informed of these findings.

The above sources indicate that there is no concrete evidence pointing to specific herbicides as the causal agent. Burns following herbicides are done in the growing season, and many toxic plants such as poison oak, ivy and sumac get into the smoke. This could expose a person to toxic plants more than the typical wildfire.

The SCFC will continue to pursue results from research sources that provide new data and will react accordingly. In the meantime supervisors will be instructed to avoid exposing those employees that have had reactions following these burns.

RECOMMENDATION - SCFC SHOULD DEVELOP PROCEDURES FOR THE ASSIGNMENT, INVESTIGATION, AND RESOLUTION OF COMPLAINTS FROM THE PUBLIC.

COMPLAINTS RECEIVED BY THE SCFC DISTRICT OFFICES SHOULD BE PROCESSED AND FORWARDED TO THE COLUMBIA OFFICE TO BE INCLUDED IN A CENTRALIZED COMPLAINT LOG.

We concur with the recommendation and will develop a systematic means by which complaints may be processed, recorded & answered. Complaints directed to the SCFC by the public are generally minimal and in the past have been effectively handled through the various field offices.

RECOMMENDATION - DISTRICT OFFICES SHOULD FOLLOW PROCEDURES OUTLINED BY THE DIVISION OF GENERAL SERVICES AND THE FORESTRY COMMISSION WHEN DISPOSING OF SURPLUS MATERIALS.

We concur and have conducted a complete examination of the events and actions taken in the disposal of scrap material at our district location. Personnel involved have been reprimanded in writing and reminded of the correct procedures to be followed and the necessity to document in writing the circumstances of disposals. All supervisors have been reminded of the correct procedures to be followed.

RECOMMENDATION - DISTRICT OFFICES SHOULD ADHERE TO THE GUIDELINES OF THE CONSOLIDATED PROCUREMENT CODE WHEN SOLICITING BIDS FOR GOODS AND SERVICES.

We concur with the recommendation and expect & require our personnel involved in purchasing to seek to obtain goods and services at the lowest possible prices using the procedures of the procurement code.

RECOMMENDATION - THE SCFC SHOULD CLARIFY WRITTEN POLICIES AND PROCEDURES FOR REFERRAL OF LANDOWNERS TO PRIVATE CONSULTING FORESTERS.

A new Policy and Procedure has been placed in each field office since the review of this area. This procedure requires consulting foresters be recommended by supplying landowners with a list of foresters from which to select. The case reviewed has been called to the attention of the personnel involved.

The SCFC has been used by several states as a model concerning our relationship with consulting foresters. We are proud of this relationship and what it means to the state's landowners.

RECOMMENDATIONS - THE FORESTRY COMMISSION SHOULD LIMIT THE STATE SHARE OF FOREST RENEWAL PROGRAM FUNDING PER ACRE TO NO MORE THAN THE SOUTHEASTERN AVERAGE. ATTEMPTS SHOULD BE MADE TO REACH ALL PRIVATE WOODLAND OWNERS IN THE STATE WITH COST-SHARE PROGRAM ALTERNATIVES.

MORE EFFORT SHOULD BE MADE BY SCFC TO REORGANIZE AND PROMOTE ACTIVE COUNTY REFORESTATION COMMITTEES.

The main reason South Carolina's cost per acre is more than other states is our program does not pay for open land planting. It was felt that many of the open land acres would get planted under free seedling programs, federal cost share programs, or landowner initiative, and the state's cost share program would concentrate on the large amount of cutover woodland that needs reforestation & often requires expensive site preparation. In addition, since Feb. 1986, the Conservation Reserve Program has signed up approximately 134,000 acres of open land which will be planted in trees. The SCFC feels that these combined programs offer the best and most cost effective approach in working towards the goal of maximum productivity of SC's forest lands. Cost share rates are evaluated each year and compared to the average actual cost. Current data shows cost share rates average 50 percent of actual cost.

We concur and will initiate action to promote county reforestation committees.

RECOMMENDATION - THE STATE DEV. BD., SCFC, CLEMSON UNIVERSITY, AND THE STATE DEPT. OF AGR. SHOULD STUDY THE STATE'S WOOD INDUSTRY TO DEVELOP AN INDUSTRY PROFILE, ASSESS THE POTENTIAL FOR SECONDARY FOREST INDUSTRY DEVELOPMENT IN THE STATE AND DEVELOP AND IMPLEMENT MARKETING PLANS.

The SCFC concurs and has a strong desire to increase emphasis in developing secondary forest industries and exports of forest products. A marketing staff position has been requested the last two years and is again requested in the current budget. We have worked closely with the Development Board on industry prospects, but would like to expand this effort with a full time position. We have communicated with Clemson on planning a cooperative marketing initiative which would involve the SCFC, Clemson, Development Board, County Development Boards and the SC Forestry Association.

RECOMMENDATION - THE SCFC SHOULD WORK WITH INDUSTRY TO DEVELOP STRATEGIES TO ENCOURAGE USE OF BEETLE-KILLED WOOD.

We concur. The SCFC has worked closely with wood-using industries during past southern pine beetle epidemics to encourage maximum salvage of beetle-killed wood. The SC Foresters Council has been the primary avenue of cooperation between industry and the SCFC in achieving successful control projects. In future outbreaks the SCFC plans to strengthen relationships with wood using industries in the salvage of beetle-killed wood through the Foresters Council. To achieve this goal, the SCFC will evaluate alternatives to increase utilization of beetle-killed wood, especially when wood markets are weak. Alternatives the SCFC will consider are incentive payments and the creation of an industry task force.

RECOMMENDATIONS - THE SCFC SHOULD REVIEW ITS FOREST SERVICE FEES.

THE COMMISSION SHOULD CONSIDER INCLUDING ALL COSTS IN DEVELOPING SERVICE CHARGES.

THE COMMISSION SHOULD USE AVERAGE ANNUAL COSTS OF THE LAST THREE YEARS IN COMPUTING EQUIPMENT OPERATING COST.

THE FORESTRY COMMISSION SHOULD DEVELOP AND IMPLEMENT A REGIONAL FEE STRUCTURE FOR FOREST SERVICES.

THE COMMISSION SHOULD CONSIDER IMPLEMENTING SCALED FEES FOR PRESCRIBED BURNING SERVICES.

We agree with the thrust of these recommendations.

Rates for services are evaluated annually. A rate increase from \$30/hour to \$35 has been approved for firebreak plowing. Two rates have been approved for prescribed burning - \$4 per acre for understory and \$6 per acre for site preparation. The old rate was \$3 per acre for any burning. The type of burning has more effect on cost than the location in the state thus the reason for this decision. We realize that our cost figures on depreciation must also be updated. Years of service of tractors has been lengthened and budget limitations have prevented the orderly equipment replacement thus complicating getting an accurate depreciation figure.

RECOMMENDATIONS - THE SCFC SHOULD DEVELOP PRODUCTION COST GUIDELINES FOR DETERMINING THE COST TO PRODUCE EACH SPECIES OF TREE SEEDLING.

AN IN-DEPTH COST ANALYSIS BY SPECIES SHOULD BE PERFORMED EACH YEAR WITH DOCUMENTATION TO SUPPORT ALL FIGURES. THESE FIGURES FOR THE PAST THREE YEARS SHOULD THEN BE AVERAGED TO DETERMINE THE COST TO PRODUCE EACH SPECIES.

The SCFC is now working cooperatively with other southeastern states to analyze each phase of tree seedling production. This has been an effort to evaluate the cost of producing the various species and overall cost effectiveness of each nursery operation. In 1985-86 loblolly and slash pine accounted for 94.19 percent of our seedling production. These analyses indicate the selling price for these species was within 42 cents per thousand of production costs. This conforms to state law which requires a selling price no greater than cost.

The Commission will continue to monitor production costs and keep prices in line as analyses indicate. It is noted that six of the miscellaneous species grown amount to only 0.36 percent of production and bring in less than 1% of seedling sales revenue. It is not economically practical to spend large amounts of time and effort to determine the exact costs of these individual species that are mainly grown to encourage hardwood planting.

Appendix B - Standby Employees - Based on the Federal Fair Labor Standards Act and procedures followed by most forestry agencies and all but one SC state agency, the SCFC is of the opinion that it is functioning in a manner that is fair to both its employees and the taxpayers of SC.

All of us at the Forestry Commission appreciate the way the members of the audit team performed their duties. We especially admire Ms. Marilyn Edelhoach's evident pleasant determination to complete the assignment.

You and your agency perform a valuable service for State Government and South Carolina. Should you find the Forestry Commission to have resources or services that could help your agency, please call on us. We will gladly assist.

Sincerely,


Leonard A. Kilian, Jr.
State Forester

LAKjr/lb

