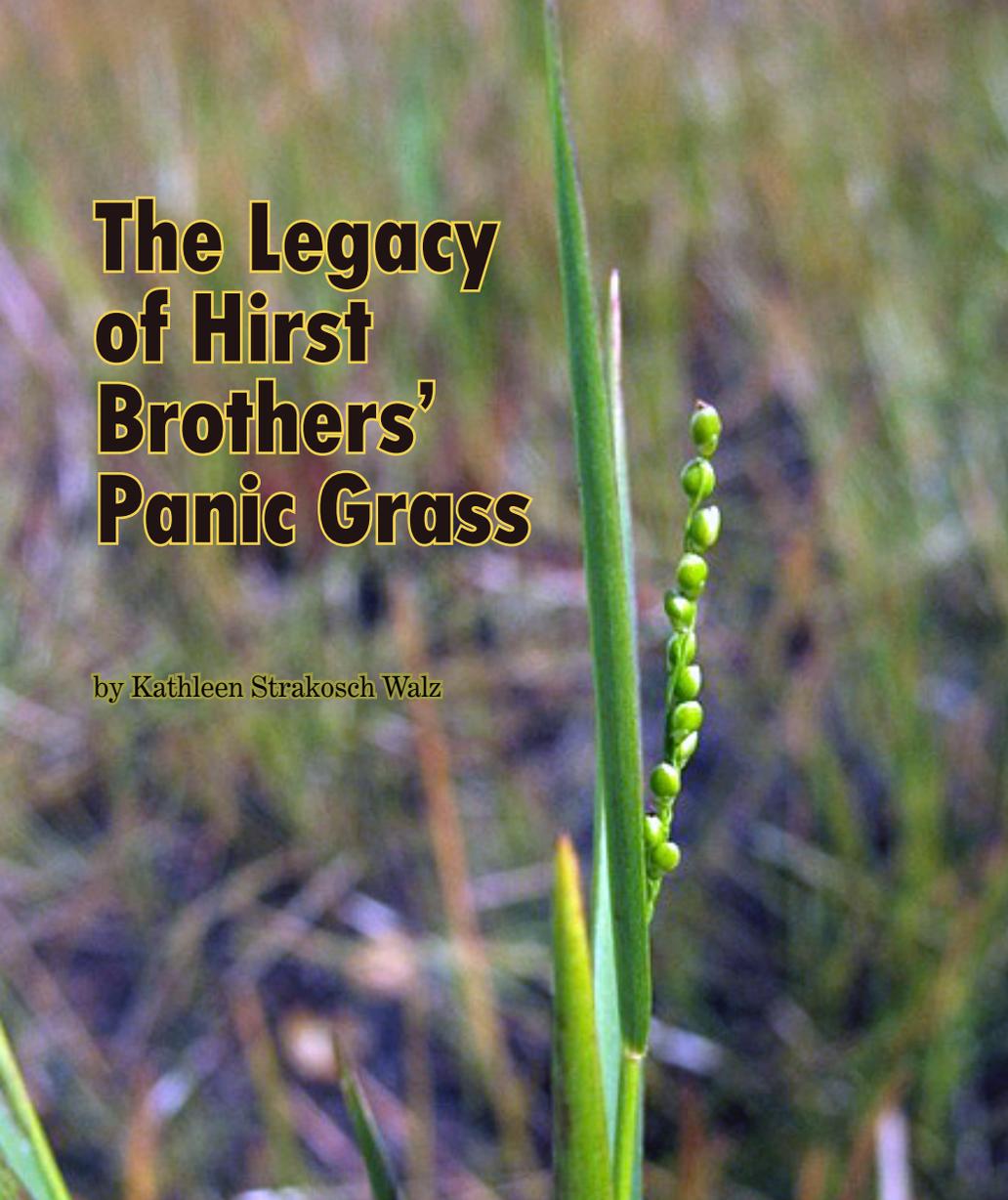


The Legacy of Hirst Brothers' Panic Grass

by Kathleen Strakosch Walz



Autumnal inflorescence of Hirst Brothers' Panic Grass in New Jersey. Photo Credit: Kathleen Strakosch Walz

Brothers Frank and Robert Hirst, both master plumbers by trade and long-time enthusiastic naturalists, spent their childhood weekends and summers together searching for rare and unusual plants in the New Jersey Pine Barrens. Their favorite area to botanize was the floristically diverse coastal plain intermittent ponds that typically are wet in the winter and spring and dry during the summer and fall. The brothers used to say: “Let’s go pondin’ today!”

In July 1958, they visited some coastal plain ponds tucked away in a forest in Atlantic County, New Jersey. Frank’s

field notes say: “We were delighted!” Amid the sea of colorful pink tickseed (*Coreopsis rosea*), little floatingheart (*Nymphoides cordata*), lanceleaf rose gentian (*Sabatia difformis*), and Boykin’s lobelia (*Lobelia boykinii*) they found a “strange, narrow spiked (*Panicum*) grass.”

They puzzled over their discovery all winter, before finally taking it to the Philadelphia Botanical Club—one of the oldest and venerated botanical clubs in the country. After inspecting the specimen, Bayard Long, then curator of the Herbarium at the Academy of Natural Sciences of Philadelphia, realized the Hirst brothers had made

a new plant discovery. The specimen was sent to J.R. Swallen, an expert in the grass family at the Smithsonian Institution, who published a description of this new species in 1961, naming it Hirst’s Panic Grass (*Panicum hirstii*).

As early as 1985, David Snyder included it in the New Jersey Natural Heritage Program’s list of rare plants as Hirsts’ panic grass (*Panicum hirstii*) in honor of the brothers who discovered it. It was later renamed Hirst Brothers’ panic grass (*Dichanthelium hirstii*) by John T. Kartesz in the 1999 edition of Synthesis of the North American Flora. Frank always wished that it had been named “hirstiorum,” the plural epithet, for both brothers.

Swallen later found an old, mislabeled herbarium specimen that had been collected from Sumpter County, Georgia in 1900. After close examination, he identified it as Hirst Brothers’ panic grass. Subsequent surveys in suitable habitat in Georgia during the 1980s by the Natural Heritage Program and Alfred E. Schuyler of the Academy of Natural Sciences of Philadelphia found no trace of the plant.

In the midst of New Jersey botanical forays in search of the elusive grass in the 1960s, Bob passed away at the young age of 37. It took Frank – devastated by the loss of his brother and closest friend – years to regain his enthusiasm for botanizing. In 1980, after a nearly 30 years, he returned to the field as a volunteer for The Nature Conservancy in Maryland. Not long after, he discovered a new population of Hirst Brothers’ panic grass after venturing into Delaware in search of his beloved pond habitat. Frank showed the population to Bill McAvoy, botanist with the Delaware Natural Heritage Program, who calls it a “phenomenal discovery for Delaware.”

“Frank was a great guy and wonderful botanist with an amazing eye for finding plants that others would just walk by,” says McAvoy. “He had a unique knack for finding sites for rare plants.” McAvoy continues to monitor the Delaware population each spring, summer, and fall.

In 1990, just a few years after the Delaware discovery, the rare grass was found in two ponds in Onslow County, North Carolina by botanist Richard LeBlond. However, it has only been observed sporadically in these ponds. According to David Snyder, a botanist with the New Jersey Natural Heritage Program who has periodically searched for Hirst brothers’ panic grass in the Garden State, it is common for the species to be absent from an area for years before reappearing.

“Coastal plain intermittent ponds are inherently variable, with plants responding to changes in seasonal hydrology and other environmental processes that we are just beginning to understand,” says Snyder. “Species can form seed banks in the soil or remain dormant underground, then reappear when the conditions are just right. We just don’t have enough information over a long enough period of time to understand the dynamics and factors that influence these erratic species.

An additional population of Hirst Brothers’ panic grass was confirmed in Wharton State Forest in the Pine Barrens of New Jersey in 2004 by botanists Ted Gordon and Russell Juelg. This marked the first new population discovered after 14 years of exhaustive searching. According to Gordon, Bob and Frank had visited the pond they called “Airplane Pond” in the 1950s, but they did not find the rare grass.

“It could have been there and the brothers missed it because it was dormant when they visited, or perhaps

it was not there yet,” says Gordon. “When I told Frank that we had found a new population he was very excited.” Sadly, Frank passed away in August 2009, just a few weeks before his planned visit to the pond.

The discovery of this new and healthy population led the New Jersey Natural Heritage Program, with support from the U.S. Fish and Wildlife Service, to conduct intensive monitoring of the species and its habitat. Population and hydrology monitoring were established, and studies of fire history and geological morphology were conducted. A story is emerging about the ecology of this particular site, which will help botanists search for similar sites elsewhere. Genetic analysis of the extant populations will also help answer many unknowns about the nature of reproduction and distribution of this rare species.

Threats to the species’ survival include changes in hydrology due to local and regional well water withdrawal, invasive species encroachment, and

disturbance from off-road vehicles. With so few populations remaining, the situation is precarious. The species is listed as state endangered by Natural Heritage Programs, and is a candidate for federal protection under the Endangered Species Act.

In 2012, Hirst Brothers’ panic grass was present in only two locations in the world—a pond in New Jersey, and one in Delaware. Collaborative monitoring and surveying continue along the eastern coast, in New Jersey, Delaware, North Carolina, and Georgia. Botanists in these states are continuing the tradition – started long ago by two brothers – of visiting these remarkably diverse and intermittent pond habitats in search of the elusive Hirst Brothers’ panic grass.

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Coastal Plain Intermittent Pond with Hirst Brothers’ Panic Grass in New Jersey. Photo credit: Sasha Eisenmann.

