

HORRY COUNTY PARKS AND OPEN SPACE PLAN



Prepared by: **Horry County Planning & Zoning Department** in cooperation with the **Parks and Open Space Board**

Mail address:

Horry County
Government and Justice Center
1301 Second Avenue
Suite 1D09
Conway, SC 29526
USA

Phone: (843) 915-5340

COUNTY OF HORRY)
)
STATE OF SOUTH CAROLINA)

RESOLUTION R-60-09

A RESOLUTION FOR HORRY COUNTY COUNCIL TO ADOPT THE HORRY COUNTY PARKS AND OPEN SPACE PLAN AS RECOMMENDED BY THE HORRY COUNTY COMPREHENSIVE PLAN ENVISION 2025.

WHEREAS, Horry County recognizes the importance in protecting and conserving its most precious natural resources such as rivers, wetlands, swamps, bogs, Carolina Bays, bottomland forests and other important wildlife habitat as well as its agricultural and forested lands, which are all essential to the physical fitness and human health, environmental protection, education, and local economy of the County; and

WHEREAS, this resolution supports the adoption of the Parks and Open Space Plan as a comprehensive guidance and coordinated planning tool between the Parks and Open Space Board, the Parks and Recreation as well as the Planning and Zoning Department in identifying suitable land parcels to be included into Horry County's proposed Parks and Open Space system; and

WHEREAS, this resolution supports the stated needs, goals, and strategies of the adopted Horry County Comprehensive Plan "Envision 2025", which calls for the introduction of a "Countywide Open Space Plan"; and

WHEREAS, Horry County Council acknowledges the hard work and supports the vision of its Parks and Open Space Board to promote and encourage land use practices that help keep Horry County a naturally beautiful place to live, work and play.

NOW THEREFORE, Horry County Council resolves to adopt the Horry County Parks and Open Space Plan as prepared and recommended for approval by the Horry County Parks and Open Space Board.

AND IT IS SO RESOLVED.

Dated this 21st day of April, 2009.

HORRY COUNTY COUNCIL


Liz Gilland, Chairman

Harold G. Worley, District 1

Brent J. Schulz, District 2

Marion D. Foxworth, III, District 3

Gary Loftus, District 4

Howard D. Barnard, III, District 5

Robert P. Grabowski, District 6

James R. Frazier, District 7

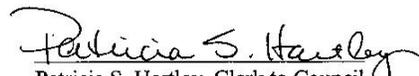
Carl H. Schwartzkopf, District 8

W. Paul Prince, District 9

Jody Prince, District 10

Al Allen, District 11

Attest:


Patricia S. Hartley, Clerk to Council

COUNTY OF HORRY)
)
STATE OF SOUTH CAROLINA)

RESOLUTION R-62-10

A RESOLUTION TO REVISE THE HORRY COUNTY PARKS AND OPEN SPACE PLAN TO INCLUDE ADDITIONAL MAPS AND TEXT.

WHEREAS, Horry County Parks and Open Space Board as appointed by County Council has voted to revise the Horry County Parks and Open Space Plan;

WHEREAS, this resolution supports the revision of the Parks and Open Space Plan as to include a total of four (4) maps as well as a descriptive paragraph on the Green Infrastructure Concept map for Horry County;

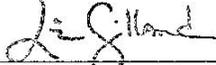
WHEREAS, aforementioned changes have resulted in more pages and page renumbering as well as edits to the Table of Content and Table of Figures;

NOW THEREFORE, Horry County Council resolves to adopt the recent changes to the Horry County Parks and Open Space Plan as prepared and recommended for approval by the Horry County Parks and Open Space Board.

AND IT IS SO RESOLVED.

Dated this 15th day of June, 2010.

HORRY COUNTY COUNCIL



Liz Gilland, Chairman

Harold G. Worley, District 1

Brent J. Schulz, District 2

Marion D. Foxworth, III, District 3

Gary Loftus, District 4

Howard D. Barnard, III, District 5

Robert P. Grabowski, District 6

James R. Frazier, District 7

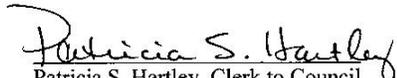
Carl H. Schwartzkopf, District 8

W. Paul Prince, District 9

Jody Prince, District 10

Al Allen, District 11

Attest:



Patricia S. Hartley, Clerk to Council

Acknowledgements

This document has been realized in collaboration with the following members of the Horry County Parks and Open Space Board from autumn 2007 until summer 2008:

- Janice Dowe, Chairwoman & District 3
- Sam Ward, Vice Chairman & District 11
- Carl Claytor, District 9
- Kitty Howell, District 5
- Christine Keasler, District 4
- Cynthia Swanson Powell, District 2
- Nancy Seeds, District 8
- Mike Todd, District 10

Special thanks go out to Mrs. Nancy Seeds, who has dedicated a lot of her personal time to this project.

Furthermore, thanks go out to following colleagues and members of mentioned institutions:

- Adam Emrick, Horry County Planning & Zoning Department
- Vicki Stone, Horry County Planning & Zoning
- Roy Taylor, Horry County Planning & Zoning Department

- Christine Ellis, Coastal Carolina University, Waccamaw Watershed Academy
- Dave Fuss, Coastal Carolina University, Waccamaw Watershed Academy
- Susan Libes, Coastal Carolina University, Waccamaw Watershed Academy

As the compiler of the Horry County Parks and Open Space Plan, I hereby attest to have only used publically accessible information sources under respect of any copyrights as quoted within the text and/or under the section "Bibliography" of this document.

Recent revisions as to include the Green Infrastructure Concept Map as well as maps depicting the locations of public parks, boat landings and conserved lands have been inserted in this latest document as of spring 2010 (pages 28-31; 119-121).



Christopher C. Klement
Senior Planner
Horry County Planning & Zoning Dept.

Conway, South Carolina
June, 2010

Table of Contents

ACKNOWLEDGEMENTS	2
TABLE OF CONTENTS	7
TABLE OF FIGURES	8
EXECUTIVE SUMMARY	10
1. HORRY COUNTY TODAY	11
POPULATION	11
NATURAL RESOURCES	13
OPEN SPACE	14
BOARDS AND AGENCIES	17
Horry County Parks and Open Space Board	18
Horry County Parks and Recreation Department	19
Coastal Carolina University Waccamaw Watershed Academy & Waccamaw Riverkeeper Program.....	19
LEGISLATION AND REGULATIONS	20
2. HORRY COUNTY TOMORROW	26
THE CONCEPT OF GREEN INFRASTRUCTURE	26
THE OPEN SPACE INVENTORY	34
The Objectives	34
The GIS Analysis	34
The Horry County Recreation Needs Assessment Study	36
The East Coast Greenway.....	37
3. ACTIONS AND STRATEGIES	39
PARTNERSHIP AND COLLABORATION	39
INNOVATIVE AND FLEXIBLE PLANNING CONCEPTS	40
Low Impact Development (LID)	40
Cluster or Conservation Developments	43
Transfer of Development (TDR) Program.....	43
Financial Support.....	44
Regulatory Strategies	44
The Action Plan.....	45
APPENDICES	47
APPENDIX A: THE STATE OF HORRY COUNTY’S NATURAL RESOURCES	47
Water Resources	47
Coastal Resources.....	56
Wetlands	57
Floodplains.....	60
Land Resources.....	61
Native Species	64
Air Resources	66
APPENDIX B: COMMUNITY SURVEY AND RESULTS	69
APPENDIX C: PARKS AND OPEN SPACE INVENTORIES BY COUNTY COUNCIL DISTRICT	84
APPENDIX D: HORRY COUNTY PARKS AND OPEN SPACE BOARD ORDINANCE (LATEST VERSION 67-08)	119

APPENDIX E: HORRY COUNTY RECREATION NEEDS ASSESSMENT STUDY (1999-2009)	127
APPENDIX F: THE PRINCIPLES OF GREEN INFRASTRUCTURE CONCEPT	129
APPENDIX G: THE COUNTYWIDE NATURAL RESOURCE INVENTORY AND GIS ANALYSIS	132
APPENDIX H: THE EAST COAST GREENWAY	137
APPENDIX K: LOW-IMPACT-DEVELOPMENT PRINCIPLES	139
APPENDIX L: BENEFITS OF CLUSTER OR CONSERVATION DEVELOPMENTS	141
APPENDIX M: MAIN FEATURES OF A TRANSFER OF DEVELOPMENT PROGRAM.....	143
APPENDIX N: VISION, GOALS, ACTIONS AND STRATEGIES OF THE PARKS AND OPEN SPACE PLAN	146
Vision	146
Goals.....	146
Actions & Strategies.....	147
BIBLIOGRAPHY	150

Table of Figures

Figure 1: Population figures of Horry County and South Carolina (1950 – 2006).....	11
Horry County	11
Figure 2: Population projections for Horry County	12
Horry County Population Forecast	12
Figure 3: Horry County Urban and Rural Population Growth.....	12
Figure 4: Issued building permits and approved rezoning cases within FEMA recognized flood zones in Horry County (1989 – 2006)	22
Figure 5: Documented building activity in FEMA recognized flood zones in Horry County (1998 – 2005).....	23
Figure 6: Documented impervious surfaces within FEMA flood zones in Horry County (1998 – 2005).....	24
Figure 7: Green Infrastructure Concept Map for Horry County	31
Figure 8: Inventoried Natural Resource Priority Areas in Horry County.....	36
Figure 9: South Carolina section of the Greenway	38
Figure 10: Local examples of LID/Stormwater retention areas at the new Horry County Administrative and Judicial Building in downtown Conway, SC.....	42
Figure A-1: 303(d) list of impaired waters in Horry County, 2008	48
Figure A-2: Common water quality indicators	49
Figure A-3: Long-term trends in water quality, 1989-2003.....	50
Figure A-4: Waters of Concern in Horry County based on Enterococcus Measurements in the Surf Zone.....	51
Figure A-5: Sites on the 2006 303(d) List for Mercury Contamination in Fish	51
Figure A-6: 2007 Fish Consumption Advisories.....	52
Figure A-7: Continuous Gauging Stations in the Waccamaw River, Little Pee River and AAIW measuring water height and discharge	54
Figure A-8: Figure of wetlands in Horry County, 2002	59
Figure A-9: Rare, Threatened and Endangered Species Inventory of Horry County	64
Figure A-10: Air Quality in Horry County, 2000 - 2005.....	67
Figure A-11: Assessed air pollutants by emission sources in Horry County, 2006.....	68
Figure B-1: Results from questions 1) and 2)	72
Figure B-2: Results from question 3)	73
Figure B-3: Results from question 4)	73

Figure B-4: Results from question 5)	74
Figure B-5: Results from question 7)	77
Figure C-1: Open space inventory sites in District 1	86
Figure C-2: Open space inventory sites in District 2	89
Figure C-3: Open space inventory sites in District 3	93
Figure C-4: Open space inventory sites in District 4	96
Figure C-5: Open space inventory sites in District 5	98
Figure C-6: Open space inventory sites within District 6.....	100
Figure C-7: Open space inventory sites within district 7	104
Figure C-8: Open space inventory sites within district 8	107
Figure C-9: Open space inventory sites within district 9	110
Figure C-10: Open space inventory sites within district 10	114
Figure C-11: Open space inventory sites within district 11	118
Figure C-12: Map of all Public Parks and Recreational Sites in Horry County	119
Figure C-13: Map of Federally, State and Privately Conserved Lands in Horry County.....	120
Figure C-14: List and Map of Public Boat Landings in Horry County	120
Figure E-1: Recommended Parks in Horry County, 1999 - 2009.....	127
Figure F-1: Scheme of Green Infrastructure Land Network	130
Figure G-1: Prioritized Open Space Acquisition Areas	136
Figure L-1: Site A - With Conventional Development.....	143
Figure L-2: Site A - With Conservation Design	143
Figure M-1: Assessment of inherent land values within a TDR program	144
Figure M-2: Exemplification of sending and receiving areas within a TDR program.....	145

Executive Summary

Horry County – “A Naturally Beautiful Place to Live, Work and Play”

(From the Vision Statement of the Parks and Open Space Board)

How does a community:

- Balance population growth with the preservation of open space?
- Balance development with the preservation of the natural landscape?
- Balance new infrastructure with the need for clean water and air?
- Balance the recreational needs of the community with the needs of indigenous wildlife, flora and forests?

Growth, development and conservation are balancing acts faced by cities, towns and counties across the country. It's not a new problem. We in Horry County have the advantage of learning from other's failure to deal effectively with these problems. As a relatively young community with acres of forests, rivers, wetlands, and scenic areas still intact, we can use a number of tools and strategies to balance our inevitable development and population growth with the preservation of the natural resources and recreational benefits that bring increasing numbers of people to the County.

This Open Space Plan is to assist the County, its agencies, boards, and stakeholders in achieving the balance necessary to assure present and future residents that Horry County will be a naturally beautiful place to live work and play.

The Plan will detail where the County stands today in terms of:

- Demographics
- Natural Resources
- Open Space
- Recreation
- Political Landscape, and

offer a vision of the future of Horry County through a discussion of:

- Green Infrastructure
- The Open Space inventory,
- The GIS Analysis,
- Recreational Needs,
- The East Coast Greenway, and

conclude with proposed actions and strategies to attain the vision and insure that we balance our growth with our recreational needs while fulfilling our responsibilities as stewards of the natural landscape.

1. HORRY COUNTY TODAY

Population

Horry County is defined by its people and its natural resources as well as its geographical boundaries. Demographics and natural resources are so closely intertwined that it's difficult to discuss them separately. People are drawn to the area by the County's natural amenities and that rapid growth and development jeopardizes the natural landscape and strains those natural resources.

Horry County has experienced rapid growth in the last two decades. Since 1990, the area's population has increased by over 65 percent (65.6%), making Horry County the fastest growing county in South Carolina with an estimated population of 238,493 people in 2006.

Figure 1: Population figures of Horry County and South Carolina (1950 – 2006)

Year	Horry County			South Carolina		
	Population	Increase	% Change	Population	Increase	% Change
1950	59,820	***	***	2,117,027	***	***
1960	68,247	8,427	14.1	2,382,594	265,567	12.5
1970	69,992	1,745	2.5	2,590,516	207,922	8.7
1980	101,419	31,427	44.9	3,121,820	531,304	20.5
1990	144,053	42,634	42.0	3,486,703	364,883	11.7
2000	196,629	52,576	36.5	4,012,012	525,309	15.1
2005	226,992	30,363	15.4	4,246,933	234,921	5.9
2006 est.	238,493	11,501	5.1	4,321,249	74,316	1.8

Source: US Census Bureau; SC Budget and Control Board, Office of Research and Statistics

While the numbers are impressive, population density, the movement of development inland, the need for infrastructure, and the effect on the natural landscape are indicative of the County's planning or lack thereof and directly affect the economic viability of the County.

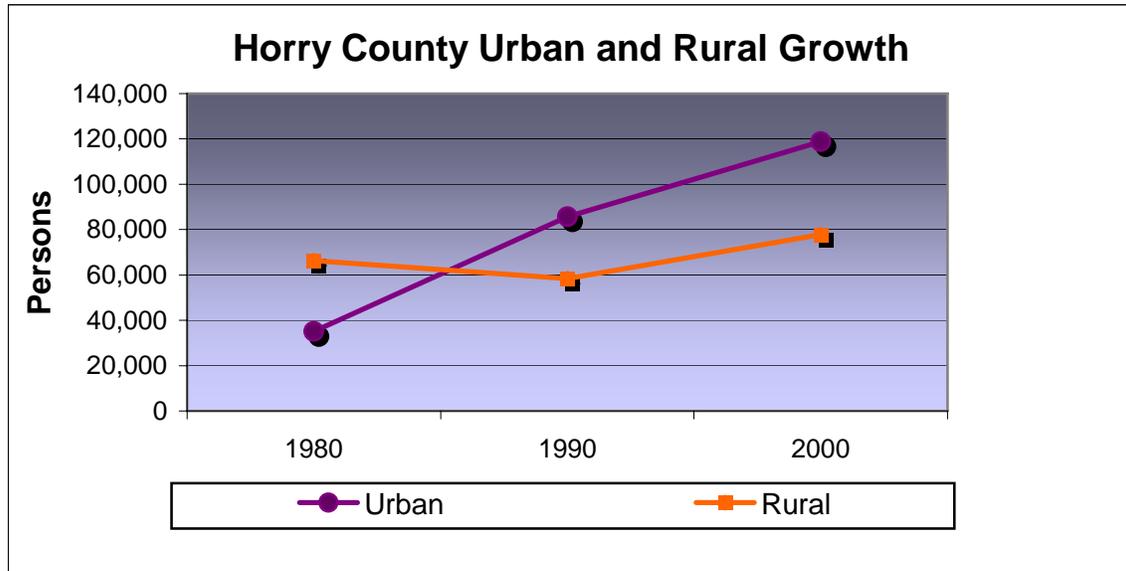
Figure 2: Population projections for Horry County

Horry County Population Forecast					
Current		Projected			
2000	2006 (est.)	2010	2015	2020	2025
196,629	238,493	251,088	279,694	308,301	336,908

Source: SC Budget and Control Board, Office of Statistics and Research, Horry County Planning Department, Horry County School District

As recently as 1980, the County was considered mostly “rural”. A turnaround in population numbers and its continued movement further inland changed the County’s status to predominantly “urban” by 1990. Since then the shift from rural to urban continues even more rapidly. With the urbanized areas along the coast reaching their built-out state, major development is moving further inland. This trend has direct and indirect impacts on the natural environment, e.g. the logging of woodlands, and the conversion of these as well as farmlands and wetlands into residential subdivisions. Furthermore, the increase in paved surfaces and the disruption of natural flood basins through development, create environmental, health and safety concerns. Moreover, flooding must be a concern in our area of the State known as the “Lowcountry”.

Figure 3: Horry County Urban and Rural Population Growth



Source: US Census Bureau

Natural Resources

The unique natural resources of the Lowcountry, such as cypress swamps, Carolina bays, salt and freshwater marshes, black water rivers, ocean swashes, hardwood river forests and Grand Strand beaches attract millions of tourists and thousands of new residents. While this unique landscape is responsible for attracting people to the County, the people of the County become responsible for protecting, preserving and using these resources in a way that insures future generations the same advantages.

At the commencement of the Horry County Comprehensive Planning process in 2005, residents were asked to give their opinions on the current issues facing the County and their vision for the future of the County through a series of public meetings and surveys (see **Appendix B** for latest community survey results from February-March 2008). Horry County residents repeatedly emphasized the importance of natural resources, listing the area's abundant and unique natural heritage as a reason that they chose to reside here. Residents also made it clear that protecting and conserving natural resources should be a top priority for the County so that future generations can benefit from the many rewards that a healthy ecosystem can provide.

The typical Natural Resources of the Lowcountry are comprised of the following, mostly undeveloped areas:

Upland Forests: Upland forests occur where drainage is sufficient so that soils do not become saturated for extended periods of time. Water can either run off or percolate through the soil. The upper canopy is 80% to 100 %, and sub-canopies of younger trees and shrubs typically exist.

Wetlands: A general term applied to swamps, marshes, bogs and similar areas, which are seasonally or permanently saturated with fresh or saline water, creating a unique naturally occurring habitat for plants and wildlife.

Swamp: A seasonally flooded bottomland with more woody plants than a marsh and better drainage than a bog.

Marsh: A type of wetland, featuring grasses, rushes, reeds, sedges, and other herbaceous plants in a context of shallow water. A marsh is different from a swamp which is dominated by trees rather than grasses and low herbs. The water of a marsh can be fresh, brackish, or saline. Coastal marshes may be associated with estuaries and along waterways between coastal barrier islands and the coast.

Bog: An area having a wet, spongy, acidic substrate composed chiefly of moss and peat in which characteristic shrubs and herbs and sometimes trees usually grow - an area of soft naturally waterlogged ground.

Carolina Bay: An isolated wetland in natural, shallow depressions that is largely fed by rain and shallow groundwater. These bays have an elliptical shape and generally a northeast to southwest orientation.

Additionally, Horry County counts among its unique natural amenities 33 miles of ocean beach, 44 miles of the Intracoastal Waterway, 60 miles of the Waccamaw River, and 73 miles of the Little Pee Dee River.

This natural and often unique landscape provides habitat to locally occurring wildlife species such as American alligators, black bears, deer, blue herons, white egrets, and many migratory birds. The loss or disruption of sensitive wildlife habitat must be factored into developmental planning and open space planning to protect native species from extinction and to preserve the rich natural heritage of the County for future generations.

Please refer to **Appendix A** for further information on the State of Natural Resources in Horry County.

Open Space

How does a rapidly growing and developing County protect and preserve its unique landscape and natural resources? How does the County build infrastructure and see to the recreational needs of its citizens and at the same time protect and preserve its natural landscape and natural resources? Planned open space is a vital component of the successful balance between development and preservation.

Open space adds ecological, scenic or recreational value to an area. It can be publicly or privately owned and maintained and in Horry County includes forests, fields, wetlands, floodplains, stream corridors, Carolina bays, farmland, parks, greenways, the Atlantic Ocean and its beaches.

Horry County's current Open Space inventory includes:

Natural Areas which are kept relatively undisturbed for plant and animal habitat, such as the Vereen Memorial Gardens off of Highway 17 and 179 in Little River, which is managed by the Horry County Parks and Recreation Department;



Picture 1: Vereen Memorial Gardens

Scenic Areas which focus on the visual aspects of the natural landscape such as a scenic view from a roadway created by a field or forest edge or farmland.



Picture 2: Scenic view in the Red Bluff area

Scenic Rivers which are river corridors designated as such by the State of South Carolina through the S.C. Scenic Rivers Act of 1989, such as the Little Pee Dee River.



Picture 3: The Little Pee Dee River

“The Little Pee Dee is one of the best remaining examples of a Coastal Plain blackwater river in South Carolina. The river is bordered by extensive cypress and tupelo swamplands, particularly below Highway 378 where the floodplain widens” (South Carolina Department of Natural Resources).

Heritage Preserves which are natural areas set aside mostly for wildlife preservation and include 4 major Preserves in Horry County managed by the South Carolina Department of Natural Resources:

1. Cartwheel Bay Heritage Preserve (along Highway 19 across from Bedford Rd. and Hwy. 389 in the Mt. Olive Township);
2. Lewis Ocean Bay Heritage Preserve (along International Dr. between Carolina Bays Parkway and Hwy. 90);
3. Little Pee Dee River Heritage Preserve (along the Little Pee Dee River between Highways 9 and 917 (part one) and Highways 501 and Pee Dee Hwy. (part two));
4. Waccamaw River Heritage Preserve (along the Waccamaw River to both sides of Highway 9);

Parks and Recreational Areas which are intended for high-intensity, active recreational uses such as golf courses, tennis courts, playgrounds and ball fields. As of 2007, the Parks and Recreation Department maintains 37 parks, athletic fields and other recreational or environmental centers.

Greenways and Trails which are linear open spaces established along natural corridors, such as rivers and streams and connect parks, nature preserves, cultural facilities and historic sites with business and residential areas. The Grissom Parkway/Harrelson Boulevard Multi-Use Trail in Myrtle Beach is an example.

The existing open space system in Horry County includes areas which function as centers of recreation, areas which protect, preserve and conserve resources, and lands which shape the community by providing relief from development and preserve the natural character of the area. A detailed inventory of the Open Spaces set aside for these purposes was compiled by the Parks and Open Space Board and is included in **Appendix C**. The inventory is organized by district and the boundaries and contents of each council district are described.

How much open space does a community need? How much can it afford to maintain? And how hard should it work to acquire and maintain Open Space? The answers to these questions are directly related to the benefits of Open Space and the expectations of the community.

A community looks to its leaders for clean air and water, recreational facilities, and preservation of the natural character of the area. There is a long-held belief that undeveloped land may be nice to look at, but is not economically productive, and that it

only carries its weight in the local tax base after it is developed. Communities are quickly finding out the opposite. More and more studies are showing that conserving open land and choosing carefully where development goes is not contrary to the economic health and well being of the community, but essential to it.

A diverse and interconnected Open Space system can provide a wide assortment of benefits, not the least of which are helping the County retain its natural character, protect its environmentally sensitive areas, and enhance its economic well being. Additionally, a planned Open Space system directly benefits the people of the County by:

- Providing opportunities for **participation in outdoor activities** close to where people live and work.
- Providing **habitat for native plants and animals** that cannot live in urban or suburban environments.
- Improving **air quality** when forests and vegetation in open spaces absorb carbon dioxide and remove pollutants from the atmosphere.
- Improving **water quality** and **controlling flooding** when wetlands, floodplains, and vegetated stream buffers retain floodwaters, and reduce the amount of pollutants entering local streams and water supply areas.
- Providing the large open spaces needed to **support agriculture and forestry**.
- **Attracting investment, raising land values, and generating tourism activities.**
- **Preserving history and culture**, reminding us of our cultural heritage and reaffirming our sense of community and home.

Boards and Agencies

With Horry County experiencing rapid population growth and increased development for two decades now, Open Space planning has become an ever more important issue. For several years now, departments, boards, and related state agencies as well as volunteer groups have undertaken efforts to identify open space needs, and to set priorities for providing recreational facilities and for preserving more open spaces.

Horry County Parks and Open Space Board

In 2000, the Horry County Council established the Horry County Open Space Board by Ordinance 159-00, which was reinstated in 2004 as the Horry County Parks and Open Space Board by Ordinance 115-04. According to the Code of Ordinances, the purposes and objectives of the Board are to:

- Promote the preservation of open space, scenic areas and vistas greenways, squares and village greens;
- To promote the protection and conservation of environmental or natural resources;
- To promote the expansion of quality open space for a wide range of recreational opportunities including playgrounds, playfields, plazas, parks, mini-parks, picnic areas, bicycle or hiking trails, or golf courses for all county residents;
- To promote tourism emphasizing open space, recreational sites, and natural resources of Horry County;
- To promote education, awareness, and research relating to environmental and natural resources;
- To assist in coordinating activities of volunteers, organizations, businesses and governmental agencies interested in the preservation of open space, recreational sites, and natural resources; as well as
- To prepare and submit to the Horry County Council for consideration a proposed list of areas of open space, significant environmental and natural resources, and recreational sites to be acquired, leased, preserved, protected, maintained, or developed through a new Horry County Open Space Fund (Section 15-124 H.C. Code of Ordinances).

According to the Parks and Open Space Board's Ordinance, the Board has the general powers and duties to:

- Develop an inventory of all public lands, parks, and all categories of open space, areas for expansion of a variety of recreational facilities, and areas of natural resources in Horry County;
- Submit to the Horry County Council the inventory of public lands, parks, open spaces and a list of resources which should be acquired, leased, preserved, protected, maintained, or developed through the Horry County Open Space Fund (see section 15-127) or from grants, revenue, fundraising activities, or other public or private sources;

- Make recommendations to the Horry County Council relating to the Horry County Open Space Fund and the properties which should be acquired, leased, preserved, protected, maintained, or developed;
- Coordinate activities of volunteers, organizations, business and corporate entities and governmental agencies for the identification, conservation, preservation or development of all categories of open space, areas for expansion of a variety of recreational facilities, and areas of environmental and natural resources in Horry County;
- Undertake such studies, plans, activities, and projects as may from time to time be assigned to the board by the Horry County Council;
- Encourage such planning, activities and development as may be necessary or advisable to identify, promote, acquire, lease, preserve, protect, maintain, or develop open space, recreational sites, or natural resources;
- Define neighborhoods, districts, or regions for allocation of funds from the Horry County Open Space Fund and to designate areas for preservation and recreational sites; and last but not least,
- Appoint committees and subcommittees.

Please refer to **Appendix D** for the entire Parks and Open Space Board Ordinance.

Horry County Parks and Recreation Department

Prior to the Parks and Open Space Board, the Horry County Parks and Recreation Department was created in November 1997. The Department's mission is to provide high quality active and passive recreation through diverse programs and facilities that promote the mental, physical and social well being of the County's citizens.

In 1999, the Department hired a consultant to complete a recreation needs assessment for the decade (1999-2009). The study concluded that Horry County is lacking in providing for adequate active and passive recreational facilities. Further, the plan divides the County in four sub-districts and proposes park prototype facilities within them, including models for community parks, district recreation complexes, civic parks and regional parks. Please see **Appendix E** for the Horry County Recreation Needs Assessment Study.

Coastal Carolina University Waccamaw Watershed Academy & Waccamaw Riverkeeper Program

Coastal Carolina University's Waccamaw Watershed Academy (WWA) operates under the aegis of the Burroughs and Chapin Center for Marine and Wetland Studies. Its mission is to meet local needs for expertise in the areas of watershed and wetland

science and management through education, research, and public outreach. The WWA maintains a regulatory environmental quality laboratory that performs research and monitoring work throughout the Horry-Georgetown region. The WWA is currently working in collaboration with the City of Conway, Horry County and the US EPA to develop a watershed management plan for the Kingston Lake Watershed.

The Waccamaw Riverkeeper program is licensed by the Waterkeeper Alliance, which is headquartered in New York. The Waccamaw Riverkeeper is a paid, full-time position responsible for advocating compliance with environmental laws, identifying problems which affect the Waccamaw River, responding to citizen complaints, devising appropriate remedies for problems associated with the River, educating the public, and advocating for the public's right to protect and defend the environment (Winyah Rivers Foundation, Waterkeepers). The WWA, in partnership with the Waccamaw Riverkeeper, runs a volunteer monitoring program in the Waccamaw River. The data are available at their website (<http://gis.coastal.edu/volunteermonitoring/>). This program is partially funded by Horry County as it helps meet part of the NPDES Phase II Stormwater Program requirements for public education, public involvement and illicit discharge detection.

Legislation and Regulations

In the State of South Carolina Open Space Planning falls under the authority of local governments, which by the Local Government Comprehensive Planning Enabling Act of 1994 have been authorized by the South Carolina General Assembly to undertake planning and to adopt zoning and land development regulations.

Comprehensive Plan Elements

Based on the S.C. Code of Laws Section 6-29-510 (D), a Natural Resources Element should cover all relevant natural resource details that a County, such as Horry County, needs to address. Typically a Steering Committee is put in place whenever an update or a new Comprehensive Plan is compiled. The Natural Resources Element of Horry County's new Envision 2025 Comprehensive Plan includes such topics as watershed management and conservation, ecosystem biodiversity, natural resources inventory based on water resources, water quality, coastal resources, as well as wetlands, floodplains, and land resources.

Wetlands Regulations

Since the enactment of the Federal Clean Water Act, the U.S. Army Corps of Engineers has issued permits to discharge material into waters of the United States, which includes wetlands (404 Certification). As the lead agency permitting activities in wetlands, the

Corps determines what areas are wetlands and subject to federal regulations. Many states have a wetland permission program to augment the Federal program. South Carolina does not. This leaves several types of activities in wetlands unregulated including: discharge of untreated stormwater into wetlands, ditching to drain wetlands, and exempted activities such as forestry. As of 2007, Horry County has no wetland mitigation banks.

In South Carolina several state programs that regulate activities in wetlands areas are tied to the Federal permitting program. Within South Carolina the Department of Health and Environmental Control (DHEC), and specifically its subordinate Bureau of Water must issue a water quality certification for every federal permit that allows a discharge to state waters, including wetlands. This process is referred to a “401 Certification”, named after Section 401 of the federal Clean Water Act.

The Office of Ocean and Coastal Resource Management (OCRM), which also is tied to DHEC, must certify that any federal action in the coastal zone is consistent with South Carolina’s Coastal Zone Management Plan. Activities in tidal wetlands require a permit from OCRM (Wetlands and Their Importance, DHEC).

Early in 2001, the U.S. Supreme Court made a ruling stating that isolated wetlands that have no channel connecting it to a larger body of water are not protected under the permitting requirements of the Clean Water Act as explained above. The result of this ruling is that more than 400,000 acres of wetlands in South Carolina (10% of the state’s total) may have had their protection removed. Isolated wetlands consist of many valuable and unique resources including Carolina Bays.

Furthermore, the protection of our local watersheds and floodplains for all sorts of reasons, most prominently for maintaining the quality of our drinking water and minimizing potential damages to lives and properties due to flooding events, has to receive more awareness and protection from Horry County Government. Thus far, too much building activity and development is still being permitted (see Figures 4 through 6).

At the time of compiling this text, the County’s Infrastructure and Regulations Committee has appointed a local ad-hoc group to research options and measures that Horry County Council could introduce to better protect wetlands, watersheds and other sensitive and wet areas of the County.

Figure 4: Issued building permits and approved rezoning cases within FEMA recognized flood zones in Horry County (1989 – 2006)

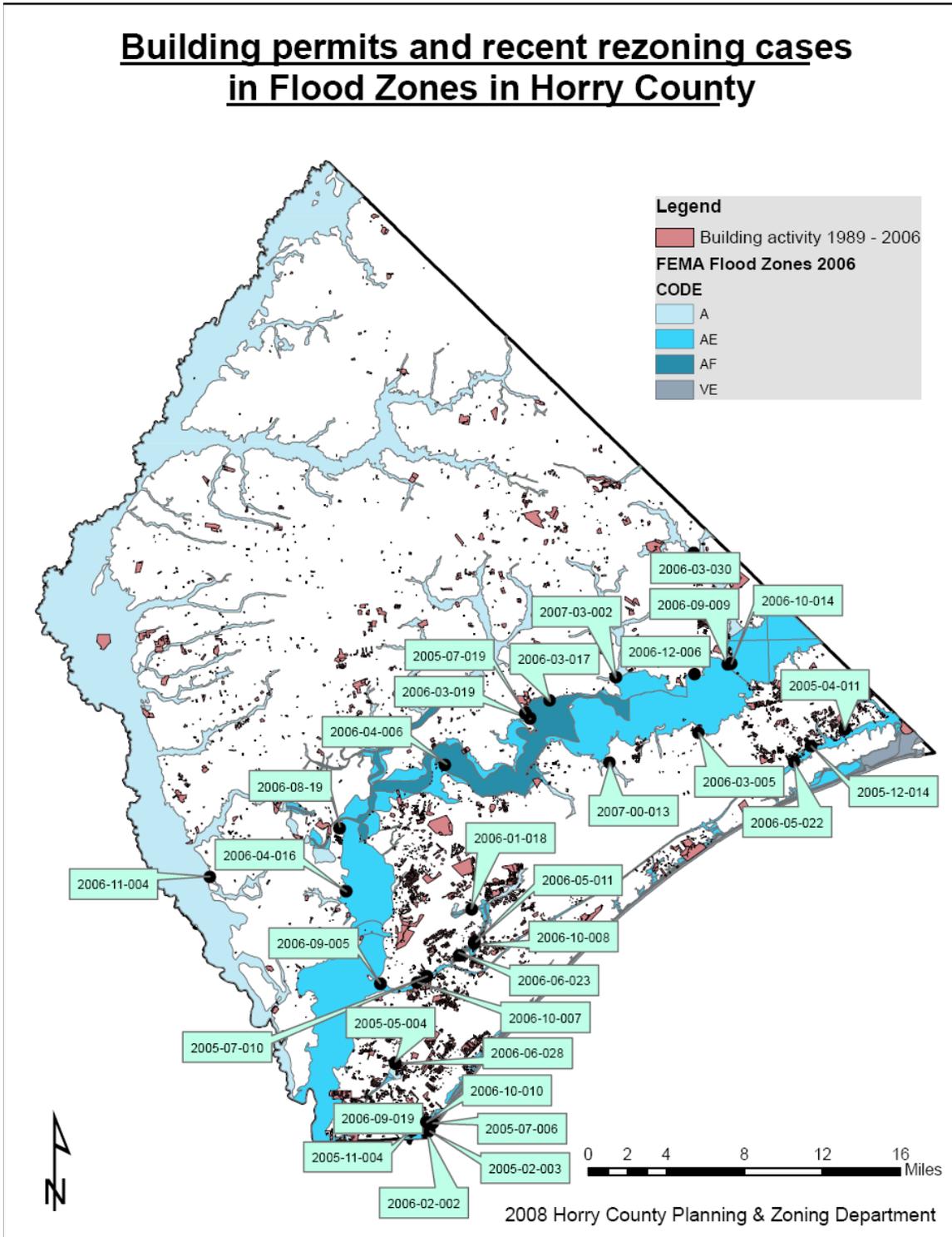


Figure 5: Documented building activity in FEMA recognized flood zones in Horry County (1998 – 2005)

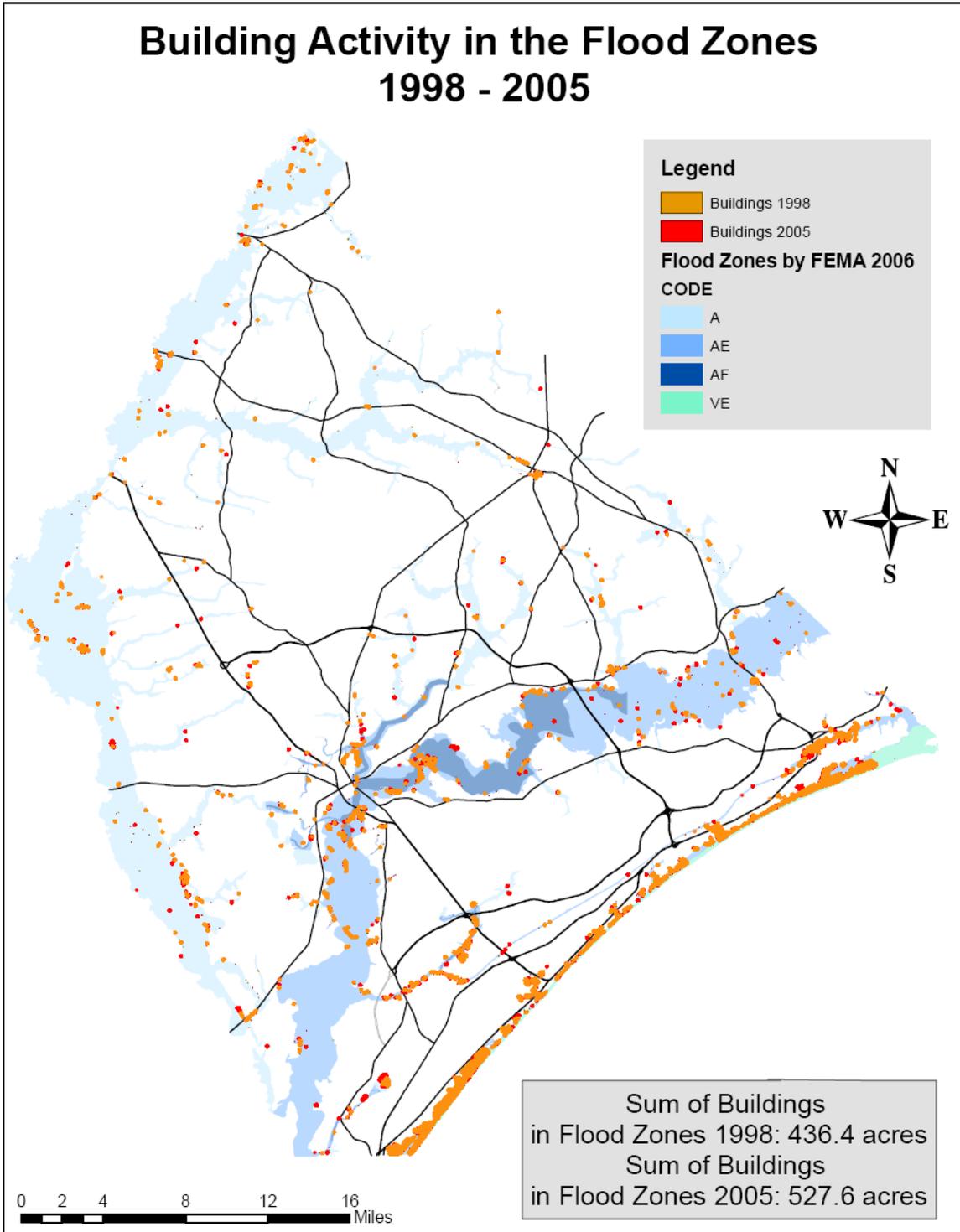
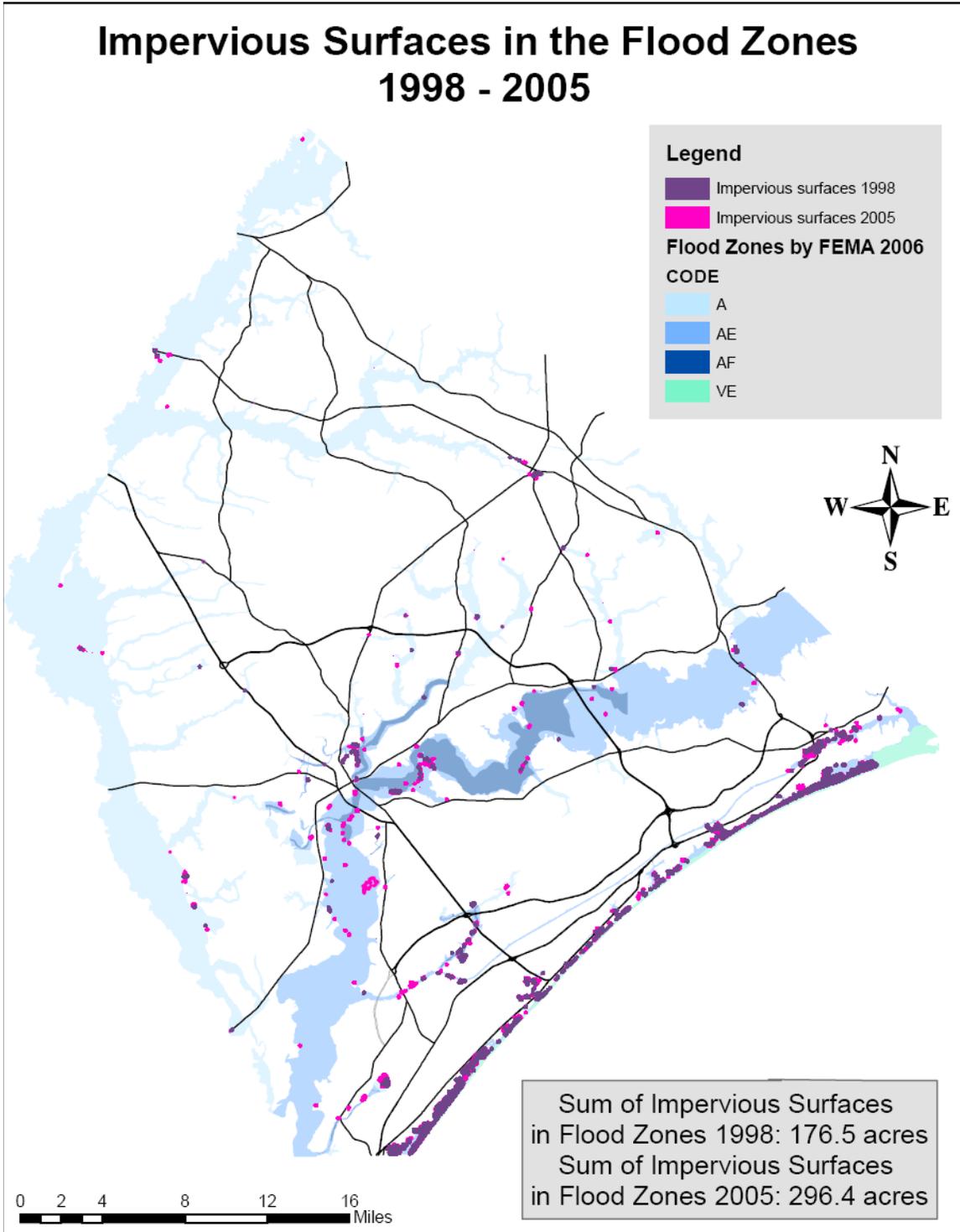


Figure 6: Documented impervious surfaces within FEMA flood zones in Horry County (1998 – 2005)



Zoning and Land Development Regulations

Regulations pertaining to parks and open space provision in Horry County are primarily covered within the Zoning Ordinance and the Land Development Regulations.

Recently, the open space standards within the Land Development Regulations (LDR), which can be found within Chapter 18 of the Horry County Code of Ordinances, have been revised to ensure for broader applicability to developments of lesser density in providing recreational and passive open spaces within new residential, as well as commercial and industrial developments.

The revised open space standards that were adopted by County Council in February 2008 will improve the accessibility, usability, as well as the preservation of natural open spaces, especially wetlands.

Next to the Land Development Regulations, which address the building and engineering aspects of development, the Zoning Ordinance prescribes the general appropriateness of specific land uses and their dimensions within residential, commercial or other zoned areas. The intent of zoning is to discourage land uses that are inconsistent with their built and natural environment, and to direct different development requests to their most compatible location. The purpose of zoning is to minimize the negative impacts of thoughtless development, e.g. traffic, ecological distress, low quality of life, etc. in favor of integrating development most efficiently into the given environment to create the most benefits for all stakeholders.

2. HORRY COUNTY TOMORROW

In order to realize the benefits Open Space can provide to the County, such as better air and water quality, recreation and the social and economic benefits previously mentioned, it must be planned. Planning for Open Space requires commitment and collaboration on the part of all the involved County Boards, and Agencies and the County Council as well as a framework on which to build an Open Space system.

The Concept of Green Infrastructure

This Plan supports the establishment of a comprehensive Parks and Open Space network based on the concept of Green Infrastructure. For our purposes, Green Infrastructure is defined as an “interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to human population” [the citizens of Horry County] (Benedict Mark A., McMahon Edward T., Green Infrastructure: Smart Conservation for the 21st Century, 2000).

This concept differs from conventional approaches to open space planning and conservation because it looks at conservation values and actions in concert with land development and the built infrastructure. Other open space planning approaches typically are undertaken in isolation from – or even in opposition to – development. Under the given circumstances, and with the importance that growth and land development have in Horry County, the concept of Green Infrastructure is the most suitable. One of the main benefits of the Green Infrastructure concept is to enable open space planning and land conservation in harmony with, not in opposition to growth and urban development.

Open Space planning based on Green Infrastructure incorporates two important concepts: (1) linking parks and other green spaces for the benefit of people, and (2) preserving and linking natural areas to benefit biodiversity and counteract habitat fragmentation. Wildlife biologists and ecologists have long recognized that the best way to preserve native plants, animals and ecological processes is to create an interconnected conservation system. Protecting and restoring connections between parks, preserves and other important ecological areas is a key concept for the science of conservation biology and a main component to its success.

Green Infrastructure encompasses a wide variety of natural and restored native ecosystems and landscape features that make up a system of “hubs” and “links”.

Hubs anchor green infrastructure networks and provide an origin or destination for wildlife and ecological processes moving to or through it. Hubs come in all shapes and sizes, including:

- Reserves – Large protected areas, such as national and state parks and wildlife refuges (Existing examples in Horry County: **Waccamaw National Wildlife Refuge**, **Lewis Ocean Bay Heritage Preserve**);
- Managed Native Landscapes – Large publicly owned lands such as national and state forests, managed for resource extraction as well as natural and recreational values;
- Working Lands – Private farms, forests and ranches that are managed for commodity production yet remain in a predominantly open and undeveloped state (Examples in Horry County are private farms and especially timberland grown for the purpose of paper production) ;
- Regional Parks and Preserves – Less extensive hubs of regional ecological significance (Example in Horry County: **Vereen Memorial Gardens**);

Sites are smaller community parks and other natural areas that are generally smaller in size, but just as important in the network approach of Green Infrastructure by interconnecting all natural features and ecological processes of different sizes and locations into one comprehensive system (Example in Horry County: **Cartwheel Bay Heritage Preserve**)

Links are the connection that tie the system together and enable the Green Infrastructure network to work. They range in size, function and ownership, including:

- Landscape Linkages – Large protected natural areas that connect existing parks, preserves, or natural areas and provide sufficient space for native plants and animals to flourish while serving as corridors connecting ecosystems and landscapes. Landscape linkages may also provide space for the protection of historic sites and opportunities for recreational use (Best potential examples in Horry County: **Lumber**, **Little Pee Dee**, **Great Pee Dee** and **Waccamaw Rivers**)

- Conservation Corridors – Less extensive linear protected areas, such as river and stream corridors that serve as biological conduits for wildlife and may provide recreational opportunities;
- Greenways – Protected corridors of land managed for resource conservation and/or recreational use (Local example in Horry County: Carolina Forest and Socastee Greenways)
- Greenbelts – Protected natural lands or working lands that serve as a framework for the development while also preserving native ecosystems and/or farms for ranchland;
- Ecobelts – Linear woody buffers that can ease the zone of tension between urban and rural land uses while providing ecological and social benefits for urban and rural residents.

Green Infrastructure Concept Map of Horry County

The following map depicts *Existing Hubs*, *Potential Hubs* as well as the important *Linkages* and *Sites* that create a desired system of ecological interconnectivity for the benefit of wildlife existence, migration, as well as natural resource preservation and last but not least human recreation.

Based on the definition of “Hubs” as being “an anchor for a variety of natural processes that provide an origin or destination for wildlife” (Williamson, Karen; *Growing with Green Infrastructure*; 2003), the Green Infrastructure Map of Horry County identifies *Existing Hubs* primarily around Horry County’s plentiful waterbodies and woodlands where Heritage Preserves and/or other conservation areas of regional importance are located. Consequently, the following *Existing Hubs* have been identified:

- Upper Little Pee Dee: The Little Pee Dee River been designated as a South Carolina Scenic River for its widely natural condition and the Upper Little Pee Dee River also is home to the 9,000-acre Little Pee Dee River Heritage Preserve. Together with its wonderful blackwater river scenery, it protects important riverine bottomland hardwoods, where cypress and tupelo of 80 to 100 years in age can be found providing excellent nesting areas for migratory bird species. In addition to State preserved lands, this stretch of the Little Pee Dee River includes many Potential Open Space Acquisition Areas valued for their natural and ecological qualities.
- Cartwheel Bay: This existing hub is located around the 568-acre Cartwheel Bay Heritage Preserve off of Highway 19 in the Duford area of Northwestern Horry County. Cartwheel Bay was acquired and protected by the S.C. Department of

Natural Resources as it represents one of the few known Carolina Bay-longleaf pine savanna complexes in South Carolina. Moreover, the hub area includes a multitude of identified Potential Open Space Acquisition Sites as well as interconnected swamps, wetlands and forests.

- Playcard Swamp: *Existing Hub #3* is centered on the premises of the 200-acre Playcard Swamp Environmental Education Center. This education facility has been founded by the Horry County Conservation Foundation not only to protect this unique natural resource for future generations, but to also actively involve students of the Horry County School Board through hands-on environmental education. This area has also been recognized as a cluster for Potential Open Space Acquisition Sites through its proximity to valuable wetland and forest complexes.
- Cushion Swamp: The area in between Highways 701 and Red Bluff Road on the south side of Loris has been recognized as *Existing Hub #4* for its more than 1,200 acres of privately protected land around Cushion Swamp and its neighboring wetlands. This hub represents another important node between the interconnected wetlands, swamps and forests in the eastern section of Horry County.
- Upper Waccamaw: One of the most important existing hubs within the Green Infrastructure Network of Horry County is located along the Waccamaw River. One of the two identified hubs along this Black Water River is located at the upper course of the Waccamaw River. This hub's centerpiece is the 5,347-acre large Waccamaw River Heritage Preserve, which was established to protect the relatively unbroken riverine bottomland hardwood ecosystem found there. This hub also acknowledges the preservation of over 1,500 acres of privately protected land, as well as the thousands of acres that have been identified as preferred Open Space Acquisitions Sites within this outstanding ecosystem complex.
- Waites Island: This northernmost barrier island on the coast of South Carolina as been identified as *Existing Hub #6* due to its undeveloped and unique natural character, anthropological history and environmental value. The island was inhabited by the Waccamaw Indians before European settlement, and later was home to Fort Randall, a CSA Army outpost during the Civil War. Today, it is used for educational and research purposes through the auspices of Coastal Carolina University. It is an important ecological node for avian, marine and land wildlife on the northeastern South Carolina coast.
- Lewis Ocean Bay: As its name indicates, *Existing Hub #7* has been identified as such, primarily for its ecological functions that are protected within the 9,690-acre Lewis Ocean Bay Heritage Preserve. Largely impacted by a wildfire in April 2009, this preserve was established to protect endangered species such as the highest number of black bears in the Lowcountry of South Carolina. This preserve resembles one of the last bigger pieces of undeveloped sections of the original Buist Tract,

which from east to west included most contiguous (longleaf)pine forest and Carolina Bays between Conway and Myrtle Beach. Together with the surrounding woodlands and swamps it resembles an important ecological node for migratory wildlife along the greater Waccamaw basin of the Grand Strand.

- Lower Waccamaw: The most important *Existing Hub* is the located along the lower stretch of the Waccamaw River between Conway and Georgetown County. Here, the Waccamaw National Wildlife Refuge presently manages about 23,000 acres of bottomland hardwood habitat along the Pee Dee and Waccamaw Rivers. This hub forms an important node between bottomland river habitats and the more marine influenced Winyah Bay. This hub also includes major Wildlife Management and Mitigation Areas such as the Bucksport & Oliver Tract WMA, Sandy Island WMA and Samworth WMA (latter two are located in Georgetown County).

Next to the *Existing Hubs*, the Green Infrastructure Map of Horry County further suggests *Potential Hubs/Sites* at locations where large swaths of land have been identified favorable for Future Open Space Acquisition based on a GIS evaluation method outlined at a later point within this document. Therefore, these *Potential Hubs/Sites* are in still relatively unharmed natural areas, where *River Linkages*, *Stream/Wetland Linkages* and/or *Forest Corridor Linkages* come together. These *Potential Hubs/Sites* are located at:

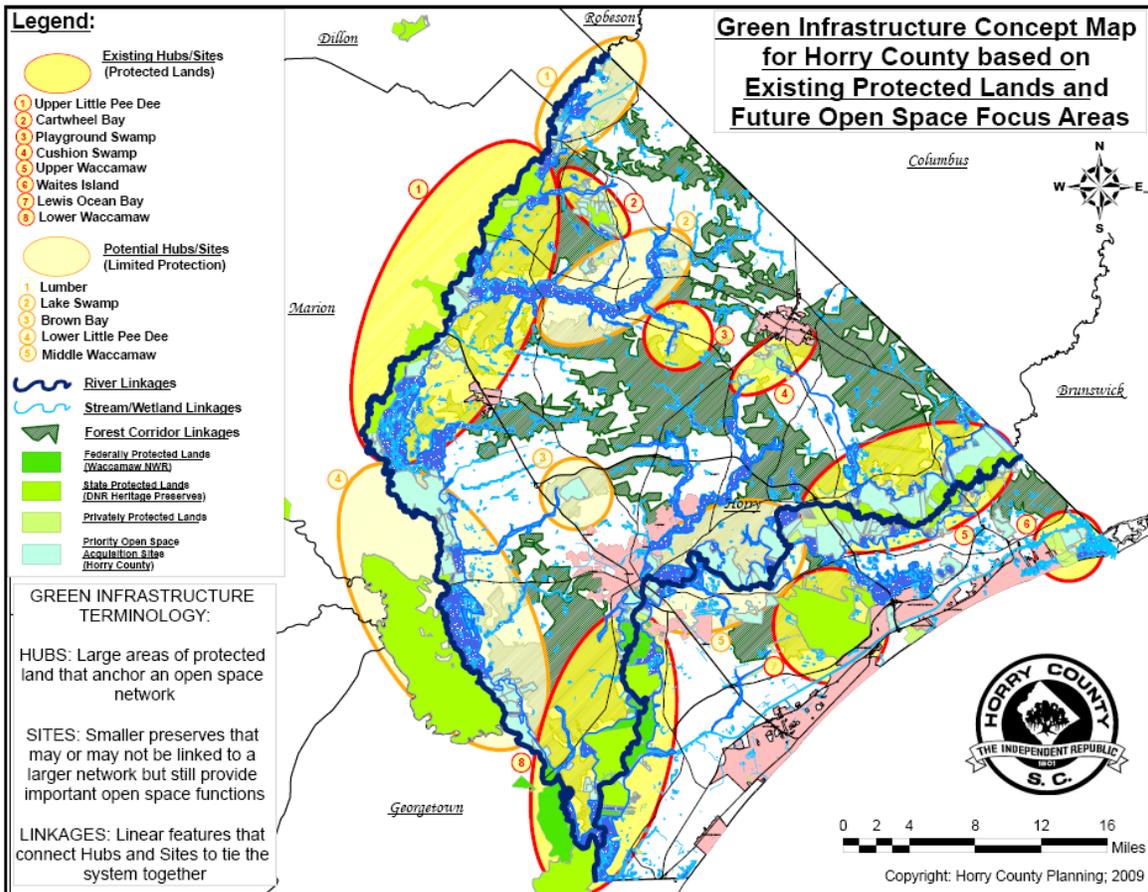
- Lumber River (#1)
- Lake Swamp (#2)
- Brown Swamp (#3)
- Lower Little Pee Dee River (#4)
- Middle Waccamaw River (#5);

The *Linkages (River, Swamp/Wetland, and Forest Corridor)* are the key to green infrastructure planning, because they interconnect the hubs and sites with each other, thus facilitating the flow of ecological processes that previously have been fragmented by traditional land use and open space planning.

The most important linkages in Horry County are based on its numerous swamps, rivers, and other water features as well as the huge areas of forested corridors that naturally form the backbone in Horry County's Green Infrastructure Network. The location and validity of all existing linkages within the following map have been accomplished through the latest aerial photography research from 2009.

*(For more information on the principles of the Green Infrastructure Concept, please refer to **Appendix F**).*

Figure 7: Green Infrastructure Concept Map for Horry County



Note: The nature of above Green Infrastructure Concept Map shall be regarded as a guide for future Horry County Parks and Open Space planning purposes only. Parcels identified as “Priority Open Space Acquisition Sites” have been only internally identified as such pursuant to an Open Space Survey conducted by Horry County Planning. Please contact the Horry County Planning & Zoning Department at (843) 915-5340 to view or receive the Green Infrastructure Map in a larger format.

Goal: Using this concept of Green Infrastructure to plan Horry County’s Open Space can help us protect and restore naturally functioning ecosystems and provide a framework for future development. The benefits to the County include:

- Secured wildlife habitat and biodiversity conservation;
- Maintenance of the natural landscape;
- Cleaner air and better water quality;
- Less habitat fragmentation;
- Increased wildlife conservation awareness by creating more public exploration access to natural areas;
- Ecologically sound pollutant filtration;

Social Benefits:

- Recreation opportunities
- Improved health
- Better quality of life
- Improved community character and attractiveness
- Effective and efficient buffering of disturbing land uses

Economic Benefits:

- Higher property values by securing areas from encroaching new development
- Higher resale value – higher tax base
- Reduced public infrastructure costs by creating alternative transportation means and more ecological and economic sensible Stormwater Management System that utilizes adjacent natural areas for stormwater related retention rather than investing in costly civil engineering projects
- Environmentally sensible and cheaper water treatment and water quality through increased natural filtration and ground water recharge potential
- Provision of more environmentally sensible and cheaper air quality control through natural pollution filtering

Communities across the country are realizing that the concept of Green Infrastructure is good science, good conservation, good economics, and good stewardship and are beginning to apply the concept to form an integrated network of sustainable open spaces. Horry County is in position to reap the benefits of such a system of linked open space. How do we proceed?

In order to work effectively, the concept of **Green Infrastructure should be the framework for development and conservation.** New developments and new parks should be considered by the County's Boards and Agencies with the principles of Open Space, Linkage and Interconnectivity in mind. The County is much better served by protecting natural wetlands and forests than by restoration of those resources which have been destroyed by development or misuse. When possible, planning for and protecting open space should come before development; but restoration is an option to achieve the necessary linkage.

Green Infrastructure is a critical public investment and should be included in the County's annual budget in the form of bond referenda, real estate transfer taxes, dedicated development fees and direct budgetary line items.

Partnerships should be forged among foundations, government agencies, universities, Boards, and non-profit agencies, which are involved in planning and land use in the County. Landowners and developers should be made aware of the concepts and requirements of a Green Infrastructure system.

Please see **Appendix F** for further information of Green Infrastructure principles.

The Open Space Inventory

In 2005 the Horry County Parks and Open Space Board in collaboration with the Planning and Zoning Department staff started reviewing several processes for inventorying Horry County's natural resources as part of a comprehensive plan that, based on the inventory, will recommend actions to create a future parks and open space system. The result is a countywide inventory (**Appendix G**) of all permanently protected natural resource conservation areas, cultural resource sites and all active recreation areas. Over 45 municipal, county, state, federal, utility and non-profit entities were contacted. The results show that approximately 42,600 acres are set aside for natural resources protection and recreation, equal to about 5% of the land area in the County. Such parcels include sites for boat landings and recreation parks maintained by the County Parks and Recreation Department, floodplains that have been acquired by FEMA, spoilage Easements along the Intracoastal Waterway, owned by the Army Corps of Engineers and Heritage Preserve sites managed through the SC Department of Natural Resources, and other privately owned conservation easement sites enrolled in federal or state programs, or stewarded by non-profit organizations.

The Objectives

Taking guidance from the County Council ordinance creating the Horry County Parks and Open Space Board, the 1999-2009 Recreation Needs Assessment, Municipal Comprehensive Plans, and other supporting documents, the Parks and Open Space Board set two distinct objectives for green infrastructure within Horry County.

Those objectives are:

1. Maintain and protect ecological biodiversity and watershed function for the health, safety and future economic prosperity of Horry County;
2. Improve availability and access to recreational opportunities and cultural sites in all areas to improve the health and quality of life of all Horry County residents.

The GIS Analysis

The process of selecting areas for conservation and recreation has heavily depended on the use of GIS and the expertise of the County GIS staff. Geographic Information System (GIS) technology was used to create a database and analyze the specific criteria established for each of the above mentioned objectives. This process – both for natural resources and recreation – used quantitative data to identify lands on a countywide

level. The Figures generated from the analysis show prioritization areas and can be used as a tool to guide individual parcel acquisition decisions. The GIS analysis identifies large unfragmented tracts of permanently protected land, intermediary unfragmented sites (150-500 acres) and linear areas to serve as greenbelts, water quality protection areas, wildlife corridors, etc. to link the large and intermediary tracts. The GIS staff assigned points to certain natural resource areas that fell under the prerequisites of Objectives 1 and 2, such as for instance parcels of land that are in close proximity to rivers, marshes, other bodies of water, Carolina Bays, etc.

Regarding compliance with Objective 1, the actions undertaken within the GIS Analysis included the following:

- Identification of large, unfragmented tracts of permanently protected land, which serve important ecological function (500+ acres);
- Identification of intermediary unfragmented sites (150 – 500 acres) which serve important ecological function;
- Identification of linear areas to serve as greenbelts, water quality protection areas, wildlife corridors, etc. to link the large and intermediary tracts.

with respect to Objective 2, the GIS Analysis took the following aspects into account:

- Identification of all municipal and county recreation and park areas, boat ramps, public beach access areas, and public fishing piers;
- Identification of all cultural sites;
- Identification of all schools, community centers, libraries, senior centers;
- Identification of known scenic vistas;
- Identification of known trails systems;
- Identification of new areas suitable for additional recreational facilities;
- Identification of linear areas to serve as new walking trail systems, equine trails systems, bike paths, etc. to link the above listed parcels.

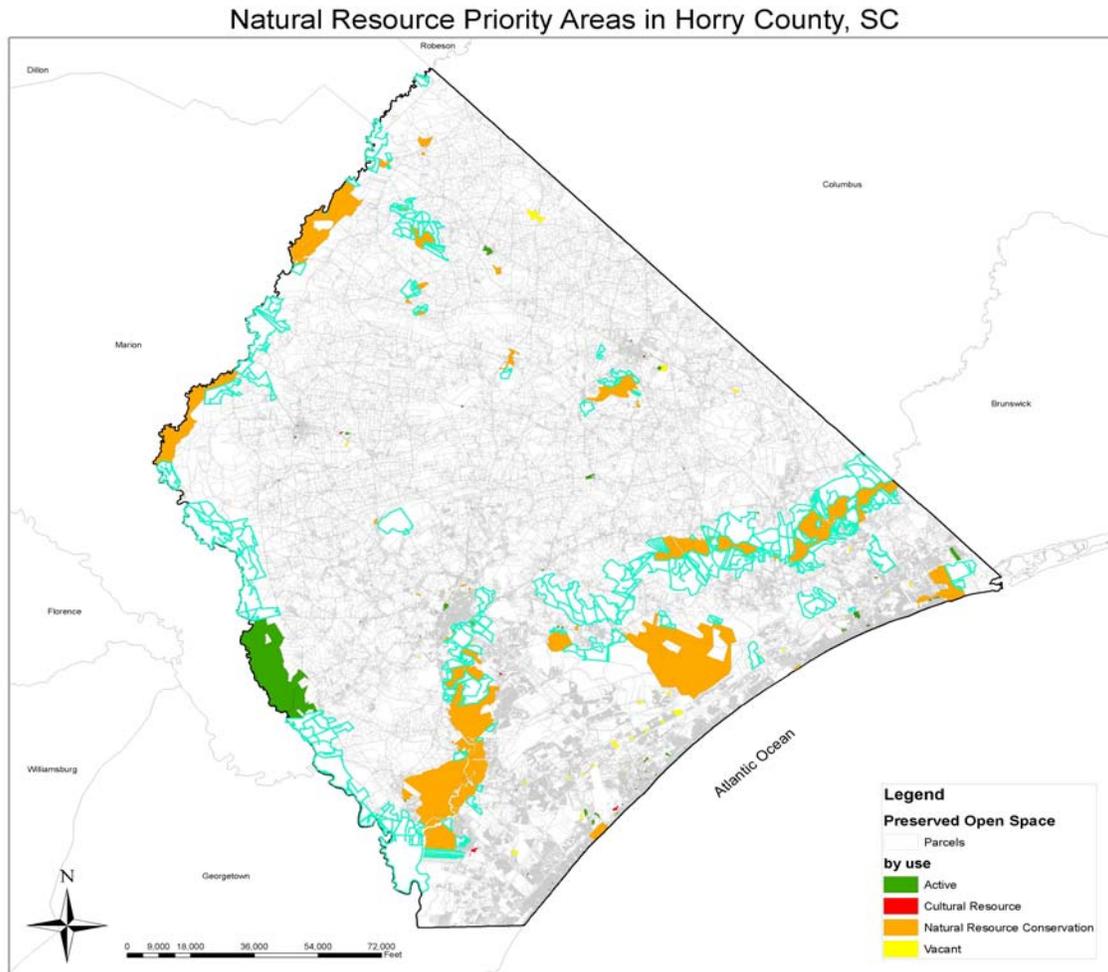
The following characteristics were used to further identify future acquisition and linkage sites:

- Areas of known concentrations of residents;
- Areas adjacent to existing parks, schools, cultural sites, community centers, senior centers, scenic view sheds, boat ramps, etc.;
- Areas with access to a public roadway;
- Vacant, County owned parcels of land.

For example Figure 7 shows “Natural Resource Priority Areas in the County”, illustrating the results of the GIS analysis, and highlighting all parcels within the County which can

be considered as prioritized acquisition sites to establish the interconnected green infrastructure system.

Figure 8: Inventoried Natural Resource Priority Areas in Horry County



Source: Horry County Planning Dept.; GIS/IT Dept.: Open Space Inventory Report, April 2006

The Horry County Recreation Needs Assessment Study

The Recreation Needs Assessment Study was prepared as a guide to assist Horry County in meeting the demands for recreation offerings, and in developing adequate parks and recreation facilities. The study shows that while the County operates a multitude of single purpose parks, such as boat landings, playgrounds and ball fields, the creation of adequately sized parks with a variety of active and passive facilities close to new development core areas, (e.g. Carolina Forest, along Highway 707, or on the unincorporated outskirts of Conway) has been slow. The study recommended additional

development for a total of four Regional Parks, two Civic Parks, Eleven District Recreation Complexes, thirty-seven Community Parks and numerous additional facilities. Altogether, the parks proposed for Horry County by the study equates to 4.19 acres of local park land per 1,000 people and 5.49 acres of regional park land per 1,000 people. Although, this suggested acreage falls short of the generally recommended standards, which are 6.25 acres for local and 10 acres for regional parks, the proposal for Horry County represents a big step in meeting recreation needs for the short term and immediate future. The bigger challenge is to incorporate the County's plans to meet its recreational needs into the open space plan and the green infrastructure concept.

Please see **Appendix E** for further information.

The East Coast Greenway

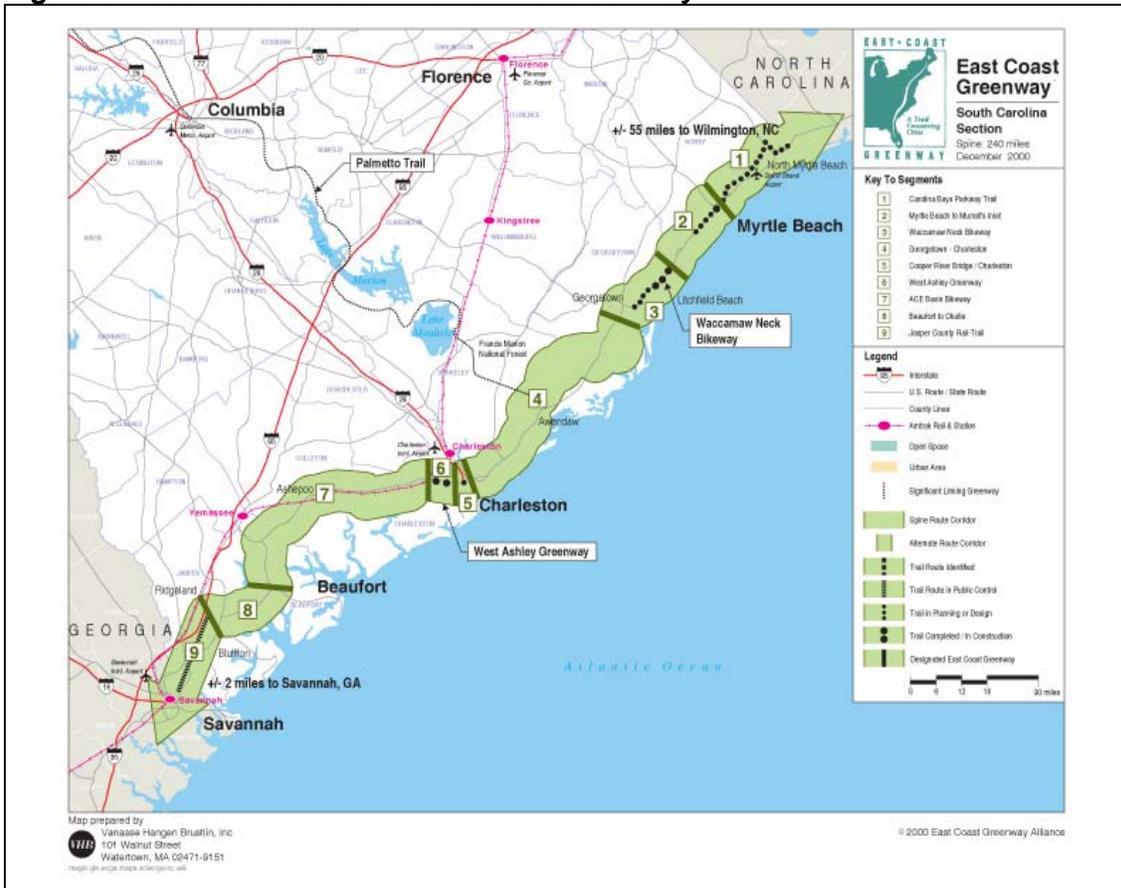
The East Coast Greenway is an ambitious 2,600-mile long multi-use urban trail system extending from Maine to the Florida Keys. Trail segments are meant to retain local identity and to be under local control. The goal of the Greenway is to facilitate improved quality of life for local residents and to act as a boost for local economies from tourism dollars.

The East Coast Greenway Master Plan for Horry and Georgetown Counties was completed in 2003. The Plan includes proposed routes, design guidelines, signage recommendations, and an interpretative package.

Portions of the Greenway have been constructed in Georgetown County, Myrtle Beach and North Myrtle Beach. Georgetown County has constructed approximately 10 miles of Greenway trails. The City of Myrtle Beach has completed a section of the Greenway along the Robert Grissom Parkway in conjunction with work done by the SCDOT and a section along Harrelson Boulevard. North Myrtle Beach has completed a trail segment through the Barefoot Landing Resort.

The City of Myrtle Beach has proposed a new segment of the Greenway that will connect the city to the county via the Robert Grissom Parkway Bridge over the Intracoastal Waterway. Funding for that segment has been identified and engineering is underway. The County is working with the City to identify possible routes to extend the Greenway into the Lewis Ocean Bay Heritage Preserve. Additional funding has been identified for Fiscal Year 2009 connecting the completed segment in Georgetown County with the Garden City and Surfside Beach areas of Horry County.

Figure 9: South Carolina section of the Greenway



Source: The East Coast Greenway homepage; URL: <http://www.greenway.org/>

Additional details on the East Coast Greenway can be found in **Appendix H**.

3. ACTIONS AND STRATEGIES

The implementation of a comprehensive and well integrated Parks and Open Space system in Horry County can only be realized if there are strategies which can bring the vision to reality.

Partnership and Collaboration

With a number of plans and studies available, a number of Boards and Agencies assigned the task of protecting, preserving and developing the natural landscape, and various levels of government involved, collaboration and partnership on some level is essential to planning for Open Space and Recreation in Horry County. In addition to governmental agencies and boards there are a number of foundations, nonprofit organizations, university committees and citizen groups involved in the study of the natural landscape, planned development, and the recreational needs of the County. A first step in this direction would be to see if the concepts associated with Green Infrastructure are part of or could be incorporated into these agencies' mission statements, goals and objectives. A concerted effort involving all levels of responsibility and interest is not only more effective, but less wasteful of time and effort.

How do we balance the goals of the environmentalists with the goals and rights of landowners and developers? Collaboration must involve landowners and developers in a way that reminds them of their responsibilities to the community while respecting their rights of ownership. All should be made aware of the concepts and requirements of a Green Infrastructure system and brought on board if the concept is to become a reality.

The County has recently taken steps in this direction by providing regulatory incentives for developers to preserve natural vegetation and open space at residential development sites. Additionally the County, along with its Boards and Agencies can encourage property owners to participate in available grant programs of the Natural Resources Conservation Service and other sources by providing technical support for property owners to obtain and implement such conservation programs and by working with developers to ensure and require better incorporation of open space and conservation measures in new development.

Horry County's "All Hazard Mitigation Plan" recognizes several of the aforementioned natural resource protection measures, such as, Open Space preservation, Floodplain protection through riparian buffers, and Wetland preservation and restoration as essential pre-disaster mitigation techniques. The Mitigation Plan was adopted by Horry County Council on June 7th 2005. Many of the fundamental features, concepts, goals

and strategies identified in the Parks and Open Space Plan are in accord with the County's Hazard Mitigation Goals – for example:

Goal 1: “Minimize loss of life and property from natural hazard events.”

Goal 2: “Protect public health and safety.”

Goal 5: “Reduce risk and effects of natural hazards.”

Goal 7: “Enhance existing or develop new policies/regulations that will reduce the potential damaging effects of hazards.”

Innovative and flexible planning concepts

Innovative planning concepts, such as Low Impact Development and Conservation Development and Transfer of Development Rights, are designed to flexibly expand traditional land development schemes to make them more harmonious with the surrounding natural environment. Inevitable development need not be obstructive to the concept of Green Infrastructure or harmful to existing communities and the environment. And environmentally responsible development need not negatively impact the developer's profit margin.

Low Impact Development (LID)

The goal of Low Impact Development (LID) is to respect a site's predevelopment natural composition, e.g. its hydrology, vegetation, and soil composition by using design techniques that dampen the ecological footprint of development. Specifically, regarding the management of stormwater, LID techniques represent localized, ecologically friendly features, such as raingardens and bioretention swales that reduce the necessity for costly end-of-pipe facilities and are more harmonious with nature. There are four key strategies involved in Low Impact Development:

- Conserve and restore vegetation and soils (use the natural vegetation to help control stormwater and the existing topographic features of the site to slow, store and infiltrate stormwater and incorporate natural drainage features into the site design);
- Design the site to minimize impervious surfaces (Locate homes, buildings, roads and parking away from critical areas and soils that infiltrate well and replace impervious pavement with pervious pavement);
- Manage stormwater close to where the rain falls (create a landscape similar to the slow movement of water typical in a forested landscape and use bioretention areas to beautify the area as well as manage stormwater and reduce reliance on sewers, pipes and ponds);

- Provide maintenance and education (develop reliable, long term maintenance programs with enforceable guidelines and involve neighborhoods in protecting their streams, wetlands and bays);

Please see **Appendix K** for further information on Low-Impact-Developments.

Figure 10: Local examples of LID/Stormwater retention areas at the new Horry County Administrative and Judicial Building in downtown Conway, SC



Photos: Horry County Planning & Zoning Dept.

Cluster or Conservation Developments

Cluster Development or Conservation Subdivision Planning are crucial practices considering Horry County's need to balance rapid growth with pressures to protect flood mitigation areas, such as wetlands, floodplains and other green space areas that get flooded periodically. "However, by far the greater message is that the open space that is conserved in this way can be required to be laid out so that it will ultimately coalesce to create an interconnected network of protected lands. Indeed, one of the more exciting aspects of this approach is the possibility it holds for land-use planners to work much more closely with conservation professionals...to produce a more balanced pattern of conservation and development" (Arendt, Randall: Conservation Design for Subdivisions, page xiv). Conservation Development practices will eventually have to get incorporated in either the County's Zoning Ordinance and/or land development regulations. "Fortunately, this shift can be accomplished in a way that respects the right of landowners and the equity of developers, who would continue to be able to build at full density – but only when they design their houselots and streets around an open space framework that includes meadows, fields, and woodlands that would otherwise have been cleared, graded, and converted into houselots and streets" (ibid).

The economic, environmental, and recreational advantages of Cluster Development are listed in **Appendix L**.

Many jurisdictions are looking at Cluster or Conservation Development as their principal tool for buffering parks and open spaces from the incursions of development on adjoining parcels.

Transfer of Development Rights (TDR) Program

Complementing the techniques of Conservation Development on a broader or more regional scale is the concept that is commonly known as Transfer of Development Rights (TDR).

Transfer of development rights is a realty transfer system where development potential in a specified preservation area can be purchased by private investors for use in a targeted growth area. In exchange for a cash payment, landowners in the preservation area place a restrictive easement (conservation easement) on the property that will preserve the natural resource in perpetuity. The land in the designated receiving area can then be developed at a higher density than allowed under the baseline zoning. This process reduces the consumption of our critical natural resources, while at the same

time accommodating growth pressures, and eliminating the “windfalls and wipeouts” in property values that normally are associated with zoning changes.

More information on TDR is included in **Appendix M**.

Financial Support

Equally important to the realization of a future Parks and Open Space system is the development of a financial plan to assist both public and private stakeholders to achieve their goals. Financial support could incorporate cost effective options such as:

- Open space dedication as part of new development
- Required mitigation for large roadway projects
- Pre-Disaster Mitigation efforts, especially through funding from FEMA’s “Flood Mitigation Assistance (FMA)” as well as “Repetitive Flood Claims (RFC)” and “Severe Repetitive Loss (SRL)” programs
- Promotion of conservation easements
- Pursuit of state, federal and private grants regarding natural resource conservation
- Establishment and maintenance of an Open Space Fund that collects all fees-in-lieu
- Tax incentives for private donation of land
- Acquisition of land and/or conservation easements by the County

The implementation of a comprehensive and well integrated Parks and Open Space system in Horry County can only be realized if there are regulatory strategies which can help bring the vision to reality.

Regulatory Strategies

Regulatory strategies are the most stringent options since they are based in law and their flexibility is limited to revisions and updates. In Horry County, the provision of open space standards that have to be followed together with new land development requests are anchored within the Land Development Regulations (LDR) which are part of Horry County’s Code of Ordinances. Recently, the open space standards have been revised to ensure broader applicability to developments of lesser density. The revised open space standards that were adopted by County Council on February 19th, 2008 will improve the accessibility, usability, and the protection of open spaces. The revised standards are based on and promote the creation of a Green Infrastructure system, providing the regulatory opportunity for planning staff and also the Parks and Open Space Board to evaluate any required open spaces within new developments by their

location, accessibility, usability as well as their conformity with the objectives and goals of the Parks and Open Space Plan.

The new open space standards are designed to create a win-win-win situation for residents, developers and the environment alike, as they demonstrate flexibility in requiring open spaces. A descriptive list of acceptable and unacceptable active and passive open space features, as well as the provision of options for providing open spaces off-site, will assist developers in providing and locating open spaces where it is most sensible.

Noteworthy are the revised options in favor of developers to partially exchange their open space requirements with a simply calculated fee-in-lieu payment into the Open Space fund or alternatively, the creation of an open space mitigation bank that would trade open space credits between different landowners and developers.

Last but not least, are the new regulatory provisions which promote ownership and stewardship of open spaces by a unit of government, non-profit land conservancy; or the opportunity to place conservation easements (a feasible alternative to selling and developing family-owned land) by providing attractive tax credits. The advantages of these conservation easements are the protection and appropriate stewardship of ecological values and the economic security for families who need not sell their ancestral heritage that is connected with these special lands.

The formation of a future parks and open space system in Horry County will rely on these regulatory provisions, especially when it comes to partnering with developers in interconnecting open spaces on a smaller scale with community and county parks and with open spaces on a larger scale, thus creating a Green Infrastructure. Additionally the regulatory provision of protection options, such as the introduction of comprehensive wetlands and floodplain protection ordinances and/or the adoption of riparian/wetland buffers as regulatory overlay zones will help protect and connect pieces of naturally sensitive lands into one network, dampening the need for public investment to provide for parks and open spaces that stem from conventional land development practices.

The Action Plan

The Goals and Objectives of the Parks and Open Space Board (see **Appendix N**) include recommendations to assist elected, non-elected and other stakeholders within the County to insure that Horry County has a future as “A Naturally Beautiful Place to Live, Work and Play”

The main target is the creation of a Green Infrastructure by interconnecting different categories of existing and future open space and park/recreational sites, thus balancing population growth with the preservation of open space, balancing development with the preservation of the natural landscape, and balancing new infrastructure with the need for clean water and air, while meeting the recreational needs of the community.

With that goal and target in mind the steps needed to get there include:

- A continuing assessment of where we stand in terms of Parks and Open Space (the Open Space Inventory and the Recreation Needs Assessment);
- An assessment of what tools are presently available to reach the goal (Boards, Agencies, Interest Groups, Environmental Programs and Options, Planning Tools and Regulation);
- Public outreach and education aimed at creating an informed electorate and supportive community base;
- Partnership and Cooperation by all stakeholders (elected and appointed Boards, landowners and developers);
- Financial Support (tax incentives, write-offs, mitigation plans, and an open space bank, and timely land acquisition);
- The assessment of proposed developments in relation to the goal of Green Infrastructure;
- Use of the planning options available and enforcement of the regulations governing land use in the County; and

commitment on the part of all stakeholders and the public to fulfill our joint responsibilities as stewards of the natural landscape.

APPENDICES

Appendix A: The State of Horry County's Natural Resources

Water Resources

Surface Water Quality

In 1972 Congress enacted the Clean Water Act ("CWA" or "the Act") "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters" so as to support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water." SC DHEC has been delegated authority to implement the provisions of the CWA through S.C. Regulation 61-68, *Water Classifications and Standards* and S.C. Regulation 61-69, *Classified Waters*. Regulation 61-68 establishes water classifications based on designated uses (DU's) tied to water quality standards and criteria.

By federal law, the waters classified for regulation under the Clean Water Act are those defined as all the "waters of the United States" (33 CFR Part 328). These generally include all natural surface waters including some wetlands. A complete list of water bodies and their specific classification can be found in S.C. Regulation 61-69, *Classified Waters*.

The types of classified waters in Horry County are listed below along with their designated uses (DU). Examples of the most important DU's are: (1) supports recreational activity, (2) supports aquatic life, (3) supports fish or shellfish consumption, (4) drinking water source. For each classification, a set of water quality standards and criteria exist. Failure to maintain these standards is taken as evidence of lack of attainment of designated use. SC DHEC is charged with monitoring compliance with the water quality standards. It is the intent and purpose of the regulations that waters, which meet the standards shall be maintained and waters, which do not meet standards shall be improved (SCDHEC, State of South Carolina Integrated Report for 2004, Part II: Assessment and Reporting, 2004).

- Class ORW, or "outstanding resource waters", is freshwater or saltwater which constitute an outstanding recreational or ecological resource, or those freshwaters suitable as a source for drinking water supply purposes, with treatment levels specified by the Department.
- Class FW, or "freshwater", is water suitable for primary and secondary contact recreation and as a source for drinking water supply, after conventional treatment. These waters are also suitable for fishing, and the survival and propagation of a balanced indigenous aquatic community of fauna and flora. This class is also suitable for industrial and agricultural uses.
- Class SFH, or "shellfish harvesting" water, is tidal saltwater protected for shellfish harvesting, and is suitable also for uses listed in Class FW.
- Class SA comprises "tidal saltwater" suitable for primary and secondary contact recreation, crabbing and fishing. These waters are not protected for harvesting of clams, mussels, or oysters for market purposes or human consumption. The waters

are suitable for the survival and propagation of a balanced indigenous aquatic community of marine fauna and flora.

- **Class SB** is "tidal saltwater" suitable for the same uses listed in SA. The difference between the Class SA and SB saltwater concerns the Dissolved Oxygen (DO) limitations. Class SA waters must maintain a certain daily DO average.

The majority of freshwater bodies in Horry County fall within the freshwaters (FW) class, which should support recreational activity, aquatic life and fish consumption. Several sections of the coastal waters have been designated as Class SFH due to the presence of potentially harvestable shellfish. SCDHEC has signaled the intent to add a recreational DU to coastal salt waters.

Every two years, SCDHEC is required to report, which bodies of water fail to meet water quality standards and hence are not attaining their designated uses. In this connection the water quality standards used are based on the principle of the total maximum daily load (TMDL), which represents a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. Hereby, the Department of Health and Environmental Control with approval by the General Assembly sets the specific water quality standards for South Carolina. All waterbodies that do not meet these water quality standards in TMDL, have to be bi-annually reported within a so-called 303(d) list of impaired waterbodies as per the CWA.

Figure A-1 shows the latest 303(d) list of evaluated waters in Horry County from 2008. It is based on samples collected between 2004 and 2006. Sites are listed for their violation of acceptable TMDL of pollutants that affect a specific use.

Hereby, Figure A-2 lists acronyms and descriptions that are utilized to determine common causes for water quality impairments.

Figure A-1: 303(d) list of impaired waters in Horry County, 2008

Specifically examined uses at risk: Aquatic Life (AL); Fish Consumption (FISH); Recreational Use (REC); Shellfish Harvesting (SHELLFISH);

Location	Use at risk	Cause
Buck Creek @ SC905	AL	CU
Waccamaw River @ SC9	AL	CU
Waccamaw River @ SC9	FISH	HG
Simpson Creek @ SC905	AL	NI; ZN
Hellhole Swamp @ SC67	AL	DO
Kingston Lake @ Pump station on Lakeside Dr. (Conway)	AL	DO
Kingston Lake @ Pump station on Lakeside Dr. (Conway)	REC	FC
Crabtree Swamp @ Long St. (Conway)	AL	DO
Crabtree Swamp @ US501	AL	DO
Crabtree Swamp @ US501	REC	FC
Waccamaw River @ SC31	FISH	HG
Waccamaw River @ Old Reeves Ferry	FISH	HG
Sterritt Swamp	AL	DO
Sterritt Swamp	REC	FC

Waccamaw River @ Lee's Landing	FISH	HG
Waccamaw River @ Pitch Landing	FISH	HG
Waccamaw River @ Toddville	FISH	HG
Bear Swamp @ Pitch Landing	AL	BIO
Intracoastal Waterway @ Socastee	FISH	HG
Waccamaw River @ Peachtree	FISH	HG
Waccamaw River @ Bucksville	FISH	HG
Waccamaw River @ Bucksport Landing	FISH	HG

Source: SCDHEC 303(d), List of Impaired Waterbodies, 2009;
 URL: <http://www.scdhec.net/environment/water/tmdl/index.htm#303d>

Figure A-2: Common water quality indicators

Parameter	Abbreviation	Water Quality Effect
Dissolved Oxygen	DO	Essential for the survival of aquatic organisms. If the amount of oxygen dissolved in waterfalls below the minimum requirements for survival, aquatic organisms may die. Pollution also can cause declines in DO. Decreasing DO is a negative water quality indicator of aquatic life.
Turbidity	TURB	Turbidity is an expression of the scattering and absorption of light through water. The presence of clay, silt, fine organic and inorganic matter, soluble colored organic compounds, and plankton and other microscopic organisms increases turbidity. Increasing turbidity can be an indication of increased runoff from land. Increasing turbidity is a negative water quality indicator.
Heavy Metals	Cadmium (CD); Chromium (CR); Copper (CU); Lead (PB); Nickel (NI); Mercury (HG); Zinc (ZN)	These metals are toxic is aquatic life. They are not soluble in water and hence are present primarily in the sediments. They are introduced into natural waters by runoff from roads as they metals are common components of automobiles and gasoline.
Macrobenthic Invertebrates	BIO	The abundance and diversity of the native macrobenthic invertebrates is used as a biotic indicator of ecosystem health. High abundance and diversity indicate water quality and habitat are in excellent condition. The use of this indicator requires knowledge of "natural" abundance and diversity.
Bacteria	Fecal Coliform (FC); Enterococci (ENTERO)	Bacteria are present in the digestive tract and feces of all warm-blooded animals. This type of bacteria is generally not harmful, but their presence indicates that surface waters may contain

		pathogenic microbes. Diseases that can be transmitted to humans through water contaminated by improperly treated human or animal wastes are the primary concern. Correlations have been shown between fecal coliform numbers in recreational and drinking waters and the risk of adverse health effects. Increasing bacteria levels is a negative water quality indicator for recreational use.
Other	Ammonia Nitrogen (NH ₃ N); Chlorophyll A (CHLA); Hydrogen Ion Concentration (PH); Polychlorinated Biphenyls (PCB); Total Phosphorus (TP); Total Nitrogen (TN)	

Source: SCDHEC, Watershed Water Quality Report, Pee Dee Basin, 2000/2008

SCDHEC also uses their monitoring data to evaluate trends in water quality over time. The Figure below illustrates trends in water quality at monitoring stations throughout Horry County from 1989-2003. "Increasing" indicates a statistically significant increasing trend in the presence of the testing parameter, "Decreasing" a statistically decreasing trend in the presence of the testing parameter, "*" indicates no statistical trend, and "N/A" indicates insufficient data available to assess trends. The next trend analysis is scheduled to be performed in 2008 with results available to the public in 2010.

Figure A-3: Long-term trends in water quality, 1989-2003

Station Number	Waterbody	Dissolved Oxygen	Turbidity	Bacteria
PD-038	Lumber River @ US 76	Decreasing	*	Decreasing
PD-042	Little Pee Dee River @ US501	Decreasing	Increasing	*
PD-189	Little Pee Dee River @ US 378	*	*	*
PD-350	Little Pee Dee River @ Punchbow Landing	*	N/A	*
PD-351	Cedar Creek	*	Decreasing	*
PD-176	Lake Swamp	*	*	*
PD-177	Chinners Swamp @Aynor	*	*	Decreasing
PD-352	Chinners Swamp @ Gunters Island Rd	*	*	*
PD-158	Crab Tree Swamp @ Long St Conway	Increasing	*	*
PD-107	Kingston Lake @ Lakeside Dr Conway	*	Decreasing	Increasing
PD-362	Buck Creek @ SC 905	*	*	Increasing
MD-124	Waccamaw River @ SC 9	*	Increasing	*
PD-363	Simpson Creek @ SC 905	*	*	*
PD-369	Waccamaw River @ Reeves Ferry Rd	Decreasing	*	*
MD-085	ICWW @ 3 miles N of 501 bridge	Increasing	Increasing	Decreasing
MD-087	ICWW @ 501 bridge	*	Increasing	Decreasing
MD-088	ICWW @ 1 mile S of 501 bridge	*	Increasing	Decreasing
MD-089	ICWW @ 2 miles S of 501 bridge	*	*	*
MD-127	ICWW @ SC 544	*	Increasing	Increasing
MD-110	Waccamaw River @ US501 Bypass	*	*	*
MD-111	Waccamaw River @ Cox Ferry Rd	Decreasing	*	*
MD-145	Waccamaw River@1 mile S Bucksville Landing	Decreasing	Decreasing	*
MD-136	Waccamaw River@¼ mile N -ICWW	Decreasing	*	*
MD-146	Waccamaw River @ ICWW	Decreasing	*	*

MD-137	Waccamaw River @ mouth-Bull Creek	Decreasing	*	*
MD-162	Little River - Southern end	*	*	Decreasing
MD-125	ICWW @ SC 9 – Little River	*	*	Decreasing
MD-091	ICWW @ 4 miles N of US 501 bridge	*	Increasing	Decreasing

Source: SCDHEC, Bureau of Water, Watersheds and Planning, 2005

Figure A-3 shows that out of 28 total sampling areas, 18 had at least one water quality indicator showing a statistically significant decline in water quality. Note that a decreasing trend in DO is evidence of a decline in water quality whereas an increasing trend in fecal coliform is evidence of declining water quality. Thirteen (13) sites showed at least one water quality indicator as having a statistically improving trend in water quality.

As part of its 2006 303(d) report, SCDHEC also published a list of Waters of Concern. These are sites that contravened the Enterococcus water quality standards used to establish beach swimming advisories (Figure A-4). This signals the intent of the U.S. Environmental Protection Agency (USEPA), to require South Carolina to identify these sites as impaired waters.

Figure A-4: Waters of Concern in Horry County based on Enterococcus Measurements in the Surf Zone

WAC-005A	Myrtle Beach at 7th Ave S	North Myrtle Beach
WAC-009A	Myrtle Beach at Whitepoint Swash	Myrtle Beach
WAC-015	Myrtle Beach at Singleton Swash Arcadia	Myrtle Beach
WAC-016A	Myrtle Beach at Cane Patch Swash	Myrtle Beach
WAC-017A	Myrtle Beach at Deep Head Swash	Myrtle Beach
WAC-020	Myrtle Beach at 24th Ave North	Myrtle Beach
WAC-022A	Myrtle Beach at Withers Swash	Myrtle Beach
WAC-025A	Myrtle Beach at Midway Swash	Myrtle Beach
WAC-028	Myrtle Beach at Pirateland Swash	Myrtle Beach
WAC-029A	Myrtle Beach at Discharge S-Ocean Lakes Campground	Myrtle Beach
WAC-031A	Myrtle Beach at Swash at 5th Ave. N	Surfside Beach

Source: SCDHEC

Since 1976, SCDHEC has been monitoring fish for pollutants (<http://www.scdhec.gov/environment/water/fish/index.htm>). Most of the fish sampling sites in Horry County have been continuously 303(d)-listed for mercury contamination. This has led to the posting of fish consumption advisories (Figure A-5). For reasons not understood, the mercury concentrations in fish from the Waccamaw and Pee Dee Rivers are the highest in the state (SCDHEC, 303(d) List of Impaired Waterbodies, 2004).

Figure A-5: Sites on the 2006 303(d) List for Mercury Contamination in Fish

TMDL Target Date	Location	Station
2019	LUMBER RIVER @ RICEFIELD COVE	PD-038
2017	LUMBER RIVER @ CAUSEY LANDING	PD-664
2017	LITTLE PEE DEE RIVER @ SANDY BLUFF	PD-054
2017	LITTLE PEE DEE RIVER @ GUNTER'S LAKE	PD-657
2017	LITTLE PEE DEE @ HUGHES LANDING	PD-691

2019	LITTLE PEE DEE RIVER @ PUNCHBOWL LAND	PD-350
2017	LITTLE PEE DEE RIVER @ HWY 378	PD-620
2019	WACCAMAW RIVER @ SC HWY 9	MD-124
2017	WACCAMAW RIVER @ SC 31	CSTL-553

SCDHEC protects public health by issuing fish consumption advisories based on their 303(d) list. The 2007 Fish Consumption Advisories are provided in Figure A-6.

Figure A-6: 2007 Fish Consumption Advisories

Waterbody	Location	Species of fish	Advisory
Little Pee Dee River	From NC/SC State Line to the Great Pee Dee River	All Other Fish	1 meal a month
		Bowfin (Mudfish)	DO NOT EAT ANY
		Chain Pickerel	DO NOT EAT ANY
		Flathead Catfish	DO NOT EAT ANY
		Largemouth Bass	DO NOT EAT ANY
Waccamaw River	From the NC/SC State Line to U.S. Hwy 17	Black Crappie	1 meal a week
		Blue Catfish	1 meal a week
		Bluegill	1 meal a week
		Channel Catfish	1 meal a week
		Redear Sunfish	1 meal a week
	From the NC/SC State Line to U.S. Hwy 17	Warmouth	1 meal a week
		Chain Pickerel	1 meal a month
		Bowfin (Mudfish)	DO NOT EAT ANY
Largemouth Bass	DO NOT EAT ANY		
Atlantic Ocean	Atlantic Ocean off the SC Coast **EPA and FDA advise women who are or may become pregnant, nursing mothers, and children under 14 not to eat any king mackerel, shark, swordfish or tilefish.	King Mackerel less than 33 inches	No Restrictions **
		King Mackerel 33-39 inches	1 meal a week **
		King Mackerel over 39 inches	DO NOT EAT ANY **
		Swordfish	1 meal a month **
		Shark	DO NOT EAT ANY **
		Tilefish	DO NOT EAT ANY **

Source: SCDHEC (<http://www.scdhec.net/environment/water/fish/advisories.htm>)

Sites on the 303(d) list are required by the CWA to develop a Total Maximum Daily Load (TMDL). This is a pollution source budget that identifies the loading reductions required to enable the receiving waters to attain water quality standards. A TMDL for dissolved oxygen was approved in 1999 for the Waccamaw River and AAIW. This was required for approval of NPDES discharge permits for the sewage treatment plants. Fecal coliform TMDLs were approved for Murrells Inlet and Pawleys Island in 2005, but have not yet been implemented. As shown in the preceding Figures, SC DHEC has set target dates for development of the remaining TMDLs. At this time, implementation of the TMDLs is strictly voluntary with financial incentives available through US EPA 319 grant funding. This voluntary status is subject to change as a new regulatory program is expected to increase local responsibilities for insuring improved water quality in stormwater runoff (National Pollution Discharge Elimination System (NPDES) Phase II Stormwater Program for Small Municipal Separate Storm Sewer Systems (SMS4s)).

Regulatory monitoring associated with the CWA has been conducted by SCDHEC. This monitoring is done on a watershed basis. Due to financial limitations, sampling efforts are concentrated on a rotating basis amongst the eight basins in South Carolina such that each basin is studied at least once every five (5) years (SCDHEC, URL: <http://www.scdhec.net/environment/water/shed/prog.htm>).

The last intensive study of the Pee Dee and Coastal basins was conducted in 2003 and the next is scheduled for 2008. During the off years, only two sites are sampled once a month in the main stem of the Waccamaw River along with several sites in the larger tributaries. Detailed watershed water quality assessment reports summarizing the monitoring data are issued every five (5) years (SCDHEC, URL: <http://www.scdhec.net/eqc/admin/html/eqcpubs.html#watershed>).

The last was published in 2000. The 2005 report is still pending due to a switch over in data organization and computer hardware. Upstream, North Carolina's Department of Natural Resources conducts a similar monitoring program.

Other monitoring efforts include continuous water quality and quantity sensors maintained by the USGS with funding through the Waccamaw COG. This data collection supported the development of the DO TMDL. As indicated in Figure 7, at least five (5) sites covered by this TMDL continue to experience declining Dissolved Oxygen (DO) with no sites showing an improvement. Since severe cuts were made to permitted discharges from the sewage treatment plants, the continuing decline in water quality is attributed to an increase in stormwater runoff of oxygen-demanding substances, such as eroded soils and organic refuse. This source of oxygen demand was not explicitly included in the DO TMDL and hence is not currently being monitored or controlled.

To support the increased demands of the new NPDES Phase II Stormwater Program, Horry County is now directly funding to the U.S. Geological Survey (USGS) to maintain continuous water quality and quantity sensors in the Little Pee Dee and upper Waccamaw River. The data from these sensors is made available in real time to the public through the USGS website (<http://waterdata.usgs.gov/sc/nwis/rt>). The locations of these sensors are provided in the following Figure A-7:

Figure A-7: Continuous Gauging Stations in the Waccamaw River, Little Pee River and AAIW measuring water height and discharge

Station Number	Location Description	Parameters
02109500	WACCAMAW RIVER AT FREELAND, NC	1,2
02110400	BUCK CREEK NEAR LONGS, SC	1,2,3,4,5,6,7,8
02110500	WACCAMAW RIVER NEAR LONGS, SC	1,2,4,5,6,7
02110701	CRABTREE SWAMP AT CONWAY, SC	1,2,3,4,5,6,7,8
02110704	WACCAMAW RIVER AT CONWAY MARINA AT CONWAY, SC	1,2,3,4,5,6,7
02110725	AIW AT HIGHWAY 544 AT SOCASTEE, SC	1,4,5
02110729	TRIB. TO AIW AT HWY 707 AT SOCASTEE, SC	1,3
02110760	AIW @ MYRTLEWOOD GOLF COURSE @ MYRTLE BEACH, SC	1,2,3,5,6
02110777	AIW AT HIGHWAY 9 AT NIXONS CROSSROADS, SC	1,4,5,6
02110802	WACCAMAW RIVER AT BUCKSPORT, SC	1,4,5
021108125	WACCAMAW RIVER NEAR PAWLEYS ISLAND, SC	1,5,6
02110815	WACCAMAW R @ HAGLEY LAND. NR PAWLEYS ISLAND, SC	1,4,5,6
02135060	CHINNERS SWAMP NEAR AYNOR, SC	1,2,3,4,5,6,7,8

1: water height; 2: discharge; 3: velocity; 4: dissolved oxygen; 5: temperature; 6: specific conductance, 7: turbidity and pH, 8: rainfall

Source: USGS

There are also several other programs operating within the County to assist with surface water quality issues, including Coastal Carolina University's Waccamaw Watershed Academy (<http://www.coastal.edu/wwa/>) and the Waccamaw Riverkeeper Program (<http://www.winyahivers.org/>). Coastal Carolina University's Waccamaw Watershed Academy (WWA) operates under the aegis of the Burroughs and Chapin Center for Marine and Wetland Studies. Its mission is to meet local needs for expertise in the areas of watershed and wetland science and management through education, research, and public outreach. The WWA maintains a regulatory environmental quality laboratory that performs research and monitoring work throughout the Horry-Georgetown region. The WWA is currently working in collaboration with the City of Conway, Horry County and the US EPA to develop a watershed management plan for the Kingston Lake Watershed.

The Waccamaw Riverkeeper program is licensed by the Waterkeeper Alliance, which is headquartered in New York. The Waccamaw Riverkeeper is a paid, full-time position responsible for advocating compliance with environmental laws, identifying problems which affect the Waccamaw River, responding to citizen complaints, devising appropriate remedies for problems associated with the River, educating the public, and advocating for the public's right to protect and defend the environment (Winyah Rivers Foundation, Waterkeepers). The WWA, in partnership with the Waccamaw Riverkeeper, run a volunteer monitoring program in the Waccamaw River. The data are available at their website (<http://gis.coastal.edu/volunteermonitoring/>). This program is partially

funded by Horry County as it helps meet part of the NPDES Phase II Stormwater Program requirements for public education, public involvement and illicit discharge detection.

Public Water and Sewer Services

The Grand Strand Water and Sewer Authority (GSWSA) is the major supplier of potable water in Horry County. The Bull Creek Regional Water Treatment Plant, the main water treatment facility used by GSWSA, can treat up to 45 million gallons of water each day. Untreated surface water is pulled from the Bull Creek, which is a tributary of the Great Pee Dee and Little Pee Dee Rivers. The Bull Creek Regional Water System provides high quality drinking water to GSWSA customers throughout Horry County, including the City of Conway, the Town of Aynor, the Town of Loris, as well as the City of North Myrtle Beach, Myrtle Beach, and Surfside Beach, and the Little River, Garden City and Socastee and Carolina Forest areas. GSWSA has over 1,000 miles of water lines in service with an additional 25 planned annually. GSWSA owns about 8,000 acres of land at and around the treatment plant to buffer and preserve water quality and deal with sewer disposal. Some is also used for permitted land application of treated sewage effluent, thereby reducing the need for discharge into the rivers. The Water Treatment Plant meets or exceeds all state and federal requirements for water quality and safety (Grand Strand Water and Sewer, Water Quality Report, 2005).

The Bucksport Water System supplies the southeastern part of the County with drinking water. The water is provided through four production wells drilled over 600 feet deep into the Black Creek Aquifer. This system also has a connection to GSWSA for emergency situations. The Bucksport Water System worked with SC DHEC, the County, and the Waccamaw Regional Council of Governments to develop a Wellhead Protection Program to help prevent contamination of the drinking water in the area. The fluoride concentration level of the Bucksport Water System exceeds the limits set by DHEC but not that set by EPA. The elevated fluoride levels are due to the unique soil mixture in the area of the wells (Bucksport Water System, Water Quality Report, 2005).

The GSWSA also operates a Surface Water Treatment Facility located in Myrtle Beach. It withdraws and treats water from the Atlantic Intracoastal Waterway. The facility is permitted to treat up to 40 million gallons of water daily. This water is used by the cities of Myrtle Beach and North Myrtle Beach. The Water Treatment Plant meets or exceeds all state and federal requirements for water quality and safety (Myrtle Beach Surface Water Treatment Facility, Water Quality Report, 2005).

Sewage treatment is conducted at eight wastewater treatment plants (WWTPs) operated by GSWSA. The treated effluents are either discharged into the rivers or onto land. Federal permitting of these discharges is coordinated by the Waccamaw Council of Governments under the Clean Water Act's Section 208 program. The WWTPs are:

- The J.L. Schwartz South Strand Regional Wastewater treatment plant is located in the Burgess Community. This plant is permitted to treat up to 14.35 Million Gallons per day (MGD) of waste water and discharge the treated effluent to either the Intracoastal Waterway / Waccamaw River near the Georgetown County line, onto the land at Grand Strand Water & Sewer Authority's 1,600 acre Tip Top Tree Farm, onto three privately owned golf courses, or onto the land at one of our three turf farm sites. The plant is scheduled to be upgraded to a 19.35 MGD capacity in 2007;

- The George R. Vereen North Strand Regional Wastewater Treatment Plant (Vereen Plant) is located in the Wampee community south of Little River. It is permitted to discharge 7 MGD (Million Gallons per day) of highly treated effluent into selected Carolina Bays and the Intracoastal Waterway;
- The Myrtle Beach WWTP plant is permitted to treat 17 MGD. Treated effluent is discharged into the Intracoastal Waterway/Waccamaw River near the Georgetown City line. The plant is scheduled for expansion to 22.4 MGD in 2007;
- The Conway WWTP is capable of treating 4.0 MGD. The treated effluents are discharged into a swampland on the Waccamaw River;
- The Longs Wastewater Treatment Plant is a small 200,000 gallons per day lagoon plant serving the Longs community. This plant is scheduled to be placed in standby in 2007. Wastewater from the service area will be piped to the Vereen WWTP;
- The Bucksport Wastewater Treatment Plant is a small 200,000 gallons per day lagoon plant serving the Bucksport community. This plant is scheduled for an upgrade by 2010 to accommodate additional growth in the area;
- The Loris Wastewater Treatment Plant treats 700,000 gallons per day and discharges to Pleasant Meadow Swamp outside the town of Loris. The plant is scheduled to be expanded to 1 MGD to accommodate growth in the area;
- The Green Sea/Floyds Wastewater Treatment Plant is a small treatment plant that serves the 2 schools and several businesses in the area.

Coastal Resources

The most recognizable and popular of all the natural resources in Horry County is the beach. All tidal saltwater within South Carolina is classified as suitable for primary and secondary contact recreation. The County is fortunate to have over 30 miles of sandy beaches and more than 24,000 acres of estuarine areas. These resources support wildlife habitat, recreation and serve as the primary draw for tourists from throughout the country as well as internationally. These tourists and the money they spend in Horry County are essential to the economic future of the County. Most other economic development along the beach would not be viable without the most significant natural resource in the County, the Atlantic Ocean and adjoining beaches. Therefore, controlling beach erosion and renourishing beaches as well as maintaining high water quality to ensure safe swimming conditions is essential for the County's future.

Both local and state beach management plans, in accordance with the State Beach Management Act of 1988, are intended to protect both life and property, protect unique ecological habitats, and preserve the beach for future use by all citizens and visitors of Horry County and South Carolina. Furthermore, these plans address the preservation of the dry-sand beach, public access opportunities, measures for renourishment on eroding beaches, and the protection of natural vegetation within the beach and dune system.

Since the beginning of the Beach Water Quality monitoring program in 1997, SCDHEC routinely collects water samples at over 40 locations on Horry County's beaches.

Sampling occurs once per week in Horry County between May 15 and October 15. These water samples are only tested for an indicator organism, the bacteria *Enterococci*, which sometimes can cause meningitis. High enterococcus counts mean there is a greater chance of disease-causing organisms (pathogens) being present in the water. If high numbers of bacteria are found, a swimming advisory is issued for that portion of the beach (SCDHEC, Beach Monitoring Program, Quality Assurance Project Plan, 2004).

Wetlands

Wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils (Wetland Definition by the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers). Wetlands are essential components of the landscape of Horry County. Their functions are multiple and diverse and include:

- Critical breeding, nesting, and feeding habitats for many species of waterfowl, mammals, and reptiles
- Water quality protection and enhancement by moderating surface runoff, recharging groundwater supplies, and trapping and removing sediments, nutrients, and chemical pollutants
- Spawning and nursery grounds for many commercial fish and shellfish species
- Flood hazard reduction by reducing the velocity of flowing water, absorbing and slowly releasing floodwaters, thereby lowering flood peaks
- Recreational opportunities for bird watchers, hunters, canoeists, anglers, and others.

There are about 4.5 million acres of wetlands in South Carolina, about 23.4 percent of the state's land surface. Only four states – Alaska, Florida, Louisiana and Maine have a higher percentage of wetlands than South Carolina (SCDHEC, The Facts on Wetlands). Horry County is approximately 44% wetlands (Tiner et al, 2002). As shown in Figure 17, wetlands are a major feature of the landscape in our county. Historically, the value of wetlands has been misunderstood, resulting in the destruction of more than 50 percent of the United States' naturally occurring wetlands. In the past two decades, 84 percent of wetlands losses have occurred in the southeastern United States.

Since the enactment of the Federal Clean Water Act, the U.S. Army Corps of Engineers has issued permits to discharge material into waters of the United States, which includes wetlands (404 Certification). As the lead agency permitting activities in wetlands, the Corps determines what areas are wetlands and subject to federal regulations. Many states have a wetland permission program to augment the Federal program. South Carolina does not. This leaves several types of activities in wetlands unregulated including: discharge of untreated stormwater into wetlands, ditching to drain wetlands, and exempted activities such as silviculture (forestry). As of 2007, Horry County has no wetland mitigation banks. As a result of incomplete regulatory coverage and lack of mitigation opportunities, 8% of the wetlands in Horry and Georgetown counties were lost between 1992 and 2001 (Jeff Allen, Clemson University's Storm Thurmond Institute).

In South Carolina several state programs that regulate activities in wetlands areas are tied to the Federal permitting program. The SCDHEC's Bureau of Water must issue a water quality certification for every federal permit that allows a discharge to state waters,

including wetlands (401 Certification). SCDHEC's Office of Ocean and Coastal Resource Management (OCRM) must certify that any federal action in the coastal zone is consistent with state's coastal zone management plan. Activities in tidal wetlands require a permit from OCRM (Wetlands and Their Importance, DHEC).

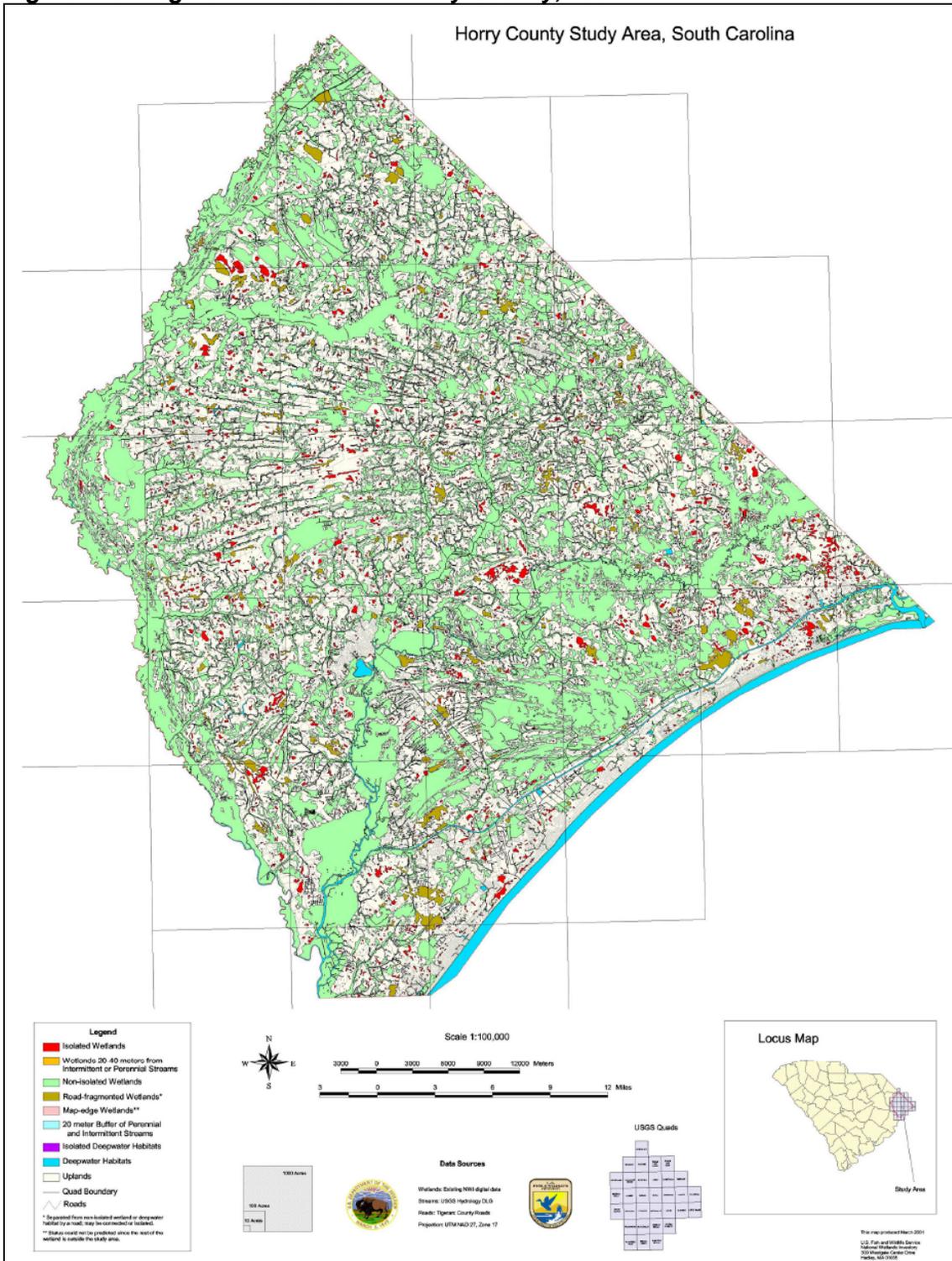
Early in 2001, the U.S. Supreme Court made a ruling stating that isolated wetlands that have no channel connecting it to a larger body of water are not protected under the permitting requirements, explained above, of the Clean Water Act. The result of this ruling is that more than 400,000 acres of wetlands in South Carolina (10% of the state's total) may have had their protection removed. Isolated wetlands consist of many valuable and unique resources including Carolina bays.

Carolina bays are isolated wetlands in natural shallow, elliptical, depressions that are largely fed by rain and shallow groundwater. Researchers believe Carolina bays are 30,000 to 100,000 years old, yet scientists are not certain of their origins. They are found primarily in North and South Carolina and Georgia but range from Florida to Delaware. They fill with rainwater during winter and spring and dry during summer months. When left in an unaltered condition, these bays are generally considered to be an isolated, freshwater wetland. The bays provide many of the values associated with wetlands including stormwater storage, water quality enhancement, and habitat for many wildlife species. Each bay may range in size of less than one acre to more than 1,000 acres. Only 10% of the original bays remain (NRCS, Unique Wetlands Make a Comeback in Horry County).

More than 97% of the Carolina bays once found in South Carolina have been destroyed or severely altered (University of Georgia, Carolina Bays Fact Sheet).

There have been successful wetland restoration programs in Horry County. The Natural Resource Conservation Services (NRCS) Wetland Reserve Program (WRP) provides cost-share to landowners to protect these wetland areas. For example, a severely altered 447 acre wetland area was restored to its original hydrology, and two Carolina bays brought back to life under the direction of NRCS. The impact of this successful project was doubled when two areas immediately adjacent to the Carolina bay were also restored. Two restorations were completed, one under WRP and one through a mitigation bank. The WRP site included 200 acres of a Carolina bay, and the mitigation bank consisted of 54 acres of another Carolina bay that was previously converted to pastureland. The Horry County Conservation Foundation purchased the 54 acres of converted bay and restored the hydrology and vegetation. As a result, a total of 700 acres of converted Carolina Bay area was restored back to its original hydrology. (NRCS, Unique Wetlands Make a Comeback in Horry County).

Figure A-8: Figure of wetlands in Horry County, 2002



Source: Tiner, R.W., H. C. Bergquist, G. P. DeAlessio, and M. J. Starr. 2002. Geographically Isolated Wetlands: A Preliminary Assessment of their Characteristics and Status in Selected Areas of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Northeast Region, Hadley, MA.

Floodplains

Floodplains perform important natural functions. These functions include:

- Temporary storage of floodwaters
- Moderation of peak flows
- Maintenance of water quality
- Groundwater recharge
- Erosion prevention
- Wildlife habitat
- Recreational opportunities.

In Horry County, and nationally, the term floodplain has come to mean the land area that will be inundated by the overflow of water resulting from a 100-year flood, a flood which has a 1% chance of occurring any given year (SCDNR, Regulations for Floodplain Management).

Horry County has both non-tidal and tidal floodplains, as well as coastal high hazard areas and coastal barrier resource areas.

- Non-tidal floodplains– Areas consisting of the floodway and the floodway fringe along rivers and streams. The floodway carries the high velocity water, while the floodway fringe is subject to shallow flooding from the low velocity water. These areas are designated as AE or A1-30 zones (with established flood elevation levels) on the Flood Insurance Rate Figure (FIRM).
- Tidal floodplains – Areas subject to coastal tidal flooding by high tides, hurricanes, tropical storms, and steady onshore winds. Tidal floodplains are also designated as AE or A1-30 zones on the FIRM.
- Coastal high hazard areas – Areas consisting of coastal shorelines subject to high velocity wind and wave action in addition to tidal flooding. They are designated as VE or V1-30 zones on the FIRM. Buildings in these zones must meet stringent standards because of forces they must withstand.
- Coastal Barrier Resource Areas – Areas situated along environmentally sensitive coastal barriers. Federal flood insurance is not available for structures in these areas. (Horry County Comprehensive Plan, 1999)

Approximately 177,070 acres, or 24 percent, of Horry County's total land area is composed of 100-year non-tidal and tidal floodplains. Approximately 3,090 acres, or 0.4 percent, of Horry County's total land area is composed of 100-year coastal high hazard area floodplains, and 2,520 acres of this is classified as Coastal Barrier Resources Act areas (Horry County Comprehensive Plan, 1999).

The National Flood Insurance Program (NFIP) requires participating counties and towns, of which Horry County is one, to issue permits for all development in the 100-year floodplain. Development is broadly defined to include any man made change to the land including grading, filling, dredging, extraction, storage, subdivision of land, and the construction or improvement of structures. If state and federal permits are required, development may not begin until all necessary permits are issued. Proposed development must not increase flooding or create a dangerous situation during flooding, especially for adjacent or nearby property owners. Structures must be built to minimize damage during flooding (SCDNR, Regulations for Floodplain Management).

Horry County has stricter standards than the NFIP minimums when it comes to building in the flood zones. The Horry County Flood Damage Prevention and Control Ordinance establishes provisions for residential and non-residential construction in all areas of special flood hazard where base flood elevation data have been provided. New construction or substantial improvement of all buildings (or manufactured homes) shall have the lowest floor, including basement, elevated at least one foot above the base flood elevation. In addition, subdivisions shall be designed to minimize flood damage (Horry County Comprehensive Plan, 1999). For further Stormwater related information, as of obtaining copies of the Stormwater Ordinance and Design Manuals, please go to the Horry County Government website at <http://www.horrycounty.org/> or call the Horry County Road and Drainage Hotline at (843) 381-8000.

Land Resources

Slopes and Soils

The topography of Horry County is generally level to gently sloping, with elevations ranging from sea level to over 100 feet. According to the soil survey, the majority of soils in Horry County range between 0 to 6 percent in slope. As such, slopes greater than 15 percent are not a prevalent development constraint in Horry County. The elliptical or oval depressions characteristic of South Carolina's Carolina bays are perhaps the only areas in Horry County where slopes exceed 6 percent. Most of the bays are aligned along a northwest-southeast axis parallel to one another in the central western portion of the county, as well as in a north to south axis east of S.C. Highway 90.

The majority of soils in Horry County are loamy sand and sandy loam with generally poor drainage characteristics. Along the coast is a thin strip of soils with thick beds of level or dune sand, which provide better drainage. Poor soil drainage capacity and the lack of suitable land for septic tank absorption fields pose a potential threat to land development in rural Horry County. Avoiding intensive development in these areas may reduce stormwater drainage costs, soil erosion, water quality degradation, and public health concerns for groundwater.

The drainage capacity of soils is determined according to the intake of water when soils are thoroughly wet and receive precipitation from long-duration storms. Approximately 314,890 acres, or 43 percent, of the soil groups in Horry County have either high or medium to high run-off potential and, thus, poor drainage capacity and a slow infiltration rate. These areas are found throughout the County but are concentrated near major rivers and streams. Areas of low run-off potential, which account for approximately 71,240 acres, or 10 percent, occur in soils adjacent to the Atlantic Ocean and in an area near the southeastern border of Georgetown County. These soils have a higher infiltration rate and better drainage capacity.

Approximately 651,620 acres, or 88 percent, of Horry County soils have severe limitations for septic tank absorption fields. Soil type is important to septic tank suitability because the soil absorption field provides the final treatment and distribution of the wastewater of a septic system. To treat wastewater, a septic system relies heavily on the soil, where microorganisms help remove the organic matter, solids and nutrients left in the water (Lesikar, B., Septic Tank Soil Absorption Fields). Areas less suitable for septic tanks usually require special design, significant increases in construction costs,

and increased maintenance. Approximately 50,810 acres, or 7 percent, of Horry County's total land area has moderate septic tank limitations, found mostly in the central and western portions of the County. Approximately 25,580 acres, or 4 percent, of the soils have slight septic tank limitations, and the majority of these soils are within incorporated areas paralleling the Atlantic Ocean. An area near the southeastern border of Georgetown County also has a concentration of soils with slight limitations. These areas are the most suitable locations for septic tanks.

Forestry

Forestry is a major land use in South Carolina, and the soil groups characteristic of Horry County are considered prime for forestland development. Forestlands provide one of the most varied and valuable natural resources and, if properly managed, provide an excellent sample of sustainable development practices. Some of the values forestlands provide are:

- Protection of both the quantity and quality of water supplies
- Outdoor recreational opportunities such as camping, hiking, picnicking, hunting, and bird watching
- Multiple uses while still supplying more than 5,000 products made from trees
- Habitat for a variety of wildlife, including both game and non-game species
- Environmental quality by controlling noise, abating winds, preventing soil erosion, and providing scenic beauty.

In 2001, Horry County ranked 6th in the state in cash receipts from timber harvests with a total delivered value of \$31,379,566 from 426,871 acres of private forests, which represents 98% of total forested land in the County (Clemson University, Department of Forestry and Natural Resources, 2001).

Unmanaged and unregulated forestry operations can accelerate soil erosion and decrease the water quality in streams and rivers. The South Carolina Forestry Commission (SCFC) has published Best Management Practices (BMP) for Forestry to give forest landowners and the professional forestry community guidelines to follow in practicing good stewardship on forestland. Most of the BMP's in the manual, address the protection of water quality or the requirements of Section 404 (dredge and fill) of the Clean Water Act. Additional BMP's are included as recommendations to landowners to conserve site productivity and manage wildlife (S.C. Forestry Commission, BMP's).

In South Carolina, the S.C. Forestry Commission fights more than 4,000 wildfires a year. Until relatively recently, rural and urban areas in South Carolina had discrete boundaries. Increased development in the state, including Horry County, has caused many new developments to be side by side with large forested tracts of land. Wildfires in these areas are difficult to control. SCFC employees work with local fire departments to assess the potential for wildfire damage to communities and individual homes. As part of the National Fire Plan effort Forestry Commission personnel also have been conducting workshops to educate community leaders and homeowners in high fire risk communities throughout the state (S.C. Forestry Commission, Wildland-Urban Interface Fire Prevention). There are steps that the County can take to reduce wildfire risks to homeowners, including requiring developers to include defensible space into developments bordering a dense forested tract. Defensible space is an area around a structure where fuels and vegetation are treated, cleared or reduced to slow the spread

of wildfire towards the structure. It also reduces the chance of a structure fire moving from the building to the surrounding forest (Dennis, F.C., Creating Wildfire Defense Zones, 2004).

Urban and Suburban Tree Conservation

Urban and suburban green spaces, or community forests, within neighborhoods and commercial areas provide benefits vital to enriching the quality of life. Community forests and urban trees and landscaping provide:

- Habitat for urban wildlife
- Reduced heating and cooling costs
- Interception and storage of rainwater
- Improved air quality
- Increased property values.

Trees also release water to the atmosphere providing an important pathway for removal of stormwater from the land. Due to the many benefits of trees, urban forestry management plans are now in use in many municipalities.

Mature trees in Horry County are not easily replaced. Current environmental conditions in developed areas makes it difficult for a tree started today to reach the same status as an existing mature tree. This makes the care of our mature, native trees very important (Ontario Cooperative Extension, Extension Notes, The Importance of Urban Trees). Horry County has a tree preservation ordinance in place. When adhered to, the result is typically a new development with the specimen trees preserved and incorporated into the new site plan, complimented by new landscaping.

Prime Agricultural Land

Agriculture lands are a key component in natural resource protection and conservation. Productive soils provide:

- Nutritional and economical benefits to society
- Habitat and connection corridors for wildlife
- Flood control
- Groundwater recharge
- Air purification
- Open space and scenic pastoral views along roadways.

In 2002 there were 988 farms in Horry County. This number has decreased by ten percent from 1997 when there were 1,101 farms. Land in farming has also decreased. In 2002 there were 188,311 acres in farming compared to 197,053 acres in 1997, which represents a four percent decrease in acreage. Roughly 25 percent of the total land area in Horry County is used for agriculture production. Land in agricultural production includes land used for crops, pasture, or grazing. It also includes woodland and wasteland not actually under cultivation or used for pasture or grazing, provided it was part of the farm operator's total operation (USDA, Agricultural Census, 2002).

Often, lands that are most at risk for development are farmlands and timberlands. As farming becomes less economically viable, farmers are opting to sell their land for development rather than continuing to farm. When this happens, social benefits such as

flood control, groundwater recharge and wildlife habitat are replaced by the social costs of infrastructure such as schools, police and emergency services.

Farmers can participate in several state and federal programs to assist them in protecting the heritage of farming and the ecological benefits derived from working the land. One of the programs is the Farm and Ranch Lands Protection Program, which purchases conservation easements on productive farm and ranch land. Farmers receive financial assistance in exchange for protecting habitat, wetlands and streams while utilizing best management practices to achieve both personal economic gains and improved environmental quality. In Horry County, the Farm and Ranch Land Protection Program has six farms enrolled and two farms pending, permanently conserving over 500 acres of land (NRCS, Horry County Field Office).

Native Species

Native species are plants, animals and insects that inhabit a given area or region and are vital to an ecosystem. Native species are threatened when non-native species are introduced into an ecosystem. Non-native species can be invasive and often take over an area, eradicating native species, especially if introduced someplace where they have no natural predators. This applies to mammals, fish, insects and plants. Native plant species are always a better option as they typically thrive without a lot of attention and use considerably less water and chemical pesticides (Greentreks Network, Inc., Native Species, 2005). Horry County provides a list of acceptable and unacceptable landscape materials, which can be used in developments to ensure that invasive species are not further introduced into the County.

Horry County is the home to many rare, threatened and endangered plant and animal species. A complete list of these species is provided in Figure A-9. Through a unique partnership with the US Fish and Wildlife Service, the South Carolina Department of Natural Resources (SCDNR) has been charged with writing a Comprehensive Wildlife Conservation Strategy for the citizens of South Carolina. This document can be accessed through SCDNR's website at <http://www.dnr.sc.gov/cwcs/index.html>. The purpose of this plan is to assist biologists, government agencies, and landowners to protect and manage species and habitats of special concern (SCDNR, Comprehensive Wildlife Conservation Strategy).

Figure A-9: Rare, Threatened and Endangered Species Inventory of Horry County

SCIENTIFIC NAME	COMMON NAME	LEGAL STATUS
AGALINIS APHYLLA	COASTAL PLAIN FOXGLOVE FALSE-	SC
AGALINIS MARITIMA	SALT-MARSH FOXGLOVE FALSE-	SC
AMARANTHUS PUMILUS	SEABEACH AMARANTH	FT/ST
ANDROPOGON MOHRII	BROOMSEDGE	SC
ANTHAENANTIA RUFA	PURPLE SILKYSCALE	SC
ASCLEPIAS PEDICELLATA	SAVANNAH MILKWEED	RC
BALDUINA UNIFLORA	ONE-FLOWER BALDUINA	SC
CALAMOVILFA BREVIPILIS	PINE-BARRENS REED-GRASS	NC

CALOPOGON BARBATUS	BEARDED GRASS-PINK	SC
CARETTA CARETTA	LOGGERHEAD	FT/ST
CAROLINA BAY		SC
CHAMAEDAPHNE CALYCVLATA	LEATHERLEAF	SC
CLEMMYS GUTTATA	SPOTTED TURTLE	ST
COLONIAL WATERBIRD		SC
COREOPSIS GLADIATA	SOUTHEASTERN TICKSEED	SC
COREOPSIS INTEGRIFOLIA	CILIATE-LEAF TICKSEED	SC
COREOPSIS ROSEA	ROSE COREOPSIS	RC
CORYNORHINUS RAFINESQUII	RAFINESQUE'S BIG-EARED BAT	SE
CROTONOPSIS LINEARIS	NARROWLEAF RUSHFOIL	SC
DIONAEA MUSCIPULA	VENUS' FLY-TRAP	RC
ECHINODORUS PARVULUS	DWARF BURHEAD	SC
EUPATORIUM RECURVANS	COASTAL-PLAIN THOROUGH- WORT	SC
FIMBRISTYLIS PERPUSILLA	HARPER'S FIMBRY	NC
FUNDULUS DIAPHANUS	BANDED KILLIFISH	SC
HALIAEETUS LEUCOCEPHALUS	BALD EAGLE	FT/SE
HELENIUM BREVIFOLIUM	SHORTLEAF SNEEZEWEED	RC
HELIANTHEMUM GEORGIANUM	GEORGIA FROSTWEED	SC
HELIANTHUS SCHWEINITZII	SCHWEINITZ'S SUNFLOWER	FE/SE
HETERODON SIMUS	SOUTHERN HOGNOSE SNAKE	SC
ILEX AMELANCHIER	SARVIS HOLLY	SC
LACHNOCAULON BEYRICHIANUM	SOUTHERN BOG-BUTTON	SC
LECHEA TORREYI	PIEDMONT PINWEED	SC
LILAEOPSIS CAROLINENSIS	CAROLINA LILAEOPSIS	NC
LIPOCARPHA MICRANTHA	DWARF BULLRUSH	SC
LITSEA AESTIVALIS	PONDSPICE	SC
LYGODIUM PALMATUM	CLIMBING FERN	SC
MYCTERIA AMERICANA	WOOD STORK	FE/SE
OXYPOLIS TERNATA	PIEDMONT COWBANE	SC
PARNASSIA CAROLINIANA	CAROLINA GRASS-OF- PARNASSUS	NC
PELTANDRA SAGITTIFOLIA	SPOON-FLOWER	SC
PHYSOSTEGIA LEPTOPHYLLA	SLENDER-LEAVED DRAGON- HEAD	SC
PICOIDES BOREALIS	RED-COCKADED WOODPECKER	FE/SE
PITUOPHIS MELANOLEUCUS	PINE OR GOPHER SNAKE	SC
PLANTAGO SPARSIFLORA	PINELAND PLANTAIN	SC
PTEROGLOSSASPIS ECRISTATA	CRESTLESS PLUME ORCHID	SC
PYXIDANTHERA BARBULATA VAR BARBULATA	WELL'S PYXIE MOSS	SC

RHYNCHOSPORA OLIGANTHA	FEW-FLOWERED BEAKED-RUSH	SC
RUPELLIA PEDUNCULATA SSP PINETORUM	STALKED WILD PETUNIA	SC
SABATIA BARTRAMII	BARTRAM'S ROSE-GENTIAN	SC
SABATIA KENNEDYANA	PLYMOUTH GENTIAN	RC
SARRACENIA RUBRA	SWEET PITCHER-PLANT	SC
SCHWALBEA AMERICANA	CHAFFSEED	FE/SE
SCLERIA BALDWINII	BALDWIN NUTRUSH	SC
SOLIDAGO PULCHRA	CAROLINA GOLDENROD	SC
SPOROBOLUS TERETIFOLIUS	WIRE-LEAVED DROPSEED	NC
STERNA ANTILLARUM	LEAST TERN	ST
STYLISMA PICKERINGII VAR PICKERINGII	PICKERING'S MORNING-GLORY	SC
TOFIELDIA GLABRA	WHITE FALSE-ASPHODEL	SC
URSUS AMERICANUS	BLACK BEAR	SC

Source: S.C. Department of Natural Resources

FE - Federal Endangered

FT - Federal Threatened

NC - Of Concern, National (unofficial - plants only)

RC - Of Concern, Regional (unofficial - plants only)

SE - State Endangered (official state list - animals only)

ST - State Threatened (official state list - animals only)

SC - Of Concern, State

Air Resources

Air Quality

The SC Department of Health and Environmental Control is responsible for air quality monitoring. Air monitors are operated throughout the state to measure the concentrations of pollutants in the air. Through the Clean Air Act, the U.S. Environmental Protection Agency (EPA) set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment.

The Air Quality Index (AQI) is an index for reporting daily air quality. It reports on how clean or polluted the air is, and what associated health effects might be a concern for citizens. The AQI focuses on health effects that may be experienced within a few hours or days after breathing polluted air. EPA calculates the AQI for five major air pollutants regulated by the Clean Air Act. The AQI runs from 0 to 500, the higher the AQI value, the greater the level of air pollution and the greater the health concern. For example, an AQI value of 50 represents good air quality with little potential to affect public health, while an AQI value over 300 represents hazardous air quality. An AQI value of 100 generally corresponds to the national air quality standard for the pollutant, which is the level EPA has set to protect public health. AQI values below 100 are generally thought of as satisfactory. When AQI values are above 100 on the index, air quality is considered to be unhealthy at first for certain sensitive groups of people, then for everyone as AQI values get higher (Source: EPA, Air Data, Air Quality Index, 2005). As Figure A-10

shows, Horry County has good air quality. Over the past few years, the percentage of days meeting the standards for good air quality has slightly decreased.

Figure A-10: Air Quality in Horry County, 2000 - 2005

Year	Number of Days Monitored	Good Air Quality Days (%)	Moderate Air Quality Day (%)	Air Quality Unhealthy for Sensitive Groups Days	Unhealthy Air Quality Days (%)	Maximum	Median
2005	60	48 (80%)	12 (20%)	0	0	86	40
2004	118	86 (72%)	32 (28%)	0	0	82	37
2003	114	89 (78%)	25 (22%)	0	0	79	36
2002	116	93 (80%)	21 (18%)	0	1 (1%)	158	34
2001	119	100 (84%)	19 (16%)	0	0	76	34
2000	5	5 (100%)	0 (0%)	0	0	39	31

Source: EPA, Air Data, Air Quality Index, 2005

Air Emissions

The air quality in Horry County can be divided into several types of air pollution sources. Point sources are large, fixed sources, such as industrial sites that emit pollutants from activities at the site. Area sources are also fixed sources, but they are generally small and widespread. Common examples of area sources are dry cleaners and gasoline refueling stations. The mobile source category of air pollution is broken into on-road sources and non-road sources. On-road sources refer to highway vehicles, and non-road sources refer to vehicles or equipment, such as construction equipment and recreational boats, not suitable for highway use.

Based on the latest information available from the Environmental Protection Agency and the South Carolina Department of Health and Environmental Control (SCDHEC), the largest source category of pollution in Horry County is area sources. Point sources are the second largest contributor of pollutants, followed by on-road and non-road sources, respectively.

On-road sources contribute nearly 50% of the total nitrogen dioxide (NO₂) in the county, and the second largest category of nitrogen dioxide emissions is point sources (32%). Area sources are the main contributor of particulate matter (PM). In fact, 90% of total PM₁₀ and 75% of total PM_{2.5} are from area sources. Sulfur dioxide (SO₂) emissions are predominately from point sources while about half of the volatile organic compounds (VOC) in the county are attributable to area sources. The remaining VOCs are mostly emitted from on-road and non-road sources (SC DHEC, Bureau of Air Quality, Emissions Inventory, 2006).

Figure A-11: Assessed air pollutants by emission sources in Horry County, 2006

Horry County	NO2 (tons/year)	PM10 (tons/year)	PM2_5 (tons/year)	SO2 (tons/year)	VOC (tons/year)
Point Sources	3390	783	616	9593	293
Area Sources	977	10455	2673	1079	6816
Non-road Sources	1363	215	195	141	2856
On-road Sources	5016	138	99	202	3667
Total	10746	11590	3584	11016	13632
Horry County	NO2	PM10	PM2_5	SO2	VOC
Point Sources	32%	7%	17%	87%	2%
Area Sources	9%	90%	75%	10%	50%
Non-road Sources	13%	2%	5%	1%	21%
On-road Sources	47%	1%	3%	2%	27%
SC DHEC, Bureau of Air Quality, 2006					
The point source information is based on the i-steps database (July, 2006).					
The area and mobile source information is based on Version 2 of the 2002 NEI.					

Appendix B: Community survey and results

Following survey has been conducted from February 1, 2008 until March 31, 2008 over the homepage of Horry County for the Parks and Open Space Board to get a general idea on the public's opinions towards parks and open spaces.

With the aforementioned time period, a total of 179 persons (81 male, 98 female) participated. The majority of responses originated within Horry County. Following is a geographic listing of responses: Aynor: 2 (1.2%); Burgess: 3 (1.7%); Conway: 38 (21.2%); Galivants Ferry: 1 (0.6%); Garden City: 5 (2.8%); Georgetown: 4 (2.2%); Little River: 1 (0.6%); Loris: 5 (2.8%); Myrtle Beach: 72 (40.2%); Murrells Inlet: 14 (7.8%); North Myrtle Beach: 7 (3.9%); Red Bluff: 1 (0.6%); Socastee: 3 (1.7%); Surfside: 12 (6.7%); Rest of S.C.: 6 (3.4%); N/A: 1 (0.6%)

Survey questions

1. How important do you generally consider the creation of parks and recreational amenities? Please select one of the following options!
 - a. Very important
 - b. Somewhat important
 - c. Not important
 - d. Don't know

2. How important is the conservation and protection of more open spaces, such as forests, rivers and wetlands to you? Please select one of the following answers!
 - a. Very important
 - b. Somewhat important
 - c. Not important
 - d. Don't know

3. Please indicate if you agree or disagree with following statements:
 - a. More natural, scenic and/or recreational rivers need to be conserved.
 - Yes
 - No

 - b. I support the conservation of more natural wetlands, as they provide multiple benefits such as balancing flooding events and filtering pollutants.
 - Yes
 - No

 - c. It is necessary to protect the natural condition of more salt-water marshes, swashes, beaches, and other marine areas.
 - Yes
 - No

 - d. Horry County should better protect any naturally grown or old-growth forests, especially with a large amount of local hardwoods, such as bald cypresses, oaks, etc.
 - Yes

- No
- e. The many Carolina Bays (elliptical depressions, especially rich in biodiversity, including some rare and/or endangered species) are part of Horry County's heritage, which therefore must be conserved for future generations.
 - Yes
 - No
- f. I agree with the protection of Horry County's rural character on two-thirds of the total land area, by ensuring that fields, pastures and other scenic areas that create a special sense of place are saved for future.
 - Yes
 - No
- g. Other, namely (Personal suggestions, not mentioned before):

4. Please rank how important following recreational options are to you:

- a. I would like to see more hunting areas in Horry County.
 - Agree
 - Disagree
 - Don't know
- b. I believe Horry County needs more recreational fishing opportunities.
 - Agree
 - Disagree
 - Don't know
- c. I would like to see more recreational opportunities geared towards power-boating
 - Agree
 - Disagree
 - Don't know
- d. I like to see more kayaking or canoeing possibilities in Horry County
 - Agree
 - Disagree
 - Don't know
- e. Horry County should offer more facilities to provide for swimming in lakes, streams or rivers
 - Agree
 - Disagree
 - Don't know
- f. Also, Horry County should improve recreational facilities to provide for hiking, bird-watching, wildlife viewing, etc.
 - Agree

- Disagree
- Don't know

g. Other, namely (Personal suggestions, not mentioned before):

5. Among others, it is the primary goal of the Horry County Parks and Open Space Board to promote the preservation of open space, scenic areas and vistas, greenways, and other community greens. Currently, the Board is looking at different ways to achieve this. Please indicate which of the following options you agree most with (please check only one option):

I would like to see larger pieces of land preserved, which could provide wildlife preservation as well as many recreational amenities (i.e. regional parks)

I would prefer the protection of smaller open spaces all across the County, which could be interconnected with each other by greenways ("Greenways = open space corridors containing recreational trails and providing wildlife-sustaining connections")

I think the provision of more neighborhood parks in urbanized areas is more important, than a large-scale approach in preserving open spaces in the countryside

6. What are the five (5) greatest benefits that more parks, recreation facilities and open space preserves would provide to you?

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

7. Should Horry County contribute and/or reallocate more money to provide for more recreational areas and naturally protected open spaces? And if so, what options would you prefer? (various choices possible), such in the form of taxes, bonds, or other forms

No; generally not in favor of any financial redistribution

Yes, by budgetary reallocation of existing revenue in favor of parks and open spaces;

Yes, by issuance of bonds that can be bought by the general public to support creation of more parks and open spaces;

Yes, by increasing development fees to finance for more parks and open spaces;

Yes, by collecting more taxes to help invest in creation of more parks and open spaces;

8. If you were an active member of the Horry County Parks and Open Space Board, what would you propose to (financially) provide for more parks, recreational amenities and open spaces in Horry County?

Survey results

Figure B-1: Results from questions 1) and 2)

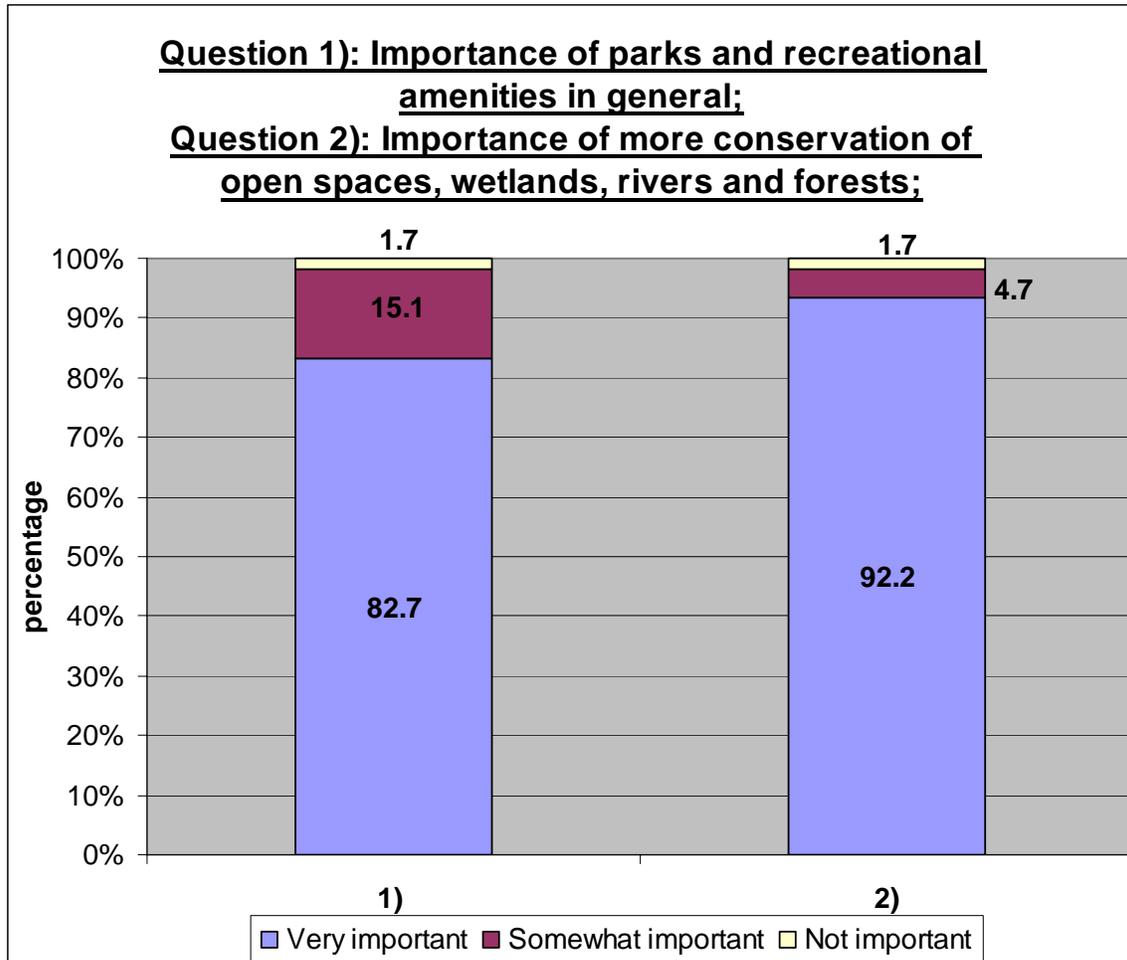


Figure B-2: Results from question 3)

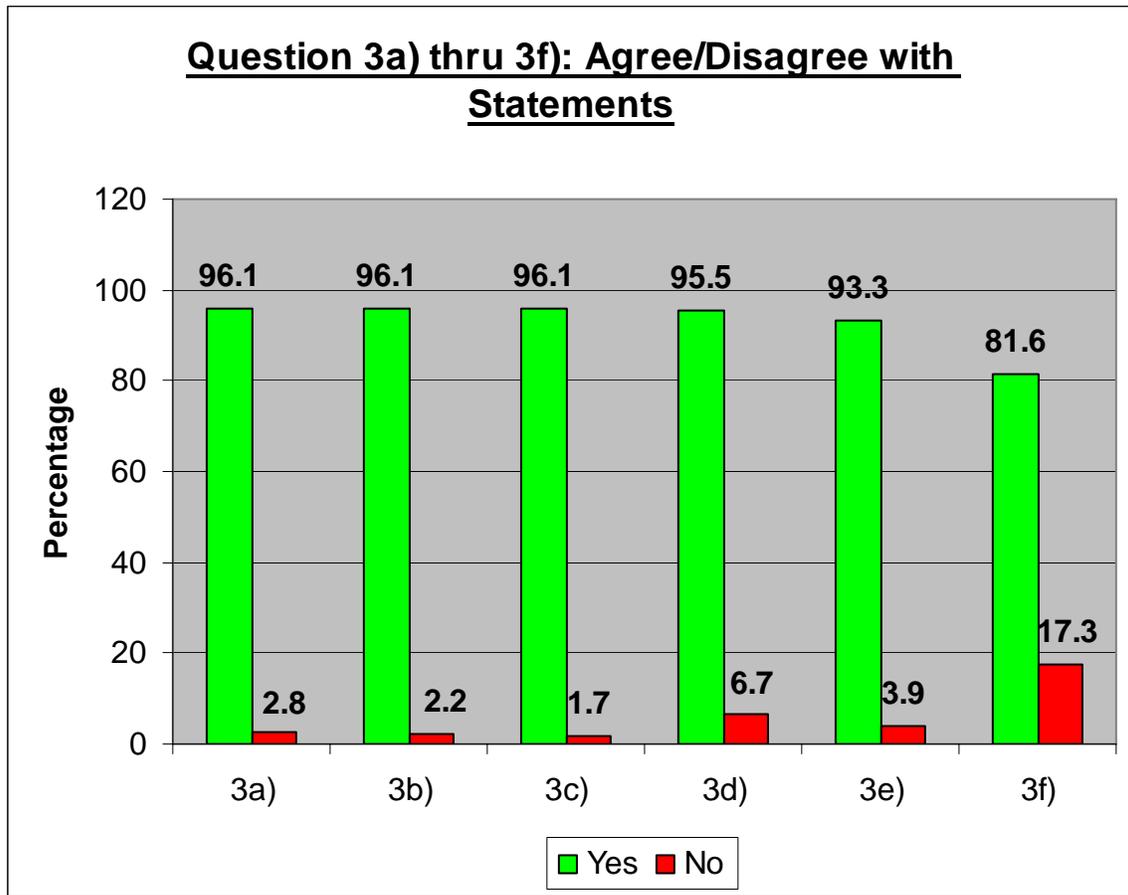


Figure B-3: Results from question 4)

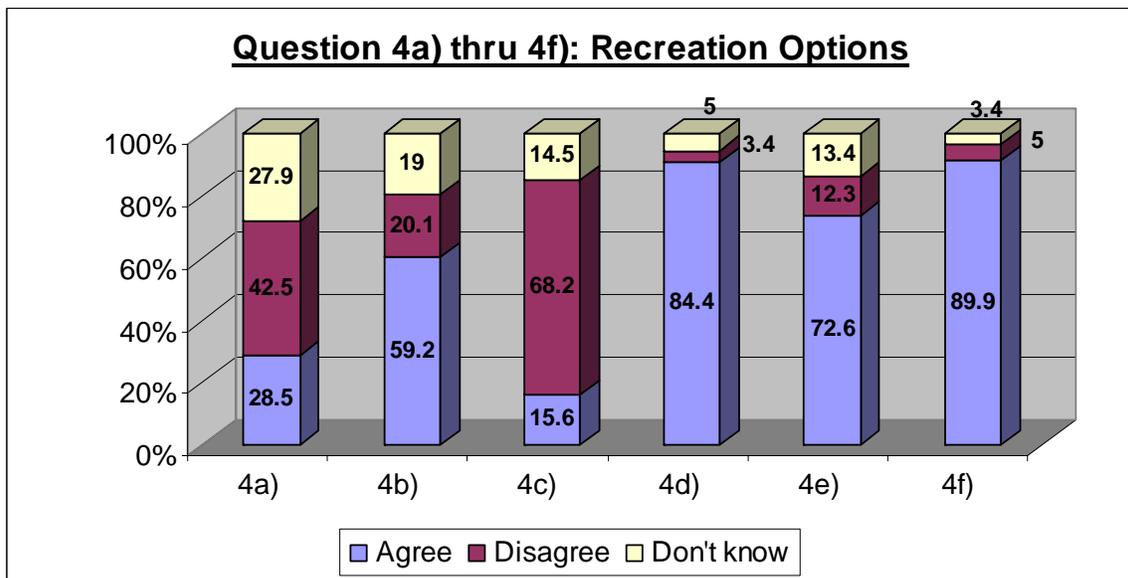
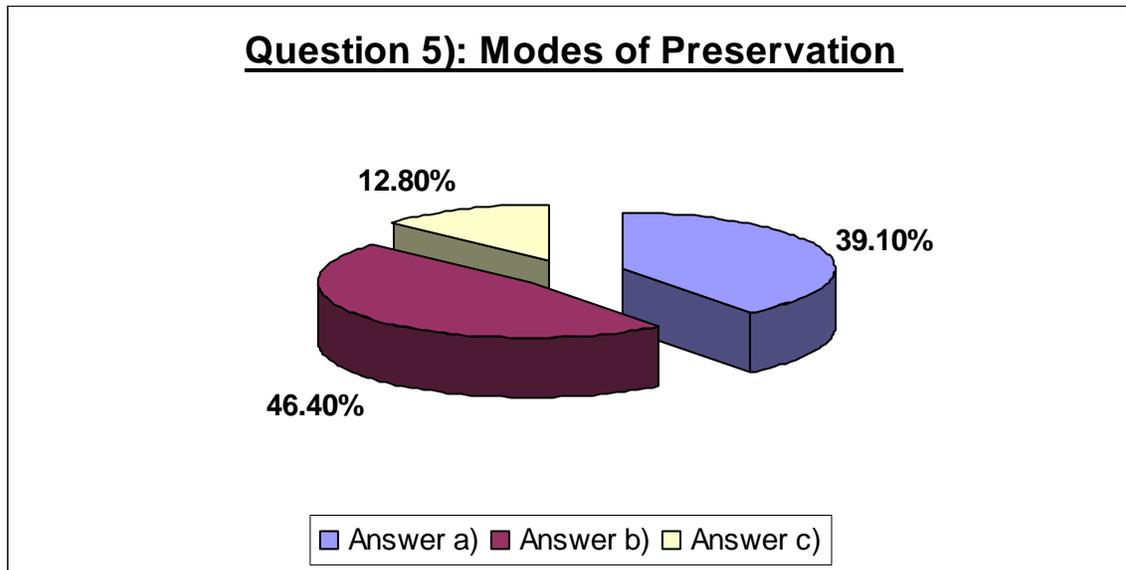


Figure B-4: Results from question 5)



Results from question 6): “What are the five (5) greatest benefits that more parks, recreation facilities and open space preserves would provide to you?”

Ranking No. 1:

- The preservation of environment, including wildlife habitat/biodiversity: **(21) 3.9%**
- The availability of more Hiking/Running/Biking/Horse trails: **(14) 8.6%**
- Availability of accessible and more versatile outdoor recreation/ and other activities for the public (close to residence): **(13) 7.9%**
- Places of serenity and peacefulness/good place to relax and to recharge (away from urban setting): **(10) 6.3%**
- A good place for family & community gatherings/activities/picnic: **(10) 5.5%**
- Preservation of the natural beauty/setting and heritage of the County/State: **(6) 4.7%**
- Provision of health benefits/improved fitness/exercise: **(10) 4.7%**
- Increased quality of life: **(8) 4.7%**
- The provision of better air quality: **(10) 4.7%**
- A safe place to take/for (grand-)children to play (without having to pay): **(10) 3.9%**
- Appreciation for nature: **(4) 3.1%**
- Improved aesthetic attractiveness of area with economic benefits, such as tourism, improved employment opportunities, competitiveness, increased property values, relocations: **(4) 3.1%**
- Flood control and security of clean water sources: **(6) 2.4%**
- The provision of opportunities for future generations: **(3) 1.6%**
- Chance to see more wildlife/bird watching: **(3) 1.6%**
- More/better places to swim: **(2) 1.6%**
- More/better fishing & hunting opportunities: **(2) 0.8%**
- More athletic facilities for youth sports: **(1) 0.8%**
- Saving wetlands in order to naturally mitigate flood events/stormwater protection: **(1) 0.8%**
- A place to walk a dog: **(2) 1.6%**
- Balances high development impacts: **(2) 1.6%**

- Tree & forest preservation: **(1) 0.8%**

Ranking No. 2:

- Availability of accessible and more versatile outdoor recreation/ and other activities for the public (close to residence): **(15) 9.4%**
- Places of serenity and peacefulness/good place to relax and to recharge (away from urban setting): **(16) 9.4%**
- The preservation of environment, including wildlife habitat/biodiversity: **(17) 8.6%**
- A good place for family & community gatherings/activities/picnic: **(9) 5.5%**
- The provision of better air quality: **(8) 4.7%**
- Preservation of the natural beauty/setting and heritage of the County/State: **(8) 4.7%**
- Saving wetlands in order to naturally mitigate flood events/stormwater protection: **(5) 3.9%**
- A safe place to take/for (grand-)children to play (without having to pay): **(4) 3.1%**
- The provision of opportunities for future generations: **(4) 3.1%**
- Flood control and security of clean water sources: **(7) 3.1%**
- Balances high development impacts: **(8) 2.4%**
- The availability of more Hiking/Running/Biking/Horse trails: **(3) 2.4%**
- Improved aesthetic attractiveness of area with economic benefits, such as tourism, improved employment opportunities, competitiveness, increased property values, relocations: **(6) 1.6%**
- More/better fishing & hunting opportunities: **(2) 1.6%**
- Driving trails: **(1) 0.8%**
- Increased quality of life: **(1) 0.8%**
- A place to walk a dog: **(1) 0.8%**
- Respect for the land and its value to our youth: **(1) 0.8%**
- Provision of health benefits/improved fitness/exercise: **(2) 1.6%**
- Environmental education opportunities

Ranking No. 3:

- Availability of accessible and more versatile outdoor recreation/ and other activities for the public (close to residence): **(14) 6.3%**
- Increased quality of life: **(7) 5.5%**
- The preservation of environment, including wildlife habitat/biodiversity: **(9) 4.7%**
- Places of serenity and peacefulness/good place to relax and to recharge (away from urban setting): **(6) 4.7%**
- Balances high development impacts: **(9) 4.7%**
- A good place for family & community gatherings/activities/picnic: **(7) 3.9%**
- Availability of accessible outdoor recreation/ and other activities for the public (close to residence): **(5) 3.9%**
- The availability of more Hiking/Running/Biking/Horse trails: **(6) 3.1%**
- The provision of opportunities for future generations: **(4) 3.1%**
- Provision of health benefits/improved fitness/exercise: **(2) 1.6%**
- More/better fishing & hunting opportunities: **(2) 1.6%**
- Preservation of the natural beauty/setting and heritage of the County/State: **(5) 1.6%**
- Improved aesthetic attractiveness of area with economic benefits, such as tourism, improved employment opportunities, competitiveness, increased property values, relocations: **(4) 1.6%**
- Chance to see more wildlife/bird watching: **(4) 1.6%**

- Promotes fellowship: **(2) 1.6%**
- The provision of better air quality: **(3) 1.6%**
- A safe place to take/for (grand-)children to play (without having to pay): **(4) 1.6%**
- Saving wetlands in order to naturally mitigate flood events/stormwater protection: **(2) 1.6%**
- Feeling of freedom: **(1) 0.8%**
- Flood control and security of clean water sources: **(4) 0.8%**
- Reduced heat build-up in summer: **(1) 0.8%**
- Alternative from tourist crowds at beach: **(1) 0.8%**
- Trees absorb CO₂, thus preventing air pollution: **(1) 0.8%**
- Tree & forest preservation: **(1) 0.8%**
- Environmental education opportunities: **(2)**
- Human disease prevention: **(1)**
- Better boating opportunities: **(1)**

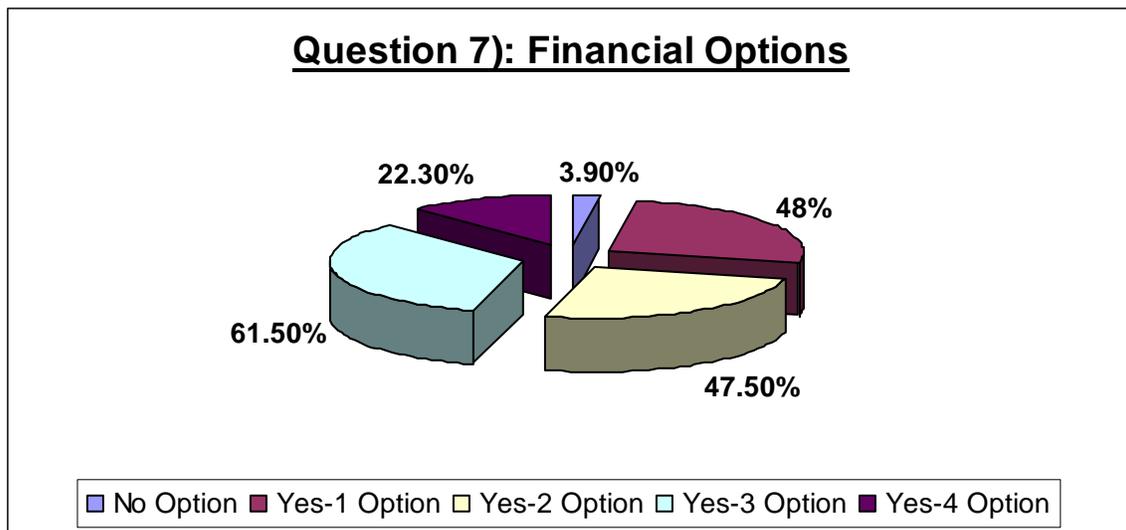
Ranking No. 4:

- The preservation of environment, including wildlife habitat/biodiversity: **(21) 12.6%**
- Provision of health benefits/improved fitness/exercise: **(9) 6.3%**
- A good place for family & community gatherings/activities/picnic: **(8) 4.7%**
- Improved aesthetic attractiveness of area with economic benefits, such as tourism, improved employment opportunities, competitiveness, increased property values, relocations: **(8) 3.9%**
- Places of serenity and peacefulness/good place to relax and to recharge (away from urban setting): **(5) 3.1%**
- Availability of accessible outdoor recreation/ and other activities for the public (close to residence): **(5) 2.4%**
- A safe place to take/for (grand-)children to play (without having to pay): **(3) 2.4%**
- The provision of better air quality: **(2) 1.6%**
- Flood control and security of clean water sources: **(2) 1.6%**
- Chance to see more wildlife/bird watching: **(3) 1.6%**
- Sense of pride: **(1) 0.8%**
- Appreciation for nature: **(2) 0.8%**
- Boating/canoeing/kayaking: **(1) 0.8%**
- Increased quality of life: **(1) 0.8%**
- Better soil: **(1) 0.8%**
- Attractive to businesses & their employees: **(1) 0.8%**
- Balances high development impacts: **(3) 0.8%**
- Availability of accessible and more versatile outdoor recreation/ and other activities for the public (close to residence): **(1) 0.8%**
- Camping: **(1) 0.8%**
- A place to walk a dog: **(1) 0.8%**
- Tree & forest preservation: **(2) 0.8%**
- Environmental education opportunities: **(4) 0.8%**
- Alternative from tourist crowds at beach: **(2) 0.8%**
- "less Yankees": **(1) 0.8%**
- The availability of more Hiking/Running/Biking/Horse trails: **(3)**
- Preservation of the natural beauty/setting and heritage of the County/State: **(1)**
- Protection of local flora: **(1)**

Ranking No. 5:

- A good place for family & community gatherings/activities/picnic: **(10) 6.3%**
- Places of serenity and peacefulness/good place to relax and to recharge (away from urban setting): **(7) 4.7%**
- The preservation of environment, including wildlife habitat/biodiversity: **(11) 3.9%**
- Improved aesthetic attractiveness of area with economic benefits, such as tourism, improved employment opportunities, competitiveness, increased property values, relocations: **(6) 3.1%**
- Preservation of the natural beauty/setting and heritage of the County/State: **(8) 3.1%**
- A safe place to take/for (grand-)children to play (without having to pay): **(3) 2.4%**
- Increased quality of life: **(4) 2.4%**
- The availability of more Hiking/Running/Biking/Horse trails: **(2) 1.6%**
- Provision of health benefits/improved fitness/exercise: **(2) 1.6%**
- Availability of accessible outdoor recreation/ and other activities for the public (close to residence): **(3) 1.6%**
- Chance to see more wildlife/bird watching: **(2) 1.6%**
- Balances high development impacts: **(1) 0.8%**
- Reduced heat build-up in summer: **(1) 0.8%**
- Saving wetlands in order to naturally mitigate flood events/stormwater protection: **(1) 0.8%**
- Flood control and security of clean water sources: **(1) 0.8%**
- Helps save the planet: **(1) 0.8%**
- Appreciation for nature: **(1) 0.8%**
- Environmental education opportunities: **(2) 0.8%**
- Outdoors keep kids from turning to drugs: **(1) 0.8%**
- Boating/canoeing/kayaking: **(1) 0.8%**
- Preserve natural history of County: **(1) 0.8%**
- The provision of better air quality: **(1) 0.8%**

Figure B-5: Results from question 7)



Results from question 8): “If you were an active member of the Horry County Parks and Open Space Board, what would you propose to (financially) provide for more parks, recreational amenities and open spaces in Horry County?”

Color code: Yellow = in favor of general fees, taxes, bonds, or other monetary requirements;
Blue = in favor of development fees and other contributions;
Green = in favor of development incentives and other design options
Red = against any further taxation or open space requirements;
Pink = Other comments

- 1)** Levying of impact fees on development, a portion of which would be set aside for the creation of parks;
- 2)** Use no more tax money on these projects;
- 3)** Nothing at all. We have enough parks, recreational amenities and open spaces in Horry County;
- 4)** I'm not completely clear on the question. I'm for allowing higher density development in exchange for preserved land in the county. i.e. clustered development with adjacent green space. Preservation is important to me. Not spending on recreation;
- 5)** County referendum for funding options;
- 6)** Remove the open space requirements in developments and make all contributions a fee in lieu of open space. Use that money to purchase areas around the county to provide park space, wildlife areas, etc. I have lived in many communities and the open space in that community has never been a plus. Instead of forcing open space, let the market decide whether a community is desirable enough to purchase there. The fee in lieu of open space could provide open spaces around the county for everyone to enjoy if they choose;
- 7)** Do away with "Fee in lieu of green space requirements for developers";
- 8)** 1/2 cent sales tax (similar to Charleston County program) to generate funds to support county land acquisition and purchased easements on private lands;
- 9)** As indicated above: budgetary reallocation, bonds, development fees (development fees most important). Also, County/City Council should provide for developments to "pay their way" and not drain available funds for infrastructure;
- 10)** Pass Residential Improvement District legislation. Enact impact fees on developers;
- 11)** Perhaps use the gas tax allocated from boat fuel to provide for landings that would serve the public. Grants;
- 12)** Local cigarette tax. Financial incentives to landowners who would be willing to donate land for parks;
- 13)** I would close the loop holes in open space regulations. Each development should have meaningful open space in that development so people can have access to daily recreational use. Working parents cannot take their children miles away to use central recreation and children cannot safely go by themselves. Also a fee should be charged to development that will pay for recreation in their development;
- 14)** I would not agree to any type of direct or indirect "taking" of anyone's property for the benefit of the general public. If we, the people, want these amenities we must pay for them. Additional revenue generators could be as follows; 1. User fees (License, permits) 2. promotion of Federal, State and private grants 3. Lottery money reallocation;
- 15)** My first priority would be to require developers to give large, good tracts of land to the County as a show of their real interest in the preservation of the county. I don't mean an acre or so, but large tracts of land that are meaningful and could sustain larger

wildlife. When I see how the underbrush and trees are relentlessly destroyed I hurt for the animals that have no where to go. For a Christian community we are not taking care of God's gift to us. Developers and land owners need to realize this;

16) Property tax on homes over \$250,000 value and developer fee per unit of \$2,000 on approval of PDD or rezoning approval by Council;

17) Cash contributions from new development projects to Open Space Fund for the purpose of purchasing larger tracts of land to manage as wildlife/recreation areas;

18) User fees, in particular commercial and visitor ticket prices for trips on the waterways and park entrance fees;

19) I would have to leave it to the experts to come up with a plan but I would like to have the chance to study the options;

20) I would stop using the funds to support new development and provide what is needed to maintain quality for the residents who are already here;

21) Each developer would have to designate land through their developments for a greenbelt, and pay a percentage for development fees;

22) Require every developer to establish and maintain parks and space for the safety and growth of our children;

23) Impact fees for new development, there is only so much of Horry County that can be developed. More open space requirements in subdivisions. Government grants are also available especially for coastal environment protection. There is always "some" wasteful spending in local government, and monies could be redirected. We have to look at this as preserving and protecting our future. Preserving our natural amenities will allow Horry County to sustain and compete. We should want visitors and residents to be "wowed" by all we have to offer. A place to remember;

24) Educating the public and decision makers on the importance, the benefits, and even how positive open space and parks can be as an investment is critical. A cost of community services analysis would help. Ideas to look into would be to possibly allocate a certain amount of revenue generated from sales tax on sporting goods; local land protection programs- voluntary land protection measures which would keep the land privately owned and on the tax role; parks & open space typically increase the value of surrounding properties and people are most of the time willing to pay a little more in order to be close to such parks & open space, therefore more incoming revenue from property tax. Excess acquisitions and special tax districts also something to look at. There are a number of avenues to investigate. A good analysis and good plan is key;

25) Impact fees and other public funding as listed in #7 above; position the County to seek partnerships with municipalities in Horry County; help solicit the support from state and federal efforts - ex. U.S. Fish and Wildlife and Department of Natural Resources/Heritage Trust Program;

26) User fees. If the general public simply had access to our lakes, rivers national forest and Heritage preserve we could accomplish great strides with minimal investment. Developers should begin providing parks as part of the amenity package;

27) I think the easiest way to raise funding would be through development fees - as we continually increase development, we must have developers pay for preservation of natural and recreational areas. Second, reallocation of existing funds could be sought, and then finally bonds and taxes;

28) I would place a larger financial responsibility on the developers who are making their money by getting in and out without consideration for the community's quality of life. This is leaving bulk of the burden on the residents of Horry County who are left to "clean" up the mess of improper planning;

29) Strengthen control of development and raise impact fees;

30) How much is needed? Promote cooperative uses of land with schools, churches, private organizations etc. I would encourage developers to buy into open space instead of donating small parcels throughout the community. One nice park is more practical than numerous small ones. Continue to shrink government and use those funds for parks;

31) Hospitality taxes and fees should be utilized for conservation of our environment as the visitors are using our area but do not directly contribute to its upkeep and care;

32) 1)Look for grant monies 2)search for other ways of collecting money such as researching other independent groups that are actively trying to provide "greenways" nationally or world wide. 3)If you are looking into taxes or bonds make sure that the money is set up in an account that is just for open space;

33) I think trying a bond issuance is a good idea. I think increasing development fees is an excellent idea. As I said above I don't even mind higher taxes to get more green space. Why don't we divert some of the money we have to spend on the heinous motorcycle weeks to get some more parks & open space?

34) Increased development fees and a portion of the taxes that are being used for road building go to parks/open space;

35) A combination of the categories i checked in number 7, as well as seek to form partnerships with Fed. and state agencies as well as NGOs (e.g. The Nature Conservancy, national Fish and Wildlife Federation, etc.) local conservation groups and enlist private business, esp. those in real estate development as they profit most from alteration of the landscape and encourage the increase in human population whose needs and desires strain the limited natural and financial resources of the area; and for goodness' sake, don't plan to clear away all of the undergrowth and mid-story of natural plant stands to accommodate a "better view" or install non-native turfgrass or some other human aesthetic. the vast majority of the birds, mammals, butterflies, etc. native to the county evolved here among dense forest thickets and impenetrable wetlands. the clearing of those habitats is contributing mightily to the reduction of biodiversity in our county, as well as adding to the decline of water quality;

36) I have no idea since, I am not on the board. I would leave that up to the people who have the information needed to make the decisions;

37) Viewing the above as an investment in our future that will create dividends for generations to come. If we can set ourselves apart and above the norm we will prosper. If we're just another town or county with few natural assets that's what will remain. Allocate new funds;

38) Taxation of large landowners per acre;

39) A joint venture of public and private funds. An endowment foundation by corporations that will allow the corporation and/or individuals contributing land and/or funds to have their name of their person(s)and/or corporation(s) on the park or recreational area/facilities in exchange for funding, plus issuance of bonds to make up the difference and/or shortfall of said corporation/individual donations. Use monies acquired from fining corporations of breaking environmental rules toward open spaces as well. Example: AVX - or a development firm that filled in wetlands and were fined - use those fines to providing more parks, etc;

40) Development fees to be paid by developers on the front end;

41) Slow down large developments or govern then better;

42) I think that all urban developments/developers should be required to include green space in their project plans. I also feel that these developers should be required to leave in place some old growth trees instead of clear cutting;

43) Tax the developers a certain % of all that they develop and redirect to parks and natural open spaces;

- 44)** Development fees and/or requirements for developers to donate land. Increase property transfer fee to benefit Horry Co. Promote conservation easements for private land owners;
- 45)** Support from local businesses;
- 46)** Involvement of conservation based or conservation aware groups to help maintain park facilities. For instance, many Mtn. Bike trails in the Atlanta area were originally maintained in conjunction with the Nat'l Park service and the Int'l Mtn. Bike Assoc. (IMBA). Local affiliates did trail maintenance on a regular basis;
- 47)** Taxes on cigarettes and alcohol;
- 48)** Budgetary reallocations, general tax collection and special additional tax on hunting, fishing and boating;
- 49)** Charge developers a larger impact fee;
- 50) Add in a portion of the hospitality tax to gather funds for more park opportunities. More parks and more natural settings (and marketing of Myrtle Beach as such) would lead to a wider diversity of tourists that would come to the Myrtle Beach area, thus increasing the revenue from the hospitality tax;
- 51)** I would propose more public greenways/spaces that connect developments (housing, commercial) so that the developments are more usable and aesthetically pleasing. This would break up the feeling of unending concrete and rundown buildings that the downtown Myrtle Beach area exudes. This would also increase the use of Horry county areas by providing ways to travel (walk, bike, run) other than a car. This multi patron use of developments and increased beauty will hopefully cover the increase in rent/pricing these public areas will experience because of the increased development fees. The idea is beautiful areas are more valuable;
- 52)** Development is taking away habitat and natural appeal from our county ever day. To plow down and cut-away from our heritage should have a price. Developers should have to abide by strict guidelines and pay for the destruction of our forest habitat our heritage, wetlands, tourist drawing natural beauty. Once it's gone, who would visit or live here;
- 53)** The bonds are a great idea. Maybe when developers, business', and individuals abuse the environment there is a larger fine that can go into the fund;
- 54)** Make large-scale tract developers pay deeply for all clear-cutting. Charge developers impact fees. Apply a sliding scale to development; an actual fee for every tree removed. Possibly, depending on income, charge users a small fee, where appropriate;
- 55)** Increase the hospitality tax by one dollar per room rented and .25 cents of each meal sold during the warmest six months of the year...i.e. March through September 10 percent increase in hunting and fishing license fees. Bake sales??? Charity fundraiser events specific to ongoing projects.2 percent tax increase on boat and gun sales within the county;
- 56)** Please forgive some of the opinions included: 1) Impact fees for new development - charge for the privilege to develop. Maybe this will curtail some unnecessary development. How many houses/strip malls(!) do we need anyway in a real estate downturn. Some of this practice seems to reek of the good-old-boy syndrome. Time for that crap to stop i.e. overpass in Aynor - what's that all about - lining the pockets of Southern Asphalt and others I'm sure and paying big bucks to those that will sell out in the Aynor area such as our "friends" atop the bank building on Oak Street. 2) Reallocate some of collected taxes from entertainment to support those that support this area and have to live in the chaos of vacationers. We pay killer sales tax for food and other items - how about reinvesting in the common man/woman for a change in things that make the

person feel better i.e. parks and greenways. Thank God for the Huntington's. 3) evaluate the books of the county and cut the fat;

57) I believe providing the parks, etc. is vital to a productive balanced society. I would try to avoid taxation by implementing the suggestions in question number seven above. On the other hand, sometimes there is no other choice but to raise property taxes in order to achieve the desired results;

58) Require developers to provide open space and parks in new developments. This could be added to the price of each home. Raise taxes a small amount to gradually make needed changes and pay as we go. A small raise would make a huge difference over the county;

59) Look for grants that might be available for such project. Create Mitigation Banks with these green spaces. Another 1 cent sales tax for only a couple of years. Fund raising once things are up & running;

60) Local community fundraisers and events where citizens can donate;

61) Impact fees and issuance of bonds;

62) Strengthen Developer Agreements Impose Developer Impact Fees;

63) Financial burden should be carried by visitors and tourists only, e.g. by increasing fees and other tourism-related taxes;

64) I would develop an equitable system that would place fees on developers similar to impact fees that would compensate the community for the open space being consumed by their development. This might be mitigated by open space provided by the developer that is open to the general public. I would also place a one cent sales tax on certain goods that would go into the same account as listed above. Public agencies and conservation organizations could then apply for these funds to use for land protection in Horry County;

65) A dedicated tax levy voted on every five years;

66) Introduction of a yearly pass or fee to use county park facilities, or parking meters;

67) Conduct a cost/benefit analysis of all possible financial income sources (budgetary reallocation, bonds, development fees, taxes) and evaluate the results of that study by pursue a course of action that provides the greatest benefit for the least cost.

68) Charge a 1% taxes to those who visit our area. If you stay in a hotel you pay 1% tax to parks and recreation. It is that simple. I feel this would be more effective than charging 10 dollars per person to enter our parks. I see so many people going into myrtle beach state park and then pulling out because it is to expensive to take their family in and enjoy what our state has to offer.

69) Raise the cigarette tax. And go after the funds that are being lost by out of state/local contractors and subcontractors that are working in the county without proper licenses that are needed to work in the county. As we call them in the business "the fly by nighters". And we have a lot of them out there!

70) I think that developers should be required to incorporate more low impact development features into their projects. Financially, this would be a very cost-effective option. They are already developing, so why not have them simply redesign the conventional development plans to incorporate more open space and natural areas. Rather than stormwater ponds to handle runoff from a neighborhood or parking lot, preserve wetlands or construct stormwater wetlands and make it a natural feature with walking trails or park benches. Rather than housing units where every house has an equal 1/2 acre lot and nowhere to play in the streets, and clear cutting the entire development before building, require that trees be left, or that for a given number of houses or area to be developed, a proportionally sized neighborhood park be created for those residents, even if this is at the expense of slightly smaller lot sizes. Require that

buffers be left around properties and adjacent to waterways to help filter runoff and further maintain the quality of the natural features that are already there. I think that zoning boards should just make green spaces a requirement for new development rather than focusing on how to go back and "create" new green space... money would still be required but the onus would be on the developers, not on the community members, and most development options that incorporate green spaces into their design are cost effective and do not deviate that far from more conventional development options. "Sell" sponsorship of park benches and planters along green spaces to local businesses and community organizations to help pay for the maintenance of a green space (e.g. planters along downtown Georgetown waterfront), benches in Conway waterfront park. Focus on vertical development for strip malls, creating more double and triple story complexes (such as downtown Conway) which leaves more room for adjacent parks and green space. Create parking garages instead of parking lots to avoid the sprawling blacktops that cover our local landscape. I think that focusing on development techniques can create tremendous opportunities for the creation of parks or simply the preservation of existing green space (such as keeping a portion of the land currently available for sell and development green, rather than allowing all of it to go to one specific use (...));

71) Use no less than 15 percent of the money that large land developers use to build unnecessary strip malls, condos, and hotels to provide for the preservation of nature areas.

72) More dedicated tax rate for this with a sunset clause. LIKE EVERY FIVE YEARS.

73) I feel that I do not know enough to say how much money I would allocate for such things. All I know is that with all of the development occurring, more money does need to be spent on ensuring that every square inch of our sensitive habitat does not become a condo complex full of storm water retention ponds. Money should also be spend on public access to these areas, such as sidewalks, bike paths, public docks, etc. The more these places are available, the more tourists will spend their money on parks and recreation instead of urban attractions.

Appendix C: Parks and Open Space Inventories by County Council District

District 1

County Council District 1 is the main northern gateway into Horry County on U.S. Highway 17. Travelers enter into the Little River community when they cross the state line. Little River has a long history. It is believed that the first settlement of Horry County occurred here. However, most of the remaining structures are from the 19th and 20th centuries. The district is home to one of the two swing bridges in the County. Evidence of Native Americans in the area can be found on Waites Island.

The northeastern edge of this district touches Brunswick County, North Carolina. The contours of the Waccamaw River make up the northern boarder of this district. To the south, the district ends at the Atlantic Ocean. The majority of North Myrtle Beach is located within District 1 as well as the Town of Atlantic Beach.

Open Spaces with Recreational Function include:

- ***North Myrtle Beach Aquatics and Fitness Center*** (1100 2nd Ave. S., N.M.B.), includes an indoor pool, fitness areas, gymnasium, indoor basketball, racquetball courts; this facility is operated by the City of North Myrtle Beach (N.M.B.);
- ***Central Park/Community Center*** (at 1030 Possum Trot Rd., N.M.B.), including two (2) ball fields, two (2) soccer fields, four (4) tennis courts, walking trail, roller hockey rink, four (4) basketball courts, community center, restrooms, and concessions; this facility is operated by the City of North Myrtle Beach;
- ***Ocean Park*** (Ocean Blvd. at 1st Ave. S., N.M.B.), including four (4) picnic tables and restrooms; this facility is operated by the City of North Myrtle Beach;
- ***Frink Park*** (at Channel Point Ln., N.M.B.), with two (2) picnic tables and restrooms;
- ***Heritage Shores Nature Park*** (at 53rd Ave. and Heritage Dr., Cherry Grove/N.M.B.), incorporating walking trails and marsh-/boardwalks as well as educational boards on features of the local natural environment; this facility is operated by the City of North Myrtle Beach;
- ***Hill Street Park*** (at Hill St. and 24th Ave. N., N.M.B.), offering tennis courts, a playground and a picnic area; this facility is operated by the City of North Myrtle Beach;
- ***Little River Neck Park*** (at Riverside Dr., N.M.B.), which mainly consists of a pond;
- ***McLean Park*** (at Oak Dr. and 2nd Ave. S., N.M.B.), including a ball field, two (2) tennis courts, walking trails, grills, picnic tables, and restrooms; this facility is operated by the City of North Myrtle Beach;
- ***Vereen Memorial Gardens*** (at Live Oak Dr., Little River), is a 110-acre natural park, which is made up of a picnic area, a gazebo, marshwalks, and several walking trails;

- **Yow Park** (at Windy Hill Rd. and Pinecrest, N.M.B.) offers a picnic area, a playground, basketball courts, and restrooms; this facility is 1.5 acres in size and is operated as a neighborhood park by the City of North Myrtle Beach;

Recreational facilities in District 1 also include the following boat landings, managed by the South Carolina Department of Natural Resources (SCDNR):

- *T. Craig Campbell Landing (off of Morgan Ave., Little River)*
- *Cherry Grove Boat Landing (Heritage Dr., Cherry Grove Beach/N.M.B.)*
- *Second Avenue Boat Landing (N.M.B.)*
- *Worthams Ferry Landing (off of Grainger Rd., Brooksville)*

District 1 has a total of 78 public beach access points.

Further recreational facilities in District 1 can also be found at following schools and public facility locations:

- *Atlantic Beach Community Center*
- *North Myrtle Beach Elementary School*
- *North Myrtle Beach Branch Library*
- *Stephens Crossroads Library*

The Natural Resource/Conservation function in District 1 is realized by 488 acres associated with the Waccamaw River Heritage Preserve (managed by the SCDNR) and 219 acres that are further owned by the State of South Carolina to protect the Little River Marsh. Other open spaces include 43.8 acres of spoilage easements, which are owned by the U.S. Army Corps of Engineers for maintenance purposes in regards to the dredging of the Atlantic Intracoastal Waterway (AIWW).

As one of the coastal County Council districts in Horry County, water plays an important role. Some of the hydrological features include:

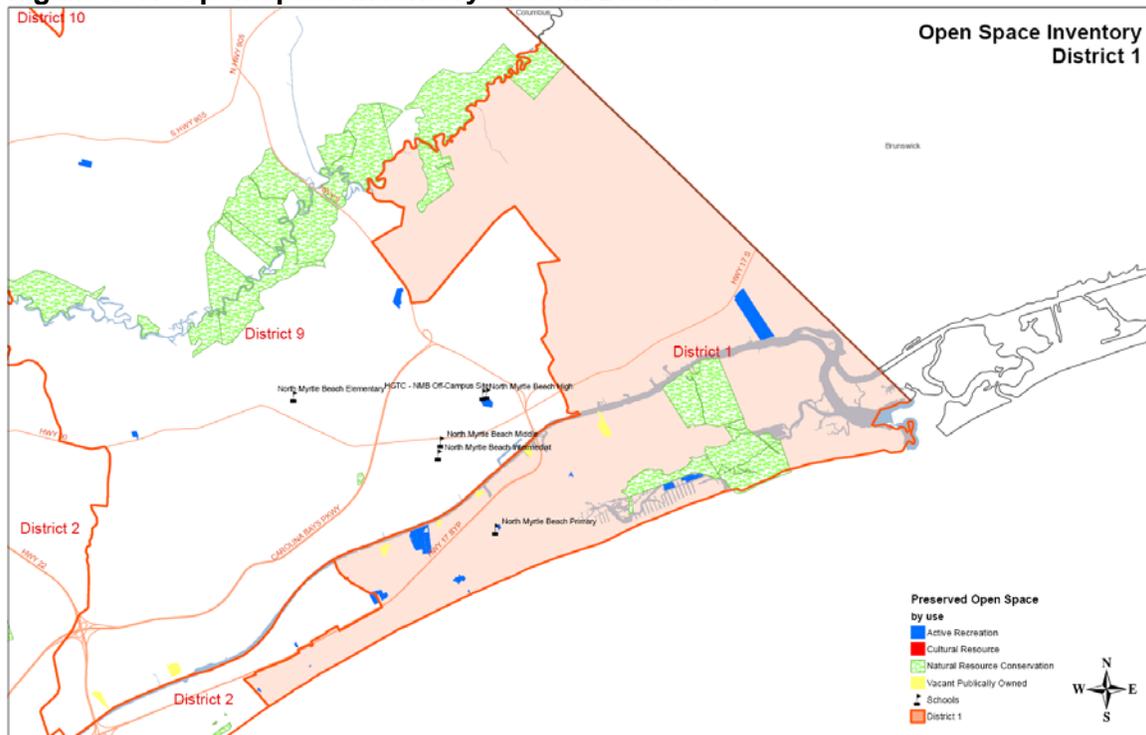
- *Atlantic Ocean*
- *Dunn Sound Creek*
- *House Creek*
- *Hog Inlet*
- *Atlantic Intracoastal Waterway (AIWW)*
- *Jones Big Swamp*
- *Little River (part of the AIWW)*
- *Little River Inlet (part of the AIWW)*
- *Mullet Creek*
- *Sheephead Creek*

- *Waccamaw River.*

As an important community shaping function, the East Coast Greenway, a national bike and pedestrian trail extending from Maine to Florida, traverses this district. A route through the entire county has been assessed. The City of North Myrtle Beach has already constructed several segments of the Greenway. Furthermore, North Myrtle Beach provides following connecting facilities that fall into District 1:

- Other bike paths: along 2nd Ave. N. in Ocean Drive;
- Bike routes: signed routes on existing streets, which are located within each neighborhood;
- Sidewalks: The City is installing new sidewalks each year in accordance with the City's Sidewalk Plan;
- Street end parking facilities: The City maintains thirty-four (34) street ends to provide access to the beach. Some facilities include trash cans as well as shower and restroom facilities.
- Walkover/stairs: North Myrtle Beach provides 145 boardwalks to provide access to the beach while protecting the dune.
- Public walkways: The City maintains approximately 200 public walkway mowed easements between developed lots to provide public access to the beach. These walkways are marked with small monument signs.

Figure C-1: Open space inventory sites in District 1



Source: Horry County Planning Dept.; GIS/IT Dept.: Open Space Inventory Report, April 2006

District 2

The Waccamaw River is the northern and western boundary of District 2. The District extends to the southern edge of the Lewis Ocean Bay Heritage Preserve on the district's western side. The Atlantic Ocean bounds the southern edge of this district. There are three municipalities in District 2: the City of Myrtle Beach, Briarcliff Acres and the City of North Myrtle Beach. Other communities include Nixonville, Wampee, Poplar, Shell and Hand. The historic district of Myrtle Heights - Oak Park is located in District 2 as well as the Ocean Forest Country Club. Both of these sites are listed on the National Register of Historic Places. Several tourism destinations are located in this district. On the other side, the district is characterized by a large amount of natural resource and conservation areas in the northern part.

Following parks and boat landings provide a recreational function within County Council District 2. Please note that not all parks are maintained by the Horry County Department of Parks and Recreation, as some may be within City limits of Myrtle Beach, North Myrtle Beach or Briarcliffe Acres:

- **48th Street Park** (*Myrtle Beach*), which represents a passive park (undeveloped);
- **Briarcliffe Acres** (*Town of*) incorporates a high percentage of trees, and other open spaces, such as passive parks;
- **Gray Park** (*Myrtle Beach*) functions as a passive park;
- **Hibben Park** (*9680 Shore Dr., North Myrtle Beach*) mainly features walking trails;
- **McCleod Park** (*at 6^{1st} Ave. N. and Sumter St., Myrtle Beach*) features a playground and a mini shelter;
- **McMillan Park** (*at North Ocean Blvd. and Haskell Cir., Myrtle Beach*), which serves as a botanical parks and provides benches;
- **South Cabana Park/Women's Park** (*at North Ocean Blvd. and Hampton Cir., Myrtle Beach*) provides access to the beach as well as houses a gazebo and a fitness trail;

Boat landings along the AIWW and Waccamaw River within District 2 are:

- *Hootersville Boat Landing (off of Caines Landing Rd., near the Shell Community);*
- *Danny Knight Boat Landing (off of Red Bluff Rd.);*

Also, district 2 provides public access to the beach at 39 locations.

Further it is noteworthy that within the district's part of the Carolina Forest area, there are 49.5 acres that have been dedicated for future recreation development.

Moreover, recreational facilities in District 2 can also be found at Arts, Science and Technology Academy.

In comparison to other County Council districts, District 2 contains a large quantity of open spaces that fulfill the natural resources/conservation function as it contains two (2) Heritage Preserves. Four hundred and thirty eight (438) acres of the Waccamaw Heritage Preserve are found here as well as 2,920 acres of the Lewis Ocean Bay Heritage Preserve. Ducks Unlimited has preserved 1,250 acres adjacent to the Waccamaw Heritage Preserve. Furthermore, the North American Land Trust holds 24.6 acres of oceanfront in conservation within Briarcliff Acres. Additionally, vacant lands also include forty-eight (48) acres of spoilage easements by the U.S. Army Corps of Engineers, and 2.5 acres of land conserved by the Federal Emergency Management Administration (FEMA). Deed restrictions preclude structures; however, these lands have the potential for future open space, including greenway connections.

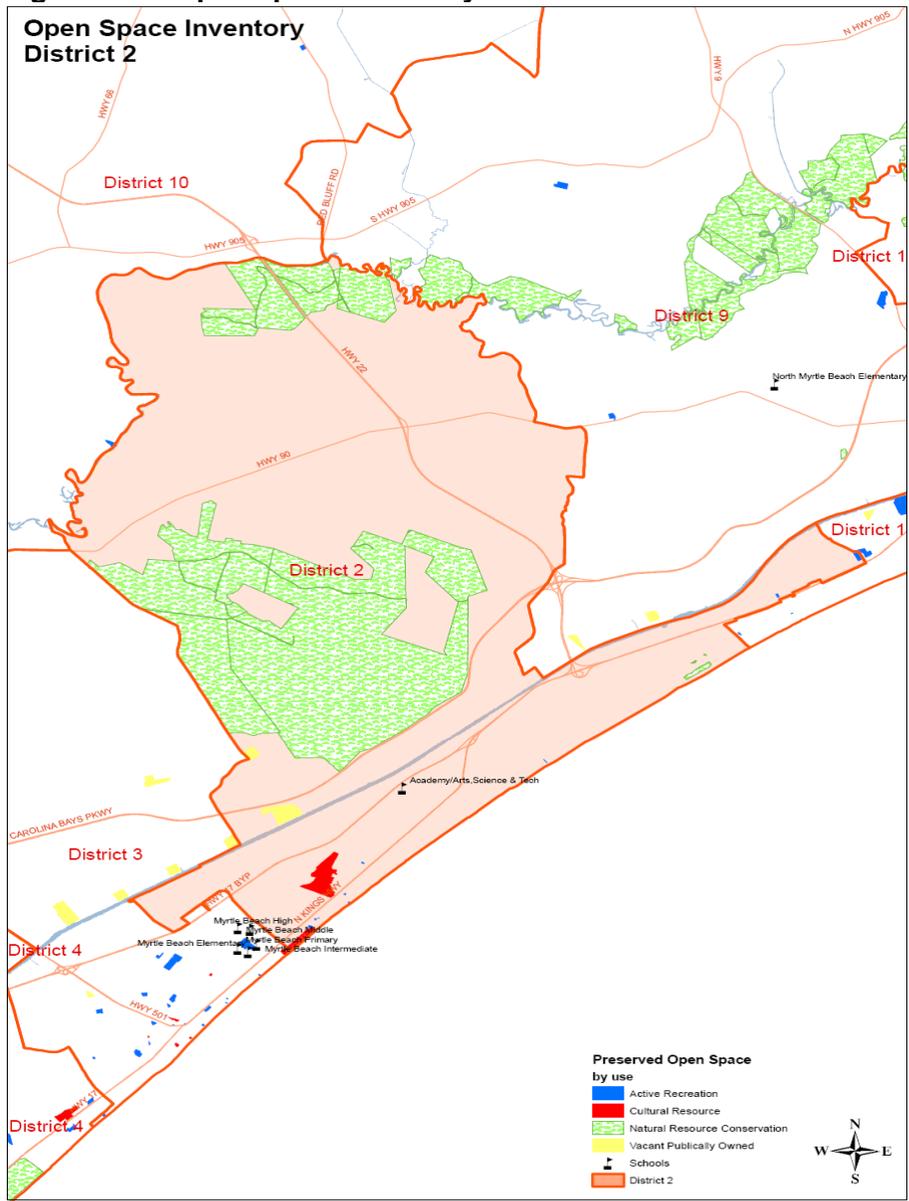
Open spaces with predominantly hydrological features within District 2 include:

- *Alligator Pond*
- *Atlantic Ocean*
- *Bear Creek*
- *Big Bay*
- *Buck Island Swamp*
- *Cane Patch Bay*
- *Cane Patch Swash*
- *Chapin Pond*
- *Deep Head Swash*
- *Donnie's Lake*
- *Atlantic Intracoastal Waterway (AIWW)*
- *Jones Big Swamp*
- *Lewis Ocean Bay*
- *Long Bay*
- *Long Branch*
- *Long Pond*
- *Mill Swamp*
- *Singleton Lake*
- *Singleton Swash*
- *Sterritt Swamp—East and South Prong*
- *Tilley Swamp*
- *Waccamaw River*
- *Withers Swash*

Within District 2 the City of Myrtle Beach in continuation from North Myrtle Beach, has constructed part of the East Coast Greenway as well as constructed linkages to it. Further community shaping functions through open spaces have been fulfilled by the provision of sidewalks and bike paths within some urban areas of District 2.

The East Coast Greenway has been designated in this area and the City of Myrtle Beach has constructed part of the path as well as constructed linkages to the East Coast Greenway. Sidewalks are prevalent in the urban areas of this district.

Figure C-2: Open space inventory sites in District 2



Source: Horry County Planning Dept.; GIS/IT Dept.: Open Space Inventory Report, April 2006

District 3

County Council district 3 encompasses a range of characteristics. At the oceanfront, the district contains the County's core hotel district within the City of Myrtle Beach. The influence of tourism and resorts extends all the way towards the Atlantic Intracoastal Waterway (AIWW). On the other side of the AIWW, the character of District 3 changes and becomes more medium density residential. Portions of the City of Myrtle Beach and the unincorporated area of Carolina Forest are located in this district. S.C. Highway 90 bounds District to the north and the Lewis Ocean Bay Heritage Preserve constitute the northeastern border. To the west, the district is outlined by U.S. Highway 501 and to the southeast the district ends at the Atlantic Ocean.

There is an abundance of tourism and cultural opportunities in this district. This district is home to Broadway at the Beach and the Pavilion Nostalgia Park, the Children's Museum of South Carolina and the South Carolina Hall of Fame. Within this district, one can find several amusement parks, and a plethora of tourist attractions. Portions of the Myrtle Heights and Oak Park Historic District are located here. Additionally, other historic features listed on the National Register of Historic Places are the Myrtle Beach Atlantic Coastline Railroad Station, the Chesterfield Inn, Pleasant Inn, and the Rainbow Court.

District 3 includes a whole array of open spaces with a recreational function attached to them. These are as follows:

- **Balsam Street Park** (*Balsam St. off of U.S. 501, Myrtle Beach*) provides a playground;
- **Canal Street Park** (*Canal St., Myrtle Beach*) consists of an indoor pool, a bathhouse, gym, weight room, game room, meeting rooms, banquet hall, 2 playgrounds, and a picnic area;
- **Chapin Park** (*at 16th Ave. N. and U.S. 17, Myrtle Beach*) has a playground, picnic shelter, gazebo, and a protected arbor;
- **Coastal Federal Field** (*off of 21st Ave., M.B.*) represents Myrtle Beach's professional baseball field, an also provides a playground and concessions;
- **Futrell Park** (*off 10th Ave. N., M.B.*) has a playground, pond, fishing dock, and picnic shelter;
- **Lyons Cove Park** (*on Greens Blvd., off 21st Ave. N., M.B.*) accommodates a playground and a gazebo;
- **Matt Hughes Skateboard Park** (*at 33rd Ave. N. at the Doug Shaw Stadium Parking Lot, M.B.*) is open to skateboarders from Monday to Friday between 3.00 p.m. and 9.00 p.m., and on the weekend (Sat./Sun.) between 1.00 p.m. and 9.00 p.m.;

- **Myrtle Beach Tennis Center** (3302 Grissom Pkwy., adjacent to Myrtle Beach High School, M.B.) offers ten (10) tennis courts, of which eight (8) are lighted as well as restrooms and a pro shop;
- **Pepper Geddings Recreation Center** (3205 Oak St., M.B.) is one of the City of Myrtle Beach's four (4) recreation centers that serves the community with providing an indoor pool, two (2) gyms, a fitness room, an indoor track, two (2) playgrounds, ball fields, a stadium as well as a skateboard park and a picnic shelter;
- **Pinner Place Park** (at Pridgeon Rd. and Pinner Place, M.B.) includes a playground, a shelter and a basketball court;
- **Racepath Park** (Racepath Dr., M.B.) offers the public a ball field, picnic shelter, grills, a playground and a basketball court;
- **Spivey Park** (at Myrtle St. and Collins St., M.B.) is a playground location;
- **Stuart Square Park** (at the intersection of Pine Island Rd. and Grissom Pkwy., M.B.) offers a playground and a mini shelter;
- **Withers Swash Park** (off 3rd Ave. S., M.B.) is located on one of Myrtle Beach's remaining natural swashes and provides the community with a nature trail, a picnic shelter, playground as well as a covered dock, and grills;

In addition to aforementioned parks, District 3 further reserves 5.3 acres for recreation, named the Oak Forest Lane recreation site, as well as 34 acres reserved for future recreation in the Carolina Forest development.

With its location along the shores of the Atlantic Ocean, District 3 further provides for ninety (90) public beach access points.

Public recreation functions are also being offered at the following school sites, which are located within County Council District 3:

- *Carolina Forest Elementary School*
- *Carolina Forest Middle School*
- *Carolina Forest High School*
- *Ocean Bay Elementary School*
- *Ocean Bay Middle School*
- *Myrtle Beach Primary School*
- *Myrtle Beach Elementary School*
- *Myrtle Beach Intermediate School*
- *Myrtle Beach Middle School*
- *Myrtle Beach High School*

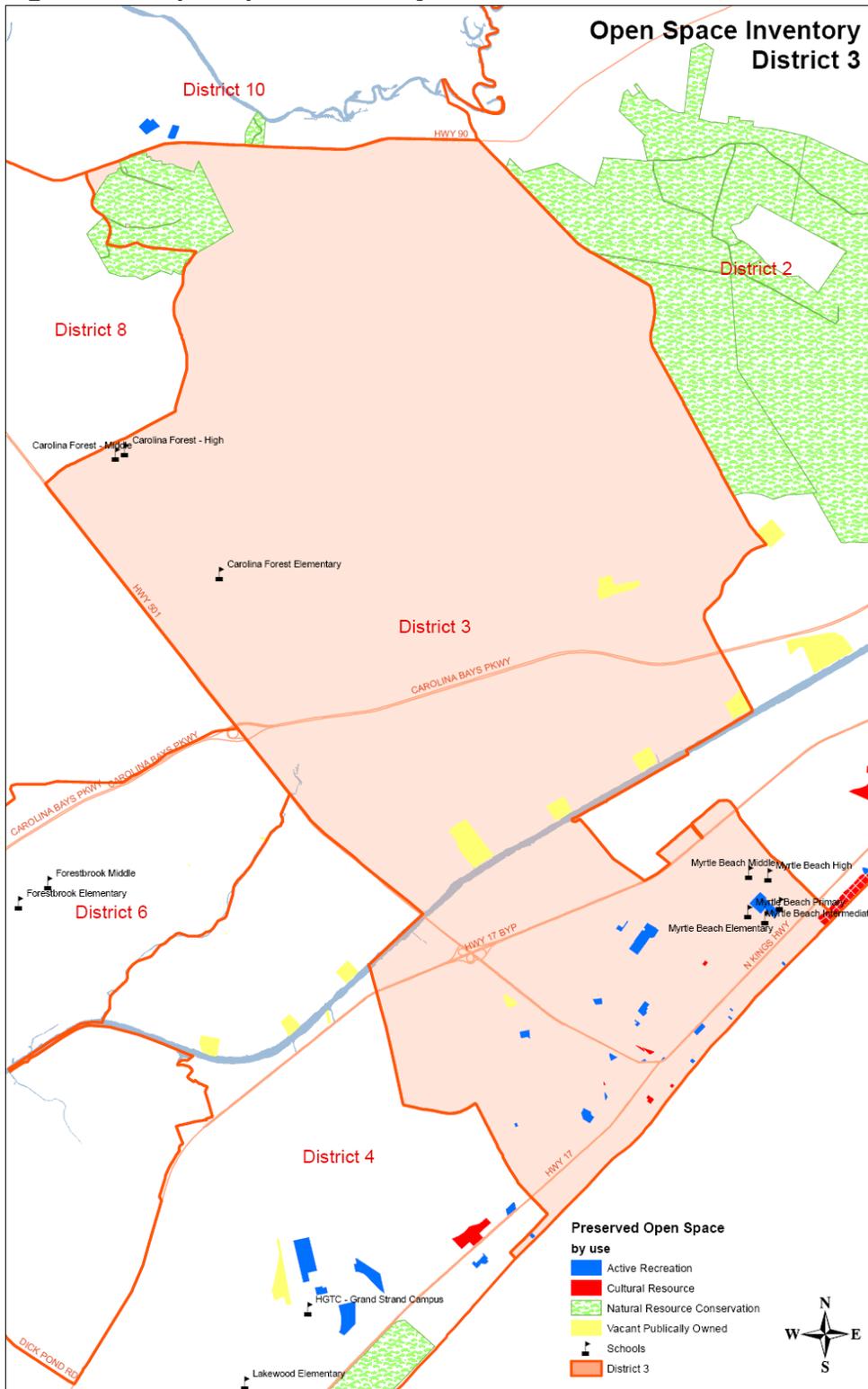
Lands that serve the natural resource and conservation function of open spaces within District 3 include 482 acres dedicated by International Paper Corporation in the Carolina Forest area as well as 5.5 acres owned by South Carolina Department of Transportation. Furthermore, the Horry County Solid Waste Authority (SWA) owns 93.5 acres preserved for wetlands mitigation purposes. Other vacant lands include 120.8 acres of spoilage easements along the Atlantic Intracoastal Waterway (AIWW) that are owned by the U.S. Army Corps of Engineers.

Next to the Atlantic Ocean and the Intracoastal Waterway, it is noteworthy to mention the following other lands of hydrological importance within this district:

- *Socastee Swamp;*
- *Withers Swamp;*
- *Withers Swash;*

With most of the urbanized areas within the city limits of Myrtle Beach, the community shaping functions that open spaces can entail are pretty much bound to the City's planning efforts to expand their sidewalks, designated bike paths and portions of the East Coast Greenway that have already been built.

Figure C-3: Open space inventory sites in District 3



Source: Horry County Planning Dept.; GIS/IT Dept.: Open Space Inventory Report, April 2006

District 4

District 4 has a unique shape. In continuation to District 3 it borders Georgetown County to the south. To the east, it touches the Atlantic Ocean and completely surrounds District 5. The District extends all the way to the Waccamaw River in the west. This district includes portions of the City of Myrtle Beach as well as portions of the Burgess Community and other communities along the Highway 707 corridor. In addition to several other popular tourism destinations close to the beach, the Freewoods Farm, being a 40-acre working African-American heritage farm, as well as the Franklin G. Burroughs and Simeon B. Chapin Art Museum, are important cultural resources within this district. This also applies to Oakwood Memorial Cemetery, which is another 20-acre local heritage site.

Recreational facilities in District 4 include:

- **Bark Park/Mallard Lake** (at Mallard Lake Dr., M.B.), which includes a dog park, benches, a pond, a mountain bike trail, and a lacrosse field;
- **Base Recreation Center** (800 Gabreski Ln., M.B.), offering such recreational and community amenities as a ballroom, a stage, meeting rooms, and billiard tables;
- **Crabtree Gym** (1004 Meyers Ave., M.B.), is another of Myrtle Beach's recreational centers, providing a gymnasium, fitness rooms (weights and cardio), as well as racquetball courts, a aerobics room with dance floor, and locker rooms, showers and meeting rooms open to use for the community;
- **Midway Park** (at 19th Ave. S. and U.S. 17, M.B.) offers more recreational opportunities on six (6) lighted tennis courts as well as outdoor basketball courts on 1.5 acres (lighted);
- **Virginia Marshal Park** incorporates a nature trail and a pond;
- **Warbird Park** (off Farrow Pkwy., U.S. 17 (Bus.), M.B.), commemorates the former Myrtle Beach Air Force Base by displaying old fighter planes, including benches and swings;

Also, both the City of Myrtle Beach and Horry County have vacant land devoted to recreation in this district. Horry County has fifty-one (51) acres set aside for recreation of which forty-eight (48) of these acres are dedicated as the South Strand Park. The City has a total of eighty (80) acres reserved for recreation.

Further, the Enterprise Boat Landing provides access to both the AIWW and the Waccamaw River.

Recreational facilities also can be found at the following education locations:

- *Horry-Georgetown Technical College—Grand Strand Campus*

- *Lakewood Elementary School*
- *St. James High School*

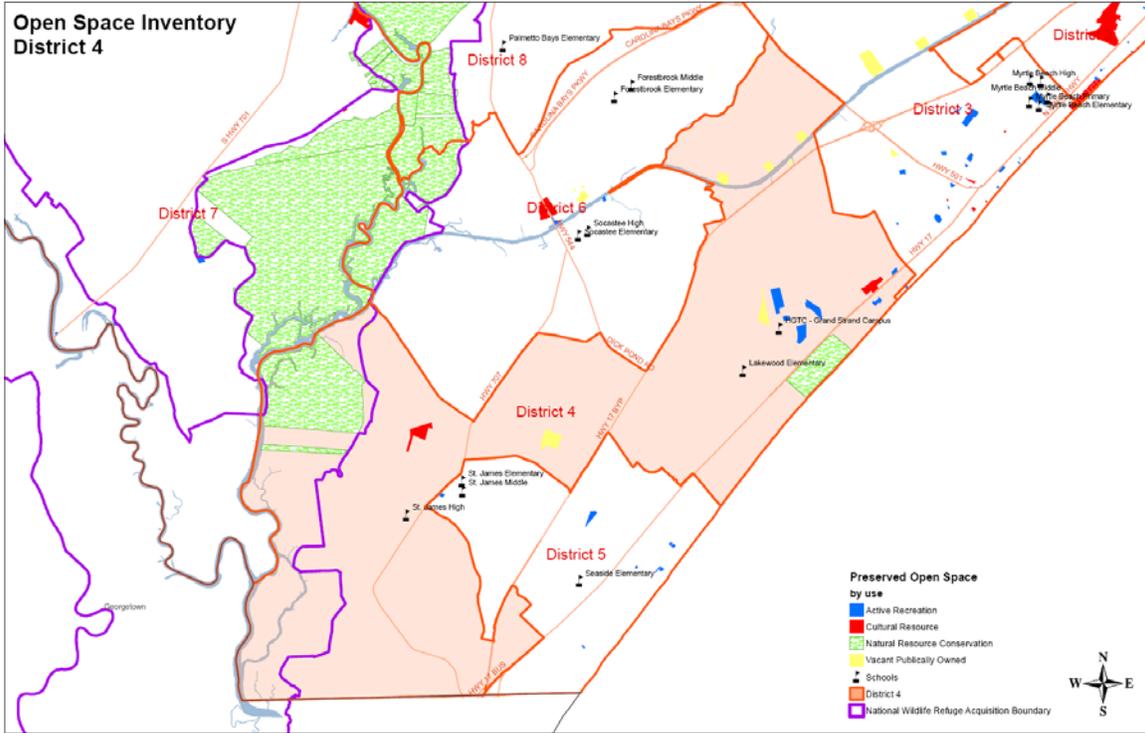
An important attraction that serves a recreational as well as a natural resource and conservation function is the Myrtle Beach State Park. The park is comprised of 288 acres. Furthermore, sixty-three (63) acres of the Waccamaw National Wildlife Refuge is also located in District 4. Vacant lands include 101.75 acres of U.S. Army Corps of Engineers spoilage easements along the AIWW.

A major contributor to the recreational and natural resource/conservation function of open spaces within District 4 are both the Atlantic Ocean and the Intracoastal Waterway, as well as the following hydrological lands that can be found here:

- *Cedar Swamp;*
- *Collins Creek;*
- *Crystal Lake;*
- *Midway Swash;*
- *Prince Creek;*
- *Socastee Swamp;*
- *Waccamaw River;*

Community shaping functions come from such designated community centers within the City of Myrtle Beach, such as the Base Recreation Center (800 Gabreski Ln., M.B.), which offers such amenities as a ballroom, a stage, meeting rooms, and billiard Figures. Moreover, the City of Myrtle Beach has a well-developed grid system and sidewalks and bike paths exist. A section of the East Coast Greenway is dedicated to cross this district.

Figure C-4: Open space inventory sites in District 4



Source: Horry County Planning Dept.; GIS/IT Dept.: Open Space Inventory Report, April 2006

District 5

Situated at the southeastern most corner of Horry County, District 5 contains the Town of Surfside Beach and the unincorporated community of Garden City Beach. The district is distinguished as a resort residential community. The district is bordered by Georgetown County to the south, Surfside Beach to the north and the Atlantic Ocean to the east. The marshes of Murrells Inlet extend into the southern portion of this district.

Following parks and recreational amenities are available to the public within District 5:

- **All Children's Park** (at 10th Ave. S. and Hollywood Dr., Surfside Beach) contains two (2) playgrounds, a picnic area, and restroom facilities;
- **Burgess Community Park** (10299 Hwy. 707, Socastee/Burgess area) provides the local Burgess community with a playground, a basketball court, and restrooms;
- **Garden City Park** (at 470 Elizabeth Dr., Garden City Beach) offers a playground, picnic Figures, grills, a walkway with gazebo, as well as a pier;
- **Fuller Park** (of Surfside Dr., and Myrtle Sr., Surfside Beach) is comprised of two (2) lighted tennis courts, a playground, and picnic area with restroom facilities;
- **Huckabee Recreation Complex** (off Glenn's Bay Rd., on Spanish Oak Dr., Surfside Beach) offers three (3) baseball fields, one (1) football field, a tot lot for children five (5) years and under, a picnic shelter, and restrooms. The complex is host to both Youth and Adult Softball programs, Youth Baseball, and Youth Football Games.
- **Martin Field** (at Dogwood Dr., between 6th and 7th Ave. S., Surfside Beach) contains one (1) lighted baseball/softball field, one (1) multi-purpose field, and restroom facilities. Several events by the Town of Surfside Beach are hosted at this site, as for example the annual 4th of July Celebration, Movie in the Park, and Youth Athletic practices.
- **Martin Park** (located adjacent to Martin Field on Lakeside Dr. and 8th Ave. S., Surfside Beach) is home to two (2) shuffleboard courts, one (1) horseshoe pit, and two (2) bocce ball courts, as well as four (4) picnic shelters. The Park also houses an activity building (Floral Clubhouse) that can be rented for special occasions.
- **Passive Park** (at the corner of Surfside Dr. and Willow Dr., Surfside Beach) is located adjacent to the Horry County Memorial Library, and among Live Oak trees contains picnic Figures, a gazebo, and a Veterans Memorial fountain.

Located within the Garden City area, Stanley Drive Boat Landing abuts the Garden City saltwater marshes and therefore provides convenient boat access to the Atlantic Ocean.

District 5 also maintains forty-eight (48) public beach access points.

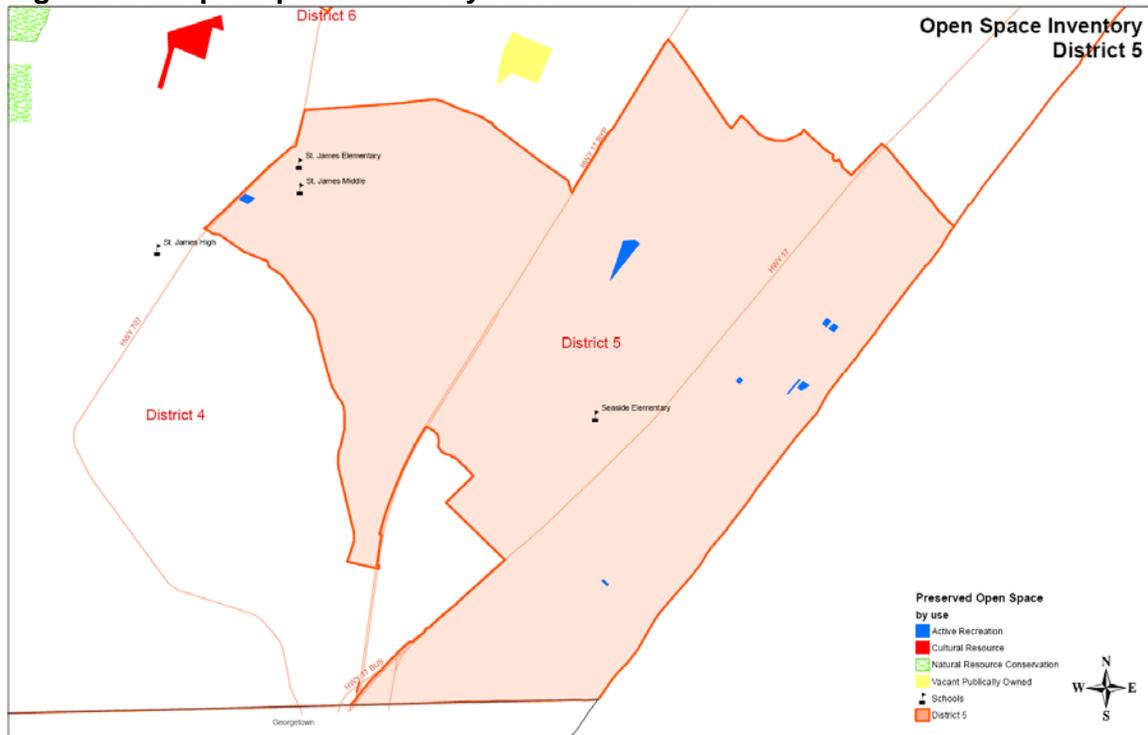
Next to the Atlantic Ocean, there exist several sensitive saltwater marshes within this district, such as Dogwood Lake, Floral Lake, Lake Elizabeth, and Murrells Creek that represent open spaces of natural resource and conservation importance.

Further recreational and community-shaping functions can be found at following locations:

- *Burgess Senior Center*
- *Dick M. Johnson Civic Center*
- *St. James Elementary School*
- *St. James Middle School*
- *Seaside Elementary School*
- *South Strand Senior Center*
- *Surfside Branch Library.*

Last but not least, a path for the East Coast Greenway is designated in this district and the County has begun laying the groundwork for construction of the Greenway through District 5. The district has a couple of boardwalks that cross the salt marsh. Because of the urban make-up, resort nature and many public beach accesses, the potential for creating an interconnected pedestrian or non-motorized pathways system is great.

Figure C-5: Open space inventory sites in District 5



Source: Horry County Planning Dept.; GIS/IT Dept.: Open Space Inventory Report, April 2006

District 6

District 6 is an interior council district of the County. The district mainly is comprised of the unincorporated community of Socastee and other residential neighborhoods along the Forestbrook Road corridor. The Intracoastal Waterway flows through the district and meets the Waccamaw River at its western edge. Also, U.S. Highway 501 touches the district to the northeast and the Carolina Bays Parkway (S.C. Hwy. 31) bounds the district to the north. U.S. Highway 17 Bypass outlines most of the southern border of District 6. The district is also home to the Socastee Historic District. The historic district is on the National Register of Historic Places and contains one of the two (2) swing bridges across the Intracoastal Waterway in the County.

Following parks and boat landing can be enjoyed within the district:

- Peachtree Boat Landing (off Peachtree Rd.) provides access to the Intracoastal Waterway;
- Rosewood Boat Landing (off Peachwood Court) also serves boaters to launch into the Waterway
- Socastee Yacht Basin Landing (off Peachtree Rd.) provides a marina and access to the Intracoastal Waterway
- *Socastee Landing Park* is adjacent to the Socastee Yacht Basin Landing and provides the public with a place to recreate. It is still to be fully developed and equipped with recreational amenities.

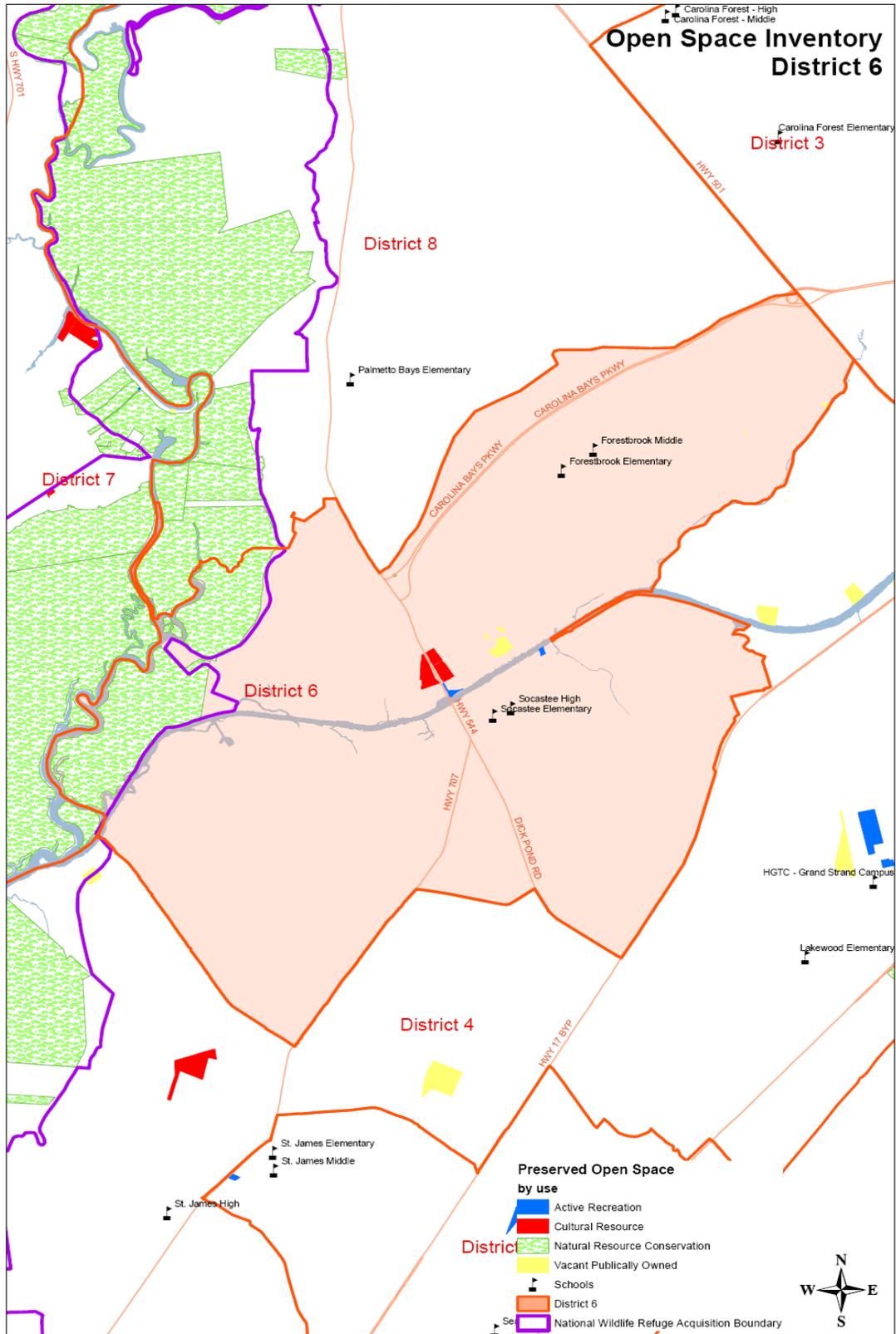
Recreational facilities at local schools within District 6 include following:

- Forestbrook Elementary School
- Forestbrook Middle School
- Socastee Elementary School
- Socastee High School
- Socastee Branch Library

In regards to natural resources and conservation, the protected open spaces that fulfill this function can largely be found within the 1,621 acres that are owned by the U.S. Fish and Wildlife Service, which together make up the Waccamaw National Wildlife Refuge. Further open spaces include 14 acres of spoilage easements by the U.S. Army Corps of Engineers that are preserved for dredging purposes of the Atlantic Intracoastal Waterway.

Also, District 6 includes a lot of hydrological lands, of which the larger ones are the Intracoastal Waterway, Socastee Swamp, and the Waccamaw River.

Figure C-6: Open space inventory sites within District 6



Source: Horry County Planning Dept.; GIS/IT Dept.: Open Space Inventory Report, April 2006

District 7

District 7 contains both rural and urban areas. The western parts of the City of Conway are located in the northern area of this district and the rural communities of Bucksport and Toddville are to the south. The Waccamaw River borders this district to the east. Further, Georgetown and Marion Counties border the district in the west, which are separated from Horry County by the Little Pee Dee River, Great Pee Dee River and Bull Creek. The Bucksport community is of historical significance to Horry County. During the 1800s, the area was marked by three prosperous lumbering mills—Upper, Middle and Lower Mills. Each mill supported a separate community, although few structures remain today.

Recreation is offered to the current population by following County parks and boat landings:

- ***Bucksport Park*** (1064 Bucksport Rd., Conway), which includes one (1) baseball field, two (2) basketball courts, restrooms, picnic shelter with Figures and grills, and one (1) playground on a total of approximately eight (8) acres;
 - ***Collins Park*** (at the corner of North Main St. and 16th Ave., Conway), is a City of Conway park that offers four (4) tennis courts, one (1) basketball court, picnic shelters with grills, as well as a playground and a activity center;
 - ***City of Conway Recreational Complex*** (off Mill Pond Rd., and Jenkins Dr., Conway)
 - ***Sandridge Park*** (3428 Cates Bay Rd., Conway) is a County park that offers the public a baseball field, one (1) tennis court, picnic shelter and Figures, grill, one (1) playground, two (2) basketball courts, and a concession stand;
 - ***Smith-Jones Park*** (off Jenkins Dr., Conway) serves the City of Conway with such recreational amenities as two (2) tennis courts, one (1) volleyball court, picnic shelter, grills, a playground, and a swimming pool;
-
- *Bucksville Boat Landing* (Landing Rd., Bucksville); consists of one (1) dock with two (2) ramps, and six (6) paved parking lots;
 - *Pitts Landing* (Wildlife Ln., Conway) includes two (2) ramps;
 - *Port Harrelson Boat Landing* (Big Bull Landing, Conway) offers boaters two (2) ramps;
 - *Punch Bowl Landing* (Punch Bowl Rd., Conway) has two (2) ramps, one (1) dock and twenty-five (25) parking spaces available;
 - *Yauhannah Boat Landing* (9300 Hwy. 701 S.) consists of one (1) dock with two (2) ramps, and thirty (30) paved parking lots;

Furthermore, within district 7 the County is planning a new 10-acre park to be called “Greenwood Park”. Also, a community center is proposed in the Bucksport Area.

The following schools and public facilities are located within district 7, which also offer recreational amenities:

- Bucksport Branch Library
- Bucksport Senior Center
- Conway High School
- Conway Senior Center
- Homewood Elementary School
- South Conway Elementary School
- Whittemore Park Elementary School.

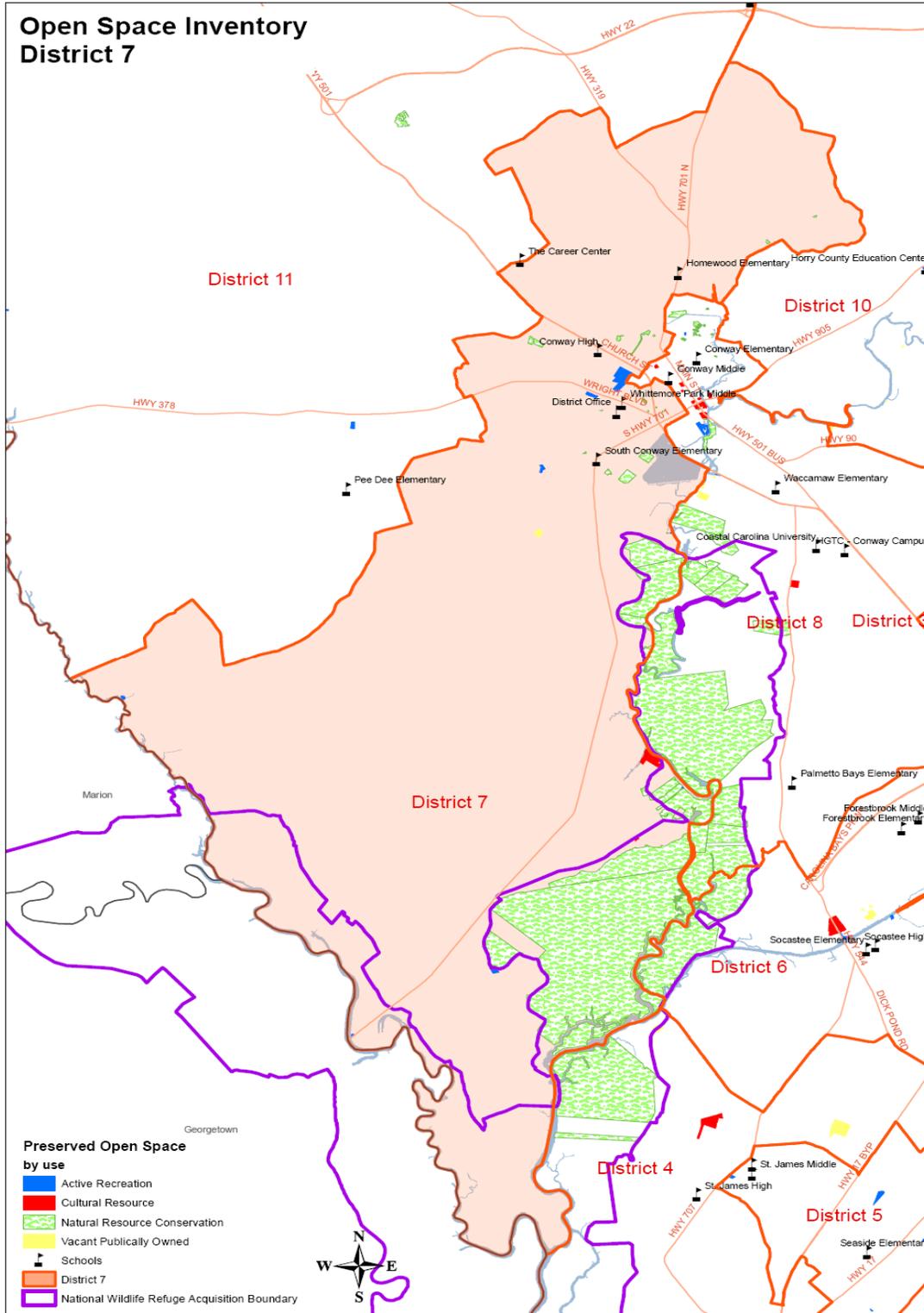
There exist a large number of acres dedicated to natural resource and conservation in District 7. One thousand one hundred and forty-four (1,144) acres of the Waccamaw National Wildlife Refuge are located within District 7. Furthermore, the South Carolina Department of Natural Resources (SCDNR) owns 5,585 acres, which are part of the State’s Heritage Preserve program, also known as the Bucksport Wildlife Management Area. Additionally, the City of Conway has set aside fifty-three (53) acres in this district in regards to open space preservation. Also, there are almost 2 acres of land conserved by the Federal Emergency Management Administration (FEMA), with deed restrictions precluding structures to be built, but serving as a great potential for future greenway connections.

Hydrological lands also play a major role within district 7. Following are the better-known areas:

- Bear Swamp;
- Big Swamp;
- Big Buckskin Creek;
- Brown Swamp;
- Bull Creek;
- Cowford Swamp;
- Crabtree Swamp;
- Four-Mile Swamp;
- Grier Swamp;
- Great Pee Dee River;
- Halfway Swamp;
- Jenkins Swamp;
- Lake Busbee;

- Little Pee Dee River;
- Figurele Swamp;
- Old Mill Lake;
- Waccamaw River;
- Wadus Lake.

Figure C-7: Open space inventory sites within district 7



Source: Horry County Planning Dept.; GIS/IT Dept.: Open Space Inventory Report, April 2006

District 8

District 8 is an interior district that encompasses a large portion of southern Conway. The Waccamaw River to the west, the Carolina Bays Parkway to the south and U.S. Highway 501 to the east, roughly outline this district. Furthermore, much of District 8 has grown up rapidly in the last decade, exhibiting more urban characteristics, as for example along U.S. 501 and the Carolina Forest as well as Coastal Carolina University areas. Yet, this Council district includes many cultural opportunities. The Theatre of the Republic is located in downtown Conway. Additionally, there are two historic districts listed on the National Register of Historic Places—The Conway Historic District and the Waccamaw River Warehouse Historic District (also in Conway).

District 8 offers following recreational parks and boat landings to its populace:

- ***The Atlantic Center*** (*off of Century Circle, Conway*) is a County-owned recreation facility close to the college campuses of HGTC and CCU, and is comprised of twelve (12) soccer fields, two (2) football fields, and restroom facilities on a total of about twenty-five (25) acres;
- ***The Riverfront Boardwalk*** (*off of Elm Street and the Conway Marina*) is maintained by the City of Conway, and offers scenic views of the Waccamaw River on walking paths as well as offers a playground for children and picnic Figures throughout the entire park;
- ***Riverfront Tennis Center*** (*located on Elm Street and near the Conway Marina*) offers professional tennis sport opportunities and lessons on seven (7) lighted clay courts. The Tennis Center also includes a Pro-Shop, and memberships can be attained through the City of Conway Parks and Recreation Department (Phone: 843-248-1740);
- ***Sherwood Mini-Park*** (*located on 16th Ave. and Sherwood Drive*) is managed through the City of Conway and contains a playground as well as picnic areas throughout the park.

- *Conway Marina* (*located at the end of Elm Street*) lies adjacent the Waccamaw River in downtown Conway, and provides permanent as well as temporary docking facilities for boats. It also includes a general boat launch area, refueling pumps, and a concession store. Moreover, riverboat tours and boat rentals are available during tourist season;
- *Savannah Bluff Landing* (*located at 990 Waccamaw Drive, about 1 mile out side of Conway off of U.S. 501 S.*) offers two (2) boat ramps and unpaved parking.

Furthermore, District 8 is home to following public schools and colleges as well as libraries and museums that offer athletic and other recreational facilities or leisure opportunities within their premises:

- Coastal Carolina University (CCU), which offers the County a location for NCAA Division II athletics and cultural opportunities through performances at the Wheelright Auditorium and art displays at the Rebecca Bryan Art Gallery.
- Horry-Georgetown Technical College (HGTC) – Conway Campus,
- Conway Elementary School,
- Conway Middle School,
- Conway Branch Library (which newly opened in October 19, 2006),
- Horry County Museum,
- Palmetto Bays Elementary School,
- Waccamaw Elementary School;

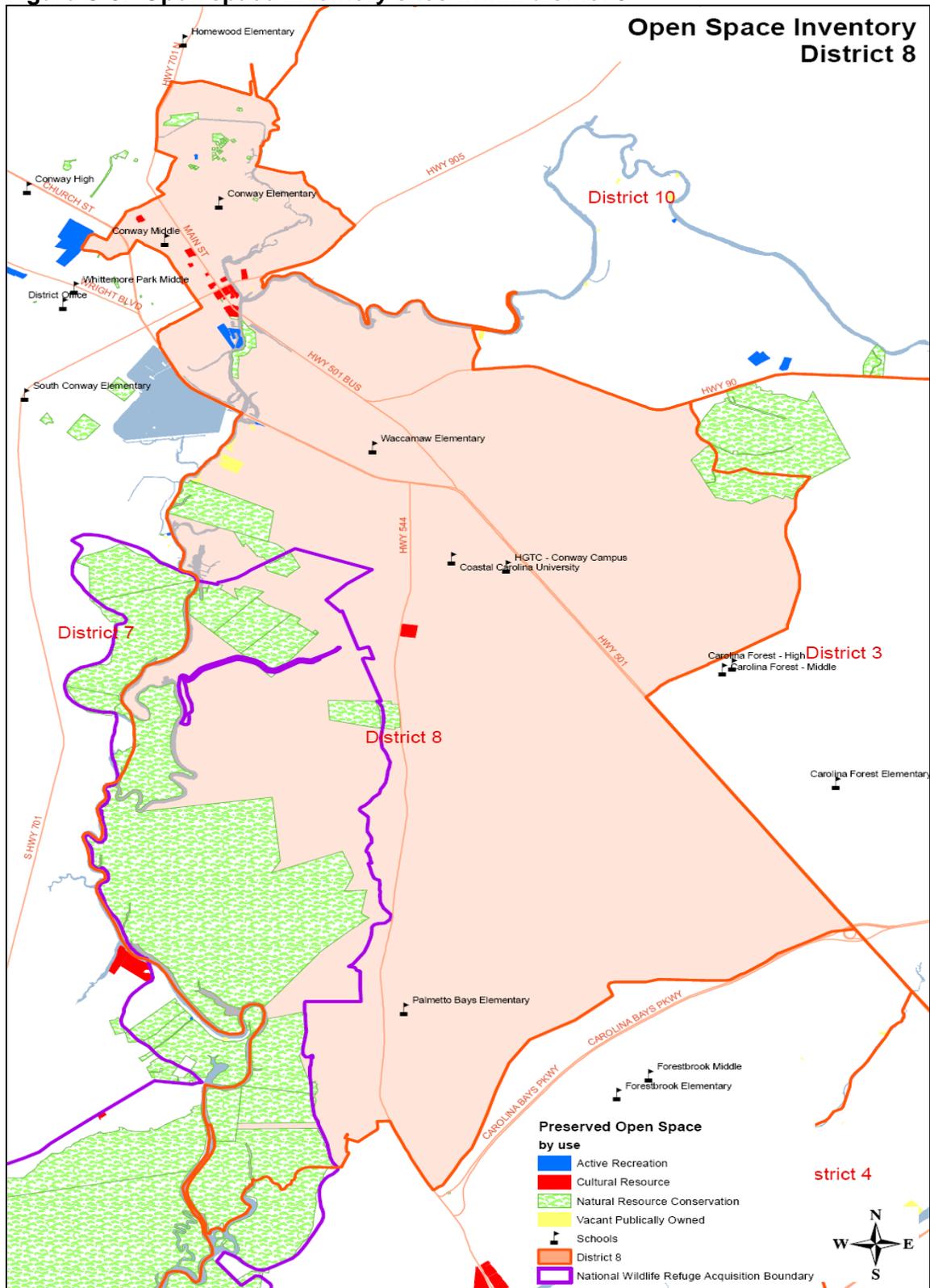
Some hydrological features in District 8 include:

- Big Swamp,
- Brown Swamp,
- Cross Swamp,
- Kingston Lake
- Smith Lake, and the
- Waccamaw River;

Furthermore, District 8 contains 1,042 acres of the Waccamaw National Wildlife Refuge. The South Carolina Department of Transportation owns 2,159 acres adjacent to the refuge. The acreage is also known as the Bucksport Wildlife Management Area and is in the process of being conveyed to the Department of Natural Resources. Also adjacent to the Waccamaw National Wildlife Refuge lie 182.23 acres of wetlands belonging to the Historic Ricefields Association, an organization dedicated to preservation in the Lowcountry.

Also, The City of Conway has 32.5 acres set aside for open space in District 8. In addition there are 25.6 acres of land conserved by the Federal Emergency Management Administration (FEMA). Deed restrictions preclude structures; however, these lands have the potential for greenway connections. Last but not least, the South Carolina Forestry Commission maintains a fire tower site in this district.

Figure C-8: Open space inventory sites within district 8



Source: Horry County Planning Dept.; GIS/IT Dept.: Open Space Inventory Report, April 2006

District 9

County Council District 9 borders Columbus County, North Carolina to the northeast and the Atlantic Intracoastal Waterway to the south. The Waccamaw River meanders through the eastern part of this district. Similar to County Council District 7, District 9 is varied in make-up from rural to urban. The eastern portion of this district is characterized by resort development and is facing significant development pressure. A portion of North Myrtle Beach lies within District 9. The western section contains the incorporated town of Loris and maintains a rural, agricultural atmosphere. Other communities in this district are among others Wampee, Red Bluff, Longs and Stephens Crossroads.

Recreational facilities and boat landings maintained by the Horry County Parks and Recreation Department include:

- **Heniford Recreation Park** (*off of Paul Street in Loris*) on 8.2 acres which offers five (5) ball fields, batting cages, a soccer field, as well as a picnic area and a playground;
- **Loris Nature Park** (*Loris Lions Rd., Loris*) is a 21-acre site adjacent to Loris High School, which offers passive recreation through nature trails. It's main purpose is the preserving habitat for local fauna and flora;
- **North Strand Park** (*120 Hwy. 57 South, Little River*) is over twenty (20) acres in size and includes a soccer field as well as a baseball field;
- **Red Bluff Park** (*1420 Loop Circle, Longs*) is situated in an area known as the Red Bluff community and offers recreational possibilities on 10 acres, containing one (1) baseball field, one (1) basketball court, one (1) volleyball court as well as a playground, picnic Figures, and restrooms;
- **Poplar Park** (*8545 Hwy. 90, Longs*) is situated in the Poplar Community off of S.C. 90. The park offers the community athletic and recreational opportunities on one (1) baseball field, one (1) basketball court, as well as one (1) volleyball court and picnic Figures together with grills and restrooms.

Furthermore, the County owns approximately 57 acres of vacant property designated for recreation in this district.

Also, athletic amenities are offered at the following public school and community service sites within District 9:

- Horry-Georgetown Technical College—North Myrtle Beach Off-Campus Site;
- Loris Branch Library;
- Loris Elementary School;
- Loris Middle School;

- Loris High School;
- Loris Senior Center;
- North Myrtle Beach Elementary School;
- North Myrtle Beach Intermediate School;
- North Myrtle Beach Middle School;
- North Myrtle Beach High School;
- North Strand Senior Center;

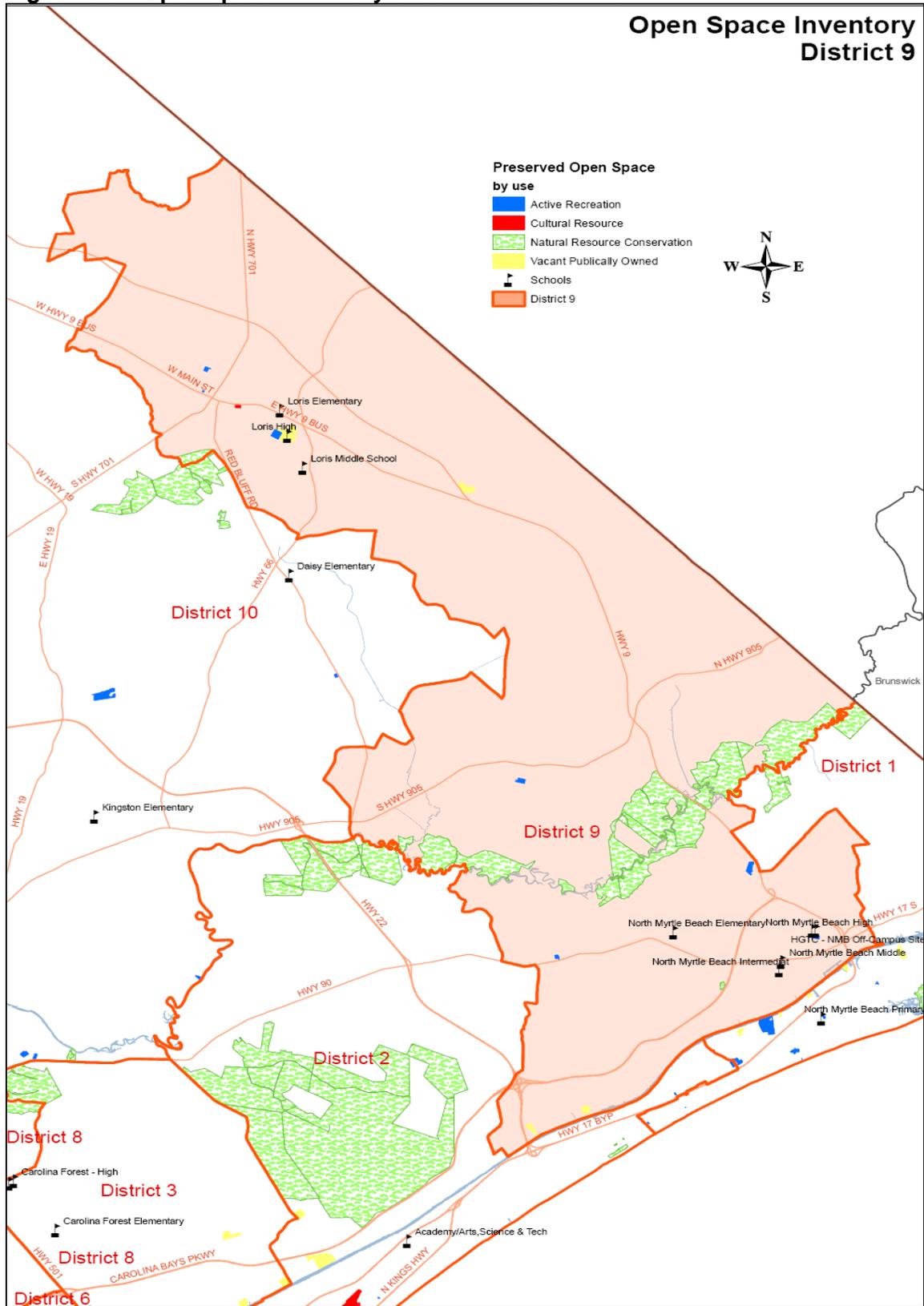
There are over 2,485 acres that are protected within the Waccamaw River Heritage Preserve in District 9. Other natural resource conservation lands include forty-five (45) acres of conserved wetlands and seven (7) acres owned by the South Carolina Forestry Commission. Vacant public lands also include 39 acres of spoilage easements owned by the U.S. Army Corps of Engineers, and maintained through the County.

Some of the hydrological features in this district include:

- Bear Bay,
- Buck Creek,
- Cowpen Swamp,
- Jones Big Swamp,
- Little River Swamp,
- Long Bay,
- Mill Branch,
- Mitchell Swamp,
- Pleasant Meadows Swamp,
- Round Swamp,
- Simpson Creek,
- Skeebo Brook,
- Waccamaw River;

Noteworthy also are several streetscape improvement projects that have been initiated by the City of Loris, which include sidewalks for the central business district. Also, the East Coast Greenway travels through the eastern section of this district.

Figure C-9: Open space inventory sites within district 9



Source: Horry County Planning Dept.; GIS/IT Dept.: Open Space Inventory Report, April 2006

District 10

One of the two County Council Districts that comprises rural Western Horry County is District 10. It is bordered by the Little Pee Dee River to the west, Columbus County, North Carolina to the northeast and S.C. Highway 90 to the south. The general character of the area is both rural and agricultural; however, a northern portion of Conway is located within the district. Rural communities such as Allsbrook, Daisy, Duford, Floyds, Green Sea, Mount Vernon, Pleasant View, and Red Bluff are some of the smaller communities that are located within District 10.

Following County-maintained recreational facilities and boat landings are located within district:

- **Green Sea-Floyds Tennis Courts** (5261 Hwy. 9, Green Sea) offers tennis enthusiasts in the Green Sea-Floyds community four (4) tennis courts on a total of two (2) acres;
- **Green Sea-Floyds Park** (Tulip Grove Rd., Green Sea) is a major community park on a total of 24.58 acres, including four (4) baseball fields, a playground, and restroom facilities;
- **Kingston Tennis Courts** (close to the junction of Old Reeves Ferry Rd. and Hwy. 905 in Hickory Grove) offers residents the possibility to play tennis on two (2) courts;
- **McNeil Park** (2093 Steritt Swamp Rd., in between Lee's Landing Circle and Hwy. 90) is made up on an area of 9.6 acres, and maintains three (3) baseball fields, one playground, a concession area, as well as restroom facilities;
- **Mt. Vernon Tennis Courts** (4250 Red Bluff Rd., in Mt. Vernon) offers the community a total of two (2) tennis courts;
- **Waccamaw Park** (2889 Lee's Landing Circle, off of Hwy. 90) is another community park facility that is situated close to aforementioned McNeil Park. It offers athletes three (3) baseball fields, a playground, picnic Figures and shelter, as well as concessions and restroom facilities;
- **White Oak Park** (2737 New Home Circle, Conway) actually lies within the Adrian community, and offers residents there the chance to play baseball on one field;

- **John Causey Boat Landing** (off Little River Neck Rd., Little River) is situated under the new Hwy. 17 bridge, and offers boaters and other water-rats to access the Intracoastal Waterway on two (2) ramps and one (1) dock facility. Furthermore, it John Causey Boat Landing offers a total of 52 paved parking lots;
- **Lee's Landing** (485 River Rd., Conway) is situated in the greater vicinity of Lee's Landing Circle, which runs from Hwy. 90 towards the Waccamaw River and back. This boat landing facility offers one (1) ramp, and unpaved parking on a total area of 0.5 acres;

- *Ricefield Cove Boat Landing (3575 River Rd., Nichols)* is located close to Hwy. 9, and offers boaters access to the Lumber River off of one (1) ramp, including unpaved parking;
- *Reeves Ferry Landing (588 Old Reeves Ferry Rd.)* located in the Bear Bluff community, offers boat access to the Waccamaw River off of one (1) ramp, including 26 paved parking lots;

Next to all aforementioned parks and boat landings, district 10 also accommodates several athletic facilities on the grounds of following public schools:

- Daisy Elementary School;
- Finklea Career Center;
- Green Sea Floyds Elementary School;
- Green Sea Floyds High School;
- Green Sea Floyds Branch Library;
- Green Sea Floyds Senior Center;
- Horry County Education Center;
- Kingston Elementary School.

Furthermore, district 10 is home to three (3) significant nature preserves. The first being the thirty-five hundred acres of the Little Pee Dee Heritage Preserve, and secondly the 567 acres of the Cartwheel Bay Heritage Preserve, which both are managed through the South Carolina Department of Natural Resources (DNR). Additionally, the Playcard Environmental Education Center encloses and protects 242 acres of natural resource conservation area, with its main goal being devoted to educating students about the natural environment of this region. Also, there are 2.2 acres of land conserved by the Federal Emergency Management Administration (FEMA), including deed restrictions that preclude structures; however, these lands have the potential for greenway connections.

Last but not least, approximately 485 acres in this district have been protected through the Farm and Ranchland Protection Program and 965 acres have been conserved through the Wetland Reserve Program.

Some of the more significant hydrological features in District 10 include following:

- Alligator Bay,
- Bob's Branch,
- Breakfast Swamp,
- Cartwheel Bay,
- Cushion Swamp,
- Gapway Swamp,

- Hellhole Swamp,
- High Hill Swamp,
- Honey Camp Branch,
- Iron Springs Swamp,
- Kingston Lake,
- Kingston Lake Swamp,
- Little Baxter Swamp,
- Little Pee Dee River,
- Little White Oak Swamp,
- Long Branch Swamp,
- Figurele Swamp,
- Mitchell Swamp,
- Playcard Swamp,
- Pleasant Meadow Swamp,
- Popular Swamp,
- River Swamp,
- Skinners Swamp,
- Small Pond,
- Springs Swamp,
- Sterritt Swamp,
- Stanley Creek,
- Waccamaw River,
- White Oak Swamp;

District 11

District 11 is located in the northwestern portion of Horry County. As one of the larger County Council districts, it generally can be described as rural. As a major geographical feature, the Little Pee Dee River abuts the district to the west and north, thus delineating the County border. The town of Aynor is located in District 11 along with the western edge of the City of Conway. Other communities include Galivant's Ferry, Cool Springs and Ketchuptown.

The following recreational parks and boat landings are located within district 11:

- **Aynor High Field** (301 Jordanville Rd., Aynor) gives the public the opportunity to play on one (1) baseball field and four (4) tennis courts. Furthermore, the facility provides public restrooms;
- **Bayboro Park** (6386 Joyner Swamp Rd., Galivants Ferry) provides the greater community of Bayboro with a baseball field, a tennis court, a picnic shelter with four (4) Figures and four (4) grills, a concession stand, as well as a playground, a basketball court and restroom facilities. The total acreage contains six (6) acres;
- **Dog Bluff Park**, located at the intersection of Jordanville Rd. and Dog Bluff Rd., is a smaller community park in the Dog Bluff community that offers recreation opportunities on one (1) basketball and one (1) tennis court on a total of 2.2 acres;
- **Michael Morris Graham Park** (located at 1450 Grainger or Vereen Rd., in between Hwy. 319 and Gore Rd.) is another fine example of a County-maintained community park. The park, containing a total area of over 21 acres, is developed with five (5) baseball fields, two (2) soccer fields, one (1) playground, four (4) picnic Figures with a shelter, a concession stand, as well as a concession stand and restroom facilities;
- **Pee Dee Park** (located at 7175 Marsh Dr., off of US Highway 378 to the West of Conway) provides the Cedar Grove community with recreational amenities such as four (4) baseball fields, a playground, picnic Figures and shelters, as well as restroom facilities and a concession stand. The park is spread out on a total of five (5) acres;

- **Huggins Boat Landing** (off of Huggins Landing Rd., near Galivants Ferry) provides boaters and other water enthusiasts access to the Little Pee Dee River;
- **Hughes Boat Landing** (located off of Hughes Landing Rd., near Jordanville) includes two (2) boat ramps to access the Little Pee Dee River;
- **Galivants Ferry Boat Landing**, located off of US Highway 501 West, historically marks the spot and reason for the establishment of the historic community of Galivants Ferry as a major traverse point for travelers between the Independent Republic of Horry and other parts of South Carolina before major roadways were built;

- *Gunters Lake Boat Landing* (off of *Gunters Lake Rd.*, near the community of Dog Bluff) also provides good access to the Little Pee Dee River;
- *Jordan Lake Boat Landing*, accessible from *Jordan Lake Rd.*, is another fine boat landing to the Little Pee Dee River;
- *Pitts Boat Landing*, on the far western end of Horry County off of *US Highway 378*, is another county maintained boat landing that provides easy access to the Little Pee Dee River;
- *Sandy Bluff Boat Landing* is located off of *Church Landing Road*, on the Northwest side of the County off of *Highway 917*, also provides access to the Little Pee Dee River.

Furthermore, the following educational and other community facilities provide for recreational amenities, such as playgrounds, passive parks, etc.:

- Aynor Elementary School
- Aynor Middle School
- Aynor High School
- Aynor Branch Library
- Aynor Town Hall and Park
- John W. Dawsey Senior Center
- Midland Elementary School
- Pee Dee Elementary School
- The Career Center
- Technology and Academic Academy

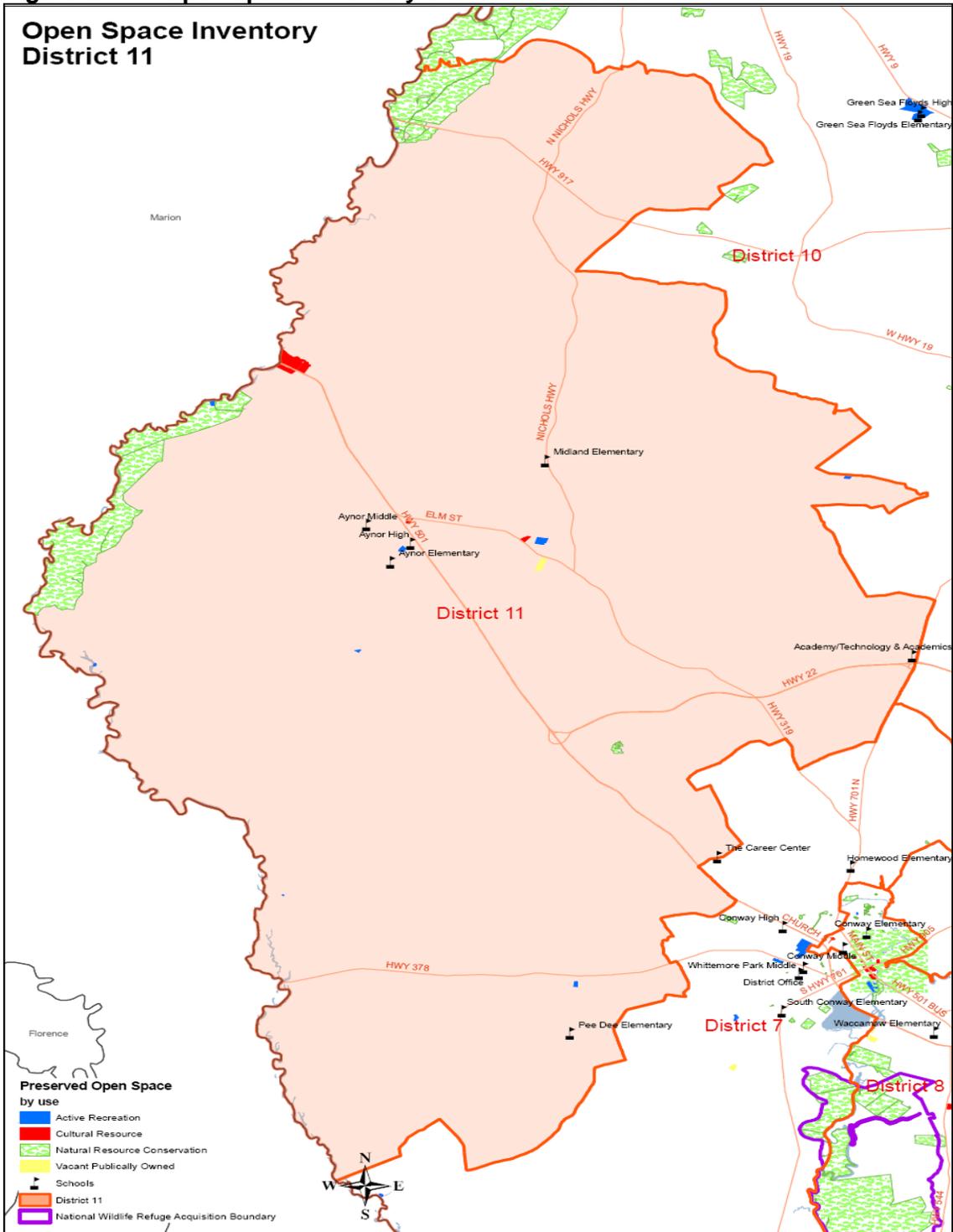
In respect to natural conservation areas, district 11 is home to the Little Pee Dee Heritage Preserve, containing approximately 3,000 acres of pristine hardwood forests and other river influenced flood areas. Within the preserve, 34 acres are protected through USDA's Farm and Ranchland Protection Program and 31.7 acres are preserved through the Wetlands Reserve Program (also USDA).

As with all other districts within Horry County, district 11 contains an abundance of rivers, wetlands and other flood influenced areas. The most commonly known, are as follows:

- Black Creek,
- Brown Swamp,
- Brunson Branch,
- Brunt Bay,
- Chinnners Swamp,

- Dawsey Swamp,
- Forney Branch,
- Grass Bay,
- Hannah Bay,
- Hughes Lake,
- Hunting Swamp,
- Joyner Swamp,
- Lake Swamp,
- Little Pee Dee River,
- Little Pee Dee Swamp,
- Loosing Swamp,
- Figurele Swamp,
- Mill Branch,
- Mose Branch,
- Popular Branch,
- Reedy Branch,
- River Swamp,
- Savannah Creek,
- Springs Swamp,
- Tredwell Swamp;

Figure C-11: Open space inventory sites within district 11



Source: Horry County Planning Dept.; GIS/IT Dept.: Open

Figure C-12: Map of all Public Parks and Recreational Sites in Horry County

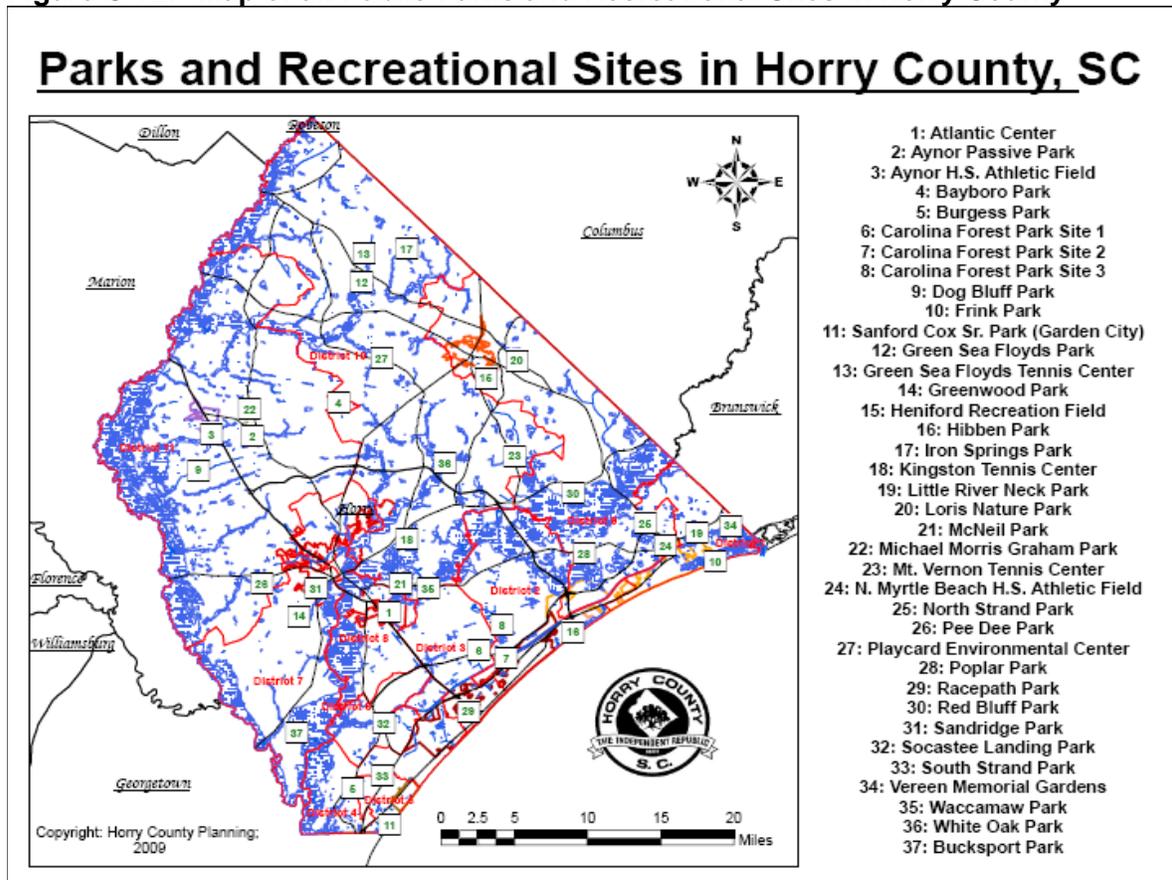


Figure C-13: Map of Federally, State and Privately Conserved Lands in Horry County

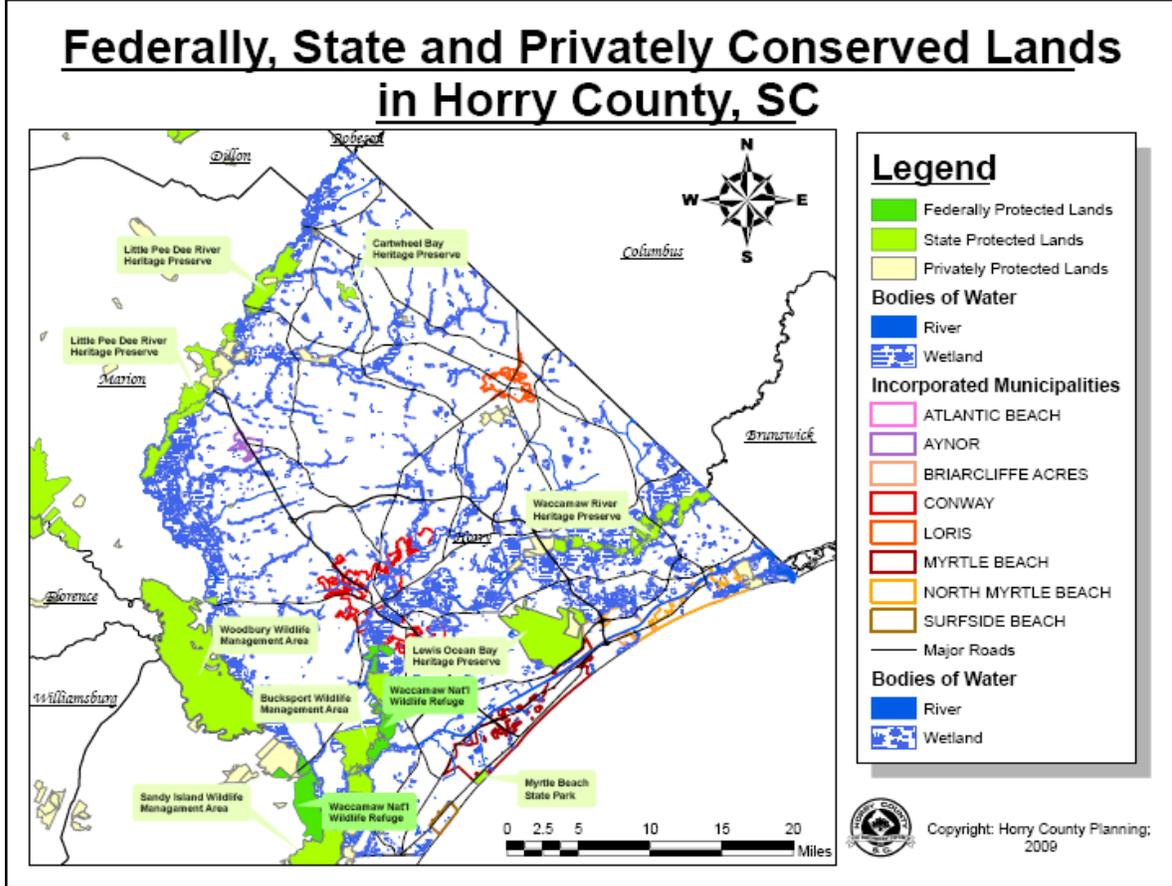
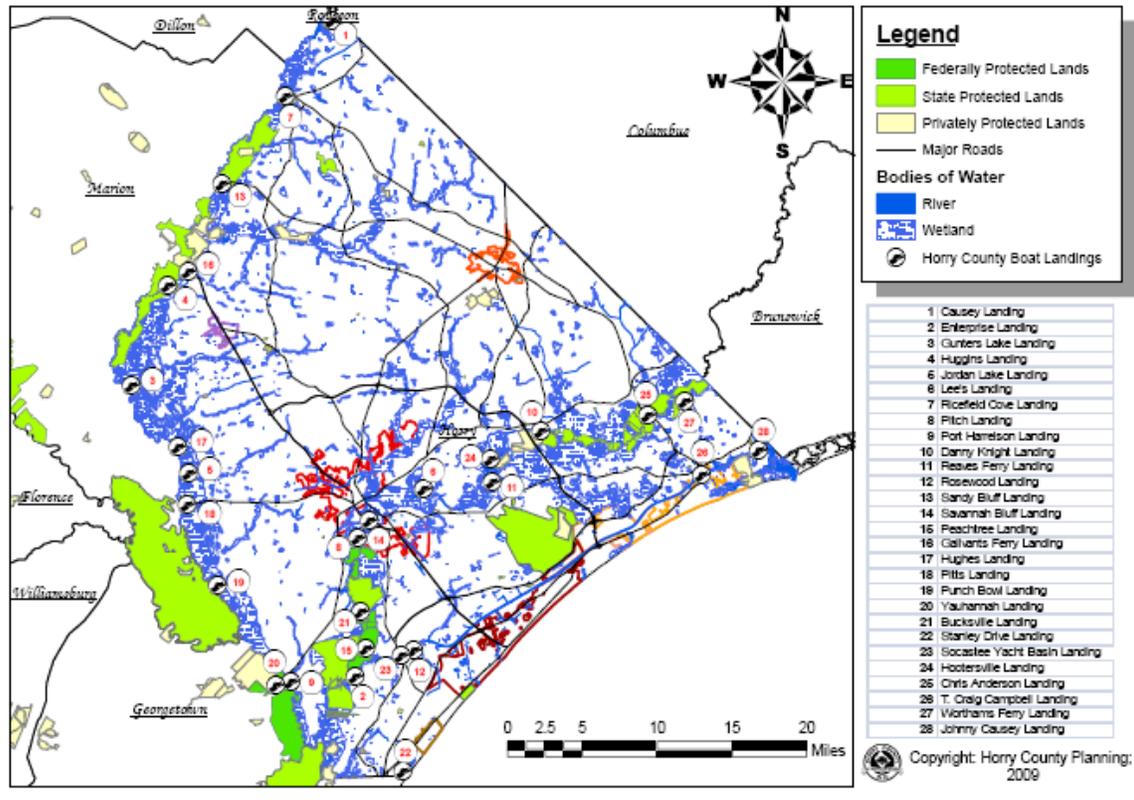


Figure C-14: List and Map of Public Boat Landings in Horry County

Listing of Public Boat Landings in Horry County, SC

Map locator no.	Facility name	Address	Area	No. of ramps/docks	No. of parking
1	Causey Landing	10399 Griffins Landing Rd.	Nichols, SC	1 dock	n/a
2	Enterprise Landing	8000 Enterprise Rd.	Myrtle Beach, SC	2 ramps; 1 dock	58
3	Gunters Lake Landing	4219 Gunters Lake Rd.	Galivants Ferry, SC	1 ramp	n/a
4	Huggins Landing	799 Huggins Landing Rd.	Galivants Ferry, SC	2 ramps	n/a
5	Jordan Lake Landing	8820 Jordan Lake Rd.	Conway, SC	1 ramp	n/a
6	Lee's Landing	485 River Rd.	Conway, SC	1 ramp	n/a
7	Ricefield Cove Landing	3575 River Rd.	Nichols, SC	1 ramp	n/a
8	Pitch Landing	100 Pitch Landing Rd.	Conway, SC	1 ramp	n/a
9	Port Harrelson Landing	1900 Big Bull Landing	Conway, SC	2 ramps	n/a
10	Danny Knight Landing	204 Highway 31	Longs, SC	1 ramp	n/a
11	Reaves Ferry Landing	588 Old Reaves Ferry Rd.	Conway, SC	1 ramp	28
12	Rosewood Landing	4898 Peachwood Ct.	Myrtle Beach, SC	1 ramp; 1 dock	n/a
13	Sandy Bluff Landing	10650 Church Landing Rd.	Nichols, SC	1 ramp	n/a
14	Savannah Bluff Landing	990 Waccamaw Dr.	Conway, SC	2 ramps	n/a
15	Peachtree Landing	6899 Peachtree Rd.	Myrtle Beach, SC	1 ramp	n/a
16	Galivants Ferry Landing	105 Highway 501 West	Galivants Ferry, SC	1 ramp	n/a
17	Hughes Landing	1000 Hughes Landing Rd.	Galivants Ferry, SC	2 ramps	n/a
18	Pitts Landing	6300 Wildlife Lane	Conway, SC	2 ramps	n/a
19	Punch Bowl Landing	7099 Punch Bowl Rd.	Conway, SC	n/a	n/a
20	Yauhannah Landing	9300 Highway 701 South	Conway, SC	2 ramps; 1 dock	30
21	Bucksville Landing	500 Landing Rd.	Conway, SC	2 ramps; 1 dock	6
22	Stanley Drive Landing	290 Stanley Drive	Garden City, SC	1 ramp	n/a
23	Socastee Yacht Basin Ldg.	4351 Peachtree Rd.	Myrtle Beach, SC	2 ramps; 1 dock	52
24	Hootersville Landing	1460 Caines Landing Rd.	Conway, SC	1 ramp	n/a
25	Chris Anderson Landing	1141 Highway 9 East	Longs, SC	2 ramps; 1 dock	25
26	T. Craig Campbell Ldg.	148 Morgan Ave.	Little River, SC	2 ramps; 1 dock	31
27	Worthams Ferry Landing	1501 Grainger Rd.	Little River, SC	1 ramp	n/a
28	Johnny Causey Landing	Little River Neck Rd.	Little River, SC	2 ramps; 1 dock	52

Public Boat Landings in Horry County, SC



*Appendix D: Horry County Parks and Open Space Board Ordinance
(latest version 67-08)*

Sec. 15-120. Membership; terms of office.

~~The Horry County Council shall establish a new board to be known as the Horry County Parks and Open Space Board.~~

The Horry County Parks and Open Space Board as created by Horry County Council shall be comprised as follows:

- (I) An eleven (11) member Horry County Parks and Open Space Board shall be appointed by county council within sixty (60) days following the approval of this article. Each member must be a qualified resident elector of each of the eleven (11) county council districts. Members shall be appointed to serve staggered four-year terms (except that terms necessary to implement this article may be established by resolution of county council). All terms shall commence July first and end June thirtieth of the appropriate year. Members shall serve until their successors are appointed and qualify. Members shall be permitted to serve two (2) consecutive terms. A member can be reappointed to the board after the initial two (2) consecutive terms as stated above only if the reappointment is separated by a vacancy from the board for at least one (1) calendar year. For reappointment purposes, a partial term resulting from an original appointment (to fill out the term of a member leaving for any reason) shall be considered as a full term if the period of appointment for the individual replacing the original member is two (2) years or more. If less than two (2) years, the individual may serve out that term, plus two (2) full terms before vacating the office.
- (II) Members shall be nominated by the resident county council member with the consent of and appointment by the county council.
- (III) Unexpired terms shall be filled for the duration of the term in the manner prescribed for the original appointment.
- (IV) Any member of the board may be recommended for removal for cause by a vote of a two-thirds (2/3) majority of the board. Written notice of the recommendation shall be given to the county administrator within five (5) days of the meeting in which recommendation is officially made. Removal will be by a majority vote of the county council after written notice to the member concerned.

Sec. 15-121. Officers; rules of procedures; meetings; support staff.

The board shall elect a chair and vice-chair from among its members. The terms of the chair and other officers shall be one (1) year, with eligibility for reelection. The board shall adopt rules of procedure for the transaction of business and shall keep a record of its recommendations, transactions, findings, and determinations. The board shall meet

at the call of the chair and at such times as the chair or board shall be open to the public and all records of the board shall be public records. All members shall serve without compensation but may be reimbursed for actual approved expenses incurred in connection with their official duties. The board shall meet at regular intervals but no less frequently than once ~~a month~~ every **three (3) months**. The county administrator shall supply clerical and professional support as necessary and appropriate as funds allow. Any persons providing such clerical or professional support shall be deemed employees of the administrator and not of the board.

Sec. 15-122. Filling of vacancies; termination of service; attendance.

In the event of a vacancy caused by death, resignation, removal or otherwise, a successor shall be elected in the manner provided in section 15-120, to serve for the remainder of the unexpired term. Any member may be removed by the county council for good cause after hearing by council. Any member who shall miss three (3) consecutive regular meetings without valid reason, such as illness or pressing personal commitments, shall be considered a voluntary resignation by the member. The board secretary shall keep the attendance records and indicate the same in the minutes of each meeting. ~~Six (6) members of the board shall constitute a quorum for the transaction of official business of the board.~~ **All meetings must have a majority (fifty (50) percent plus one (1)) of the appointed members present to conduct business.**

Sec. 15-123. Qualifications of board members.

Members shall be appointed to have knowledge, experience, proficiency and/or expertise in any one of the fields of open space, recreation, natural resources, or development fostered by the board. No members of the board shall hold any other membership on other boards or commission except ex officio offices and that of notary public.

Sec. 15-124. Purposes and objectives.

The purposes and objectives of the Horry County Parks and Open Space Board shall be:

- (I) To promote the preservation of open space, scenic areas and vistas, greenways, squares, or village greens;
- (II) To promote the protection and conservation of environmental or natural resources;
- (III) To promote the expansion of quality open space for a wide range of recreational opportunities including playgrounds, playfields, plazas, parks, mini-parks, picnic areas, bicycle or hiking trails, or golf courses for all county residents;
- (IV) To promote tourism emphasizing open space, recreational sites, and natural resources of Horry County;

- (V) To promote education, awareness, and research relating to environmental and natural resources;
- (VI) To assist in coordinating activities ~~of volunteers~~, with other local and regional organizations, businesses and governmental agencies ~~interested~~ **active** in the preservation of open space, recreational sites, and natural resources;
- (VII) To prepare and submit to the Horry County Council ~~for consideration a proposed list of areas of open space, significant environmental and natural resources, and recreational sites to be acquired, leased, preserved, protected, maintained, or developed through a new Horry County Open Space Fund~~ **a Parks and Open Space Plan as a comprehensive guidance for areas of open space, significant environmental and natural resources, and recreational sites to be acquired, leased, preserved, protected, maintained, or developed through county funds, such as the Horry County Open Space Fund.**

Sec. 15-125. General powers and duties.

The board shall have the powers, duties, responsibilities, and jurisdiction as set forth below:

- (1) To develop and regularly update an inventory of all public lands, parks, and all categories of open space, areas for expansion of a variety of recreational facilities, and areas of natural resources in Horry County, as part of a Parks and Open Space Plan;
- (2) To submit to the Horry County Council the inventory of public lands, parks, open spaces and a list of resources which should be acquired, leased preserved, protected, maintained, or developed through the Horry County Open Space Fund (see section 15-127) or from grants, revenue, fundraising activities, or other public or private sources;
- (3) To make recommendations to the Horry County Council relating to the Horry County Open Space Fund and the properties which should be acquired, leased, preserved, protected, maintained, or developed;
- (4) To coordinate activities of volunteers, organizations, businesses and corporate entities and governmental agencies for the identification, conservation, preservation or development of all categories of open space, areas for expansion of a variety of recreational facilities, and areas of environmental and natural resources in Horry County;
- (5) To undertake such studies, plans, activities, and projects as may from time to time be assigned to the board by the Horry County Council;
- (6) To encourage such planning, activities and development as may be necessary or advisable to identify, promote, acquire, lease, preserve, protect, maintain, or develop open space, recreational sites, or natural resources;
- (7) To define neighborhoods, districts, or regions to allocate funds from the Horry County Open Space Fund and to designation areas of need for preservation of open space, recreational sites, and natural resources.

(8) To appoint committees and subcommittees.

Sec. 15-126. Criteria for list of significant properties.

The criteria for the list of significant properties and resources to be promoted, acquired, leased, preserved, protected, maintained, or developed should be derived from the inventory section of the Parks and Open Space Plan, amongst others, addressing ~~may be arrived at from the~~ following categories:

- (I) All categories of open space including ~~scenic areas and vistas, greenways, squares, or village greens~~ **areas with significant natural, visual, and community benefits that positively contribute to the establishment of a Green Infrastructure network within Horry County;**
- (II) Sites for expansion of county-wide recreational space or facilities including playgrounds, playfields, plazas, parks, mini-parks, picnic areas, or golf courses;
- (III) Recreation land for hunting, fishing, water access and trails;
- (IV) Ecologically sensitive land;
- (V) Wildlife habitat;
- (VI) Areas of significant environmental and natural resources;
- (VII) Other properties or resources determined by the county council to be significant for open space use.

Sec. 15-127. Establishment of Horry County Open Space Fund.

The Horry County Council shall establish a Horry County Open Space Fund to implement the purposes and objectives of Horry County Parks and Open Space Board.

(I) The Horry County Open Space Fund is hereby established as a separate and segregated fund for the purpose of funding projects and activities of the Horry County Parks and Open Space Board approved by the Horry County Council. Such fund shall consist of fees-in-lieu collected from developers in full or partial exchange for providing required open space on-site as stated in Appendix B Zoning, Chapter 18 Land Development Regulations, Article 4 Design Standards, and Section 6-3 Options for Providing Open Space Off-site of the Horry County Code of Ordinances. Additionally, the Horry County Open Space Fund shall consist of all funds appropriated by the Horry County Council, all gifts of land, cash or other assets made to Horry County for the purposes and objective contained in Chapter 15, Article VII of the Horry County, South Carolina Code of Ordinances, and all other grants or other public or private revenues or gifts, with interest thereon for such purpose.

(II) The Horry County Open Space Fund shall be administered, invested and disbursed by the Horry County Treasurer, who will collaborate with the board by providing quarterly reports of the financial status of the Open Space Fund.

(III) The Horry County Council may make annual appropriations for the Horry County Open Space Fund. All funds in the Horry County Open Space Fund shall be used solely and exclusively for the purposes stated in this article, and unexpended or unused assets and funds shall be maintained in the Horry County Open Space Fund and shall be used solely for the identification, acquisition, lease, preservation, protection, maintenance or development of open space, recreational sites, and natural resources identified on the list of significant resources developed by the Horry County Parks and Open Space Board.

(IV) All property or interests in property to be used by or for the Horry County Open Space Fund shall be transferred to Horry County by the persons or entities owning title thereto and all real property used, acquired or leased for board purposes shall be owned, purchased, leased, held, conveyed or disposed of in the name of Horry County by the Horry County Council. All such property or interests in property shall be listed on a fixed asset ledger which shall be maintained. Such ledger shall show the value of property or interests in property acquired, leased, held, owned, preserved, protected, maintained or developed in whole or in part from funds allocated from the Horry County Open Space Fund.

Appendix E: Horry County Recreation Needs Assessment Study (1999-2009)

Study findings

For the studied time period from 1999 to 2009, the study recommended additional development of a total of four (4) Regional Parks, two (2) Civic Parks, eleven (11) District Recreation Complexes, thirty-seven (37) Community Parks and numerous additional facilities. Altogether, the parks proposed for Horry County by the study equates to 4.19 acres of local park land per 1,000 people and 5.49 acres of regional park land per 1,000 people. Although, this suggested acreage falls short of the generally recommended standards, which are 6.25 acres for local and 10.0 acres for regional parks, the proposal for Horry County represents a big step in meeting recreation needs for the short to intermediate future.

Figure E-1: Recommended Parks in Horry County, 1999 - 2009

<i>Park Type</i>	<i>Park Size</i>	<i>Recreation Standard</i>	<i>Characteristics</i>	<i>Number Proposed 1999-2009</i>
Community Park	4 acres	1 park/2,000 people	Easily accessible by foot or bike, in neighborhoods or at schools, 1 playground, 1 multipurpose field, 1 ball field, 3 picnic Figures and shelter	37
District Recreation Complex	35 acres	1 park/10,000 people	Located centrally within park service area, community center, gymnasium, areas for active sports, swimming pool, and areas for passive uses	11
Civic Park	20 acres	1 park/40,000 people	Near land features such as lakes, hills, rivers, predominately passive, with limited active facilities including bike trails, playgrounds, tennis courts. Also used for public exhibitions or gatherings	2
Regional Park	300 acres	1 park/30,000 people	Located in area with unusual natural value, large areas of passive recreation including walking trails, picnicking, boating, fishing, areas for active sports	4

Source: LS3P Associates Ltd., Horry County Recreation Assessment Study 1999 - 2009

Regional Park

Approximately 300 acres in size, with one (1) park serving 30,000 people. The study recommends a Regional Park to be located in an area with unusual natural beauty, and should be within reasonable driving distance to the community it serves. A Regional Park contains large areas for passive recreation use such as nature trails, picnicking, and boating, fishing and large open spaces.

Civic Park

Approximately 20 acres in size, with one (1) park serving 40,000 people. It is recommended that Civic Parks are located near unusual land features such as lakes, hills, rivers, woods and wetlands, etc. Predominantly passive in its nature, Civic Parks may include limited active facilities such as bike trails, playgrounds, and tennis courts.

District Recreation Complex

Approximately 35 acres in size, with one (1) park serving 10,000 people. The Recreation Assessment Study recommends the District Recreation Complex to be located centrally within the park service area, with consideration of surrounding land uses, safety, access and land availability. The Complex should contain a community center, gymnasium and areas for active games such as baseball, softball, soccer, tennis, basketball, and volleyball. It may also include a swimming pool as well as passive use areas such as for walking, picnicking. Additionally, a playground should be provided together with landscaping and parking.

Community Park

Approximately four (4) acres in size, with one (1) park serving 2,000 people. Community Parks should be easily accessible to neighborhood population and geographically centered within safe walking and biking distance. It also is suggested by the study to locate Community Parks close to residential communities or at elementary or middle schools. The prototypical park contains one (1) playground, one (1) soccer/football/multi-purpose field, one (1) softball or baseball field, three (3) picnic Figures and a shelter.

Furthermore, the study suggests developing more multi-use parks with facilities and programs aimed at serving a variety of interests and age groups (LS3P Associates Ltd., Executive Summary).

Appendix F: The Principles of Green Infrastructure Concept

The concept of Green Infrastructure is relatively new. Even though many local jurisdictions already possess some key components, communities across the country are just beginning to apply Green Infrastructure principles to tie them together to form an integrated network of sustainable green spaces.

The following seven (7) principles highlight how a community can successfully develop and implement a Green Infrastructure system:

Principle 1: Green Infrastructure should be the framework for conservation and development

By making Green Infrastructure the framework for conservation, communities can plan for and protect interconnected, green space systems. And where isolated “islands” of nature already exist, Green Infrastructure Planning can help them identify opportunities to restore the vital ecological connections that are necessary for the survival of those protected areas.

Having a Green Infrastructure Strategy also helps planners and developers minimize the adverse impacts that rapid growth can have on ecosystem functions and services, such as the loss of wildlife habitat and migration corridors and the loss of riparian and other natural areas that absorb nutrients, recharge ground and surface water supplies, slow and absorb stormwater runoff, and replenish soils.

Principle 2: Design and plan Green Infrastructure before development

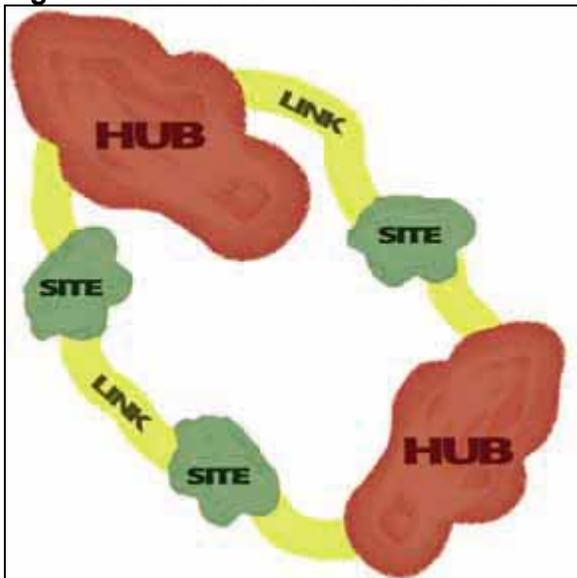
Because restoration is expensive and because man-made wetlands and other restoration projects can cease to function over the long term, planning for and protecting green space systems should come before development whenever possible. But in situations in which development has already occurred, it is still important to assess where restoring Green Infrastructure would benefit people and natural systems.

Principle 3: Linkage is the key

The desired outcome of all Green Infrastructure initiatives is the creation of a green space network that functions as an ecological whole, not as a random assemblage of separate, unrelated parts. The strategic connection of different system components –

parks, preserves, riparian areas, wetlands, and other green spaces – is critical to maintaining vital ecological processes and services (see Benefits above). In addition, Green Infrastructure requires linkages to be made among different agencies, nongovernmental organizations, and the private sector.

Figure F-1: Scheme of Green Infrastructure Land Network



Source: Department of Planning & Economic Development, Oakland County, Michigan;
URL: www.oakgov.com/.../green_infras/gi_project.html

Principle 4: Green Infrastructure functions across multiple jurisdictions and at different scales

Green Infrastructure strategies can be used for initiatives of any size or scale, including:

- The project scale, involving individual parcels and within single real-estate developments;
- The community scale, supporting local resource conservation and restoration efforts and including park, recreation and other open-space projects (e.g. the Comprehensive Greenway for Charleston County, South Carolina);
- The landscape scale, encompassing statewide and national conservation and open space resources (e.g. the Florida Statewide Greenway System).

Green Infrastructure may be most successful when it functions at multiple scales in tandem.

Principle 5: Green Infrastructure is grounded in sound science and land-use planning theories and practices

With strategic use of environmental design, professionals and laypersons alike are finding that networks of linked natural areas and habitats managed for biodiversity purposes also can protect developed urban and rural areas from natural disasters, can improve the general health of the human community, and can provide recreation opportunities and other public amenities.

Principle 6: Green Infrastructure is a critical public investment

Creating interconnected green space systems benefits communities by providing land for resource protection and restoration, recreation and other public values. More important, strategic placement of Green Infrastructure reduces the need for some gray infrastructure, freeing up public funds for other community needs. For example, one third of weekday trail users are commuting in major urban areas with trail systems such as Washington, D.C. and Tampa, FL., greatly reducing the need for road construction and other expensive transportation infrastructure. Green Infrastructure also reduces a community's susceptibility to risk of floods, fires, and other natural disasters. Recognizing the public benefits of Green Infrastructure is an important first step in providing adequate funding. For all of these reasons, Green Infrastructure is an appropriate and necessary use of public funds.

Green Infrastructure should be included in the annual budget, as are roads, sewers, and other public works. While not yet on the same funding level as public works, states and communities have begun conventional mechanisms to finance Green Infrastructure projects – including bond referenda, real estate transfer taxes, dedicated development fees and direct budgetary line items.

Principle 7: Green Infrastructure involves diverse stakeholders

The stakeholders of Green Infrastructure initiatives have diverse backgrounds and needs. Successful Green Infrastructure efforts forge alliances and interrelationships among various organizations – both public and private. Partnerships also should be forged among foundations, regional council, government agencies, universities, non-profits, and other organizations that are already funding projects and initiatives with similar goals to protect, restore, connect, or improve management of natural areas, parks, trails, and greenways.

(Benedict, Mahon A. and McMahon, Edward T.: Green Infrastructure: Smart Conservation for the 21st Century, 2000; Williamson, Karen S.: Growing with Green Infrastructure, 2003)

Appendix G: The Countywide Natural Resource Inventory and GIS Analysis

In 2005 the Horry County Parks and Open Space Board in collaboration with Planning and Zoning Department staff started reviewing several processes for inventorying Horry County's natural resources as part of this comprehensive plan that, based on the inventory, will recommend actions to create a future parks and open space system. The assessment process that was chosen is described below:

- **Conduct a Natural Resource Inventory:** A Countywide Inventory of all permanently protected natural resource conservation areas, cultural resource sites and all active recreation areas was compiled. Over forty-five (45) municipal, county, state, federal, utility and non-profit entities were contacted. The results showed that approximately 42,600 acres were set aside for natural resources protection and recreation, equal to about 5% of the land area in the County. Such parcels included sites for boat landings and recreation parks maintained by the Horry County Parks and Recreation Department, floodplains that have been acquired by FEMA, Spoilage Easements along the Intracoastal Waterway in ownership of the U.S. Army Corps of Engineers, as well as Heritage Preserve sites managed through the S.C. Department of Natural Resources, and other privately owned conservation easement sites enrolled in federal or state programs, or stewarded by non-profit organizations.
- **Categorize Sites by Function:** The sites were classified into several different categories – natural resource conservation, vacant county owned property, active recreation parcels and cultural resources. County GIS staff created digital Figures to show a visual picture of the geographic distribution of the sites.
- **Develop a Set of Open Space Objectives:** Using guidance from the County Council ordinance creating the Horry County Parks and Open Space Board, the 1999-2009 Recreation Needs Assessment, Municipal Comprehensive Plans, and other supporting documentation, the Parks and Open Space Board set two distinct objectives for green infrastructure within Horry County—one objective for natural resource conservation and one for recreational resource expansion. Those objectives are:

Objective 1: *Maintain and protect ecological biodiversity and watershed function for the health, safety and future economic prosperity of Horry County.*

Objective 2: *Improve availability and access to recreational opportunities and cultural sites in all areas to improve the health and quality of life of all Horry County residents.*

The GIS Analysis

The process of selecting areas for conservation and recreation has heavily depended on the use of GIS and the expertise of the County GIS staff. Geographic Information System (GIS) technology was used to create a database and analyze the specific criteria established for each objective. This process - both for natural resources and recreation - used quantitative data to identify lands on a countywide level. The Figures generated from the analysis show prioritization areas and should be used as a tool to guide individual parcel acquisition decisions.

Objective 1: *Maintain and protect ecological biodiversity and watershed function for the health, safety and future economic prosperity of Horry County.*

Actions of Analysis:

- Identify large, unfragmented tracts of permanently protected land, which serve important ecological function (500+ acres);
- Identify intermediary unfragmented sites (150 – 500 acres) which serve important ecological function;
- Identify linear areas to serve as greenbelts, water quality protection areas, wildlife corridors, etc. to link the large and intermediary tracts.

GIS staff has undertaken specific actions and assigned points to each of the following aspects to inventory qualified natural resource and recreation areas regarding a future parks and open space system. Examined characteristics used to identify and assign qualification points included the following:

- **Areas adjacent and in close proximity to rivers, ocean, estuaries or other navigable water bodies:** GIS created a 300 ft. buffer around all river features, and gave each parcel falling within that buffer one (1) point;
- **Areas adjacent and in close proximity to preserved natural resource conservation areas:** GIS created 300 ft. buffer around parcels with a “natural resource conservation” use and gave each parcel falling within that buffer one (1) point;
- **Areas adjacent and in close proximity to known pollution point sources:** GIS created 500 ft. buffer around pollution point sources (based on DNR data) and gave each parcel falling within that buffer one (1) point;

- **Areas adjacent and in close proximity to known impaired water bodies:** GIS created a 500 ft. buffer around impaired water bodies (based on DNR data) and gave each parcel falling within that buffer one (1) point;
- **Known Carolina Bays:** GIS gave each parcel containing “Johnson” and “Johnson-Rutledge” soils (typical for Carolina Bays) one (1) point;
- **Wetland Soils:** GIS gave each parcel containing major hydric soils such as “Beaches”, “Bladen”, “Bohicket”, “Brookman”, “Coxville”, “Hobcaw”, “Hobonny”, “Johnson”, “Leon”, “Lynn Haven”, “Meggett”, “Ogeechee”, “Osier”, “Pocomoke”, “Rutledge”, “Woodington”, and “Yonges” one (1) point;
- **Identified areas of rare, endangered or threatened plant and animal species habitat:** GIS gave each parcel falling within pre-selected blocks greater than 150 acres in vegetation one (1) point; additionally, GIS gave parcels falling within blocks of greater than 500 acres of vegetation one (1) point;
- **Identified areas of sustainable wildlife habitat:** GIS gave each parcel falling within pre-selected blocks greater than 150 acres in vegetation one (1) point; additionally, GIS gave parcels falling within blocks of greater than 500 acres of vegetation one (1) point;
- **Identified areas of pristine forest resources:** GIS gave each parcel falling within pre-selected blocks greater than 150 acres in vegetation one (1) point; additionally, GIS gave parcels falling within blocks of greater than 500 acres of vegetation one (1) point;
- **All floodplain areas**
- **Prime agricultural soils:** GIS gave each parcel containing soils important to agricultural use such as “Duplin”, “Emporia”, “Eulonia”, “Goldsboro”, “Lynchburg”, “Nankin”, “Nansemond”, “Norfolk”, “Suffolk”, “Summerton”, “Wahee”, “Yauhannah”, and “Yemassee” one (1) point

Objective 2: *Improve availability and access to recreational opportunities and cultural sites in all areas to improve the health and quality of life of all Horry County residents.*

Actions of Analysis:

- Identify all municipal and county recreation and park areas, boat ramps, public beach access areas, and public fishing piers;
- Identify all cultural sites;
- Identify all schools, community centers, libraries, senior centers
- Identify known scenic vistas;
- Identify known trails systems;
- Identify new areas suitable for additional recreational facilities;

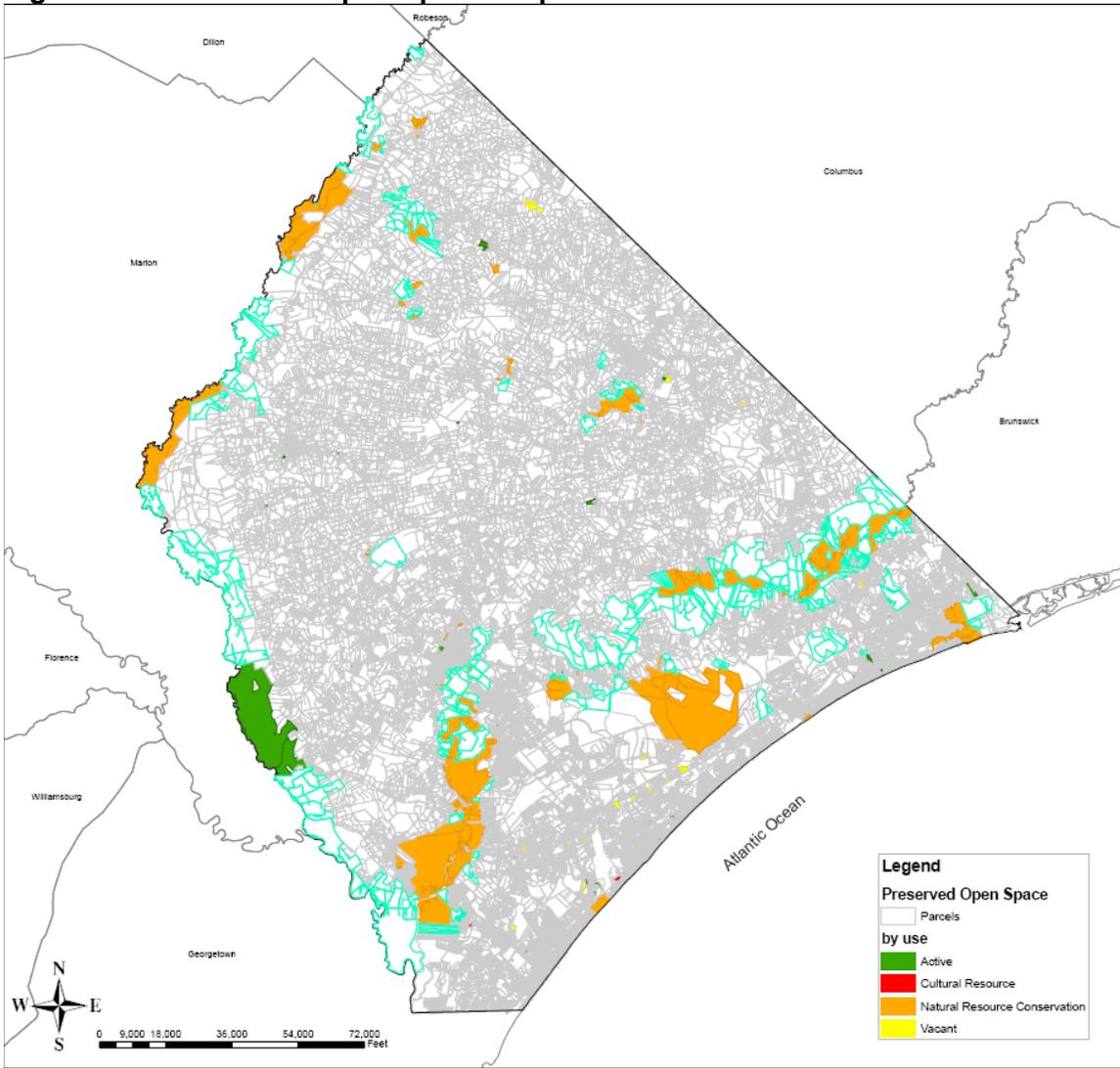
- Identify linear areas to serve as new walking trail systems, equine trails systems, bike paths, etc. to link the above listed parcels.

Characteristics used to identify future acquisition and linkage sites will include:

- Areas of known concentrations of residents;
- Areas adjacent to existing parks, schools, cultural sites, community centers, senior centers, scenic view sheds, boat ramps, etc.;
- Areas with access to a public roadway;
- Vacant County owned parcels of land.

The following Figure G-1 “Potential Natural Resources Acquisition Sites” illustrates the results of above mentioned analysis highlighting all parcels within the County that reached a total of at least six (6) to a maximum of nine (9) possible evaluation points of the outlined GIS Analysis. Therefore, following land parcels outlined in blue color can be considered as prioritized acquisition sites to establish the interconnected green infrastructure system as proposed by the contents of this plan.

Figure G-1: Prioritized Open Space Acquisition Areas



Source: Horry County IT/GIS Department in collaboration with Horry County Planning & Zoning

Appendix H: The East Coast Greenway

History

The East Coast Greenway is an ambitious 2,600-mile long multi-use urban trail system extending from Maine to Florida Keys. Trail segments are meant to retain local identity and to be under local control. The overarching goal of the East Coast Greenway is to facilitate improved quality of life for local residents and also to act as a boost for local economies through tourism dollars.

The East Coast Greenway Master Plan for Horry and Georgetown Counties was completed in 2003 by a consultant team lead by HadenStanziale, P.A. The consultants worked with an Executive Committee made up of representatives from Horry and Georgetown Counties, the Cities of Myrtle Beach, North Myrtle Beach, and Georgetown, the Town of Surfside Beach, the South Carolina Department of Transportation and the Waccamaw Regional Council of Governments.

During the planning process the Executive Committee met on numerous occasions to give input and guidance to the consultants. There were two rounds of public input at which community members were asked for their opinions and comments on proposed routes and design standards. Public meetings were held at a number of different locations throughout the planning area.

The East Coast Greenway Master Plan for Horry and Georgetown Counties includes proposed routes, design guidelines, signage recommendations, and an interpretative package. The proposed routes are recommendations based on a ratings system developed by HadenStanziale, P.A. Each jurisdiction can make necessary alterations to fit local conditions; however, it is important that the individual segments connect between jurisdictions at agreed upon locations in order to maintain the integrity of the system.

Completed and Proposed Projects

Portions of the Greenway have been constructed in Georgetown County, Myrtle Beach and North Myrtle Beach. Georgetown County has constructed approximately 10 miles of Greenway trails. The City of Myrtle Beach has completed a section of the Greenway along the Robert Grissom Parkway in conjunction with work done by the SCDOT and a section along Harrelson Boulevard. North Myrtle Beach has completed a trail segment through the Barefoot Landing Resort.

The City of Myrtle Beach has proposed a new segment of the Greenway that will connect the city to the county via the Robert Grissom Parkway Bridge over the

Intracoastal Waterway, funding for that segment has been identified and engineering is underway. Horry County is working with the City of Myrtle Beach to identify possible routes to extend the Greenway into the Lewis Ocean Bay Heritage Preserve. Additional funding has been identified for Fiscal Year 2009 connecting the completed segment in Georgetown County with the Garden City and Surfside Beach areas of Horry County. Further plans are currently being developed for additional segments in North Myrtle Beach as well as Georgetown County.

Funding

SCDOT supports the East Coast Greenway and is committed to include bike and pedestrian facilities on its projects whenever possible. Funding is available for local Greenway projects through the Grand Strand Area Transportation Area Study (GSATS) Transportation Improvement Program (TIP) under Enhancement Projects. Enhancement funds must be spent on transportation related projects such as sidewalks, bike paths, and landscaping. Funding for these projects is administered by SCDOT. A decision was made in 2003 by the GSATS Study Team, and approved by the Policy Committee, to commit 80 percent of the approximately \$300,000 in Enhancement Funds available each year for Grand Strand projects to the Greenway.

The funds can be applied for by any member governments and require a 20 percent local match. The GSATS Study Team has developed a list of criteria for judging projects. Once the Study Team chooses a project for funding, the GSATS Policy Committee must vote to approve the project; it is then included in the TIP. The SCDOT Commissioner that represents the affected Congressional District must ultimately approve each project listed in the TIP.

Unincorporated Horry County Sections of the Greenway

The East Coast Greenway Master Plan identifies 92 miles of trails in Horry and Georgetown Counties. In the unincorporated parts of Horry County there are approximately 48 miles of trails proposed. Following is a breakdown of trail segments by Council district:

District 1	12.6 miles
District 2	12.9 miles
District 3	4.6 miles
District 4	5.8 miles
District 5	6.5 miles
District 9	5.3 miles
Total	47.7 miles

Appendix K: Low-Impact-Development Principles

<p>1. Conserve and restore vegetation and soils.</p>	<ul style="list-style-type: none"> • Retain stretches of native forest cover on undeveloped sites. Restore vegetation on land previously cleared. Vegetation captures, infiltrates and evaporates precipitation. • Preserve well-draining native soil. Use compost to restore the health of soil disturbed by construction. Healthy soils store and infiltrate stormwater and produce healthy plants that require less watering. • Use the existing topographic features of a site to slow, store and infiltrate stormwater. • Protect and incorporate natural drainage features and patterns into site design.
<p>2. Design site to minimize impervious surfaces.</p>	<p>Site designers, planners, engineers, landscape architects and architects work together to assess and design the site to:</p> <ul style="list-style-type: none"> • Minimize impervious surfaces such as rooftops, road and parking lots. Eliminate as much impervious surface as possible that conveys stormwater directly to streams or other surface waters. Vegetated roofs can replace asphalt rooftops. Pervious pavement can replace impervious pavement. • Locate homes, other buildings, roads and parking away from critical areas and soils that infiltrate well.
<p>3. Manage stormwater close to where the rain falls.</p>	<ul style="list-style-type: none"> • Use small-scale, integrated management practices such as bioretention, permeable pavement and vegetated roofs—rather than one large pond. • Create a landscape that slows storm flows and increases the amount of time storm flows stay on the site. LID tries to mimic the slow movement of water typical in a forested landscape. • Increase reliability of the stormwater management system by providing multiple, redundant facilities. This reduces the likelihood of system failure. • Integrate stormwater facilities into a site design to create a landscape that's attractive and also protects the environment. For example, a bioretention area can be a lush garden that beautifies the neighborhood AND manages stormwater. • Reduce reliance on and use of traditional storm sewers, pipes and ponds.
<p>4. Provide maintenance and education.</p>	<ul style="list-style-type: none"> • Develop reliable and long-term maintenance programs with clear and enforceable guidelines. • Educate homeowners, building owners and landscapers on the proper maintenance requirements for LID facilities. • Involve neighborhoods in caring for their systems and in protecting their streams, wetlands and bays.

Source: Puget Sound Action Team

Measures & Benefits of Low-Impact-Development:

- Use more pervious (permeable) surface materials, e.g. for paths, sidewalks, patios, driveways, parking lots >>> encourages stormwater infiltration into soil; minimizes surface runoff and water quality impediments;
- Installation of rain barrels or cisterns for storage >>> money-saving water conservation measure;
- (Re-)Creation of rain gardens/bioretention swales, vegetated buffers, wetlands with usage of native plant species >>> helps detain/retain stormwater where it falls; alleviates communal stormwater management system from “first flush”; absorbs non-source pollutants;

(Source: Clemson University; College of Charleston; NOAA; University of South Carolina; et al.: Community Associations and Stormwater Management: A Coastal South Carolina Perspective)

Definition of “Low-Impact-Development” (LID): *“LID may be incorporated into site design with site level planning, design, and control techniques that are focused toward restoring and optimizing the land’s ability to absorb water, capture pollutants and process pollutants in the landscape. (...) LID is not a land use control approach that reduces development potential – it is a stormwater technology that may be integrated into development to reduce environmental impacts”.* (Brunswick County (NC): Low Impact Development Guidance Manual)

“The ultimate goal of LID is to maintain and restore a watershed’s hydrologic regime by changing conventional site design to create an environmentally and hydrologically functional landscape that mimics natural hydrologic functions.”

Benefits of LID:

- Improves aesthetics through conservation of natural resources;
- Is cost-effective, as it minimizes requirements to install conventional infrastructure features (stormwater, roads, etc.), as well as encourages selective grading and clearing of site;
- Is long-term sustainable (in cost & energy savings, etc.);
- LID – communities are more drought-resistant as they conserve and recycle rain water (rain barrels, etc.);
- Increases open space ratio to the benefit of wildlife and residents;
- LID reduces heat-island effect as it promotes higher ratio of green spaces, and disconnect of impervious surfaces;

Appendix L: Benefits of Cluster or Conservation Developments

Economic Advantages of Conservation Development practices:

- *Same development potential with better open space quality and connectivity:* In addition to working within the existing legal densities allowed under current zoning, this technique allows the land protected in new conservation subdivisions to remain under private ownership and control – preferably in an undivided manner and according to certain management standards – typically by a homeowners’ association or a local land trust (*id.*).
- *Conserving the area’s quality of life as one of its chief economic assets:* The Grand Strand that economically relies mostly on outside dollars from retirees and tourists ultimately depends upon its natural beauty of its rural areas, woodlands, rivers, and of course the ocean and its beaches for its continued prosperity, because few people choose to retire or vacation in communities that look as commonplace as the anonymous suburbs where they have spent most of their working lives.
- *Reduction of infrastructure engineering and construction costs:* The cost for installing utility lines, streets, and stormwater features is lessened by the more compact, and village-like layout of conservation developments. Further, open space design can reduce the number of costly wetland crossings as well as extra costs associated with meeting increasingly stringent environmental regulations that developers must address, as for instance erosion, sedimentation, habitat and species protection, and watershed protection. All of these costs and concerns are substantially lessened by conservation developments that leave 50 to 75 percent of a development site relatively unchanged or intact as natural areas.
- *Higher profitability through an environmentally oriented marketing and sales strategy:* More and more developers and realtors are realizing the increased profitability of developments that highlight the benefits of living in a community where upland forest habitat and/or productive farmland have been preserved, along with riparian or wetland buffers and wildlife meadows.
- *Value appreciation:* Another important economic advantage of conservation developments is the fact that homes in conservation subdivisions tend to appreciate faster than their counterparts in conventional developments. There exist over a dozen of documented examples of the positive influence of open space upon residential property values, amongst others by the National Park Service in its publication “*Economic Impacts of Protecting Rivers, Trails, and Greenway Corridors*”.
- *Reduced demand for new public parkland:* Last but not least, especially from a local government perspective is the reduced demand for having to invest in public open space, parkland, and recreation as the natural areas that are preserved and the recreational amenities that are provided in conservation developments help reduce

the need for public spending. Conservation developments make it easier for municipalities and counties to implement community-wide greenway network plans, which may depend on developers to provide critical links along particular stream valleys. Developers can generally be persuaded to dedicate a portion of their subdivision open space to the local government for active and passive recreation. This may take the form of a “green ribbon” of public trails through the otherwise private homeowner association open space.

Environmental and ecological advantages:

- *Conservation of important primary and secondary wildlife habitat:* Conservation development design incorporates the protection of upland buffers alongside wetlands, waterbodies and watercourses – areas that would ordinarily be cleared, graded, and covered with houselots. Important terrestrial habitat in these “Secondary Conservation Areas” is thereby preserved for wildlife to dwell in and travel through.
- *More efficient stormwater management, groundwater recharge and water quality maintenance:* Conservation developments shed less stormwater than conventional developments and also provide larger areas of natural vegetation that act as buffers to help filter stormwater flowing into lakes, ponds, rivers, and streams. This traps pollutants and excessive nutrients dissolved or suspended in storm runoff. Leaf litter and groundcover can also slow stormwater velocity, thereby reducing soil erosion and stream sedimentation. Reducing runoff velocity allows stormwater to be more readily absorbed into the soil and taken up by the vegetation. Buffers also offer important infiltration and recharge benefits because they help maintain adequate flows of filtered water to underground aquifers (upon which local wells depend).

Social and recreational advantages:

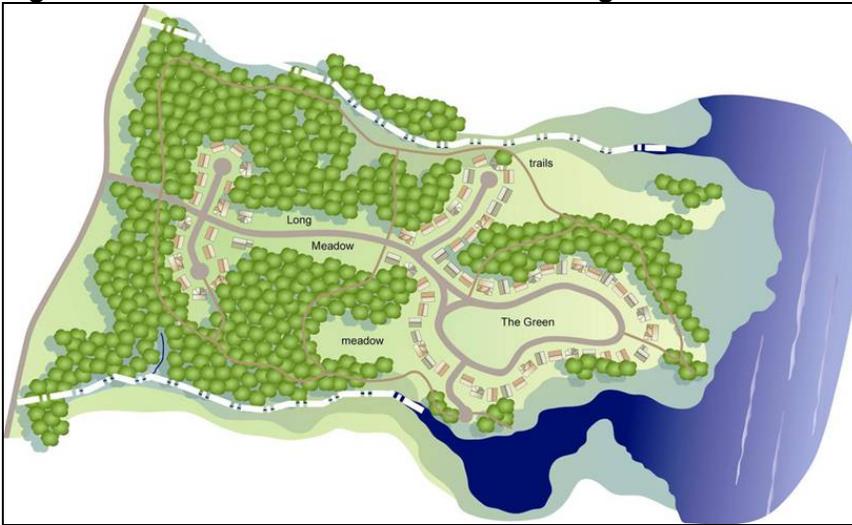
- *Improved social interaction and community-building:* Features such as formal greens and commons typically included in conservation developments present opportunities for neighbors to meet casually and to get to know each other a little better. In conventional developments most people spend nearly all their time indoors or in their private backyard (where there is little possibility for neighborly interaction).
- *Better recreational opportunities and quality of life:* Community activities occur in a surprising number of conservation subdivisions, from annual picnics to summer sports events and races, garden tours, etc. This is not to suggest that such development forms always produce a great deal of social activity, but they do seem to foster more neighborly interaction and a stronger sense of community pride than often exists in conventional developments, especially when the site designers have provided attractive footpath systems connecting their homes with interesting places to visit.

Figure L-1: Site A - With Conventional Development



Source: Savard, Daniel: *Conservation Design: The quest for sustainable communities*;
URL: <http://www.elements.nb.ca/theme/CertPlan/Daniel/daniel.htm>

Figure L-2: Site A - With Conservation Design



Source: Savard, Daniel: *Conservation Design: The quest for sustainable communities*;
URL: <http://www.elements.nb.ca/theme/CertPlan/Daniel/daniel.htm>

Appendix M: Main features of a Transfer of Development Rights Program

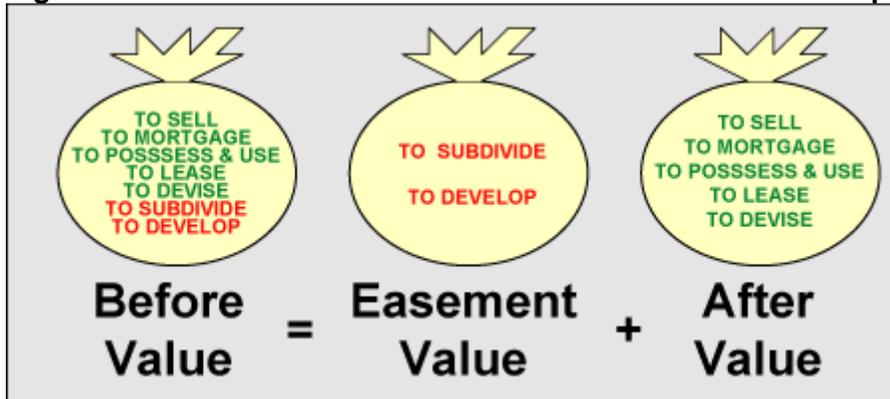
How does a TDR program work?

First, it is important to understand the mechanics of land value. Every property has a certain "bundle of rights", which enable the owner to use, sell, mortgage, lease, devise, subdivide and develop according to local land use regulations. Some properties may

have certain other rights such as air and mineral. A landowner can decide to sever some rights from the property by putting an easement on the property that restricts that "right" for some set period of time--normally into perpetuity. In most cases, the landowner retains ownership of the property because the property retains all of its other inherent rights--that is to use, mortgage, lease, devise and sell.

When a transfer of development rights occurs, the landowner is severing the right to develop the land any further. The landowner is paid for those rights that have been severed, yet retain the residual value of the land. If one adds the amount, the landowner was paid to sever the "development rights" (easement value) to the amount that would be paid on the open market for the land with only the "residual rights" (after value); the value would equal what the land was worth on the open market prior to the severing of the development rights (before value). The landowner, thus, is not losing any net value in the land by selling the development rights.

Figure M-1: Assessment of inherent land values within a TDR program



Source: New Jersey Department of Community Affairs (DCA);
 URL: <http://www.nj.gov/dca/osg/resources/tdr/index.shtml>

Transferring Development Rights

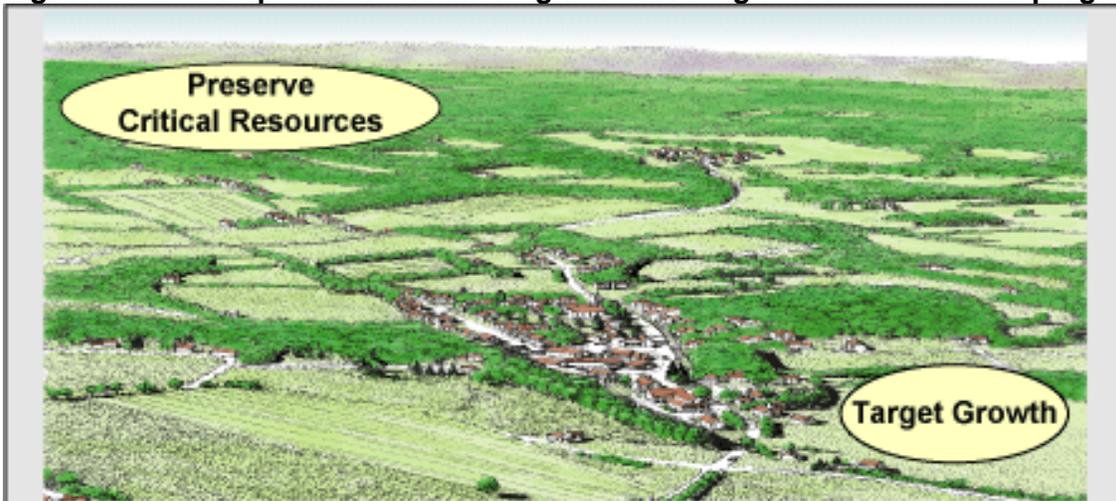
Development rights are equal to the amount of development that is legally allowed to occur on a particular piece of property. For example, a six-acre property with 1-acre zoning (1du/acre) could potentially yield six residences. If the property had a resource that has been deemed suitable for preservation, it could transfer (sell) its 6 development rights (credits) to a property more suitable for development.

At a small scale, TDR seems much like clustering. Planning for and implementing TDR, however, is much more comprehensive than the typical cluster ordinance. Rather than merely allowing a cluster option that still leads to at least the partial consumption of the critical resource, a TDR program sets preservation goals and targets growth on a town-wide (or even regional) basis.

The transfer of development rights is only allowed where a municipality has implemented a TDR program. The participating municipality (or municipalities in a regional program) designates sending and receiving areas based on their preservation and growth goals, respectively. Planning and implementation documents are created by the municipality that governs where and how development rights can be transferred.

Therefore, the main goal of a TDR program is to contain sprawling development patterns that destroy sensitive natural areas, hence, reducing the amount of possible benefits by these areas to the overall community today and for future generations. The TDR program is not designed to eliminate growth altogether, but rather concentrates on growth areas, where adequate infrastructure already is in place.

Figure M-2: Exemplification of sending and receiving areas within a TDR program



Source: New Jersey Department of Community Affairs (DCA);
URL: <http://www.nj.gov/dca/osg/resources/tdr/index.shtml>

Appendix N: Vision, Goals, Actions and Strategies of the Parks and Open Space Plan

Following Vision, Goals, as well as Actions & Strategies have been created in collaboration and approved through majority vote by the members of the Horry County Parks and Open Space Board.

Vision

“Promote and encourage land use practices that help keep Horry County a naturally beautiful place to live, work and play.”

Goals

The Horry County Parks and Open Space Board, as an advisory board to County Council, recommends the pursuit of following goals that shall help set the overall tone and direction for public and private actions relating to parks and open spaces in Horry County:

WATER/WETLANDS:

1. To manage the water table by encouraging the development of protective measures in flood prone areas and floodways that help maintain performance of their essential natural functions;
2. To promote the conservation of wetlands and riparian areas that help reduce the effects of floods to lives and properties in severe storm events, recharge the groundwater table, filter pollutants, as well as protect the water supply and provide for recreation;

CONSERVATION:

1. To promote the installation of conservation easements in naturally sensitive areas that provide for essential natural functions and benefits as a way to conserve the natural landscape;
2. To encourage the conservation and enhancement of naturally grown forestlands in Horry County;

GREEN INFRASTRUCTURE:

1. To promote the concept of Green Infrastructure by supporting and encouraging land use practices based on that concept as opposed to the fragmentation of the natural landscape;
2. To encourage conservation measures that preserve the County's biodiversity through the protection of significant wildlife habitats, and the promotion of wildlife movement corridors;

RECREATION:

1. To promote the health and fitness of Horry County's citizens by endorsing the countywide Parks and Open Space Plan as guidance for the establishment of permanently protected, interconnected, usable green space;
2. To advocate the development of parks, trails, and other outdoor recreational facilities that meet the recreational needs of all population groups in an environmentally sensitive manner;

PARTNERSHIP:

1. To advocate conservation of sensitive natural resource areas and quality open space by encouraging communication, cooperation and partnerships within and between Horry County government, municipalities, property owners and other stakeholders;

Actions & Strategies

The Horry County Parks and Open Space Board, as an advisory board to County Council, recommends the pursuit of following actions & strategies as types of actions that can be undertaken to effectively implement the aforementioned goals of this Plan:

WATER/WETLANDS:

1. Use riparian and wetland buffers along flood-prone areas to control flooding and promote good water quality;
2. Identify and include all Repetitive Flood Claim properties that have been previously acquired by FEMA into the Natural Resource Priority Areas Map of Horry County for future parks and open space as well as hazard mitigation planning efforts;
3. Encourage and/or require Cluster Development practices in new communities within flood prone and/or in naturally sensitive areas;

CONSERVATION:

1. Ensure that land acquisition and conservation strategies within the County are meeting the needs of species native to the landscape, using the Wildlife Conservation Plan of SCDNR and USFWS as a guide;
2. Identify and preserve wildlife habitat areas in Horry County;
3. Create and preserve greenway corridors for wildlife movement;
4. Make use of the existing network of perennial and intermittent streams to create wildlife movement corridors;
5. Incorporate naturally outstanding examples of undisturbed or mostly undisturbed forested areas that represent a mix of indigenous trees into the parks and open system;
6. Include as much undisturbed forestland as possible into the proposed "Green Infrastructure" network of the County;
7. Encourage forest landowners to participate in the SCFC Forest Stewardship Program and the Forest Land Enhancement Program;
8. Develop zoning tools to address specific features along scenic roads;
9. Identify areas that provide important wildlife habitat, migration corridors or have significant historical, scenic or recreational value;
10. Collaborate with other government agencies and private landowners to preserve both natural and historic landscapes through easements, donation, acquisition and other tools;
11. Identify and purchase or otherwise acquire strategically important open space properties ahead of development pressure;

GREEN INFRASTRUCTURE:

1. Create linkages between existing, preserved large tracts of land within the County;
2. Design a parks and open space system which would link the diverse green space elements into a system that functions as a whole, rather than as separate, unrelated parts;
3. Plan for and encourage public access to appropriate areas of the parks and open space system in order to achieve positive economic, educational, and recreational benefits from the natural beauty of the County;

RECREATION:

1. Review and update the needs assessment study;
2. Plan walking and bike trails in a way that minimizes the impact on environmentally sensitive areas;
3. Work with Planning & Zoning to ensure adequate parks and recreation facilities are provided and interconnected;

PARTNERSHIP:

1. Provide incentives for developers to preserve natural vegetation at residential development sites;
2. Encourage property owners to participate in the Wildlife Habitat Incentives Program of the Natural Resources Conservation Service;
3. Provide technical support for property owners to implement wildlife conservation programs and assist landowners in obtaining grants and other financial benefits;
4. Work with developers and the Horry County Planning Commission and other County Boards to ensure the incorporation of open space and conservation measures in new development;
5. Collaborate with Horry County Emergency Management to coordinate Flood Mitigation efforts;

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