



Green Space Advisor

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Message From The President: Bobby Berg

The ICC is coming! Okay, the new highway is old news, but my commute from Olney to Gaithersburg now shows clearly how green space taken for granted for decades can disappear in months. The ICC's new crossings at Emory Lane, Muncaster Mill, and Needwood demonstrate that building the ICC has required removing big pieces of beautiful fields and wooded parklands.

The point here is not the ICC but that most of our open space is unprotected and therefore temporary. The old house sitting nearby on a 5-acre lot, the hay field on the other side of town, the horse pasture you might see on your commute; they all contribute to our quality of life even if you can't afford the

house, don't want the hay, and wouldn't know what to do with a horse. Although the owner of each of those properties likely knows the area and would prefer that the property remain undeveloped, he or she, like all of us, must balance preferences against financial concerns. If you know such an owner, or are one yourself, please talk with us about a conservation easement. Donating a conservation easement allows the owner of an eligible property to make a difference by preserving the property's character while retaining ownership and likely gaining significant tax breaks. Any of us on the board of Greater Sandy Spring Green Space, Inc. would be happy to answer your questions.

Canon Envirothon

Meg Pease-Fye

In case you missed the Greater Sandy Spring Green Space annual meeting in the spring, our speaker, Dr. M. Irvil Kear, shared her experiences volunteering for the Canon Envirothon. For those of you unable to see this presentation, the Canon Envirothon is a series of environmental competitions in which teams of five students (and one alternate) in grades 9-12, along with a teacher/advisor, use classroom experiences to solve progressively more complicated "real world" environmental problems.

Teams form in the autumn and students study Maryland's natural resources over the course of the school year. The first competitions begin in the spring with local teams competing for the county Envirothon title. The county winner advances to the statewide Maryland Envirothon, with the winner of the Maryland Envirothon earning the right to represent the state at the national Canon Envirothon - an exciting five day competition featuring the 50 winning high school teams from across the United

States and Canada competing for recognition, scholarships, and prizes. In recent years, Maryland Envirothon teams have traveled to Massachusetts, New Hampshire, and Nova Scotia to compete at the international level. Participating teams complete training and testing in five natural resource categories:

- soils and land use - working with soil scientists to learn profiling and mapping techniques used to determine soil characteristics for farming and development activities
- aquatic ecology - working with marine and freshwater biologists to explore underwater ecosystems and learn how wetlands and buffers contribute to healthy streams and headwaters
- forestry - working with foresters to learn tree identification and determine a tree's height and age as well as learning management techniques for healthy and productive forests
- wildlife - working with wildlife managers to learn about animal populations and dynamics and the importance of preserving wildlife habitats
- current environmental issues - the wildcard category may seek how best to save farmland from development, or what happens when a wetland is filled in, or how to protect groundwater through farming, development and other environmental planning

The national Envirothon is a multi-day competition features a number of outdoor activities including night hikes, campfire chats, and wildlife demonstrations, along with additional training in all five resource areas. Students discover that competing in Envirothon is a fun and exciting way for high school students to learn about the natural world and earn scholarship money for college.

The Envirothon works in partnership with local conservation districts, forestry associations, educators, and cooperating natural resource agencies to

organize and conduct competitions on the local, regional, state, and/or provincial level. The Envirothon program has been recognized by leading corporations and organizations nationwide. Corporate citizens, non-profit organizations, and government agencies have partnered with Envirothon to find innovative ways to provide environmental education to North America's youth. Some of these organizations include:

- Canon U.S.A., Inc.
- Alcoa Foundation
- American Electric Power, Inc.
- Mead Westvaco Corporation
- National Association of Conservation Districts
- USDA Forest Service
- USDA Natural Resources Conservation Service

The Maryland Envirothon competition is supported by the Maryland Association of Soil Conservation Districts (MASCD), a political subdivision of the state that works with local, State and Federal authorities as well as the private sector to address each County's soil and water conservation needs. MASCD also serves as the voice for Maryland's 24 soil and water conservation districts on state legislative issues and provides a forum for training, policy-making and the exchange of information.

The resonating point that Dr. Kear left us with at the annual meeting is the encouragement to get involved. There will never be a perfect time, and as the saying goes, if not now, when? As a pitch for GSSGS, we also need you to become involved. Please contact us if you are interested in serving on the GSSGS board or wish to volunteer.

Climate change in Maryland

Bobby Berg

We've heard a lot about climate change and its global consequences. Sea level will rise, temperatures in most places will go up, and rainfall patterns will change. What will happen here in Maryland? Most of Maryland, including Montgomery County, is safely above sea level. The major exceptions include about half of Dorchester County and parts of Somerset and Wicomico. By the end of this century, there is a good chance that property owners in those places will see their land turned into wetland or even open water. The best source for information about climate change in Maryland is the "Climate

2) Climate change will have serious consequences. While the direct effects in Montgomery County will be mainly hotter summers, the effects in other places will be greater, including flooded lowlands, bleaching of coral reefs, and difficulties with agriculture in parts of Africa, Latin America, and the western United States. Even if we didn't care about the people who live in those places, we likely will feel indirect effects, such as higher food costs.

3) There is no known economically feasible method to remove carbon dioxide from the atmosphere after it's put there. A fundamental difficulty is that the

Action Plan" report issued in 2008 by the Maryland Commission on Climate Change. Excerpts from the report are at the end of this article, and they include terms like "mid-century" that remind us that challenge posed by climate change is long-term. Here are my top four reasons why the challenge should be addressed sooner rather than later.

1) Climate change is real. My day job as a scientist has nothing to do with climate, but I know enough about how science works to understand that the consensus among the experts is real. energy to do so would be comparable to the energy that we got by burning the carbon in the first place.

4) Civilization is now engaged in an unintended experiment on a complex, incompletely understood system, the climate. That experiment will answer the question: What happens when the carbon that was stored underground over four hundred million years is pumped into the atmosphere as carbon dioxide in less than 200 years? The reckless course of action is to do nothing and hope that the experts are somehow wrong. The conservative thing to do is to ease off the gas pedal.

Excerpts from "Climate Action Plan" Maryland Commission on Climate Change *mdclimatechange.us/*

Temperature & Precipitation

"Annual average temperature is projected to increase by about 3°F by mid-century and is likely unavoidable. The amount of warming later in the century is dependent on the degree of mitigation of [greenhouse gas] emissions, with summer temperatures projected to increase by as much 9°F and heat waves extending throughout most summers if [greenhouse gas] emissions continue to grow unchecked. Precipitation is projected to increase during the winter, but become more episodic, with more falling in extreme events. Projections of precipitation are much less certain than for temperature, but the mean projections indicated modest increases of about 10 per cent or so are likely in the winter and spring. Because of more intermittent rainfall and increased evaporation with warmer temperatures, droughts lasting several weeks are more likely to occur during the summer."

Farms & Forests

“The longer growing season and higher carbon dioxide levels in the atmosphere are likely to increase crop production modestly during the first half of the century, but extreme weather events may limit this. Later in the century, crop production is likely to be reduced due to heat stress and summer drought under the higher emissions scenario.”

“The maple-beech-birch forest of Western Maryland is likely to fade away and pine trees to become more dominant... Habitat alterations resulting from climate change may force out 34 or more bird species, including the emblematic Baltimore oriole...”

Coastal Vulnerability

“Sea level in Maryland rose by 1 foot in the 20th century, partially because the land is sinking as a result of slow adjustments of the Earth after the last Ice Age. Maryland coastal regions have been subsiding at about a rate of 6 inches per century and should continue at this rate during this century. Additionally, the average level of the sea in this region rose by about the same amount (6 inches) during the past century, resulting in the observed 1-foot rise in the mean tidal level relative to the land. As a result, Maryland has experienced considerable shoreline erosion and deterioration of coastal wetlands which are a critical component of its bays and estuaries.”

“Sea-level rise is very likely to accelerate, inundating hundreds of square miles of wetlands and land. ...increase the relative sea-level along Maryland’s shorelines by more than 1 foot by mid-century and 3 feet by late century if greenhouse gas emissions continue to grow. If sea level rises by 3 feet, most tidal wetlands would be lost—about 200 square miles of land would be inundated. New tidal wetlands developed on newly flooded land would not offset the loss of existing wetlands and significant negative effects on wetland-dependent living resources would result.”

“...there is a greater likelihood that storms striking Maryland would be more powerful than those experienced during the 20th century and would be accompanied by higher storm surges—made worse because of higher mean sea level—and greater rainfall amounts.”

U.S. Senator Cardin Speaks on Environmental Issues in Sandy Spring

Steve Berry

On September 21, 2010, Senator Benjamin L. Cardin (D-Md.) spoke in a packed Dr. Bird Octagon Room at the annual meeting of the Sandy Spring Museum. Senator Cardin’s speech was environmentally-oriented and tied the historic sustainable farming methods of Sandy Spring’s nineteenth century Quaker community to the modern task of preserving and renewing the Chesapeake Bay watershed. Excerpts from his talk, which should be of interest to our members, are set forth below:

“Across the globe we are troubled by stories of famine because crops cannot keep up with the world’s growing population. In Maryland, we witness an annual battle over the dwindling stocks of oysters. Many people are concerned about our future, which has led many of us to look to the past to rediscover a more sustainable model.”

“Sustainable communities are a new way of capturing some very old values. They can help us:

- *Protect our natural resources that nurture us;*
- *Protect and celebrate our cultural and historic resources that remind us of where we come from and what we can be; and,*
- *And foster families and neighbors living together in ways that support not just us, but our children and grandchildren for generations to come.*”

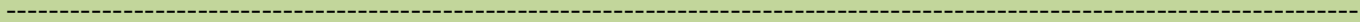
“In Maryland, we have an abundance of natural resources, but one in particular stands out. The Chesapeake Bay is the economic and cultural heart of our state. For generations the Bay and its many tributaries have sustained Marylanders by providing drinking water for hundreds of thousands and by providing recreational and commercial opportunities for countless more.”

“A sustainable future is one that preserves and protects our cultural and historic resources. The members of the Sandy Spring Museum are to be applauded because they understand the need for sustainability and the need to preserve the past for future generations of Montgomery County residents.”

On October 20, 2009, Senator Ben Cardin and Congressman Elijah Cummings introduced the **Chesapeake Clean Water and Ecosystem Restoration Act** in Congress to reauthorize Section 117 of the Clean

Water Act. Congress’ passage of a reauthorized Section 117 has been the single most important legislation for the Chesapeake Bay since the Clean Water Act was passed 37 years ago. As many of our members will recall, in the second half of the 20th Century, water pollution was widespread and a national embarrassment. In response, Congress passed the Clean Water Act in 1972 to renew our nation’s waters to a level at which people could safely fish and swim in them. Fifteen years later, Congress added Section 117 to establish the Chesapeake Bay Program and set federal water quality policy specifically for the six-state Chesapeake Bay watershed.

When first passed in 1972, the Clean Water Act was revolutionary. But, as it was written before being reauthorized last year, Section 117 provided weak tools to address a most critical source of pollution — *nonpoint pollution* (that is, runoff from rooftops, streets, and farm fields). Nonpoint pollution is a critical problem for the Chesapeake Bay because nonpoint sources account for more than 60 percent of the nitrogen, phosphorus, and sediment that is currently degrading water quality and harming water life. As a result, not nearly enough was being done to stem the flow of pollution to the Bay and its tributaries. The **Chesapeake Clean Water and Ecosystem Restoration Act** takes a big step by providing new methods to redress the problem of *nonpoint pollution*.



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