Dawning of a Botanist

By Gerould Wilhelm

Dr. Gerould Wilhelm is scheduled to be a keynote speaker at the Wild Ones Annual Meeting and Conference, July 14-16, 2006, in Naperville Illinois. This is his account of formative experiences as a young botanist and later of his role in ecological history, and the publication of a classic, *Plants of the Chicago Region*. He was drafted into the Army Corps of Engineers in 1971, immediately upon finishing a Bachelor of Science degree at Florida State University.

After a few months of basic training, I was ordered to report to the Waterways Experiment Station in Vicksburg, Mississippi, following a two-week leave in Milton. About the 1st of May, Margaret packed up our few belongings and trekked to Vicksburg, from where I was convinced they would send me to Vietnam after a bit of technical training. I believed that, given my background in construction, heavy equipment, and SCUBA, I was ripe for combat engineering in Vietnam.

Luckily, I was mistaken. They put me, instead, to work on a team that was to prepare an environmental impact statement (EIS) on a proposed construction site for a duplicate lock and 12-foot channel at Lockport, Illinois. A curious assignment inasmuch as my technical knowledge lay in the fishes, algae, and mollusks of Florida and the Gulf of Mexico.

Obviously in need of a plant specialist, the Army enlisted the services of Floyd Swink and Ray Schalenberg to assist me in my effort to understand the vegetation of the Lockport area and to establish a context for their significance within the EIS framework, a new application that resulted from the implementation of the then 2-year-old National Environmental Policy Act (NEPA) of 1969. Both Floyd and Ray have since become beloved by Midwestern biologists, but at the time, they worked in relative obscurity at the Morton Arboretum. They changed my life as they have changed the lives of many others before and since. It was with Ray, however, that I experienced what only can be described as an epiphany.

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Gone Wild?

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Three generations of Wilhelms: young Van with his grandfather Jerry, and his father, David.
I had met and worked with many ecologists and biologists and been in contact with some of the premier ones of the day, but the best of them seemed merely brilliant compared with Floyd Swink and Ray Schuilenberg. None had what I could recognize as a philosophy in which the doctrines of their day could be examined. The "ecological" aspects of EIS’s at that time, and for years after, consisted primarily of inventories, lists of organisms. There was no way qualitatively to discriminate an old field from a prairie, a woodlot from a woodland, a cattail marsh from a fen. Indeed, the concept of a non-native plant was virtually uniformed and certainly not deployed. **Ecologists generally regarded nature as random aggregation of value-neutral organisms that lived outside the realm of human culture, typically in a community in some arcane state of “succession.”** Actually, this remains a primary doctrine of Western ecological thought.

**Trained killer meets living encyclopedias**

I spent the first of three field days with Floyd Swink, a lithe living encyclopedia of natural history. Never in my life had I come in contact with such a mind. The plants of 15 or so of the 50 potential "spoil" sites (where the dredged river mud could be placed) were well documented with inhabitants, including the vascular plants as determined from the remnant sticks and debris as seen by Floyd in late October. The second day, Floyd was indisposed, so his colleague, Ray Schuilenberg, graciously agreed to accompany me, this callow character from the Corps of Engineers, this “trained killer,” saved from the jungles of Vietnam by a guardian angel.

Much like Floyd, Ray patiently but relentlessly, dictated the inhabitants of another 15 or 20 potential spoil sites. My Latin training facilitated the taking of dictation, but I remained in awe of these botanists’ abilities to recognize the plants in that cold, overcast autumn. On each new site, the job became a little easier, because the plants were everywhere similar: *Aster pilosus, Pastinaca sativa, Arctium minus, Melilotus albus, Populus deltoides, Geum canadense, Poa pratensis, Poa compressa, Brassica nigra*, etc. Ray, after each site, however, did something unique at that time in ecological history. He uttered decisively yet humbly, "You can spoil here Jerry. You cannot hurt it. It could grow back."

I was mystified; my countenance must have been indescribable. Here was this overwhelmingly knowledgeable practitioner, who obviously cared deeply about plants and animals, telling a factor from the Corps of Engineers that every site we had been on could be despoiled! **This was counterintuitive to a 60s-generation ecofreak who had been taught that land (like morality) was value-neutral.** One vegetated landscape was not to be discriminated from another. Each was an "ecosystem," governed by saccrosanct successional processes, on its way to a "climax." Some ecologists even had drawn out esoteric energy pathway schematics that reduced ecosystems to little more than solid-state electronic paradigms.

"You can spoil here. You cannot hurt it. It could grow back."

This enigmatic mantra proclaimed at each site we visited drew my mind to the much overlooked directive in the NEPA that required one to evaluate the extent to which the impact on an area was "irreversible or irrevocable." Who was this guy, Ray Schuilenberg? I lay awake that night in my motel room in Downers Grove, wondering, as the television announcer droned on helpfully on the progress of a World Series baseball game.

Next day was the same. Site after site, Ray declared that each was recoverable, that they contained only weeds. Finally, as we approached an area south of Division Street at Lockport, unceremoniously designated “Spoil Site L2,” Ray stopped short on a berm that was dominated by the ubiquitous *Brassica nigra*, black mustard. He extended his arm to block any further advance on my part — as if I would actually find myself leading him! He nodded toward a small vegetated vignette, then spoke with the deepest reverence the following hallowed names: *Andropogon scoparius, Bouteloua curtipendula, Muhlenbergia cuspidata, Isanthus brachiatius, Verbena simplex, Kuhnia eupatorioides corymbulosa, Allium cernuum,* etc.

**Don’t spoil here — this is America**

After a moment, he placed his hand upon my shoulder and admonished me in the most authoritative but gentle way, "Don’t spoil here, Jerry, for this is America, and it will not grow back." I was stunned, agape. My knees were weakened as I looked soulfully at America. America! "This is America. It will not grow back," I muttered to myself. I resolved then and there that I did not want to live another day of my life without knowing whether or not I was in America. I learned that the only way to know this was to learn the plants, to discover which ones were the "Old World weeds" and which were the natives.

So, I returned to Vicksburg and began the painfully tedious but sublime process of learning the plants of Warren County, Mississippi. I also tried to explain to my boss, an engineer by the name of Major Emerg, that Spoil Site L2 was "America," and should not be spoiled upon. You would have had to have been a male private first class in the United States Army in 1972 to appreciate how well that went over. The fates were such, however, that Spoil Site L2 was spared and is now part of the "Lockport Prairie Nature Preserve." I later discovered that it was one of the world’s last remaining sites for the now federally threatened leafy prairie clover and Hines emerald dragonfly.

Begin to learn plants I did, but I was frustrated that all the available books failed to inform me as to whether or not a plant was adventive or native — such a simple yet ill-formed concept. When I terminated military service, I hoped that I might be able to follow Ray Schuilenberg around for a while to gather in from him this important idea, which only he seemed to have organized into a philosophy of living and relationship with our landscape. As it happens, he needed an assistant at that time, so, in February of
1974, I began working in the herbarium of the Morton Arboretum, which he curated. Intending
to stay only a year or so, I did not leave the em-
ploy of the Arboretum until January of 1996.

Working on the book
Soon after I joined the Morton Arboretum,
I became deeply involved in the second edition of
Plants of the Chicago Region, a follow-up
volume to Floyd Swink’s first edition, which had
appeared in 1969. In this first edition, Floyd cat-
alogued all the vascular plant species that were
known from the region at that time – the body of the text was writ-
ten largely by Ray Schulenberg. They produced a book unlike any
other in the history of local floras. Rather than present the plants in
a traditional but esoteric “phylogenetic order,” Floyd listed them
alphabetically. He reasoned that the user of the book was certain to
know the alphabet and was interested in the associated plant com-
unities and specific local habitats of local plants. He knew they
were not interested in becoming sharpened on the latest phylo-
genetic arrangement. Each species was accompanied by a map of the
22-county region that detailed each plant’s known distribution in
three southeastern Wisconsin Counties, 11 in northeastern Illinois,
seven in northwestern Indiana, and one in southwestern Michigan.
This emphasis on a plant’s associates and local distribution, along
with the book’s encyclopedic arrangement, made Floyd a pioneer
among florists – and an annoyance to doctrinaire botanists
of the time.

Plants of the Chicago Region was first published by the Morton
Arboretum right at the time the people of our country were becom-
ing aware of the environment. The book’s appearance coincided
with the National Environmental Policy Act of 1969. All 500 copies
of the print run were purchased quickly by a public ever more
interested in understanding the Chicago region landscape. In 1974,
Floyd produced a second edition that sustained the innovations of
the first and added much new information on local species – it
provided 1,000 copies, which seemed improbably optimistic.
These, too, were all soon in the hands of grateful students of the
flora. My role in this edition was to put the distribution maps to-
gether. Ray and I had made a significant effort over the growing
season of that year to voucher many of the “sight records” that
comprised the maps of the first edition.

Five years later I collaborated more intimately with Floyd to
produce yet a third edition. This one preserved the substance and
innovations of earlier editions, but added identification keys to
each species. Also, the methodology for the evaluation of floristic
quality of vegetated landscapes, which I had described and pub-
lished locally in 1977, was described in more detail and presented
along with “coefficients of conservatism” for all the native plants
of the Chicago region. For the first time in the history of botany,
students of the flora had a practical, dispassionate, and repeat-
able metric that could be applied in the qualitative evaluation of
remnant landscapes. It also contained a complete bibliography
for students interested in pursuing a deeper understanding of
local plants. Plants of the Chicago Region continued to break new
ground.

There was a four-year hiatus from September, 1980 to May,
1984, during which I pursued a Ph.D. in Botany from Southern
Illinois University. My dissertation was on the vascular flora of the
Pensacola, Florida area, but my now lifelong study has been the
flora of the Chicago region, having attached
myself to Floyd Swink, as well as Ray, during my
sojourn at the Morton Arboretum.

After 15 years, a new edition
After 15 years of use, the third edition, which had
numbered 2,000 copies, was long out of print
and a new generation of users lobbied for an up-
date. So Floyd and I, still at the Morton Arbore-
tum, worked together to accommodate a throng
of local botanists with yet another edition. In
1994, the Indiana Academy of Sciences sponsored
the production of the now widely acclaimed fourth edition. It in-
cluded all the features of the previous editions, but provided much
more, including a refined methodology for floristic quality assess-
ments, an illustrated glossary, and several additional sections that
detailed the phytogeography and authorship of local plants. More
than 5,000 copies were printed, of which 40 percent were sold
prior to publication. All were sold by the end of 2001, and by then
Plants of the Chicago Region had become a required reference to any
one interested in local botany and ecology. Many far outside the
region found the book to be indispensable. By now the concept of
species conservatism and floristic quality assessment had become
widely used and much appreciated as a tool by many practitioners
of restoration land management.

I may say here that all in America who discriminate today
the adventivies from the natives, the conservave from the “weedy,”
owe their deployment of that philosophy to the late Raymond F.

See Cindy Crosby’s interview with Dr. Wilhelm starting on page 6.
A Conversation with Dr. Gerould Wilhelm

With Cindy Crosby

Gerould Wilhelm is a respected botanist who studied as a young man under Floyd Swink and Ray Schulenberg, is a widely known writer who has worked on the ground-breaking *Plants of the Chicago Region*, spent 30 years with Chicago’s Morton Arboretum, is currently working with the Conservation Design Forum, and also just happens to be the next-door neighbor of Wild Ones member Cindy Crosby.

**Wild Ones: Do you have a favorite plant?**

**Dr. Gerould Wilhelm: Prairie satin grass – (Muhlenbergia cuspidata). When I first saw it, I wanted to become a botanist. In *Plants of the Chicago Region*, I write about myself in 1972 that: “…the junior author, a mere tad at the time who knew virtually nothing about botany, remembers watching Ray Schulenberg, who had not seen the plant in all his life, discover prairie satin grass along the bluff of the Des Plaines River near Lockport. Ray stopped, and stood transfixed. Then he knelt beside it and gazed appreciatively at the ineffable autumnal beauty of the tuft of this rare native grass. Consulting the senior author’s first edition (Swink 1969), right there in the field, he read to me about its history. That was the day the junior author, who stared awestruck and slack-jawed, began to study botany.”**

**WO: What is your approach to the landscape today?**

**GW: I look to old stories, such as those passed down in the Bible, where it says that our whole purpose in being revolves around the idea that we take care of the Earth. We are all brothers and sisters, and we need to take care of our children and our elders. There is no other reason for being. We must take care of the land, the birds, and the beasts.**

**WO: How do these ideas fit into your current position with the Conservation Design Forum?**

**GW: Our philosophy is that rainwater is a resource which should not be treated as a waste product. We want to help clients receive rain as a gift – to understand that all the waters that flow from the land over which they own custodianship will leave clean and metered, in the aboriginal way. If you are gentle with water it will be gentle with you. Our Great Lakes aboriginal elders taught the little ones that “Turtle Mother” needs clean water to sustain her children that there might always be a Turtle Mother to carry the Earth on her back. There is much wisdom in old told stories, lovingly transmitted by elders in whose gentle nurturing the children may bask in incorrupt truth.**

**WO: You do a lot of speaking at conservation events and banquets (including the upcoming Wild Ones Conference), as well as writing and field work. What do you enjoy the most?**

**GW: I enjoy the field work. Writing is painful. It’s very hard to say what you really mean. A pile of facts adds up to nothing – there being an infinite number of them.**

Metaphors and allegories, old stories, particularly when told by wise ones, can add up to everything and provide wisdom.

**WO: Speaking of writing, what’s the status of the much-talked-about revision of *Plants of the Chicago Region* you’re working on with Laura Reicher?**

**GW: What we’re working on will be a different book with a different name. We are focusing on plant associates plus every insect that we have seen that has an intimate relationship with the plant. It will also include associated birds, lichens, and mosses. We’ll dedicate it to Floyd Swink or have his name on it in some manner.**

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WO: Why is it, do you think, that more people don’t incorporate native landscaping into their yards or business landscapes?

GW: They have gotten accustomed to the golf club sort of chemically dependent yard – they’re in love with the sterile. They are discomfited by living things – particularly free living things. They’re uncomfortable with children. They are not inclined to nurture, rather they want to accumulate things. A native landscape is not a garden – it is a child. It needs to be cared for, guided, and nurtured and nurtured and nurtured – but always entreating more species. It seems that landscapes we design today have no tomorrow in them, no past in them. They incorporate drug-dependent rugs, lollipop trees, poodle shrubs, concentration camp plants, which die – to be replaced only by whimsical wardens. Children are unknown and forsaken.

WO: What advice would you give someone new to the idea of native landscaping?

GW: Learn the plants. Learn where they grow; learn everything about them. Start by keying out one a night, and in 2,500 nights, you will have keyed out every plant in the flora. It will get easier every day. There is much more opportunity now for book-learning than when I was starting out. Search it out. But be wary of all written words, the authorship of which is usually unknown, the information often corrupt. You will learn the truth from free plants and animals, who are not, as we are, infinitely ignorant, tenure-tracked, callow, hubristic, and even evil. They will grow and flourish if we nurture them well, or they will languish if even our good intentions are inappropriate.

WO: How do you exercise your land ethics in your suburban subdivision yard?

GW: We provide habitat for as many native living things as will grow here, without cultivation. We use a reel mower in the front yard. We burn.

WO: How do the neighbors respond?

GW: One neighbor thinks I’m too lazy to mow. But if I had let people’s resistance to things I do get in my way over the years, I wouldn’t have gotten very far in life.

WO: What legacy do you hope to leave? What’s important to you?

GW: I would go to my grave happy thinking the next generation was being cared for. The work is gratifying, but what’s important to me is my 6-year-old grandson, Van. I want to take care of the Earth for him, and for his generation, and the next, and the next – to help people care for the kind of landscape that will be sustainable for the next seven generations.

Dr. Wilhelms’ article, “Dawning of a Botanist,” starts on page 3.