July 2007 The Belle W. Baruch Foundation’s (Georgetown, SC) quarterly newsletter, Between the Waters, featured a story, Turtle Tracking. It described the many problems that loggerhead sea turtles encounter while nesting on 2 mile long Hobcaw Beach, owned by the Foundation. Invasive beach vitex (Vitex rotundifolia), interferes with nesting habitat by making it difficult for the female turtles to dig their nests and for hatchlings to get to the water. The Carolinas Beach Vitex Task Force works under a grant from the National Fish & Wildlife Foundation which is administered by the Baruch Foundation. Currently, Clemson University’s Baruch Institute, is working to eradicate 75 sites of beach vitex on the SC coast and revegetate the dunes with native, locally grown dune plants.

July 11 The Carolinas Beach Vitex Task Force met in Southport, NC, for a summer planning meeting and field review at nearby Bald Head Island. The meeting, attended by 35 people, was held at Southport City Hall.

Betsy Brabson, Task Force SC coordinator gave an update on activities in SC. Dale Suiter, US Fish & Wildlife Service (NC) spoke about current efforts in NC and the need to complete the survey of their coastline for beach vitex, with the assistance of sea turtle volunteers. The NC Dept. of Agriculture is considering listing beach vitex as a State Noxious Weed. According to Rick Iverson, NCDA, the plant is slowly making its way through the process. He was optimistic that it would be listed. Randy Westbrook, US Geological Survey, said he hopes to get the listing process underway in SC with Clemson University’s Dept. of Plant Industry. David Nash, NC Task Force coordinator who is on medical leave, talked about his recent trip to Hawaii to study beach vitex. Nash received a small grant from the New Hanover Agricultural Extension Service to study the plant in its’ native environment. He said beach vitex behaves differently with little or no seed production and runners only up to 6 feet in length. Nash was presented with a painting of a sea oat vegetated seascape in appreciation for his work along the Carolinas coast and as the NC coordinator for the Task Force.

During lunch, Dr. Les Mehrhoff, University of Connecticut, gave a Power Point presentation on the Invasive Plant Atlas of New England (IPANE). He and Randy Westbrook, USGS, are working together to develop a National Early Detection Rapid Response system to address invasive plants. Dr. Mehrhoff wanted to learn about the Carolinas Beach Vitex Task Force and how it operates.

Following lunch, the group boarded the ferry to Bald Head Island and then traveled by golf carts to tour the successful beach vitex eradication project. Maureen DeWire, BHI Conservancy and Chris McCall, BHI Planning Director/Asst. Village Mgr., proudly showed several sites and explained the project. Beach vitex had been removed from several sites and native vegetation had grown back. One location had not yet been eradicated and the plant had formed a large monoculture. Another site demonstrated how regrowth had been retreated with herbicide. The Island has had success using glyphosate which is sprayed early in the morning so there is no drift to other vegetation.

July 18 The State Port Pilot newspaper which serves the Southport, NC area, featured a full page article about the successful beach vitex eradication project at Bald Head Island, NC. The article gave an overview of the field review that was part of the Task Force’s summer planning meeting on July 11. David Nash, former NC Task Force coordinator, was honored for his efforts to combat beach vitex on the NC coast.
Clemson University’s work with beach vitex continues to progress this summer. The initial list of 75 vitex sites to be restored, mostly on Georgetown County beaches, is nearing completion. The beach vitex has been killed on all of the lots and the eradication was 95% effective on most. One set of lots on Pawleys Island remains to be cleared of the dead vitex and that will allow for planting the sea oats and panicum. Two sets of lots at DeBordieu have not been cleared and a small lot at Garden City remains to be cleared. These should be cleared and planted in August. Only two lots on Sullivan’s Island will be left to clear and plant. Replanting the cleared lots has been the bottleneck in the entire operation. During the first of the summer the dunes were too dry to plant, so planting was suspended. Recently there have been disease problems in the greenhouse that has delayed sea oat seedling production. Hopefully we will be able to devote all of our energy to planting in a week or two.

The Gaylord & Dorothy Donnelley Foundation approved a $20,000 proposal from the Clemson University Research Foundation that will enable the Baruch Institute to purchase the necessary equipment to survey the uninhabited beaches of South Carolina for beach vitex. With the permission of the property managers, Clemson will examine the beachfront areas and immediately treat smaller populations of the invasive plant.

The Town of Pawleys Island contributed $15,000 to the Baruch Institute to support the dune restoration work on Pawleys Island. These funds will allow Clemson to treat the beach vitex on the marsh side of Springs Street and other 'B' list sites. Current plans are to complete the clearing and planting of the 75 'A' list sites in August and September and to immediately begin injecting 'B' list sites in Georgetown and Horry Counties during the fall.

Finally, the site of the first herbicide screening experiment in DeBordieu was re-visited recently and two small patches of beach vitex were noticed. This site was treated experimentally in September of 2004, re-treated in the summer of 2006 and planted in 2006. Despite the repeated treatments, some beach vitex has survived. It is true that our methods have improved greatly since then, but this clearly indicates that one cannot simply treat an area and walk away; follow up inspection and treatment are essential. This lesson will be applied to all beach vitex sites treated thus far.
August 2007 David Nash, NC coordinator for the Carolinas Beach Vitex Task Force, is on medical leave. In his absence, Melanie C. Doyle (left) has taken over as NC coordinator. Melanie is a horticulturist at the NC Aquarium at Fort Fisher and is very enthusiastic about the beach vitex issue in NC.

Clemson Impacts, a quarterly publication of Clemson University’s Public Service Activities, featured an article Dune restoration rebuilds sea turtle nesting sites. The recent $135,000 Private Stewardship grant from the US Fish & Wildlife Service enables Clemson’s Baruch Institute to continue beach vitex eradication and dune restoration on an additional 71 parcels along the SC coastline. The long runners and root system of beach vitex causes problems for nesting and hatching loggerhead sea turtles. Eradication of the plant and restoration with native species helps restore and build the dunes thus creating more suitable habitat for this Federally threatened species.

August 28 Members of the Carolinas Beach Vitex Task Force and the SC Dept. of Natural Resources conducted the annual survey of North Island, an 8.2 mile barrier island in Georgetown County, SC. The group traveled by boat and was shuttled to different parts of the island by ATV to search of beach vitex seedlings and also turtle nests. Fortunately, no beach vitex was detected but 46 sea turtle nests were found that had been depredated by feral hogs. DNR hopes to find a solution. Clemson University plans to survey other barrier islands along the SC coast for beach vitex.

Melanie Doyle will fill in as NC Coordinator for the Carolinas Beach Vitex Task Force.
August 2007 update from Clemson’s Baruch Institute

The month of August was a time of transition for Clemson’s vitex control project. The field crew finished clearing the dead vitex from the 75 A list lots and chipping the debris. This was a great deal of hot work that the crew completed with a measured, steady effort. The results of the work can be seen on the beaches with lots that were covered with vitex are now cleared and many planted. The pile of chipped vitex debris indicates how much material was processed this summer.

Meredith Haynes, a student at the Myrtle Beach Academy for the Arts, Sciences and Technology, chose the beach vitex project as the way she would get her volunteer service hours accomplished. She worked clearing and planting one lot and assisted with the planting of sweetgrass seedlings.

The dry weather this summer has hampered the replanting of the cleared lots. Several lots were planted in the early summer, but the lack of rain greatly reduced seedling survival. Planting was discontinued in June and will resume in September when the temperatures have moderated a bit and hopefully we get rain. The planting window closes in October.

The transition involves completing the planting of the A list lots and injection of the beach vitex on at least 84 B list lots. Many of the B list sites are marsh side sites on Pawleys Island.

On a sad note, the SSPD funding has been used, so other grants will be activated to keep the crew in the field. Also, the borrowed 20 hp brush chipper that made it possible to move and dispose of the vitex debris, was recalled by Clemson to go back to work in the Botanical Gardens. Fortunately we will not need to do any chipping until 2008.

To end on a positive note, the Natural Resources Conservation Service, USDA, has indicated that they will fund a proposal to support the vitex project. If they indeed provide the funding, the Baruch Institute will be able to purchase a new chipper to replace the borrowed one and have funds to pay the field crew. They have long expressed an interest in helping with the project but, until last week, we could not figure out in which of their programs this effort would fit.

Reports of beach vitex continue to pour in, and recently we have found two very large oceanfront populations in Myrtle Beach. These sites will stretch the grants so we will have to handle them a little differently. So far, most of the landowners, both large and small, have been very cooperative and really want to get rid of their beach vitex. The most recent reported location is the campus of Horry-Georgetown Technical College near Conway; why they planted it is a mystery. The grounds keeper is quite willing for it to be removed, and this will be another B list site.
September 2007 update from South Carolina

The Carolinas Beach Vitex Task Force has been fortunate to receive funding from many different sources for research, eradication, restoration, equipment, etc. Although more funded is needed to totally eradicate beach vitex from the Carolinas coastline, the CBVTF would like to gratefully acknowledge the following:

**National Fish & Wildlife Foundation**  
$47,000, $30,000, $40,000, $40,000, $133,005

**US Fish & Wildlife Service**  
$135,000

**Town of Pawleys Island**  
$15,000

**Gaylord & Dorothy Donnelley Foundation**  
$20,000

**Natural Resources Conservation Service (NRCS)**  
$50,000

**Total grants - $510,005**

South Carolina Wildlife Magazine posted a special section *Aquatic Invasive Species* from their July-August issue on [www.scwildlife.com](http://www.scwildlife.com) (click blue button on left). Beach vitex was featured in several articles.

**September 21** Beach vitex was selected as one of five invasive species to be featured on the 2008 National Invasive Weed Awareness Week (NIWAW) calendar poster.

**September 27** *EstuaryLive*, a free, interactive field trip over the Internet hosted by the National Oceanic and Atmospheric Administration's National Estuarine Research Reserves in collaboration with the U.S. Environmental Protection Agency's National Estuary Programs. A "NOAA in the Carolinas" *EstuaryLive* aired on September 26-27, 2007 from the ACE Basin Reserve at Fort Johnson near Charleston, South Carolina. This special *EstuaryLive* was sponsored by the North Carolina, North Inlet-Winyah Bay and ACE Basin Reserves. The program, geared to students in grades 4-12, allows for students to send in questions during the broadcast. Over 130 classrooms across the US viewed *EstuaryLive*. Some topics covered were watersheds, hurricanes, sea turtles, invasive species and much more. Betsy Brabson, SC coordinator for the Carolinas Beach Vitex Task Force, gave a presentation on beach vitex, a featured invasive species.

Left: the *Estuary Live* crew from North Carolina and South Carolina NERRs.

Right: Beach vitex was a featured invasive species during the broadcast.
September 2007 Update from Clemson

Clemson received a $50,000 grant from the South Carolina office of the Natural Resources Conservation Service to continue the restoration of dunes infested with beach vitex. NRCS representatives visited Pawleys Island and saw what beach vitex is capable of doing to the native dune vegetation and repeatedly indicated that they were interested in being part of the solution. This grant was especially critical because the brush chipper, that enabled efficient disposition of the killed beach vitex debris, was borrowed from the Clemson campus and had to be returned last month. The NRCS grant will enable Clemson to order a new chipper that should be on site before Thanksgiving. The chipper was ordered in a beach vitex leaf green color.

Staff from Clemson traveled to Waites Island, a remote barrier island in northern Horry County, SC near the NC state line. The purpose was to survey for beach vitex which was found in 2 locations on the island. One location was inland at the gate and was most likely planted. Beach vitex was also found among the dunes, about 200 feet inland from the beach, in the middle of the 4 mile long beach that is isolated by Little River to the north and another inlet to the south. This indicates that seeds are traveling from a location either north or south of Waites Island. It also shows the need to survey barrier islands in both Carolinas for invasive beach vitex.

Currently, Clemson technicians are in the field planting the lots where the beach vitex has been killed and the dead beach vitex removed. Recent rains have increased the soil moisture some, but more rain would help. Planting will continue until the end of October when the planting season ends. When not planting, the crew is injecting the beach vitex on the second set of lots where permission to work has been granted. This second set of lots includes both marsh-front lots and non-beachfront lots. Landowner cooperation continues to be excellent.

Clemson staff met with representatives of Carolina Dunes Condominiums, Myrtle Beach, SC, where there is a large amount of beach vitex. They agreed to provide Clemson with some labor to help remove the invasive plant from their frontal dunes. This will be the largest single area treated to date; approximately 0.43 acre.

Dr. Chuck Gresham, Clemson, talked to the Environmental Science class at Myrtle Beach's Academy for the Arts, Sciences and Technology about beach ecology and the beach vitex problem. The juniors in Environmental Science have adopted searching for beach vitex locations as their class project for this year. They will survey the beaches from approximately 9000 North Ocean Boulevard to Waites Island. Stephanie Fazio (far left) and Tradd Teal (left) met with Dr. Gresham and they learned how to search both developed and undeveloped beaches.
September 2007 Update from North Carolina

September 12 Melanie Doyle, NC coordinator for the Task Force, traveled to the Clemson Lab at Hobcaw Barony, Georgetown, SC and met with Betsy Brabson, Chuck Gresham, Hal Drotor, and Jack Whetstone. She received up-to-date information on the Task Forces’ objectives, accomplishments and methods. The group visited sites on Pawleys Island where beach vitex had been eradicated and the dunes restored with native plants.

September 24 Melanie Doyle visited Figure Eight Island and met with David Kellam, HOA Administrator, who is overseeing the beach vitex eradication efforts. Several residences were visited where beach vitex was in varying stages of treatment. Kellam shared his location information with Doyle and offered any help/cooperation he could. The HOA has recently implemented a rule requiring all vitex be treated/removed within 30 days of homeowner notification or a fine will be levied.

September 25 A site visit was made to Bald Head Island, where Hal Drotor and Eric DeLuca from the SC Task Force joined Melanie Doyle, Maureen Dewire (Senior Naturalist with BHI), Dr. Suzanne Dorsey (Director of BHI Conservancy), and Dr. Gene Douglas, Councilman on Bald Head Island and proponent of BV control. Drotor and DeLuca demonstrated the latest control technique and treated all the remaining beach vitex in a test plot. The group toured sites where the invasive plant has been successfully eradicated. BHI is committed to beach vitex eradication and education. Gareth McGrath, reporter for the Wilmington (NC) Star News, accompanied the group and wrote an article entitled, *Friend turned foe*. The article appeared in the Sept. 29 edition and was picked-up by the Associated Press. It was the most-read article on the Star News’ web page that weekend.

October 2007 Update from South Carolina

October 17 Representatives from the Natural Resources Conservation Service (NRCS) from Columbia, SC met at Clemson’s Baruch Institute with Chuck Gresham, Clemson and Betsy Brabson, Task Force SC coordinator. Frank Wilcox, State Administrative Officer; Craig Ellis, Assistant State Conservationist and Debbie Mann, Georgetown District Conservationist were updated on past, present and future beach vitex eradication/restoration efforts and were very enthusiastic about the project. The group then made site visits to several locations at Pawleys Island where crews have been working to eradicate the invasive plant and re-vegetate the dunes. The NRCS recently awarded Clemson a $50,000 grant which will go toward the purchase of a chipper and labor expenses.

October 21 The Carolinas Beach Vitex Task Force submitted a preproposal to the National Fish and Wildlife Foundation for its’ fifth Pulling Together Initiative grant.
October 31  The Carolinas Beach Vitex Task Force hosted Mike Gantt, Regional Ecosystem, Grants and Partnership Coordinator of the U. S. Fish and Wildlife Service and Jennifer Koches of the Fish and Wildlife Service’s Charleston Office to explain the progress made to date with the Private Stewardship Grant that was awarded this past summer. Betsy Brabson and Chuck Gresham represented the Task Force. They met briefly at Clemson’s Laboratory to discuss the history of the Task Force then spent the remainder of the morning examining sites on Pawleys Island that had recently been treated, were being treated, and two sites that had been restored. The visit provided the Fish and Wildlife Service representatives a first-hand look at the vitex problem in South Carolina and Clemson's ongoing efforts to restore infested dunes.

*Fish and Wildlife Service representatives get a first-hand look at the vitex problem in South Carolina and Clemson's ongoing efforts to restore infested dunes.*

October 2007 Update from Clemson

The Clemson crew finished eradicating/replanting the 'A' list of 75 sites in October. The beach vitex at these sites was injected in September, October and November 2006 and cleared this summer. Planting sea oats and bitter panicum in areas that were covered with beach vitex resumed in September after being suspended during the summer drought. This accomplishment shows that the Task Force has a solution to the vitex problem, and all that is needed is to keep the crew in the field. Two 'A' sites were interfered with by the landowners and thus did not have sufficient kill to justify clearing and planting. These sites were retreated and will be planted in the Spring of 2008. The crew is currently injecting the vitex on the 'B' List of 95 sites. So far they have injected 43 of 47 sites on Pawleys Island and a few sites in Horry County. Most notably, the crew injected the vitex in front of the Carolina Dunes condominiums, with 212 feet of beach frontage and a vitex patch size of approximately 0.43 acres. The property owners provided about 6 man-days of labor to assist with the injection. Finally, Clemson ordered a new brush chipper to replace the one returned to main campus. Delivery is expected in time for Christmas.

*A vitex patch of about 0.43 acres in front of the Carolina Dunes condos was treated with herbicide.*
October 2007 Update from North Carolina

The Town of Pine Knoll Shores passed an ordinance declaring beach vitex a public nuisance. It is unlawful to introduce, plant, or maintain the plant in PKS.

A short article appeared in the Winter 2007/08 Aquarium News magazine, the news magazine of the NC Aquariums, about beach vitex and Melanie Doyle’s stepping into the role of NC Coordinator for the Carolinas Beach Vitex Task Force.

October 17 A patch of beach vitex growing on Bald Head Island Conservancy property was treated by Melanie Doyle, Task Force NC coordinator and Maureen Dewire, Bald Head Island Conservancy Director of Education. This medium-sized, fast-spreading colony was treated with the “hack & squirt” method of control. There are now two sites where this method was used to compare to the numerous other sites treated with the foliar-spray method.

November 2007 Update for South Carolina

November 13 A Post-Nesting Season Sea Turtle Workshop for project leaders was held at SC Department of Resources Ft. Johnson headquarters. It was hosted by DuBose Griffin, coordinator for the SC Marine Turtle Conservation Program. The purpose was to discuss sea turtle nesting and stranding trends, introduce a new improved nest data spreadsheet and have round table discussions. Betsy Brabson, a project leader and Task Force SC coordinator, gave a brief update on beach vitex eradication and restoration work. She thanked the group for submitting reports of beach vitex seedlings along the SC coast and appealed to them to continue surveying for the invasive plant.

November 2007 Update for North Carolina

November 5 The National Fish & Wildlife Foundation awarded the Carolinas (NC) Beach Vitex Task Force a Keystone Grant of $128,500 for beach vitex eradication and dune restoration. This is the first significant funding that the state has received to begin eliminating the invasive plant from the coast.

November 2007 Update for Clemson

The Clemson crew, made up of two full time technicians and two part time forestry students, finished injecting the 95 sites on the B list. Beaches treated include: Waite Island, Myrtle Beach, Garden City, North Litchfield Beach, South Litchfield Beach, Pawleys Island, Prince George, DeBordieu, Hobcaw Beach and one site in Mt. Pleasant.

Clemson has developed a nursery area on Hobcaw Beach to hold a few plants over the winter for a spring planting. On order and expected any day are a chipper for processing beach vitex debris and a 4 wheeler for surveying barrier islands.
December 2007 Update for South Carolina

December 13 Clemson University took delivery on a new chipper, a Bandit 65 XP. This machine replaces one that was on loan from the University and was called back. The chipper enables Clemson technicians in the field to chip up enormous amounts of beach vitex on site and cuts down on the number of visits to the spoil site. The purchase of the chipper was made possible through a grant from the Natural Resources Conservation Service (NRCS). A workshop in chipper operation/safety and christening ceremony were held at the Clemson Lab at Hobcaw Barony, Georgetown, SC.

Approximately 1.6 acres of beach vitex was treated and about 22.5 gallons of Habitat solution was injected along the beachfront of the Embassy Suites and the Hilton Inn at North Myrtle Beach

December 2007 Update for Clemson

During the week of December 3-7, Clemson's Baruch Institute tackled the largest beach vitex site located to date. Kingston Plantation, North Myrtle Beach, SC, consists of four beachfront high rise condominiums and two high rise hotels; Embassy Suites and the Hilton Inn. These contiguous buildings are on span over 1,700 feet of beachfront and about 970 feet of this span had a thick beach vitex population. During the week, Clemson provided about 114 man hours of effort to inject the plant and Kingston Plantation provided 151 man hours of labor. Approximately 1.6 acres of beach vitex was treated and about 22.5 gallons of Habitat solution was injected. The results of this effort will first be visible in the spring when the plant tries to leaf out. Clemson will provide the equipment and some labor for clearing the dead beach vitex in May or June and will work with Kingston Plantation to replant the dunes.

December 2007 Update for North Carolina

December 3 NC Task Force coordinator Melanie Doyle and Dale Suiter, US Fish & Wildlife Service met with Carolinas Beach Vitex Task Force members at Pine Knolls Shores. There are 2 confirmed locations of beach vitex in Dare County which are now the northernmost locations of the plant. In the spring, the Task Force plans to survey the northern Outer Banks.
Betsy Brabson christens the new chipper.

Clearing the coast of beach vitex

Goal for the future of the Carolina coast
A plant called vitex has been a growing concern for beach communities on the Carolina coast, and it’s a particular bane to the naturalists of Bald Head Island, where it has run rampant. But some innovative tactics to “eradicate” the weed, as implemented by scientists at the Bald Head Island Conservancy, are breaking through with favorable results and setting an example for others to follow.

Maureen Dewire, senior naturalist at the Conservancy, held her arms wide at a tract of vegetated sand last Wednesday on Sandspur Trail, close to Bald Head Island’s beachfront. “You wouldn’t believe what this site used to look like,” she told an audience of plant scientists, students and town leaders. “It was completely covered in vitex …but we eliminated it.”

Vitex (vitex rotundifolia) is an invasive weed found on many beaches along the coast, and to counter its aesthetic qualities, it has a harmful impact on the environment. Its vine-like, woody stems and green, oval leaves grow thick through the sand dunes’ natural vegetation that would otherwise trap wind blown sand and prevent erosion. Vitex, however, overcrowds and impairs the native plants in that function, thus degrading dunes.

Turtle lovers condemn the plant as well, since it crowds the dune bases used by loggerheads for egg nesting. For these reasons, vitex is in the crosshairs of the scientists and leaders present Wednesday, who, as a task force, gathered to observe Dewire’s successful eradication strategies.

Dewire formed the Bald Head Island Beach Vitex Eradication Program in 2005 after discovering nearly 180 infested sites across the island, many of which were imposing on dune quality. Dewire said once the eradication group was assembled, they wasted no time attacking the weed and removing it.

For this, her solution was simple: glyphosate. It’s an herbicide found in products like RoundUp, which, according to Dewire is “one of the safest to use. It doesn’t last long in the soil and it’s safe for our interns to use, so we tried that.”
Her trial worked. She said glyphosate killed the vitex, which was then harvested, relocated and burned. The Sandspur Trail site was her proof of the method’s effectiveness.

Dewire explained that this patch, previously a solid quarter-acre of vitex, was cleaned up in October 2005. For the following three months, she and her interns at the Conservancy monitored the site’s behavior. Aside from a couple spot treatments for “recurring seedlings,” she said no vitex resurfaced. “Not only that,” she said, “but all the natural vegetation came back on its own. We didn’t plant any of this. It just came back.”

John Ann Shearer, of the National Fish and Wildlife service, was amazed at the results. She had visited the site when it was still covered in vitex, and noted her elation at what now spread before her. As Shearer inspected the site, she found a few small vitex plants, but this did not affect her evaluation. “Some of (the vitex) will come back,” she said. “It’s nearly impossible to get it all, but you wouldn’t believe the difference here. There was so much (before) that you couldn’t even walk through it.”

Previously infested sites across Bald Head Island mirror the same success, Dewire said. Repeating her method, she has eradicated nearly 100 percent of the island’s vitex growth.

“We’ve gotten it all,” she said, “except for one site (on Bald Head Island) that N.C. State is testing on to see what herbicides are most effective.”

Located on Brown Pelican Trail, the site was slightly larger than the one Dewire presented earlier. Thick ropes of healthy vitex surrounded a few patches of dead, gray vegetation. Students from N.C. State’s botany program are treating portions of this tract with three different herbicides, recording the results.

Sarah True, a student from the university, was on hand at the test site to reveal some of their findings. Between the chemicals imazapyr, triclopyr and glyphosate, she said, the latter “worked best.”

Bob Eplee, a retired official from the U.S. Department of Agriculture, was also present, and he approached Dewire with a successful method of his own. Called the “dip and snip” method, Eplee pitched it as an alternative to spraying herbicides on land. Instead, he said, dip a pair of gardening scissors into a half-and-half mixture of glyphosate and water, and snip the vitex stems with the wet blades. Eplee said this would cause the part of the stem still connected to the ground to essentially “suck in” the mixture and feed it to the plant’s roots, killing it completely. He said he has had total success with this approach.

Dewire said she liked the idea of decreasing herbicide use, and would consider Eplee’s idea for future eradications.
And the future will demand more clean ups, Dewire said, explaining that the vitex seeds are nearly impossible to eliminate completely. Where there are seeds, she said, there is the potential for germination and growth.

Meanwhile, Dewire said she plans to continue monitoring the sites once occupied by vitex and communicate her findings as they come. There will be a symposium on the matter this fall, she said, where she hopes to keep the effort alive.

“The rest of the state is actually following our lead,” Dewire said. “Other towns have come to us and asked us how we’re doing it, so that’s really exciting.”
Melanie C. Doyle  
Horticulturist, NC Aquarium Ft. Fisher  
Coordinator, NC Beach Vitex Task Force

Melanie’s educational background includes a B.S. in Wildlife Biology from the University of Nebraska at Lincoln and an M.S. in Biology from UNC-Wilmington. Her thesis there involved the study of the breeding behavior & ecology of Least terns, which nest on local beaches and a few rooftops.

Melanie has been working with plants, in one way or another, for 17 years. She started with the Nebraska Forestry Service working for an Extension and Research Forester. She has worked with several retail garden centers and growers in both the Midwest and in North Carolina.

Melanie spent a year and-a-half working as an environmental consultant delineating and mapping wetlands and drainages throughout the state. This experience allowed her to become very familiar with the native plants and wildlife of North Carolina.

For the past six years, Melanie has been the horticulturist at the Ft. Fisher Aquarium. Her employment began one year prior the reopening of the new facility with a job that involves the care of all plants inside and out, including the Cape Fear Conservatory. Melanie is also active in the dune-restoration efforts in front of the aquarium.

Melanie’s goals are to present plants to people as part of the ecological community as well as part of gardens; to foster an appreciation of the important interactions between plants, animals and other life forms; to teach low-impact gardening practices; and to introduce to gardeners both the native species and non-natives that are new or unusual but sustainable and beneficial to wildlife.
National Invasive Weed Awareness Week

Cheatgrass
Bromus tectorum L.
St. Patrick’s Day 11

Weeds Won’t Wait: Don’t Hesitate

Giant Salvinia
Salvinia molesta

- A free-floating, extremely invasive aquatic fern, Giant salvinia possesses the capability of doubling its surface area every 5-7 days.
- Floats oxygen from water, which results in fish kills.
- Degrades underwater food habitat by blocking sunlight penetration to submerged aquatic plants.
- Has been documented in the Gulf regions of Florida, Alabama, Mississippi, and Texas, and in the Colorado River in Arizona and California.

Yellow starthistle
Centaurea solstitialis L.
- A deep-green, thistle-like plant, harmfully invading stems, growing from a green thistle, with 8-10 pod-like stalks.
- Extremely aggressive, displacing native plants and creating a resistant plaque on vehicles.
- Poisonous to horses, causing a fatal neurological disorder.
- Primarily impacts California, Washington, Oregon, and Idaho; the plant has now spread east, significantly infecting areas in Kansas, Utah, Arizona, and New Mexico.

Russian olive
Elaeagnus angustifolia L.
- Russian olive is a thorny shrub or tree that can grow to 30 feet in height.
- Tolerates shade and drought in a variety of soil and moisture conditions, including bare mineral substrates.
- Introduced into the United States in the late 1800s. It was planted as an ornamental in food for wildlife, or to form windbreaks.
- Found primarily in the central and western United States. Russian olive also occurs in the East, sometimes in association with another invasive weed species, autumn olive (Elaeagnus pungens).

How You Can Help
- Learn to identify invasive plants in your area.
- Use native plants whenever possible in landscaping.
- Report seed sightings to your local County or Land Management agency.
- Support local, state, and federal efforts to control invasive and noxious weeds.
- Prevent the spread of seeds by cleaning off hiking boots, dogs, boats, and vehicles.

For more information:
- http://invaweeds.fws.gov
- http://www.invasive.org
- http://www.fao.org/agriculture/pests
- http://www.invasivespecies.com
- http://www.apas.org
- http://www.invasivespecies.org
- http://www.invaweeds.gov
Friend turned foe

By Gareth McGrath  
Staff Writer  
gareth.mcgrath@starnewsonline.com

Bald Head Island | The man with the machete was on a mission.

Pausing amid the clusters of beach vitex that covered most of the oceanfront lot on this Brunswick County island, Hal Drotor picked up one of the plant's ground-hugging runners and began scraping off the outer bark.

With the soft tissue underneath exposed, his assistant Eric DeLuca swabbed purple herbicide onto the cut.

"What the plant is doing is actually starving to death," said Drotor, a research technician with Clemson University and vitex eradication expert, describing how the herbicide would disrupt the woody shrub's ability to feed itself. "This gives it a bad case of hardened arteries."

The eradication campaign against beach vitex in the Carolinas is a work in progress, with researchers still determining the extent of the problem and the best ways to knock back the hardy, sometimes beautiful, but very ecologically damaging plant.

But the initial skirmishes are showing some success, and that has officials upbeat.

"It's exciting to be part of a success story, an effort where we are showing significant progress against an invasive species," said Suzanne Dorsey, executive director of the Bald Head Island Conservancy. "We have a chance here."

Still, there's a lot of work to be done - and not a lot of time to do it.

"If we wait five years, we'll be in real trouble," said Melanie Doyle, North Carolina coordinator with the Carolinas Beach Vitex Task Force.

Kudzu of the coast

The plant, first welcomed to the coast two decades ago as a useful landscaping plant and now viewed as one of its biggest scourges, is getting dug up, poisoned and labeled a persona non grata along more and more stretches of coastline.

Two years into an islandwide eradication program, Bald Head has largely vanquished the large clumps of the invasive species from most of its known locations.

Other North Carolina beach communities also are stepping up their eradication campaigns.
In South Carolina, vitex that clogged lawns and strangled native plants is being cleared off the vital beach dunes in increasing amounts.

But officials are still nervous.

Money and manpower remain tight, the extent of the problem in North Carolina is still largely unknown and education of landowners and local officials is an ongoing concern.

The plant also doesn't simply disappear when the surface branches and runners are cleared.

With deep roots and a growth rate that can reach several feet a month during the summer, vitex quickly bounces back without close monitoring and ongoing maintenance.

Then there is the plant's ability to produce thousands of seeds - up to 20,000 seeds per square meter - that can get transported to new locations by wind, water and hungry animals.

Drotor said South Carolina officials recently found vitex on Waites Island, the undeveloped island just across from Bird Island in North Carolina.

"And it didn't get there by someone planting it," he said.

Adding salt to the wound, deer - a growing scourge on many barrier islands, including Bald Head - are voracious plant eaters but won't eat vitex.

Still, officials said they feel better today than they did a few years ago when vitex received the unflattering moniker of the "kudzu of the coast."

**Dune destroyer**

It's easy to see why vitex first entranced landscapers and homeowners.

Fast-growing, salt-tolerant and sporting a beautiful purple flower during the summer, vitex was first marketed as a coastal landscaping plant by N.C. State University in the 1980s.

The plant became popular in South Carolina after Hurricane Hugo devastated the Charleston area in 1989, when officials looking to stabilize dune lines couldn't find enough sea oats and sea grass to do the job.

"But no one back then knew how bad it could be," Drotor said.

Officials started worrying about vitex earlier this decade as beach dunes began getting overrun by the shrub.
Not only does the plant kill off the native dune vegetation, but vitex lacks the dune-building benefits of sea oats or sea grasses and is a hazard to nesting sea turtles and shorebirds.

And the plant can grow up to 15 feet a year, double that amount in areas with irrigations systems, quickly crowding out everything else.

Killing vitex also can be a problem.

Pulling it up generally doesn't work, since the roots are often left behind. And runners cut off from the mother plant just sprout their own roots and continue growing.

Mulching the plant, unless it is completely dead, also simply spreads it to new locations.

"It really is about the worst thing you can plant on a barrier island," said Gene Douglas, a councilman on Bald Head Island.

**Eradication efforts**

Leading North Carolina's anti-vitex campaign has been Bald Head Island.

Officials on the ritzy island at the mouth of the Cape Fear River became concerned several years ago when the plant that had been widely planted for landscaping began taking over dunes and gardens.

"We just didn't know any better," Douglas said.

Using a mix of grants and more than $100,000 in village funds, the eradication effort led by the Bald Head Island Conservancy has been largely effective in clearing known infestations.

Still, officials know they haven't completely defeated the foreign invader - hence the reason for the five-year eradication plan.

"If we stopped now, a lot of our effort would be wasted," said Maureen Dewire, the Conservancy's senior naturalist, as she stood in a lot that had been covered in mats of vitex feet-deep last year.

Now just a few sprigs sprout through the sandy soil. They will soon be sprayed with herbicide as part of the island's ongoing monitoring program.

Dewire said of the estimated 5 acres of vitex on the island in 2005, nearly 95 percent has been removed.

Bald Head removed most of its vitex by digging it up, often with heavy equipment.
But other, less back-breaking methods are being tested.

The vitex-infested lot Drotor was working in had been intentionally kept full of the invasive plant by the Conservancy so it could be used as a test bed for eradication methods.

Large brown clumps of the dead plant were testament to where another herbicide applied earlier in the summer had killed vitex.

While eradicating the invader is the vitex task force's mission, Doyle said the immediate goal in North Carolina is to locate all outbreaks along the coast. While some recent surveys have been done, other barrier islands haven't even been eyeballed in years - if at all.

Drotor said he expected beachfront property owners and even local officials to be helpful allies in that search once they realize the insidious nature of what's actually growing in their backyard.

"It's no longer a matter of we'll let you in," he said of the reaction he now gets from South Carolina residents and officials. "It's when will you get here."

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