



Works in Progress

Spring/Summer 2004 Issue



"Conserving Our Natural Heritage... Investing in Our Children's Future"

Sustainable Coast Celebrates 7th Anniversary!

Friends of the Center - June 2004 marks the end of our seventh year of successful operation.

We hope you'll take a few moments to join us in reflecting on our accomplishments.

~ Center Board & Staff

1. We've Shown Up

As Woody Allen famously said, much of success comes from just showing up. That may sound trivial, but in our case this has meant a lot of hard work participating in innumerable public meetings, hearings, workshops, and conferences on

- Water withdrawal from coastal Georgia's rivers and aquifers
- Harbor & channel deepening in Savannah & Brunswick
- Georgia's Coastal Management Program
- Plant Hatch and Savannah River Site federal permitting
- Water quality and wastewater discharge
- Greenspace & the Coastal Georgia Greenway
- Major land development projects

coastal Georgia environmental issues, year in and year out. The Center has defended the public interest by forcefully commenting on nearly every major resource issue in this region over the past 7 years, including:

- Surface mining actions
- Marsh & freshwater wetlands permits
- Air emission permits & air quality
- Animal feeding operations
- Marsh hammock development
- New power plant proposals
- Gray's Reef management plan

2. We've Taken Action

In a few cases we have found it necessary to take legal action challenging a permitting decision that failed to comply with state or federal regulations. One of these, thanks to the dedicated work of our legal representatives with the **Southern Environmental Law Center** (www.selcga.org), has produced a landmark decision that will permanently improve protection of a multitude of public resources under Georgia's Coastal Marshlands Protection Act. In *Center for a Sustainable Coast*

et al v. Coastal Marshlands Protection Committee, the *Emerald Pointe* decision now requires that the Committee include analysis of upland development associated with marsh permits as that development itself would impact the marsh. This means that decisions will be based on far more complete evaluation of proposed projects, improving responsible protection of tidal marshes that are so vital to water quality, the coastal economy, and habitat for fish and wildlife.

3. We've Raised Awareness

In addition to "showing up," to succeed we must explain to the public why critical issues related to coastal development and environmental quality are truly important. This education empowers citizens to communicate their opinions in public forums, promoting much-needed dialogue. Awareness about environmental quality is undoubtedly growing, and we are convinced that the Center's efforts have helped bring that about. Through our newsletters and website we have educated thousands of citizens, students, business owners, and public officials about alternatives for making development objectives more compatible with sustaining natural resources.

In Center messages we have consistently emphasized the strong connection between the coastal environment and our region's economic interests. **Nature-based business here is worth more than a BILLION DOLLARS a year**, as we have said so many times. (We now have the satisfaction of hearing other credible sources confirming our estimate.) This compelling fact alone has convinced many people throughout the state, whether or not they are "environmentalists," that it is simply common sense to be more responsible about the use and protection of natural resources. (*Inside, we make this case even more persuasive: see "What's the Environment Worth" p. 3.*)

4. We've Networked

To maximize our effectiveness, the Center has worked cooperatively with a number of area, statewide, and national organizations, boosting the benefits of our combined efforts on a host of critical issues. The most effective of these

collaborations has been as a member of the **Georgia Water Coalition**, now representing nearly a hundred organizations and 160,000 Georgians, and successfully defending water as a public resource in various challenges over the past 2 years.

With your support, we will continue representing the long-term interests of coastal Georgians. Please make a special tax-deductible 7th Anniversary donation in the spirit of celebration!

For your convenience, a return envelope is provided inside. →

Four years may be too long to wait for a statewide water plan

Published in the Athens Banner-Herald, April 15, 2004.

After more than three years of talking, the state legislature finally passed a bill setting in motion the creation of a statewide water management plan. Given Georgia's booming population growth, a comprehensive set of policies is critical to protecting the quality and quantity of the state's water supply.

The only problem: The deadline for finalizing this plan is four years away, and the state needs it now. For that matter, we needed it three years ago.

The bill, which was approved overwhelmingly in the final days of this year's legislative session, directs the state Environmental Protection Division to put together a draft water plan. A council of state officials with jurisdiction over water policy will review the EPD's proposal and make any necessary changes. Once the plan is finalized, the council will present it to the General Assembly no later than the start of the 2008 legislative session.

Legislators then have two options: ratify the council's plan or create their own version. If the General Assembly opts for its own plan, the legislative alternative must be approved by the end of the 2008 session or the council's version will take effect.

Spring 2008 is the earliest we are likely to see a coordinated statewide approach to managing our water resources, such as how much water can be taken out of our rivers and aquifers, where it can be directed and how much must be returned.

That means four more years of residential, commercial and industrial growth as Georgia's metropolitan areas continue to expand rapidly in size and geography. In that time, hundreds of miles of water and sewer lines will be built to service new subdivisions, schools, and shopping centers. With this new growth comes additional demand on our water supply.

We applaud the legislature's decision to do more than talk about the need for a statewide water plan. However, we can't help but wonder if the four-year time frame is generous to a fault.

What happens if Georgia experiences another devastating drought like the three-year dry spell we suffered through recently? Or, what if Georgia winds up on the losing end of the ongoing legal battle with Alabama and Florida over how much water Atlanta can take out of river basins that the three states share?

Given our increasing demand as well as the natural and man-made factors which threaten our water supply, Georgia must have a strategy in place soon for managing this precious resource in good times and bad.

While we don't advocate rushing into serious and sometimes sweeping water policies, surely the State can craft a thoughtful, well-researched plan in half the amount of time allowed. After all, the planners will have the benefit of several years of research and meetings conducted by a legislative study committee created in 2001.

Though there doesn't appear to be anything preventing a statewide water plan from being enacted earlier, it seems unrealistic to believe the EPD, water council and, specifically, the legislature will expedite their work. As we witness every year in the legislative session, State lawmakers seem to relish waiting until the 11th hour to get anything done. We predict the plan won't be approved until the final minutes of the 2008 session.

In the meantime, conflicts will continue to arise as rapidly growing communities tap out local water supplies and look to other areas of the state for new sources to quench their thirst.

A Coastal View on State Water Policy

From a coastal perspective, statewide water planning is especially important because we are at the mercy of the millions of water users (and thousands of polluters!) living upstream. As Georgia's growth continues, these problems will surely multiply, making planning imperative.

Rules governing the use, quality and replenishment of water in the five river systems and major aquifer that flow into our coastal estuaries are vital to the productivity and health of coastal fisheries as well as our human communities. Until now, upstate decisions about water use have given only token attention to the needs of coastal ecosystems and citizens. Meanwhile, risks to public interests continue to mount with a rapidly expanding population.

A recent legislative effort in the General Assembly to allow piping of small streams shows a dangerous lack of understanding about aquatic systems. Small streams perform natural functions that are utterly essential to both freshwater and marine fisheries as well as our coastal economy. Attempts to 'engineer' these systems to gain marginal increases in profit from land development are severely misguided.

We strongly urge Georgia's legislators and environmental regulators, the Board of Natural Resources, and the Coastal Advisory Council to give serious attention to these matters in further deliberations on state water policy.

~ Center for a Sustainable Coast

Coastal Development Rampant, Challenges Formidable

Growth Raging

By any measure, the rate and scale of land development in our region is escalating, and with it, risks to the coastal environment are compounding. According to local building permit records, more than 10,000 homes were built from 1999 – 2001 within the 11 counties under Georgia's Coastal Management Program. (This data covers six coastal counties, plus the five adjacent inland counties, not including Long County, for which data was unavailable).

In the past six months alone, projects proposed for permit review in Camden County include a combined total accommodation for more than 2,000 boats (docks, marinas, and dry storage). Because of the attractive profits to be made from subdividing land into buildable lots with water access, getting dock permits has become big business, and docks are wildly proliferating. In eight years from 1995 through 2002, 1,688 permits for docks and marinas were issued by the Coastal Resources Division of DNR – more than 200 a year on average.

While large areas of land remain undeveloped in coastal Georgia (in part due to vast areas under state and federal management), much new development is occurring in areas that impose higher risk on surrounding natural resources, including many sites that are poorly drained. Some projects are occurring on sites with isolated wetlands that provide functions important to protecting existing developed areas. We estimate that nearly 1,000 acres of these wetlands have been lost in this region since federal authorities stopped protecting them three years ago.

Speculation Promotes Rapid Development, Thwarts Precaution

Marshfront and waterfront sites are the most valued in coastal Georgia. Most people who buy lots along the shorelines of navigable waterways build docks even if they do not intend to use them, just as a precautionary investment to gain maximum resale profit. Some undoubtedly fear that permits may become harder to get in the future, and that their financial interests are best served by getting a dock permit immediately.

Attempts to rein in permitting with improved review standards and enforcement have not been well received by developers, who collectively wield enormous political clout. Last year, when DNR attempted to enforce an existing requirement for waterfront lots to be occupied before dock permits were issued, developers and their legal representatives brought unprecedented political pressure to bear on state staff. Questions about limiting the length of boardwalks across public marshlands, raised because of concerns about destruction of tidal marsh caused by boardwalk shading, were met with equally harsh reactions.

As a result of the value of water access in the current real estate market, it is not unusual for boardwalks to be a quarter mile or longer in length, costing hundreds of thousands of dollars to build. A six-foot wide boardwalk of this length would destroy about one-fifth of an acre of marsh. This may not seem like much, but a hundred of these would eradicate 20 acres of marsh, not including damage done by the docks themselves – including accelerated shoreline erosion and increased turbidity

of water, with harm to fish and shellfish. Moreover, with time an expanding network of boardwalks crisscrossing the marsh could greatly detract from the market value of lots having a marsh vista. Although the importance of this “viewshed” impact is much disputed, such effects could reduce the appeal of marshfront property, pitting existing homeowners against developers.

Decision Criteria Ambiguous, Feedback Nil

One of many problems facing authorities having jurisdiction over such decisions is ambiguous language in the Coastal Marshlands Protection Act. The committee making permitting decisions under this important state legislation is supposed to determine if a proposed activity will have “unreasonably” adverse impacts on various resources of concern. The question is not only, “What is unreasonable and how should it be measured?” but also how well adverse impacts can be predicted and controlled. Permits are often issued without any measurable standard set for determining what is, in fact, “unreasonable” or requirements for identifying adverse outcomes if they should occur. And requirements of local building permits are not being properly coordinated with state agency permits, complicating enforcement of regulations.

This suggests a second fundamental issue of mounting importance: How well are the impacts of permitted activities checked after a permit is issued? Given grossly underfunded state budgets to pay for monitoring and assessment, it is highly doubtful that DNR enforcement staff is able to keep pace with the massive number of permits being applied for. Much of the monitoring that is being done by DNR is not project-specific, and important as this sampling is, in most cases, problems of environmental quality that it identifies are not traceable to specific causes that can be fixed. Accountability is essential, and reliable information is key to realizing that accountability.

Fees Could Help Solve Critical Problems

A reasonable solution to the problem of meeting escalating costs of monitoring, assessment, and enforcement is adoption of permitting fees – proceeds from which would be used to help cover such expenses. Given hostile reactions to other recent attempts to control the impacts of growth on behalf of public interest, it seems likely that this rational approach would be fought politically. Yet, developers' complaints about costly delays caused by permit review could in part be resolved with adoption of properly administered permitting fees. Having more environmental experts working on permit review and enforcement would seem to benefit everyone – especially if the information produced were treated objectively, untainted by political motives. And, the more objective information made public, the fewer holdups caused by an understaffed permit review process.

If Georgia is to keep pace with development while sustaining the productivity and health of coastal resources, more DNR staff is needed. Somehow we must find a way to pay for proportional increases in staffing to perform permit review, enforcement, and monitoring. Adoption of reasonable permitting fees is a fair and appropriate means for sharing the escalating costs of protecting our environment.

What's the Environment Worth? Priceless!

David Kyler, Center for a Sustainable Coast

Environmental functions often go unnoticed, being taken for granted until they are damaged or even eradicated, whether by human activities or natural events. Services like water storage and waste assimilation, flood protection, and fish production serve basic human needs, but misguided efforts to meet other human demands may inadvertently damage the ecosystems that provide them. If we were able to include reliable information about the value of ecosystem functions in decisions that affect them, and then accurately estimate and monitor the prospective damage caused by proposed activities, surely we could make better decisions in using and conserving our environment.

For years, some of us have heard that tidal marshes are among the world's most productive ecosystems – producing more food and fiber than even the most efficient agricultural land. In a seminal paper written exactly 30 years ago*, Georgia's own "father of ecology," Dr. Eugene Odum, and his co-authors estimated that the annual value of food, fiber, and waste assimilation functions provided by tidal marshes was many times the amount of the land's appraised worth.

This hidden value relative to appraisals appears to have changed very little over the last three decades. In figures updated to reflect inflation over the past 30 years, the annual return per acre of tidal marsh is about \$14,000 and the "present value" per acre (all future annual values brought to the present), is well over \$280,000. Appraisers say it is worth under \$500.

When permits are considered for activities that are likely to reduce or destroy environmental functions, to be even-handed and judicious, we really should weigh the claimed benefits of such actions against the cost of reduced nature's capacity to produce essential goods and services. Decision-makers seldom consider these factors explicitly, but may touch on them indirectly with qualitative treatments that are prone to being highly subjective, and often speculative. Quantifying the value of the environment is needed, but must be done very carefully.

While the value of services and goods provided by nature may be often overlooked yet substantial, such assessments must not confuse nature's goods and services with the far greater value of the ecosystems that provide them. We must avoid the pitfalls of "compensatory mitigation" that would allow premeditated disruption of ecosystem functions for a price – because these functions are truly priceless and virtually impossible to recover once they are lost.

When human activities (with or without permits) are found to be causing decline or destruction of ecosystem functions, we must clearly understand that such resources are irreplaceable, and in many cases damage to them is irreversible. As growth continues, the aggregated impact of numerous environmental permits may significantly reduce the health and resilience of

natural systems. Yet, analysis of the combined consequences of many seemingly negligible actions is not included in any of the hundreds of permitting decisions that are made yearly.

Costs must be weighed against benefits and responsible trade-offs should be reached when possible. But current practices typically provide only very speculative means for making such decisions, and virtually never consider cumulative impacts or the value of ecosystem services, much less the irreplaceable qualities of nature. It is crucial that we find more reliable methods to predict, evaluate, and monitor long-term human effects on ecosystems, because they are ultimately priceless.

**The Value of the Tidal Marsh.* Eugene Odum et al.
Center for Wetland Resources, Louisiana State University.
[Publication No. LDU-SG-74-03]

Estimated Value of Natural Goods & Services Per Acre

In Current U.S. Dollars

TIDAL MARSH

Annual production & services \$ 14,000
Capitalized present value \$ 280,000

NATIVE FOREST

Annual production & services \$ 1,050
Capitalized present value \$ 21,000

FRESHWATER WETLANDS

Annual production & services..... \$4,500
Capitalized present value \$ 90,000

Sources & Notes:

Tidal Marsh –

The Value of the Tidal Marsh. Eugene Odum et al. Center for Wetland Resources, Louisiana State University (May 1974). [Publication No. LDU-SG-74-03] Includes the value of food, fiber, and waste assimilation functions provided by tidal marshes.

Native Forest & Freshwater Wetlands –

Andrew Balmford *et al* in *Science Magazine*, August 9, 2002.

Capitalized present value calculations provided by Center for a Sustainable Coast (2004), based on methods used in *The Value of the Tidal Marsh* (1974). "Capitalized present value" is the approximate current value for all future annual production and services, brought to the present using an assumed "discount rate" of 5%. Although this method undervalues future benefits of the resource being evaluated, it is commonly used in resource management due to conventional practices in business decisions related to land and real estate. In the above examples, the total present value is equivalent to only 20 times the annual value, implying that the value of these goods and services in the distant future is negligible in the present. In reality, natural services are likely to increase in relative value over time due to demand and scarcity. For that reason, the capitalized amounts shown above are likely to be significantly below the true value of nature's goods and services. Moreover, the value of the ecosystems providing these goods and services is beyond reckoning.

Center produces first "State of the Coast Report"

Thanks to the generous financial assistance of The Savannah Presbytery and thoughtful contributions from many of our individual supporters, the Center has been able to produce the first comprehensive assessment of coastal Georgia's environmental conditions and growth trends. The study focuses on eleven Georgia counties – six coastal and five adjacent inland counties.

Work on the report began last year as part of Center efforts to launch a continuing program of evaluation needed to:

- Determine the general course, scale, and quality of coastal Georgia's development,
- Identify and assess implications of these trends for the region's environment and economy, and
- Recommend policies and actions to improve the sustainability of natural resource systems while achieving environmentally responsible economic development.

The project was developed as another stage of the Center's long-term commitment to compile, analyze, and refine trend information as it becomes available. The Center plans to update, expand, and refine the report at least every two years.

The first State of the Coast report will be printed and released by September of this year. The report will also be posted on the Center's website and findings will be presented at a series of public meetings. A draft of the report's Executive Summary is currently posted on the Center's website.

In explaining the purpose of the report, former board president and Center advisor Jim Henry said, "The region has needed this kind of broad assessment for a long time, and the Center is fulfilling an important role by providing it. We are proud to be involved in work that is so critical to coastal Georgia's future. We are hopeful that many others will benefit from our efforts."

The Center believes this work is so valuable because information about coastal issues is complex and widely dispersed, resulting in precarious misconceptions about the relevance of these issues to Georgians.

According to David Kyler, the Center's executive director and principal author of the report, "The public and many decision-makers often lack perspective about development activities and their relationship with the natural world. This is due in part to the fragmentation of authorities granted to local and state government agencies under existing laws. Restrictions in the use of relevant information then lead to decisions with undesirable outcomes."

Another reason for such counterproductive views on these issues derives from misleading practices used to assign value to natural resources. For instance, a lot is typically appraised at much greater market value after being developed, even though environmental functions are lost. Yet, the same lot developed using conservation practices may provide

significantly more human benefits in the form of water filtration, flood control, and wildlife productivity, but with no difference in valuation reflecting the advantages of conservation. Because of conventional preoccupation with private real estate markets in land use decisions, the value of functions performed by nature are often overlooked, even though they may equal or exceed the worth of development.

The Center intends to use the report to educate coastal residents about such issues, and to advise public agencies and officials about improving decisions through better use of information. With the added understanding provided by the Center's work, citizens and decision-makers will gain insight about practical options available for redirecting the region's future.

"Until now, it has been assumed that most aspects of coastal growth were inevitable, beyond the control of our communities," says Center board president Chris Schubert. "Now for the first time, people will have an opportunity to consider preferable growth alternatives and how to achieve them, based on a more informed grasp of conditions, trends, and impacts."

In this second year of the project, the Center will be producing an analysis with at least three distinctly different sets of assumptions about environmental and development policies, leading to alternative scenarios depicting the region several decades into the future. Using these comparisons, the Center will demonstrate to the coastal public that choices are available that can make major differences in the quality of our communities and prospects for future generations.

Selected Findings From *State of the Coast Report*

- Coastal Georgia's population will double to more than a million people by 2030.
- Dock construction and boat use are rapidly escalating, raising serious concerns about water quality, shore erosion, and fish habitat.
- Unless major improvements are made in development practices, water quality will further decline, harming both private and public interests.
- With proper planning and natural resource conservation, economic goals can be met while also improving environmental health.
- State funding for environmental regulation, monitoring, and research is inadequate and declining relative to need.
- Environmental permits are often issued without sufficient means for predicting, tracking, or evaluating consequences.
- Coastal citizens are very concerned about growth trends and their implications.

Further information about the *State of the Coast Report* is available by contacting the Center.

Preliminary Report of the U.S. Commission on Ocean Policy



Background

Released by the U.S. Commission on Ocean Policy on April 20, 2004, this document presents the Commission's preliminary findings and recommendations for a new, coordinated, and comprehensive national ocean policy. Mandated by the Oceans Act of 2000, [the Preliminary Report is now available for review and comment by the nation's Governors and interested stakeholders.](#)

While a limited number of hard copies were produced and distributed throughout the ocean policy community, the Commission is unable to fulfill additional requests for printed copies of the report.

The *Preliminary Report* can be viewed or downloaded as a full report or by sections, including, quick overview, individual parts, individual chapters and appendices.

Go to www.oceancommission.gov.

Selected Highlights

(from the *Executive Summary* of the *Preliminary Report*)

- ▶ **Enable [resource] managers to address the pressures of coastal development ... to achieve both economic growth and healthy coasts and watersheds.**
- ▶ **Reduce water pollution, particularly from non-point sources ... to improve ocean and coastal water quality and ecosystem health.**
- ▶ **Strengthen the link between coastal and watershed management.**
- ▶ **Refine the existing fishery management system ... to strengthen the use of science and move toward a more ecosystem-based approach.**

Note the strong parallels of these highlights with BOTH the Center's objectives (below) AND the findings and recommendations published in our State of the Coast Report. A major theme in all these sources is the connection between land-based activities within watersheds and the downstream effects on water quality and habitat, including freshwater, estuary, and marine areas. Vital economic benefits provided by natural systems are also stressed.

Such concerns are reinforced by recent studies of the U.S. Fish & Wildlife Service, University of Georgia, National Marine Fishery Service, EPA and others.

(Also see "A Coastal View on State Water Policy, p.2)



CENTER FOR A SUSTAINABLE COAST **Objectives**

1. Improve conservation and responsible use of natural resources, through –
 - (A) enhancing the reliability and accountability of information used in decisions affecting coastal resources, and
 - (B) tracking and evaluating coastal growth and sustainable options for supporting human needs.
2. Promote adoption of new policies to enhance coordination of resource protection, permitting decisions, and sustainable economic development.

3. Raise public awareness about coastal resource issues and their relevance to the health, quality of life, and economic interests of Georgians.

4. Cultivate public support for environmental monitoring, assessment, and research.

- ▶ Go to: www.sustainablecoast.org for more about the Center's work.

"Satilla Riverkeeper" Organization Designated by National Group

Thanks to the help of Center for a Sustainable Coast, Sierra Club, Save Our Satilla, and Altamaha Riverkeeper, Satilla Riverwatch Alliance (SRA) is delighted to announce the formation of a new Riverkeeper program in Georgia. The national organization, Waterkeeper Alliance, which originated the "riverkeeper" name more than a decade ago, recently notified SRA that the Waterkeeper Alliance board has approved the designation of the Satilla group as a Riverkeeper organization.

Four years ago, four river-lovers from Ware, Brantley and Coffee counties began working toward getting a Riverkeeper designation for the Satilla by forming Save Our Satilla (SOS), a local grassroots group. Concerned citizens throughout the watershed have been giving their time, talent, money and hard work to protect, preserve and restore the river, culminating in the recent honor. "Now the really tough work begins," said SRA board president Frank Quinby.

A St. Simons Island resident and active with the local Sierra Club, Quinby and several others helped a local group called Save Our Satilla get SRA incorporated last year and worked with the SRA board to file for Riverkeeper designation this year. "Through our Riverkeeper program for the Satilla, SRA will be actively monitoring water quality, identifying problems, and seeking solutions, including legal actions against polluters if necessary," he continued. He said the group is planning to hire a qualified individual to work for SRA as its Riverkeeper.

To date, over 150 citizens have joined all-volunteer Save Our Satilla, and many of them are now supporting SRA. State legislators and county government officials have also heard SOS and SRA members voice concern about threats to water quality and the need for better regulatory enforcement.

Newspapers including the Atlanta Journal Constitution have helped the public become aware of the plight of this beautiful blackwater river in the face of growing threats. The University of Georgia's Institute of Ecology has initiated a series special studies of the Satilla in an effort to provide needed scientific information about the river's resources, health, and problems.

"We are genuinely proud to receive the honor of this designation, and SRA will be working hard to deserve the respected reputation of the Riverkeeper name," said David Kyler, SRA board vice-president and director of Center for a Sustainable Coast.

The Center for a Sustainable Coast also played a key role in forming Altamaha Riverkeeper five years ago.

With its Riverkeeper designation, SRA plans to attract further support for a comprehensive program to study, nurture, and protect the Satilla. By providing a conscientious person serving as Satilla Riverkeeper to monitor the river, respond to complaints, educate the public and help SRA take appropriate corrective actions, the group will make major advancements in the river's protection.

To become a Riverkeeper, programs must meet rigorous guidelines from the Waterkeeper Alliance, a highly regarded national organization whose founders cleaned up the Hudson, one of the nation's most contaminated rivers. Other designated Riverkeeper groups must also sanction new Riverkeeper programs. SRA is the 120th organization to receive Riverkeeper designation by the national group, and the fourth such group in Georgia.

Keeping a river's ecosystem in balance is a challenging and complex responsibility. Federal, State, and local laws, when properly enforced, can do much to support river protection, but citizens must remain involved to ensure follow-through. The Federal Environmental Protection Agency and Georgia Environmental Protection Division are authorized to regulate water quality under the Clean Water Act, but limited staffing is available to safeguard thousands of miles of Georgia's waterways against hundreds of activities, legal and illegal.

"Without an active public and an effective Riverkeeper organization, no river can be adequately protected. As we grow in population, more and more demands are put on this river that was here long before human settlement," said SOS founder and SRA board member Gloria Taylor, who lives along the Satilla. She concluded, "It is becoming more and more troublesome trying to meet the ever increasing needs of farms, timbering operations, recreation, businesses and homes using a limited source of water that is so essential to our fish and wildlife."



Satilla Riverwatch Alliance
Satilla Riverkeeper

Coastal Georgia Index

facts✓
estimates✓
projections✓
issues✓

- Amount of water from the Altamaha River converted to steam, per day, by Plant Hatch, the nuclear power facility near Baxley: 33 million gallons.
- Industries in coastal Georgia use at least four times more water than all the region's commercial businesses and our 500,000 residents combined.
- A 10% improvement in coastal Georgia's industrial water use efficiency would save at least 16 million gallons a day, or 5.8 billion gallons a year - enough to support more than 100,000 residents.
- About half the water used for irrigation in Georgia is wasted through evaporation -- totaling over 500 million gallons a day -- which, if saved, would meet the water needs of more than 1 million families.
- Georgia communities are estimated to be squandering billions of gallons of water a year due to repairable leaks in public water supply systems.
- Half of Georgia's known contaminated fish are found in coastal waters, about seven times the state average in proportion to geographic area.
- The annual value of tidal marsh benefits is estimated at \$14,000 an acre, equivalent to a total value of about \$3.5 billion a year in coastal Georgia.
- The share of Georgia's state budget used for protecting natural resources decreased by more than 30% since 1991, while demands imposed on these resources increased some 20% during that same period.
- Agricultural water use in Georgia is 1.58 billion gallons a day, accounting for 57.4% of all water consumed in the state.
- The five river systems flowing to Georgia's coast drain nearly two thirds of the state's land area, making coastal ecosystems extremely vulnerable to both upstream pollution and rapidly expanding water supply demands.

Sources

Georgia Water Coalition
Georgia State University
Center for a Sustainable Coast
Southern Alliance for Clean Energy
Georgia Department of Natural Resources



Works in Progress

Spring/Summer 2004 Issue

*"Conserving Our Natural Heritage...
Investing in Our Children's Future"*

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RETURN SERVICE REQUESTED