

ENVIRONMENTAL SYNOPSIS

The Chairman's Corner

Rep. Scott E. Hutchinson, Chairman



It's nice to see a national polling firm taking a page from the Joint Legislative Air and Water Pollution Control and Conservation Committee's (Committee) book.

I recently came across the results of a national poll taken earlier this year by the folks at Harris Interactive. (The "Harris Poll" should be a term familiar to Pennsylvanians.) The national survey is entitled "*How Green Are We? Putting Our Money (and Our Behavior) Where Our Mouth Is.*" The poll asked 3,110 American adults about their environmental habits, actions and priorities.

This is very similar to surveys the Committee conducted as far back as the year 2000, and most recently in 2004. We called our results an "Environmental Action Index." It is interesting to note not only the actual responses to the Harris Poll, but also to note similarities and differences between our surveys and the national poll.

The Harris folks found that many Americans have taken and are taking action to protect the environment, reduce energy and water consumption, and "reduce their carbon footprint", but such actions are by no means unanimous. There are any number of actions that would benefit the environment that only small minorities of Americans are doing.

In the good news category, 83 percent of Americans "always or often" keep unneeded lights off or turn out the lights when leaving a room, 68 percent recycle, 65 percent reuse items instead of throwing them away or buying new items, and 60 percent say they make the effort to use less water. Also, 63 percent have installed more energy-efficient light bulbs.

The bad news is, only 16 percent always or often carpool or take public transportation and 41 percent never do. Similarly, only 16 percent walk or ride a bike instead of driving or using public transportation. Only 17 percent compost food and organic waste, while 53 percent never do. Only 26 percent buy locally manufactured products.

Interestingly, 41 percent say they have recycled an electronic device, such as a computer or cell phone. While 18 states - at last count - have passed legislation requiring e-recycling, Pennsylvania is not one of them - at

least not yet.

After extensive Committee research and a published report (available on the Committee website at <http://jcc.legis.state.pa.us>), I introduced House Bill 409 this legislative session to establish such a program in the commonwealth. There is at least one other proposal pending in the General Assembly, but neither has been passed by either legislative chamber as yet. To see that 41 percent of Americans are e-recycling is encouraging.

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NOTES FROM THE DIRECTOR

CRAIG D. BROOKS, EXECUTIVE DIRECTOR

The Environmental Protection Agency (EPA) announced in September 2009 that it was beginning the process of developing a total maximum daily load (TMDL) for nutrients and sediment in the Chesapeake Bay and its tributaries. The notice invites the public to offer input on EPA's development of a draft TMDL, which is essentially a pollution budget allocated among various sources discharging to an impaired body of water. EPA says that it hopes to finalize the watershed-wide TMDL and subordinate TMDLs for up to 92 segments of the watershed by December 31, 2010.

EPA has known for some time now that it would have to develop a bay-wide TMDL, which would be the agency's largest and most complex to date. Under the terms of a 1999 consent decree, EPA committed to implementing a TMDL regulation if voluntary efforts to restore the bay and its tributaries failed by 2011. The 2009 evaluation of bay water quality by the federal-state Chesapeake Bay Program found that it is only 38 percent of the way to meeting the federal clean water standards. Federal and state efforts to restore the bay have been under way since 1983.

The EPA notice makes it clear that it wants the states sharing the Chesapeake Bay Watershed – Delaware, Maryland, New York, Pennsylvania, Virginia and West Virginia – to take actions that reduce nutrients and sediment coming from non-point sources, most of which are not regulated by the Clean Water Act. According to the notice, dur-

ing development of the TMDL, EPA Region III and the states will develop "Watershed Implementation Plans" that specify nutrient and sediment reduction targets for both point and non-point sources. EPA Region II, which covers New York, will contribute to the effort.

**EPA says it hopes to finalize
Chesapeake Bay Watershed TMDLs
by the end of 2010**

Region III and the states are also working to develop an "adaptive management" approach to restoration. Under this approach, states would need to have contingency plans to address shortfalls in their pollution reduction efforts and would be held accountable for missing biennial nutrient and sediment reduction targets.

The Chesapeake Executive Council, a body made up of certain bay governors, the EPA administrator, the mayor of Washington D.C. and lawmakers representing bay state legislatures, approved a similar strategy in May 2009.

EPA will hold a series of public meetings in November and December 2009 on development of a formal TMDL draft. It also invited written input on development of the draft, specifying that it must be received by December 18, 2009. A second comment period will be held between June and September 2010, after publication of the draft TMDL.

Under the 1999 consent decree, EPA has until May 1, 2011 to finalize the TMDL. However, the Chesapeake Executive Council has requested that it be completed by December 2010.

RESEARCH BRIEFS

Each month, the committee's staff researches and prepares a number of "briefs" on several topics relevant to the Joint Conservation Committee's mission. Very often, these briefs include references to reports and further research on the topics so that readers may pursue issues on their own.

Study Detects Toxic Chemicals in Medical Professionals

-- Tony M. Guerrieri, Research Analyst

You might think that doctors and nurses, being trained in chemistry and medicine and therefore perhaps more careful, would have found ways to avoid toxic chemicals. But many health care professionals are exposed to a range of specialty-specific occupational chemical hazards in daily patient care. A report by a coalition of state and national health care advocacy groups details the investigation of chemicals found in the bodies of health care professionals.

The report, *"Hazardous Chemicals in Health Care: A Snapshot of Chemicals in Doctors and Nurses"*, found an array of hazardous chemicals in 20 doctors and nurses across the country. It suggests that toxic chemicals present in everyday items and those common in the health care industry – like IV bags, hand sanitizers and stain-resistant cloth – have shown up in significant amounts in the bodies of health care professionals.

Twelve doctors and eight nurses, ranging in age from 33 to 85, two in each of 10 states (Alaska, California, Connecticut, Maine, Massachusetts, Michigan, Minnesota, New York, Oregon and Washington) were tested for selected hazardous chemicals stored in their bodies. A majority of the participants are practicing clinicians, with the exception of two retired physicians.

Through a process known as biomonitoring, the doctors and nurses provided samples (hair, blood and urine), which were tested for six families of chemicals. Phthalates (endocrine disrupters found in the plastic of IV bags and tubing and in hairspray and cosmetics), polybrominated diphenyl ethers (PBDEs – used as flame retardants), perfluorinated compounds (PFCs - found in coated pans and stain-repellent fabrics), bisphenol A (BPA - found in rigid plastic bottles and food and beverage can liners), and triclosan (a persistent chemical used heavily in health care because it is the prime ingredient in hospital

antibacterial hand soaps) are the technical names of five of the chemical families tested. Mercury (used in blood pressure gauges and thermometers) comprised the sixth family.

Physicians may need to heal themselves based on the test results

In total, the labs conducted analysis for 62 individual chemicals. According to the report, these chemicals are emerging or known chemicals of concern, and are known to cause or are suspected of causing hormone problems, reproductive problems, neurological problems (including developmental, memory, learning or behavioral issues), thyroid problems, cancer, diabetes and hypertension.

All 20 participants were found to have at least 24 individual chemicals in their body, four of which are on the recently released U.S. Environmental Protection Agency (EPA) list of priority chemicals for regulation. Two participants had a high of 39 chemicals detected.

Other findings include:

- ➔ 18 of the same chemicals were detected in every single participant.
- ➔ All 20 participants had at least five of the six major types of chemicals for which the labs tested, and 13 participants had all six.
- ➔ All participants had BPA, some form of phthalates, PBDEs and PFCs, priority chemicals for regulation by the EPA.
- ➔ 13 participants had dimethyl phthalate metabolites, with nine above the U.S. Centers for Disease Control and Prevention's 95th percentile.

The manufacture, processing, distribution, use and disposal of chemical substances are regulated by the EPA under the Toxic Substance Control Act (TSCA). Through the TSCA, the EPA has been able to ban only five chemicals and mandate comprehensive health safety testing for only 200 of the over 80,000 chemicals registered with the EPA.

In addition to data on testing, the report includes recommendations on how health care professionals can protect their patients and themselves by avoiding the use of toxic chemicals. The report recommends reforming the TSCA by taking immediate action on the most dangerous chemicals. For example, persistent bioaccumulative toxic chemicals should be phased out. Exposure to other toxic chemicals with known serious health effects should be reduced. Green chemistry research should be expanded, and safer chemicals favored over those with known health hazards.

The report, sponsored by Physicians for Social Responsibility in partnership with the American Nurses Association and Health Care Without Harm, is available at: <http://www.psr.org/assets/pdfs/hazardous-chemicals-in-health-care.pdf>.

Better Cleanup Plan for Great Lakes Needed

-- Craig D. Brooks, Executive Director

The Environmental Protection Agency (EPA) needs a broader plan for cleaning up the 31 identified "areas of concern" (AOC) around the Great Lakes, according to the EPA Office of Inspector General. Although the EPA is the main agency responsible for cleaning up the areas, the report entitled, *"EPA Needs a Cohesive Plan to Clean Up the Great Lakes Areas of Concern"*, suggests that the agency, "...does not have the regime for coordinating the remediation activities across its program offices..." or with state and local interests. The report says that without a broader plan the agency will not succeed in achieving the results intended for the AOC program.

The report makes three recommendations to improve Great Lakes cleanup efforts

Thirty-one AOCs have been identified around the U.S. border of the Great Lakes. All but one are polluted with contaminated sediments.

To provide a funding source for sediment remediation, Congress passed the Great Lakes Legacy Act (Legacy Act) in 2002. EPA, through the Great Lakes National Program Office, is responsible for working with the states, localities and other stakeholders to

remove this contaminated sediment.

According to the report, EPA does not know the full extent of the contamination problem. Accurate sediment estimates for more than 30 percent of the remediation sites still remain unknown.

The report suggests that potential Legacy Act cleanup sites have an estimated federal cost of \$2.25 billion. Local partners will have to come up with a total of \$1.21 billion in non-federal matching funds before Legacy Act assistance is provided.

The AOCs are managed by the Great Lakes National Program Office, which reports to EPA's Region V office in Chicago, Illinois. Cleanups are often complicated by overlapping responsibilities related to superfund jurisdiction, pending Clean Water Act enforcement, contamination removal under the Resource Conservation and Recovery Act, and statutory limitations on the use of funds from the Legacy Act to clean up superfund sites, the report found.

Overlapping program responsibilities and unclear lines of authority between EPA program offices and others, combined with a lack of accountability, result in an ineffective program for AOC cleanup.

In addition, the report says, many sites have not been assessed, making it hard to estimate the cost or scope of work necessary for cleanup.

The report makes three recommendations:

1. The Great Lakes National Program Manager needs to establish a management plan spelling out each EPA program office's authority and responsibility for cleaning contaminated sediment.
2. Assign a lead EPA office to each sediment remediation site and determine the volume of contaminated sediment at each site.
3. Annually measure and publish estimates of volumes, cleanup costs, and progress for each site.

EPA has agreed with many of the recommendations of the report but did not concur with the idea of designating site-specific leadership authorities. However, the agency also realizes that cleanups need to be accelerated and better coordinated in an effort to attain more progress in the cleanup of AOCs.

The Inspector General's report is available at: <http://www.epa.gov/oig/reports/2009/20090914-09-P-0231.pdf>.

EPA Report: America Needs to Invest \$334 Billion in Water Projects

-- Tony M. Guerrieri, Research Analyst

Drinking water utilities will need approximately \$334.8 billion to deal with infrastructure upgrades, construction and rehabilitation over the next 20 years, according to a report by the U.S. Environmental Protection Agency (EPA). The report, *"Drinking Water Infrastructure Needs Survey and Assessment: Fourth Report to Congress"*, reflects data collected in 2007 and is based on the information collected from approximately 52,000 community water systems and 21,400 not-for-profit community water systems (NPNCWS).

It represents the collective efforts of the states, EPA and thousands of water systems, all of which participated in identifying and documenting infrastructure needs. The needs surveys are used by EPA to distribute funds from the Drinking Water State Revolving Fund to states based on their needs. The federal allocations allow states to administer low-interest loans to water utilities for infrastructure improvements and upgrades. Since the program began in 1997, states have provided more than \$12 billion to water systems for 5,550 projects.

Pennsylvania has an estimated 2,200 municipal or investor-owned community drinking water systems

According to the survey, the nation's 8,749 medium sized community water systems (those serving populations between 3,301 to 100,000 persons) account for the largest percentage of need with 45 percent, or \$145.1 billion. The largest community water systems (those serving populations greater than 100,000 people) also have substantial needs (\$116.3 billion). The needs of small community water systems (those serving 3,300 and fewer persons) and NPNCWSs account for \$59.4 billion and \$4.1 billion in infrastructure upgrades and improvements respectively. Pennsylvania's 20-year need by system size is: large (\$3.9 billion), medium (\$4.5 billion), small (\$2.6 billion), and NPNCWS (\$282 million) for a total of \$11.4 billion.

Infrastructure needs of water systems can be grouped into five major categories based on project

type. These project types are source, transmission and distribution, treatment, storage and "other". According to the survey, with all sizes of water systems combined, transmission and distribution constitutes the largest category of need, accounting for almost two-thirds (\$200.8 billion) of the total need. This means that utilities need to install and maintain distribution systems to provide potable water to their customers while preventing contamination prior to delivery. Failure of transmission and distribution can lead to the disruption of delivery, resulting in loss of pressure and possible backflow of contaminated water into the system. Broken transmission lines can also disrupt the treatment process.

Treatment projects represent the second largest category of need, representing \$75.1 billion or more than one-fifth of the total need. These projects involve installation and rehabilitation of filtration, disinfection, aeration and corrosion control measures to reduce and eliminate contaminants.

The 20-year need cost in Pennsylvania – \$11.4 billion

The total 20-year need for storage projects is \$36.9 billion and \$19.8 billion for the source category. Storage projects include the construction and rehabilitation of water storage tanks. Many of the projects involve rehabilitating existing tanks to prevent structural failures and prevent sanitary problems. Protecting the sources of surface and groundwater supplies includes the installation and rehabilitation of drilled wells and surface water intakes.

"Other" needs account for an estimated \$2.3 billion and often include emergency power generators, computer and automation equipment and projects for security systems.

In Pennsylvania there are an estimated 2,200 municipally owned or investor-owned community drinking water systems. Of the estimated \$11.4 billion, 20-year cost of repairing, replacing, and updating Pennsylvania's drinking water infrastructure, \$7.6 billion is for transmission/distribution, \$1.8 billion for treatment, \$1.3 billion for storage, \$557 million for source and \$59 million for other.

Because the Safe Drinking Water Act (SDWA) requires that public water systems meet certain requirements to protect public health, the 2007 Needs Assessment promotes those public health objectives as well as the ability to provide essential water

service to customers. The estimated needs directly associated with existing SDWA regulations (including proposed or recently promulgated regulations) are \$52 billion. This includes protection from microbial and chemical contaminants. Projects that address microbiological contaminants comprise 63 percent of the total existing regulatory need, or \$33 billion.

Vulnerability assessments and the identification of security needs for water systems are rapidly evolving. The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 requires any community water system that serves a population of more than 3,300 to prepare a vulnerability assessment. The Needs Assessment estimated the total security need at \$422 million, however the majority of security needs are mostly "hidden" in the other needs reported by the assessment.

The EPA report is intended to provide a general overview of the nation's water infrastructure needs and establish a context for assessing and determining the steps needed to address the nation's water infrastructure needs. The report and related materials are available at: http://www.epa.gov/safewater/needssurvey/pdfs/2007/report_needssurvey_2007.pdf.

Study Outlines Greenhouse Gas Emission Reductions

-- Craig D. Brooks, Executive Director

An Environmental Protection Agency (EPA) report released in September 2009 examines the link between climate changes and materials and land management programs with an eye toward reducing greenhouse gas emissions. The report estimates the portion of U.S. greenhouse gas emissions associated with materials and land management practices and then identifies areas for EPA and its partners to reduce greenhouse gas emissions through materials and land management.

The report, "*Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices*", released by the Office of Solid Waste and Emergency Response, found that in

2006, 42 percent of U.S. greenhouse gas emissions were influenced by materials management policies such as provision of goods and food. The food system provision, for example, includes all emissions from the electric power, transportation, industrial and agricultural sectors associated with growing, processing, transporting and disposing of food. The report says that land sinks offset 13 percent of human-caused emissions.

In 2007, the most recent year for which data was available, U.S. greenhouse gas emissions totaled 7,150 million tons of carbon dioxide, according to EPA's 2009 Greenhouse Gas Inventory report (40 ER 868, 4/17/09).

The report found that significant greenhouse gas emission reductions have been achieved through activities including municipal solid waste recycling and waste-to-energy recovery systems.

Further reductions are possible through materials and land management activities including:

- reducing packaging use by 50 percent, which would save 40 million to 150 million metric tons of emissions per year;
- using smart growth methods such as shifting 60 percent of expected new development to compact development patterns, which the study said would reduce emissions by 79 million metric tons;
- increasing recycling of construction and demolition debris to 50 percent, which would reduce emissions by 75 million metric tons;
- combusting 50 percent of municipal solid waste, which would save 35 million to 60 million metric tons per year, and;
- reusing a percentage of certain contaminated land for utility-scale solar projects.

The report suggests that land management and materials management approaches should be a part of the nation's toolbox to meet the target of 83 percent reduction in greenhouse gas emissions by 2050.

The EPA report is available at: http://www.epa.gov/oswer/docs/ghg_land_and_materials_management.pdf.

News to Use in the Environmental Synopsis... share it with a friend

The *Environmental Synopsis* is issued monthly. The newsletter examines timely issues concerning environmental protection and natural resources.

If someone you know would like to receive a copy of the *Synopsis* each month, please contact the Committee office at 717-787-7570.



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ON THE HORIZON . . .

A LOOK AT UPCOMING EVENTS



There are no events scheduled at this time.

Check the Committee website at <http://jcc.legis.state.pa.us> for events that may be added to the schedule.

Committee Chronicles . . .

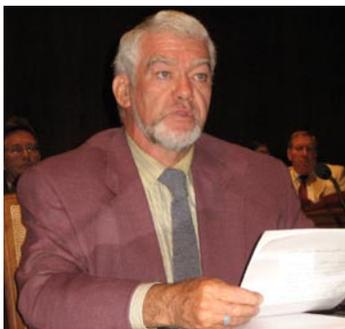
REVIEW OF SOME MEMORABLE
COMMITTEE EVENTS

Earlier this year, the Legislative Forestry Task Force (Task Force) of the Joint Legislative Air and Water Pollution Control and Conservation Committee held a public hearing on green building certification. More specifically, the Task Force wanted to examine the Leadership in Energy and Environmental Design (LEED) standards and alternatives to them to determine what they mean to the forest products industry. There are questions about whether the LEED rating system discriminates against U.S. produced wood products, and if the green building ratings system needs to be opened up to alternatives.



In the photo below right, Task Force members (l. to r.) Chairman Rep. Scott Hutchinson, Rep. Kathy Rapp and Rep. Gary Haluska listen to testimony.

Among those testifying were (photo top left) Victoria Lockhart, certification manager for the American Tree Farm System and (photo bottom left) Kevin Stover, PE, the commercial program manager for the Green Building Initiative.



Other organizations that testified included the Pennsylvania Builders Association, the American Forest and Paper Association and the Green Building Association of Central Pennsylvania.

The issue continues to be studied by the Task Force.

The Committee's own survey results from 2004 in many cases mirror or better the Harris Poll. For example, our survey found that 83 percent of Pennsylvanians say they recycle aluminum cans. Forty-five percent in the Committee poll refused to buy something because it was harmful to the environment. Smaller, but still significant, percentages of the respondents to the Harris Poll have done such things as buy only locally grown produce and locally manufactured products, look to buy in bulk or buy all-natural items, or purchase used items, rather than new.

You can access the results of the Harris Poll by visiting the website www.harrisinteractive.com/harris_poll/pubs/Harris_Poll_2009_10_13.pdf

Another similarity between the Committee survey and the Harris Poll is that both asked respondents to self-determine their environmental status. The Committee asked individuals if they considered themselves "environmentalists", and the Harris Poll asked respondents to assess their level of "greenness" (based on their answers to four statements – see below). The Committee survey then asked a series of questions to see if their self-classifications were borne out by actions. Nearly 60 percent responding to the Committee survey said they did consider themselves as environmentalists.

The Harris Poll asked, "To what extent, if any, does each of the following statements describe you?" The four statements were:

- I am environmentally conscious.
- I am a conservationist.
- I am an environmentalist.
- I am "green".

Based on the responses, the level of "greenness" was determined. Interestingly, 40 percent said "environmentalist" did not describe them at all, while only five percent said it described them completely and nine percent said it described them very well. More people felt more comfortable with the descriptions "environmentally conscious" or "a conservationist."

What both surveys discovered was that those who did believe themselves to be "environmentalists" or "more" or "most green" consistently did take more actions that were environmentally beneficial than did those who were not. For example, in the Committee survey, those who identified themselves as environmentalists recycled aluminum cans 90.5 percent of the time as compared to the overall average of 83 percent. Fifty-nine percent of "environmentalists" refused to buy something harmful to the environment as compared to 45 percent of those who did not identify themselves as environmentalists and so on.

The Harris Poll showed that while 80 percent of the "most green" have installed energy efficient lighting or appliances, only 52 percent of the "least green" have done so. Of the most green, 35 percent have installed low-flow showers or toilets compared to 15 percent of the least green. Responses to other actions followed suit.

In regard to e-recycling, something the Committee survey did not ask back in 2004, the Harris Poll said that 59 percent of the most green among us have donated an electronic item, while only 22 percent of the least green have done so.

Those looking to determine if we are making progress in protecting our environment, and in seeking out environmental trends, would benefit from studying both the Committee surveys and the Harris Poll. The most recent committee survey can be found on the "Newsletter" page of the Committee website in the July 2004 *Environmental Synopsis* found on that page.

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