

Joint Legislative  
Air and Water  
Pollution Control and  
Conservation  
Committee



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## The Chairman's Corner

Rep. Scott E. Hutchinson, Chairman

The recent Environmental Protection Agency (EPA) offering to forego heavy fines if Allegheny County municipalities fix an estimated \$3 billion in sewage overflow problems by 2007, could flow into other parts of the state where outdated and overburdened systems face similar dilemmas.

It also points up the importance and urgency of implementing the recommendations of the Joint Committee in regard to combined sewer overflows (CSO's).

The committee issued eight recommendations to address the CSO problem after holding three public hearings, including one in Allegheny County, and hearing from federal, state and local individuals, organizations, and government bodies.

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**The federal "carrot and stick" proposition highlights the municipal need for help and the urgency of implementing the committee's recommendations regarding combined sewer overflow problems**

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Chief among them, and especially meaningful in light of EPA's estimated price tag and Allegheny County Executive Jim Roddey's acknowledgement that sewage rates will have to increase to pay for improvements, is the committee's call for state-secured bond funding for upgrades and capital improvements to CSO's.

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# Notes From the Director

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Craig D. Brooks, Director

During the past several years, the Joint Committee has held a number of public hearings and Environmental Issues Forums on water related topics - water quality credits and trading, water resources management, and combined sewer overflows (CSO's).

Most recently, the committee completed work on the problems associated with infiltration and inflow (I & I)- the extraneous influx of water into wastewater systems. The committee's report, *"Infiltration and Inflow"*, is the result of a series of meetings and discussions held by the Infiltration Task Force and addresses strategies to better manage and control infiltration. A copy of the report is available by contacting the committee office.

One of the problems associated with I & I and CSO's is the treatment of wastewater during episodic wet weather events. Because of the lack of asset management and the aging wastewater infrastructure in Pennsylvania and other states, discharges that occur during wet weather episodes often overload wastewater treatment facilities. These discharges occur during extreme wet weather events and have only been treated to primary standards, which involve removing solids and adding chlorination to kill pathogens.

During such events, the flow bypasses the required secondary treatment phase, which is the biological process to remove most of the organics in the wastewater. Currently, such bypasses are illegal under the Clean Water Act. The issue is important to Publicly Owned Treatment Works (POTW's) that face possible enforcement action when these excess flows are routed around secondary treatment to prevent the system from being overloaded.

Existing Clean Water Act regulations at 40 CFR 122.41 (m) specifically prohibit bypass discharges unless POTW's can show that they were unavoidable, have no feasible alternatives available

for eliminating the discharge, or the permitting authorities were notified that such bypasses occur.

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## **The EPA is currently circulating a draft guidance to address when bypassing secondary treatment and blending could be allowed in wet weather events.**

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The U.S. Environmental Protection Agency (EPA) is currently circulating for comment a draft guidance to clarify when bypassing the secondary phase of wastewater treatment during storm events may be allowed. The draft seeks to clarify the National Pollutant Discharge Elimination System (NPDES) permit requirements for POTW's in situations related to wet weather events, in an attempt to provide some relief to permitting authorities that are struggling to meet Clean Water Act standards. The draft guidance would provide some discretionary enforcement in the event that a bypass occurs, and tries to clarify what constitutes a "feasible alternative". In order to satisfy the "no feasible alternative" provision, consideration would need to be given to the construction of additional capacity to prevent a bypass.

The draft also addresses a situation known as blending. Blending is a process where excess flows are routed around secondary treatment and then recombined with flows that were treated to secondary standards. Blending could be approved in an NPDES permit if the final combined discharge meets secondary treatment standards and the permit application specifically recognizes that this type of treatment is used only to manage wet weather flows.

Currently, NPDES permits containing the bypass prohibitions as outlined in the regulations are on hold until comments on the draft are received and the issue is resolved.

## Annual Report Published

The Joint Conservation Committee's *Annual Report 2001* is now available and can be obtained by contacting the committee office. The report reviews the committee's activities in 2001, the reports the committee issued during the year, survey results of the committee's Heritage Parks Public Mind survey, updates on tire recycling and the Forestry Task Force and a chronological list of available committee reports. If you would like a copy of the *Annual Report 2001*, call the committee office at 717-787-7570.



# 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.

## U.S. Exporting Toxic Electronic Waste Overseas to Asia

— Tony M. Guerrieri, Research Analyst

Today's electronics industry quickly pushes former state-of-the-art models into obsolescence, so much so that computers and other electronics equipment account for a significant and rapidly increasing share of the solid waste generated in the United States. In fact, a new report notes that electronic waste is the most rapidly growing waste problem in the world and singles out computer waste in particular, with millions of units becoming obsolete each year.

Most electronic waste ends up in landfills or incinerators, but another growing option is recycling for parts and materials. According to a report by a coalition of environmental organizations, due to their growing waste volume, toxicity, and management costs, a large percentage of electronic waste that is to be recycled is being exported to developing countries. The report, *"Exporting Harm: The High-Tech Trashing of Asia"*, states that once there, laborers, including children, often dismantle the equipment by hand, exposing themselves and their surroundings to toxic hazards.

One recent study cited in the report calculated that in the United States 20 million computers became obsolete in 1998 alone, and more than 500 million computers are expected to come to the end of their useful lives by the year 2007. That number of computers contains about 6.32 billion pounds of plastics, 1.58 billion pounds of lead, 3 million pounds of cadmium, 1.9 million pounds of chromium, and 632,000 pounds of mercury.

Electronic waste contains over 1,000 different substances, many of which are toxic, and creates serious pollution upon disposal. The existence of toxic components in the waste poses a risk to recyclers and, increasingly, disposal is more and more costly.

The report estimates that as much as 80 percent of electronic waste collected for recycling in the western United States is put on ships bound for China, India, and Pakistan, where environmental oversight is less stringent. Once there, laborers dismantle the electronic waste to recover valuable materials. The report cites a U.S. Environmental Protection Agency (EPA) estimate that it is 10 times cheaper to ship computers to China than it is to recycle them in the United States.

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**The report calls for a ban on hazardous waste exports, reductions in hazardous materials in computers and aggressive recycling to ensure proper disposal.**

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The report focuses on electronics recycling in a cluster of villages in southeastern China, where an estimated 100,000 workers handle electronic waste. Most of the labor force in the recycling operations comes from outlying rural areas. The former farmers take the jobs of dismantling and processing the imported electronic waste for an average wage of \$1.50 per day.

Computers are not designed for ease of recycling and their dismantling is labor intensive, involving physical dismantling by hammer, chisel, and bare hand. The report states that workers, with little or no protection, burned plastics and circuit boards or poured acid on electronic parts to extract silver and gold, filling the air with carcinogenic smoke and polluting the water. The report states that water in the area is so contaminated that drinking water must be trucked in from a town 18 miles away.

To reduce the exposure burden borne by foreign workers, the report calls for a ban on hazardous waste exports, encouraging manufacturers to reduce the amount of hazardous materials used in computers as well as adopting aggressive recycling programs to ensure their proper disposal.



The report also calls for the U.S. government to ratify the Basel Convention, a 1989 environmental treaty that restricts toxic waste trade, and to follow the European Union and other nations in banning hazardous waste dumping overseas.

Five environmental groups – two from the United States (the Basel Action Network and Silicon Valley Toxics Coalition) and three from Asia – contributed to the report. Copies of the report are available from the Seattle, Washington based Basel Action Network at [www.ban.org/e-waste/technotrash.pdf](http://www.ban.org/e-waste/technotrash.pdf).

## The Impact of Climate Change on U.S. Agriculture

—Jason Gross, Research Analyst

The Center for Health and the Global Environment, a division of Harvard Medical School, recently published a report entitled “*Climate Change and U.S. Agriculture: The Impacts of Warming and Extreme Weather Events on Productivity, Plant Diseases, and Pests.*” The report’s premise is to show how warmer temperatures and an increase in the frequency of extreme weather events - the predominant characteristics of climate change - can affect crop yields, increase weeds and other diseases, and raise the economic costs of agricultural production.

The report presents an in-depth analysis of crop yield and production from 1995 to 2000 and focuses on extreme weather events in U.S. agricultural history such as the drought of 1988 and the floods of the Mississippi River valley of 1993. The El Nino phenomenon is also studied as to how it affects regional climates in the Pacific Ocean states. By studying these events, the report attempts to predict the future effects of climate change on U.S. agriculture.

Among the primary conclusions is that expected temperature increases are likely to hasten the maturation of annual crop plants, in turn reducing the total crop yield potential. This effect in turn lowers the economic sustainability of U.S. agriculture. Higher temperatures can also reduce insect deaths over the winter, and hence lead to increased rates of insect development and population. By substantially altering the growing season of traditional U.S. crops, higher temperatures can damage the economic viability and marketability of U.S. agricultural efforts.

Another outcome attributed to climate change is the increased likelihood of floods and droughts. The high variability of precipitation will make U.S. agricultural planning more unstable and difficult. The failure to properly plan crop planting, fertilization, and harvesting could seriously endanger the productivity and strength of U.S. agricultural efforts.

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**According to the report, if current climate change trends continue, the livelihood of U.S. farmers and the U.S. advantage in international exporting of agricultural goods may be harmed.**

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Wet vegetation and higher temperatures also promote the germination of bacteria, fungi, and nematodes. The higher numbers of fungi and lower insect mortality will continue to decrease total crop yield and reduce overall agricultural productivity.

According to the report, if climate change trends continue as they have, the livelihood of many U.S. farmers may be drastically harmed. The impacts of variable climate and warming temperatures may also lessen the comparative advantage that the U.S. enjoys as a leading international exporter of agricultural commodities. The report recommends that individual producers adapt to the climate change by selecting different crops, changing practices of cultivation, irrigation, and pest control. These changes might modify regional energy use, water demand, storage and transportation, and processing of agricultural products.

For further information, contact the Harvard Medical School Center for Health and the Global Environment at 617-432-0493 or via the web at [www.med.harvard.edu/chge/reports/climate\\_change\\_us\\_ag.pdf](http://www.med.harvard.edu/chge/reports/climate_change_us_ag.pdf).

News to Use in the  
*Environmental Synopsis*...  
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The *Environmental Synopsis* is issued monthly. The newsletter examines timely issues concerning environmental protection and natural resources.

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



## Climate Change: Potential Impacts on the Gulf Coast Region

— Tony M. Guerrieri, Research Analyst

Estimated temperature increases of up to seven degrees Fahrenheit over the next 100 years in the United States could have a variety of impacts on the Gulf State region, according to a report by the Union of Concerned Scientists.

The report, *“Confronting Climate Change in the Gulf Coast Region: Prospects for Sustaining Our Ecological Heritage”*, examines global warming’s impacts on the five states that border the Gulf of Mexico: Florida, Louisiana, Alabama, Mississippi, and Texas. It finds that climate change in the Gulf States will lead to more extreme rainfall events and longer dry periods, accelerating sea-level rise, increasing coastal flooding, and extending the northward ranges of non-native plants and animals.

Assuming continued growth in greenhouse gas emissions, the two climate scenarios used in the report project that temperatures will rise an average of between three and seven degrees Fahrenheit in the next 100 years. The report contains a detailed assessment of the potential impacts that this temperature change and anticipated related climate changes could have on water, agriculture, forests, health, coastal areas, ecosystems, and other aspects of life in the Gulf States.

Global sea-level rise will have a disproportionate effect along the Gulf Coast shorelines because of the region’s flat topography, regional land subsidence, extensive shoreline developments, and vulnerability to major storms. The report estimates that the sea-level rise over the next 100 years could range from 15 inches along most of the Gulf Coast to as much as 44 inches along the Louisiana/Mississippi Delta.

Sea level rise will also affect the availability and distribution of fresh water because many Gulf Coast aquifers are susceptible to saltwater intrusion. In addition, the increasing drawdown of surface water systems and underground reservoirs could combine with sea-level rise to increase saltwater contamination of aquifers, particularly near the coast and in large urban areas. Rationing of groundwater withdrawals may become more common, according to the report. The flow from the streams and rivers that feed into the Gulf of Mexico will also likely change. Drinking water supplies taken from the Mississippi River for coastal communities will

be more frequently threatened by saltwater intrusion due to sea-level rise, land subsidence, and periodic low river flows.

Agriculture ranks among the most important economic activities of the Gulf Coast region. If the climate of the Gulf Coast turns drier overall, cotton, soybean, rice, and sorghum productivity could drop without irrigation, and citrus production may shrink moderately in Florida.

If the climate becomes drier in the future, a change in the intensity and frequency of wildfires is likely to result in severe impacts on the timber industry in the region. Warmer average temperatures and milder winters are also likely to result in a higher incidence of damage by agricultural and forestry pests such as the Southern Pine bark beetle.

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### **By implementing best practices in land and water resource use, policy and decision makers can minimize ecologically harmful side effects of climate change.**

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The report indicates that global warming will increase some health risks in the Gulf Coast region. Increases in summer temperatures and the heat index could give rise to more frequent heat waves and more heat-related illnesses and deaths. The concentration of air pollutants such as ozone is likely to increase in Gulf Coast cities such as Houston and Galveston, Texas. These and other metropolitan areas are already now classified in “severe” noncompliance with federal air quality standards.

To mitigate damages, the Union of Concerned Scientists calls on policymakers to adopt a three-pronged approach: reducing emissions of carbon pollution, minimizing human stresses on ecosystems, and adapting to coming challenges. Reducing emissions of carbon dioxide by reducing the dependence on fossil fuels would reduce global-warming emissions. The development of clean energy sources would create jobs and new economic opportunities. The report concludes that by implementing best practices in land and water resource use, policy and decision makers can minimize ecologically harmful side effects of climate change.

A copy of the report is available from the Union of Concerned Scientists, 2 Brattle Square, Cambridge, MA 02238; telephone (617)-547-5552, or on the web at [www.ucsusa.org/environment/gulf.html](http://www.ucsusa.org/environment/gulf.html).

## Voluntary Corporate Greenhouse Gas Emissions Explored

—Jason H. Gross, Research Analyst

Voluntary efforts by corporations to reduce their own greenhouse gas (GHG) emissions are one of the key components to reducing global emissions and climate change. A recent report by the Pew Center On Global Climate Change, “*Corporate Greenhouse Gas Reduction Targets*,” undertakes an analysis of such voluntary corporate efforts.

According to the report, in the United States and around the world, many businesses are voluntarily addressing the climate change problem and their numbers are on the rise. The companies are doing so by setting and meeting corporate targets to reduce GHG emissions, and publicly acknowledging the extent of global climate change problems.

The report is based on several case studies of corporate members of the Business Environmental Leadership Council of the Pew Center on Global Climate Change, including ABB, Entergy, IBM, Shell, Toyota, and United Technologies Corporation. These corporations were selected because of the diversity of industry, type and location that they offer.

The companies vary widely in their reasons for adopting climate targets. All of the companies seek to improve their competitive position by reducing production costs and enhancing product sales. In anticipation of regulatory schemes in the future with tighter constraints on GHG emissions, many corporations are reducing emissions today and investing in the research necessary to create GHG efficient production into the future.

There are risks to the corporations in voluntarily adopting early GHG emission reduction policies. Many governments do not recognize the value of early action, and hence do not reward it. Some governments may select a late baseline, thus rendering early reductions less valuable. Some governments do not regulate at all, thereby punishing companies who have increased costs without economic reward when reducing GHG emissions vis-à-vis their corporate competition.

Determining target emission guidelines can be a difficult balancing act for a corporation. The types of targets differ by corporate structure, line of business, and GHG emission reduction goals. Some corporations focus on greenhouse gases, others on overall energy use

reduction. Some corporations choose to follow absolute limiting guidelines; others simply attempt to reduce emissions from current output.

Specific methods of reducing emissions also vary widely between corporations depending on products, production method, and corporate structure. Corporations must determine how the targeted emission standard will fit in with other environmental management policies of the corporation. The corporation must also determine to what extent the plan will deal with external market forces such as emission credit and trading programs.

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**The report concludes that flexibility in reduction measures is most effective because it ensures limited resources can focus on strategies that create the greatest reductions.**

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The report explains that emission trading is a useful tool for companies that wish to drive down costs and voluntarily reduce their GHG emissions. Trading programs provide an important incentive for corporations to offset the heavy costs of voluntary emission reduction. These offsets may be extremely valuable where the costs of emission reductions within a company’s own operations are high. The added benefit of trading and credit programs can assist a corporation in committing to voluntary GHG reduction when such a move might be otherwise economically prohibitive.

According to the report, for climate policy to develop, certain ideas must be more widely accepted. One important premise is the realization that GHG emissions can be substantially reduced and that there are a range of approaches to do so. Another important idea is that GHG emissions can be reduced in ways that are both cost-effective and can benefit corporate productivity and earnings. The success of the voluntary reduction policies of certain corporations leads to the conclusion that flexibility in the methodology and implementation of reduction measures leads to more effective reduction. The report stresses flexibility because it ensures that companies can focus the limited resources available to strategies that create the greatest reductions in GHG emissions.

For further information and a copy of the report, you can go to the following web address: [http://www.pewtrusts.com/pdf/env\\_pew\\_climate\\_targets.pdf](http://www.pewtrusts.com/pdf/env_pew_climate_targets.pdf).

# On The Horizon...

## a look at upcoming committee events

- ▶ **Thursday, April 11, 10 a.m., McKee's Rocks Borough Building, Allegheny County** – Public hearing on reauthorization of the state's recycling fee.
- ▶ **Friday, April 12 - Alternative energy tours.** The committee will visit the Siemens facility in Pittsburgh to see a demonstration of fuel cell technology and pay a call on the wind farm in Somerset, PA.
- ▶ **Monday, April 15, 12 noon, Hearing Room 1, North Office Bldg., Capitol Complex – Environmental Issues Forum.** DEP Deputy Secretary Robert Barkanic will discuss the department's Environmental Futures Planning process.
- ▶ **Monday, June 10, 12 noon, Hearing Room 1, North Office Bldg., Capitol Complex – Environmental Issues Forum.** William "Bill" Forrey, with the consulting firm the RBA Group, which has been implementing the PA Greenways Partnership Commission's state Greenways Plan, will discuss the plan's progress and the information clearinghouse being established.

## Committee Chronicles...

### a review of some memorable committee events



department's Water Resources Conservation and Protection Act proposal.

In the photo above, committee Chairman Rep. Scott Hutchinson welcomes those attending as he prepares to introduce Secretary Hess, to his left.

In the second photo, Hess shares an informal moment with committee Vice-chairman Sen. Raphael Musto.



A crowd of more than 60 people attended the committee's recent Environmental Issues Forum featuring PA Department of Environmental Protection Secretary Dave Hess. Hess spoke about the

department's Water Resources Conservation and Protection Act proposal.

**Please contact Lynn in the committee office at any one of the numbers/addresses listed below, prior to April 30, 2002, to advise her of your continued interest in receiving the *Synopsis* and to confirm or update your address, or to request removal from the mailing list. Those who do not respond by the April 30 deadline will be removed from the mailing list.**

You may contact Lynn as follows:

- E-mail at [lmash@jcc.legis.state.pa.us](mailto:lmash@jcc.legis.state.pa.us);
- Fax at 717-772-3836; or
- Telephone at 717-787-7570, extension 10.

Thank you for your cooperation.

## Mailing List Being Updated... Please Respond

**JCC** By way of explanation, combined sewer systems are those designed to collect rainwater runoff, domestic sewage and industrial wastewater in the same pipe and conduct all wastewater to a sewage treatment plant. However, during wet weather events, volume can exceed capacity and the systems are designed to overflow and discharge wastewater, including untreated sewage, industrial waste and toxins, directly into waterways.

It's a large-scale, complex and expensive problem. The theme the committee heard most consistently from local authorities during the hearings was a call for financial help. The committee recommended a combined approach to funding, in which the state would play a part, to include bond funds and other targeted initiatives from existing state programs, in concert with federal grant money and local efforts.

The piece of state legislation most often discussed during the hearings was Senate Bill 150, introduced by committee vice-chairman Sen. Raphael Musto (D-Luzerne). SB 150 would establish a CSO grant program, funded by a \$1 billion bond issue to be administered by the Pennsylvania Infrastructure Investment Authority (PENNVEST). Ideally, we would hope to partner with the federal government so that Washington would supplement the \$1 billion with some type of matching funds.

There are several compelling reasons to address the overflow problem, enumerated clearly by the 3 Rivers Wet Weather Demonstration Project (an independent non-profit organization working with municipalities on sewage and overflow problems in the Allegheny County area) during the organization's presentation at a committee-sponsored infrastructure workshop.

Economically, the overflows deter regional economic development, as sewer tap-in limitations are imposed. In terms of public health and the environment, overflow discharges usually go directly into primary sources of drinking water. In terms of quality of life, discharges in the Allegheny County area have resulted in nearly 70 days of river advisories during the height of the recreational season (May 15 – October 1).

And, the problem is not restricted to Allegheny County or large municipalities like Pittsburgh. We heard about CSO problems at a hearing in my small hometown

of Oil City, Venango County, population 11,504. Sen. Musto is also well aware of the problem in communities both small and large in his home territory of Luzerne County, as the committee heard in a hearing in Nanticoke.

As a matter of fact, according to the Pennsylvania Department of Environmental Protection (DEP), Pennsylvania leads the nation in the number of such CSO outfalls, with 152 communities identified as having 1,569 discharge points. Many of the systems are 50 to 100 years old, deteriorated and neglected. The problem is compounded by the infiltration of extraneous water into aging sewer systems, a topic discussed in last month's column in the *Environmental Synopsis*, and the subject of another recent committee report.

To address the problem, the committee's CSO report further recommends a number of performance, regulatory and technical assistance steps. Among these are:

- ensuring that all CSO dischargers have implemented best management practices to eliminate or minimize CSO discharges by executing EPA's "Nine Minimum Controls" and "Long-Term Control Plans", having DEP provide technical assistance to those communities not in compliance, and establishing an information clearinghouse of remediation best management practices;
- encouraging EPA to grant Pennsylvania greater flexibility by fast tracking permitting options to allow CSO communities to comply with mandates;
- inventorying and prioritizing CSO discharges based on water quality impact, and targeting these areas for priority funding;
- considering use attainability adjustments in water quality standards during wet weather events for communities otherwise consistent in achieving the standards;
- funding and encouraging EPA- and DEP-prescribed innovative remedial technologies;
- increasing public awareness of the CSO issues, its costs and problems.

We have learned that infrastructure is a key factor in economic development, job creation, growth, planning and community building. Sewage collection and disposal systems, often out of sight and underground, are vital components of the infrastructure network. We cannot afford to let out of sight mean out of mind.

## How to Contact The Joint Conservation Committee

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