

October 20, 2000

Mr. Les Boles
Director - Office of State Budget
S.C. State Budget & Control Board
Attention: Karen Amos
1122 Lady Street, 12th Floor
Columbia, South Carolina 29201

Dear Les:

In accordance with Section 1-1-810 and 1-1-820 of the *South Carolina Code of Laws*, as amended, attached you will find the Annual Accountability Report for FY 1999/2000 for the South Carolina Department of Natural Resources. This report is being submitted to include our agency's mission, goals and objectives to accomplish the mission, and performance measures regarding the goals and objectives.

The Mission Statement, goals and objectives in the Annual Accountability Report have been developed as a result of the update of the DNR Strategic Plan. The Strategic Plan was a comprehensive effort involving input from all aspects of the public and constituents that we serve as well as our internal staff from all divisions in the agency.

The attached performance measures for the programs in our agency have been developed for FY 1999/2000 through an extensive process based upon available data and technology in the DNR. Several performance measures training workshops have been held with the Division of Human Resources Management's Center for Education, Quality and Assessment. This training has been articulated through the staff in our divisions to develop the key indicators for each program in the agency.

The Annual Accountability Report has been coordinated and developed by Larry D. Cartee, Assistant Director for Planning, at 734-3991. If you have any questions or need additional data, please call on Mr. Cartee.

Mr. Les Boles
October 20, 2000
Page 2

Thank you for the opportunity to present this progress on our programs to the Governor and members of the General Assembly.

Sincerely,

Paul A. Sandifer
Director

PAS/ldc
Attachments

EXECUTIVE SUMMARY
1999/2000 ANNUAL ACCOUNTABILITY REPORT
SOUTH CAROLINA DEPARTMENT OF NATURAL
RESOURCES
OCTOBER 20, 2000

The quality and abundance of South Carolina's natural resources creates a wealth that is unsurpassed by other states and regions of the country. These resources bring an enviable quality of life to our citizens so as to attract and sustain business activity which translates into economic wealth for all South Carolinians. The 1996 National Survey of Fishing, Hunting and Wildlife-Associated Recreation conducted by the U.S. Fish and Wildlife Service reveals that state residents and non-residents spent **\$1.5 billion** on wildlife-associated recreation in South Carolina. For fishing and hunting alone, these expenditures translate into an economic impact of almost **\$2 billion**. With a total agency budget of approximately \$70 million, the \$1.5 billion in expenditures represents a return on investment of about **\$21 for every dollar** expended by the S.C. Department of Natural Resources. These figures represent the substantial business and financial results that are an excellent benchmark for identifying results and benefits from the programs in the DNR.

During FY1999-2000, the S.C. Department of Natural Resources had 18 programs areas that were reported through the budgetary process. All of these programs were successful in meeting the mission and agency's goals as identified in the update of the Department's Strategic Plan entitled *The Natural Resources Agenda: A Strategy for Managing South Carolina's Natural Wealth*. The plan includes the following major strategies for the Department: a) Management; b) Science and Technology; c) Education and Public Involvement; d) Landscape Conservation; and e) Internal Management and Operations. Each of the 18 budget program areas were linked to the strategic goals in order to attain program results and services relative to all aspects of the state's natural resource base. Through this process, the DNR has provided comprehensive leadership in the allocation of resources and the resultant outcomes that follow in this report. In addition, the DNR has identified a very high level of customer focus and satisfaction that has been measured through annual surveys conducted by USC's Institute of Public Affairs in December, 1998, and May, 1999. In these surveys, over **90%** of the respondents that have had contact with the DNR stated that they were satisfied with the treatment they received as a customer and over **78%** of the respondents had heard of the DNR which represents an extremely high level of public familiarity with the agency.

Each of the 18 programs has a comprehensive description in order to distinguish the most critical functions and service delivery relative to the DNR's mission for 1999/2000. This description includes each program's name, cost, goal, objectives and results/outcomes to include key performance indicators. These performance measures relate directly to the goals in the DNR Strategic Plan and provide a definitive statement of "what" is being accomplished by the DNR's programs. These outcomes also identify the trends in the management of the state's natural resources

and provide indicators of the “State of the State” of the Natural Resources in South Carolina in 1999/2000. The key performance indicators of these 18 programs have been developed through a comprehensive process based upon the following criteria: relative importance to the agency’s mission, statutory and legislative mandates, relative importance of customer focus from public opinion surveys, and constituent input on major natural resource problems and issues. Through these criteria, the DNR is providing a comprehensive approach to the diversity of natural resources management and stakeholders in the state. This action reflects the major thrust and direction to meet the needs of the citizens of South Carolina.

In order to maintain a reasonable balance between conserving our state’s resources for future generations, sustaining traditional uses, increasing support for other user demands, and accommodating the economic development required to sustain an adequate quality of life, the DNR has maintained a traditional focus to develop partnerships and cooperative efforts with other state and federal agencies. The DNR has worked diligently in this arena for a number of years and has, and will continue, to develop such partnerships with other agencies to deal with natural resource problem areas of mutual concern. Examples of these partnerships and cooperative efforts in other state agencies have included the S.C. Department of Health and Environmental Control, S.C. Forestry Commission, Department of Parks, Recreation and Tourism, S.C. Department of Commerce, Sea Grant Consortium, Medical University of S.C., Francis Marion University, College of Charleston, Clemson University, University of South Carolina, State Technical Education System, to name a few. In addition, the DNR has taken a lead role on the Governor’s Interagency Council on Natural Resources Policy through a proactive role in collaboration with other natural resources agencies and cooperating to address major environmental problems, issues and needs from the citizens of South Carolina.

Through the maintenance of these cooperative efforts, the DNR seeks to solve natural resource problems before they require costly remediation or other actions. The implementation of this strategy of cooperation requires the use of available information technology to develop and disseminate the best information possible relating to the condition of the state’s natural resources, their economic and ecological values, and factors affecting their natural integrity and health. The DNR seeks to enhance the partnering and cooperative relationships with other agencies and appreciates the opportunity to be a key player in natural resources management to improve the quality of life in the State of South Carolina..

**MISSION STATEMENT
SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES
OCTOBER 20, 2000**

“The South Carolina Department of Natural Resources is the advocate for and steward of the state’s natural resources and is proactive in protecting the state’s natural resources for use and enjoyment by future generations of South Carolinians. The DNR develops and implements policies and programs for the conservation, management, utilization, and protection of the state’s natural resources based upon scientifically sound resource assessment and monitoring, applied research, technology transfer, natural resources planning, public education, outreach, technical assistance and customer involvement.”

LEADERSHIP SYSTEM
1999/2000 ANNUAL ACCOUNTABILITY REPORT
SOUTH CAROLINA DEPARTMENT OF NATURAL
RESOURCES
October 20, 2000

The leadership system describes the direction of the agency and the means by which the direction of the agency is achieved. The primary focus of the leadership system in the SCDNR is the Strategic Plan. This plan was first adopted by the SCDNR Board in 1996. It was the first comprehensive strategic document prepared for the agency and provided an excellent opportunity to provide direction to the newly restructured agency that occurred in 1994 as a result of the 1993 Restructuring Act.

The 1996 Strategic Plan has undergone an extensive process to be updated into the 2000 Strategic Plan that currently exists. This Plan is delineated into major strategies: 1) Management; 2) Science and Technology; 3) Education and Public Involvement; 4) Landscape Conservation; and 5) Internal Management and Operations. For each strategy, there is a development of action items which cover all of the programs and activities of the agency. The Strategic Plan provides a focus for the budgeted programs of the SCDNR and also requires that all of these programs be linked or related to the strategies to accomplish the actions noted in the Plan. Each division utilizes this focus to develop a broad based programmatic delivery system that has a broad customer base and focuses on reaching the intended targets identified in the Strategic Plan. It also provides a forum and benchmark for setting priorities in the agency through a comprehensive decision making process based upon the strategies and action items. This decision making process is clearly reflected in the interaction of program development through input from Governor's Office, General Assembly, SCDNR Board, advisory committees, constituent organizations, professional groups, and public input to insure that resources are used in the most efficient manner. Each program in the agency is required to develop specific goals and objectives which are used to deploy the strategies and action items in the Plan so that results/outcomes are developed and evaluated in the agency.

The deployment of these strategies and the relationship to the Strategic Plan occurs each year as goals and objectives are developed for the programs in the agency. As these goals and objectives are developed, they are related to the strategies and action items in the Strategic Plan. In addition, they are further reviewed and justified through the budgetary process that is implemented by the staff and the SCDNR Board.

The Strategic Plan also provides leadership through the agency's strategic goals which establishes the foundation upon which the agency operates. These strategic goals are integrated into the agency's 18 budget programs and are as follows: 1) Permanently protect and manage natural habitats; 2) Develop and apply resource management technologies to maintain sustainable levels of natural resources; 3) Protect, manage and sustain the public enjoyment of natural resources through such

programs which support hunting, recreational boating, fishing, wildlife watching, soil and water conservation, land and water planning and management, public access to natural areas and technical assistance. Continuously refine these and other programs based upon current and future needs.

The leadership system is also providing direction on how the agency is being managed over time. This is being accomplished through a comprehensive staff development and leadership training program. The top managers in the agency are aging in state service and there are a number of employees in the organization that will be eligible or reach the point of retirement within the next five years. As a result, the agency's leadership system has been reviewed and plans are underway to provide for the unprecedented changes in leadership in the agency over the next 5-7 years. The plans maintaining a continuously effective leadership are being developed for key managers through a series of training workshops and courses. Over the past year, the key staff that may become tomorrow's managers have attended leadership training in the following areas: 1) Enhancing Your Professionalism; 2) What Matters Most; 3) Customer Service; 4) Employee Performance Management Systems; 5) Conflict on the Job; 6) Ethics; 7) Violence in the Workplace; 8) Sexual harassment; 9) Time and Stress; 10) DNR Awareness; and 11) Equal Employment Opportunity/Affirmative Action. In addition, the DNR Mentoring Plan, Workshop In Leadership Development Program (W.I.L.D.), was developed and implemented to identify employees with leadership potential and provide opportunities for career development in the DNR. During the year, there have been 229 participants in these leadership training workshops and courses which encompasses approximately 26% of the staff in the agency.

**CUSTOMER FOCUS AND SATISFACTION
1999/2000 ANNUAL ACCOUNTABILITY REPORT
SOUTH CAROLINA DEPARTMENT OF NATURAL
RESOURCES
OCTOBER 20, 2000**

The Annual Accountability Report for the SC DNR clearly identifies its customers and the services and outcomes that are provided to these customers. Through the development of the performance measures for the programs in the agency, the processes are identified through these results/outcomes that deliver services and provide customer satisfaction throughout the state. The agency places a great deal of emphasis on all employees being customer focused and serving as effective public relations agents for the agency. With a broad based staff located throughout the entire state, our employees are exposed daily to the agency's customer base and respond to their needs and expectations on a daily basis. As a result, the DNR Pledge has been adopted as follows: *"Members of the public are of utmost importance to us, whether in the office or the field. We must listen to their concerns and balance their needs with those of the state's natural resources, for which we are accountable. In essence, they are our employers, and we should treat them with the dignity that such a position affords."*

In order to develop a comprehensive customer focus for the SC DNR and insure that the agency is providing effective treatment and evaluation of all aspects of customer satisfaction, the Department developed and implemented a comprehensive survey in 1994. This survey consisted of a public opinion and attitude survey conducted by Responsive Management, Inc., which specializes in surveys of state natural resource agencies. This survey focused upon gauging public opinion and attitudes of the state's residents towards the use and management of the state's natural resources. It also provided feedback from customers to assist the SCDNR in the development of the initial 1996 Strategic Plan. The specific survey objectives were as follows:

1. Identify the Department's total market.
2. Identify the market size.
3. Identify what citizens think the Department is doing right.
4. Identify what constituents want from the Department in terms of programs and services.
5. Identify willingness to pay for specific programs and services.
6. Identify sources of information on wildlife for citizens.

The survey results provided very detailed information for use in natural resource management in South Carolina. The customer feedback provided the following results: 1) The public supports a broad range of natural resource management programs administered by the SCDNR. 2) The public supports an expansion of natural resource program emphasis is not a redirection of emphasis. 3) The survey further noted that the state's residents are most supportive of and have the least opposition for spending more time and money on programs related to education and conservation. 4) The survey indicated that residents are willing to pay for these programs in the agency. 5) The agency is highly regarded by the constituent groups it has served in the past. The more contact a respondent had with the Department, the more likely they are to be aware of the Department, and the more the likely they are to think highly of the Department.

Another area in which the agency has focused upon customer satisfaction has been a series of surveys in the spring and fall of 1997-1999 conducted by the Institute of Public Affairs at the University of South Carolina. These surveys have been conducted for the purpose of developing public opinion and attitudinal survey data on the manner in which the Department treats its customers and various issues with which the Department is charged to implement through the statutes of the State of South Carolina. Some of issues that have been addressed in these surveys have included the public's contact with the Department, general impression of the Department, name recognition, satisfaction level with the Department's services, law enforcement, funding, boating safety, and related information on natural resources issues in the State of South Carolina. Some of the major findings of these surveys have been that over 90% of the constituents that have had contact with the SC DNR over the past year said they were satisfied with the quality of services they received during contacts or visits to the agency and over 78% of the respondents had heard of the SCDNR which represents an extremely high level of public familiarity with the agency. This survey data indicates a very high level of customer satisfaction with the agency and provides evidence that the Department is conducting business in an effective manner in the treatment of customers and provides detailed data to evaluate and substantiate this level of customer satisfaction. The agency will continue to concentrate its efforts in this arena and develop timely public attitudinal data and information that will be used in management throughout the agency. In addition, these benchmarks of customer satisfaction will be related to other public sector entities and private organizations to draw valid comparisons and see if any management changes are needed over a period of time. This action was completed recently pursuant to a survey by the University of South Carolina entitled *Growth In South Carolina: A Public Perspective*. One of the major findings of this survey noted that South Carolinians overwhelmingly want both continued growth and a high quality environment with protected natural resources in which to live, work and play. These surveys and the public attitudinal information provides a basis for the SC DNR Strategic Plan update and detailed feedback from the public on various aspects of that plan as to where resources need to be focused in the future. In general, these public opinion surveys are an important management tool for the agency and provide a solid basis for developing a comprehensive planning process, as well as, developing budgetary recommendations for the allocation of resources in the agency.

DESCRIPTION OF PROGRAMS AND KEY RESULTS

SCDNR Programs:

Endangered Species

Heritage Trust

Regional and Statewide Wildlife Projects

Wildlife Management, Environmental Programs Office

Freshwater Fisheries, District Operations

Freshwater Fisheries, Hatchery and State Lake Operations

Cooper River Rediversion

Marine Research

Marine Management

Boat Titling and Registration

Education

Magazine

Conservation Districts

Earth Sciences

Law Enforcement Operations

County Fund Operations

Hunter Safety

Boater Safety

Program Name: **Endangered Species**

Cost: State : \$405,379
 Revenue: \$ 71,184
 Federal: \$138,992
 Total: \$615,555

Goals: To protect, conserve and ensure the protection of South Carolina’s nongame animals, threatened or endangered plant and animal species and communities.

Objectives: To conduct statewide research, surveys and active management programs and studies on an annual basis to identify or monitor the status of populations of plants and animals that are endangered, threatened from a state or federal aspect or otherwise defined by S.C. law as species in need of management.

Key Results: A total of 35 research, survey and management projects were initiated or continued to improve the prospects for survival of significant plant or animals species and their habitats. Among the highlights:

A major, six-year study of the Longleaf Pine community was completed. The study identified 11 new high-quality new sites, which are candidates for protection and produced significant new information on the life history and population status of the Eastern Diamondback Rattlesnake and Gopher Tortoise, both of which are species of concern.

A total of 47 properties are now enrolled in the Safe Harbor program for the endangered Red-cockaded Woodpecker. Under these agreements, landowners can manage their properties to benefit the species without incurring liability for incidental taking of woodpeckers becoming established on the property as a result of this management.

Program Name: Heritage Trust

Cost:	Heritage Land Trust Fund:	\$4,665,201
	Appropriated:	\$343,328
	Revenue: personnel:	\$262,279
	operating:	\$352,427

Goals: Maintain all of South Carolina’s native plant and wildlife species in their natural habitats and preserve the most significant archaeological sites, for use by present and future generations.

Objectives: Protect at least five new, highly significant properties each year.

Monitor and maintain rare habitats and cultural resources at existing preserves.

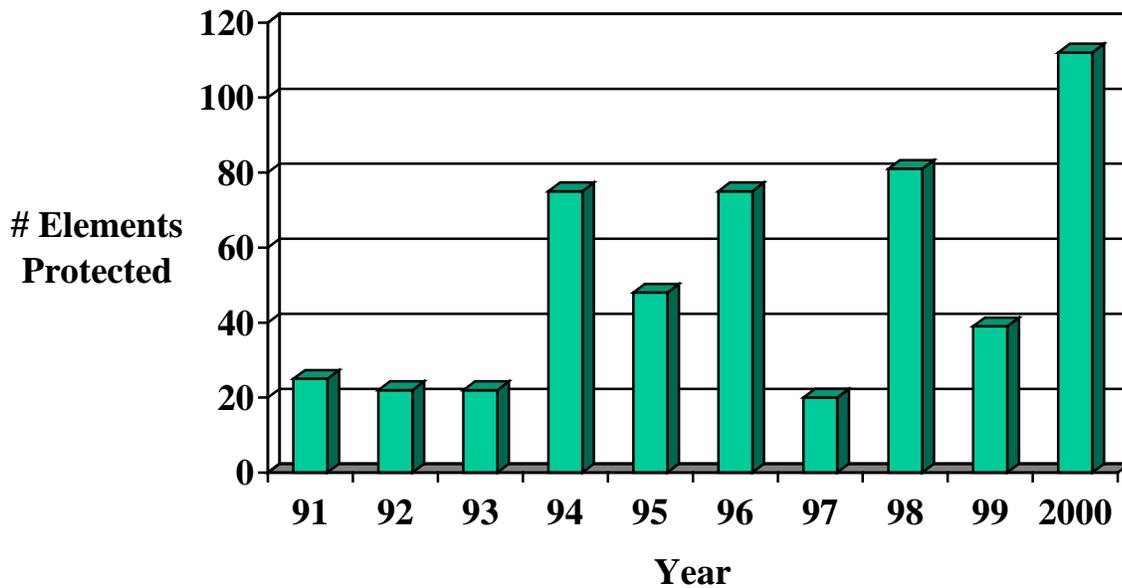
Restore rare habitats at existing preserves, and where possible, expand populations of rare species.

Where appropriate, develop self-sustaining stewardship committees to assist with monitoring and maintaining preserves.

Develop public access facilities and educational opportunities at existing preserves.

Key Results: Thirteen new properties were permanently protected during the FY-00 fiscal year. Eleven new heritage preserve management plans were approved and 14 different rare species were monitored. Prescribed fire was used to restore rare habitats on 3,381 acres and additional areas were roll chopped. Suitable habitat for the rare plant species harperella was expanded some 400%. Stewardship committees are now in place for 27 different preserves. Public access facilities are improving; with one handicapped boardwalk currently being built and a handicapped accessible canoe trail in the planning stages. Annual educational gatherings are now occurring at Fort Lamar and Great Pee Dee River Heritage Preserves and a new one is currently scheduled for Forty-Acre Rock Heritage Preserve.

Protected Natural & Cultural Elements



Analysis: The above graph shows the number of rare or significant elements protected by the South Carolina Heritage Trust Program, during each of the last ten fiscal years. Rare elements are an appropriate measure of program success, because the Heritage Trust Act directs the Heritage Trust Advisory Board to preserve South Carolina's most significant natural and cultural resources. These rare elements may be endangered species, endangered habitats, rare landforms, or highly significant archaeological sites and are considered to be "irreplaceable".

Our success in protecting rare elements will vary from year to year, due to our varied success in identifying suitable sites and working with landowners. Since completion of a protection project may take three or more years, one particular year does not indicate overall program success. However, a trend over a period of ten years is meaningful. The graph shows that our average success protecting rare elements has increased.

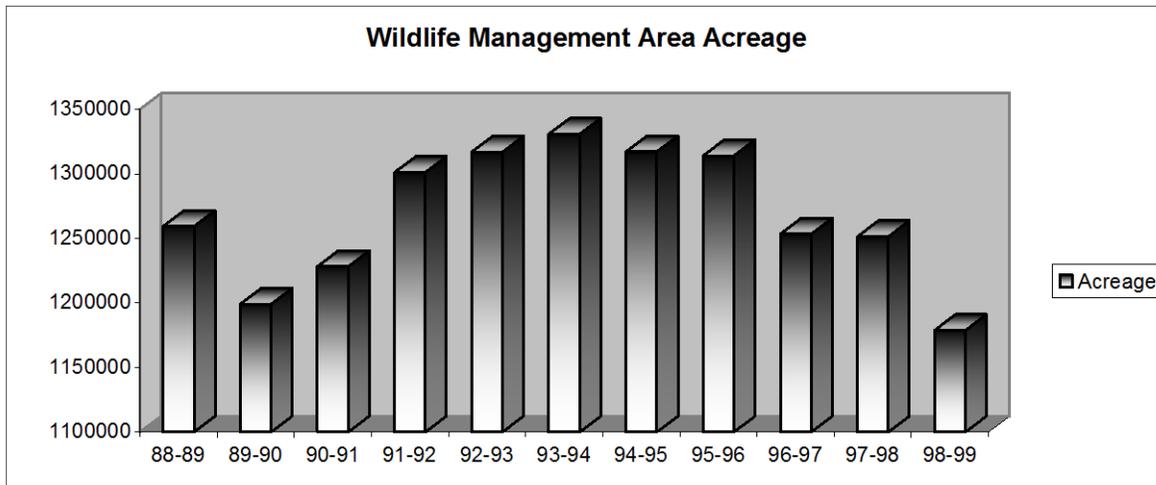
Program Name: Regional and Statewide Wildlife Projects

Costs: State FY00: \$ 209,921
Revenue FY00: \$4,197,582
Federal FY99: \$1,970,755

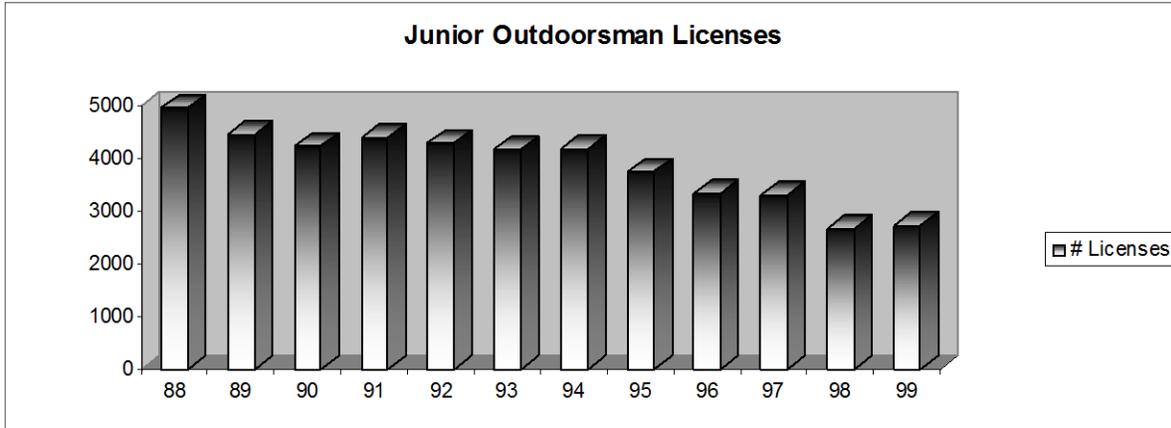
Goals: To provide the best possible hunting opportunities for the sportsmen of South Carolina while ensuring the well being of all wildlife species. To assist the DNR with cooperative research, extension, and educational programs concerning our state’s natural resources. To protect, conserve, and enhance specific wildlife species in South Carolina through statewide projects for deer, turkey, small game, furbearers, waterfowl and alligators. To assist and encourage non-industrial private landowners in active management of natural resources on their property.

Objectives: To provide public hunting lands. To protect, conserve and enhance South Carolina’s wildlife resources. To conduct research on priority natural resource issues; to provide educational assistance to Clemson University students in natural resource management; and to inform the public about natural resource issues. To monitor wildlife population status and health. To provide annual harvest and biological data. To provide for the controlled harvest of antlerless deer. To provide resource management plans for and encourage implementation of habitat management practices to benefit wildlife on private lands in South Carolina.

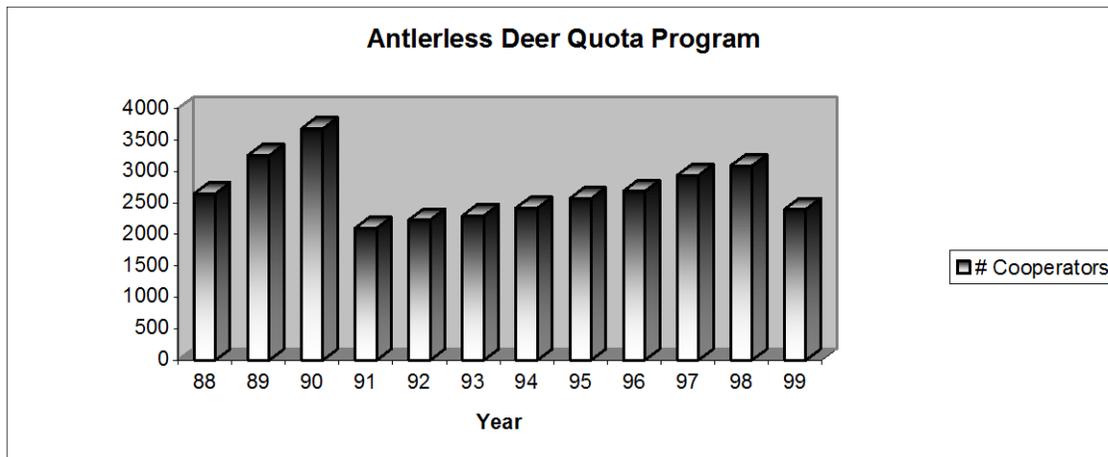
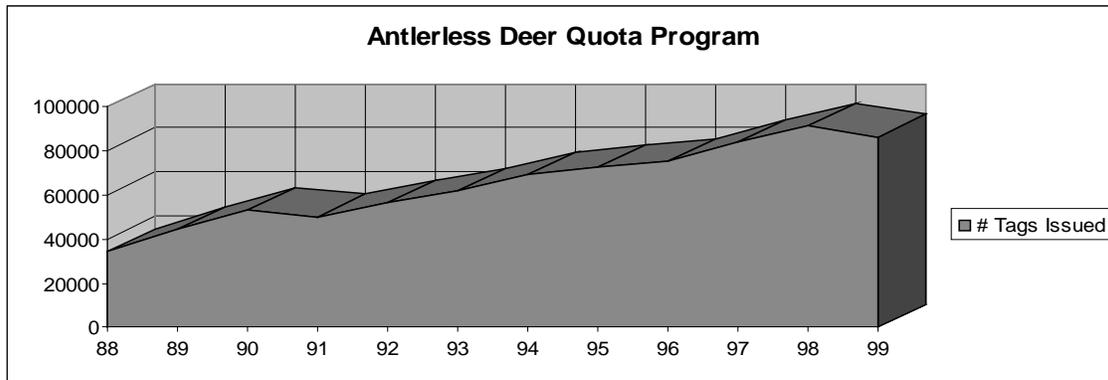
Key Results: WMA Program : Quality outdoor experiences were provided through the Wildlife Management Area Program. Program total acreage has decreased significantly due to the private sector leasing land at a higher lease rate. Department-owned lands in the WMA Program are becoming increasingly more important in providing public outdoor recreation.



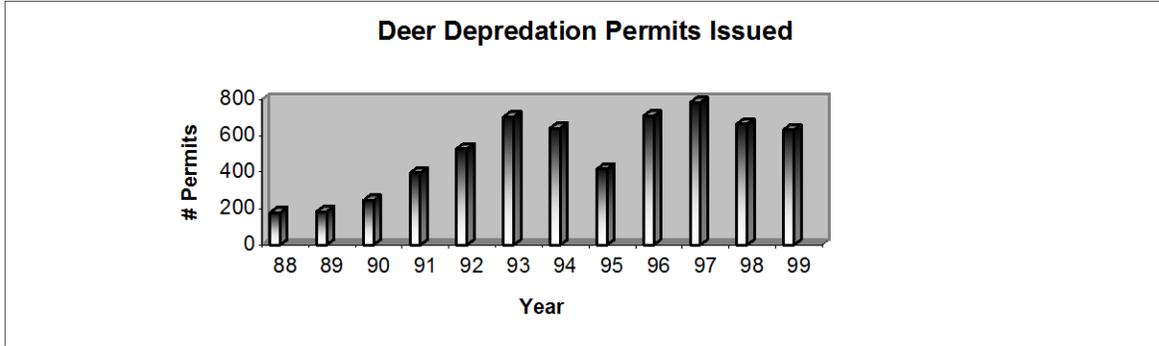
Junior Outdoorsman License: The sale of junior outdoorsman licenses increased for the first time in twelve years. If the trend continues this may represent an increase in recruitment of youth into hunting. The DNR's "Take One - Make One" Program is a direct attempt to increase youth awareness of outdoor recreation opportunities.



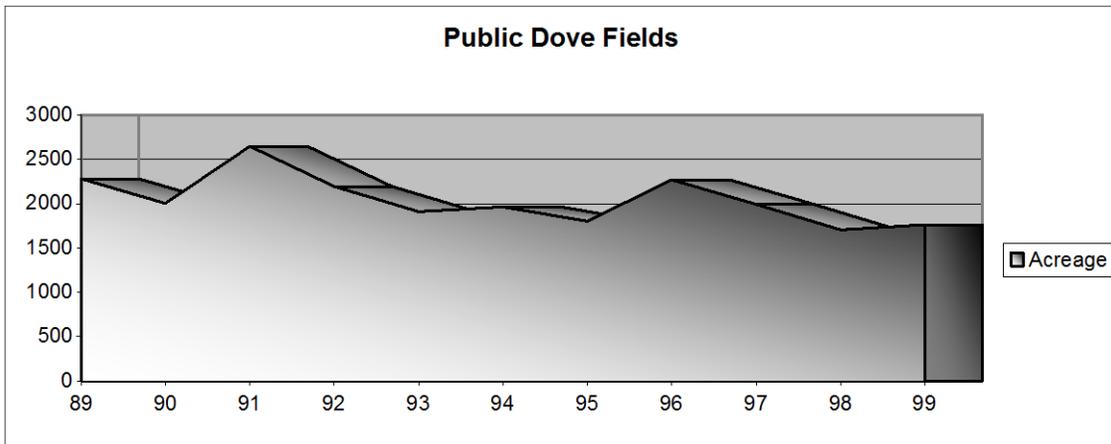
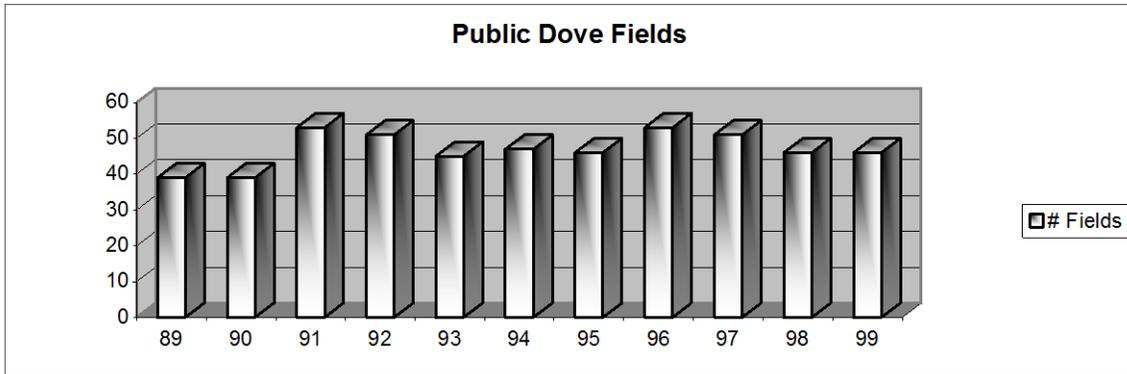
Antlerless Deer Quota Program: Administer a tag program to provide for antlerless deer harvest. The number of cooperators and the number of tags issued under the Antlerless Deer Quota Program (ADQP) decreased during 1999. This decrease was probably due to increased availability of other doe harvest opportunities through county-wide either-sex deer harvest days and individual deer tags issued to hunters.



Deer Depredation Permits: Issue permits to reduce deer depredation problems. The number of deer depredation permits issued to landowners to reduce deer damage to crops decreased for the 2nd year in a row following a record number of permits issued in 1977. This reduction generally represents less crop damage present and possibly increased deer harvests in local areas during the previous 1998 season.



Special Hunting Opportunities: Provide special hunting opportunities. The number and acreage of Public Dove Fields remained stable with 46 fields and 1762 acres available for public recreation. Use remained high with 2131 hunters participating in opening day hunts on the 27 fields monitored.



Program Name: Wildlife Management; Environmental Programs Office

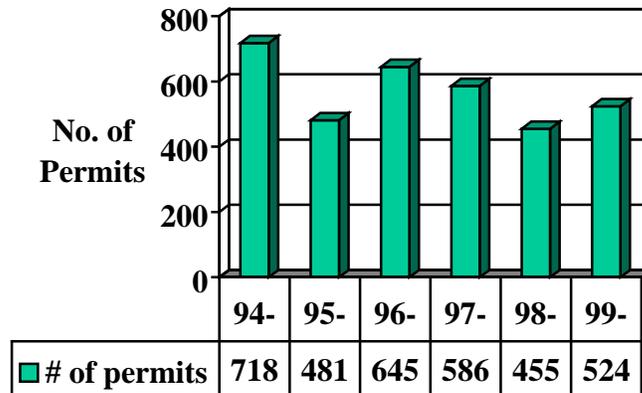
Cost: State: \$ 81,520
Revenue: \$123,403
Federal: \$ 0
Total: \$204,923

Goals: To protect, enhance and restore the State’s fish and wildlife resources, aquatic and terrestrial habitats, outdoor recreation and associated natural resource values for present and future generations.

Objectives: To meet goals by actively participating in environmental permitting, hydroelectric project licensing, environmental studies, public education, policy formulation, and interagency coordination.

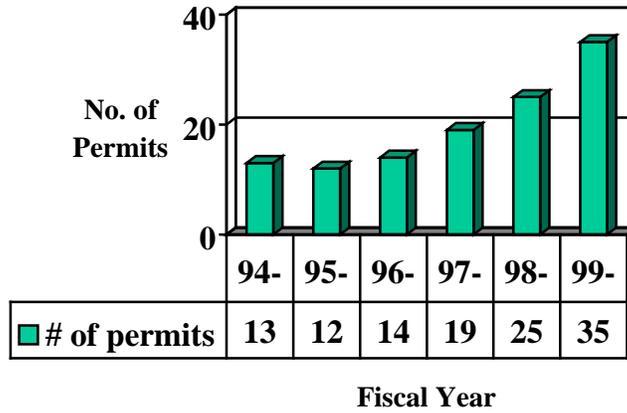
Key Results: **Environmental Permits:** We reviewed 524 environmental permit applications related to commercial and residential development. This represents an approximate 15% increase from the previous year. Based on review of the past six years of permitting activity, this increase does not appear to be part of a long-term trend. The number of pond permit applications reviewed, however, has increased substantially over the six-year period. This is apparently due to 1998 changes in permitting procedures which require individual permits for pond projects that were previously administered under Nationwide Permit 26.

Permit Reviews 1995-2000



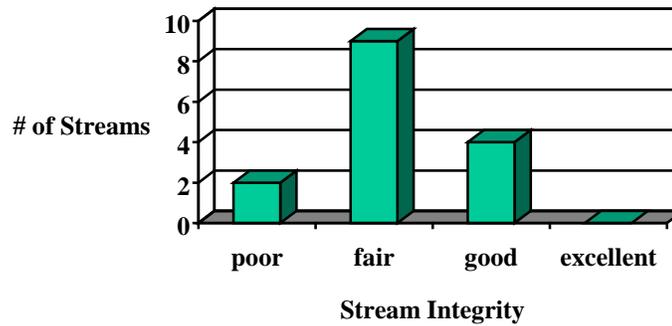
Fiscal Year

Pond Permits 1995-2000

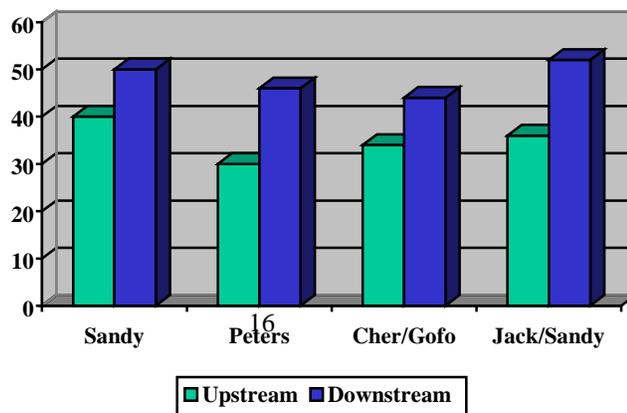


Stream Surveys Biological surveys were conducted on 15 freshwater streams and stream health was evaluated using an index of biological integrity. The majority of the streams surveyed had fair to good biological integrity. No streams rated excellent. It was also noted that integrity ratings lowered substantially above impounded streams

IBI results FY 99-00

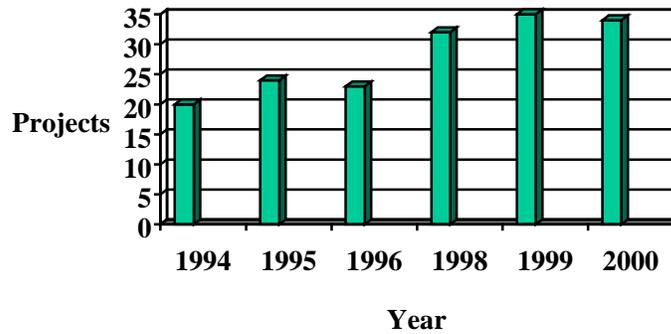


IBI scores above and below dams



FERC Coordination Work was conducted at 34 hydropower projects licensed by the Federal Energy Regulatory Commission (FERC). As shown in the graph below, this is similar to the number of projects at which work was conducted in 1998 and 1999. A new license was issued for the Lockhart hydro (Broad River) includes restored flows for 1.7 miles of shoals habitat, stabilization of reservoir fluctuations, mitigation for fish entrainment and recreational enhancements. Final license applications were submitted for the Ware Shoals hydro (Saluda River) and Columbia hydro (Broad River). Included in these applications are new minimum flows at both projects enhancing 3.6 miles of shoals habitat, anadromous fish passage at the Columbia hydro, and wildlife enhancement and reservoir fluctuation stabilization at Ware Shoals. Fish entrainment and recreational enhancement issues remain unresolved. Considerable effort was directed at ensuring license requirements were followed regarding Lake Murray shoreline management.

FERC Project Activity



DOT Coordination Work was initiated on a five-year agreement with the Department of Transportation (DOT) to provide early coordination for, reviews of, and comments on all highway and road projects. Significant accomplishments include establishing a DNR/DOT liaison position within the WFF Division. Since filling that position in January 2000, we have coordinated with DOT on more than 20 projects ranging from minor road widenings to new road alignments. Significant work was completed on the Big Pine Tree Creek Mitigation Bank, a stream and wetlands bank in Kershaw County designated specifically to mitigate DOT projects within the Sandhills physiographic region. We were successful in having this project conditionally approved by the MBRT as a mitigation bank.

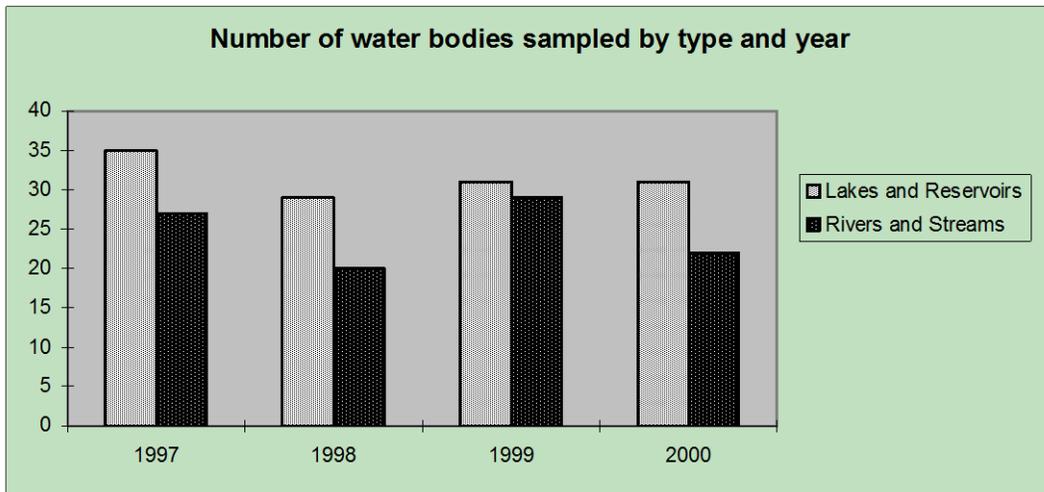
Program Name: Freshwater Fisheries, District Operations

Program Costs: Appropriated FY00: \$ 46,791
Revenue FY00: \$ 697,230
Federal FY00: \$1,635,259

Goal: The protection, conservation and enhancement of South Carolina’s aquatic resource, and providing the citizens of South Carolina with recreational angling opportunities.

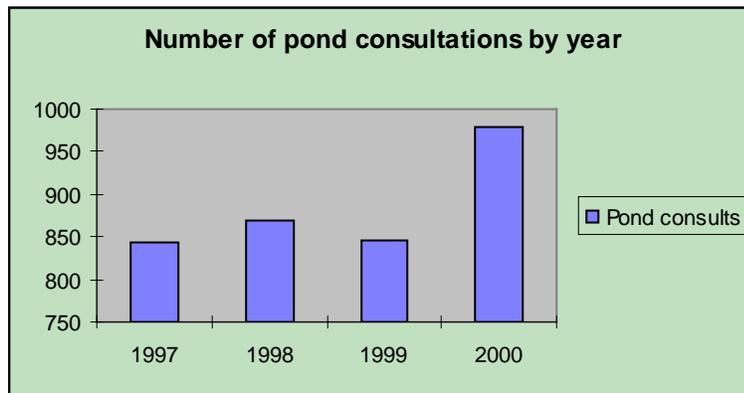
Objectives: To protect, conserve and enhance South Carolina freshwater fishery resources. To provide recreational angling opportunities. To support of the management and conservation of these resources through the collection, evaluation and dissemination of the relevant data needed to make recommendations.

Key Results: Biological survey and inventory were conducted on the freshwater aquatic resources of South Carolina.



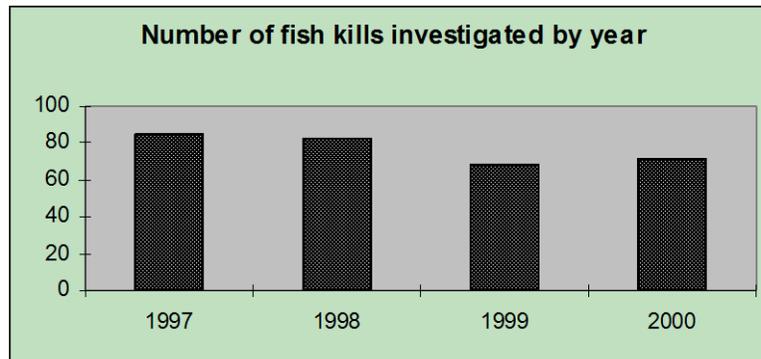
Analysis: Efforts to evaluate aquatic resources in both lakes/reservoirs and rivers/streams have been consistent over the last four years. The decline in the number of streams sampled in 2000 as compared to 1999 can be attributed to extreme low water levels in 2000.

Conduct pond management consultations.



Analysis: This figure illustrates an increasing trend in the demand for pond management assistance.

Investigate fish kill events.



Analysis: The number of fish kill events investigated by the Freshwater Fisheries staff in both private and public waters has been reasonably consistent over the four year period.

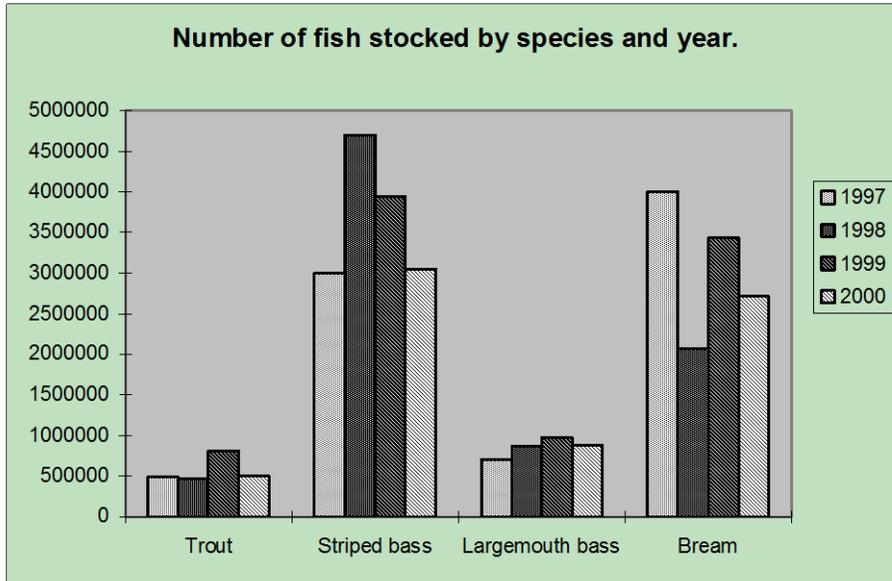
Program Name: Freshwater Fisheries, Hatchery and State Lake Operations

Program Costs: Appropriated FY00: \$ 484,911
Revenue FY00: \$1,127,964
Federal FY00: \$ 230,102

Goal: To maintain hatchery facilities in sufficient number and in proper repair as to allow for the production of various species of adequate number and size to meet program objectives. To provide DNR operated public lake facilities for recreational fishing opportunities.

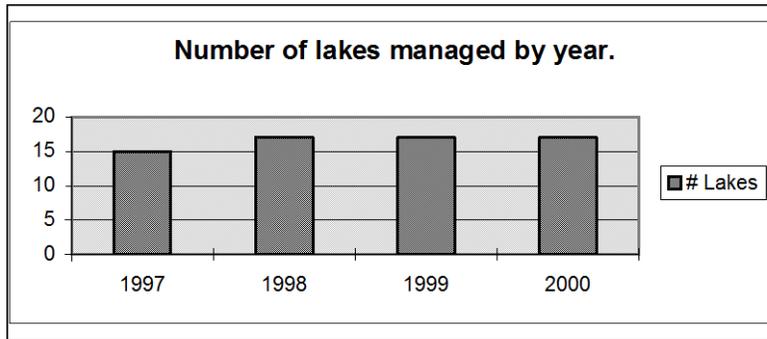
- Objectives:**
1. To propagate those species of fish in sizes required to accomplish fishery management objectives.
 2. To provide pond owners, at cost, largemouth bass, shellcrackers and bluegill for private pond management purposes.
 3. To maintain and improve hatchery facilities.
 4. To provide quality fishing opportunities through management of water quality and fish population structure.
 5. To provide maintenance of DNR operated lake facilities.

Key Results: Produce and stock trout, striped bass, largemouth bass, and bream.



Analysis: The slight decline in the numbers of fish stocked in 2000 is related to the efforts to better match production to management demand. What results is an increase in the quality of the product with a reduction in quantity. Additionally, some of the reduction in production of warmwater species is related to the reallocation in pond space to the recovery effort associated with the imperiled robust redhorse (*Moxostoma robustum*).

Manage and maintain public fishing lakes.



Analysis: The number of public fishing lakes managed will remain constant unless there is an infusion of funds to allow acquisition of additional water bodies and the personnel to manage them.

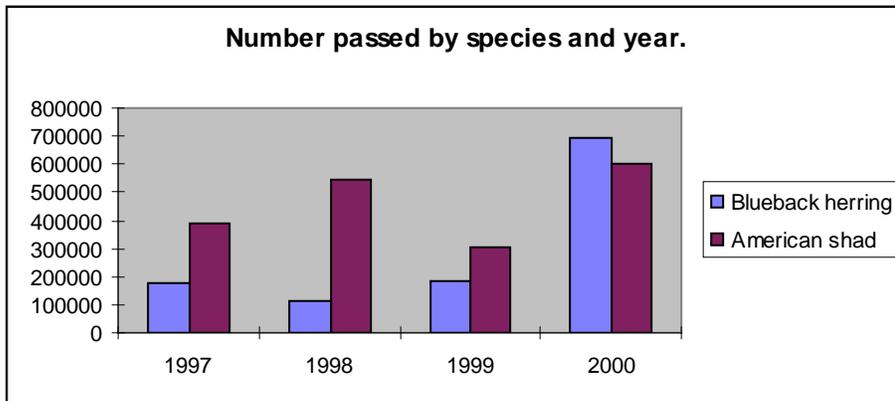
Program Name: Cooper River Rediversion

Program Costs: Appropriated FY00: \$ 10,571
Revenue FY00: \$ -0-
Federal FY00: \$175,275

Goal: The restoration of anadromous fish passage into the Santee Cooper Lake system to levels that existed before the construction of the Cooper River Rediversion Project.

- Objectives:**
1. To pass fish from the Santee and Cooper rivers into the Santee Cooper lake system.
 2. To evaluate and implement, through cooperation with the USACOE, modifications to improve efficiency of the St. Stephen's fish lift.

Key Results: Operate the fish lift and produce estimates of the number of fish passed at the St. Stephen Fish Lift.



Analysis: Fish passage during 2000 was up significantly for blueback herring and American shad. This increase may well be associated with the modification designed to improve the efficiency of the St. Stephen fish lift. Additional years of monitoring are needed to determine consistent performance of the lift. Even with the 2000 improvement, fish passage is still below target levels and future improvements are needed.

Program Name: Marine Research

Program Cost: State: \$ 1,678,852
Federal: \$ 4,137,119
Other: \$ 391,118

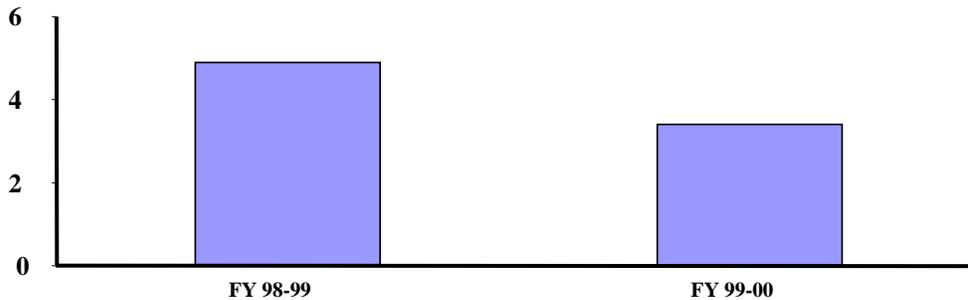
Goal: To provide the scientific knowledge required to manage and conserve the state's marine resources.

Objectives:

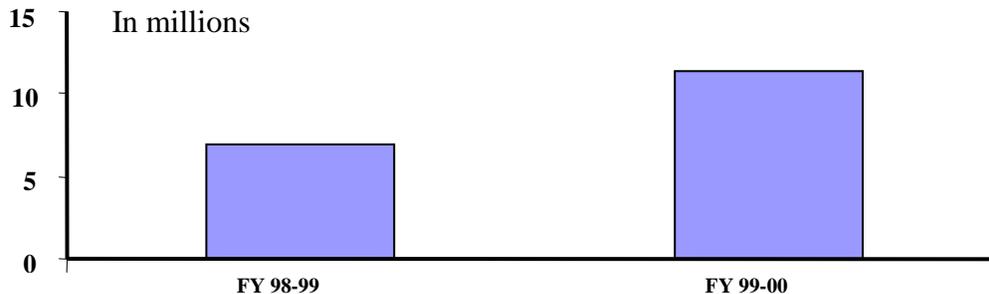
1. To obtain the scientific information needed to manage and conserve living marine resources and the habitats required to sustain them.
2. To seek extramural funding for conducting the research and monitoring activities of the Marine Resources Research Institute.

Key Results:

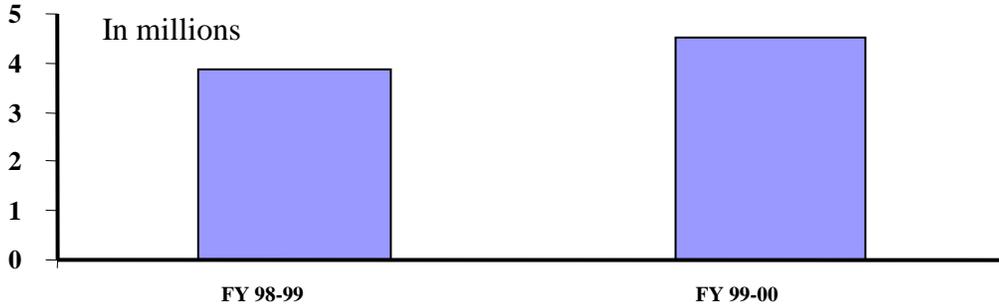
- **Number of Proposals submitted for extramural funding – 34**—Much of the work performed by the Marine Resources Division is accomplished using outside (primarily federal) funding. Proposals for marine research are submitted to various funding agencies for their consideration, and the number of proposals submitted during any given year are highly dependent on a number of factors, including: workload, availability of funds, probability of success, and mission priorities.



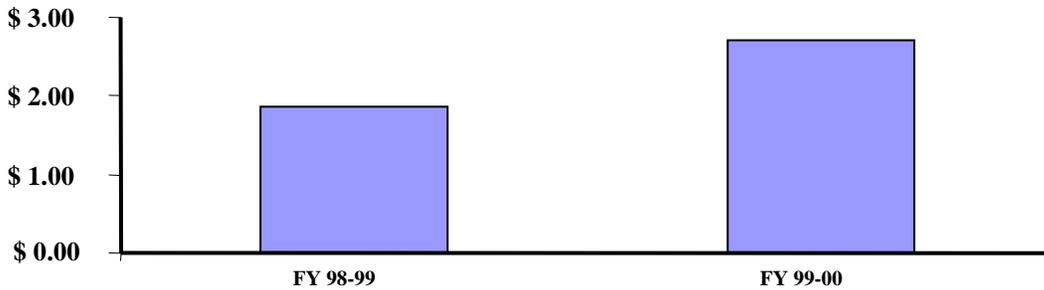
- **Dollar value of extramural research funding requested -- \$11,342,217**—Marine Resources Division scientists seek outside (non-state) funds to conduct many research projects. This figure represents the total dollar value of all outside research projects requested by Marine Resources Division scientists during the fiscal year.



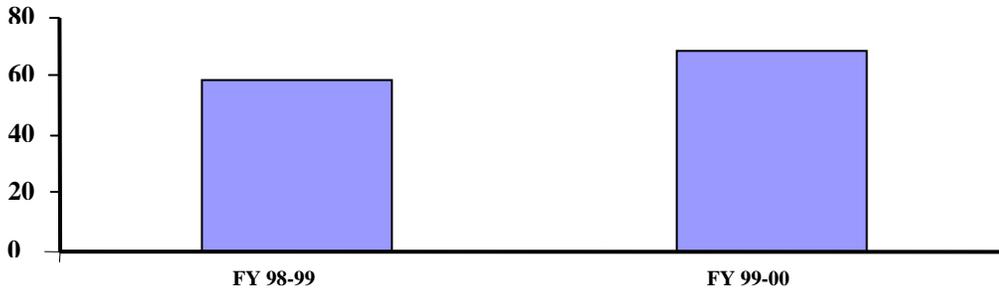
- **Extramural dollar value of research and monitoring projects conducted -- \$4,528,237.** Marine Resources Division research projects are supported by funds from a variety of non-state appropriated funding sources. This figure represents the total dollar value of all outside-supported research conducted by Marine Resources Division scientists during the fiscal year.



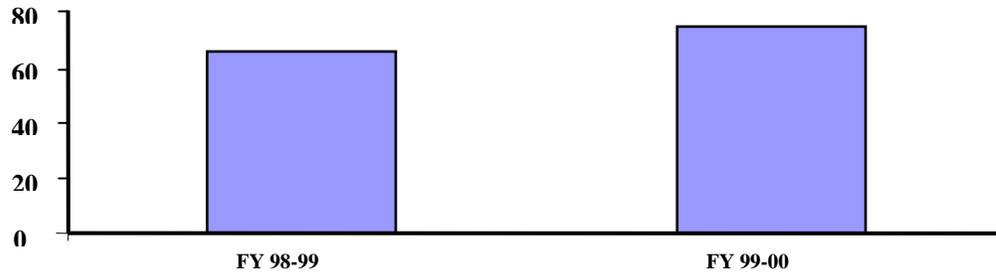
- **“Other” (e.g., federal, private) dollars captured per state dollar expended -- \$2.70** This figure represents the return in outside funding support for each state dollar expended on marine research.



- **Percent of staff supported by extramural (non-state appropriated) grants – 69%** -- This figure represents the proportion of Marine Research program staff supported by funds other than state appropriated dollars.



- **Percent of proposals submitted in fiscal year that were funded – 74%** -- This figure represents the proportion of the total requests for outside (non-state appropriated) that were successful in securing funds for marine research.



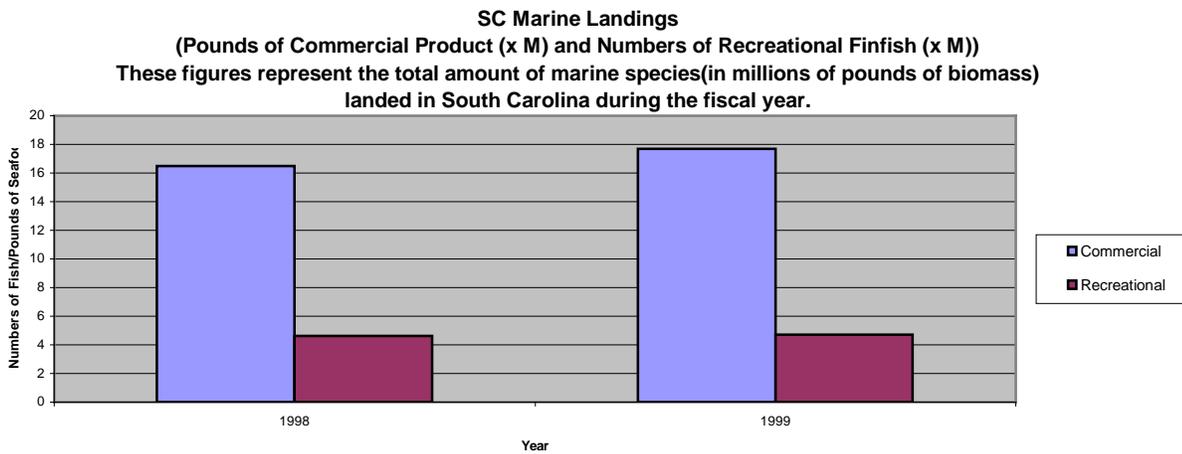
Program Name: Marine Management

Program Cost: State: \$1,270,660
Federal: \$ 918,473
Other: \$ 582,914

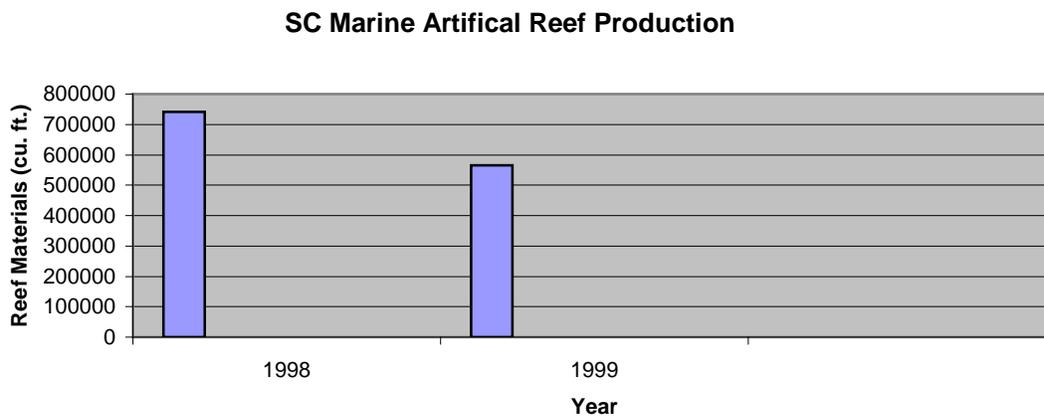
Goal: To provide the necessary management and monitoring efforts to ensure sustainable use of the state’s marine fisheries and associated habitat.

- Objectives:**
1. To monitor and assess the stock condition of priority marine species
 2. To develop new artificial reefs and expand existing reef sites along the South Carolina coast.
 3. To actively encourage the public to conserve our fishery resources
 4. To collect fisheries dependent data from S.C. marine fisheries

Key Results: 1. Stable and improving recreational and commercial seafood landings

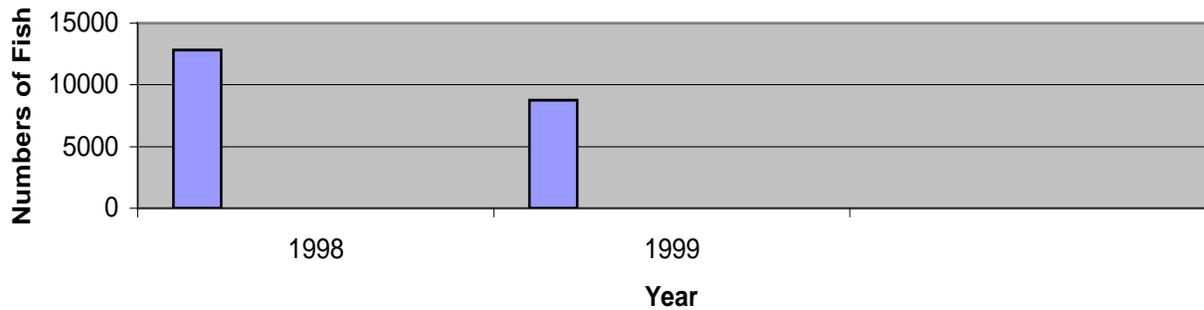


- **2) Additional productive bottom habitat available to SC anglers due to Artificial Reef Development (2 year total is \$1.308 M cu. ft of material).** These figures represent the total amount of material added to South Carolina’s offshore artificial reefs during the fiscal year.



- This was a benchmark year for the tagging program. The program has been so successful at collecting tagging information that we have reduced the numbers of species eligible and are now concentrating on a new set of priority species hence the drop.

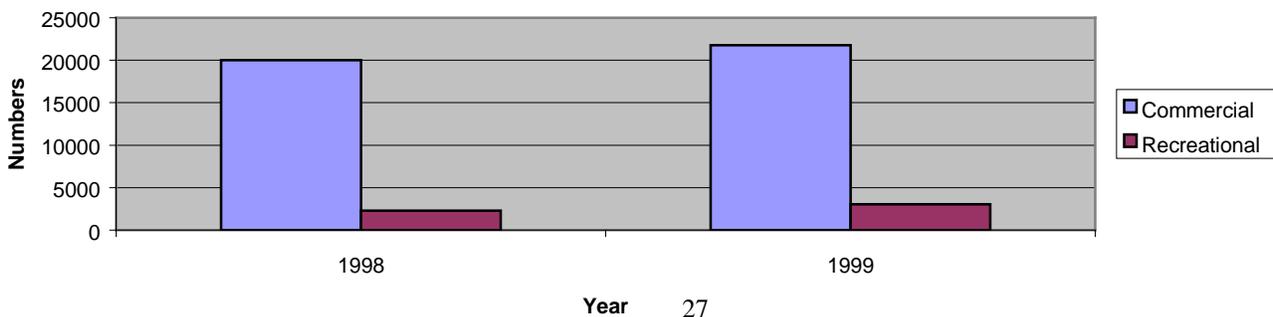
Fish Tagged and Released as part of the Public Tagging Program
These figures represent the total number of fish tht were tagged and released by recreational anglers in South Carolina during the fiscal year.



- Continued high level of contact with commercial and recreational fishermen to document catch and size distribution

These figures represent the numbers of fish checked by Marine Resources Division Biologists at dockside and reflect the level of fishery-dependent data collection Activities which are critical to understanding the status of the health of South Carolina’s living marine resources.

Numbers of Fish Checked and Measured



Program Name: Boat Titling & Registration

Program Cost: State: \$ -0-
Federal: \$ -0-
Other: \$1,150,258

Goal: To provide the registration and titling of watercraft and outboard motors as required by law.

Objectives:

1. Provide continuous training to district personnel to assist boating public with boat titling/registration process.
2. Improve turnaround and customer satisfaction in all areas during FY99-00.
3. Increase public awareness of requirements necessary to promptly process customer transactions.

Results:

(1) Inputs

- 170,000 requests for boat registration/titling service annually
- 335,640 Active boat registrations for FY99-00
- 27 Full time employees
- 3-8 Seasonal temporary employees
- 33 Computer terminals
- 26 Document and word processing printers
- 1 Microfilm camera and 3 microfilm reader printers
- 1 ACD telephone unit used to handle customer information line
- 400,000 Applications, titles, registration cards, decals and miscellaneous forms
- 100 % Forms have been redesigned and made less complex to enhance understanding of existing laws.

(2) Outputs

- 857,507 Records submitted to county treasurer for tax purposes
- 71,198 Renewals processed during 99-00
- 18,174 New Registrations processed during 99-00
- 72,259 Titles processed during 99-00
- 23,590 Transfers processed during 99-00

(3) Outcomes

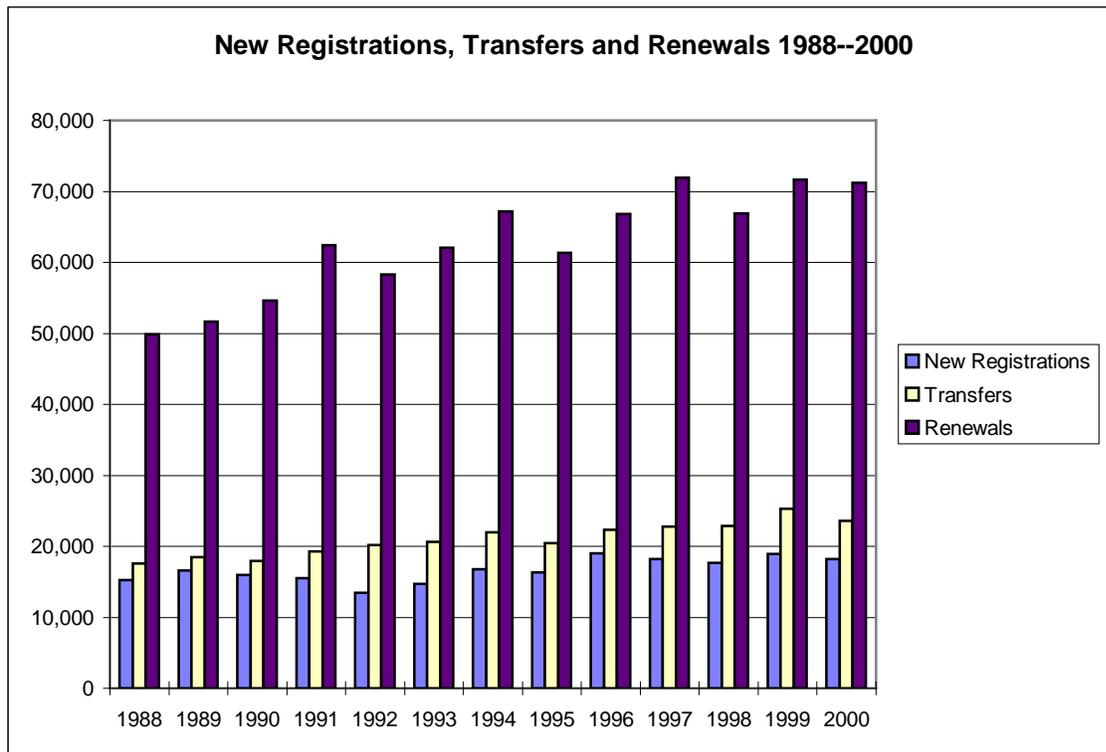
- 1) 90% District office (Law Enforcement and Wildlife & Freshwater Fisheries) personnel now offer boating information and assist with paperwork.
- 2) 78% District law enforcement offices now issue renewals on site, thereby improving customer service. (7 of 9 LE offices)
- 3) Periodic news releases are being released statewide by newspaper, radio, TV, and SCDNR web site, to all current boat owners advising them as changes occur.
- 4) Resource articles related to boat titling and registration watercraft each year reaching approximately 25,000 persons.

(4) Efficiency

- 1) \$6.21 cost per customer interaction, excluding county treasurers transactions
- 2) 9 watercraft and 7 outboard motors recovered FY99-00
- 3) 10 day average turn around time.

(5) Quality

In a May, 1998, in a survey conducted by the University of South Carolina's Institute of Public Affairs, those who have had contact with DNR in the past year were asked how satisfied they were with the quality of the services they received during these contacts with or visits to the Agency. Over 90% said they were satisfied, with over two thirds (68.4%) saying they were very satisfied.



Analysis: The number of registered boats in South Carolina has increased from 250,835 in 1988 to 335,640 in 2000. With this change, this chart depicts the increasing activity with new registrations, transfers and renewals of boats in the state.

Program Name: Education

Program Cost: State: \$248,183
Other: \$156,000

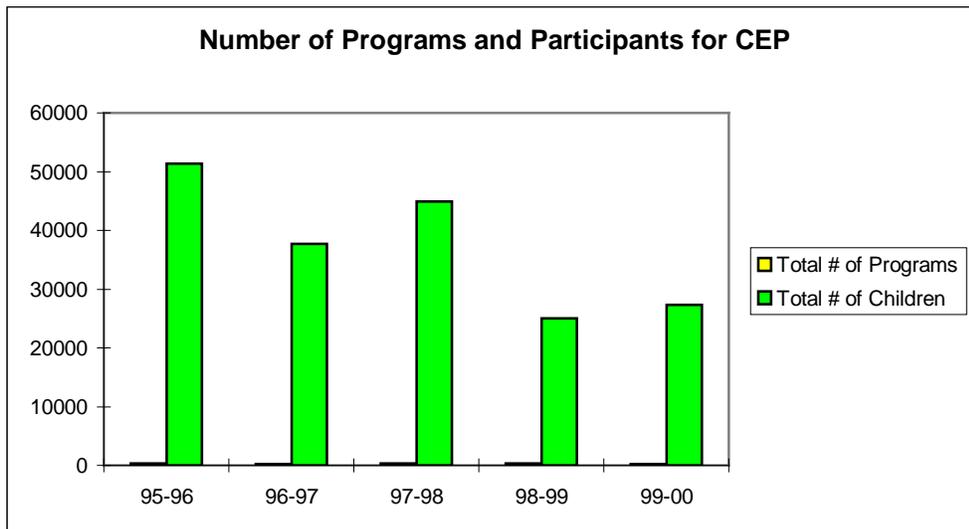
Goal: Based on a major issue of the DNR Strategic Plan, the education section provides programs training, and staff development to educators, schools, youth organizations and other audiences in the conservation and wise use of natural resources. The goal is to enhance the public support for and stewardship of the state’s natural resources.

Objective: Develop educational programs concentrating on natural resource management issues to improve the public’s understanding of these issues. Provide a well-balanced education effort for the citizens of the state, and develop and distribute instructional materials about the DNR’s resource management activities.

Results: Business Driver: The number of Conservation Education Programs with the number of participants in support of our goal to educate the public.

Number of Programs and Participants in Conservation Education Program

School Year	Total Programs	Total # Children
95-96	301	51,364
96-97	203	37,717
97-98	342	44,880
98-99	350	25,000
99-00	184	27,330
Total	1380	186,291



Analysis: Numbers have dropped due to the lack of staff throughout the year.

Program Name: Magazine

Program Cost: State: \$507,565
Other: \$906,792

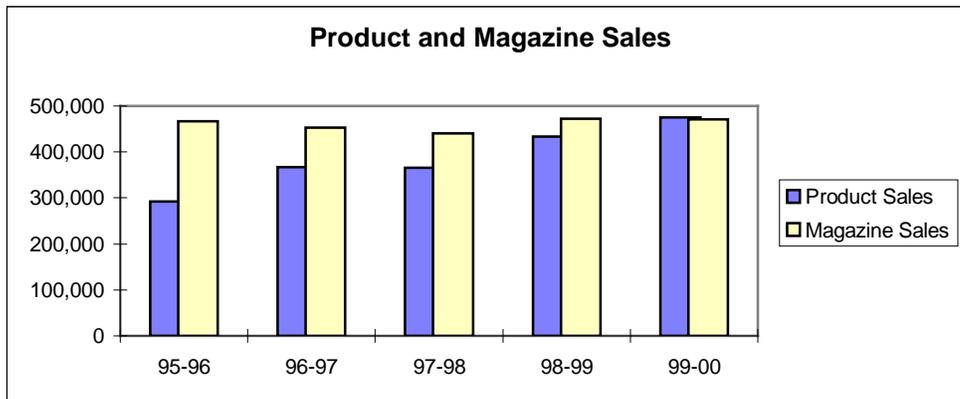
Goal: Provide information through a periodical devoted to educating our citizens on the state's quality of life while promoting sound natural resource management and stewardship. Support the magazine mission through the Wildlife Shop by the sale of environmentally targeted products.

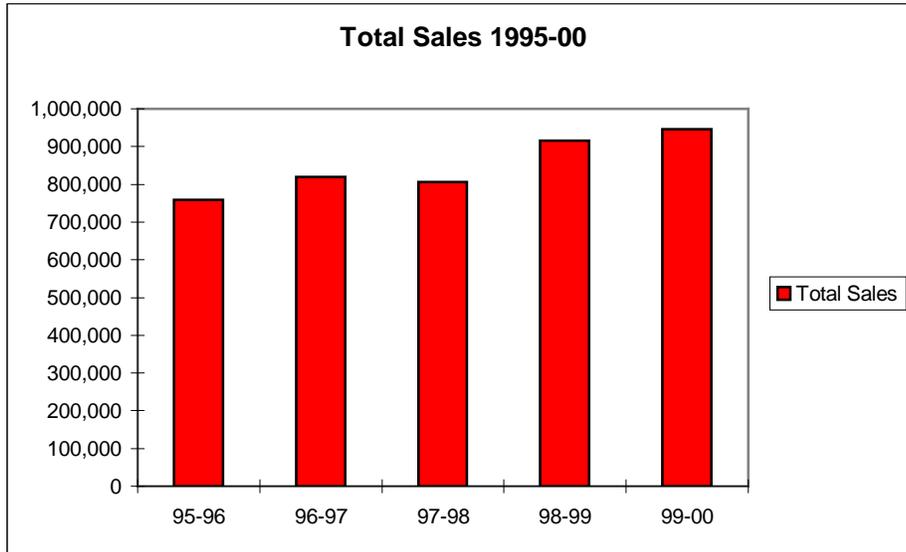
Objective: To produce, promote and distribute six magazine issues per year to an audience of in-state and out-of-state paid subscribers, providing a variety on natural resource related article topics ranging from conservation and management issues to species and habitat requirements to outdoor recreation opportunities.

Results: Business Driver: Sale of magazine subscriptions and products in support of our goal to educate the public.

Product Sales Versus Magazine Sales

Year	Product Sales	Magazine Sales	Total
95-96	292,068	466,830	758,898
96-97	366,867	452,685	819,552
97-98	365,714	439,842	805,556
98-99	433,390	472,113	905,503
99-00	474,831	470,612	945,443

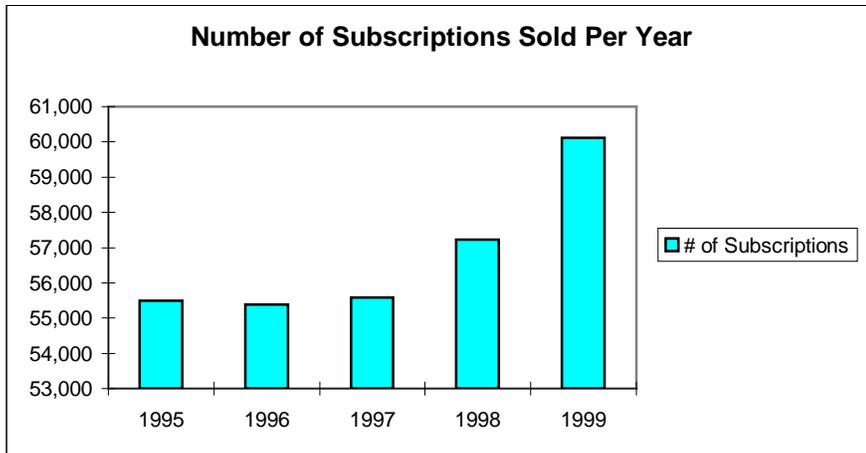




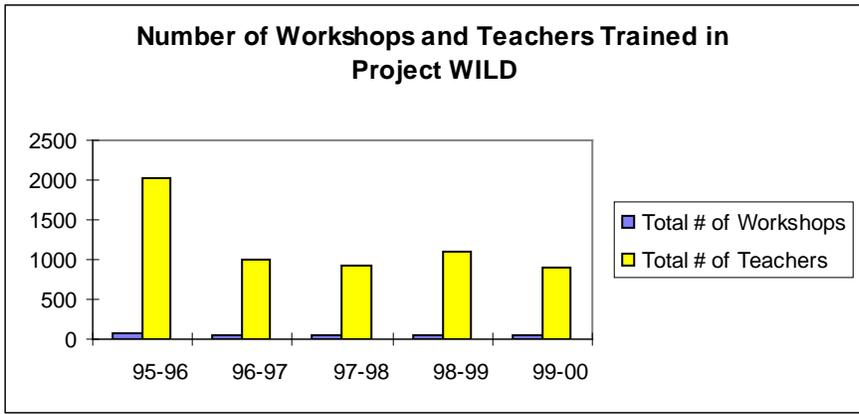
Business Driver: The number of subscribers to South Carolina Wildlife magazine in our goal to educate the public.

Subscription Sales

Year	# of Subscriptions
1995	55,492
1996	55,387
1997	55,577
1998	57,221
1999	60,112



Business Driver: The number of workshops and teachers trained in support of our goal to educate the public.



Analysis: Program emphasis has changed resulting in lower numbers. This year, more emphasis was on Aquatic Education, Advanced Workshops and other outreach and education efforts.

Program Name: Conservation Districts

Program Cost: State: \$1,563,212
Other: \$56,000
Federal: \$66,000

Goals: To sustain and enhance South Carolina's land, water and related natural resources; to protect the public health, safety and welfare through the registration of qualified professionals and the regulation of the practice of landscape architecture and soil classification.

Objectives: To increase the public's understanding of the need for natural resource conservation and stewardship. To strengthen the role of Conservation Districts as the focal point for grassroots land, water and related natural resource issues and policy within the state. To provide land users and land professionals with conservation technology, education and technical assistance. To promote efforts to achieve effective watershed management. To provide for registration of qualified professionals and for regulation of the practice of landscape architecture and soil classification.

Results:

<u>Inputs:</u>	<u>99/00</u>
- Number of conferences, workshops, clinics and field demonstrations	698
- Number of land resource planning and management projects assisted	66
- Number of units of conservation equipment provided to conservation districts and users	66
- Number of professional licensing applicants assisted	779
 <u>Outcomes:</u>	
- Percent of total crop land and pasture with adequate soil and water conservation management	69.3%
- Acres under conservation plan	7.6 Million
- Number of partnerships with agencies and other organizations	169
- Percent of BMPs that were implemented in watershed projects that were effective in reducing non-point source pollution	96%
- Percent of professional licensing applicants registered	92%
- Number of professional licensing complaints	9
 <u>Efficiency/Process:</u>	
- Ratio of state funds to non-state funds and in-kind services	1:6,25
- Cost per acre under conservation plan	\$2.61
- Ratio of staff to clients assisted	1:4,528
- Average cost/professional licensing applicant	\$89.04

Program Name: Planning and Information
(Stewardship Development, Comprehensive Planning, Flood Mitigation, Map and Information Center)

Goals: To provide natural resource planning information and assistance to sustain and enhance the State’s natural resources. To reduce or eliminate the long-term risk of flood damage to the built environment through mitigation planning, National Flood Insurance Program compliance and mitigation projects.

Objectives: To promote environmentally compatible development through the Stewardship Development Program. To promote effective natural resource planning through comprehensive planning assistance. To provide maps and similar cartographic products to the public. To coordinate implementation of the National Flood Insurance Program and other flood mitigation activities in the state.

Results:

<u>Inputs:</u>	<u>99/00</u>
- Requests for planning and stewardship assistance	66+
- Stewardship Development Award nominations	3
- Requests for cartographic products	6,152
- Communities with identified flood hazard areas	228

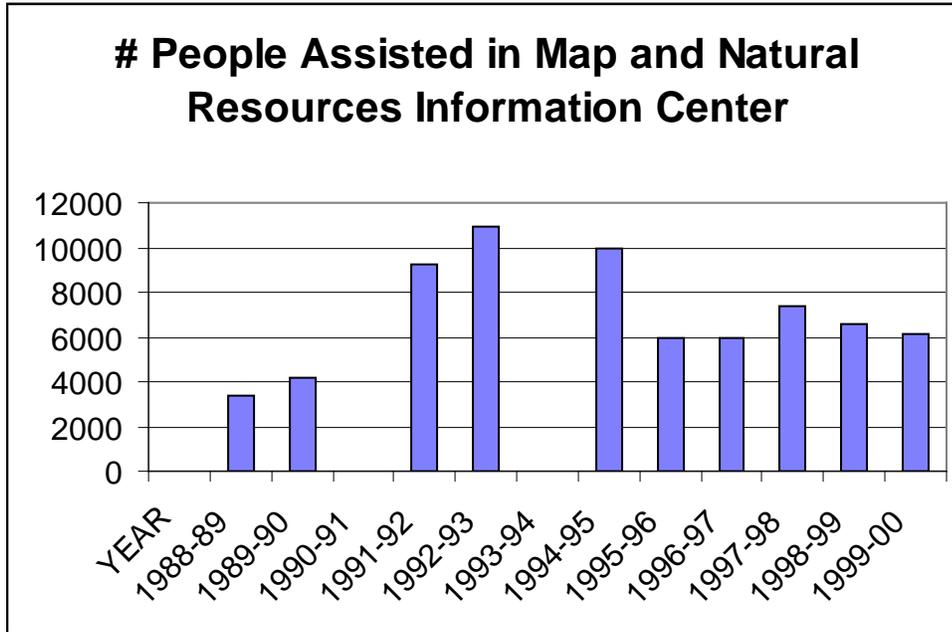
<u>Outputs:</u>	
- Workshops, meetings for planning and stewardship assistance and information provided	30
- Entities received stewardship development technical assistance receiving	5
- Projects evaluated for Stewardship Development Awards	3
- Cartographic products sold to customers	15,091
- Communities participating in the National Flood Insurance Program	199

<u>Outcomes:</u>	
- Percentage of requests for information and technical assistance provided	100%
- Stewardship Development Awards awarded	3
- Percentage of requests for cartographic products fulfilled	99%
- Percentage of communities assisted by the Flood Mitigation Program	86%

<u>Efficiency/Process:</u>	
- Average cost per planning or stewardship technical assistance contact	\$350.00
- Average cost per Stewardship Development Award nomination evaluated	\$1200.00
- Average cost per cartographic product provided	\$2.67

- Cost per community served by the Flood Mitigation Program

\$818.00



Analysis: This chart identifies the strong demand that continues for Maps and map products in the Map and Natural Resources Information Center.

Program Name: Hydrology

Program Cost: State: \$3,325,647 Other: \$106,206 Federal: \$493,520

Goals: To monitor local and regional changes in the hydrology of the State; to model these systems and formulate management alternatives that minimize competing demands and maximize water availability and quality; and to automate and provide ready access to the public and scientific community of the collected hydrologic data.

Objectives: To assess the State's water availability including evaluation of the inflows, amount in storage, demand and water quality. To develop innovative management strategies to improve availability and water quality, and to promote water conservation through the conjunctive use of surface and ground waters.

Results:

Inputs:

1. Response to public requests for technical assistance
2. Data access through the Internet
3. Technical assistance to Agency Director or Deputy Directors
4. Well logging and geophysical data acquisition
5. Hydrological research program (80% of staff time)
6. Assistance to locate wells
7. Hydrological monitoring
8. Hydrological data QA/QC and storage

Outputs:

9. Staff answered 275 requests for data/technical assistance. Included is staff review of 30 permits submitted to the Environmental Review section and staff participation on interdepartmental committees and assistance to other Divisions of the DNR.
10. Staff (5) assisted with the Department's Hurricane Floyd response. Coastal counties were surveyed for storm surge damage and the flood peak was computed for the Waccamaw River.
11. The hydrology link on the DNR's Internet Home Page was visited more than 144,000 times. Reservoir stage and stream discharge were again this year the most frequently accessed data.
12. Staff computed the 100-year flood for the Congaree River at Columbia, prepared a public presentation of findings and represented the Department at a public hearing before FEMA on its preparation of flood maps for the Congaree River.
13. 10,000 feet of bore holes and/or water wells were geophysically logged in 35 wells.
14. Staff continued six hydrological projects through FY99 - 2000. One was completed, 5 continued (1 of the 5 was expanded), and 2 new projects were started during FY99-2000.
15. A report *Irrigation Potential of the Shallow Aquifer, Hilton Head Island, S.C.* was published. A presentation of the findings was presented at the annual meeting of the Association of Ground Water Scientists and Engineers, Nashville, TN.
16. Prepared a report on drought conditions in the Piedmont of South Carolina.

17. A draft of the 4 of 6 chapters of *Methods and Standards of the Hydrology Division, South Carolina Department of Natural Resources* was completed. A chapter, *Methods of the Hydrology Section for Establishing and Maintaining an ADR Station*, drafted in 1999 was completed.
18. Ten hydrogeological sections detailing the relationship between geology and ground water flow were prepared. A presentation of the project and the findings were presented at the Annual Meeting of the Geological Society of America, Southeastern section, Charleston.
19. Four maps/short reports to be included in the Division's *Hydrologic Atlas of South Carolina* were completed.
20. A map with text on the water levels in the Tertiary aquifer system was drafted and is presently in review.
21. A water balance model was constructed for the Jones Gap Watershed, Greenville County.
22. A monitor well and weather station were established in Laurens County.
23. 15 water-level recession curves with predictive equations were developed for drought indicator wells and three real time combined stream gage-ground water monitoring stations were established.
24. 60 springs were inventoried and added to the Division's spring data base.
25. Six surveys to locate water bearing fractures using geophysical instruments were completed.
26. Nine monitor wells were added to the Coastal Plain groundwater monitoring network, and outfitted with automated data recorders (ADRs). Staff completed 12 trips to download data on the Santee River and four trips to profile stage and salinity in the estuary of the Savannah River.
27. Staff designed the data structure, formats, and "links" for QA/QC of data, and for the long-term storage and release of data to the public over the Internet.

Outcomes:

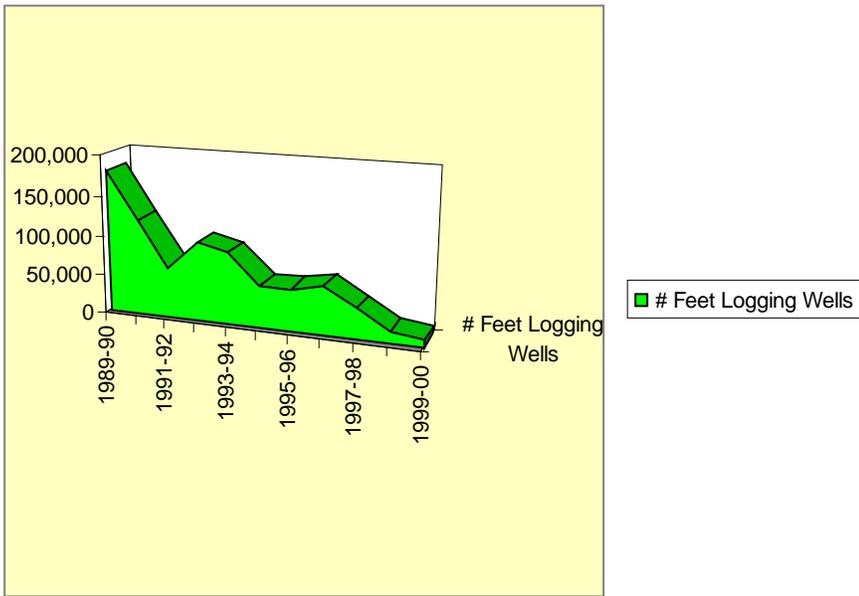
28. The number of requests for data and assistance decreased from 400 to 275. The numbers stayed the same in Columbia and declined in the Greenville (to 61) and Charleston offices (to 75). This partly relates to the fact that the Charleston office's data computer crashed and was lost for 6 weeks, and probably because SCDHEC has automated their data files and now purportedly handles requests.
29. The number of visits to the hydrology Internet link increased. This is believed to reflect the public's concern with water levels in streams and lakes in light of a third consecutive dry summer.
30. The total footage of logged wells increased.
31. The Department's role in the flood map review and appeal of the FEMA flood maps required 50% of one staff member's time and 25% of another's. This represented a new role for staff compared to years past.

32. Projects: Geological and hydrological analysis (description, determination of grain size) was carried on sediments of four previously cored holes (*Aquifer Delineation*); a relationship between streamflow, tidal stage, and saltwater was derived (*Saltwater Mixing in the Santee Delta*); a monitor well was drilled and outfitted with an ADRs in Laurens, and a water balance was computed for Jones Gap (*Piedmont Project*); and trends in discharge and water quality constituents for 35 river gages and sampling stations were completed (*Trends in Hydrological Data for South Carolina*).

Efficiency Process:

1. Requests for data and technical assistance took approximately 10% of one employee's time in Charleston, 30 percent in Greenville.
2. Estimated cost of assisting the public is \$48 per request. The cost is higher in Greenville, \$75.
3. Cost to assist in Hurricane Floyd response (8 employee days total) was \$1,300.
4. Cost to compute 100-year flood, prepare for public hearing on Congaree River (1 staff @ 120 days, 1 staff at 90 days \$30,000).
5. Well logging efficiency. Including travel time and well logging speed (5 ft/minute, 6 probes used) it takes 1 work day to log a well. Thus 35 days (15 percent) of a full-time employees' time was devoted to logging. The estimated cost per foot rose to \$0.59. Log processing (downloading digital files, copying filing etc.) approximately doubles the time involved. The cost per foot is therefore \$1.18. The cost of logging evidently rose during FY98-2000. The major expense in logging is travel time (travel to 35 wells, versus 21 in FY98). Cost to maintain and undertake projects in FY99-00 was \$375,000.
6. Six geophysical water surveys required 1 staff for 3 days per survey (field work, plus data analysis) \$2,400.
7. The cost of outfitting a monitor well with an ADR is \$2,400, plus travel and employee salary. A total of 18 employee days was spent outfitting new wells. Estimated cost was \$4,300. In addition, data from each well on the network is "downloaded" data once every 8 weeks, this requiring an additional 18 employee days. Estimated cost, \$4,300. Total for the network is \$8,600.
8. Inventory of springs cost \$11,800 (salary and travel).
9. The cost of publishing the *Irrigation Potential of the Shallow Aquifer, Hilton Head Island, S.C.* was \$5,600.

Land Water and Conservation – Feet Logging Wells



Analysis: With the decrease of funding for drilling logging wells to secure scientific data, the # feet of these wells has decreased.

Program Name: River Conservation

Goal: To protect the environmental integrity of the State's water resources through the conservation and management of riverine resources.

Objectives: To assist local communities with watershed and river corridor planning and to designate and manage State Scenic Rivers. To promote river water stewardship through education and citizen involvement activities.

Results:

Inputs:

- S 1 request for Scenic River eligibility study
- S 18 requests for watershed and river corridor planning technical assistance
- S Over 5000 individuals involved in river conservation education and outreach activities
- S 45 requests for presentations concerning river management and/or river conservation
- S 1 Project WET facilitator training session
- S 15 requests for Project WET workshops for teachers and non-formal educators
- S 6 requests for Project WET presentations and student programs

Outputs:

- S 3 ongoing watershed/river corridor studies are being managed
- S 5 scenic rivers are being managed
- S 46 scenic river management functions were conducted
- S Over 200 river conservation education and outreach activities were conducted
- S An eligibility study for the Black River was initiated
- S 1 Project WET facilitator training session was conducted
- S 15 Project WET educator workshops were conducted
- S 6 Project WET presentations and student programs were conducted

Outcomes:

- S 125 miles of river protected through the Scenic Rivers Program
- S 340 miles of river managed through watershed/river corridor planning projects
- S Over 5000 individuals participated in River Conservation Education and Outreach Programs
- S 1 Project WET facilitator training session was conducted which increased active facilitator network from 27 to 42
- S 240 teachers and non-formal environmental educators were trained by Project WET facilitators
- S 1,223 students, formal and non-formal environmental educators, government employees and other interested citizens were reached through Project WET presentations and student programs

Efficiency/Process:

- S Average cost to manage State Scenic Rivers: \$340/mile
- S Average cost of watershed/river corridor projects: \$16/square mile
- S Average cost of river conservation education activities per volunteer involvement: \$5/volunteer

Program Name: Environmental Conservation (Aquatic Nuisance Species, Environmental Review, Laboratory Services)

Goals: To prevent aquatic nuisance species problems in public waters. To influence the decisions of environmental regulatory agencies and other entities taking actions affecting natural resources. To develop analytical chemical data needed for natural resource protection and management.

Objectives: To reduce the abundance of existing aquatic nuisance species populations through field surveys, control activities and interagency coordination. To prevent the introduction and spread of non-native invasive aquatic nuisance species through resource monitoring, public education and enforcement of the State Noxious Weed Act and State Plant Pest Act. To promote the use of desirable native aquatic plant species through shoreline stabilization and habitat enhancement projects. To coordinate agency wide review of environmental permit applications and other environmental actions affecting natural resources for the 38 inland counties of the State. To provide analytical laboratory support services to all divisions of the agency.

Results:

Inputs:

- 4,804 acres of nuisance aquatic plant species were identified
- 14,250 access “hits” on Aquatic Nuisance Species web site, 378 requests for Aquatic Plant Book, 1,500 Illegal Aquatic Plant Booklets/Brochures distributed
- 4,664 laboratory sample analysis requests were received
- 614 environmental review requests were received

Outputs:

- 3,259 acres (19 water bodies) were treated to control nuisance aquatic plants
- 30% increase in average number of electronic and paper requests for aquatic nuisance species information from prior year
- 4,664 sample analyses were completed in accordance with requests
- 614 timely environmental review responses were provided

Outcomes:

- 1% reduction in acres infested by nuisance aquatic species from previous year [This reflects a 92% reduction from peak infested acres for all water bodies (62,630 acres)].
- 100% of ANS information requests were filled
- 95% of laboratory sample analyses were completed by requested deadline
- Most environmental review recommendations were incorporated into permits issued by regulatory agencies

Efficiency/Process:

- Cost per acre for nuisance aquatic species control: \$139/acre
- Average cost of free nuisance aquatic species public educational material: \$0.40/each
- Average cost per sample analyzed: \$5.40/analysis
- Average cost to complete requested environmental reviews: \$62.00/review

Program Name: State Climate Office (SCO)

- Goals:** Southeastern United States, including Alabama, Florida, Georgia, the Carolinas, Virginia, Puerto Rico, and the US Virgin Islands;
- 1 Assist and educate clients on the best use of climatic data and information; and
 - 2 monitor and assess climatic conditions and impacts over their representative areas.
 - 3 Influence the decisions of environmental regulatory agencies and other entities taking actions affecting natural resources.
 - 4 Prevent aquatic nuisance species problems in public waters.
 - 5 Develop analytical chemical data needed for natural resource protection and management.

The long-term goals of the Climate Program are to:

- S become established as the recognized state and regional sources of quality climatic data and information;
- S identify and encourage public and private sector managers to incorporate appropriate climatic information into their decisions and planning;
- S educate the public at all levels about the ways in which climatic and weather information can be used to improve their socioeconomic well-being; and
- S improve these capabilities through applied research and development programs.

Objectives: Maintain and improve access and delivery systems for climatic data and products to the Public.

Program Goals:

- S To provide and maintain comprehensive suite of contemporary climate products, climate information services and electronic data archives for South Carolina and the user community and increase the number of data sets available at or through the SERCC. Obtain, quality control and maintain appropriate data sets to satisfy the objective.
- S Prepare and publish climatic information and data summaries necessary for regional and state climate monitoring. Special attention should be paid to climate anomalies and major climate features of the region and their impacts.
- S Assess user needs and the value of climate products and applications for major regional concerns such as energy, agriculture, transportation, tourism and water resources.
- S Improve informational and educational services by dissemination of reports on regional and state climatic events and their impacts. Conduct outreach through public and professional presentations and strengthen interactions with education at all levels.

- S Establish a high-quality applied research program, with a mix of internally and externally
- S funded projects, which complements the operational capabilities of the Climate Programs.

Results:

Inputs: 2,163,855 climate data streams were received by the SERCC from July 1999 through June 2000. Data stream receipts included near-real time data from NOAA, USDA, USFS, DOD, State Parks, and other State meso-networks within the Southeastern US.

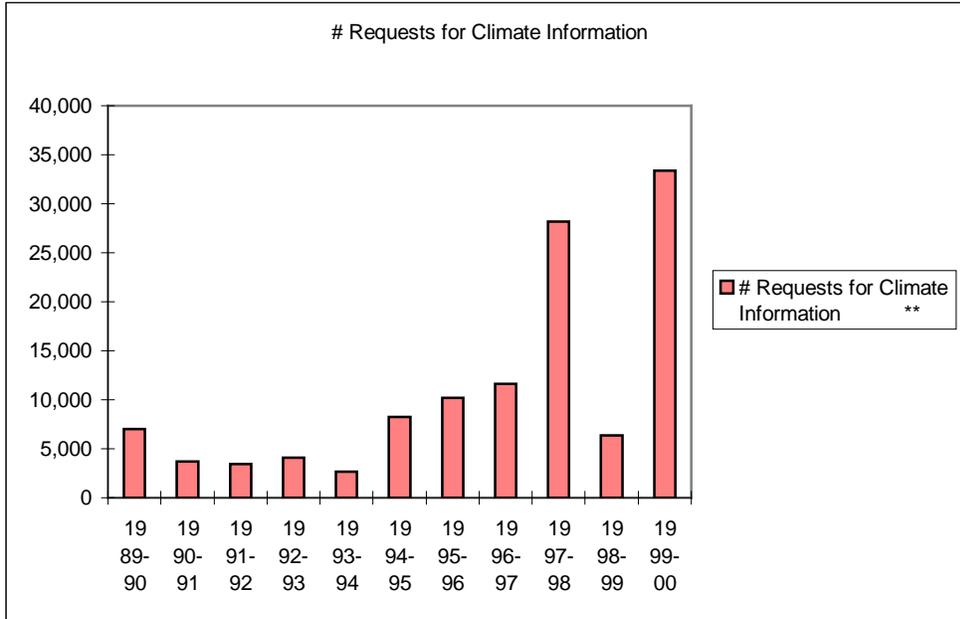
Outputs:

1. The SERCC received and processed 33,374 climate data and information requests in FY99-00
2. The SCO received and serviced 2,818 climate data and information requests during the reporting period.
3. 1,547,345 Internet accesses were made to SERCC web pages
4. The SCO received and serviced 181,839 Internet accesses during the reporting period.

Outcomes:

1. SERCC delivery systems for climatic data and products have been improved by increasing the number of data sets available, migrating to a relational database, migrating to a web-based data access system and streamlining the electronic user request interface. Improvements have also been made to the quality control of near-real time data ingest and the ingest systems. Data archives on CD-ROM have been improved by 100%, giving the SERCC staff and users access to a comprehensive suite of historical weather and climate information in the southeast US.
2. On-line climate monitoring products, such as drought maps and charts, precipitation accumulations, and temperature summaries, were updated and made available on a weekly basis.
3. The Southern AER (Atmospheric Education Resource) was compiled and published quarterly by SERCC staff.
4. More than 10 applied research reports were presented at national venues by SERCC staff from July 1999 through June 2000.
5. Two applied research projects were supported by the SERCC from July 2000 through June 2000: Carbone and Yow of USC, *Orlando Florida=Urban Heat Island*; and Stooksbury of UGA, *Vernalization of Peaches and Blueberries and Late Spring Freezes in the Southeastern US*.
6. SCO staff presented four papers at professional meetings during the past year.
7. One SCO staff member completed her Master of Science thesis, for which she received a national award.

8. Special briefings, presentations, and informational messages concerning severe weather & climate events (droughts, floods, hurricanes, etc.) authored by the SCO staff for State, regional, county, and local decision-makers numbered about 400 for the past year.



Analysis: This chart provides the data to emphasize the growing demand for climate information from the State Climate Office.

Program Name: South Carolina Geological Survey

Goal: To serve the geologic needs of the citizens via a service-oriented, research program which collects, analyzes, interprets and reports all information pertaining to the geology affecting the daily lives of the citizens of the State.

Objectives: To improve the quality and quantity of the geologic knowledge base by systematically collecting, interpreting and delivering surface and subsurface geologic data in a structured form that is applicable to data-based decision-making pertaining to sustainable development and habitat protection. Gaps in the geologic knowledge base are corrected using targeted surveys, continuous updating and re-evaluation of existing data. Information from this knowledge base is provided in the form of maps, open-file reports, bulletins, charts, economic statistics and electronic files to resource managers and planners. Derivative products are also developed from this knowledge base to compliment Earth Science education.

Results:

Inputs:

- S Geologically mapped and published as open-file reports 8 selected 1:24,000 scale quadrangles from a variety of areas (Piedmont, Coastal region and SRS).
- S Edited and published *A Compendium of Field Trips of South Carolina Geology* to provide earthquake hazard, education and geo-tourism information.
- S Developed derivative education products to compliment the new K-8 education science standards.
- S Conducted research using paleomagnetic polarity and amino acid methods to study age dates on selected samples from the Coastal Plain region.
- S Continued studies of elevation change as related to the marsh surface in the ACE Basin

Outcomes:

- S Areas mapped were selected based on socio-economic or ecosystem management needs or for scientific welfare of the State by a multi-representative committee.
- S 7 meetings were held with Federal, State, county and local officials to determine where geologic information was needed to assist economic development, to address environmental or earthquake hazard problems or to determine the effects of coastal change.
- S 9 meetings were held with State and local educators, extension services, and conservation districts to determine the information needs of different earth science education programs.
- S Monitoring of surface elevation change continued along the southern coast.

Efficiency:

- S 8 quadrangles placed on open-file: 319 square miles mapped @ \$678.82/square mile.
- S Prepared two power point, Earth Science education presentations @ \$2,812.50/presentation
- S Prepared and published 5000 education post cards @ \$1.36/card

- S Prepared and published 10,000 education Geology Time Scales graphics @ \$0.37/graphic
- S Modified or prepared four education posters @ \$562.50/poster
- S Prepared and distributed 350 mineral kits for education @ \$10.85/kit
- S Published a volume of field trips with emphasis on the Charleston area: 500 copies @ \$8.00/copy.
- S 150 samples were analyzed for age dates using paleomagnetic methods @ \$116.67/sample
- S 20 samples were analyzed for age dates using amino acid methods @\$219.38/sample
- S SET stations were measured in the ACE Basin to study elevation change @ \$147.00/measurement

Program Name: Law Enforcement Operations

Program Cost:

State:	\$7,710,138
Federal:	
Other:	\$5,215,652
Total:	\$12,925.790

- Goals:**
- 1) Ensure the protection of life, property and natural resources through the maintenance of a well-trained and properly equipped, professional natural resources law enforcement force equitably distributed across the state.
 - 2) Maintain, develop and implement technologies to enhance natural resources stewardship and conservation including, but not limited to, hatchery, aquaculture and population restoration and rebuilding technologies.
 - 3) Promote safe, ethical and responsible use of the state's natural resources
 - 4) Provide for effective staff development and training in natural resources management, planning and customer service, including continuing education, leadership training, and formal education.
 - 5) Explore and develop applicable technological innovations to improve natural resources management, planning and customer service.
 - 6) Maintain and enhance facilities and infrastructure to continually improve management and stewardship of the state's natural resources and customer service.
 - 7) Utilize the talents of the Department's Advisory Committees to gauge public opinion and educate the public on important natural resources issues.
 - 8) Continually evaluate efficient use of present funding and pursue new sources of funding for management, conservation and protection for the state's natural resources.
 - 9) Educate the public about the state's natural resources and encourage them to make more informed contributions to the management, use, stewardship and enjoyment of our natural resources.
 - 10) Continue to attract and retain talented employees available to carry out the agency's mission in a manner that includes career development and competitive compensation for staff.
 - 11) Develop opportunities to promote diversity both within the agency and in its constituents to enhance participation in nature-related activities by all citizens of South Carolina.
 - 12) Support local, regional and state efforts to conserve and sustain natural resources through comprehensive land use planning.

Program Objectives: Specific 1999-00 Objectives:

- 1) Identify and secure funding to purchase and issue dress uniforms to all DNR officers. The general design and fabric selection process has been completed. Development of a suitable proto-type and appropriate manufacturing

specifications are in the final stages of completion. Uniforms should be issued to DNR officers no later than June 2000.

- 2) Work with DNR Human Resources to develop and complete a comprehensive clerical study to access individual/class job duties and appropriate compensation. Up-date position descriptions as necessary to accurately reflect present job duties of clerical employees. Identify available funding sources to adjust clerical salaries as identified by the salary study.
- 3) Conduct an assessment of the Division's Training Program to determine adequate staffing needs (full-time administration, voluntary instructors, and clerical support) and funding requirements. Based on the outcome of this assessment, develop a comprehensive training plan to address fundamental priorities of the program. Establish a time line to implement changes identified by the assessment.
- 4) In an effort to improve safety on the state's waterways and to enforce provisions of the recently enacted Boating Safety Act, the Division will develop specific training for DNR officers and other agencies conducting marine enforcement to address BUI enforcement. Priority of effort will be given to development of appropriate curriculum, training of instructors, and training of DNR officers assigned to areas of the state that have the greatest concentration of boating activity.
- 5) In an effort to improve the general health and fitness of DNR officers the Division will develop, implement, and promote a voluntary health and fitness program. The program should be closely tied to Project Readiness as a pre-requisite for participation and evaluation of effectiveness. The program will initially be established as a "pilot program" in order to assess the level of officer participation and interest, benefits derived, and problems/concerns associated with such a program. This evaluation will in part be used to determine the future status of the program.
- 6) In an effort to improve the process of acquiring, maintaining, and accounting for items of supply and equipment used by the Law Enforcement Division, the Division will assume responsibility of managing day-to-day operations of its own Supply and Equipment Section. In order to accomplish this task the following issues must be addressed: 1. Selection of a Supply Officer, 2. Establish Supply and Equipment operational guidelines, 3. Establish functional Supply Room infrastructure, and 4. Establish Inventory/Inspection process.
- 7) In an effort to improve safety on the state's waterways, the Division anticipates hiring approximately 27 new officers to help enforce boating safety. The funding to support this effort is based on new legislation that was recently enacted that will increase boat title and registration fees. A portion of the fee increase will be used to hire and equip new DNR officers. The Division will assign the officers to areas that have a high concentration of boating activity. This legislation was prompted by the growing popularity of recreational boating on the state's waterways. The combined effect of more boaters (many of which are new to the activity and have limited experience)

utilizing a variety of watercraft (many of which are larger and faster) have in part contributed to an increase in the number of boating accidents.

- 8) In an effort to develop a comprehensive intelligence/work load data base that will allow the Division to focus enforce efforts and assist with manpower allocation, a process will be developed that will allow for the collection, storage, analysis, and utilization of intelligence/work load information. To implement this process the following issues must be addressed: 1. Up-grade computers (hardware/software) in the Intelligence/Records Section, 2. Issue GPS units to all DNR officers (up-grade units as needed), 3. Conduct GPS training to DNR officers, and 4. Establish a data collection and utilization plan.

Sustaining Objectives:

- 1) To apprehend violators of state and federal game, fish, and boating laws.
- 2) To conduct criminal and accident investigations and enforce non-title 50 statutes to enhance public safety and environmental protection.
- 3) To increase interaction and coordination with outside law enforcement and regulatory agencies with similar or concurrent jurisdiction in resources protection and public safety in the areas of resource issues, intelligence information, and criminal statistics.

Program Results: Specific 1999-00 Objectives Results:

- 1) The contract for the dress uniform was officially awarded to Horace Small Uniform Apparel in September of 1999. As outlined in the contract the successful vendor was required to submit a pre-production sample for approval. Based on several concerns with the pre-production sample, the Division requested Horace Small to make several modifications to correct these concerns prior to production. The corrected pre-production sample should be available for the Division to inspect in June of 2000. The Division did not receive any additional funding to support the dress uniform project during this fiscal year. As result, it was the intentions of the Division to utilize general operating funds for this project. When it was determined that the uniform could not be produced and delivered in this fiscal year the funds were utilized for other Division needs. The Division intends to complete this project with General operating funds in FY 00-01.
- 2) The contract for the dress uniform was officially awarded to Horace Small Uniform Apparel in September of 1999. As outlined in the contract the successful vendor was required to submit a pre-production sample for approval. Based on several concerns with the pre-production sample, the Division requested Horace Small to make several modifications to correct these concerns prior to production. The corrected pre-production sample should be available for the Division to inspect in June of 2000. The Division

did not receive any additional funding to support the dress uniform project during this fiscal year. As result, it was the intentions of the Division to utilize general operating funds for this project. When it was determined that the uniform could not be produced and delivered in this fiscal year the funds were utilized for other Division needs. The Division intends to complete this project with General operating funds in FY 00-01.

- 3) The Divisions Training Program has successfully added two full-time personnel to the training section. One First Sergeant, and one clerical support (duties are split between Training and other needs of the Division). The clerical support person is responsible (among other clerical duties) for correspondence to help keep supervisors and officers informed on training issues The new positions have had an immediate impact on the quality of training that is being delivered to the officers in the field. In an effort to improve all aspects of training, a two year training plan was developed to outline areas of emphasis. The plan addresses the following:

- In-service training
- DNR Basic Training
- Field Officer Training Program (FTO Program)
- Specialized Training Needs

In the first year of the two year training plan, considerable progress has been made in addressing DNR in-service training and the DNR Basic Training program. Emphasis now will be directed towards the development of an effective FTO Program and identifying the specialized training needs of the Division.

- 4) The Divisions Training Program has successfully added two full-time personnel to the training section. One First Sergeant, and one clerical support (duties are split between Training and other needs of the Division). The clerical support person is responsible (among other clerical duties) for correspondence to help keep supervisors and officers informed on training issues The new positions have had an immediate impact on the quality of training that is being delivered to the officers in the field. In an effort to improve all aspects of training, a two year training plan was developed to outline areas of emphasis. The plan addresses the following:

- In-service Training
- DNR Basic Training
- Field Officer Training Program (FTO Program)
- Specialized Training Needs

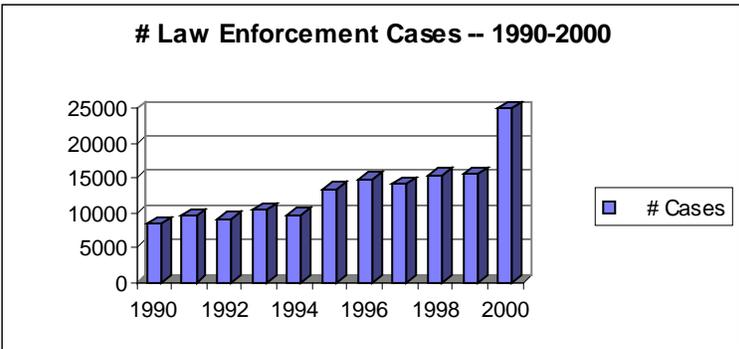
In the first year of the two year training plan, considerable progress has been made in addressing DNR in-service training and the DNR Basic Training program.

Emphasis now will be directed towards the development of an effective FTO Program and identifying the specialized training needs of the Division.

- 5) In an effort to improve the general health and fitness of DNR officers, a voluntary health and fitness program has been implemented. Officers who participate take advantage of Project Readiness and participate in a bi-annual fitness assessment program. Participation is improving as the program takes root and the officers see the benefits of a regular fitness program. Incentives for participation have been well received and seem to be a positive motivation.
- 6) In an effort to improve the general health and fitness of DNR officers, a voluntary health and fitness program has been implemented. Officers who participate take advantage of Project Readiness and participate in a bi-annual fitness assessment program. Participation is improving as the program takes root and the officers see the benefits of a regular fitness program. Incentives for participation have been well received and seem to be a positive motivation.
- 7) In an effort to improve the general health and fitness of DNR officers, a voluntary health and fitness program has been implemented. Officers who participate take advantage of Project Readiness and participate in a bi-annual fitness assessment program. Participation is improving as the program takes root and the officers see the benefits of a regular fitness program. Incentives for participation have been well received and seem to be a positive motivation.

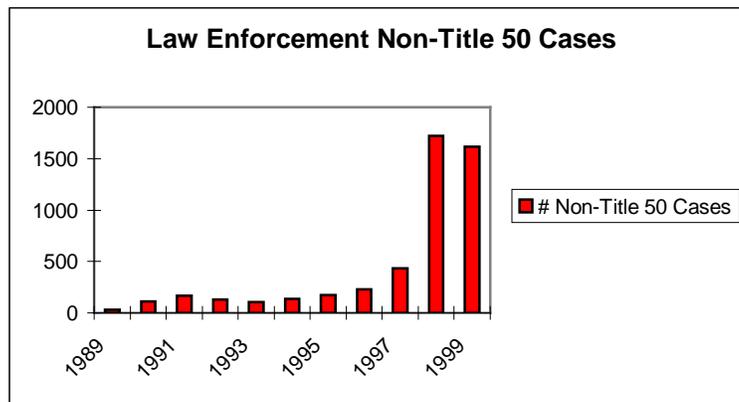
Sustaining Objectives Results:

1) Law Enforcement Case Load (24,945)



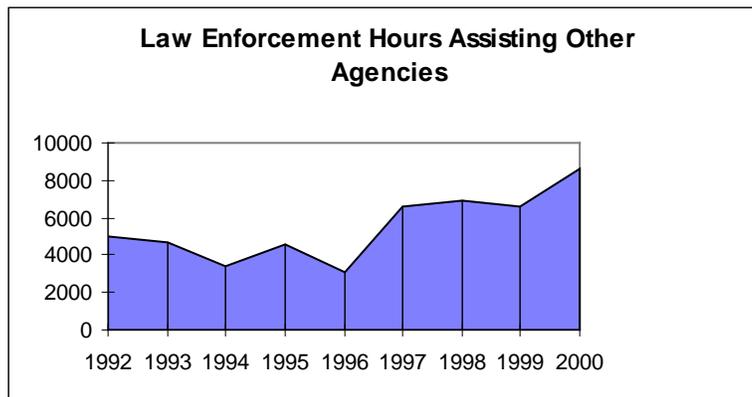
Analysis: This chart is a graphical display of the summons written (Title 50 cases, wildlife, fishing, and boating related offenses) by DNR officers each year. For reference, a ten year period of data is displayed.

2) Law Enforcement Non-Title 50 Cases (**1,614**)



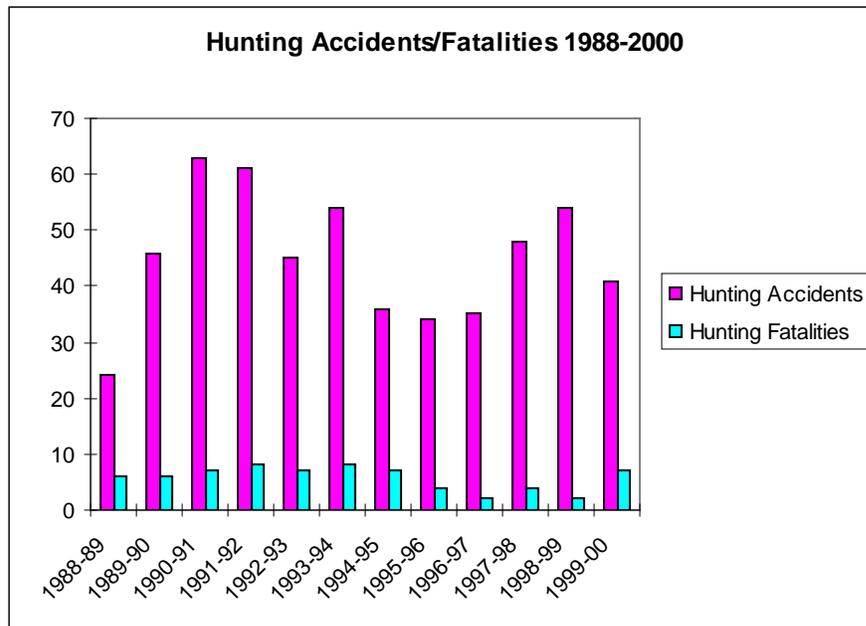
Analysis: This chart is a graphical display of the arrests and summons written (Non-Title 50 cases, i.e. drugs, alcohol, littering, disorderly conduct, etc.) by DNR officers each year. For reference, a ten year period of data is displayed.

3) Law Enforcement Hours Assisting Other Agencies (**8,573**)



Analysis: This chart is a graphical display of the number of hours DNR officers work each year assisting other law enforcement agencies. DNR routinely assists other agencies with manhunts, search and rescue, evidence recovery, special events (i.e. Memorial Weekend Bike Rally, security for special events). For reference, a ten year period of data is displayed.

4) Hunter Safety - Hunting Accidents/Fatalities (**41 total / 7 fatal**)



Analysis: This chart is a graphical display of the number of “hunting accidents” and “fatal hunting accidents” that DNR officers investigate each year. For reference, a ten year period of data is displayed.

Program Name: County Fund Operations

Program Cost: State: \$335, 600
Federal:
Other:
Total: \$335,600

- Goals:**
- 1) Ensure the protection of life, property and natural resources through the maintenance of a well-trained and properly equipped professional natural resources law enforcement force equitably distributed across the state.
 - 2) Maintain, develop and implement technologies to enhance natural resources, stewardship, and conservation including, but not limited to hatchery, aquaculture and population restoration and rebuilding technologies.
 - 3) Continually evaluate efficient use of present funding and pursue new sources of funding for management, conservation and protection for the state's natural resources.
 - 4) Maintain and enhance facilities and infrastructure to continually improve management and stewardship of the state's natural resources and customer service.

Program Objectives: Sustaining Objectives:

- 1) To utilize county funds to purchase equipment and services to support DNR Law Enforcement Field Operations. County funds are utilized to purchase approved items of equipment and services for patrol districts for which department revenue, state appropriations or federal funds are not available. The items of equipment and services are intended to support the specific and sustaining goals and objectives of the Law Enforcement Field Operations section.

Program Results: Results are included in the Law Enforcement Operations portion of the document.

Program Name: Hunter Safety

Program Cost:

State:	
Federal:	\$472,176
Other:	\$162,826
Total:	\$635,002

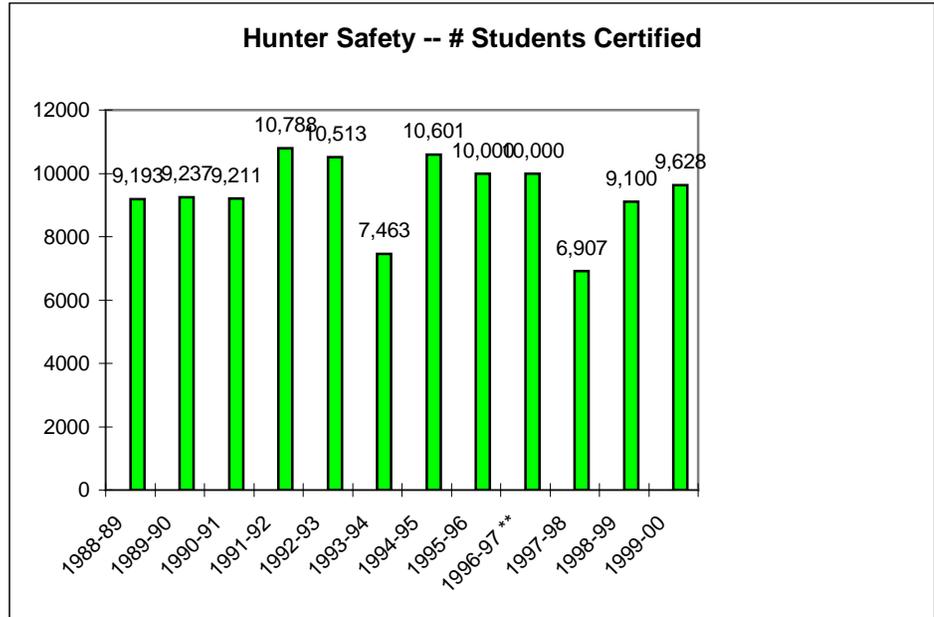
- Goals:**
- 1) Ensure the protection of life, property and natural resources through maintenance of a well-trained and properly equipped, professional natural resources law enforcement force equitably distributed across the state.
 - 2) Educate the public about the state's natural resources and encourage them to make informed contributions to the management, use, stewardship and enjoyment of our natural resources.
 - 3) Assess and communicate public interests, needs and knowledge as it relates to natural resources.
 - 4) Promote safe, ethical and responsible use of the state's natural resources.
 - 5) Promote awareness of natural hazards and educate the public in ways to mitigate loss or injury.
 - 6) Emphasize the importance of education as a portion of every DNR employee's work responsibilities.
 - 7) Support local, regional and state efforts to conserve and sustain natural resources through comprehensive aquatic and land use planning.
 - 8) Maintain and enhance facilities and infrastructure to continually improve management and stewardship of the state's natural resources and customer service.

Program Objectives: Sustaining Objectives:

- 1) To ensure the needs of the public are being met by offering hunter education programs on a routine basis at locations throughout the state.
- 2) Review and update content and teaching methods utilized in conducting hunter education programs to ensure that the most effective means are utilized.
- 3) Maintain a sufficient number of volunteer instructors that are well trained and properly equipped to assist in conducting hunter education programs.
- 4) To continue legislative efforts promoting hunter safety.
- 5) Develop Public Service Announcements (PSA's) that promote safe and ethical hunting practices. Utilize various media outlets (television, radio and print) to broadcast PSA's.

Program Results: Sustaining Results:

1) Hunter Safety - Number of Students Certified (**9,628**)



Analysis: This chart is a graphical display of the number of students certified annually through DNR's Hunter Education Program. For reference, a ten year period of data is displayed.

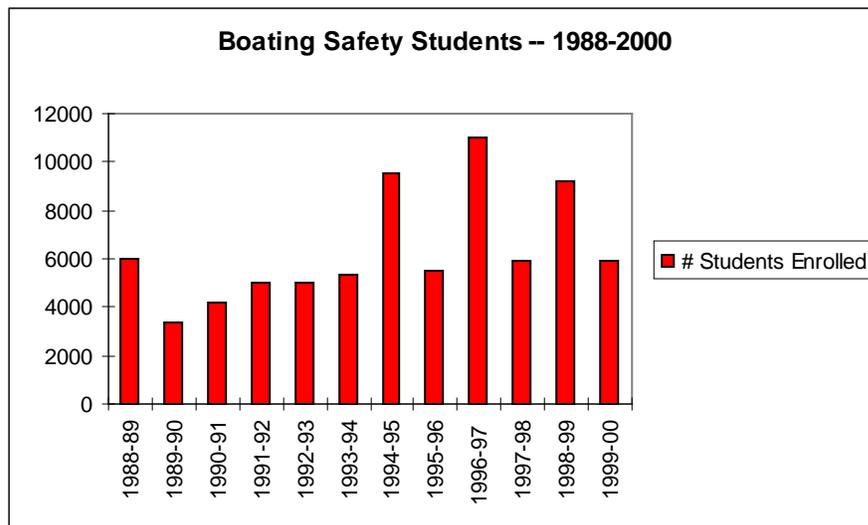
Program Name: Boater Safety

Program Cost: State:
Federal: \$933,665
Other:
Total: \$933,665

- Goals:**
- 1) Ensure the protection of life, property and natural resources through maintenance of a well-trained and properly equipped, professional natural resources law enforcement force equitably distributed across the state.
 - 2) Educate the public about the state’s natural resources and encourage them to make informed contributions to the management, use, stewardship and enjoyment of our natural resources.
 - 3) Assess and communicate public interests, needs and knowledge as it relates to natural resources.
 - 4) Promote safe, ethical and responsible use of the state’s natural resources.
 - 5) Promote awareness of natural hazards and educate the public in ways to mitigate loss or injury.
 - 6) Emphasize the importance of education as a portion of every DNR employee’s work responsibilities.
 - 7) Support local, regional and state efforts to conserve and sustain natural resources through comprehensive aquatic and land use planning.
 - 8) Maintain and enhance facilities and infrastructure to continually improve management and stewardship of the state’s natural resources and customer service.

Program Results: Sustaining Results:

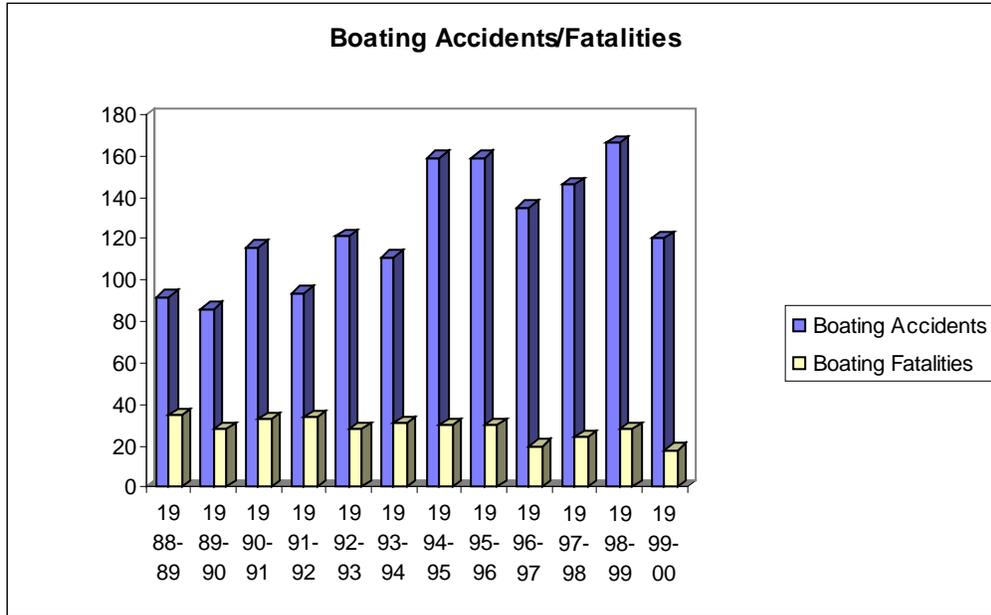
1) Boating Safety - Number of Students Certified (**5,892**)



Analysis: This chart is a graphical display of the number of students enrolled annually

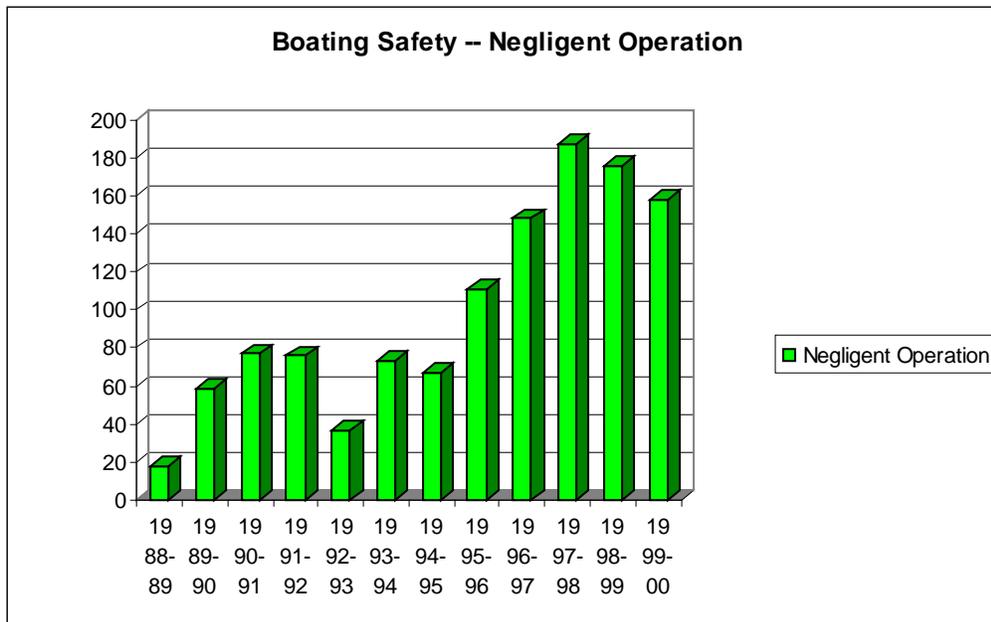
in DNR's Hunter Education Program. For reference, a ten year period of data is displayed.

2) Boating Safety - Accidents/Fatalities (120 Total / 18 Fatal)



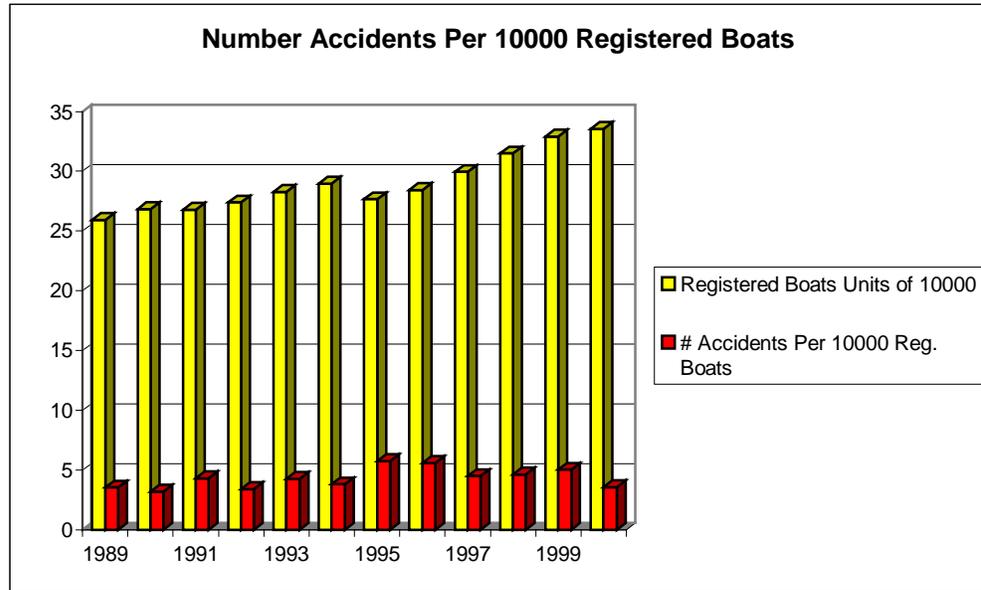
Analysis: This chart is a graphical display of the number of “boating accidents” and “fatal boating accidents” that DNR officers investigate each year. For reference, a ten year period of data is displayed.

3) Boating Safety - Negligent Operation (158)



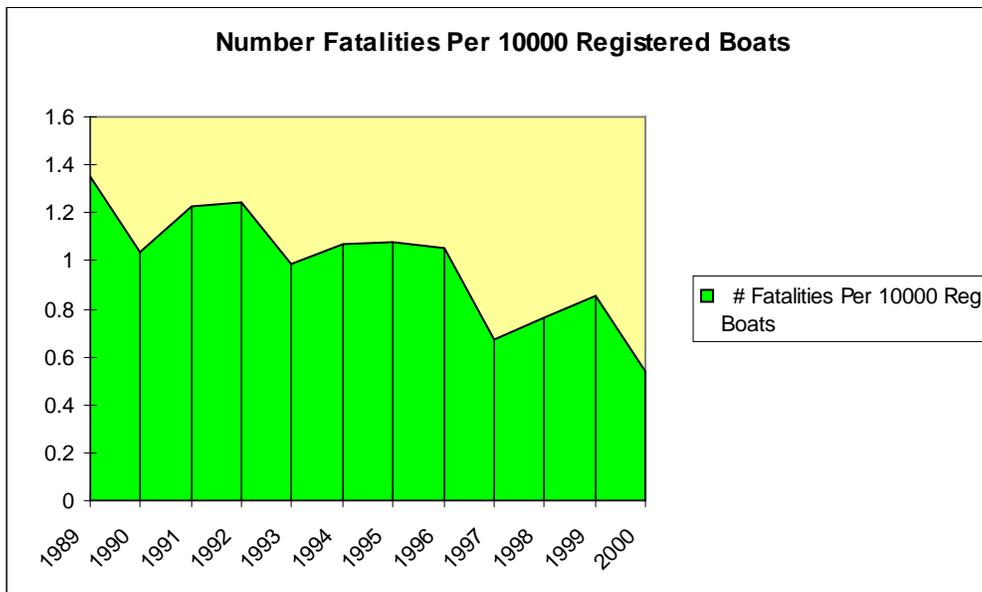
Analysis: This chart is a graphical display of the number of “negligent operations cases” that DNR officers investigate each year. For reference, a ten year period of data is displayed.

4) Number of Boating Accidents Per 10000 Registered Boats 1989-2000.



Analysis: This chart depicts the number of boating accidents per 10,000 active registered boats in South Carolina. It is important to note that the trend is an increase in boat registrations from 250,835 in 1989 to 335,640 in 2000 but the accident rate per 10,000 registered boats has dropped to 3.58 in 2000.

5) Number of Boating Fatalities Per 10000 Registered Boats 1989-2000.



Analysis: This chart identifies the number of boating fatalities per 10,000 registered boats in S.C. While the number of registered boats is on an upward trend, it is important to recognize on this chart that the rate of fatalities is decreasing.