

COASTAL SERVICES

VOLUME 8, ISSUE 1 • JANUARY/FEBRUARY 2005

LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

**AVOIDING
CULTURAL
COLLISIONS:
Working with
Washington's
Native Tribes**

**Measuring the
Money from
Recreational
Boating in
New York**

**A Coastal Twist
on Valentine's
Day in Alabama**



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NOAA/CSC/20501-PUB

Coastal Services is produced
bimonthly as a trade journal for
coastal resource managers. Editorial
content is unofficial and not authority
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From the Director

Partnerships with tribal nations are important to all the National Oceanic and Atmospheric Administration's (NOAA) coastal mandates, especially to coastal zone management and the National Marine Sanctuaries. The National Marine Sanctuaries Program considers Native Americans, Native Hawaiians, and Native Samoans among its most important partners in protecting natural resources.

While working with native cultures enriches sanctuary policies, research, and education programs, bridging cultural gaps is not always easy.

The cover story of this edition of *Coastal Services* examines the unique relationship of the Olympic Coast National Marine Sanctuary with the four coastal Indian tribes that have used much of the sanctuary as traditional fishing grounds for thousands of years.

Nearly 150 years ago, the tribes signed treaties with the state exchanging their claims to much of their ancestral land in return for reservations, support from the U.S. government, and the right to hunt and fish in "usual and accustomed places."

These treaties have shaped the relationship between the tribes and sanctuary, with the results being co-management of natural and cultural resources and the perpetuation of ancient cultural traditions.

In the 10 years since the Olympic Coast National Marine Sanctuary was designated, its staff has learned many lessons that may help other coastal resource managers avoid cultural collisions.

Also in this edition, you will read how New York Sea Grant has filled a coastal management information gap by getting the hard numbers on how and where recreational boaters in that state spend their money, as well as an article on how coastal managers in Illinois are using meteorological equipment to dramatically increase the speed and accuracy of beach closure decisions.

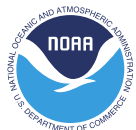
Other articles look at the success and challenges coastal managers in Guam have had in planning for the extensive recreational use of its resources, and a novel approach to Valentine's Day in Alabama, where giving a tree has replaced the traditional flowers and chocolate.

As always, we hope it is helpful to learn about some of the challenges and successes of your colleagues around the country. We hope you find the articles in this edition of *Coastal Services* interesting and useful.



Margaret A. Davidson

The mission of the NOAA Coastal Services Center is to support the environmental, social, and economic well being of the coast by linking people, information, and technology.



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News and Notes

Products for Coastal Resource Managers

New Web Site Profiles Social Science Tools and Methods for MPA Management

Recent studies have found that social aspects are equally as important as biological or physical factors in determining the success of marine protected areas (MPAs).

To help coastal managers understand and address the human dimensions of MPA management, the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center, in cooperation with the National Marine Protected Areas Center, launched a new Web site exploring the social science aspects of marine and coastal resource management.

The site includes practical information on social science concepts and methods, case studies, references, and more to guide managers in determining appropriate tools to address their specific issues. Multiple topics are

explored, including non-market valuation, surveys, cost-benefit analyses, and social assessment. Visit www.csc.noaa.gov/mpass/.

Award-Winning Program Underscores Value of Community Involvement

Often, the most successful coastal preservation and restoration programs are those that cultivate strong community involvement. In South Carolina, for example, citizens are making a tremendous difference in preserving one of the state's most treasured natural resources—the oyster.

Through the South Carolina Oyster Restoration and Enhancement (SCORE) program, citizens and businesses participate in oyster habitat restoration by recycling their oyster shells at 12 coastal drop-off locations. Since its inception in 2000, the SCORE program has built 98 new oyster reefs at 28 sites along

the South Carolina coast. SCORE staff members, with the help of volunteers who've already donated 10,000 work hours, also assess reef development, research and develop new approaches to reef construction, and monitor water quality at restored sites.

This award-winning program, which is managed by the South Carolina Department of Natural Resources and funded by several NOAA programs, was recently honored at the International Conference on Shellfish Restoration in Charleston, South Carolina.

Without question, it's a great example of how community-based involvement can make all the difference. For more on SCORE, visit www.csc.noaa.gov/scoysters/. For more on NOAA's Community-based Restoration Program, visit www.nmfs.noaa.gov/habitat/restoration/projects_programs/programs.html.

Paved roads? Community docks? How much green space do we need?

A Smart Growth Outreach Tool One Site, Three Scenarios

Use this Web site to help people understand smart growth concepts. Users can explore various development options and see the potential financial costs, environmental ramifications, and other impacts.



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Conventional



Conservationist



New Urbanist

www.csc.noaa.gov/alternatives/

Finding Out How Big the Business of Recreational Boating Is in New York

Recreational boating is one of America's leading pastimes, and thus the assumption is that it's an important economic generator nationwide. But without hard numbers and information on how and where state boaters spend their money and on boaters' priority concerns, coastal resource managers are at a disadvantage when it comes to working with and regulating the industry.

The researchers found that New York's recreational boaters spent \$2.4 billion in 2003.

To help fill this information gap in New York, a Sea Grant-funded study measuring the spending of recreational boaters and their impact on the state's economy was recently completed by Cornell University researchers.

"The intent of the study was not only to quantify the impact of boating, but also to provide information that will help managers, planners, and other decision makers make more informed decisions regarding coastal resource use and development," says Jay Tanski, coastal processes and facilities specialist for New York Sea Grant.

The economic data will be used to develop tools that will allow managers to better evaluate the impact of boating on a regional scale.

Following the Money

The researchers found that New York's recreational boaters spent \$2.4 billion in 2003, despite poor summer weather, and that recreational boating that year had a total statewide economic impact of \$1.8 billion, accounted for approximately 18,700 jobs, and contributed \$728 million to labor income.

For boating-trip-related expenditures, such as launching fees, lodging, food, and gas, boaters spent over \$431 million statewide. The survey also tabulated how much boaters spent on boat purchases, equipment, repair, insurance, and annual fees associated with the use of marinas and yacht clubs.

While several previous studies in New York have addressed topics related to boating and marinas, no previous study has investigated impacts of boating on either a statewide or regional basis.

Tanski notes that the study figures may be conservative since data indicate bad weather may have impacted boating activity. "That June was one of the wettest on record and the threat of Hurricane Isabel striking New York's marine coast in September resulted in many people pulling their boats early, further shortening the season."

Proving Assumptions

The numbers, conservative or not, prove the generally held assumption that recreational boating has a significant impact on the state's economy, says Dave White, program coordinator for New York Sea Grant.

"There was always anecdotal information that recreational boating had these kinds of numbers," White says, "but without studies to substantiate what you think is happening, your decisions can always be called into question."

He says it's important that when making management decisions, coastal managers know the size of the recreational boating industry in the state, the economic impact to the state's economy, and demographics, trends, and perceptions about current issues affecting the industry.

White notes that the study found the topic of importance to most boaters was dredging to maintain boating access and provide safe navigation. This was followed closely in importance by the establishment of no-discharge zones.

Asking the Right Questions

To make the survey results relevant to the largest number of people, the study was conducted with the aid of an advisory panel of agency and boating industry experts from across the state. "It was important that we had input right from the beginning from a broad range of users and stakeholders, agency and industry representatives, and any others who might use it," Tanski notes.

The panel helped develop a request for proposals, which was sent to 400 institutions nationwide. To pick the best one, Tanski says they relied on an outside technical panel made up of natural resource economists from across the country.



Recreational boaters in the New York City/Long Island metropolitan area participated in the statewide survey.

that reviewed the five proposals that were received.

One of the first steps taken by the researchers at Cornell University was to examine similar survey efforts in surrounding states so that “we could do apple-to-apple comparisons,” White says. Studies done in Ohio, Maryland, and Delaware were used as models so that the data could be shared regionally.

An extensive mail survey of 6,000 boaters registered in New York State in 2003 asked about trip- and non-trip-related boating expenditures that year. It also asked about boating activity, interests of boaters, and topics of concern for boaters.

Crossing Borders

The results were examined regionally within the state—the Great Lakes and Finger Lakes, Mid-Hudson and Capital districts, and the New York City/Long Island metropolitan area—as well as statewide.

This regional assessment of the economic impact of recreational boaters is important for coastal managers who “may make decisions regarding coastal resources that might affect those activities,” Tanski says.

The figures do not include spending by transient boaters and others who are not registered in the state. Owners of non-motorized boats, such as kayaks, canoes, and small sailboats, also were not included in the study, since they are not registered by the state.

Projecting It Forward

The last step of the project, Tanski says, is “looking at how to take the study and develop ongoing measurement and monitoring tools to keep the information up to date so that it doesn’t just become a snapshot of where we were in 2003.”

This includes developing computer tools that can be used to project the data out for the next five

years using existing boating statistics kept by the state. These tools should help managers look at the economic impacts of changing boating activity on a regional level.

“We’re going to be able to start doing ‘what if’ scenarios,” Tanski says. “What if we let this channel fill in? We will be able to see that this many boats of this size use this area, and what the impacts would be.”

Sharing the Results

“Obviously it’s very good for New York to have this kind of data,” but White says the survey can benefit other states in the region, and is a step towards getting a snapshot of the impacts of recreational boating nationwide.

“The methodology that we used absolutely could be used by other states,” agrees Tanski. “As more states do these kinds of studies, a regional and national picture will emerge.”

He adds, “It’s important to know the impact of any activities that are going on along the coast. Environmental impacts are extremely important, but economic activities also have to be taken into account as we go about the business of developing regulations and policies.” ❖

For a downloadable copy of the report, point your browser to www.seagrant.sunysb.edu/coastalgeo/boatingexpenditures03.htm. For more information, contact Jay Tanski at (631) 632-8730 or jjt3@cornell.edu. You also may contact Dave White at (315) 312-3042 or dgw9@cornell.edu.

Avoiding Cultural Collisions: Working with Washington's Native Tribes



There is evidence that human communities have lived along the Olympic Coast for more than 6,000 years.

Protecting cultural and historical resources is one of the mandates for National Marine Sanctuaries. For many, this may bring to mind images of shipwrecks and ancient archaeological sites, but for coastal resource managers in Washington State, it means co-managing natural and cultural resources with sovereign governments and helping perpetuate thousands-year-old cultural traditions that are alive and well.

The Olympic Coast National Marine Sanctuary is located within the traditional fishing areas of four coastal Indian tribes, the Makah, Quileute, Hoh, and the Quinault Nation. Treaties negotiated with the tribes prior to Washington's statehood "set the context we work under today," says Carol Bernthal, Olympic Coast National Marine Sanctuary superintendent.

Bernthal notes, "We were the first sanctuary in the national system that regularly interfaces with federally recognized tribes with treaty rights. It creates a situation where

we co-manage certain resources. They are not interest groups. They are sovereign governments with a distinct set of rights," as well as their own regulations, expertise, and interests.

The tribes play crucial roles in shaping Olympic Coast Sanctuary policy, research, and education programs through ongoing consultations and joint projects, and as members of the sanctuary advisory council.

Thousands of Years

The Olympic Coast has been home to human communities for at least 6,000 years, and possibly much longer, says Robert Steelquist, Olympic Coast Sanctuary education and outreach coordinator.

Steelquist explains that when Washington's territorial governor negotiated treaties that would exchange Indian claims to much of their ancestral land in return for reservations and support from the U.S. government, significant rights

"We were the first sanctuary in the national system that regularly interfaces with federally recognized tribes with treaty rights."

**Carol Bernthal,
Olympic Coast National
Marine Sanctuary**

were reserved by the tribes. Those rights include the right to fish, gather shellfish, and hunt in "usual and accustomed places."

In addition, the Treaty of Neah Bay guarantees that the Makah Tribe would retain its right to hunt seals and whales.

Nearly 150 years after the treaties were signed, the documents still bind U.S. and state governments and the tribes. When the Olympic Coast National Marine Sanctuary

was designated in 1994, the U.S. government pledged that the sanctuary would honor treaty rights.

Common Ground

Bernthal says that in addition to having a strong legal standing to use the resources, the native tribes have a “long relationship with the ocean, and their reliance on and connection to place is very distinct.”

These legal and cultural differences have “forced us to think through the very basic issues of equity, constitutional law, and long-standing treaty law. It forces us to think thoroughly about the things we do, or don’t want to do,” says Steelquist. “We’ve got a very skeptical group of critics to satisfy when we make decisions, and I think our decisions in the long run are better because of that fundamental requirement.”

Bernthal notes that tribes maintain a strong traditional identity, but “their management of the resources has a very modern

context. They have developed an amazing capacity to apply traditional knowledge using scientific methods, tools, and programs. They are very interested in engaging in modern resource management, and a lot of times they are on the cutting edge of how it’s applied.”

The sanctuary and tribes are successfully collaborating on a number of management issues, such as preventing oil spills along the Olympic Coast’s rural and rugged coastline and developing a long-term research and monitoring agenda regarding harmful algal blooms.

Moving into the Future

While the tribes have embraced modern technology and science as part of their resource management, they are as actively engaged in keeping their ancient traditions alive. One of these traditions is the revival of the Canoe Culture, which Steelquist points out is not a re-enactment but the perpetuation of ancient tribal traditions.

Each year, Steelquist explains, tribes from Vancouver Island, Georgia Strait, Puget Sound, Strait of Juan de Fuca, and the Olympic Coast form canoe teams that “travel to old villages and reconnect the threads of their relationship to place.”

The sanctuary staff plays a supportive role in these events, including creating a video documentary of the journey, which was presented as a gift to the tribes, and using the sanctuary’s research vessel to provide safety and logistical support.

The sanctuary’s unobtrusive support is a show of respect for the participating tribes—an attitude that both Bernthal and Steelquist say is required when working with Native Indian cultures.

Gaining Trust

“You have to be respectful,” Steelquist emphasizes. “The tribes have a long relationship with the coast, and they have been here a lot longer than we have. You have to demonstrate who you are, that you are of good will, and are capable of showing the appropriate respect. If

you can do that, then gradually you will start accomplishing important work together.”

“I think that kind of relationship phase is critical,” Steelquist adds, “but it’s not something that figures into the bureaucratic timeline of things because you have to go slowly.”

Bernthal agrees. “We run into this all the time when we’re told things like we need to get comments on something back in seven days. Those are challenging because we have these cultural constructs overlaying one another.”

Who Talks to Whom

Another part of being respectful is following the appropriate line of communication, which may mean first going to the tribal councils with issues and ensuring that the person asking the question is at a high enough level in the sanctuary’s or state government’s hierarchy.

“Protocols are very subtle, which essentially means you need to think it through very carefully,” Steelquist says.

Another lesson the sanctuary staff members have learned is not to “lump all the tribes together,” Bernthal says. “You must ask for the opinion of that tribe and that tribe alone. It’s more time consuming, but it makes for a richer experience. It’s really a fundamental aspect of how we do business.”

In working with native tribes and other cultural entities, Steelquist advises developing the “notion that you are in this together. Listen to their needs, and work creatively to satisfy those needs.”

He adds, “I’m not saying we always agree [with the tribes], but we always try and come to the table with mutual respect and a willingness to look at things in a different light.” ❖

More information on how Olympic Coast National Marine Sanctuary works with native tribes can be found at www.ocnms.nos.noaa.gov. You also may contact Robert Steelquist at (360) 457-6622, ext. 19, or Robert.Steelquist@noaa.gov. Carol Bernthal can be contacted at Carol.Bernthal@noaa.gov.



High-Tech Monitoring Improves Timeliness of Illinois Beach Closures

When coastal resource managers have to wait 24 hours for the results of water quality tests that show unsafe levels of *E. (Escherichia) coli* bacteria, their subsequent decision to close beaches can be a day late in protecting swimmers. Managers in Lake County, Illinois, have developed a high-tech *E. coli* prediction system, which during trials last summer dramatically increased the speed and accuracy of beach closure decisions.

They were able to come up with an equation where they can plug in all the variables in current time and predict *E. coli* concentrations.

The system, called SwimCast, uses meteorological equipment to monitor a beach's environment, such as air temperature, wind speed and direction, water temperature and clarity, sunlight, and wave heights—all factors that can hinder or encourage the growth of *E. coli*.

"Right now, SwimCast is being shown to have been 86 to 87 percent accurate" at the two beaches where it was tested, says Mark Pfister, aquatic biologist for the Lakes Management Unit of the Lake County Health Department. "That's far superior to what we've seen in past years when we were 67 to 100 percent wrong in calling swim bans just on testing alone."

Pfister cautions that SwimCast is not meant to replace government-mandated water sampling but to augment it.

E. coli contamination of coastal waters comes from human and



Mark Pfister installs the SwimCast equipment mounts and data logger enclosure at Forest Park Beach in Lake Forest, Illinois.

Photo by Mike Adam and courtesy of Lake County Health Department

animal fecal matter, and is used as an indicator of other harmful human pathogens that can potentially cause gastrointestinal illness in swimmers.

Pfister says that there is a public perception that Illinois has a lot of beach closures when compared to other Lake Michigan beaches. He says the comparisons are "apples to oranges" because monitoring for *E. coli* is done daily at Illinois beaches, which is far more frequent than that of neighboring states.

"The more you monitor, the greater the probability that you are going to find changes in the *E. coli* concentrations," he says. "One day, you can have a high count and the next day it can drop dramatically."

The state's coastal managers are often frustrated by an 18 to 24 hour delay in getting monitoring test results back from laboratories, which means that swimmers can be in the water during peak times and may be kept out of the water when it is safe.

Because of this, Lake County managers began looking at all the independent variables that might affect *E. coli* concentrations. They

were able to come up with an equation where they can plug in all the variables in current time and predict *E. coli* concentrations.

The data for the equation comes from \$30,000 worth of monitoring equipment on the beach that is continually sending readings to a data logger. "The beauty is you can log in any time of day to look at the readings," he says.

The initial cost of purchasing the monitoring equipment was paid for by a grant from the U.S. Environmental Protection Agency.

Pfister says the system could be used in other coastal areas, but because it is not "off the shelf" and the cause of elevated *E. coli* at each beach may be different, a new equation would need to be developed for each site.

More testing of the model also is needed, he adds. "It's been very effective to date. We want to continue making sure we maintain the same level of accuracy next year." ♦

For more information about SwimCast, contact Mark Pfister at (847) 377-8028, or mpfister@co.lake.il.us.

Planning for Coastal Fun a Big Job in Guam

S snorkeling, jet skis, kite boarding, and now underwater walking tours, or SNUBA, all show that as times change, so do people's ideas of what's fun. But one person's fun can be another person's annoyance or—worse—damage the very resources people come to the shoreline to enjoy.

For more than a decade, coastal resource managers in Guam have planned for the extensive recreational use of its resources. Over time, coastal managers have learned what they did right, what they could do better, and most importantly why they need to stay flexible and engaged.

"Recreational uses change," says Vangie Lujan, administrator of the Guam Coastal Management Program. "People come up with new ideas of what they want to do, and we don't always have the foresight to think of these new activities ahead of time."

But the island did have the foresight in 1992 to pass legislation to create its Recreational Water Use Master Plan.

At the time, the use of personal watercraft, commonly called jet skis, was just becoming popular. "It was like the Wild West with jet skis going

everywhere," explains Victor Torres, acting geographic information systems manager and planner for the coastal program.

With user conflicts and concerns about environmental impacts mounting, the coastal program brought together the island's network of agencies to address recreational activities.

The result was a coastal use zoning law that designates areas for use by specific recreational users.

For instance, the law administered by Guam's Department of Parks and Recreation prohibits motorized watercraft from being used inside the reef in Tumon Bay, except for a narrow passage for jet skis leading seaward from San Vitores Beach, and for a dinner cruise boat operating along the beach. Only small sailing and paddling craft use the shallow lagoon inside the reefs in the rest of the bay.

While the zoning has helped quell user conflicts, new recreational activities that are not addressed in the plan, such as kite boarding and SNUBA, have become popular.

"People think because it's not addressed, obviously they can do it," Lujan says. "As a result we're seeing damage, they are infringing on other people, and are causing safety hazards."

There also have been some unexpected consequences of the zoning, Torres says. Aerial photographs are showing "halos in the sand" in a primary area where personal watercraft

"People come up with new ideas of what they want to do, and we don't always have the foresight to think of these new activities ahead of time."

**Vangie Lujan,
Guam Coastal
Management Program**

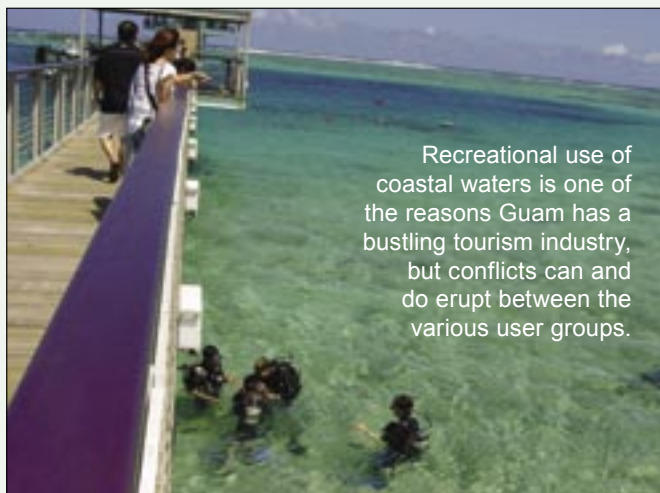
are allowed. The University of Guam is conducting two studies to look at the impacts of snorkeling and jet skis on the natural resources.

The master plan was updated in 1998 to address unexpected uses, and the coastal program and other agencies are again working to update the plan.

Things they want to do differently, Lujan says, include involving more user groups in the planning process, particularly members of the visitor industry and military. They also plan to clarify enforcement roles, and to add requirements for evaluating the plan every few years to add flexibility to management decisions addressing new activities or issues.

Torres notes, "We are cognizant that the visitor industry provides a lot of money to our economy. By protecting the resources while accommodating as much use as possible we are protecting the goose that laid the golden egg." ❖

For more information on Guam's Recreational Water Use Master Plan, contact Vangie Lujan at (671) 475-9672, or vange@mail.gov.gu. You may contact Victor Torres at vtorres@mail.gov.gu.



Recreational use of coastal waters is one of the reasons Guam has a bustling tourism industry, but conflicts can and do erupt between the various user groups.

Forget Diamonds—Alabama Residents Say “I Love You” with a Tree

Most people think of diamonds or jewelry when thinking of a lasting Valentine’s Day gift for the one they love. Some residents in coastal Alabama, however, are celebrating that special day by planting a cypress tree—a gift that truly keeps on giving, say the event planners, who also throw in a bag of candy and a certificate for the intended.

“We have everyone from 3-year-olds to 76-year-olds who participate,” says Cathy Barnette, executive director of the Alabama Coastal Foundation, which sponsors the Cypress Tree Planting Project. “They like it because it’s something really tangible and it makes a difference.”

The fifth annual Cypress Tree Planting will be held this year on February 19. The tie-in to Valentine’s Day started last year when the day of the planting fell on February 14. The novelty of the marketing strategy generated additional interest and publicity, so it will be kept around for at least one more year, Barnette says.

Last year, more than 80 volunteers came out on a cold and rainy day to plant 3,000 trees in the state’s two coastal counties, and almost a dozen more paid \$10 to have a tree planted in the name of a loved one.

The Cypress Tree Planting Project was the brainchild of Buzz Sierke, a board member of the nonprofit environmental organization dedicated to improving and protecting Alabama’s coastal resources.

Barnette recounts the story of how Sierke was having lunch one day and saw a dozen birds roosting in a lone cypress tree. When he noticed there were only two more cypress trees within



Photo courtesy of Alabama Coastal Foundation

More than 100 volunteers are expected to plant over 3,000 trees the weekend after Valentine’s Day.

The programmatic change improved the seedlings’ survival rate from 40 percent to 80 percent.

a mile of where he sat, Sierke realized something needed to be done to provide more habitat.

The first planting was held in 2001 in just one location, Barnette says. “It was really just a planting project” for the first two years. In the third year, staff members and volunteers revamped the program to become more of a habitat restoration effort.

Using the Coastal Cleanup program as a model, they found site captains who gather the volunteers and facilitate the planting throughout the coastal area. Another board member, who is a wetlands ecologist, helps identify appropriate sites for planting five different native tree species.

The programmatic change improved the seedlings’ survival

rate from 40 percent to 80 percent, says Angela Montgomery, the foundation’s programs director. To date, she says, more than 15,000 trees have been planted on about 15 sites. In 2003, the project received a Coastal America Spirit Award.

Montgomery and Barnette say if there is better weather this year on planting day, they expect more than 100 volunteers to spend half their Saturday planting bare root seedlings.

“I do believe that environmental, conservation-minded people are looking for something different to do for Valentine’s Day,” Barnette says. “Why not say, ‘I’m stuck on you,’ while sticking a shovel in the ground and restoring our coastal habitats?” ❖

For more information on the Alabama Coastal Foundation’s Cypress Tree Planting Project, point your browser to www.alcoastalfoundation.org. You also may contact Cathy Barnette at (251) 990-6002, or cbarnette@alcoastalfoundation.org.

Ideas for the Next Issue

As coastal resource managers reflect on 2004 and plan for 2005, accomplishments as well as new challenges on the horizon may be noted. The writers at *Coastal Services* would like to write about these successes and emerging issues.

Below are a few topics our writers are looking at for the New Year:

- **Mitigation Banking**—Coastal development continues to boom. What are some of the best solutions for working with businesses to mitigate impacts to the environment?
- **Medical Use of Marine Organisms**—The blood of horseshoe crabs has been used for the past quarter-century for medical use, and more and more research is showing the potential use of marine organisms in curing and fighting disease. Are new regulations being developed to address this burgeoning industry?
- **Ocean Observing Systems**—How are the data and information that are being generated by rapidly expanding ocean observing systems being used by coastal resource managers? Are there management issues for which these data will be vital?

Are there other subjects that would better meet your management needs? Would you like to share your success at addressing an important issue with other coastal managers? If so, contact us by e-mail or telephone, and give us your ideas and suggestions about topics we should cover.

To share an idea or provide feedback, contact Hanna Goss via e-mail at Hanna.Goss@noaa.gov, or by mail at 2234 South Hobson Avenue, Charleston, SC 29405-2413. You may also contact her by phone at (843) 740-1332, or fax at (843) 740-1313. To read past editions of *Coastal Services*, point your browser to www.csc.noaa.gov/magazine/.



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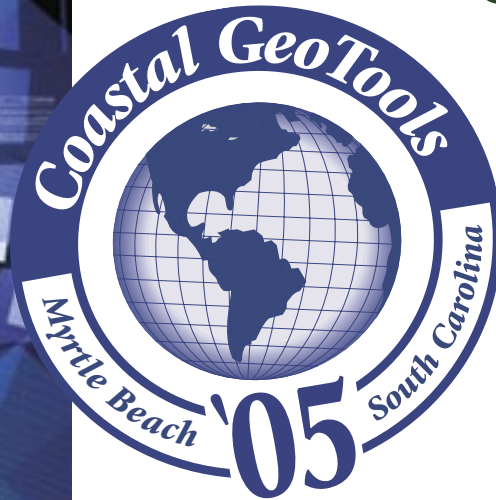
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GeoTools is a biennial conference devoted to helping state coastal resource managers effectively use technology. Attend this conference to learn what is new and relevant to coastal managers.

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