Kentucky Native Plant Society *NEWSLETTER*

Volume 7, Number 1. February 1991.

Mary Eugenia Wharton
1912-1991

By Clara Wieland

The first time I had knowledge of Mary E. Wharton was through her two books, *The Wildflowers and Ferns of Kentucky* and *Trees and Shrubs of Kentucky*, coauthored with Roger Barbour. I loved being on the land walking the old field savannas and hiking the creek gorges of Kentucky. I was aware of the array of wildflowers and the large pasture trees, but had no clue to their names or relationships, and while I was impressed with the rolling aspect of the land, the cliffs, waterfalls, and creeks, I had no knowledge of the underlying geology. In 1973 my husband's Christmas gift was these two books, and my love and appreciation of the natural world became focused. Most of the members of KNPS rely on these two field guides for substantial guidance in their appreciation of native plants. The wildflower book has sold over 28,000 copies and is in its second printing. On almost any wildflower walk, the book is there sticking out of a backpack or in the hands of a wildflower enthusiast.

Around 1974 my personal contact with Mary began. Dr. Wharton, along with Bob Reeves, Pat DeCamp, Barbara Ruff, and Libby Jones founded the Land and Nature Trust of the Bluegrass for the purpose of preserving the unique aspects of the region including Raven Run, greenway parks, and the historic Paris-Lexington corridor. She was past Chairman and President of the Board, positions she held several times. Mary was no armchair, laboratory scientist. She was in the trenches as an active foe of roads, dams, and subdivisions which she considered environmentally unsound. She served actively as a member of The Kentucky Nature Conservancy Board and the Kentucky River Steering Committee.

Many people have the mistaken impression that she was interested only in the Bluegrass. In the 1960's when the Army Corps of Engineers recommended the construction of a dam on the Red River, Mary packed up her information about the uniqueness of the Red River Gorge, talked with Kentucky's distinguished Senator John Sherman Cooper, and testified before House and Senate committees.

Mary grew up in the Bluegrass. She was a native of Jessamine County and her family moved to her grandmother's home in Fayette Park when Mary was only three. She loved the traditional life of the Bluegrass with its economy based on historic rural communities, good, diverse farms and the raising of horses and livestock. She was a faithful supporter of the Junior League Horse Show. If you were her guest she shared her knowledge of the horses' gaits, trainers, and breeds. In 1986 she co-edited and wrote *The Horse World of the Bluegrass*.

Dr. Wharton was a Phi Beta Kappa graduate of the University of Kentucky. She obtained an M.S. in Geology and a doctorate in Botany at the University of Michigan. For 27 years she taught and then chaired the Biological

Sciences Department of Georgetown College. She did considerable research on Kentucky flora and discovered in 1942 a new species of dewberry that later was named *Rubus whartoniae*. For 14 years she was the Kentucky Academy of Science representative on the Council of the American Association for the Advancement of Science. In 1986 Georgetown College dedicated the biological sciences wing of the new George Matt Asher Science Center to Mary E. Wharton. Mary influenced many young people to become teachers and botanists. She was proud of the success of all her students and she delighted in the knowledge that she had in some way touched their lives. She once told me that she did not intend to teach, but that the first experience was so rewarding she chose teaching as a profession.

This past fall, barely a month before Mary's death, *Bluegrass Land and Life* was released. She tried to finish the book for many years and wished it had been done earlier. Much destruction of the Bluegrass was already done. In it, she wanted to educate us all about our natural heritage and influence our stewardship of the land. Mary wrote in the last chapter: "With knowledge and wise planning, we can protect what is most valuable in the environmental, cultural, scenic, and historic character of the Bluegrass and at the same time meet the needs of the population with housing, roads, business, and industry. But to do so will require, in every Bluegrass county, effort, caring, commitment, dedication, and a sense of stewardship, since our use of the land is borrowed from our children. We must begin now, for soon it will be too late."

Perhaps her greatest and most enduring legacy is the Mary E. Wharton Sanctuary at Flora Cliff in Fayette County. A stream runs through a steep and rugged valley over rocks and waterfalls to flow into the Kentucky River. The hillsides are rich with wildflowers, ferns, shrubs, and trees. In 1958 Dr. Wharton began piecing together the parcels of land that became this 279 acre preserve. She gave the Lexington-Fayette Urban County Government a scenic easement, a legal device that disallows development, the first such easement in the state. The Board of the Sanctuary is charged with its protection and the direction of its appropriate use by students, teachers, nature enthusiasts, and researchers.

Mary had many friends -- students, teachers, fellow churchgoers, conservationists, horse business people, and history buffs. She said many times how grateful she was for her friends. But I am grateful to have been counted as a friend. It was a privilege to know this intelligent, determined lady who, although in poor health, was so in love with our natural world that she worked until the last moments of her life for its preservation. Her life did truly count. She will be missed.

By Willem Meijer

The grand old lady of the Kentucky Flora passed away during last Thanksgiving day, November 28, 1991. Fortunately she saw her book *Bluegrass Land and Life* in print. We should admire her feisty fight to preserve the Paris Pike and her firm warnings against neglect of nature conservation in the Inner Bluegrass. One piece of natural area, her own private sanctuary around Elklick Falls along the Kentucky River, always will carry her name and is now dedicated to botanical-ecological research.

It was 24 years ago that I first was informed about her work when I was told that the University of Kentucky expected me to work with her on a Kentucky Flora. After arriving in August 1968 it took several phone calls to meet her at her large house. I can't say that she welcomed me with open arms. Let's face it, she had worked for years on this flora, with a strong missionary feeling to help preserve it. She sold her vascular plant collections to the University of Kentucky after the whole herbarium burnt down there in 1948 and now there came this new person with his strong

Dutch accent, claiming that he could help her get the flora done. She told me that for the time being her picture books would satisfy the local needs and she did not want to go beyond that. She graciously donated later on all her bryophyte collections to our Herbarium. About one year before her death, she called me and wished me all the best with my work, and she was very concerned about the fate of our herbarium and gave me all possible moral support not to give up on maintaining it. She considered the work with the Land and Nature Trust her territory and I retreated from it after this venture was launched. Years ago Mary very nicely cooperated with me and Jim Durrell from the Fish and Wildlife Department on defining one of the first lists of rare and endangered species of plants. Later on that work was taken over by the Nature Preserves Commission. Mary also volunteered some details for my study of the history of botanical exploration of Kentucky.

We all should recognize that she and Roger Barbour with their books on trees and herbs of this state had a great influence among the general public to make plant lore more popular. Without that we would not have seen so many people coming out of the woodwork as soon as Ron Jones started the Native Plant Society.

Higher Plant Chemical Defense

By Gerald A. Rosenthal

Plants are admired for their intricate patterns, multifaceted structures, and evocative coloration and designs. We are fascinated with their distinct life styles, intimate interactions with animal pollinators and stricken with their immense size and intrinsic beauty. While we are readily aware of their physical attributes, we seldom think of plants in terms of one of their most important characteristics: their ability to produce a wondrous array of chemicals.

Higher plants are a virtual storehouse of unusual chemicals. Many of these are required for and are common to all plant life. Every living organism on Earth shares a common assemblage of primary molecules; without these common chemicals life as we know it is impossible. Plants are able to go far beyond this fundamental group of primary chemicals to create a menagerie of more than 25,000 known structures. It is this group of secondary molecules that are largely responsible for the unique characteristics of given higher plants. To a large degree, each plant species is a direct reflection of its unique assemblage of secondary compounds.

I have long been fascinated by a group of secondary molecules which are distinct for their intrinsically toxic, often poisonous nature. It is these potentially poisonous, secondary plant compounds that form the chemical barrier every plant depends upon for protection against predation, disease, and even competition from other plants. Devoid of the capacity for motion and flight, plants stand their ground! They rely instead upon a chemical-based defense to cope with viruses, bacteria, fungi, snails, rodents, and the numerous herbivores, particularly insects, with which they must contend. In developing a repertoire of poisonous chemicals, higher plants draw upon defenses that may be simple or elaborate. Some plants simply manufacture toxins that poison the attacking herbivore, whereas others rely upon more complex strategies based upon interference with the attacker's growth cycle or its ability to digest the plant.

Studies of many insects over a considerable period of time reveal that insects have basically the same nutritional requirements: they can be satisfied by one plant pretty much as well as another. Yet, a given insect does not feed randomly. To a large degree, insect feeding patterns have evolved in direct response to their ability to deal with the toxic constituents of a potential food plant. The black swallowtail butterfly, *Papilio polyxenes* forages avidly among the Umbelliferae but

assiduously avoids plants of the Cruciferae (the mustards). This feeding behavior results from the ability of mustard plants to store sinigrin which is a member of a class of toxic compounds known as *thiocyanates*. They are irritating to skin and mucous membranes and markedly reduce growth and insect development. Higher animals are not immune to thiocyanates since they exhibit strong antithydroial effects -- they impede the uptake of essential iodine to the thyroid gland.

More than a thousand species of plants from such diverse families as the Leguminosae, Sapindaceae, Passifloraceae, Graminae, Ranunculaceae, Euphorbiaceae, Papaveraceae, Sapotaceae, and Taxaceae produce a group of toxic compounds known as *cyanogenic glycosides*. This means that they produce a sugar, a harmless substance, but it is attached to another chemical group containing cyanide. Plants are not adversely affected by storing large amounts of cyanogenic glycosides because these compounds are themselves harmless. However, when an animal eats a plant protected by a cyanogenic glycoside, the crushed plant tissues release an enzyme that separates the sugar from the remainder of the compound. A second enzyme is responsible for releasing cyanide from the freed latter substance.

Rosaceous plants such as apple and peach store cyanogenic glycosides in their seeds; they are responsible for the *almond-like* odor of the fruit. A true story is told of a man who loved apple seeds so much that he saved the seeds from every apple that he consumed over several months. Finally, he had sufficient apple seeds for a gluttonous feast -- he consumed the cached seeds in one sitting. Sadly it was a fatal mistake for he perished from the cyanide released from the seeds. Eating a few seeds is harmless, but a poison's effectiveness is dependent upon how much of it one consumes.

Some plant compounds protect not by poisoning or repelling herbivores but by interfering with their normal cycles of growth and development. Many insects grow in distinct stages and the change from larva to pupa to adult is controlled by specific hormones produced by the insect. These hormones are normally present in very minute amounts within the insect. The common fern, *Polypodium vulgare* is a prolific producer of certain of these insect hormones. Insect consumption of this plant confronts the offending insect with so much hormone, often provided at the wrong time, that normal developmental processes are hopelessly entangled. Other plants such as the flossflower, *Ageratum houstonianum* manufacture a hormone-like substance which falsely signals the change from one stage to another -- the forced premature onset of the next stage kills the insect.

Some insects respond to plant poisons by fascinating adaptations. The grasshopper, *Poekilocerus bufonius* feeds solely on plants of the Asclepiadaceae or milkweed family. The milkweeds manufacture a number of complex compounds known as *cardinolides* which are toxins that can severely disrupt normal cardiac function. When this grasshopper is attacked by a potential predator, it defends itself by ejecting a spray from a poison gland. Analysis of the poison reveals that it contains cardinolides. What is amazing, however, is that the grasshopper does not make these poisons itself. Rather, it extracts the necessary poisons from the milkweed plants that it eats. If the grasshopper is forced to eat milkweeds free of cardinolides, the secretion from its "poison" gland is no longer harmful to potential predators.

A particularly effective form of chemical defense has been recently discovered. Many plants, such as the tomato, when they are attacked by a chewing insect, release a substance that travels from the attack point throughout the plant. This substance causes the plant to produce a potent compound that blocks the insect's ability to digest the food substances of the plant. The plant becomes a less suitable source of food. Moreover, the

plant is able to marshall its defenses *throughout* the plant, not just at the point of attack.

Thus, it is clear that, while plants may appear to be passive participants in the continual struggle for survival with their enemies, they are capable of a subtle and highly effective defense based on plant chemistry that has played a major role in their long-term evolutionary survival.

Plant Families and the "Standard Blossom"

By Jim Conrad

With this newsletter, we're beginning a new series of articles on plant families. Probably the first question to deal with is: Why bother? One answer is that knowing about plant families helps us enjoy plants more. This works in at least three different ways.

First, if we examine an unknown plant to find out what family it belongs to, we have to notice things about it that the average observer probably would overlook. For instance, last summer my mother bought a pretty rock-garden plant I'd never seen. Wondering what family it belonged to, I noticed that its leaves were opposite and entire, that inside its large, purple, tubular blossoms five stamens were borne on the corolla wall, alternating with the petals, and that the plant's fruits were two-chambered capsules. These features told me that our mystery plant belonged to the Gentian family.

Learning what family the plant belonged to was nice, but the main fun in meeting it came during the examination! I'd never have noticed the neat way the stamens were inserted on the blossom's throat, the curious two-chambered capsules, etc. if I hadn't been trying to determine the family. During my examination I experienced the plant on a far more intense, personal and somehow significant level than if I'd merely stood and admired it or snapped a picture. The plant family concept causes us to thrust our minds into the most remarkable and refreshing places, and to deal with concepts that are wonderfully different from everyday humdrum.

The second way the plant family concept helps us enjoy plants is that it gives us a short-cut method for knowing more about the plants we meet. For instance, referring to the story above, as soon as I recognized the unknown plant as a member of the Gentian family I was able to tell my mother that, since most Gentian family members are from temperate zones and high elevations, probably it was frost-hearty. As with humans and our families, each plant family has its own general characteristics; any time you meet a member of a family you're familiar with, you already have a general feeling for that plant, even if you've never seen it.

Finally, the plant family concept enables us to enjoy the thing I call "flower music". Maybe my favorite part of listening to music is hearing a certain melody stated at the beginning of a piece and listening as it's repeated with artfully contrived variations through the rest of the work -- variations on a theme! Well, every plant family has its own "theme" (the set of characteristics that define the family) and each species in the family is a variation on this theme. This particular kind of "flower music" is something you hear only after spending a lot of sweat and time understanding botanical basics (placentation instead of modulation, polyploidy instead of polyphony).

Now, back when I was learning the plant families I developed a trick to help keep all the various botanical characteristics straight. What I did was to imagine the most average flower I could dream up -- something I referred to as the Standard Blossom -- and whenever I meet a new kind of flower, I fixed its features in my mind by focusing on how it was <u>different</u> from my Standard Blossom.

Notice that my Standard Blossom bears (start-

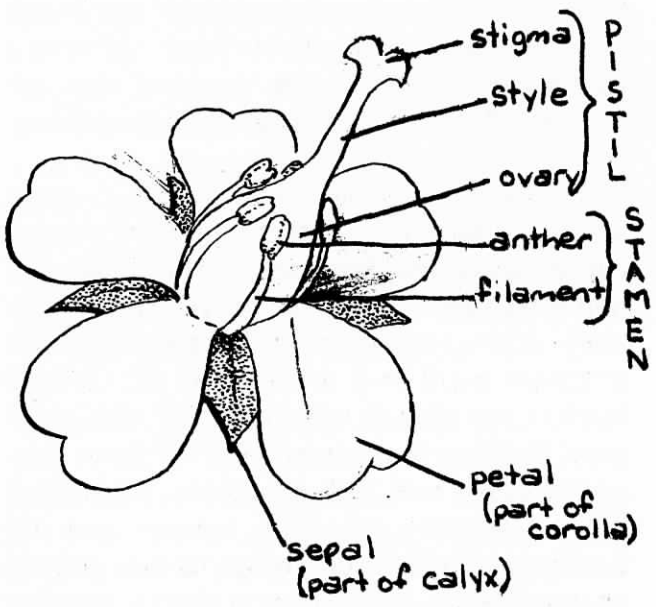

Figure 1: The Standard Blossom

ing outside and working toward the flower's center) 5 sepals, 5 petals and 5 stamens (Figure 1). It's a 5-5-5'er, I'd say. When we begin looking at the various families, we'll run into 4-4-6'ers, 5-5-many'ers, 5-0-4'ers, and a lot more.

During the subsequent series of articles we'll refer to our Standard Blossom again and again. You'll understand its value when one day you run into something like a 5-5-10'er, and you hear a little flower music.

(Jim Conrad is an experienced botanist, world traveller and author from Kentucky (205 E 8th St, Calhoun, KY 42327; (502) 273-5940). He is currently involved in leading "ecotours", with cross-cultural overtones, to Latin America, and would like to hear from anyone interested in going. We hope to have more news and articles from Jim in subsequent issues of the newsletter.)

The Harvest

By Dennis Feeback

Having located the seeds that are wanted and determined that they are ripe and ready to collect, the next question is the best collecting technique. Methods for collecting small quantities of seeds will be discussed--more sophisticated techniques for gathering large quantities of seeds will not be dealt with here.

To collect small quantities of seeds the best approach is to cut off the seed head, pod, cone, etc. with pruning shears. Attempting to pull or break-off fully ripe fruiting bodies can result in lost seeds. The fruiting bodies can be quite delicate when fully ripe and shatter or fall apart if roughly handled. Therefore, cutting is the prefered collecting method. Large fruits, nuts, drupes, etc. can be collected from the ground after natural dispersal. Winged seeds such as Acer, Fraxinus, Ulmus, etc. can be shaken onto sheets of plastic, but watch the wind.

Seeds need to be cleaned, i.e. removed from their pod, seed-head, cone, etc. Cleaning allows better control of sowing density and removes organic material that can retain moisture and encourage mold. Once the seeds are collected a decision must be made to plant immediately or to store them and plant later. As a general rule the best approach is to plant immediately. This method is closest to the conditions to which the seeds would normally be exposed. Storing seeds requires that they be well-dried to prevent mold and spoilage; drying, unfortunately in many instances, activates dormancy. Damp seeds invite mold which saps stored nutrients and reduces germination, and causes dampening off after germination.

If one is going to remove seeds from the wild every effort should be made to secure the maximum reproduction of the species. A little care and effort at this stage will greatly improve your chances of success.

A New Book on Kentucky Plants

Ron Jones

KNPS members will be glad to know that there is a new book available on Kentucky plants, the first one published in many years: *Weeds of Kentucky and Adjacent States*, authored by Patricia Dalton Haragan (1991, University of Kentucky Press, $29). Pat was formerly the curator of the College of Agriculture Herbarium at the University of Kentucky, and now resides in Nashville, Tennessee. She was one of the original group of people that helped establish the KNPS, and served as its first Secretary. Pat has held a long interest in nonnative plants, and this new book provides an account of 160 species that have taken up residence in Kentucky, most having traveled from such places as tropical America, southern Asia, or Europe. These are plants now commonly found in cultivated fields, pastures, yards, and along roadsides. This 278-page book is intended as an aid to weed identification aimed at the non-professional. For each species the following information is given: earmarks (special features), origin, life cycle type, description of stem, leaves, flowers, fruits, and general distribution in the state. Further notes are given on folklore associated with the species, edible or poisonous properties, and origin of names. Each species is illustrated with a black-and-white line drawing, and most are exceptionally well done. Especially helpful are the many close-up drawings of flowers, fruits, and seeds. The plants are arranged by flower color and leaf arrangement, and within groups alphabetically by family and genus. The species accounts are remarkably error-free except for about a dozen places where I noted either wrong numbers or misplaced metric abbreviations for sizes of plant parts. Also included in this book are five pages of illustrations of plant terms, a five page glossary, a bibliography with about 65 entries, and separate indices of common and scientific names. This new book provides a wealth of information about these 160 species, and should be of value to all those interested in the increasingly important weedy component of our Kentucky flora. This book is available at many bookstores throughout the state. If you have trouble locating a copy, write the University of Kentucky Press, Lexington, Kentucky 40508.

KNPS members should note that another book with a great deal of information on Kentucky plants is now on the market--*Bluegrass Land and Life*, by Mary E. Wharton and Roger W. Barbour. It should be available in most bookstores, and will be reviewed in the next issue of the KNPS Newsletter.

1992 Spring Field Trips and Activities

Mar. 28 **Jessamine Gorge and Palisades - Jessamine County**

Leader: Julian Campbell (606) 271-4392. Meet in Wilmore at 11:00 AM at the railroad crossing over KY 1268 on the east side of town. We will go for a short trip to see the snow trillium and other early bloomers in the breathtakingly beautiful Jessamine Gorge. Bring children, gleams in your eyes, and picnic lunches. Then, after 2:00 PM, we will search other parts of the Palisades for the snow trillium, perhaps dividing up and regrouping near Wilmore to share experiences later in the day. The Jessamine Gorge will be fairly easy-going and leisurely, but the Palisades exploration will be wild and crazy. Please call Julian and register in advance for this trip.

Apr. 18 **Lilley Cornett Woods - Letcher County**

Leader: Bill Martin (606) 622-1476. Meet at the Visitor's Center at Lilley Cornett Woods at 11:00 AM. The Lilley Cornett Woods is a fine example of old growth forest as it once appeared throughout much of eastern Kentucky. The area is protected and managed as an ecological research station by Eastern Kentucky University. Public access is allowed only with a guide, and our leader is the best

guide you could have for a trip through a southern Appalachian forest. Please call and register for this trip. Directions to Lilley's Woods: From Hazard, take KY 15 south five miles to Jeff. Turn right onto KY 7 and drive 13 miles to Ulvah. Turn right onto KY 1103 and drive eight miles to the Visitor's Center for Lilley's Woods.

Apr. 18 Wildflower Rescue - Franklin County

See separate article in this issue.

Apr. 23-25 42nd Annual Wildflower Pilgrimage at the Great Smoky Mountains National Park

For registration go to the W.L. Mills Convention Center in Gatlinburg.

May 1-3 Wildflower Weekend at Natural Bridge State Park and the Annual Spring Meeting of KNPS

This year's program will feature guided tours to a variety of locations both on the state park and in the surrounding Daniel Boone National Forest. There will be workshops on topics like wildflower photography and native ferns, and Willem Meijer of the University of Kentucky will conduct a workshop on vegetation types of the Red River Gorge. This year's guest speakers will be John MacGregor of the U.S. Forest Service and Edward W. Chester of Austin Peay State University. John MacGregor's program on Friday night will feature "Kentucky's Native Orchids", and Dr. Chester's program on Saturday night will highlight the flora of western Kentucky as he discusses "Land Between the Lakes, A Flora in Transition". Many KNPS members have already made reservations to stay at Natural Bridge, and the lodge is close to full capacity. There are additional accommodations at the Little Abner Motel at Slade and the new Travel Wise Inn in Beattyville. Campsites at Natural Bridge and the U.S. Forest Service campground at Koomer Ridge are rented on a first-come first-served basis. A brochure will be mailed to KNPS members soon. For more information call the Park at (606) 663-2214. For reservations in Hemlock Lodge or the cabins, call (800) 325-1710.

May 16 North Fork of Triplett Creek - Rowan County

Leader: Julian Campbell. Meet on KY 32 just south of the intersection with Interstate 64 (Morehead exit), in the Pinecreek Plaza Shopping Center (with Walmart and Foodline); go to the side nearest KY 32. The highlight of this trip will be the Kentucky Lady's Slipper and other showy wildflowers in the bottomland forest along a nearby stream. After lunch we will become more exploratory, and probably head north to Plummer's Landing Bog in Fleming County, where Ray Cranfill found a rare Adder's Tongue Fern in the 1970's.

Progress in Winter: Herbarium Work and Roadside Planning

By Julian Campbell (KNPS President)

My faith in the future of Kentucky botany was nudged significantly forward by a good turnout of 18 people at our herbarium workshop on January 4th. Not only did we mount hundreds of specimens on that day, but the industrious Beverly Morris (U.K. Dept. of Anthropology) and groups of people led by Debbie Prewitt (Woodford Feed Co.) have continued, amazingly, to volunteer time on some Thursday evenings. What draws these people back to these botanical roots, glueing dried specimens to paper for posterity? Could it be a pure love of plants, or has it been the slide-shows and boisterous, botanical banter offered by my self and my former professor, Willem Meijer, resembling, as someone said, a music hall act.

On our second workshop of January 18th, a smaller group put our heads together in planning a roadside wildflower program. I have condensed these ideas into the following outline of topics and questions to be addressed. We need to accumulate information and develop strategy this year, and by the fall

we may be able to launch a public campaign, with overtures being made to state government. We need to divide up responsibilities; please contact the appropriate person below if you have useful information or assistance. I would like all members to review this outline carefully and let us know if they think certain items should be removed, modified or added.

Plan for KNPS to Promote Roadside Wildflower Programs

This plan is for a low-key, pilot project concerning only a selected number of significant roadsides and trial plots; after a few years of experience, we would reassess our goals and potential support for expanded programs.

BOTANICAL BACKGROUND (Julian Campbell (606) 271-4392)

On-going survey of existing significant roadsides

* Data collection (rare species, unusual vegetation, attractive displays); extend request for new information to various groups (conservation groups, garden clubs, schools/colleges, interested government personnel in many agencies); database development and mapping; designation of priority sites.

Research on species for maintenance and propagation trials

* Native species suitable for each region; research native grassland remnants in each region; research low maintenance potential of various life-forms.
* Sources and propagation needs for species; mowing, burning and other means; information from roadside programs in other states; general literature on controlling plant succession (e.g., Luken, Egler).

PRACTICAL REALITIES (Ed Hartowicz (502) 223-7882)

Costs and Benefits

* Literature review (science and economic sources if possible); experiences (successes/failures) of nearby states.
* Potential financial savings of reduced mowing (remember the previous administration!). Can roadside wildflowers be used to advertise and enhance Kentucky tourism? How interested would the Kentucky public be?
* Potential problems. Weeds--what real/perceived economic threats are there from unmowed roadsides, and what government regulations? Safety--could wildflowers increase accidents under some conditions?

What can KNPS offer in cooperation with government?

* Communication network among interested people (a list is being developed).
* Database on significant sites (see above); free advice on management.
* Reference service for suitable consultants/contractors.
* Minimal monitoring of sites (e.g., perhaps an annual check of significant sites by a member or KNPS field trip).
* Salvage opportunities--when a significant site cannot be saved from destruction, KNPS might help in salvage and distribution of usable plant material.
* Assistance with fundraising and maintenance of trial plantings?

GOVERNMENT RELATIONS (Clara Wieland (606) 266-5548)

What do we want from state and local government?

* Coordination of wildflower programs by a Dept. of Transportation biologist working in consultation with KNPS (and KSNPC?).
* Protection of existing significant sites by government, using appropriate mowing regime--generally only once in winter; avoidance of sowing exotic species, herbicides, soil disturbance, bulldozing, etc.
* Public notification of proposed disturbance (allowing debate, salvage).

* Establishment of more trial plots for plantings; consider, especially, plots at interstate rest areas, together with educational displays explaining interest in Kentucky wildflowers.

Issues to use in lobbying for above program

* We are not asking for much now--all we want to start with is protection of the most significant sites, and trial plantings in strategic locations.
* Potential for attractive wildflower displays (environmental quality, tourism, etc.).
* Conservation of the native prairie and barrens remnants on roadsides.
* Conservation of rare species (about 10% of the rare plant species in Kentucky survive mostly along rights-of-way).
* Economic savings in mowing costs (as supported by current governor!).
* Plus internal KNPS lobbying--This project is an excellent way for advancing the long-term KNPS agenda to a more statewide level!

KNPS News

**HELP WANTED!!!* KNPS elections will occur at the May Wildflower Weekend and Spring Meeting. Officers and Executive Board members are needed. If you would be interested in serving on the board, please contact Marc Evans at (502) 564-2886 (work) or (502) 223-1679 (home).

KNPS is looking for newsletter volunteers. If you are interested in editing or assisting with this newsletter, please contact Ron Jones at (606) 622-6257 (work) or (606) 623-6494 (home).

**Certification Program Update* We are still in the planning stages for setting up a Certification Program in Native Plant Studies. Our goal is to set up a series of courses beginning in Fall, 1992. Expect further announcements in the May newsletter.

**T-Shirt Designs Needed* KNPS has been contacted by a T-Shirt printer who is willing to develop a series of KNPS T-Shirts and sell them through Walmart and Dawahares. Each shirt will have a hang-tag with pertinent information on KNPS. The designs can be prepared from either slides, paintings, or drawings. A variety of designs are envisioned--some of rare plants, others of community scenes. It would be nice to have a close-up of an Appalachian plant with Appalachian scenery in the background, or the same for a Bluegrass plant, or a wetland plant, etc. KNPS has to put up no money for this and we would receive a few cents for each T-Shirt sold. This could amount to a considerable sum if the T-shirts begin to sell well. So far we have not been very successful in finding good designs. We need some originial designs for which the artist would require little or no compensation. Send them to R. Jones, Dept. of Biology, EKU, Richmond, KY 40475.

**New Members Wanted* There is a Gift Membership portion on the bottom of the enclosed membership form. Please think of some of your friends or relatives that might be interested in KNPS and surprise them with a membership. Also, duplicate the membership form and hand it out at local gatherings of naturalists that you might be attending. Let's try to make real effort at increasing our membership.

Volunteer Opportunities

First Wildflower Rescue Planned

Saturday, April 18, 9:00 a.m. (Eastern Time), Franklin County Many KNPS members have expressed an interest in rescuing native plants from sites pending development. Shooting Star Nursery, in cooperation with KNPS and the Frankfort Audubon Society, is organizing the first such rescue and is seeking volunteers to help. The expansion of US 127 north of Frankfort is going to eliminate most of a nice wooded hillside and several mesic ravines near

the mouth of Elkhorn Creek. The site has a diverse assemblage of wildflowers and shrubs. The rescue operation is set for Saturday, April 18 (in case we have unrelenting rain, the operation will be rescheduled for April 19). Volunteer rescuers will meet at Shooting Star Nursery at 9:00 a.m. (Eastern Time). We will proceed to the rescue site around 9:30. Shooting Star will provide refreshments after all our hard work.

Bring as many of your own tools (e.g., shovels, trowels) as possible. Pots will be provided. The first 50 plants rescued by each person will go to Shooting Star Nursery for use as propagation stock (not for resale). Volunteers may keep as many of the remaining plants as they can provide suitable homes for, but are requested to return the pots to the nursery after use. For additional information on how you can get involved, please call Sherri Evans at Shooting Star Nursery (502) 223-1679.

Kentucky State Nature Preserves Commission volunteer workdays have been scheduled for the coming months:
* **May 16, 1992**: Trail construction and clean-up at Flat Rock Glade State Nature Preserve (Simpson County). * **June 20 & 27, 1992**: Boardwalk construction at Metropolis Lake State Nature Preserve (McCracken County). * **July 18, 1992**: Exotic species removal at Blue Licks State Park Nature Preserve (Robertson County).
Contact Cindy Campbell, Volunteer Coordinator, KSNPC, 407 Broadway, Frankfort, KY 40601, (502) 564-2886, for more details.

The Nature Conservancy Stewardship Program has a need for volunteers in all aspects of preserve stewardship. Ongoing projects throughout the year provide numerous opportunities for volunteers to lend their time and talent in "hands-on" conservation work. If you are interested in volunteering, please contact the Kentucky Chapter's Stewardship Assistant, Suzanne Zivari, at (606) 259-9655.

The KNPS Executive Board adopted a new policy on membership renewals at its January meeting. The previous policy of allowing delinquent members a year's grace is being discontinued. Dues are to be paid before the first newsletter (February) of the calendar year. Members who do not pay before this time will receive the February newsletter and a warning that it is their last issue. This change will reduce costs and keep dues at the present level.
If this is your last issue, your mailing label will say so and a red warning stamp should appear. Please use the enclosed form and renew immediately.

Conviction of English Nurseryman for Smuggling Orchids

From Ron Jones

The following report appeared in the Orchid Review, and was provided by KNPS member Christine Chowning. No one knows how much of this sort of pilfering goes on in Kentucky, but with its many remote areas and no laws to protect our rare plants, the state is ripe for the picking. In this case the culprit was caught, but he received only a relatively small fine and it will do little to discourage the practice.

On June 10, 1991, Mr. Jacques Amand, a specialist bulb nurseryman from Clamp Hill in Middlesex, was convicted of two offences of smuggling plants under Section 170(2) of the Customs and Excise Management Act. The convictions concerned the importation of 853 orchids and 475 woodland plants from the USA. The orchids, for the most part North American Slipper Orchids of the genus *Cypripedium*, were imported in contravention of the requirements of the Convention on International Trade in Endangered Species (CITES). Mr. Amand on pleading guilty was fined a total amounting to about $500.

This issue was edited by Tom Bloom, filling in for Ron Jones.

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The *Kentucky Native Plant Society, Inc.* was founded in 1986 as a botanical organization for all persons interested in the native flora and vegetation of Kentucky. The goals of KNPS are to serve as a medium of information exchange, to promote native plant conservation, public education in botany, and botanical research in Kentucky. Annual dues of $5.00 (Family $7.00) may be sent to KNPS, c/o Tom Bloom, 900 Keenon Rd., Harrodsburg, KY 40330.

The KNPS *NEWSLETTER* is published quarterly (Feb., May, Aug., Nov.). Please notify us four weeks in advance of any changes of address. Back issues of the *NEWSLETTER* are available for $1.00 each. Send articles and correspondence to: Editor, KNPS *NEWSLETTER*, Department of Biological Sciences, Eastern Kentucky University, Richmond, KY 40475.