

# WORKING LANDSCAPES

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Newsletter of the Maryland Center for Agro-Ecology, Inc.  
*Supporting Viable Farms and Forests*

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Welcome to *Working Landscapes*, the quarterly newsletter of the Maryland Center for Agro-Ecology, Inc. You are receiving this newsletter because you have expressed interest in the Center or participated in our programs. We encourage you to share this newsletter with others who are interested in preserving Maryland's working farms and forests, as well as the environmental health of the land on which they depend.

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## 1. FROM THE EXECUTIVE DIRECTOR

On May 26, I was honored to join an ensemble of citizens, state leaders, and media, as Governor Ehrlich signed into law the Chesapeake Bay Restoration Fund. After nearly two decades of effort, this law finally provides a dedicated source of funding for cover crops—one of the most effective and least expensive ways to reduce nitrogen losses from agriculture to the Bay and its rivers. This is good news for both the Bay and Maryland farmers.

Funding for cover crops will come from a monthly fee of \$2.50, paid by septic tank users. Only 40 percent of the septic tank fee goes to cover crops, but that is enough to supply about \$5 million annually for the program. These dollars will help plant approximately 200,000 acres in cover crops annually. With returns of roughly 1 pound of nitrogen reduction for every dollar invested, this heightened cover crop activity will prevent an estimated 5 million pounds of nitrogen from entering our waterways each year.

Years of sustained effort have led to this welcome news. It serves as reminder that persistence on two fronts—science and policy—pays off. But it can take time for the component pieces to align.

Today, cover crops are widely embraced as the best technique for capturing nitrogen from groundwater, but that has only recently become the case. Originally, farmers grew cover crops to conserve their topsoil over winter. Some also produced a cash crop and provided food for dairy herds, which helped enrich the soil. Then, starting in 1987, studies at the University of Maryland Wye Research and Education Center demonstrated the additional benefits of cover crops as “pollution busters.”

These findings hinged on the discovery that the amount of nitrogen leaving a field through groundwater was five to ten times higher than the amount leaving a field through surface runoff—a critical finding, because it ran counter to most thinking at the time. During the early days of the restoration effort, we thought that the best way to stop the flow of nitrogen to the Bay was to block surface runoff by using broad buffer strips and no-till systems in the fields. And so it seems that even science needs an occasional public relations campaign. The campaign for cover crops, combined with research to further demonstrate and document the science, went on for years.

Increasing cover crops also requires a body of willing farmers. We have that, too, to a point. Farmers are generally eager to conserve their land and prevent pollution. However, cover crops sown for the sole purpose of preventing pollution costs money. Farmers work with a slim profit margin, and an acre of cover crops can easily cost them the profits generated by planting cash crops on that same acre. To make matters worse, crops sown to soak up nitrogen need to be planted right when the farmer is especially busy with harvest and other yearly tasks. It would be much easier to plant a cereal cash crop at a later, more convenient time. So a cost-share program was critical to the program’s success. Over the years, when limited pools of cost-share funds were available, farmers stepped up quickly and the money was usually committed within days.

Still, despite sound science and willing participants, finding the funds for an adequate, sustained cover crop program has not been easy. There are many competing needs in the Bay restoration program and not nearly enough resources to go around. Cover crop funding in Maryland moved with fits and starts over the past decade.

Governor Ehrlich changed that this spring with his signature on the new Chesapeake Bay Restoration Fund. The next two years will challenge state agencies as they put this program in place. They will need to quickly enroll more farmers in the program, expand the acreage planted, and effectively administer the effort. The recently released Tributary Strategies

document further challenges us to fund and plant 600,000 acres of cover crops annually to meet nitrogen retention goals for the Bay.

It is important that both farmers and policymakers step up to this challenge. The green fields of winter rye will not save the Bay by themselves. But using cover crops, along with other innovative best management practices, will help the farming community meet its nitrogen reduction goals and remain economically viable.

Sincerely,

Dr. Russell Brinsfield  
Executive Director

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## **2. RESEARCH NEWS & UPDATES**

### **Center Awards More than \$700,000 in Research Grants**

The Maryland Center for Agro-Ecology, Inc., has awarded grants for seven new research projects that will support the preservation and productivity of Maryland farms and forests. The Center selected these projects from a competitive pool of grant applications received through the Center's annual Request for Proposals. The \$743,449 provided for these projects has attracted matching funds, which together establish nearly \$1 million in research support. Since its inception, the Center has funded 31 projects with \$2.89 million, matched by \$835,000 from other sources, for a total of \$3.73 million of research support.

The projects funded by the Center in 2004 are listed below.

**1. The impact of urbanization on Maryland agricultural and forest land.** This study will describe and analyze the collective impact of population growth and development on Maryland's rural areas since the 1970s. Led by Bernadette Hanlon of the University of Maryland, Baltimore County, researchers will examine the agricultural and forested areas that were lost to urbanization and why those losses occurred. The findings will help project which trends are most likely to displace valuable farms and forests, and identify locations most in need of rural preservation efforts.

**2. Making cover crops pay in the Chesapeake Bay region.** Winter cereal cover crops offer substantial benefits to both soil and water quality. The costs to grow these crops, however, are not easily recovered by the farmer. Therefore, despite two decades of research and promotion, the use of winter cereal cover crops on Maryland farms remains too low to meet the State's environmental objectives. Ray Weil, University of Maryland College Park, has initiated this study to examine a collection of cover crops that might address this conundrum. The Brassica species (including Rapeseed, Oilseed radish, Forage

radish, Mustards and Turnips) is new to Maryland, but research elsewhere suggests its potential to deliver a range of benefits to both the environment and the farmer.

**3. Using barley for ethanol production.** Winter barley is an important crop in Maryland, but the current market for barley is limited. The limited market has kept prices very low, leading to a steep reduction in the amount of barley acreage harvested—from 80,000 to 100,000 acres in the 1980s, to 50,000 acres in 2000. This study, led by Jose M. Costa, University of Maryland College Park, will examine the potential for bolstering the market for Maryland barley grain by using it to produce ethanol.

**4. Using transferable development rights (TDRs) to increase farmland preservation.** Under a TDR policy, the right to develop a property is separated from ownership of the property. A market is created in which development rights can be bought and sold. When development rights are sold from a property, the land remains permanently out of development; the rights are either retired or used to increase the density of development in other designated regions. This study, led by Virginia McConnell, University of Maryland, Baltimore County, will examine the overall design of the program, the amount of land preserved, and the impact of development that occurs as a result of the transfer. The findings will help planners and policymakers determine how best to use TDRs as a tool for farmland preservation and how to design an effective TDR program.

**5. Alternative fruit crops for former tobacco cropland.** Southern Maryland is currently dealing with the agricultural transition of 779 farmers who elected to take the Maryland Tobacco Buyout, resulting in 41,463 total farm acres that have been removed from tobacco production. As part of the buyout agreement, however, the growers must remain active in some form of agricultural production. This project will ultimately support these farmers, who are accustomed to a high intensity/high value crop, as they transition to alternatives. Joseph Fiola, Western Maryland Research and Education Center, will test a number of alternatives, including blueberries, figs, beach plums, Muscadine, seedless table, and wine grapes for many of the diverse growing environments in Maryland, with a focus on Southern Maryland.

**6. Managing Maryland's State forests.** The Maryland Department of Natural Resources (DNR) is charged with the management of State-owned forests. Over the last two years, a debate has developed over whether DNR is providing effective stewardship of these forests, particularly in balancing management actions that protect habitat and ecosystem value of the forests versus those that manage the land for its timber. Led by Sarah Taylor-Rogers at the Maryland Center for Agro-Ecology, Inc., this study will review the policy positions and scientific approaches that have been used elsewhere to address the management of public lands. Researchers will examine reports, publications, and web sites of academic institutions, environmental organizations, government agencies, and professional forestry associations. They will also conduct interviews to gain a Maryland perspective on the issues surrounding the management of State forests and how best to address them.

**7. Effects of poultry-litter contaminants on fish and amphibians.** Research has shown that contaminants in poultry litter can cause endocrine disruption in fish and

amphibian species at exposure levels below those that reportedly exist around the Delmarva Peninsula. This project, conducted by Daniel Fisher, University of Maryland, Wye Research and Education Center, will assess whether runoff from fields treated with poultry litter exerts a direct endocrine disruption on fish and amphibian species in receiving waters along the Delmarva Peninsula.

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### **3. MEET THE BOARD**

#### **Frances Flanigan, Environmental Consultant**

Fran Flanigan builds bridges. Not the kind you cross by driving or walking. But bridges that span differences and require equally sensitive handling as they develop. Fran's lifetime endeavor is to help people with diverse perspectives work in concert to restore the Chesapeake Bay.

During the earliest days of the Bay restoration effort, Fran was active in the citizen-based movement that called for coordination between the Bay states and led to the nationally recognized partnership known as the Chesapeake Bay Program. A nonprofit organization, initially called the Citizens Program for the Chesapeake Bay and later the Alliance for the Chesapeake Bay, was asked to assist in providing public outreach services. Fran joined the organization in 1977 and became executive director in 1979.

During her 22 years as executive director, the Alliance for the Chesapeake Bay grew to a three-state organization with a reputation for building consensus and promoting sound science. Fran forged working relationships with groups not traditionally seen as partners with the environmental movement—for example, the Alliance developed programs and policies that involved farmers, builders, industry, local government, and the forestry community.

One especially important undertaking involved groundbreaking outreach with the Pennsylvania agricultural community in the early 1980s. Researchers at the Chesapeake Bay Program had begun to realize that agriculture was a significant part of the Bay's problems. The Alliance organized a large meeting with farm leaders and farm organizations in Pennsylvania, to share these findings and invite roundtable discussion with scientists. The Alliance later convened a series of meetings with soil conservation districts from across the Bay region.

Fran's positive experiences with agricultural leaders contrasted strongly with the negative attitudes that seemed to exist elsewhere.

"One of the first answers to the agricultural issue was to treat farming like another 'dirty' industry—to basically do away with it, because we were going to suburbanize anyway," Fran explains. "But this was never a viable answer for me. The big picture for the Bay region

must include agriculture. Farming needs to be economically viable and environmentally sound."

Fran is a Baltimore native. She nevertheless formed an early emotional association with farming through summer experiences with her grandparents.

"My grandparents had a 'farmette,' where they raised flowers," Fran says. "It wasn't until I was older that I realized how much larger the universe of farming actually is. But I'd always thought of myself as going to the farm in the summer."

Fran attended the College of Notre Dame, studying history with a minor in education and a strong interest in science. After a short time teaching, years managing the Alliance, and raising two daughters, Fran is now an environmental consultant living in Baltimore. She volunteers with the Maryland Tributary Teams and serves on the board of directors for the Chesapeake Bay Trust, the University of Maryland Center for Environmental Science, and the Maryland Center for Agro-Ecology, Inc.

Fran participated in the earliest discussions about the formation of the Center and found the idea closely aligned with her interests. She is especially enthused about the Center's overall approach to problem solving.

"They ask hard questions, get the information you need for a real answer, then invite discussion and come up with a range of ideas on how to do it," Fran says, "all in a manner that keeps people comfortable with each other. Everything I've participated in with the Center is well attended, broad based, and congenial. And that kind of atmosphere is critically important for progress."

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## **4. FIELDS & FORESTS**

Each issue of *Working Landscapes* introduces people working in agriculture and forestry across the state of Maryland. If you would like to suggest someone for a Fields & Forests profile, contact Lara Lutz at 410-798-9925 or [laralutz@aol.com](mailto:laralutz@aol.com). Please note that inclusion in the newsletter does not imply endorsement of the featured businesses.

### **In the Fields: Mike Phipps of Calvert County, Maryland**

As a baby, Mike Phipps would watch from his playpen under shade of a nearby tree while his family worked on their Calvert County farm. He must have learned a thing or two while he watched. Today, Mike lives in the farmhouse that belonged to his grandparents and works the land together with that of his parents' farm, just two-and-a-half miles distant.

Mike's farming heritage goes back hundreds of years in Southern Maryland and includes the land on these two farms. Heritage is as important to him as the work itself. "It's something

to think about," Mike says, "when you stand there, working a field, and you know your family has worked that same land for generations."

The two farms, located in Owings, cover 160 acres of rolling cropland, forests, wetlands, and meadows. Mike keeps a herd of 15 to 20 cattle, both for angus beef and for breeding and selling calves. Hay and corn is produced primarily for the herd. Tobacco is the main crop for market, although Mike introduced sweet potatoes a few years back to sell on the roadside along Route 4. He divides his efforts fairly evenly between the cattle and tobacco, although the tobacco cycle requires more intensity at various times of the year.

Mike is by nature a conscientious steward of the land, sensitive to the needs of his landscape. "I have to be careful with farming practices because of the rolling land. We use a lot of contour strips and diversion ditches, things like that."

### *The Lure of the Land*

"I've done a lot of different things in my life, but farming has always been a part of it," Mike explains.

Mike graduated from his playpen observatory to share in plenty of hands-on farm work as he grew up. While earning college degrees in accounting and business administration, he worked the farm after classes. Mike went to work for a local bank immediately after college, and eventually became a branch manager. Years later, he began a second career, working at a funeral home that had once been in his mother's family for many years. He continued this work for fifteen years, three days a week, and worked the remainder of the time on the farm. Then, three years ago, the farm called him back full time.

"My father was getting older and he needed more help," says Mike. "The farm is where I wanted to be."

Along with his responsibilities on the farm, Mike provides leadership for a number of farming and civic organizations. He is first vice president of the Maryland Farm Bureau, secretary for the Cooperative Extension Advisory Council in Calvert County, and a member of the Calvert County Planning Commission.

Mike also serves on the board of directors for the Maryland Center for Agro-Ecology, Inc.; the Southern Maryland Electric Cooperative; the Calvert County Fair; the Calvert County Nursing Center; and the Calvert Farmland Trust. The Calvert Farmland Trust differs from other land trusts because, rather than holding land, it facilitates the transfer of property into permanent farmland, but strips the development rights from the property before the sale is finalized.

If you travel area bluegrass circuits, you might also find Mike with mandolin in hand, plucking bluegrass tunes with Jay Armsworthy and Eastern Tradition.

### *Waves of Change*

Like many farmers, Mike feels the impact of economics, regulations, and sprawl. Sprawl has especially impacted Calvert County in recent years, and development pressure has become a big problem for farmers there. Heavy traffic causes a logistical hassle.

"The traffic makes it difficult to move equipment across highways, to reach our fields," Mike explains. "We have to time our work around the traffic flow."

Area farmers have also suffered a loss in support services. With farm dealers closing and consolidating, farmers have to travel further to meet their needs.

Increased regulations have been an added chore, mostly, says Mike, "because they came out badly. The intention was good, but they had a one-size-fits-all approach. That just doesn't work with farming. I think they're doing a better job now."

Prices and the rising cost of living are a constant challenge, especially given changes in the tobacco market.

"The tobacco market is in flux," Mike says. "There were some new buyers this past year, though, so that was encouraging. But it's hard to see the tobacco barns falling down. They're a part of the landscape."

Still, Mike welcomes the independence and the challenges of farm life.

"It's a nice way to live," he says with satisfaction. "Every day, every crop, every season is different. It's rewarding when things go well."

### **In the Forests: Stronghold, Incorporated, of Sugarloaf Mountain, Frederick County**

One hundred years ago, Gordon Strong decided to buy a mountain. Strong, a wealthy Chicago business man, knew the mountain he wanted and had the means to buy it. He first encountered the place in 1902: Sugarloaf Mountain, a striking outcrop rising in a distinctive hump from the farmland valley of southern Frederick County, Maryland. Strong bought one parcel of land after another, until he accumulated 2,000 acres of Sugarloaf Mountain.

Today, those holdings have grown to 3,300 acres, owned and managed by Stronghold, Incorporated, a private land trust that Strong established in 1946. Through the years, Stronghold, Incorporated, has successfully juggled a number of seemingly incompatible interests—private ownership, public use, land preservation and timber harvesting—into an unusually happy marriage.

### *Harvesting for Forest Health*

Sugarloaf Mountain has been designated a Registered Natural Landmark because of its geological interest and striking beauty. It is open year-round to the public, free of charge. Geologically, Sugarloaf is known as a "monadnock," a mountain that remains after surrounding land has eroded. At Sugarloaf, that process took approximately 14 million

years. To early hunters and pioneers of the area, the shape that resulted reminded them of a sugar loaf, which gave the mountain its name.

The mountain is mostly composed of quartzite, which is especially visible on the rugged cliffs at its peak. It boasts more than 500 species of plants and a wide variety of abundant wildlife. Red and white oaks are the dominant tree species on Sugarloaf. Other species include black gum, tulip poplar, black birch and eastern hemlock.

Forestry has a long history on the mountain. During colonial times, settlers in the valley owned mountain lots that they would frequent to harvest timber. Later, the Johnson Furnace was established there. Trees were cleared to make coke and produce iron. When the furnace went out of business, Strong was ready and waiting to purchase the land.

Today, timber harvest is carefully managed to support Strong's vision for the mountain, without detracting from it.

David Webster, executive secretary-treasurer of the Board of Trustees, explains that the timber harvesting is modest, in the context of their total acreage.

"We participate in the Maryland Forest Management Program, which requires us to cut only 150 acres in a fifteen year period," says Webster. "When you have 3,000 acres of forest land, that's not much."

Some years, they don't harvest at all. On the other hand, they have occasionally harvested above the required 150 acres because of damage from storms and gypsy moths.

Nevertheless, harvesting on "preserved" land is sometimes viewed as a contradiction. Webster disagrees.

"Selective harvesting keeps the forest healthy," Webster explains. "It breaks open the canopy and invites new growth. When it's done right, it actually helps preserve the forest."

There are added benefits, too. "Let's not forget," says Webster. "There are jobs involved here."

In addition, the logging roads have enhanced public access to areas of the mountain and created passage for emergency vehicles, should they be needed.

"We also gain income from the timber. That's good, because we don't charge for visitors to use the mountain, and there's nothing but private funds to support it," says Webster. "But timber income is a very small percentage of our overall budget. Most of the money comes from a trust fund, membership dues, and other donations."

### *Promoting Good Forestry*

Stronghold, Incorporated, has also provided 100 acres of land for a unique forestry demonstration area.

"We have five plots, twenty acres each," Webster explains. "We use them to demonstrate different cutting techniques—like select cutting, clear cutting, shelter cutting—and we show what the results look like in five-year intervals."

The state uses the demonstration area as field site for professional training and for landowners who want to improve their forestry management and make sound harvesting decisions. The general public also encounters these demonstration plots, because portions of the hiking trails wind right through them.

Indeed, forestry and outdoor recreation coexist peacefully on Sugarloaf Mountain. Nearly a quarter million people visit each year, to picnic, enjoy the scenic vistas, hike the trails, ride horses, and observe plants and wildlife.

"We've never once had a public complaint about forestry on the mountain," says Webster.

*For more information about Sugarloaf Mountain, visit [www.sugarloafmd.com](http://www.sugarloafmd.com).*

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## **5. ABOUT THE CENTER**

The Maryland Center for Agro-Ecology, Inc., is a private, nonprofit organization dedicated to enhancing Maryland's farms, forests, and other "working lands" through research, education, and policy programs. The Center is unique in its efforts to support profitable land-based businesses while protecting the environmental sustainability of the land itself.

The Center was launched in 1999, as the culmination of statewide, cooperative discussions lead by the University of Maryland. Participants in those discussions formed a diverse coalition. They included leaders of agricultural, environmental, forestry, business, educational, government and other interest groups throughout the state. These same diverse voices continue to support and guide the work of the Center today, providing a crossroads of communication and promoting solutions that respect the interrelated concerns of the scientific, economic, and environmental constituents.

Located at the University of Maryland's Wye Research and Education Center and operating under a Memorandum of Understanding with the University's College of Agriculture and Natural Resources, the Center's principal activities include:

- Providing a wide range of competitive grants that support critical interdisciplinary research;
- Developing and encouraging innovative public policy at the state and federal levels that protect and enhance the profitability of open space-based industries and that increase our political leaders' understanding of the aesthetic, environmental, and economic value of working landscapes; and

- Sponsoring workshops, national symposia, and forums that educate the public about the value of open space, the relationship between agricultural and forestry production and profitability, natural resource protection and open space preservation, the true costs of sprawl, and "the sense of place" so vital to our rural communities and the character of our state.

For more information, visit [www.agroecol.umd.edu](http://www.agroecol.umd.edu) or contact [Kevin Miller](#), assistant director.

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## **6. HOW YOU CAN HELP**

Make a tax-deductible donation to the Maryland Center for Agro-Ecology, Inc., a 501 (c) (3), and help support the research, educational, and public policy work that promotes viable farms and forests across the state of Maryland.

The Center welcomes any level of general, dedicated, or in-kind support. We especially welcome contributions towards the Working Lands Fellowship and internship programs, an invaluable way to support the goals of the Center and provide meaningful opportunities for undergraduates, graduate students, or experienced professionals.

For more information, contact Kevin Miller at 410-827-6202 or [kmiller5@umd.edu](mailto:kmiller5@umd.edu). Copies of the Center's nonprofit determination letter from the Internal Revenue Service and related materials are available for viewing at the Center. Individuals interested in inspecting these materials or obtaining copies should contact Kevin Miller.

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## **7. CONTACT THE CENTER**

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## **8. SUBSCRIBE OR UNSUBSCRIBE / PRIVACY POLICY**

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