



A publication of the VIRGINIA NATIVE PLANT SOCIETY

*Conserving wild flowers and wild places*

<http://www.vnps.org>

# *Magnificent monarch migration endangered*

The extraordinary migration of one of our loveliest and most recognizable butterflies, the large, brilliantly colored, orange and black monarch is seriously endangered on many fronts—and so too is its very presence fluttering among our summer gardens and wild places. Perhaps you noticed how few monarchs there were in our summer just past, and how late into the summer they arrived. They need our help, but first we must understand some details involved in the magnificent migration that are absolutely essential to their survival.

As fall nears with winter close on its heels, summer's final generation of



*A beautiful male monarch readies for flight after drying his wings. The black spots on the hind wings indicate this is a male. (All photographs © Marie and Milan Majarov)*

takes shape as, one by one, these featherweight fliers commence their perilous journey to central Mexico where their ancestors have long wintered. How they know where to go is still not fully understood. Millions of monarchs east of the Rockies, from as far north as southern Que-

bec, make their way south or southwest on this trek.

Tough, determined, almost unstoppable, these half-gram insect pilots make incredible progress averaging just over 28 miles a day gliding with high-speed air currents and engaging in wing-powered flight at heights as great as 5,000 or more feet above the ground. Stopping only to refuel on fall flowers and roost through

monarchs pushes its way from tiny gilded chrysalides with an agenda vastly different from its short-lived, frolicking, summer kin. These monarchs enter a phase called diapause, in which they postpone mating and reproduction until spring of the coming year and embarking instead on a genetically programmed six- to eight-month mission to avoid the deadly cold of northern winter.

A breathtakingly grand migration

*(See Habitat, page 5)*



*A monarch butterfly emerges from its chrysalis.*

## *VNPS Field Trips Past & Future*

***FUTURE: Blue Ridge Parkway, North Carolina, Kansas...Page 3***

***PAST: New Kent, Savage Neck Dunes...Page 4***



## From the president . . . . .

### *Be aware of ecological news around you*

*Fall is still my favorite time of year, and as much as I like writing to the membership, being outside in beautiful weather has been a priority after one of the hottest summers in years. I think our past year was still a special one from the native plant perspective. Besides lots of good programs and trips, having my own chapter host the Annual Meeting at Shenandoah National Park meant lots of mountain visits. I want to thank the chapter board for such hard work and dedication to making the meeting a fine one. I'll single out President Marjorie Prochaska and state and chapter treasurer Cathy Mayes for special thanks, but it was genuinely a group effort. All the help was appreciated.*

*Another thank-you is combined with a reminder: we are nearing the end of our fundraising year, so if you have not yet made a donation to this year's special fundraising campaign, I hope you'll consider doing that. This year our appeal was for the Flora of Virginia Project, and we set a goal of \$20,000. I think we can make it. As I write we are about three-quarters of the way toward achieving our goal. You can check Bland Crowder's progress report on the Flora in this issue.*

*As we gaze at autumn colors and admire spikes of tall grass and plumes of blue and white asters, planning for next year is already beginning. Look in this newsletter for announcements of our upcoming trips to the Southern Blue Ridge of Virginia, North Carolina's Green Swamp, and the Kansas tallgrass prairies, and watch for our brochure for the **Annual Workshop**, to be held in Richmond on March 5, 2011.*

*In a regular email newsletter from Virginia Conservation Network, in which VNPS has a membership, there is a list of articles from papers around the state on subjects that might interest VNPS members. You can sign up for VCN News on their website. Recent article subjects like how natural gas is obtained by a process known as fracking (hydraulic fracturing) in geologic areas of Marcellus shale. Some of our rarer habitats are shale barrens, and you can read about them on our Natural Heritage Program's website in the natural communities document. These areas should be watched with respect to developments in this industry. There is also some good news, such as solar panels that are going to be produced in the Dan River region, and an interesting op-ed piece about Virginia's energy—where it comes from and how much we need. It is interesting that most of the news centers on energy production. All of our energy use has an impact on our native plants and habitats, so it's worth reading up on and joining the debate.*

**Your President, Sally Anderson**

## Flora of Virginia getting finishing touches

The fine-tooth combs were broken out in early November at the first *Flora of Virginia* "authors' summit" in Chapel Hill. Co-authors Alan Weakley, Chris Ludwig, and Johnny

Townsend met at Alan's home for three long days of the nitty-gritty. He is curator of the herbarium and teaches at UNC; Chris is the executive director of the Flora of Virginia Project and is the chief biologist with the Virginia Natural Heritage Program within the Virginia Department of Conservation and Recreation. Johnny is staff botanist with Natural Heritage. I was there as copy editor and recording secretary.



*Author! Author! Author! Johnny Townsend (left), Alan Weakley (middle), and Chris Ludwig engage in shop talk at the Flora authors' meeting recently. (Photo by Bland Crowder)*

Four tasks loomed:  
•To review circumscriptions of a few families and genera

and selection of texts for use in developing descriptions.

•For certain taxa, to decide whether to maintain full species or varietal status or to combine varieties.

•To consider whether to include taxa that may or may not be established in Virginia or that may or may not have been collected here. This is the culmination of a review that has involved many botanists over the past year or so.

•To look once more at the illustrations, to see whether any adjustments are needed or other taxa should be illustrated.

Summits will be held in December, January, and February as well. As ominous as the agenda may sound, these meetings are just a necessary,

**(See *Flora*, page 8)**

# VNPS Field Trips 2011

## Discover the Parkway's highs and lows in May

Butch and Betty Kelly will lead the VNPS trip on the Blue Ridge Parkway May 15-20. The trip will begin at the Peaks of Otter (Milepost 86) and proceed to the Virginia-North Carolina state line at the Blue Ridge Music Center (Milepost 213). The trip will include lodging at the Peaks of Otter Lodge and Hotel Floyd in Floyd, Virginia. There will be stops at three natural area preserves off the parkway. Poor Mountain in Roanoke County, Grassy Hill in Franklin County, and Buffalo Mountain in Floyd County are managed by the Virginia Natural Heritage Program.

The trip will include both cultural and natural history of the Blue Ridge Parkway. With an elevation range of 600 to 4,000 feet, there will be an array of botanical ecosystems to see, including

high mountain wetlands, prairie-glade communities, rugged mountain terrain, table mountain pine communities, oak-hickory forests, and mountain stream communities. The diversity of the Parkway from its pastoral settings to its magnificent vistas makes for a trip to remember. The flame azalea (three different shades) is usually in full bloom at that time of year. It is truly a photographer's paradise.

Plants to see should include flame azalea, Catawba rhododendron, Indian paintbrush, small whorled pogonia, pirate bush, pink lady-slipper, yellow lady-slipper, three-toothed cinquefoil, Appalachian fir club-moss, balsam ragwort, fetterbush, and bear oak.

The trip will include some activities at night including a brief slide

show on the Blue Ridge Parkway and music at several venues in Floyd. All but one of the hikes are rated easy to moderate. The one-mile hike to Buffalo Mountain is steep, but it is a very good trail with lots of switchbacks.

Both trip leaders are retired teachers with plenty of experience leading outdoor treks. Betty Kelly has led several trips for the Blue Ridge Wildflower Society. Butch Kelly worked as a National Park Service interpreter for 13 seasons on the Blue Ridge Parkway. The trip to southwest Virginia in 2010 was also led by the Kellys.

More detailed information and trip price will follow in the next newsletter. The trip is limited to 15 participants. For additional information contact Butch or Betty at butch2410@msn.com or 540-384-7429.

## Visit carnivorous plants and tall grasses in June

This is a "save the dates" notice for members who would like to participate in the North Carolina Green Swamp Tour or the Kansas Prairie Tour in June of 2011.

The Green Swamp tour is tentatively scheduled for June 4-5. The Green Swamp is home to 14 native carnivorous plant species, among which is the rare Venus flytrap, *Dionaea muscipula*, which blooms in early June. The "swamp" is a mixture of pocosins (wet

areas) and savannahs (fairly dry areas) easily accessible by trails. The cost of the tour is yet to be determined.

The Kansas Prairie Tour is scheduled for June 11-18 and will encompass many of the favorite locations visited by VNPS in 2008 plus some exciting new ones. The tour is scheduled to take advantage of the peak season of abundant wildflowers native to the area. Effort will be made to keep the cost similar to that of the previous trip

(around \$500). Participants will be responsible for the cost of transportation to and from Kansas, plus breakfast and dinner each day.

Further information and sign-up procedures will be available in the next newsletter. Until then, questions can be directed to Linda Wilcox at w8n2cwildflowers@cox.net or 757-468-4346; or the VNPS office at vnpsoc@shentel.net or 540-837-1600.

## VDGIF programs help volunteers make a difference outdoors

The Virginia Department of Game and Inland Fisheries (VDGIF) offers two outdoor volunteer programs that might be of interest to native plant society members. The Complementary Work Force (CWF) program was established in the mid-2000s to help conservation police officers, biologists, and other professional staff fulfill their mission to manage the Commonwealth's wildlife and inland fish resources, promote safety, and provide opportunities for all to enjoy wildlife, fish, boating, and related outdoor recreation.

The state matches program volunteers with the needs of VDGIF to create win-win situations for both volunteers and the department. The benefit accruing to the department includes added work force, increased focus on the law enforcement mission, an enhanced citizen support base, and greater outreach and educational opportunities provided to the public. The volunteer benefits include learning more about the management of wildlife, an intrinsic value of helping the state with conservation efforts, working with individuals with

similar interests, and exposure to new challenges and work experiences.

CWF volunteers perform a variety of services including assisting with prescribed burns, working at the conservation police academy, staffing restoration projects, performing permit inspections and issuance of appropriate paperwork, and assisting with trout stocking. CWF volunteer assignments may vary according to seasonal needs. For example, spring is a good time for clean up and trout stocking, and summer is a

(See *VDGIF Volunteers*, page 4)

# VNPSers explore forestry center; fragile sand dune habitat

VNPS Education Chair Shirley Gay set up field trips to two more special places in Virginia this fall. The October 1 walk at New Kent Forestry Center near Williamsburg was led by Donna Ware, retired botanist from the College of William and Mary, assisted by Lisa Deaton, forest education specialist at the center. The 400-acre center is located on the Chickahominy River and is operated by the Virginia Department of Forestry.

The center was established to raise tree seedlings for replanting cut-over lands. Current research and plantings include several pine species. There is also an American chestnut orchard and a native grass field for quail habitat. In addition to the plantings, there are some native habitats that can be visited by trails and boardwalks. The woodland plant highlights included unusual plants such as farkleberry (*Vaccinium arboreum*), Margaret's or sand post oak (*Quercus margarettae*), a prickly pear (*Opuntia humifusa*) with narrow pads and few thorns, sweet leaf or horse sugar (*Symplocos tinctoria*), and plenty of ferns.

The boardwalk through the bald cypress swamp was beautiful and gave us the ability to cross an area with a foot of standing water. There we found the floating aquatic plant called frog's-bit (*Limnobium spongia*), coral greenbrier (*Smilax walteri*) with elongated red berries, the long wands of swamp loosestrife (*Decodon verticillatus*), maleberry (*Lyonia ligustrina*), marsh St. John's wort (*Triadenum (Hypericum) walteri*), swamp tupelo (*Nyssa biflora*), catchfly grass (*Leersia lenticularis*), three-way sedge (*Dulichium arundinaceum*), slender spike grass (*Chasmanthium laxum*), twisting screwstem (*Bartonia paniculata*) and what may have been a water ash (*Fraxinus caroliniana*). The bald cypress (*Taxodium distichum*), with its distinct knees, brought on a discussion as to the knees' purpose, because neither of the old ideas about support and oxygen have been proven true.

The following day, we were treated

to a trip to the Eastern Shore of Virginia at Savage Neck Dunes Natural Area Preserve. We were led by Dot Field, Eastern Shore preserve steward, and Richard Ayers, stewardship technician. At this preserve, parking is adjacent to a native grassland restoration. The trail then passes a dense thicket of *Liquidambar styraciflua*, and enters a mature maritime forest that contains interdune ponds. These natural ponds fluctuate with the groundwater level. Along the shore of the pond was a sweet gum with a 115-inch circumference, ancestor of many trees in the thick woods where we entered. We also got a close-up look at a cricket frog, some wood ducks and a green heron.

The woods begin to thin as you enter the area of 50-foot dunes, a globally rare ecosystem formally known as maritime dune woodlands. Here, loblolly pines are growing out of the sand—they may be deeply buried and are much older than they look, because you are seeing only the tops. Dead trees are usually paired with a younger tree that bears fruit, evidence of the use of such snags for bird perches. The hot, white sand has sparse patches of *Hudsonia tomentosa*, ant lion trails and mushrooms! Crossing the maritime dune grasslands where the seaside goldenrod (*Solidago sempervirens*) was blooming, we came to the shore of the bay, where federally threatened northwestern beach tiger beetles darted away from the waves. We watched a bald eagle catch a fish and found the skull of a loggerhead sea turtle. Throughout the day various butterflies surrounded us, and in the evening we saw migrating monarchs heading for pine trees. We were a week ahead of the Eastern Shore of Virginia Birding and Wildlife Festival, but plenty of migrating birds were spotted during our stay.

The group appreciated our very knowledgeable leaders and we were fortunate that our trips fell on the two sunny days in a week of rain. Stay tuned—we'll find some new treasures next year.

Sally Anderson, VNPS President



Trip participants cross a boardwalk over water at the New Kent Forestry Center, above. A sand dune at Savage Neck Dunes Natural Heritage Area is seen at top. (Photos courtesy Sally Anderson)

## •VDGIF volunteers (Continued from page 3)

good time for mowing and maintenance. If any of these items interests you, but you do not have the necessary skill set, don't worry, the VDGIF offers training opportunities to its volunteers to ensure that the job is performed correctly and safely.

The state also created the Virginia Master Naturalist Program (MNP) in the mid-2000s. The MNP is jointly sponsored by the following five organizations: the Virginia Cooperative Extension; the Virginia Department of Conservation and Recreation; the Virginia Department of Forestry; the Virginia Museum of Natural History; and VDGIF. The MNP is made up of volunteers who provide education, outreach, and other services supporting the MNP mission to enhance the management of natural resources and natural areas in local communities. Volunteers can become Master Naturalists through a combination of training and volunteer service. Service opportunities range

(See Master Naturalist, page 6)

# Habitat, native plants key to monarchs' success

(Continued from page 1)

the night, it takes 40 to 60 days to reach corridors along the coast and at Texas' Eagle Pass, through which massive clouds of butterflies sweep toward their destinations: 12 colonies within stands of oyamel fir trees at elevations of 11,000 feet or more on the not-too-cold, not-too-warm southwesterly slopes of Mexico's Transvolcanic Mountains.

Reaching their wintering destinations in late October through November, they take a well-deserved rest before mating and beginning their spring return. Flying back into Texas and nearby southern states, they lay eggs to ensure the continuation of their species and then they die. Offspring carry on the journey northward, repopulating throughout the entire range where it can find milkweed to which it is adapted.

To put their 2,000-plus mile feat in perspective, Toronto zoologist, David Gibo estimates that an equivalent distance for a six-foot person would be "11 times around the world." Now that is a spectacular journey! Especially considering the myriad environmental hazards, predators, manmade challenges, and the intricacies of nature these butterflies face!

Dr. Lincoln P. Brower, the foremost monarch scientist, Sweet Briar College research professor, University of Florida Distinguished Service Professor Emeritus, and butterfly ambassador extraordinaire, is deeply troubled about the welfare and survival of this migratory marvel. Dr. Brower describes the monarch's journey as "one of the most extraordinary annual migrations on our planet," while noting that it is an "endangered phenomenon." He predicts that "if precious overwintering sites, summer habitat, and migratory routes are not sufficiently protected and preserved, the migration will be doomed."

Loss of critical habitat across the monarchs' North American summer range has been massive. Dr. Orley "Chip" Taylor, director of the University of Kansas-based educational outreach program, Monarch Watch,

states that development "consuming 6,000 acres a day" and the loss of "100 million acres of monarch habitat" due to the adoption of genetically modified corn and soybean crops are also significant threats.

In Mexico, illegal logging to the point of clear-cutting areas of precious oyamel fir trees has taken an enormous toll on the overwintering sites and is changing critical microclimates necessary for monarch survival. Thus the butterflies, their trees, and the land they occupy are increasingly exposed to the devastating effects of increasingly severe winter storms, as a result of global warming.

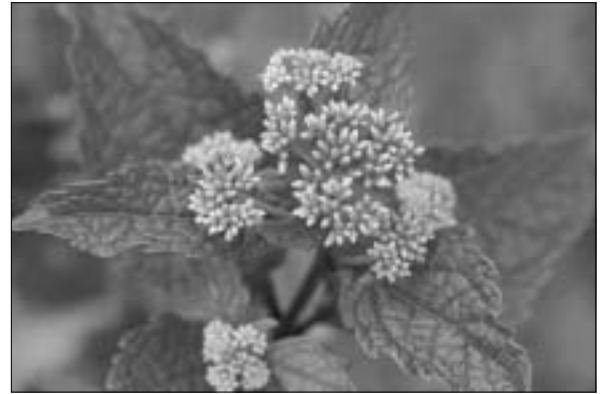
The 2009-10 migration brought extremely low numbers of monarchs to the overwintering grounds. Then came devastating winter storms, with 15 inches of rain over four days, hail and mudslides, which Dr. Brower (<http://www.learner.org/jnorth/tm/monarch/Brower031810.html>) feels further lowered this already depleted wintering population as much as 50 percent, to an all-time low. As of this writing, the jury is still out on the 2010-11 season. Midwest monarch numbers look reasonable; but eastern conditions and numbers were less than favorable. Oh yes, monarchs certainly do need our help!

"Habitat, habitat, habitat," says Dr. Taylor who has launched the "Bring Back the Monarchs" campaign at Monarch Watch (<http://monarchwatch.org/bring-back-the-monarchs/>). Additionally Drs. Brower and Taylor, along with governmental agencies, organizations, and individuals across the U.S., Canada, and Mexico, are working to craft long-range plans for monarch conservation, habitat monitoring, research, education and sustainable

development at [www.monarchbutterflyfund.org](http://www.monarchbutterflyfund.org).

VNPS knows the best path to restoration of monarch summer habitat:

(See *Monarchs*, page 8)

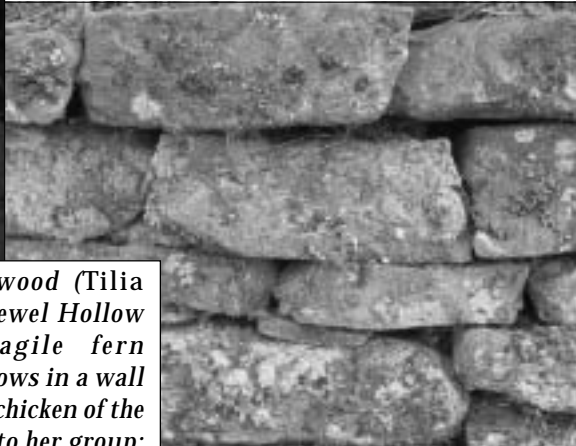


A salad bar of monarch favorites: Joe-pye weed (top), *Eupatorium* spp., is a popular nectaring plant for migrating monarchs. New York ironweed (middle), *Vernonia* spp., is another fall flowering plant favored by migrating monarchs. Swamp milkweed, *Asclepias incarnata*, is a perennial milkweed that has slender leaves and small pink flowers. It grows in clumps in swamps and wet thickets but also survives in much drier habitats and can be cultivated in gardens. (Photographs © Marie and Milan Majarov)

**"Our Mountain Roots in  
Shenandoah National Park"  
VNPS Annual Meeting  
September 10-12, 2010**



*Jack Price, above, explains basswood (Tilia americana); lichens grow on the Jewel Hollow Overlook retaining wall; fragile fern (Cystopteris fragilis), top right, grows in a wall crack; a fungus called sulfur shelf or chicken of the woods; Kristin Zimet offers trail mix to her group; Dark Hollow Falls; big bluestem (Andropogon gerardii) at Jewel Hollow Overlook. (Photos courtesy of Richard and Sybille Stromberg)*



• **Master Naturalist**

*(Continued from page 4)*

from education-related outreach to citizen-science projects, and include data collection and more labor-intensive stewardship efforts.

In contrast to the CWF and its five-region structure, the MNP program is organized into 25 chapters with two more chapters to be formed soon. Each chapter is supported by a chapter adviser, who is a local representative of

one of the state agency sponsors, and a program adviser, who oversees the day-to-day operation of the program. The program is also supported by an executive committee that oversees the operations of the program and a statewide steering committee that manages chapter activities and develops program policy and plans. Chapters are encouraged to forge partnerships with other chapters and organizations.

These are a few highlights on two of the many volunteer opportunities to allow you to satisfy your outdoor, conservation passion. More information on these and other VDGIF volunteer programs is provided on the VDGIF website at [dgif.virginia.gov/volunteer](http://dgif.virginia.gov/volunteer). Additional information on the MNP can be found at [virginiamasternaturalist.org](http://virginiamasternaturalist.org).

*John Gibbons, CFW member*

# Geocachers help Idaho with war on invasive plants

Facing hard-to-find patches of quick-spreading invaders, Ada County (Idaho) is seeking the help of some high-tech allies.

It's basically a game of hide-and-seek, but the worldwide phenomenon known as geocaching is about to join a very serious effort in Ada County.

The county's Weed, Pest and Mosquito Abatement Department is recruiting tech-savvy and geographically

knowledgeable geocachers to help pinpoint new and expanding infestations of noxious weeds before they get a chance to do real damage.

These are folks who use handheld Global Positioning System units and detailed maps to find caches others have hidden. Many are in hard-to-locate rural areas, but tiny caches are often placed right in the heart of urban and residential areas.

"It is a different group in the community and we hope they are interested," said Jacob Mundt, the weed department's operations manager.

About 20 of the 64 noxious weeds in Idaho may be found in Ada County.

Though invasive species have long been a problem, officials are currently focusing on early detection rapid response—EDRR—weeds, which are either new weeds or weeds that cover a lot of area, Mundt said.

Two EDRR weeds in Ada County that are hazardous for humans and animals are yellow starthistle and leafy spurge, which can cause blindness if the sap gets in a person's eyes.

In the past, Ada County Weed Control has posted informational brochures and fliers for the community but this time decided to take a technological approach.

Four geocache containers have been placed at various natural locations and contain informational facts, weed control methods, and pictures of noxious weeds. More geocaches will be placed in the Foothills at a later date.

"We selectively put the geocaches by the Greenbelt because it's a nice,

**(See Geocaching, page 8)**

## *Invasives workshop draws enthusiastic crowd*

A great mix of people convened at the 4-H Center and the Smithsonian Conservation Biology Institute (SCBI) in Front Royal on September 16 and 17 for a workshop on invasive plant control and habitat restoration. The meeting was a smashing success, both in its organization and its content. The conference sold out with 160 participants, including state agency staff, private landowners, professional resource managers, horticulturalists, related businesses, and those of us from volunteer organizations such as VNPS, Master Naturalists, and

Master Gardeners. The two principal organizers were Matt Yancey of the Virginia Department of Forestry and Extension agent Adam Downing. Bill McShea of SCBI and a committee including Sally Anderson and Ruth Douglas also participated in planning. A number of sponsors were recruited, including VNPS.

There were speakers scheduled both mornings while both afternoons were devoted to field trips. On Thursday evening U.S. Department of Agriculture researcher Dr. Lew Ziska, gave a fascinating program on CO<sub>2</sub>, invasive plants, and climate change.

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A monarch caterpillar enjoys purple milkweed, *Asclepias purpurascens*. Milkweed species are vital host plants for monarchs.

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## • *Monarchs*

*(Continued from page 5)*

encouraging native plants! Native host plants, milkweed, *Asclepias* species such as *A. syriaca*, *A. incarnata*, *A. tuberosa*, and *A. purpurascens*, as well as fall nectaring plants for migration refueling including goldenrods (*Solidago*), Joe-pye weed (*Eupatorium*), ironweed (*Vernonia*), asters (*Symphiotrichum*), and bur-mari-golds (*Bidens laevis*), are all vital in

bringing back monarchs. VNPS, you are critically needed to help in saving our magnificent, endangered monarch friends!

Marie Majorov and her husband Milan are members of the Virginia Outdoor Writers Association and VNPS. They maintain a thriving monarch waystation at their Winchester home. Marie can be reached for further monarch information and resources through [www.majorov.com](http://www.majorov.com).

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## • *Flora*

*(Continued from page 2)*

detail-oriented step and are not expected to generate much unforeseen work.

So if you think we're getting closer to having a *Flora*, you're right. I am looking forward to spending most of 2011 with the manuscript, because I will be copyediting it. It will land on my desk around the first of the year. In fact, I have already begun copyediting the Gymnosperms, allowing me to encounter a lot of special cases that I can expect to see along the way. As I copyedit, I will

be working on the glossary and also styling the type in Adobe InDesign, a layout program. This is the logical stage at which to style type, and so when I hand off to BRIT Press, the publisher, in early 2012, they'll be able to move directly to page layout.

On the docket for the future: the Flora Project and the Library of Virginia are pursuing the possibility of an exhibition in 2014 about floras, plants, and botany in our state. Stay tuned!

*Bland Crowder, Associate Director  
Flora of Virginia Project*

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## • *Geocaching*

*(Continued from page 7)*

beautiful area that people like to go to, but we want those people to be aware that in beautiful settings, weeds can grow."

Patrick Bradbury, a local geocacher, said he has never looked for noxious weeds but would be more aware after reading the information in a geocache.

"I think that a lot of people would be willing to help with weed identification because most geocachers are environmentally oriented," he said.

*Article by Kayla Herrman originally ran in the June 14, 2010, issue of Idaho Statesman. © 2010 Idaho Statesman*