Pennsylvania’s new Chapter 102 regulations took effect in 2010, providing important protections for Exceptional Value/High Quality (EV/HQ) streams, including 150-foot riparian buffers for most new projects permitted under Chapter 102. These regulations were developed by DEP staff after “extensive research and investigations regarding riparian buffers” over a period of many years, and received overwhelming support during the public comment period.

Last fall State Representative Marcia Hahn sent a memo to her colleagues in the House stating her intention to introduce legislation which would repeal these buffer regulations, and seeking cosponsors. GVA as well as watershed and environmental organizations across the state will vigorously oppose any efforts to legislate away the protections for EV/HQ streams that are in place.

Some of the benefits of 150-foot buffers that the DEP lists in the Chapter 102 regulations: “Riparian buffers play a vital role in mitigating the effects of stormwater runoff from land development activities. Riparian buffers are useful in mitigating or controlling point and nonpoint source pollution by both keeping the pollutants out of the waterbody and increasing the level of instream pollution processing. Used as a component of an integrated management system including nutrient management along with E&S control practices, riparian buffers can produce a number of beneficial effects on the quality of water resources. Riparian buffers can be effective in removing excess nutrients and sediment from surface runoff and shallow groundwater, stabilizing streambanks and shading streams and rivers to optimize light and temperature conditions for aquatic plants and animals. Riparian buffers provide significant flood attenuation and storage functions within the watershed. They prevent pollution both during and after earth disturbance activities and provide natural, long-term sustainability for aquatic resource protection and water quality enhancement.”

Currently, the riparian buffer regulations apply only to projects permitted by the state under Chapter 102—what about smaller projects (generally less than an acre of earth disturbance) which are permitted through the municipalities? Clearly, township ordinances should also protect EV/HQ streams to the level which the DEP has determined necessary, and be changed to incorporate 150’ riparian buffers for new construction projects.

Cleaner Power Plants Result in Cleaner Water and Air

The Environmental Protection Agency (EPA) finalized the new Mercury and Air Toxics Standards (MATS) on December 16 2011—the first ever national standards to reduce mercury and other toxic air pollution from coal and oil-fired power plants. This rule was long overdue. Pennsylvania is the nation’s second leading state in mercury emissions, which has resulted in excessive levels of mercury in our streams and fish.

By 2016, MATS will prevent up to 530 premature deaths in Pennsylvania by protecting families from pollutants like mercury, arsenic, chromium, nickel and acid gases while creating up to $4.4 billion in health benefits annually.

Nature’s Winter Wonders

While we humans bundle up to weather the cold, our animal neighbors incorporate their own survival methods to endure the Pennsylvania winters. For those animals that remain active during the winter months, such as deer, fox and squirrels, thicker hair and fur are needed, as well as the ability to forage on various plant and animal food sources. Some mammals also adapt to the season by having coats that change from brown to white in order to camouflage them from predators, or to aid them in finding prey. These animals are the snowshoe hare (in northern PA) and three species of weasels—ermine (in northern and eastern PA), least (south central and northwest PA) and long-tailed (throughout PA).

Birds that remain active in our area handle the cold temperatures through shivering and growing more layers of feathers. Some flocks of Canada geese can be seen in Pennsylvania throughout the winter. Owl species also remain active, including the great-horned owl, one of the first birds in Pennsylvania to call for mates and begin

See “Wonders,” page 4
GREEN VALLEYS ASSOCIATION at WELKINWEIR

Green Valleys Association’s mission is to protect and preserve the quality and quantity of water resources in northern Chester County through advocacy and education.

Welkinweir

Our Welkinweir headquarters in East Nantmeal Township, Chester County, is a spectacular property which showcases GVA’s Mission. Originally home of GVA founding members Everett and Grace Rodebaugh, the 197-acres of permanently preserved land features a 55-acre arboretum, ecologically diverse wetlands, forested riparian buffers, meadows, and forest habitats. The property hosts our many environmental education programs and features an ever-growing collection of projects that demonstrate sustainable practices. See hours p. 7.

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Streamlines, our quarterly newsletter, highlights local and regional activities focusing on water resource conservation and preservation. Available through membership or online at our website.

Welcome To Our New Board Members

Robert S. Kratz is a resident of South Coventry Township, and has been a member of GVA for 10 years, actively engaged with the Watershed Restoration program. He earned his Bachelor of Science in Geology from West Virginia University. A former environmental consultant and high school earth science teacher, Rob is currently the owner of a landscape irrigation business. He serves on his church council and is an active community volunteer.

“From my perspective, the riparian buffer restoration seems to cover the entire mission the best. These events are helping the local water quality, but maybe even more important, these events are helping these children and their parents to become stewards of our land and water not just by learning but by doing and learning.”

John W. Matthews, a recent GVA member, is an art teacher in the Tredyffrin/Easttown School District. He earned his Bachelor of Arts from Penn State University, a Masters of Education from Tyler School of Art, and a Masters of Liberal Arts from the University of Pennsylvania. A resident of West Pikeland Township, John chairs the township Arts and Culture Committee and is a member of the Government Study Commission. He was past president of Chester Springs Studio and a past board member of Charlestown Play School.

“I believe that nonprofits exist to stir actions, mostly by providing opportunities for individuals to participate in mission driven causes, issues and programming. Content, knowledge, research and experience matter, and so does passion.”

John D. Funk is a familiar face in our organization, as a 20-year GVA member, and Board President from 1995 to 1996, when GVA was negotiating for title to Welkinweir. He earned his Bachelor of Science in Business Administration from Penn State University and a Master of Science in Financial Services from American College. As a resident of East Vincent Township, along the French Creek, John has been an active township volunteer, chairing the planning commission prior to being elected to the Board of Supervisors, which he also chaired. He is a registered securities representative and owner of a financial services firm.

“I have been an active outdoorsman all my life. Watershed protection and environmental education hold a high priority for me. My 49 years’ experience dealing with clients’ financial affairs will be helpful to Green Valleys Association in continuing to follow its mission.”

Characterizing Our Watersheds – 2011 Intern Project

An important part of being actively engaged in protecting and preserving our watersheds is getting into the streams to observe and study their characteristics and health. Our new watershed science college internship added the capacity to collect more data and observations in our watersheds, as well as to begin a mapping project which will assess land use in each of the watersheds. In September, Colin Dubinski and Michael Galloway joined Green Valleys to begin their semester-long internship toward completing their degrees in environmental health at West Chester University while gaining valuable work experience in their field.

The work that Michael and Colin did this fall focused on characterizing the Pickering and Pigeon Creek watersheds. Characterization uses information from many sources — maps, land use data, habitat assessment, and past and present results of chemical, bacteriological and macroinvertebrate sampling — to understand the health of the streams and watersheds. This information helps us to protect streams in exceptional

See “Interns,” page 5
Streams Need Trees

The simplest act citizens can perform to help heal our watersheds is to plant tree buffers along streamside. These riparian buffers safeguard our streams from pollutants and sedimentation, reduce stormwater surges, replenish ground water supplies, reduce flooding, provide food and shade for aquatic life and critical habitat functions essential for the web of life associated with stream ecology. Essentially, our streams need trees!

The streams within our stewardship watersheds are both “high quality” and “exceptional value” designation, but ecosystems are dynamic and continue to be impacted by human activity associated with land use practices. We recognize the need to establish a culture of “caretaking” in our communities and we provide opportunities for citizens to be pro-active participants in our stewardship practices.

GVA’s Watershed Restoration Program focuses on planting trees to restore the forest cover that once dominated our Chester County landscape. This restoration is so critical for preservation of our water resources, and we are making great progress, with over 3,400 trees planted at eight sites in the past two years (see details below). Our goal for 2012 is to plant 2,300 more trees, at two current sites and six new sites.

There are additional benefits to the stream-side restoration effort. Tree-planting events build a culture of giving back to the environment. This program has effectively established new partnerships and renewed old ones. In less than two-years, GVA has connected with nineteen organizations and engaged over 300 volunteers in our tree-planting stewardship activities.

Our partners, interns, and volunteers included the Girl Scouts, Bartlett Tree Experts, PA Landscape & Nursery Association, Valley Forge National Park, and Camp Hill Special School Beaver Farm, as well as those listed in the box below.

Our volunteer planters have ranged from ages 2 to 75 and have worked in sunshine, pouring rain, during spiritual fasts, on working holidays and their days off. Through each act of tending the Earth, our volunteers demonstrate their care for the land and the natural resources on which we all depend.

Our Watershed Restoration Program is spirited by Plant One Million, an ambitious multi-state tree-planting campaign encompassing 13 counties in southeastern Pennsylvania and parts of New Jersey and Delaware. Program funding is provided by Tree Vitalize, Pauline Morton Foundation, GVA members, and an anonymous donor.

For the years of 2010 and 2011 GVA’s volunteers have planted over 3,437 trees and shrubs. Our goal for 2012 is to plant 2,300 trees at two current sites and six new sites in the French, Pickering, Pigeon, Valley Creek and Stony Run watersheds. Please join us!

- Margot Taylor

Last year we planted trees and a limited number of shrubs at six sites in the French and Valley Creek watersheds. Our 2011 accomplishments and partnerships include:

- Open Lands Conservancy’s Lorimer Preserve - 725 trees planted by OLC Board members, Siemens Corporation, and Sierra Club.
- Tredyffrin Township at Trout Unlimited’s Crabby Creek restoration site - 191 trees planted by interns from West Chester University and Temple -Ambler, and students from Cabrini College
- West Vincent Township Birch Run headwaters on Griffith Farm - 550 trees planted by St. Matthews United Church of Christ youth, GVA staff and interns.
- West Vincent Township Beaver Run headwaters – 400 trees planted by Owen J. Roberts Horticulture Class, GVA staff and interns.
- Siemens GREEN Team plants nearly 800 trees along Little Valley Creek on OLC’s Lorimer Preserve
- Siemens GREEN Team plants nearly 800 trees along Little Valley Creek on OLC’s Lorimer Preserve.

Owen J. Roberts horticulture students.

A job well done: 400 trees planted by students in OJ’s horticulture class taught by Peg Tinder.

Siemens GREEN Team plants nearly 800 trees along Little Valley Creek on OLC’s Lorimer Preserve.

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nesting during the winter months. Songbirds such as chickadees, titmice, cardinals and various species of woodpeckers supplement their diets through seed and suet provided at bird feeders.

Some animals have already migrated to warmer regions, and still others go into a dormant or inactive state, waking occasionally to eat. Chipmunks, deer mice, opossums, raccoons and other mammals may spend subfreezing, snowy days sleeping in dens and tree cavities. Some collect a cache of “groceries” in the fall, while others venture out in search of food on mild winter days.

Cold-blooded animals have no way to keep warm during the winter. Snakes and turtles crawl below the frost level of the ground, under leaf litter, rocks, or logs. Fish, frogs and aquatic turtles may spend the season on pond bottoms. Cold water holds more oxygen than warm water, and frogs and turtles can breathe by absorbing oxygen through their skin. Many insects lie dormant under the bark of trees, inside rotting logs, or in any small crack they can find. Others die after laying eggs in the fall.

Dormancy is different from hibernation. In hibernation, animals go into deep sleep, their heart rates, metabolism and respiration dropping extremely low. Pennsylvania has only three true hibernators. Surprisingly, the black bear is not one of them.

Our true hibernators are:

1. The groundhog. It fattens up for the season, then enters a state of suspended animation in which its temperature dips to about 40 degrees Fahrenheit and its heart beats as few as four times a minute, compared to 100 beats per minute in summer.

2. The woodland jumping mouse. A mammal residing in the northern part of the state, this mouse goes to sleep in its den, its body temperature dropping to near freezing. All life processes are reduced to a minimum from October through March.

3. The little brown bat. It hibernates underground, usually in caves, with its body temperature dropping close to the air temperature. Most bats favor cave zones having the lowest consistent temperature.

Much can be learned about our local wildlife in winter, as in other seasons, by taking nature walks. While it may be difficult to find the animals themselves, finding tracks, scat (droppings), and other evidence of activity can be just as exciting.

Throughout the year, GVA offers seasonal night hikes for families and individuals, to encourage folks to discover the outdoors at night. At our winter Night Hike and Campfire program, participants can enjoy the crisp air, not to mention the peacefulness and solitude Welkinweir offers during this season. Listen for great horned owls, look for animal tracks and examine pelts, feathers and other natural objects. Learn how you can help our local bats, and enter a free raffle to win a bat box. We’ll end the evening with refreshments by the campfire. Please consider helping another child enjoy the camp experience and make a difference in their life by contributing to GVA’s Summer Camp Scholarship Fund. A donation of $200 will send one child to camp for one week, but any donation amount is appreciated. Please send your contribution to GVA’s Summer Camp Scholarship Fund, 1368 Prizer Road, Pottstown, PA 19465.

- Dawn White

Information from: The Morning Call, by Tom Fegely, January 5, 1997; Wildlife Notes: Bats and Weasels by Chuck Fergus, PA Game Commission; www.scientemadesimple.com/animals.html.

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Summer Nature Camp 2012!

Another great summer is planned for 2012 Summer Nature Day Camps, with plenty of opportunities for campers to reconnect with the outdoors. Nature camps encourage children’s natural curiosity of the outdoors by engaging them in fun and educational activities while teaching them about our natural world. Improved programming will be featured, including new guest presenters (and many of the favorites!) and more weeks of adventure camp for children in 7th and 8th grades. See registration dates on page 7, and look for the Camp brochure in your mailbox and on our website by the end of February.

Whether you are new to nature camp, or will be returning for another exciting summer and simply want to explore the GVA property, come out to our Summer Camp Open Houses, Saturday, April 21 or Saturday, June 3 from 9:30-11:00 a.m. Visit our facilities, walk the grounds, and talk with our Education Director, to get your camp questions answered and ease any apprehensions new campers may have.

Please consider helping another child enjoy the camp experience and make a difference in their life by contributing to GVA’s Summer Camp Scholarship Fund. A donation of $200 will send one child to camp for one week, but any donation amount is appreciated. Please send your contribution to GVA’s Summer Camp Scholarship Fund, 1368 Prizer Road, Pottstown, PA 19465.

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**“Interns” from p.2**

condition and identify where restoration work is needed. The internship began with Colin and Michael learning about our history and aggregating existing data from sources such as the US Geological Survey (USGS). They learned how to use professional instruments for water sampling – important for continuing to add new data – and along with the rest of our staff participated in macroinvertebrate (or “macro”) collection and identification training presented by Stroud Water Research Center. (See below.) As the internship progressed, Michael mapped the subwatersheds of the Pickering and Pigeon Creeks, while Colin developed a handbook for macros found in our watershed as an aid to accurate identification. Together, they worked to collect, organize, process and evaluate much of the existing data for these two watersheds, showing a clear picture of stream health trends over the past several decades. They also spent a few days in the field every month, carrying out the chemical and physical tests for our water monitoring program and visually assessing habitat and stream health.

At the conclusion of their internship, Colin and Michael presented their work to the Board of Directors, explaining their projects and displaying their results. They’ve given us graphs of water quality trends, great water monitoring data, beautiful maps, the basis of a macro handbook, and a spreadsheet built to organize and analyze existing data. They’ve demonstrated how college interns can carry forward our mission. In return, we were able to provide beneficial training, covering both technical and nontechnical skills.

Colin and Michael graduated in December. We congratulate them and thank them for all of their hard work! We look forward to hosting another intern this spring, and are excited to grow this program in the future. – Laura Yayac

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**Macroinvertebrates: Little Water Wonders**

GVA staff recently completed macroinvertebrate training, which will expand our ability to accurately assess stream health. Macroinvertebrates (“macros”) are excellent indicators of stream conditions. Macros are stream animals without backbones, large enough to be seen without a microscope. They are an important step in the food chain, feeding on fallen leaves and algae, and providing food for fish, which in turn supply food for larger animals such as birds, raccoons, and humans. During the training on Pigeon Creek, we used kick nets and D-frame nets to collect macros, which included caddisfly, mayfly, and stonefly larvae, as well as crayfish and midges. Besides being lots of fun, understanding macro concentrations and diversity is a vital part of forming a complete picture of our watersheds. The training was conducted by Stroud Water Research Center. Thanks to the Consortium for Scientific Assistance to Watersheds, which provided a grant. – Laura Yayac
As a gardener, my initial reaction to approaching winter is not one of joy. Winter has a way of interfering with my favorite activity of working alongside the birds and the bees on a comfortably warm, sunny day. While the snow can be beautiful when observed from a distance, it is cold and often overstays its welcome. But even from a gardener’s perspective, winter isn’t all dormant plants and dirty snow. In fact, there are a few plants that put on their best faces during these long empty months. Referred to as having “winter interest,” these plants can offer a refreshing change of scenery among the otherwise neutral landscape.

Winterberry hollies (Ilex verticillata spp.) are a good choice for a winter interest garden. While deciduous, the absence of leaves in the winter does not inhibit their ability to capture the eye. In fact, leaves would only detract from the explosion of color the berries provide in the fall. As a bonus, these berries will feed hungry birds in the garden. While the cultivars often come in hues of red, the “Winter Gold” variety has orange berries. Typically growing to a height of about 15 feet and equally as wide, these hollies can grow in sun or shade.

Mahonias are another plant species with showy berries, but of quite a different color. Their blue berries form from yellow flowers in the summer and last into winter. Some of the notable species are Mahonia aquifolium, Mahonia nervosa, and Mahonia bealei. Varying in height from 6 feet, 1 foot, and 12 feet respectively, these plants will thrive in part shade.

Winter interest is not always about fruit. There are several plants prized in the winter garden for their striking bark. Stewartia comes to mind, with its beautiful peeling cinnamon-and-silvery dappled bark. Stewartia is a medium-sized tree that has a lot to offer in every season. Kousa dogwood and Persian Ironwood Tree (Parrotia persica) display similar patterned bark that is a mosaic of tan, deep brown, and gray.

Other plants with interesting bark include Striped Maple (Acer pensylvanicum), with distinctive white lines running down the length of the trunk and along the branches that contrast with the greenish hue of the rest of the bark. An understory tree in its native habitat, this tree prefers a shady location in the garden. If you are looking for a tree with vivid red bark, the Coral Bark Maple (Acer palmatum “Sango Kaku”) is a great choice.

One cannot forget the red and yellow twigged shrub dogwoods. Displaying the best color in full sun and happily growing in wet conditions, the vivid reds and yellows of the stems will brighten up the winter garden.

Finally, what about those plants with the audacity to flower in the winter? These include Witch Hazel, Winter Jasmine, and Hellebore. Witch Hazel (Hamamelis virginiana) is a shrub averaging around 15 feet tall with a display of spidery yellow flowers in late February or March. Jasminum nudiflorum also performs in February, with small yellow trumpet flowers draped along cascading stems around 4 feet tall. Hellebore is a perennial reaching about a foot in height and blooming January through March.

So take heart, fellow despisers of winter. There will be something to look forward to in the garden over the next few months.

- Beth Moosman

Finding Interest In The Winter Garden

Winterberry holly, “Winter Gold.”
Photo by Jason Reeves, University of Tennessee Institute of Agriculture

Winter Hours

Welkinweir Winter Hours

Welkinweir’s arboretum and surrounding natural lands are open M-F, 9 a.m. to 4:30 p.m. and weekends for members only.

www.welkinweir.org

Freedom Valley Questers think Welkinweir matters, part of the National Trust for Historic Preservation’s “This Place Matters” campaign.
Fall Fun at Welkinweir and in the Community

**January**

**Friday, January 27** — 7:00-8:30 p.m.
**Nature at Night: Hike and Campfire**
(Severe weather date, Friday, February 3)
Registration required by Thursday, January 26.

**March**

**Monday, March 5**
Camp Registration Opens for GVA Members. See page 4.

**Friday, March 16** — 7:30-9:30 p.m.
**Girl Scouts’ Night Hike, Campfire and Sky Watch**
For all ages with adult chaperones.
Fee: $10 per person.
Registration required by March 15.

**Monday, March 26** -- **Camp Registration Opens** to all.

**April**

**Thursday, April 5** — 9:00 a.m.-3:00 p.m.
**Young Naturalist Day: All About Animals**
For children in 2nd through 6th grades. Fees per child: $65 for GVA members, $75 for non-members.
Registration required by Tuesday, April 3.

**Friday, April 6** — 9:00 a.m.-3:00 p.m.
**Young Naturalist Day: Water Discoveries**
For children in 2nd through 6th grades. Fees per child: $65 for GVA members, $75 for non-members.
Registration required by Wednesday, April 4.

**Saturday, April 21** — 9:30-11:00 a.m.
**Summer Camp Open House.** No registration required.

**Ongoing, March and April**

**Wildlife Walks** at Welkinweir Saturdays, 8:00 a.m.
March 24, April 7, 21.
For ages 6 to adult. FREE. No registration required.

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**Hands-on learning during Little Sprouts nature classes, at Henrietta Hankin and Phoenixville public libraries.**

**Girl Scouts and other program participants delighted in discovering the beaver’s handiwork at Welkinweir’s main pond.**

**On the trail in the Welkinweir Children’s Garden.**

**GVA Education Director Dawn White shows owl adaptations with a live barn owl during the November Owl Prowl. Thanks to Great Valley Nature Center for use of three of their owls, and to Penn Liberty Bank, Chester Springs Branch, for sponsoring the Owl Prowl event.**

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ALL PROGRAMS ARE AT WELKINWEIR unless noted.

For all program information and registration, please contact Dawn at 610-469-8646, or dwhite@greenvalleys.org.
Please join us... Join GVA or Renew Your Membership Today! *ONLINE MEMBERSHIP now available!

Name_____________________________________
_________________________________________
Address ___________________________________
City __________________________ State _____
ZIP ________ Phone _______________________
Township _________________________________
Watershed _________________________________
Email _____________________________________

☐ I would like to volunteer time to GVA.

Dues and contributions are tax-deductible. Green Valleys Association is a registered charitable organization. A copy of the registration and financial information is available by calling 1-800-732-0999. Registration does not imply endorsement.

MEMBERSHIP includes quarterly newsletter, notice of events and programs, access to Welkinweir grounds, reduced rate to special programs (including summer environmental camp) and fishing with a GVA permit.

☐ Supporter ................................................................. $50.00
☐ Naturalist ................................................................. $100.00
☐ Environmentalist ....................................................... $250.00
☐ Protector ................................................................. $500.00
☐ Preservationist ......................................................... $750.00
☐ Steward ................................................................. $1,000.00

I am a ☐ Renewing Member ................. ☐ New Member

SUPPORTING CONTRIBUTION
☐ Friend of Welkinweir .................................................. $25.00

FISHING PERMIT — With Family Level membership or higher
☐ Welkinweir Fishing Permit ........................................ $5.00

Winter, 2012
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