

teaching & research

CHARLES & SARAH P. BECKER '27 PROFESSOR of Botany Peter Siver's Marine and Freshwater Botany course (Botany 410) used the Arboretum for a semester-long project (one of three) to investigate the aquatic photosynthetic eukaryotes, which are aquatic vascular plants; the plankton community; and the community of organisms attached to other plants. The class divided into three groups, with each responsible for one of the three classes of organisms. Their goal was to inventory the plants (at the genus level for microscopic organisms) and develop a page or two on each plant with description, additional information and images, and a page of methods with a general description of the pond and habitats. All of the information and pages were then assembled into an interactive PowerPoint presentation.

In Jean C. Tempel '65 Professor of Botany Scott Warren's Estuarine Ecology class (Biology 413), students calculated the rate of sediment accretion on the Mamacoke tidal marsh surface and compared this to the rising sea level. The water is rising at twice the rate of the marsh surface, indicating that the marsh will be underwater sometime in the future, if the trend continues.

Professor of Biology Robert Askins' ornithology class (Biology 204) used the Arboretum for field trips to Mamacoke Island and associated coves and the Arboretum Pond area.

The General Ecology course (Biology 207) was led by Professor Askins, George & Carol Milne Assistant Professor of Biology Anne Bernhard and Senior Lecturer Pamela Hine. They conducted the following five labs in the Arboretum: pollination ecology, pond phytoplankton and zooplankton, forest survey, reading the forest landscape, and feeding behavior of birds. This class also used the greenhouse for a six-week lab on nitrogen fixation.

While the Botany Department searched for a plant ecologist to replace Professor Christine Small, Bryan Connolly of Mansfield, Conn., stepped in to teach Systematic Botany and the Local Flora (Botany 225) and Plant Ecology (Botany 315). Mr. Connolly and his students used the Arboretum weekly during the fall semester for the systematics class. During the Spring semester, the plant ecology class used a variety of locations for labs on plant identification, forest age and succession, demonstrations of vegetation sampling techniques, soils and geology, and GIS and GPS use. While Mr. Connolly was with the Botany Department, he reared a *Miracavira brillians* caterpillar on the native shrub Wafer-Ash or Hop Tree (*Ptelea trifoliata*) for University of Connecticut entomologist Dr. David Wagner. He also collected two new naturalized exotic species for Connecticut on Arboretum

property: a nightshade (*Solanum physalifolium*, formerly *P. sarrachoides*) and Hairy Crabweed (*Fatoua villosa*). Both are herbaceous weeds that were previously known from neighboring states.

Senior Lecturer in Environmental Studies Beverly Chomiak's Introduction to Geographic Information Systems (GIS) course (Environmental Studies 312) continues to add information to the ever-expanding Arboretum electronic map database. This year, individual student projects in the Arboretum included: distribution of Japanese Barberry (*Berberis thunbergii*) in the Bolleswood Natural Area, a compilation of long-term waterfowl feeding data in the Thames River at Mamacoke, tracking hydrology in parts of the Arboretum, the distribution of Sassafras (*Sassafras albidum*) in the Bolleswood and Native Plant Collection, and mapping and characterizing stonewalls on the Matthies, Avery and Mamacoke Tracts. The latter project was conducted by Jessica LeClair '08, who donned a wet suit and went snorkeling to find the terminus of a wall that is now underwater off the south shore of the Mamacoke salt marsh.

Visiting Professor Mary Ellsworth taught a freshman seminar for the English Department that included a tour of the Arboretum with Glenn Dreyer. This resulted in a series of essays, poems, a drawing and a set of photographs inspired by their Arboretum visit.

Projects

Mamacoke IBA

Since 1999, the area around Mamacoke Island in the Arboretum has been listed as an Important Bird Area (IBA) by the National Audubon Society. What makes this a significant location for bird life is the saltwater coves north and south of Mamacoke that provide habitat for many species of waterfowl during cold winters when freshwater bodies freeze. With a small grant from the society's Connecticut office, Glenn Dreyer, Robert Askins, Beverly Chomiak and Scott Peterson '06 wrote a comprehensive conservation plan for Mamacoke. The draft report pulled together site history and summarized past college research and management in the 300-acre area of Mamacoke, a portion of the Thames River and Smith Cove, and nearby uplands west of the river. It went on to evaluate conservation concerns and threats and established goals for preserving and managing the area for the future.

Benham Avenue Meadows

The Meadow Restoration Project at the eastern end of Benham Avenue was finished this year. An area approximately five acres west of the existing fields had been cleared of

invasives and young forest vegetation in previous years. After hours of raking to remove organic litter and more hours of herbicide applications to control Oriental Bittersweet and other invasive vines and shrubs, the field was seeded with a mixture of six native grass species and 17 native wildflowers. The seed was purchased from New England Wetland Plants, a company owned by David Anderson '76, a botany major. We gratefully acknowledge the cooperation of the U.S. Fish and Wildlife Service, which loaned a tractor and seed drill, and the Connecticut Department of Environmental Protection, whose staff operated the seeding machine. This project was made possible by grants from the Wildlife Habitat Incentive Program of the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS). Our thanks to another botany major, Dr. Nels Barrett '78, who was the Arboretum's main contact with the NRCS for this project.

Publications

“Ethnobotany of the Common Native Trees and Shrubs in the Connecticut College Arboretum.” This colorful brochure resulted from class notes and field trips created by Botany Associate Professor of Ethnobotany Manuel Lizarralde and an individual study project by his student, Lori Kessel '04. One side of the colorful, multi-paneled brochure describes the appearance, range and historical uses of 22 select, local woody plants by Native Americans. Each is illustrated with a live leaf collected and scanned by Lori. The reverse side has a collection map indicating where each of the species is located, various photographs of plants and craft items, a short description of ethnobotany, and some reference material. Available from the Arboretum office.

“Seaweeds of Long Island Sound.” Arboretum Bulletin No. 39. This publication was a collaborative effort between the Arboretum and the Connecticut Sea Grant College Program. Its author, Margaret Van Patten '87, who majored in human ecology at the College, is communications director for the Connecticut Sea Grant Program. About 80 species of local marine algae are described in non-technical terms and illustrated with color photos. This user-friendly guide replaces Arboretum Bulletin No. 18, the out-of-print “Wader’s Guide” by Professor Emeritus of Botany Sally Taylor and Marie Villalard.



Chris Penniman

The Arboretum has many influences on the life of the College that might not be expected or very well known. Chris Penniman, who received her undergraduate degree in botany, is the College's director of instructional technology in the Information Services Department. Here she

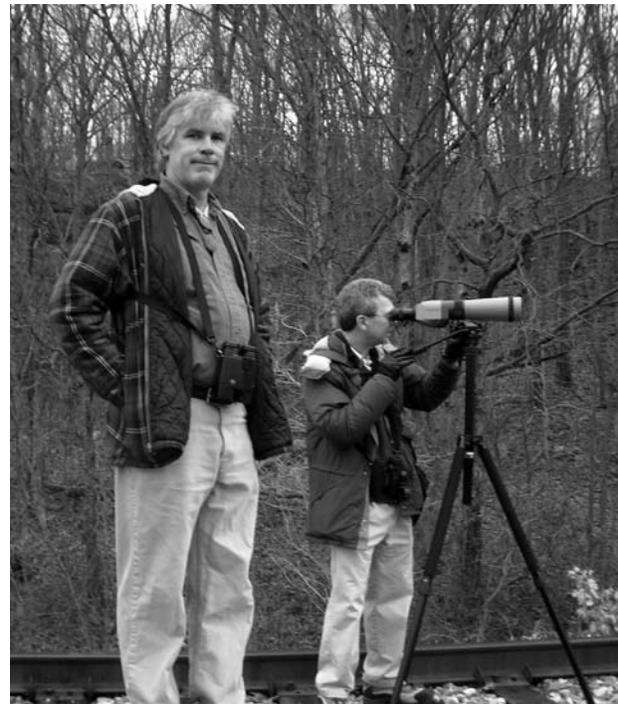
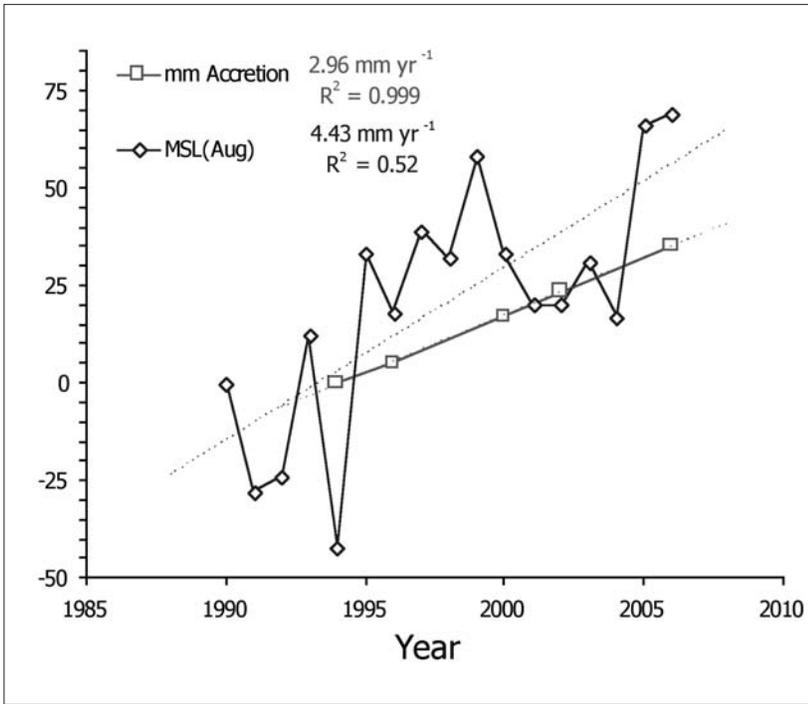
relates how the practice of naming the College's computer servers (networked hard drives) after trees began:

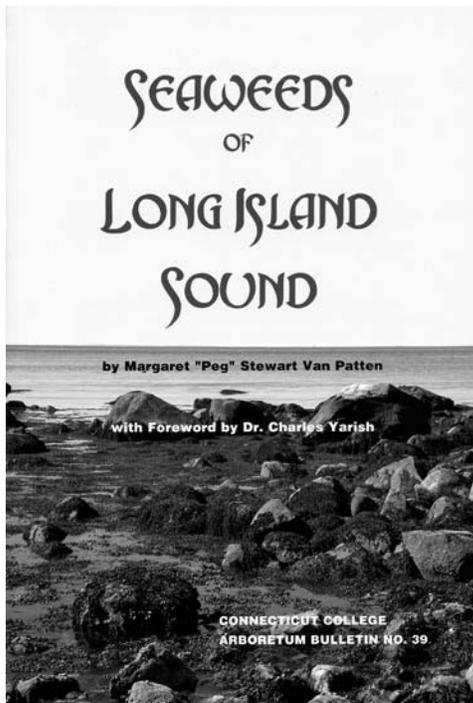
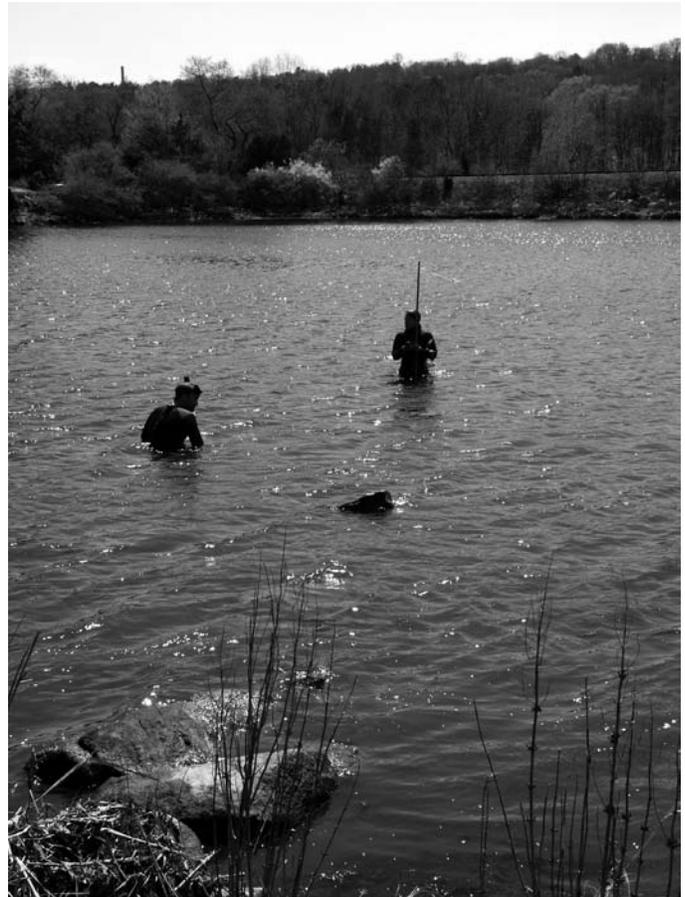
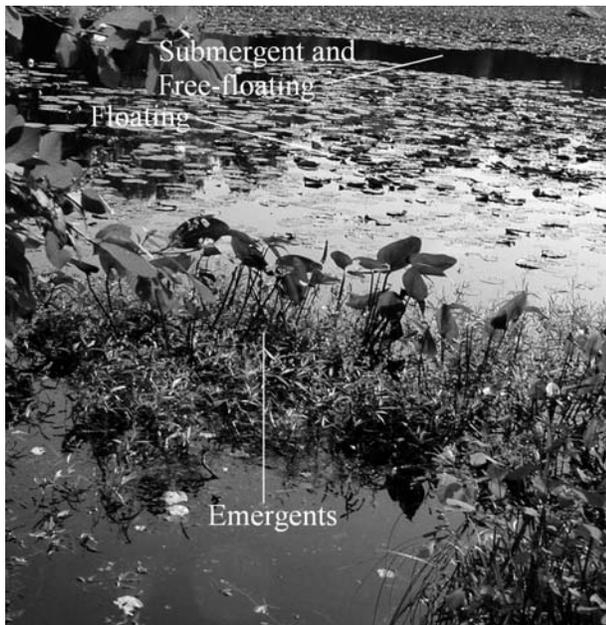
I BEGAN THE SERVER-NAMING TRADITION in the early 1990s with the academic server administrator Gregg TeHennepe, to honor the campus as an arboretum. We started with common names of native trees, such as Cedar, but had to expand our criteria as the number of servers increased. We added non-native trees, including Gingko, then added shrubs such as Elder, and recently expanded the list to include vines, perennials and annuals when we added the two ConnCourse servers, Ivy and Iris. You could say our server list has become diversified and international.

I don't know of any other college that has a naming convention like ours. When a new server is installed, the server administrator selects a name not taken or asks me for a list of suggestions. Some common plant names have not been used either because they are too difficult to spell or don't otherwise make the grade, including: Bladdernut, Farkleberry, Hackberry, Lambkill, Moosewood, Nannyberry, Oilnut, Pawpaw, Persimmon, Pipsissewa and Possum-haw.

It takes a surprising number of servers to meet the needs of the campus, from those that users interact with directly to those that function behind the scenes. Here are some of the names we use for our servers:

Alder	Elm	Pecan
Andromeda	Fir	Pine
Aspen	Gingko	Poplar
Banyan	Hemlock	Raspberry
Beech	Ivy	Redbud
Blueberry	Iris	Spicebush
Buckeye	Juniper	Spruce
Catalpa	Larch	Strawberry
Cedar	Laurel	Sumac
Cherry	Lilac	Sycamore
Cranberry	Linden	Tulip
Cypress	Maple	Walnut
Dogwood	Nutmeg	Willow
Elder	Oak	





Clockwise from top left:

The Marsh at Mamacoke: During the past 16 years, the rate of sea-level rise (upper, jagged line with diamonds) has been rising faster than the marsh surface (lower, straight line with squares)

Professor Askins (r) and Patrick Comins of the Audubon Society check out birds in Mamacoke Cove

Professor Siver's students studied plants in the Arboretum Pond

Diving for stone walls off Mamacoke Marsh

Seaweed Bulletin cover

Seeding the meadow with native grasses and forbs