



# Maryland Environmental Briefing Book



MARYLAND LEAGUE  
OF CONSERVATION VOTERS

EDUCATION FUND

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VOTERS  
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**The Maryland League of Conservation Voters Education Fund**

is a nonprofit, nonpartisan organization incorporated to build the effectiveness of Maryland’s environmental movement and is dedicated to maximizing the participation of conservation-minded citizens in public policy decisions made at the state and local levels regarding Maryland’s environment and natural resources.

This **Environmental Briefing Book** is intended to provide information to the public, legislators, state officials, and the media on a number of current environmental issues. This information is meant to be a resource for an overall picture of environmental issues in the state but cannot possibly discuss in detail every pressing issue or solution. We hope it will encourage lawmakers and citizens to want to learn more about the issues and work together for creative solutions to our environmental problems.

The information in this Environmental Briefing Book was compiled from academic reports, work of state agencies, publications from environmental organizations and from the experience of policymakers. We would like to thank the colleagues and experts that contributed mightily to this briefing book.

**Additional copies**

To obtain additional copies of the Environmental Briefing Book, e-mail [info@marylandconservation.org](mailto:info@marylandconservation.org) or call **410-280-9855**. A \$5.00 fee is requested to cover shipping and handling. The Briefing Book is also available for download from [www.marylandconservation.org](http://www.marylandconservation.org). Permission granted to quote from or reproduce portions of this publication if properly credited.

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# Welcome

Marylanders cherish our environment for good reason. From the mountains of Allegany County to the beaches of the Atlantic coast, our state is defined by spectacular natural resources that provide a livelihood and enjoyment for millions of people. Tourism and outdoor recreation are a foundation of our economy, we treasure our Chesapeake Bay and the hundreds of parks in cities and counties throughout the state.

But Marylanders face some big challenges if we are to continue our exceptional quality of life and leave our state clean and healthy for future generations.

The Chesapeake Bay's health continues to merit failing grades, and Maryland seems far from meeting the Chesapeake Bay Agreement goals. Our drinking water supply is increasingly limited. Maryland loses nearly 30,000 acres of land each year to sprawling development, as our population is predicted to increase by 1.5 million people in the next 25 years. Global warming is causing a loss of Maryland shorelines, increasing the strength of storms that damage the ecosystem, and could increase average temperatures in our state by two to nine degrees in the next century.

This *Environmental Briefing Book* provides a primer on Maryland's most pressing environmental concerns, and the solutions recommended by leading conservationists and scientists. Intended to be used as a resource, this *Environmental Briefing Book* is designed in such a way that new sections can be easily added or updated as situations change.

Throughout this book you'll read about the main threats to our water, air, land, and health. Three overarching environmental challenges we face are: global warming, pollution of the Chesapeake Bay and its rivers, and a growing population that places demands on land development and increases our transportation and energy needs.

This *Environmental Briefing Book* comes at an opportune moment. Out of 188 Senators and Delegates, 41 are new to the job and possibly new to the environmental challenges they will face over the next four years. In addition, Maryland's new Governor, Attorney General and Comptroller, have all pledged to make the environment a key factor in their work as they lead Maryland into the future.

At this critical crossroads we look to our elected officials for leadership and support. The opportunities that lie before us to protect our air, land, and water are limited only by the vision — and commitment — of our leaders. We hope that Maryland's elected officials will use this resource as a starting point so that, working together, we can achieve our goals of a clean and healthy Maryland for all.



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# Water and the Chesapeake Bay

The Chesapeake system is very sick. Wetlands, marshes, and forests that buffered and protected the waterways from runoff and provided wildlife habitat have been drained and cut down. Hundreds of tons of nitrogen and phosphorus from sewage, agriculture, urban runoff, and air pollution have changed the Chesapeake Bay's ecosystem and clouded the water with algae. Thousands of acres of the Bay's underwater grasses have died. The Bay's fisheries are depressed. Once the world's most productive estuary, the Chesapeake struggles against the increasing weight of a growing population and poorly planned development.

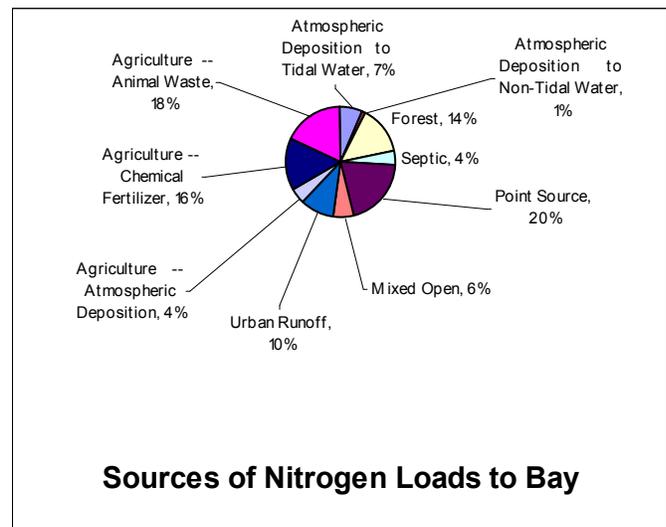
Can the Bay recover? Yes. The Bay is a big, resilient system and scientists know the cure. Guided by decades of careful research, Maryland's political leaders have made serious commitments to protect and restore the Bay. They understand that economic development done right can create jobs and wealth and protect the Bay. Progress has been made, but we need to make more, fast. We have not succeed in slowing population growth and we have a deadline to meet: the 2010 date set by Chesapeake 2000, the multi-state agreement that guides Bay restoration. The agreement set goals for air pollution, land preservation, and water quality. Its comprehensive nature reminds us how the fate of the Bay is connected to how we use our land, to the air pollution and water pollution we generate, and to our needs for recreation and seafood.

The biggest threats to Maryland's ponds, streams, rivers and Bays are nitrogen and phosphorus, soil erosion, and toxic compounds. The nitrogen and phosphorus come from burning fossil fuels, sewage, and manure. The soil comes primarily from land clearing and erosion associated with development. The toxic compounds enter the water from industrial processes, agricultural and home use, urban runoff, waste incineration, and burning fossil fuels—in our cars and power plants.

Of these three threats, the primary threat to the Bay, and the waters that feed into it, is too much nitrogen and phosphorus. These two nutrients nourish algae blooms that ultimately lead to clouded, oxygen-starved waters. As a result, vast areas of the Bay cannot support healthy plant and animal communities.

Soil compounds the problems. Fine particles cloud the water and coat plant leaves, cutting out light needed by Bay grasses. Heavier particles cover spawning grounds and smother shellfish beds.

Toxic compounds accumulate in the food chain, harming the health of animals that consume them. Health authorities in Maryland have issued advisories to limit the numbers of fish we eat from most Maryland waters. The causes are PCBs, mercury, and pesticides such as chlordane and DDT. Some pesticides



# Water and the Chesapeake Bay

## Fast Facts

**Some of the largest increases in excess nutrients in the nation have occurred in the Chesapeake watershed, including Maryland's Eastern Shore. Meanwhile, the acres of land in the watershed available for manure application have decreased about 14 percent in the last 20 years.**

**Even with some recent improvement, the health of the Bay gets an unacceptable "D" grade from the Chesapeake Bay Foundation.**

**Chicken houses that used to hold 25,000 birds now house up to 60,000; 2.5 million chickens are grown in Maryland each year.**

**Stormwater runoff is responsible for 16 percent of the phosphorus, 11 percent of the nitrogen, and 9 percent of the sediment polluting the Bay. Continued wide-spread development threatens to increase these totals.**

are already banned, but they will remain in the sediments and food chains for decades. Others continue in widespread use, and their effects are little understood. Mercury, which converts to methyl mercury in the environment, is released by burning coal and the incineration of municipal and medical wastes. It continues to accumulate. Recent studies have described how it harms animals as diverse as forest songbirds, sharks, amphibians and human children.

Fortunately, we can combat soil erosion, toxic compounds, and too much nitrogen and phosphorus.

## SOLUTIONS

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### Reduce Nitrogen and Phosphorus from Agriculture

Agriculture delivers the most nitrogen and phosphorus to the Bay, much of it from excess manure. Farmers need financial assistance to pay for practices that protect water quality. Faced with increasing production costs and greater pressures from sprawling development, many Maryland farm families find it difficult to make a living by farming. The Ag stewardship bill creates a dedicated fund to pay farmers for implementing conservation practices on farms, but it remains unfunded. The Tributary Strategies Plan puts the price tag at \$100 million.

Virginia and Pennsylvania either have or are currently developing tax incentives to assist farmers and protect water quality. They recognize an investment in farmers is an investment in the Bay. Maryland should follow suit with transferable tax credits, like those in Virginia and Pennsylvania, which allow farmers to benefit from the value of their well-managed land without having to convert it from agricultural production. Maryland should also create conservation practices tied to the proposed transferable tax credits in a graduated manner, with the greatest levels of relief connected to the highest levels of land conservation and stewardship.

Big poultry producers should be held accountable for their waste. Currently the producers own the birds and make the profit, while small growers are responsible for the waste. The large poultry producers need to assist farmers in properly storing and disposing of waste.

### Establish Dedicated Funding

In 2000, Maryland committed to eliminate 20 million pounds of nitrogen pollution from the state's waterways by 2010. It created a plan called the Tributary Strategies which identified critical pollution reduction practices, cost-effective, on-the ground agricultural conservation practices, and other pollution reducing practices. To pay for these practices we must create a dedicated environmental fund.

# Water and the Chesapeake Bay

## Control Stormwater Through Permits

Polluted stormwater that runs off developed lands is increasingly contributing to poor water quality. Polluted runoff from highly developed counties such as Montgomery, Baltimore, Howard, and Anne Arundel has degraded the Anacostia and Patapsco Rivers, for example. But stormwater damages nearly every creek in a developed area. Enforcing and strengthening existing stormwater permit programs will reduce this runoff and the pollution it carries. Effective stormwater permit programs require, at a minimum: the establishment of measurable, enforceable pollution load limits by watershed; ongoing monitoring and enforcement of these watershed limits; greater requirements for watershed restoration; Requiring the use of low impact site design standards for development and redevelopment; and a shift from managing runoff from storms to maintaining the pre-development runoff characteristics of a site.

## Protect Natural Filters

Maryland has laws to protect buffer areas, including the Critical Areas Act. Unfortunately, the application of the law has fallen short of its goals. The act is enforced at the county and city levels and 63 jurisdictions are involved. Spotty and lax enforcement and uneven development decisions result. Furthermore, counties and developers have found loopholes to permit rampant growth in the Critical Areas. The Critical Areas Act has protected buffers, but only consistent enforcement and application will achieve the act's potential.

## Reduce Toxic Compounds

Mercury is a dangerous metal that accumulates in the environment. Animals that eat plants or fish contaminated with mercury become contaminated themselves. Power plants are by far the biggest source of mercury, followed by municipal and medical waste incinerators, paper production, and cement manufacturing. Reducing mercury pollution requires us to: end the use of mercury in products such as light bulbs, cars, and thermometers; and continue to reduce mercury from large industrial sources such as coal-fired power plants through implementing the regulations of the Healthy Air Act including permitting and requirements for the best technology.

Pesticides are found throughout the Chesapeake system in concentrations that exceed national water quality benchmarks for aquatic life and wildlife. We need to enforce existing laws limiting the application of pesticides in schools, reduce the use of pesticides in home and agricultural use, and encourage further examination of the impact of pesticides on Maryland's waterways.

Maryland's Department of the Environment enforces the state's permits and pollution control laws. To improve enforcement and reduce illegal toxic discharges from commercial and industrial sites the agency needs more inspectors and funding.

### Economic Facts

The Chesapeake Bay Foundation notes that conservative estimates peg the Bay's total economic value at nearly \$1 trillion, which does not include the value added to our quality of life.

Bay tourism contributed \$31.6 billion to the Maryland and Virginia region.

In 2001, the commercial fishing industry in the Chesapeake Bay region totaled nearly \$175 million.

Recreational fishing creates an estimated \$41 million in taxes for Maryland's government.

# Water and the Chesapeake Bay

Plans to reduce pollution from all sources to individual waterways, called Total Maximum Daily Load or TMDL plans, need to be written and implemented. Permits for discharges would be based on the waterway's total TMDL. Establishing these limits will allow lakes, streams, and rivers to be restored.

## Improve Sewage Treatment

The Bay Restoration Fund has generated money to install nitrogen removal technology in sewage treatment plants. Now, upgraded plants should be held accountable to meet lower limits made possible by the new technology. Discharge permits must include quantified limits on the amount of nitrogen and phosphorus delivered to the water from plants. Most importantly, as waste water treatment plants use these funds to expand they should not be able to increase their pollution flow. If a plant grows and serves more people, they need to keep the same load of nitrogen and phosphorous even though they have a larger amount of water coming through the system. This requires significant and continual upgrades to systems. Also, funding from the Bay Restoration Act should not be used to expand a plant's service area or capacity.

## Improve Septic Tanks

On a per-capita basis, traditional septic systems are far more polluting than sewage treatment plants. Bay Restoration Fund money will generate \$6 million annually to upgrade septic tanks but, more must be done to curb development on septic systems outside of priority funding areas. Ten counties have been approved for funding for pilot programs that in the next two years will install 600 septic systems with an enhanced ability to remove nitrogen from their wastewater. Many of these systems will be monitored and data on actual nutrient reductions and related water quality improvements documented. Prices for installation, operation, and maintenance are expected to fall. Upgraded septic tank technology needs to be coupled to sound land use; new technology should not open the door to development outside of counties' priority funding areas.



### **CASE STUDY: THE BAY RESTORATION FUND**

In 2004, Maryland established the Bay Restoration a Fund for upgrading the state's 66 major waste water treatment plants by assessing a \$2.50 monthly fee, know as the "flush fee," on sewer users. This legislation will reduce nitrogen loads by nearly 9 million pounds, almost half the state's 2010 nitrogen reduction goal of 20 million pounds.

# Drinking Water

Maryland's drinking water supply is limited. In some areas, unchecked growth has threatened the available water supply and, in turn, a lack of adequate water supply has led to building moratoriums. Long-term monitoring of water levels in aquifers in Southern Maryland has found a steady decline. Municipalities in central Maryland have been pressed to find adequate supplies.

The 2005 Advisory Committee on the Management and Protection of the State's Water Resources reported in July 2006 that in the droughts of 1999 and 2002, "hundreds of domestic wells failed, some public water systems' well yields were significantly reduced and public water systems using surface supplies without adequate reservoir storage were dangerously close to being unable to meet demands," The committee noted that "some systems installed emergency water intakes, some violated permit flow-by conditions, and some communities hauled water from other localities to meet their water needs. Citizens and businesses felt the economic and lifestyle pinch of water restrictions, and natural ecosystems were stressed as streambeds across the State went dry." The Committee warned that more droughts, some more severe, should be expected.

The panel also noted another problem. Chemicals in gasoline such as MTBE, industrial chemicals, and high levels of nitrates pollute many wells, both public and private.

Faced with a growing population and competition for the limited supply, Maryland needs a major overhaul of how it manages its water supplies.



## SOLUTIONS

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### Protect Drinking Water Supply

Sprawling development threatens our drinking water supplies as natural habitat and recharge areas are lost and limited water supplies are stretched to serve a growing population. The state must enact legislation to protect the sources of drinking water supplies, including recharge areas, aquifers, and reservoirs, to insure their long-term availability.

Conserve areas surrounding reservoirs, such as the Prettyboy Reservoir in Carroll and Baltimore counties. Make sure that rural zoning is strict enough to keep the land undeveloped, such as one house per 20 acres density limits.

### Conserve Existing Water Supplies

Enact an effective mechanism for enforcing water appropriation permits and the data needed for management. Enforce the requirement for cities and counties to account for water supplies in their growth plans.

# Drinking Water

## Fast Facts

Ground water is the most common source of water supply. Southern Maryland and the Eastern Shore rely exclusively on ground water.

Maryland Department of the Environment identified underground storage tanks, salt intrusion, service stations, dry cleaners, on-site septic systems, and agriculture as the most common sources ground water contamination.

Ten percent of the community water systems (around 50 systems) rely on surface supplies; these systems serve 80 percent of the population.

Maryland Department for the Environment reports that some water supply watersheds (such as the Savage River reservoir watershed) are close to 90 percent forested while others (such as Baltimore City's reservoir watershed) are predominately agricultural.

Agricultural activities and urban development are the most prevalent sources of contaminants for surface water systems. Contaminants from agricultural land include nutrients and microbial pathogens.

Develop a State Water Resources Management Plan to guide the Maryland Department of Environment and local governments in their water management responsibilities. This includes improved monitoring networks to provide data on water use, adequacy of supplies to meet demand, and water quality.

Establish regional planning initiatives to fully integrate planning processes among state, county, and municipal governments.

Curtail the use of drinking water sources for non-human uses, for example irrigation. Improve reuse of treated discharge effluent for spray irrigation and other non-potable uses such as carwashes. Foster state and local initiatives to improve water conservation and efficiency of use, storage, conveyance and treatment.

## Reduce Sources of Water Pollution

Increase inspection and enforcement of existing discharge permits for developers, commercial sites, waste water treatment plants, and industries by MDE.

Provide tax incentives and other aid to farmers to institute best management practices for manure and other agricultural pollutants.

Reduce toxic chemical use by placing stricter limits on the use of pesticides and fertilizers by homeowners and lawn care companies.

Establish a funding source to clean up existing contamination, including retrofitting stormwater from older developments and cleaning up acid mine discharge from abandoned mines in Western Maryland.

Eliminate air pollutants such as mercury that contaminate reservoirs and other surface waters by enforcing new coal-fired power plant regulations.

# Clean Air and Global Warming

Clean, healthy air is hard to find in Maryland. This fact, combined with the growing threat of global warming, makes tackling air pollution and carbon emissions a critical issue for the legislature.

Air pollution is characterized by emissions that cause health problems for humans and plant and animal communities. These include: ground-level ozone, particulates, mercury, lead, nitrogen oxides, heavy metals, carbon monoxide, acid rain, and chemicals from the combustion of gasoline, such as benzene.

Global warming is characterized by shifts in weather patterns indicated by melting ice caps, receding glaciers, and resulting rise in sea levels; warmer ocean surface temperatures, and resulting stronger storms. Maryland's low lying marshes and tidelands are vulnerable to the long term rise in sea level, and we saw in tropical storm Isabel in 2003 how dramatically stronger storms can flood the Bay.

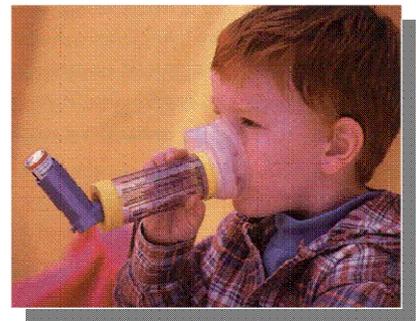
Air pollution and global warming share many of the same sources. Cars and trucks, for example, pour tons of carbon dioxide, particulates, and cancer-causing chemicals into the air every year. Power plants, incinerators, and industrial operations add more chemicals. We need to reduce both greenhouse gasses and pollutants with technology and a steady reduction of fossil fuel use. In the short run, we need to enforce the regulations we have in place and bolster these with new, more aggressive policies.

The cancer risk from breathing polluted air in Maryland's largest jurisdictions far exceeds the federal government standard, according to a recent study by Environment Maryland. The study, based on EPA data, looked at three types of air toxics that are among the most dangerous cancer-causing compounds found in the air. Emissions of these substances come mostly from cars and trucks. According to the report, 84 percent of benzene, 99 percent of 1,3-butadiene, and 87 percent of acetaldehyde emissions found in the air come from vehicles.

The report found that Baltimore City has the highest levels of cancer risk in the state from these pollutants. For the three pollutants combined, air in Baltimore is 62 times as polluted as EPA health standards. Pollution levels were 45 times as high as health standards in Baltimore and Montgomery counties and 41 times as high in Prince George's County. In fact, every Maryland county exceeded the cancer risk threshold from vehicle emissions.

"Normally when people think about bad air, they think about smog," said Dr. Gwen Dubois of Sinai Hospital. "But air toxics are a very clear and present danger. Benzene is a known human carcinogen that we're breathing every day."

Other states have shown that bold action at a state level is possible, and necessary, to tackle air pollution and global warming. California plans to create the most stringent controls on carbon dioxide emissions in the country through



# Clean Air and Global Warming

## Fast Facts

According to the Environment Maryland Research and Policy Center, scientists project average temperatures in Maryland could increase by two to nine degrees during the next century if no action is taken to reduce global warming gasses.

A Zogby Poll in August 2006 found three out of every four respondents were convinced global warming was happening; 72 percent, agreed requiring major industries to reduce greenhouse gas emissions can improve the environment without harming the economy.

Climate scientists say we need to reduce greenhouse gasses by approximately 80 percent within the next 50 years to avoid global warming's worst impacts.

Global warming pollutants include: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, and soot.

The ten water bodies with the highest mercury concentration in fish in Maryland in 2005 were: Lake Lariat, Savage River Reservoir, St. Mary's Lake, Frostburg Reservoir, North Branch Potomac, Rocky Gorge Reservoir, Loch Raven Reservoir, Tuckahoe State Park Dam, Prettyboy Reservoir, and the Liberty Reservoir.

Air pollution contributes 33 percent of the nitrogen to the Bay.

mandatory caps on greenhouse gas emissions for energy-intensive industries. The plan calls for a 25 percent reduction in carbon dioxide emissions by 2020. California and ten other states have already led the way on requirements for cleaner cars.

## SOLUTIONS

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### Reduce Car Emissions

The Clean Cars Act would reduce global warming gasses by as much as 4.4 million tons per year from current levels. Similar programs are in effect in New Jersey, New York, Massachusetts, Connecticut, Rhode Island, Vermont, Maine, Oregon, Washington, and California. Because the vehicles that meet the clean car standards are more efficient, they also save consumers money.

Create a tax incentive for individuals and businesses to purchase low-emission vehicles.

### Improve Transit

Improve transit services to reduce the miles citizens need to drive. Better bus and rail service, including small, efficient shuttles in rural and suburban areas, could reduce the numbers of vehicles on the road.

Promote programs that encourage telecommuting, carpools, biking, and walking.

### Improve Energy Efficiency Standards

Maryland must improve upon and expand efforts begun in 2004 to increase the efficiency standards of common residential and commercial appliances. In addition, policy makers should treat energy efficiency as a power source and use increased efficiency, rather than new power plants, to meet the next decade's increased electric demand. The current revamping of Maryland's Public Service Commission is the perfect opportunity to explore ideas such as requiring utility companies to seek bids for energy efficiency programs whenever they seek bids for power. If entrepreneurs can demonstrate they can reduce megawatt-hours of demand at a cost competitive with the cost of generating and supplying those megawatts, they would win a contract similar to a supply contract. Vermont has a statewide energy utility that provides an excellent model.

### Develop Sustainable, Alternative Energy Sources

Last year Maryland passed the Renewable Portfolio Standard law. The law requires Maryland utilities to obtain 7.5 percent of their electricity from clean renewable sources like wind, solar, and geothermal by 2013. Fourteen U.S.

# Clean Air and Global Warming

states, including nearby New Jersey and New York, already have such laws. It is important to make sure this measure is implemented and enforced, because it will stimulate investment in alternative energy sources such as solar power by guaranteeing demand.

Establish a designated funding source for the solar grant fund and increase the maximum amount of each grant.

## Eliminate Incineration

Incineration of municipal and medical wastes releases dioxins and mercury in Maryland's environment. Both are dangerous to human and animal health. Phasing out incineration at Maryland's nine incinerators will eliminate this source of pollution. Regulations for the disposal of medical waste need to be updated to allow the best disposal technologies that do not require incineration. Incentives can be created to help hospitals switch to new methods.

## Enforce Current Laws

The Regional Greenhouse Gas Initiative, which Maryland joined last year, needs to be developed. The program promises to reduce global warming pollution from power plants by 10 percent by 2018. However, the details of the agreement are still being developed, and the actual savings will depend on how strongly the state implements the program.

Require adequate implementation of the Healthy Air Act by requiring carbon dioxide pollution permits be auctioned, rather than given to polluting companies for free.

Maryland Department of the Environment needs more enforcement capacity. The department does an inadequate job of enforcing current laws and regulations and overseeing permits. Increase the capacity of the department and of The Office of the Attorney General to enforce the existing laws and regulations.

## Economic Facts

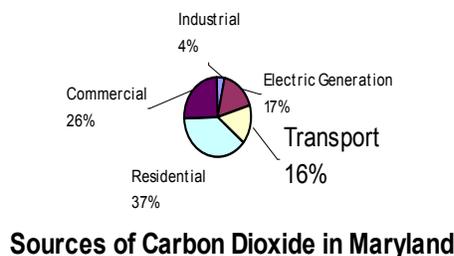
In November 2006, California-based Risk Management Solutions predicted insurance losses in the Mid-Atlantic could rise 25 to 30 percent, based on its five-year hurricane forecast.

In 2004 Nationwide Mutual Insurance Co. and in February 2007 Allstate no longer offered new property insurance in all or part of 11 Maryland counties, mostly along the Chesapeake.

An EPA study indicated that the economic benefits of implementing the Clean Air Act outweigh the costs of compliance by four to one.

One benefit of implementing the Healthy Air Act reductions would be \$3.5 billion per year in saved health care costs.

With the clean cars program, a consumer who buys a new car in 2016 would save \$20 per month due to lower operating expenses despite higher loan costs.



# Clean Air and Global Warming

## **CASE STUDY: CALIFORNIA GLOBAL WARMING SOLUTIONS ACT OF 2006**

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California is the national leader in reducing greenhouse gasses. Legislation passed this year will make California the first state in the nation to limit gas emissions from power plants, oil refineries and other industries. It complements legislation passed in 2002 that will reduce emissions from vehicles. The mandatory program requires the California Air Resources Board (ARB) to develop and implement regulations to enforce a cap which would reduce the state's global warming emissions to 1990 levels by 2020, about 20-25 percent below current levels. Legislation passed in 2006 included:

The California Global Warming Solutions Act of 2006. This law will require the state Air Resources Board by July 1 to begin implementing a program to reduce emissions of greenhouse gasses 25 percent by 2020. The program includes the possibility of international trading in pollution credits. Details are available from <http://www.arb.ca.gov/cc/cc.htm>.

A law to prohibit the state's utilities from signing long-term contracts with electricity suppliers unless their power plants comply with greenhouse gas emission limits adopted by the California Energy Commission. The law is intended to force coal-fired power plants to install cleaner technologies if they want to sell power to California.

A law to require utilities to step up their efforts to replace fossil fuels with cleaner renewable sources such as solar, wind and geothermal. It will force utilities to get at least 20 percent of their power from renewable sources by 2010.

The new laws follow 2002 legislation that requires the Air Resources Board to limit greenhouse gases from autos. Enforcement of that measure is being held up by a lawsuit filed by a group of automakers and dealers. The air board also needs a waiver from the U.S. Environmental Protection Agency to implement it.

The legislation was developed after negotiations between stakeholders, including environmental groups, industry groups, and the environmental justice community. Environmental groups sought specific emission limits and accepted cap-and-trade market solutions as an acceptable regulatory approach. Industry sought maximum flexibility, market-based approaches, and safety valves the Governor could invoke. The environmental justice community sought safeguards to prevent trading programs from further concentrating emissions in heavily impacted communities.



# Protecting Maryland's Land

During the next 25 years Maryland's population is expected to grow by 1.5 million people, adding 580,000 households and 810,000 new jobs. Maryland's strong economy, natural beauty and excellent public and private cultural, health, and educational facilities attract this quickly growing population. National priorities, such as the Base Realignment and Closure (BRAC) program reinforce it.

BRAC will bring thousands of new jobs and residents to Central Maryland in just a few years. Certain policies under the program will shift jobs now located in urban areas to rural areas, exacerbating an already alarming loss of open lands and creating a push for more sprawl-inducing roads. Central Maryland counties are struggling to plan for the influx.

Maryland is already the fifth most densely populated state in the nation. Parts of the state suffer with the worst traffic congestion in the nation, and every jurisdiction has its rush hour headaches. Marylanders will spend more time away from their families as their commute to work increases.

Maryland is losing nearly 30,000 acres of farmland and forests each year to development. As open land is paved, the state loses valuable public ecological and economic services such as watershed protection, air filtering, carbon sequestration (a natural processes that remove carbon from the atmosphere), productive near-by farms, recreation, and wildlife habitat. As the watersheds are paved, streams, rivers, and the Bay are polluted and the air grows dirtier. In addition, resident taxpayers pay for the public services required by the new development because the tax revenue generated by the new homes often does not offset their costs. This is particularly true of dispersed housing developments in rural areas.

If the state is not better prepared for the coming growth we will lose many more acres of lands including nearly a quarter of those "Greenprint" lands identified as most important for resource protection. We will see more miles of highways cut into farmland and watch more houses built in the countryside.

It is imperative the state acts creatively and acts now.

## Smart Growth Development

Marylanders say they want smart growth. In a statewide program called Reality Check Plus, participants proposed a development pattern that protected rural areas; placed development in well designed, mixed use, and mixed income communities; and invested heavily in well-connected transit. They overwhelmingly placed populations inside beltways and as part of existing towns and communities. They linked land use to transportation, as future growth will be connected by greatly improved transit—not more highways.

Unfortunately, that's not the pattern of growth we see in Maryland today as we

# Protecting Maryland's Land

## Fast Facts

**19 percent of Maryland lands are permanently protected, 19 percent are developed, and 62 percent have an uncertain future.**

**1.5 million new Marylanders are coming to Maryland in the next 25 years.**

**Maryland is the fifth most densely populated state in the nation.**

**The Chesapeake Bay watershed loses 14 acres of open space per hour.**

**A one acre parking lot contributes sixteen times as much polluted runoff to a nearby waterway than does a one acre meadow.**

**Streamside forests and wetlands can reduce the nutrient and sediment contamination in runoff by as much as 90 percent**

**Without strong efforts to protect open space, the state could lose more than 300,000 acres of farms and forests to development by 2020.**

**More than 5,000 county and municipal parks and conservation areas have been created through Program Open Space.**

watch major highway expansion and new bypasses induce new development and traffic and shift investment from existing communities. Traffic jams happen because we have put jobs far away from our homes. Rather than continue this pattern, we need to revitalize existing communities and bring jobs close to housing. Over the past decade, vehicle miles traveled have grown two to three times as fast as the population. More vehicle miles lead to more costs for Marylanders and more greenhouse gasses. Bringing work and homes close to one another and creating transit alternatives would change this.

However, many counties and cities are not doing enough to plan for growth. Some lack the resources to do it, while others choose not to. Garrett County, for example, has no zoning, but is beginning to develop a plan. The town of Trappe, in Talbot County, recently worked with a developer to draw its city plan. The result is that the old village of 450 homes will become a large town of 2,000 homes. The town has grown from 505 acres to 1,135 acres.

Many counties do not keep their comprehensive plans current. Others ignore them. Two proposed developments – Blackwater and Terrapin Run – make the point. Blackwater Resort in Dorchester County would have put a 3,200 home golf course resort near Blackwater National Wildlife refuge. Both the county’s and nearby Cambridge’s growth plans marked the area as agricultural. Yet they changed their plans at the developer’s request to include the proposal within Cambridge’s growth area. The Critical Areas Commission blocked the project, and Maryland recently agreed to buy 70 percent of the land with open space funds. Similarly, Allegany County changed its comprehensive plan to make way for Terrapin Run, a development of 4,300 housing units and commercial space that would bury the headwaters of Terrapin Run stream. The proposed development would dump nearly a million gallons of sewage daily into one of the state’s best trout streams, Fifteen Mile Creek. The Circuit Court has ruled that Terrapin Run, located next to a state forest and wildlife management area, does not meet the county’s growth plan. The developer is redrafting the project.

## SOLUTIONS

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### Link State Funds to Smart Growth

State funds should be consistent with statewide goals for smarter growth. Funding should go to local jurisdictions that have plans that best protect open space, build compact efficient communities that can be served by transit, and based on how they coordinate with the plans of neighboring jurisdictions.

### Restore the Office of Smart Growth

There is urgent need for a strong coordinating agency that compels all state departments and polices to work toward one smart growth vision. Resuscitate

# Protecting Maryland's Land

this key agency, which is critical to efficient statewide land use planning. To ensure its success it must: report directly to the Governor and have oversight over the other state departments; provide a forum for coordinated, joint decision making for all agencies; and review the capital budget for consistency with the Smart Growth goals, making recommendations as needed to promote smart growth at the state and local level.

## **Require Counties to Keep Comprehensive Plans Current**

Local jurisdictions are required to review and revise comprehensive plans at least once every six years. In some cases the process is irregular and lengthy and limits the effectiveness of a regular review. Some jurisdictions lack adequate resources and produce piecemeal reviews. State assistance could include: the formulation of State guidelines for good local planning; technical assistance to local governments in comprehensive plan development and review; and additional funding for sound growth management policies such as economic development projects in priority funding areas, alternative transportation projects, affordable housing, strong land conservation programs, and limits on “package plants” or shared septic systems outside growth areas. State disincentives might include withholding state funding for sprawl-induced infrastructure and limits on water-withdrawal permits.

## **Overhaul Comprehensive Plan Requirements**

Comprehensive plans should actively preserve open space, properly plan for housing needs for all citizens, and coordinate with other jurisdictions. The counties and cities are required to plan for growth, but those plans are not enforceable and are too often ignored. Current state development policy should be reviewed in the next year.

## **Tie Transportation Funding to Smart Growth**

The state should first audit all proposed transportation projects to see if they conform to a smart growth future. First, existing roads and transit should be maintained and improved before new projects are begun. Then funding should be distributed to attain clear smart growth goals including reductions in per-capita vehicle miles traveled; shifts in mode share to transit, walking, and bicycling; and investment in existing communities.

## **Fund High-Priority Transit**

Fund and advance the Purple Line in the Washington suburbs, including rail on the Woodrow Wilson Bridge. Fully fund the Baltimore Rail Plan and move the Red line into construction. Improve MARC, especially to meet Base Realignment (BRAC) needs. Greatly improve Regional Rural Connections.

# Protecting Maryland's Land

## Economic Facts

The Trust for Public Land and American Waterworks Association found that treatment costs for water go up when the percentage of forests and wetlands in the watershed go down.

The average Maryland home requires 103 trees to offset its carbon dioxide emissions.

Each year, approximately 11 million people visit Maryland state parks.

One hiker-biker trail creates \$303 million in tax revenue annually, supports 264 jobs, and results in over \$3 million in goods purchased.

Several studies have demonstrated that parks and open space increase the value of nearby properties.

## Reevaluate the Intercounty Connector

No single project is more damaging to our smart growth goals, or less effective at meeting our needs for travel, than the ICC. The incoming Administration and General Assembly must consider the extent to which this project diverts scarce funds from many other needs and whether these funds would be better used for the projects needed for smart growth.

## Land Preservation

Since 2002, more than \$480 million of dedicated land conservation funds, slated for protecting lands at the state and local level, have been diverted from these vital land conservation programs. This has undermined the effort to protect Maryland's forests, fields, open spaces, and its cultural heritage. Without an aggressive effort to purchase open space, Maryland could lose more than 300,000 acres of farms and forests to development by 2020.

It is critical that Maryland fund its open space and land protection programs in order to protect land at a ratio of at least an acre protected for every acre developed.

Marylanders want to protect their open spaces. In the 2006 election voters supported Ballot Question One. Over 1.3 million Marylanders or 85 percent of votes cast said yes to protect open space by approving a constitutional amendment to restrict the Governor's ability to sell state land without the approval of the General Assembly.

Maryland's resource lands face four main threats: a burgeoning population; a sprawling pattern of growth; disjointed local, county and state planning policies that hinder a comprehensive, integrated approach; and a lack of adequate enforcement of current laws, such as the Critical Area Act.

## SOLUTIONS

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### Fully Fund Land Conservation

Provide full funding for Program Open Space, Rural Legacy, Green Infrastructure Plan, and the Maryland Agricultural Land Preservation Foundation. Ensure that the dedicated real estate transfer tax is used for its intended purpose of land conservation and end diversions of these funds to balance the state's budget.

# Protecting Maryland's Land

## Close the Controlling Interests Loophole

Current Maryland law allows property to be held by limited liability partnerships or corporations. Transferring the interest in the partnership or corporation can transfer the interest in the land and avoid transfer taxes that fund Program Open Space. States like California, Connecticut, Delaware, Illinois, New York and Pennsylvania closed the loophole. It is only fair that these companies pay transfer taxes just as home owners do. This loophole costs Program Open Space millions of dollars a year.

## Multi-State Protection and Preservation of Forests

Forests provide habitat for plants and wildlife and add billions of dollars a year to the Chesapeake Bay watershed's economy. They improve the health and well-being of the state's citizens by providing recreation opportunities; capturing, filtering, and retaining water; and absorbing pollution from the air. The Department of Natural Resources is developing a plan to guide development of a multi-state Forest Conservation Directive. This effort needs full support.

## Continued Use of the Green Infrastructure Plan

The Department of Natural Resources identified two million acres of land in Maryland as the most valuable ecological lands remaining in the state, and suggested these lands should be acquired as state or county funds become available. Each county was provided maps to use as a guideline for land pro-



# Protecting Maryland's Land

tection. By following this “Greenprint,” land acquisitions would be based on a scientific approach. The program needs support and funding.

## **Fund Proper Maintenance and Operations of Public Lands**

High visitor demand requires proper building and custodial maintenance of parks and recreational facilities. Additionally, providing interpretative staff in parks adds to the enjoyment and public support of our park system. Major activities that alter public land should be analyzed to ensure they provide public benefits. Logging, road building, or development of facilities needs to be evaluated against the loss of forest services and natural habitat and the benefits they provide to the public.

## **Preserve Farmland and Promote Sustainability**

Our state should preserve one million acres of farmland by 2022 through the Maryland Agricultural Land Preservation Foundation. In addition, we should improve state tax incentives for land conservation, transfer of development rights, and other innovative programs to support land owners and land conservation. If Marylanders “buy local,” they support Maryland farmers.



# People

A healthy environment is essential to public health, and public health is a cornerstone for a healthy, productive population and an enduring duty of government. As we clean our air and water and protect our land, we improve the climate for public health.

In Maryland, environmental threats to public health include widespread air and water pollution. Our air is polluted with particulates, gasoline constituents such as benzene, dioxin, and ground-level ozone. Many of our streams, rivers, and the Chesapeake Bay are polluted with methyl mercury, PCBs, and pesticides. The Maryland Department of the Environment advises us not to eat too many of the fish we catch because they contain harmful chemicals.

Dirty air and water burden all of us, but some of us carry the weight more than others. An analysis by [\*Scorecard, The Pollution Information Site\*](#) found that communities where the poor and least educated Marylanders live are near the greatest releases of toxic chemicals, the highest cancer risks, the most superfund sites, and the most facilities that emit criteria air pollutants. No one wants these health threats in their backyards. The challenge is to make sure they are not in anyone's backyard.

## Environmental Justice

Environmental justice embraces the principle that all people and communities have the right to equal protection, including safe living and working conditions and the right of access to natural resources such as parks and waterways. The concern is that environmental amenities on the one hand and toxic waste sites on the other are not distributed uniformly among income groups, classes, or ethnic communities.

Environmental equity—preventing and addressing disproportionate effects of environmental degradation on people and places—has been a governmental concern since the 1980s. Maryland created programs to address the issue in the 1990s. Now, state agencies, including the Department of the Environment and Department of Transportation, have active programs to ensure that unwanted uses are not unfairly located in low income, disadvantaged, and minority communities. The programs are designed to mitigate existing problems and prevent new ones and to involve these communities in decision making.

## SOLUTIONS

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Invest in programs to remove pollution from abandoned industrial and commercial sites in urban and suburban areas. These so-called brownfields should be redeveloped before undeveloped resource lands are converted to industrial or commercial sites. Utilities and transportation systems are often available at brownfields and state policy should encourage their re-use.

# People

## Fast Facts

More than 200,000 Maryland children under the age of 6 are at risk of lead poisoning.

A study by the Environmental Working Group examined the umbilical cord blood of 10 newborn children born between August and September 2004 and found 28 organochloride pesticides, which are largely banned in the U.S. today and 21 detectable amounts of pesticides known to cause cancer and reproductive disorders.

In Maryland, over 1 million children live within 30 miles of a power plant, the area in which the greatest health impacts are felt.

As recently as 2002 approximately 146 million people in the United States lived in counties that did not meet air quality standards for at least one regulated pollutant. Exposure to air pollution can aggravate chronic respiratory and cardiovascular disease, damage lung tissue, lead to premature death, and may even contribute to cancer.

A study by the Centers for Disease Control estimated that 1 in 10 women currently have mercury levels in their bodies high enough to cause neurological effects in their offspring.

Lead paint has been a scourge in many urban, low-income areas. Increase fees and enforcement for lead removal and education programs.

Consider environmental justice concerns in locating and permitting pollution producing land uses; involve the community in these decisions. Gather information about the presence and effects of industrial facilities and pollution in disadvantaged communities; use it to improve environmental justice efforts.

## Environmental Health

The list of environmental threats for Marylanders is high and reflected in the state's rates of cancer and lung disease. Soot and toxic compounds such as benzene and dioxin pollute the air. Pesticides, heavy metals, bacteria and toxic algae pollute the water. These pollutants enter the environment from factories, power plants, cars, hazardous waste dumps, agriculture and household use. Persistent substances such as lead, PCBs, mercury, and used oil can be found throughout Maryland. Identifying sources of toxics, preventing pollution, and cleaning up existing problems will reduce the toxic burden on humans and our environment.

Lead paint or dust continues to create long-lasting problems for children. Lead accumulates in the body and can create severe developmental and learning disabilities in young children and harm the kidneys and blood. The effects of lead poisoning can last a lifetime. More than 200,000 Maryland children under the age of 6 are at risk of lead poisoning.

Pesticides are used in agriculture, homes, gardens, schools, day care centers, hospitals, nursing homes, parks, and workplaces. Pesticides have been linked to birth defects, cancer, neurological and behavioral disorders, asthma, and sterility. A study by the Environmental Working Group examined the umbilical cord blood of 10 newborn children born between August and September 2004 and researchers found 28 organochloride pesticides, which are largely banned in the U.S. today and 21 detectable amounts of pesticides known to cause cancer and reproductive disorders. Recent research indicates that a class of pesticides widely used in Maryland is linked to Parkinson's disease. Pesticides can eventually reach the Chesapeake, Coastal Bays and tributaries, harming aquatic and wild life such as birds and mammals. The U.S. EPA has yet to evaluate the cumulative and synergistic effects of our daily exposure to a host of pesticides.

Children are particularly vulnerable to the hazards of pesticides. Maryland's training materials for school administrators and staffs are out-of-compliance with the Integrated Pest Management (IPM) Schools law, and Maryland's public schools are likely to be out of compliance as well. In September 2006, the U.S. Department of Housing and Urban Development reported that child day-care centers throughout the U.S. exposed children to residues from pesticide

spraying. Hospital and nursing home patients are similarly exposed to pesticides.

Maryland's challenge is to continue the downward trend of toxic emissions into the air, water, and land that originated with the federal Toxic Release Inventory Program and other Right-to-Know efforts. The EPA's Toxic Release Inventory (TRI) requires industrial facilities to disclose emissions of hundreds of different chemicals each year. Maryland companies still can achieve significantly greater pollution reductions.

## **SOLUTIONS**

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### **Implement Safer Alternatives**

Reduce our exposure to toxic chemicals by phasing out the use of known or probable toxics by switching to safer alternatives. There are many known hazards in the cleaning products we use, from the soaps and cosmetics we put on our bodies to the containers we use to store food. By phasing out these dangerous products and switching to safer alternatives we can protect ourselves and future generations.

### **Reduce Lead Exposure**

Address the lead paint problem with increased funding and enforcement of clean up of lead contamination in homes. Register all rental properties that might contain lead. Test all children for blood lead levels, monitor buildings, clean up identified lead contamination, and educate parents about lead risks.

### **Commit to a Bay Free of Toxic Pollution**

Institute total maximum daily load permitting and eliminate mixing zones, which allow dischargers to meet water quality standards by diluting concentrations of toxic chemicals in waterways without reducing the total amount of chemicals released.

### **Protect School Children**

Strengthen enforcement of Maryland's IPM-in-Schools law by ensuring that school employees are properly educated regarding the law and that all state-provided educational materials regarding the law's implementation reflect the letter and the spirit of the law. Promote integrated pest management practices and policies for schools, day care centers, hospitals, nursing homes, government parks and buildings that emphasize prevention and non-chemical strategies and use of least toxic chemicals only as a last resort when all other control methods have been exhausted.

# People

## Control Pesticide Access

Encourage stricter oversight on access to restricted use pesticides and stored pesticides to reduce the potential criminal use of pesticides..

## **CASE STUDY: NEW YORK CITY PESTICIDES REDUCTION LAW**

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In May 2005, New York City Mayor Michael Bloomberg signed a law that will protect more people than any other legislation from cancer-causing and highly toxic pesticides. The law required the City to phase out by November 2006 acutely toxic pesticides and those that are known or suspected to cause cancer or developmental disorders. The NYC Pesticide Reduction Law also required City agencies to adopt a pest control strategy that emphasizes safer alternatives. The City of New York has nearly 100 different agencies, 300,000 employees, thousands of contracts, and owns and manages a great deal of real estate, including over 28,000 acres of parkland



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## GENERAL

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Chesapeake Bay Commission: [www.chesbay.state.va.us](http://www.chesbay.state.va.us)  
Chesapeake Bay Foundation: [www.cbf.org](http://www.cbf.org)  
Chesapeake Bay Program: [www.chesapeakebay.net](http://www.chesapeakebay.net)  
Maryland Department of the Environment:  
[www.mde.state.md.us](http://www.mde.state.md.us)  
Maryland Department of Natural Resources:  
[www.dnr.state.md.us](http://www.dnr.state.md.us)  
U.S. Environmental Protection Agency: [www.epa.gov](http://www.epa.gov)  
Washington Post: [www.washingtonpost.com](http://www.washingtonpost.com)

## LAND

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Governor's Office of Smart Growth: <http://www.mdp.state.md.us/>  
Maryland Center for Agro-Ecology, Inc.: [www.agroecol.umd.edu](http://www.agroecol.umd.edu)

## WATER

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Strategy for Managing Surplus Nutrients From Agricultural Animal Manure and Poultry Litter in the Chesapeake Watershed; Chesapeake Bay Program  
Manure's Impact on Rivers, Streams, and the Chesapeake Bay; The Chesapeake Bay Foundation, 2004

## AIR

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Maryland Department of the Environment:  
[www.mde.state.md.us](http://www.mde.state.md.us)  
California Air Resource Board: <http://www.arb.ca.gov/cc/cc.htm>  
American Lung Association: [www.lungusa.org](http://www.lungusa.org)  
Baltimore Examiner; Environmental group says study links smog and child asthma, Laura Greenback  
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Mercury Pollution from Power Plants: Myths vs. Facts; The National Wildlife Federation  
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## PEOPLE AND WILDLIFE

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# Environmental Resources

Many colleagues helped in the preparation of this *Environmental Briefing Book*, especially the members of the Citizens' Campaign for the Environment, a network of Maryland conservation organizations, and for this we are sincerely grateful.

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If you have any questions about the information or solutions outlined in this *Environmental Briefing Book*, please contact one of Maryland's numerous dedicated and effective environmental organizations. A few of these resources are listed below:

## General Information

**Maryland League of Conservation Voters Education Fund, Maryland League of Conservation Voters**  
410-280-9855; [www.marylandconservation.org](http://www.marylandconservation.org) and [www.mdlcv.org](http://www.mdlcv.org)

## Environmental Defense

202-387-3500; [www.environmentaldefense.org](http://www.environmentaldefense.org)

## Natural Resources Defense Council

202-289-6868; [www.nrdc.org](http://www.nrdc.org)

## National Wildlife Federation

800-822-9919; [www.nwf.org](http://www.nwf.org)

## Sierra Club-Maryland Chapter

301-277-7111; [www.maryland.sierraclub.org](http://www.maryland.sierraclub.org)

## Water

### Assateague Coastal Trust

410-289-7855; [www.actforbays.org](http://www.actforbays.org)

### Chesapeake Bay Foundation

410-268-8816; [www.cbf.org](http://www.cbf.org)

### Clean Water Action

202-895-0420; [www.cleanwateraction.org](http://www.cleanwateraction.org)

### Environment Maryland

410-467-0439; [www.environmentmaryland.org](http://www.environmentmaryland.org)

### Waterkeeper Alliance, Chesapeake Programs

410.280.8525 [www.waterkeeper.org](http://www.waterkeeper.org)

## Air

### Chesapeake Climate Action Network

301 891-6726 [www.chesapeakeclimate.org](http://www.chesapeakeclimate.org)

### Environment Maryland

410-467-0439; [www.environmentmaryland.org](http://www.environmentmaryland.org)

### Environmental Integrity Project

202-296-8800; [environmentalintegrity.org](http://environmentalintegrity.org)

## Land

### 1000 Friends of Maryland

410-385-2910; [www.friendsofmd.org](http://www.friendsofmd.org)

### Audubon Naturalist Society

301-652-9188; [www.audubonnaturalist.org](http://www.audubonnaturalist.org)

### Coalition for Smarter Growth

202-588-5570; [www.smartergrowth.net](http://www.smartergrowth.net)

### Eastern Shore Land Conservancy

410-827-9756; [www.eslc.org](http://www.eslc.org)

### Maryland Conservation Council

[www.marylandconservationcouncil.org](http://www.marylandconservationcouncil.org)

### One Less Car

410-360-6755; [www.onelesscar.org](http://www.onelesscar.org)

### Partners for Open Space

410 279-2404; [www.partnersforopenspace.org](http://www.partnersforopenspace.org)

### The Conservation Fund

410-757-0370; [www.conservationfund.org](http://www.conservationfund.org)

### The Nature Conservancy

301-897-8570; [www.nature.org](http://www.nature.org)

### The Valleys Planning Council

410-337-6877; [www.thevpc.org](http://www.thevpc.org)

### Trust for Public Land

202-543-7552; [www.tpl.org](http://www.tpl.org)

## People:

### Anacostia Watershed Society

301-699-6204; [www.anacostiaws.org](http://www.anacostiaws.org)

### Cleanup Coalition

(410) 576-0800

### Environmental Health Education Center

### UMD School of Nursing

410-706-1778

### Maryland Public Interest Research Group

(410) 467-9389; [www.marypirg.org](http://www.marypirg.org)

### Maryland Pesticide Network

410-849-3805; [www.mdpestnet.org](http://www.mdpestnet.org)