

## Carolinas Beach Vitex Task Force Archived Announcements

J U N E - D E C E M B E R 2 0 0 4

**June 23** Six Volunteers, including Jennifer Koches and Melissa Bimbi of the US Fish and Wildlife Service, removed 179 Vitex seedlings and small plants from a half mile stretch of Hobcaw Beach.

**June 24** Beach Vitex will be the featured mystery plant in John Nelson's column in the State newspaper this Sunday, June 27.

**June 30** Betsy Brabson - coordinator of the Beach Vitex Task Force - joined representatives from three states (NC, SC, & GA) at the Savannah-Santee-Pee Dee (SSPD) Ecosystem Team Meeting of the US Fish and Wildlife Service in Georgetown County. She updated the group on the recent activities and future plans of the BV Task Force.

**July 1** The *Coastal Observer* ran an article about Beach Vitex that cited removal of 179 seedlings from Hobcaw Beach by representatives from US Fish and Wildlife Service and members of the BV Task Force (see 6/23/04 update). The piece also explained that several oceanfront homeowners have given permission for their vitex-covered dunes to be used as test sites for experimental herbicides that are being developed at Clemson. Other Vitex research at Clemson includes a collaboration with the Governor's School for Math and Science to determine if Beach Vitex exhibits allelopathy (a chemical defense that plants use to keep other plants from encroaching.)

**July 9** The *Charleston Post and Courier* ran an article with color photos entitled "Invasion of Beach Kudzu...Korean pest takes root at Folly's shore". The author, Bo Petersen, interviewed Jennifer Koches, of the US Fish and Wildlife Service about Beach Vitex.

In other news, Dr. Randy Westbrook, USGS, developed a 2004 Beach Vitex Workplan to be implemented once the US Fish and Wildlife Foundation's grant money is received.

**July 12** Betsy Brabson contacted the project coordinators of the sea turtle network to request their help in organizing their volunteers to search for Beach Vitex on their respective beaches. Volunteers have been asked to document plants with GPS, dig up seedlings, and report their findings to Betsy.

**July 16** Betsy Brabson was named coordinator of the SC Beach Vitex Task Force.

### Hawaiian Plant Threatens South Carolina Dunes

by Robin Roecker and Tommy Socha  
photos by: Will Corner, Baruch Institute of Coastal Ecology and Forest Science

During the 1960's, a plant was sought that would help protect and build ocean-side fore dunes in South Carolina. The plant had to be drought resistant, sand and salt tolerant, and fast growing.

Beach vitex (*Vitex rotundifolia*), native to Korea, Hawaii, Japan, and China, was chosen. The prolific and resilient plant now is taking over the natural vegetation along the South Carolina shore. Beach vitex threatens native plants along primary beach dunes, including sea oats (*Uniola paniculata*), sweet grass (*Muhlenbergia filipes*), and sea beach amaranth (*Amaranthus* of Engineers, Charleston District, has observed the growth of beach vitex along frontal dunes in South Carolina. Socha first noticed the sprawling shrub with blue-purple flowers while working on a Corps project to replenish 25.6 miles of the South Carolina coast from the north end of North Myrtle Beach to Garden City Beach. Socha observed healthy beach vitex growing



Beach vitex showing blue-purple flowers.

Beach heading towards Hobcaw Beach. Betsy and other sea turtle volunteers have

**Summer 2004:** *Wildland Weeds*, Summer 2004 issue, featured an article entitled "Hawaiian Plant Threatens South Carolina Dunes".

**July 22** The *Coastal Observer* (Waccamaw Neck, Georgetown County) ran an article citing beach vitex research by Governor School for Arts and Science student Amber Neal. She and Dr. Chuck Gresham (Clemson University) have been conducting experiments that suggest that the plant drives out native dune plants. They illustrate that BV starves other plants of sunlight and deprives them of water. Neal also looked at whether beach vitex has allelopathic properties (e.g. produces chemicals that harm competing plants). While working on this theory, Neal and Gresham discovered that water has a difficult time percolating through the soil in which beach vitex grows. Dr. Gresham said, "water would bead up, like on wax paper or on a newly-waxed car". They believe that by keeping the top layer of sand dry, beach vitex prevents seeds that land there from establishing themselves. Their work was done on sites at DeBordieu, Pawleys Island, and Litchfield beaches.

**July 29** DNR officer Mark Spinks and Betsy Brabson surveyed North Island by ATV for beach vitex. Along the way, seven sea beach amaranth plants were spotted, all thriving. About 6-7 miles down the 9 mile island, two beach vitex seedlings were found growing side by side. They were dug up, flagged, and GPS coordinates were taken. Mike Walker, Huntington Beach State Park, reported a beach vitex plant on their beach and sent the GPS coordinates.



*A particularly large stand of beach vitex on the back side of the dunes in front of the condos.*

**August 4** Randy Westbrook (USGS) and Jennifer Koches (US Fish and Wildlife Service) surveyed the Folly Beach and Isle of Palms (Seascape Condominiums and #6 Dune Crest) locations where beach vitex had been documented. Sea turtle volunteers and property owners at Seascape Condominiums have expressed concern about the particularly large stand of beach vitex on the back side of the dunes in front of the condos. Two sea turtle volunteers retrieved about 80 hatchlings from this thicket 2 or 3 years ago. Dr. Westbrook feels the Seascape Condominium location would make an excellent site for conducting a control/restoration demonstration project - it is well contained by sand fences and walkways and has not encroached on the primary dune.

The high tides associated with the full moon and T.S. Alex snapped off runners of beach vitex from the pink house in the Ocean Green section of DeBordieu adjacent to Hobcaw Beach. The runners, which had been laden with fruit, were

found as far down as North Inlet. This may confirm that beach vitex fruit is being spread by wave action and carried by the current. Property owners should be advised to keep beach vitex runners trimmed off the beach.

**August 5** Jack Whetstone (Clemson University), Randy Westbrook (USGS), and Betsy Brabson (SC Beach Vitex Task Force) surveyed 15 miles of the Black River for beach vitex. A large planting of beach vitex had been found on a bank of a home in Browns Ferry, and there was concern that seeds had floated down the river and sprouted; no seedlings were found. The remaining 8 miles from the 701 bridge to the Black and Pee Dee River Bridge in Georgetown will be surveyed at a later date.

**August 6-7** 32 seedlings were dug up by volunteers along 1.5 miles of Hobcaw Beach in Georgetown County.

**August 9** Dr. Chuck Gresham (Clemson University) and Governor's School for Arts and Science student Amber Neal submitted their report on beach vitex research entitled "An Evaluation of the Invasive Potential of Beach Vitex". They hope to have this report published in a journal such as *Castanea* or *Journal of the Torrey Botanical Society*. They will also be working with Jack Whetstone (Clemson University) to rewrite the report for a Clemson Extension publication.



*A large planting of beach vitex had been found on a bank of a home in Browns Ferry.*

**August 14** Wave action from Hurricane Charley aided in the spread of beach vitex along SC beaches. The fruit from the beach vitex runners extending onto the beach was found all along the rack line on Hobcaw Beach.

**August 25** The 2<sup>nd</sup> Plant ID Workshop was held at the Picnic Pavilion, Camp St. Christopher, Seabrook Island. About 25 participants were updated on the activities of the SC Beach Vitex Task Force by coordinator Betsy Brabson. John Brubaker, president of the SC Native Plant Society, educated the group about the taxonomy and invasive characteristics of beach vitex. He then led the group onto the beach and pointed out the native plants that do a good job of holding the sand and allow others to compete. The goal of the workshop was for the participants to become familiar enough with beach vitex that they could confidently identify it.



*The 2<sup>nd</sup> Plant ID Workshop was held at the Picnic Pavilion, Camp St. Christopher, Seabrook Island.*

**August 31** Sally Murphy from SCDNR sent out an e-mail to the project leaders of the SC sea turtle network encouraging the removal of BV fruit on runners that extend onto the beach in order to lessen the spread of fruit and root fragments by wave action associated with high tides and storms. Volunteers are encouraged to get permission from property owners before removing runners/fruit.



*Jack Whetstone and Larry Nelson from Clemson University began experimenting with different herbicides in an effort to control beach vitex*

**September 16** Jack Whetstone and Larry Nelson from Clemson University began experimenting with different herbicides in an effort to control beach vitex. Three test sites were selected in DeBordieu Colony, Georgetown County. A site on the beach where BV was growing above the seawall was divided into 4 plots and flagged. The following four herbicides were used: Glyphosate 10%, Triclopyr 20% with 80% vegetable oil (Basal Application – 18 inch major stem sprayed), Imazapyr Habitat 5% with 1% MSO, and 2,4-D 2%.

Jack and Larry also sprayed 10% Glyphosate on a site that had beach vitex growing into a public walkway near the beach as well as on a maintenance road about 3 miles from the beach where beach vitex began sprouting after DeBordieu Landscape and Maintenance chipped up residents' yard clippings and spread the mulch along the road. Glyphosate was used on these two DeBordieu property owners' sites because it has no soil activity - a safe candidate for use in home gardens. The three sites will be monitored for results.

**September 22** The 3<sup>rd</sup> BV Task Force Plant ID Workshop will be held on **Tuesday, October 5 from 1:00 p.m.-3:00 p.m.** at the Chaplin Community Park's pavilion on Hilton Head Island. John Brubaker, SC Native Plant Society president, has graciously agreed to lead the workshop again. The event has been organized by Kim Jones (Coastal Discovery Museum), Sally Krebs (Town of Hilton Head), and Ed Drane (sea turtle coordinator).

**September 24** Dr. Chuck Gresham and Dr. Lin Roth of Clemson University are interested to see if beach vitex is being consumed and dispersed by birds. Clemson has purchased a self-contained, water-proof camera called a scouting camera, which will be timed to photograph BV sites during peak bird feeding times (dawn to 11:00 a.m. and 3:00 p.m. to dusk). The camera will be rotated among the nine test sites every 3-4 days to make sure all sites are sampled.

**October 4 “Beach Kudzu’ Threatens S.C. Dunes”**, an article written by Associated Press reporter Jacob Jordan appeared in a number of news sources, including the State Newspaper, the Charlotte Observer, Atlanta Constitution, Beaufort (SC) Gazette, Lafayette (LA) Advertiser, Sunday Advocate (Baton Rouge, LA), Sacramento Bee, YahooNews.com, ABCNews.com, Environmental News Network, Anchorage Daily News, StarNewsOnline.com (Wilmington, NC) and Washington DC Times. Jack Whetstone, Clemson University, was interviewed by Mary Hartnett about beach vitex on WUNC radio, an affiliate of National Public Radio.

**October 5** The 3<sup>rd</sup> Plant ID Workshop was held on Hilton Head Island at the Chaplin Community Park Pavilion. About 25 participants were educated by SC Native Plant Society president John Brubaker about native dune plants and learned how to identify invasive beach vitex. To date, the plant has not been found on the island. Jessica Flathmann, a reporter with the Island Packet, ran a story on the workshop entitled **“Mean green: Plant threatens beaches”** in the October 6, 2004 edition.



*SC Native Plant Society president John Brubaker shows participants ant the 3rd Plant ID Workshop how to indentify beach vitex.*

**October 6** Myrtle Beach’s WPDE Channel 15 reporter Joel Allen interviewed Jack Whetstone and Betsy Brabson. The interview, which appeared on the 6:00 and 11:00 pm news, focused on the 4 different herbicides being used experimentally to control beach vitex on a test plot at DeBordieu, Georgetown County.



*Myrtle Beach’s WPDE Channel 15 reporter Joel Allen interviewed Jack Whetstone and Betsy Brabson.*

**October 13** Reporter Jeff Vari, of Mt. Pleasant, SC newspaper the Moultrie News, wrote an article on a particularly large stand of beach vitex on Isle of Palms. The plant covers about 1/3 acre of the secondary dune in front of Seascapes Condominiums. The article cited that the SC Beach Vitex Task Force believes this location would be ideal as a test site for trying different control methods in ‘05. It is area is well-contained by sand fences and walkways and has not encroached on the primary dunes.

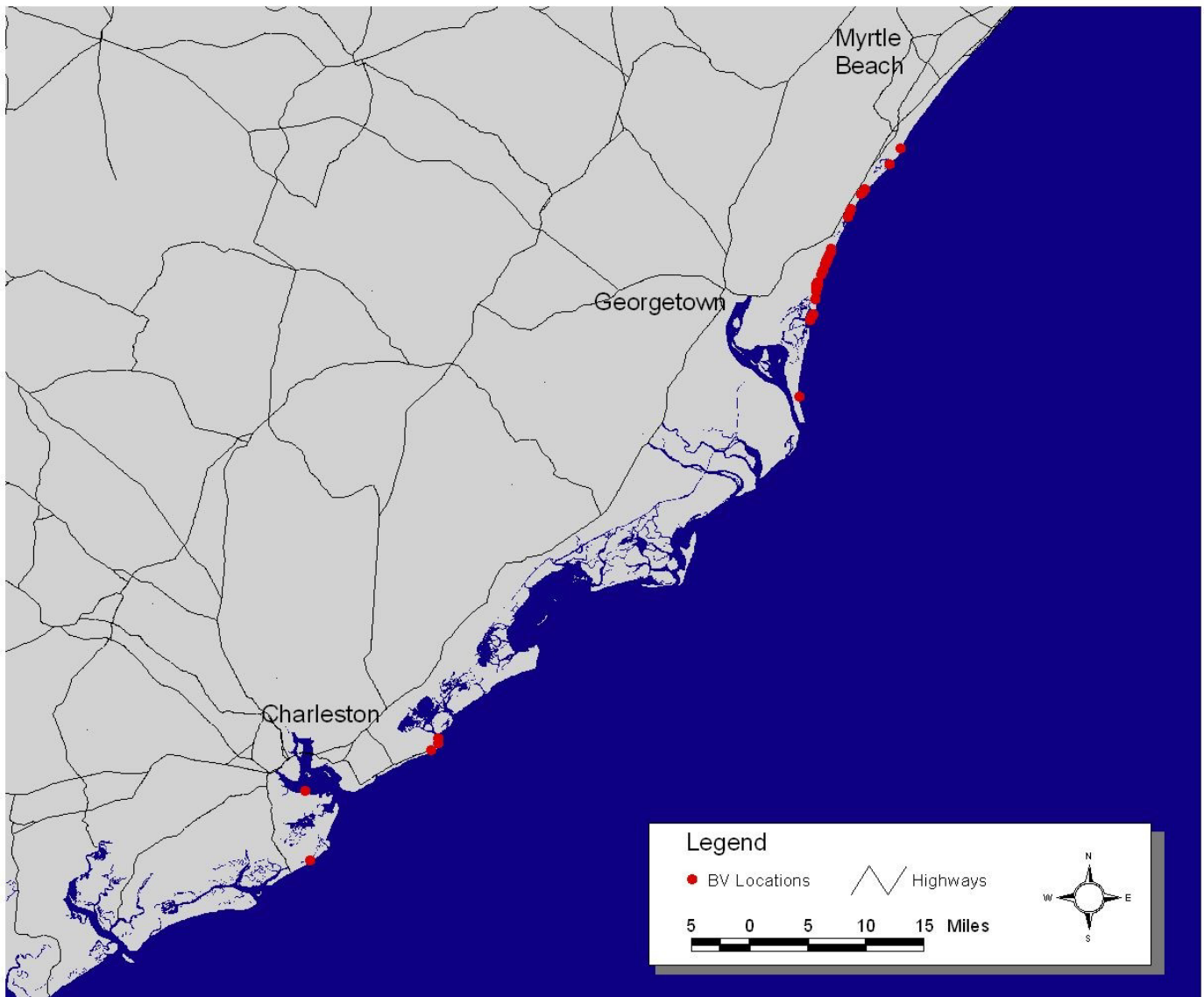
**October 17-22** Staff members from North Inlet-Winyah Bay National Estuarine Research Reserve (NERR) attended the annual reserve system conference in Kennebunkport, Maine and presented a poster on beach vitex.

**November 15** Laura Schmidt, GIS analyst for the North Inlet-Winyah Bay NERR, compiled the GPS locations of beach vitex on the SC coast. The heaviest concentration of the plant occurs on the Waccamaw Neck in Georgetown County. This map will be updated as more locations are documented.

Fish and Wildlife Service will have an exhibit focusing on beach vitex at the **2005 Southeastern Wildlife Exposition** held **February 18-20 in Charleston, SC.**

**A SC Beach Vitex Task Force Symposium is planned for Thursday, March 10, 2005 at the Kimbel Center on Hobcaw Barony in Georgetown, SC. Please mark your calendars; details coming soon .**

## Beach Vitex Locations



**November 29** The Beach Vitex Task Force submitted the 2005 grant proposal for the National Fish and Wildlife Foundation's ***Pulling Together Initiative***.

**December 15** The North Carolina branch of the US Fish and Wildlife Service has scheduled a symposium to address the spread of Beach Vitex along the NC coastline. The symposium will be held on **Thursday, January 20th at 10:00 a.m. at the New Hanover County Arboretum**. SC Beach Vitex Task Force members will be present.

Betsy Brabson, SC Beach Vitex Task Force Coordinator, was interviewed about beach vitex on Clemson University Radio Production's 'Your Day' for a program called 'Science for the Rest of Us'. The interview will air in January.

Jack Whetstone, Extension Aquaculture Specialist and Associate Professor with Clemson University, attended the university's Public Service Conference in Myrtle Beach December 7-9. He presented a poster entitled "**Beach Vitex - A Coastal Invader**".

## Beach kudzu' threatens S.C. dunes

**Jacob Jordan**  
Associated Press  
Published on: 10/05/04

COLUMBIA, S.C. — A seemingly harmless plant brought to South Carolina's coast in the 1990s to help control erosion has turned mean, overtaking dunes, choking out other plants and garnering a notorious nickname: "beach kudzu."

"At first it was doing a good job, then we started noticing it was choking out the native plants," said Betsy Brabson, who has watched the plant from the Pacific Rim called beach vitex take over sea oats and beach grass around her home near the pristine, undeveloped coast in Georgetown County.



Lou Krasky/AP

[\(ENLARGE\)](#)

[Plant specialist Randy Westbrooks talks about pesky beach vitex.](#)

Originally planted on Debordieu Beach in the early 1990s after Hurricane Hugo damaged the dunes in 1989, the vitex spreads by seeds that are washed in the tides. Although the heaviest stretches grow along the central South Carolina coast, it has also plagued parts of Alabama's coast and North Carolina's Figure Eight Island.

Brabson, who heads the South Carolina Beach Vitex Task Force, said if nothing is done to control the plant, picturesque beach dunes could become bushy eyesores.

"When vitex is compared to kudzu, everybody knows the rest of the story," Brabson said.

Few scientific studies have been done in the United States on beach vitex, but there is anecdotal evidence showing similarities to kudzu, a plant from Japan that Southern farmers began using in the 1930s to prevent soil erosion.

Every Southerner knows how that story ends — just drive along the highways and witness the monstrous vines covering trees, road signs and billboards.

Vitex, too, was thought to be a colorful way to control beach erosion when brought to the United States in 1985, but it's unclear if it's even good for that.

"It will trap sand because of the aboveground foliage, but it will not hold sand," said Randy Westbrooks of the U.S. Geological Survey.

Clemson University researchers are looking into the plant's effect on dune stability, and they have also started herbicide testing at a private residence to see what, if anything, can control the vines.

But Beach vitex may not be all bad. Japanese researchers found that an extract from its fruit inhibited the growth of cancer cells in the lung and colon.

Vitex, like kudzu, has fragrant, violet-colored flowers. The leaves are one to two inches long, and the small, round fruit appears purple to black when ripe.

The seeds are spread by waves that break off small parts of the fruit-laden runners and taking them down the coast, where they root easily.

With its long, winding runners that slide across and hug the sand, beach vitex roots about every two and a half inches. The roots shoot down as much as six feet and overtake the native plants.

"Beach vitex doesn't want any competition," Brabson said.

Brabson also is worried about the effect on sea turtle nesting. She has heard that the turtles are crawling to the dunes, bumping into the vitex and returning to the water without laying any eggs.

"As I walk down the beach and I see what these dunes look like that are covered with this, I just envision 10, 20 years from now the whole dune system looking like that, and that would be such a loss for this state," she said. "I guess that's what keeps me going."

## **Mean green: Plant threatens beaches**

Task force warns of vitex's invasive nature

BY JESSICA FLATHMANN, The Island Packet  
Published Wednesday, October 6th, 2004

With its small lavender flower and pleasant smell, the vitex plant might not look like a potential menace to Lowcountry beaches. But if it finds its way here, it has the ability to harm the dune system.

About two dozen people, including government officials, learned Tuesday how to identify the plant in an effort to keep it off local dunes.

Betsy Brabson, coordinator for the S.C. Beach Vitex Task Force, said the plant hasn't been reported on Hilton Head Island. But it has been seen at other beaches along the coast, including the Georgetown area.

Brabson said the plant was brought to the region by a North Carolina State University official, who thought it would help stabilize the beach and control erosion. Instead, the plant pushes out native dune plants, much like kudzu.

"It chokes out everything else," Brabson said.

Lucia Mueller, who attended Tuesday's lecture, said she came so she could take back what she learned to her gardening group, the Dirty Diggers Garden Club.

"Awareness is very important," she said.

John Brubaker, president of the S.C. Native Plant Society, said beach vitex, scientifically called the *Vitex rotundifolia*, puts out long roots that go after water deep in the dune. That prevents native plants from getting water. The native plants hold the sand in place, while the beach vitex doesn't do anything to stabilize the dunes.

"It promotes erosion," Brubaker said. "It does not prevent erosion."

The plant even can prevent sea turtles from nesting.

"It can form such a mass that turtles get entangled in it," Brabson said.

Beach vitex grows like a vine along the beach, but it can be pruned to appear more like a bush. It is green during the summer and starts flowering in June, Brabson said. It's native to the Pacific Rim area, including Korea.

Exactly how the plant is spreading hasn't been determined, but several theories are being considered. One possibility is that the vines that reach toward the ocean are washed over by waves. The waves remove the seeds, which are washed down the beach, where they take hold. Another way may be through birds eating the seeds.

The task force is using part of a \$47,000 grant from the National Fish and Wildlife Foundation to determine how the plant is spreading. Part of the grant also pays for identifying locations where the beach vitex can be found.

Brabson said if area residents find what they think is beach vitex, they should report its location to the task force.

"If you feel confident in what it is," she said, "you should dig it up."