

# ENVIRONMENTAL SYNOPSIS

## The Chairman's Corner

Rep. Scott E. Hutchinson, Chairman



As we all know, January 1 is a day of resolutions. While many people make resolutions they cannot keep or never really even plan to keep, there are two resolutions introduced in the Pennsylvania General Assembly that the Joint Conservation Committee (JCC) has every intention of following through on (whether or not it would have been good grammar to end this sentence with a preposition).

### In This Issue...

- The Chairman's Corner ..... p. 1
- Notes From the Director ..... p. 2
- Research Briefs..... p. 3-6
  - ✓ Do Dollars Grow on Trees?
  - ✓ Water Quality in the Great Lakes Not So Great
  - ✓ Growth and Stormwater Runoff – One State's Experience
  - ✓ Battle of the Billions to Fix MTBE Mess
- On the Horizon ..... p. 7
- Committee Chronicles ..... p. 7

The first is House Resolution 88, which I introduced back in February. The concurrent resolution, cosponsored by 70 House members from both parties, has now been adopted by both the House and Senate, with the final Senate passage coming on November 22.

Final passage of HR 88 clears the way to establish a task force under the JCC's jurisdiction to study issues concerning sewage management and treatment at publicly-owned treatment systems and facilities throughout the commonwealth. Specifically, the task force would examine three issues:

- how the U.S. Environmental Protection Agency's (EPA) 2000 Clean Water Needs Survey applies to Pennsylvania;
- making an assessment of the ability of treatment plants to meet the compliance goals established in the survey; and
- identifying how the use of new and innovative technologies can be used to help meet these goals.

The task force could also open up new areas of study based on what information is presented to it. Ultimately, the task force is to present its findings with any legislative recommendations to the General Assembly.

Similar in structure to the JCC's Legislative Forestry Task Force (discussed below), the new task force would be composed of four legislators (two senators and two representatives), one of who would chair the panel. The task force would work with a diverse advisory committee which would help to gather information, establish facts and develop recommendations concerning the future of the state's sewage treatment systems.

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# NOTES FROM THE DIRECTOR



**CRAIG D. BROOKS, EXECUTIVE DIRECTOR**

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Nobody seems to like to perform emissions testing and a few states have decided to stop. What's interesting is that the U. S. Environmental Protection Agency (EPA) is willing to listen.

Take two cities in Ohio for example – Cincinnati and Dayton. The air quality in both cities is arguably cleaner than it was 20 years ago, even 10 years ago, but still not quite up to federal standards. So why are they abandoning their emissions testing programs? The argument that seems to be winning is that tailpipe tests have outlived their usefulness as a form of pollution control and cars are manufactured cleaner today, emissions equipment lasts longer and there are cleaner fuels available. These advancements have caused emissions programs to be less effective. Ohio EPA has agreed and is willing to credit Ohio's E-Check emissions control program with keeping 100,000 tons of pollutants out of the skies of 14 counties in Ohio over the past 10 years.

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## **Changes in the auto emissions testing program are occurring around the nation...including here in Pennsylvania**

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EPA uses six criteria pollutants as indicators of air quality and while these cities meet acceptable levels of four of the six pollutants, they still exceed the prescribed limits on two – ozone and particulates. Still, Ohio EPA felt confident enough to announce the end of their auto emissions testing effective December 31<sup>st</sup> of this year, when the contract with EnviroTest Systems expires. EnviroTest Systems runs Ohio's E-Check program.

Ohio is not alone. It seems that other states and metropolitan areas are making similar arguments. In the past six years, four states have ended tailpipe emissions testing completely, and seven others have scaled it back or modified the process. Minnesota eliminated its eight-year old testing program in 1999 and Florida stopped theirs in 2000.

But Ohio and the other states are walking a fine line with EPA. The federal agency is allowing Ohio

to call it quits for their emissions program in Cincinnati and Dayton, but insists that the cities of Cleveland and Akron continue with their programs. As a part of the deal to end testing in Cincinnati and Dayton, Ohio also agreed to other measures aimed at achieving the same results over a larger geographic area. Some of the measures would include mandating cleaner fuels, the use of lower evaporating solvents and more efficient spray guns for auto body shops.

Five years ago when Florida ended its tailpipe emissions testing program, they argued that it was unnecessary and expensive to motorists. So as not to lose millions of dollars in federal highway funds, Florida imposed stricter rules on power plants and other industrial facilities and has managed to get all its major metropolitan areas out of non-attainment status.

California is trying a different approach and recently announced a plan to use a remote-testing system to measure air pollution from one million vehicles as they enter freeways and navigate roadways in Los Angeles, Orange, San Bernardino and Riverside counties. Under this technology, an emissions analyzer identifies tailpipe emissions and photographs license plates of those vehicles tested. The technology is supposed to test 3,000 passing vehicles per hour. Colorado is running a pilot project using the same technology.

Pennsylvania's new, recently announced five-year contract for vehicle emissions, boasts a savings to motorists to the tune of \$57 million dollars over the next five years. The five-year agreement between the Department of Transportation and MCI Communications Services, Inc., calls for a 42 percent cut in the program's management fee – for a savings of \$1.75 from the cost of each emissions test. MCI has provided oversight for Pennsylvania's vehicle emissions inspection program since 1997. The new, five-year contract began in October 2005. There are approximately 6,000 stations participating in emissions testing in the 25-county emissions area and nearly 6.6 million vehicles tested annually.

# 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.

## Quantifying the Value of Urban Forests in Houston

-- Tony M. Guerrieri, Research Analyst

The city of Houston, Texas has seen considerable growth and development in recent years. This growth has had a significant impact on the forest lands in the Houston area, resulting in a net loss of over 78 million trees. The loss of trees often leads to higher summer temperatures and poor air quality in urban areas because trees lower heating and cooling costs and decrease air pollution. Although the benefits of trees have been widely recognized, it has been difficult to translate these benefits into real dollar figures.

Now, a report by the Texas Forest Service assigns dollar values to these types of urban forest benefits and says Houston's regional forest (an eight-county region surrounding the city) provides impressive value in energy savings and air quality benefits to its citizens.

The total number of trees in the Houston area is estimated to be 663 million, with a rough average of 87,000 trees per square mile, or about 135 trees per person. Most (71 percent) are located in forest areas. However, urban areas contribute an important 84 million trees, roughly 13 percent of the region's tree population.

The replacement cost of the region's trees is valued at over \$205 billion. In addition, the value of environmental benefits generated by trees each year is estimated at \$456 million, while forests also store \$721 million worth of total carbon.

Trees reduce summer energy use in urban areas by providing shade to urban buildings and homes. As a city that is a summer energy peaking center, Houston's urban forest can save the city considerable amounts in summer air conditioning costs. This leads to lower energy bills and reduced energy needs at the power plant. Trees in the Houston area save \$131 million in residential energy costs and avoided power plant emissions each year.

An additional benefit of trees in the urban forest is the storage and sequestration of carbon. Trees convert

carbon dioxide, a greenhouse gas, to oxygen and stored carbon. According to the report, Houston's regional forest removes 60,575 tons of criteria air pollutants (substances designated in the Clean Air Act) per year, which has an annual economic value to the region of nearly \$300 million.

Tree size provides important information on the structure, functions and values of the region's forest. Most trees are small, with about 472 million (71 percent) under five inches in diameter. Only about 29 percent (an estimated 191 million) of the region's trees are five inches in diameter or greater, but they generate over 60 percent of total environmental benefits. Urban trees work harder: the average urban tree provides a greater contribution to key benefits such as carbon storage (20 percent) and replacement value (20 percent) than the average rural tree.

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### The Houston study helps quantify the role urban trees should play in the overall urban landscape

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Different land cover types contain different tree populations. Land cover in 2000 consisted of roughly one-half Agricultural/Range, one-quarter Forest, and one-quarter Urban cover classes. The benefits become more important with the realization urban forest cover has been lost over the last decade. Between 1992 and 2000, forest land cover types in the region declined by an estimated 17 percent – a decrease of 486 square miles – resulting in a net loss of over 78 million trees.

The most common native tree is the loblolly pine (19 percent). The Chinese tallow is now the most common non-native tree species in the region, at 23 percent of all trees. Oak species account for 15 percent; and these three represent 57 percent of the region's trees.

The benefits quantified in the report can be used when evaluating the role urban trees should play in the area's overall urban landscape. As a result, public officials, developers and planners will be able to better assess the economic value of trees when making decisions

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about the region's future growth and development.

The study was conducted by the Texas Forest Service in coordination with the USDA Forest Service, and the Houston Advanced Research Center. The 28-page report, "Houston's Regional Forest: Structure-Functions-Values", may be downloaded at <http://www.houstonregionalforest.org/Report/HoustonRegionalForestReport.pdf>.

## **Study: Improvement Needed for Measuring Water Quality Standards**

**– Craig D. Brooks, Executive Director**

**T**he virtual elimination of toxic pollutants in the Great Lakes is certainly a goal shared by both the United States and Canada. And although some progress has been made, pollution levels in many areas of the Great Lakes Basin remain high.

A report by the Government Accountability Office (GAO) suggests that the 10-year Great Lakes Initiative is having only a limited impact on improving water quality because of its focus, implementation and lack of methods for measuring many pollutants at low levels. According to the report, the initiative primarily focuses on regulated point sources, although non-point sources such as agricultural runoff and deposits from air pollution are greater sources of pollution. In addition, methods for measuring many pollutants at low levels, as called for in the initiative, do not exist and therefore the pollutants cannot be regulated at these levels.

The initiative, a 1995 agreement between eight Great Lakes states and the U.S. Environmental Protection Agency (EPA), was intended to control toxic substances and protect aquatic life, wildlife and human health. It set in motion a series of water quality criteria for 29 toxic substances, including "bioaccumulative chemicals of concern", and focused on 22 pollutants such as mercury, PCBs and dioxin.

Bioaccumulative chemicals of concern are those that accumulate over time in fish and other aquatic species and pose risks to those species as well as to humans and wildlife that consume them. According to GAO, mercury is the most prevalent of these chemicals in the Great Lakes Basin and poses a significant risk to human health.

States responsible for implementing the initiative are Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin. They have some flexibility for implementing standards establishing water quality criteria to achieve certain levels of water quality suit-

able for drinking, farming, and recreation. The initiative contains detailed methods for developing criteria for additional pollutants and contains implementation procedures for developing more consistent, enforceable effluent limits for discharge permits for point sources of pollution.

According to the report, point sources were the major causes of poor water quality in the Great Lakes Basin three decades ago. Point sources include single and multiple identifiable sources of pollution. Since EPA introduced the National Pollutant Discharge Elimination System permitting program, GAO says, water quality has improved. Currently, however, non-point sources of certain toxic chemicals are a significant threat to the overall water quality of the Great Lakes basin and other areas within the United States and Canada. The problem, according to GAO, is the initiative does not specifically address non-point sources.

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### **Pennsylvania is one of the states responsible for implementing the Great Lakes Initiative**

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Controlling source point pollution is still very necessary because such discharges may create localized "hot spots" of elevated concentrations of bioaccumulative chemicals of concern. In addition, according to the report, EPA has not ensured consistent implementation of the initiative on a statewide basis, nor has it taken adequate steps to measure progress. For example, EPA did not promote a consistent approach to mercury contamination and therefore states have developed varying permits for mercury.

These types of flexible procedures also limit the potential of the initiative to improve water quality. According to GAO, states often grant variances that allow discharges of mercury at higher levels than the water quality standards outlined in the 1995 initiative. Variances are sometimes used if water quality standards would cause substantial harmful economic and social impacts.

Because the Great Lakes Initiative has limited potential to improve water quality in the Great Lakes Basin due to its focus on point source pollution, GAO has recommended that EPA:

- Issue a permitting strategy that ensures a more consistent approach to controlling mercury by the participating states;
- Guarantee a Great Lakes clearinghouse for information exchange is fully developed and maintained;

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- Collect and track information that can be used to assess the progress of implementing the initiative and its impacts on reducing pollutant discharges from point sources; and

- Increase efforts to resolve disagreements between participating states that have not or cannot implement standards that are supported by state law and are outlined in the initiative.

A copy of the GAO report, “*Great Lakes Initiative: EPA Needs to Better Ensure the Complete and Consistent Implementation of Water Quality Standards (GAO 05-829)*” is available at <http://www.gao.gov/new.items/d05829.pdf>.

## Runoff Pollution Tied to Growth in Michigan

– Tony M. Guerrieri, Research Analyst

Stormwater has a negative impact on water quality, and due to increasing development, more and more communities in Michigan are facing stormwater management issues, according to a report by the Public Interest Group in Michigan (PIRGIM). The report, “*Waterways at Risk: How Low-Impact Development Can Reduce Runoff Pollution in Michigan*”, indicates that one quarter of Michigan’s watersheds are at risk due to contaminated runoff from developed land.

The report looks at development figures (new building permits) plus data that show the amount of land taken up by impervious surfaces – roads, rooftops, sidewalks and parking lots – and compares that with the overall health of the watersheds that drain into lakes and rivers. According to a 2001 forecast, Michigan is predicted to add over four million acres of new development by 2040, nearly tripling the amount of developed land. As a result, community growth can lead to higher levels of contaminated runoff, impaired drinking water quality, degraded wildlife habitat and uncontrolled sewage overflows.

The report suggests that many communities in Michigan are developing in ways that create water quality problems. It identifies at-risk communities as those that issued more than 200 building permits for single family homes in 2004 that occupy watersheds with from five percent to 15 percent impervious surfaces – those that cannot be penetrated by water. For example, five percent of Michigan watersheds are impacted, with more than 15 percent of their land area covered by pavement and other impervious surfaces. Another four percent are moderately impacted, with between 10 and 15 percent impervious cover. Fifteen percent of

Michigan’s watersheds are vulnerable to developing significant water quality problems as a result of expanded development, with between five and 10 percent impervious cover.

Stormwater runoff is the water that flows across the land without seeping into the ground following a rain, snowmelt or irrigation. As it travels over land, stormwater runoff picks up pollutants, such as eroded soil, trash, grease, oils, animal wastes, bacteria, and fertilizer residues.

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### The report examines at-risk communities and different stormwater management approaches

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The report examines innovative Low-Impact Development (LID) and smart growth principles as a stormwater management approach. The basic concept of LID is to address runoff on-site. This new approach is a transition from traditional stormwater management that essentially removed runoff from a site as quickly as possible and most often transported it to the nearest river or lake, pollutants and all, thus severely degrading water quality.

Waterways in southeast Michigan, greater Grand Rapids, and Grand Traverse County are especially threatened by polluted stormwater runoff because of their rapidly increasing sprawl. For example, in southeast Michigan, local governments forecast a 36 percent increase in developed land from 2000 to 2030 along with an increase in impervious surfaces.

The report urges local government to choose the path of low-impact development, a technique that makes a built environment function more like the natural environment, allowing stormwater to be managed close to where it falls and naturally infiltrate into the ground.

Some of the low-impact techniques the report suggests include:

- Incorporating green spaces into new and existing development.
- Using native plants to landscape and absorb stormwater where it falls.
- Using absorbent surfaces, like pervious concrete, to allow stormwater to infiltrate into the ground.
- Retaining stormwater for future use through the use of rain barrels.

The report recommends that municipalities that are struggling with polluted stormwater runoff should establish low-impact development and smart growth policies, including “no net runoff” standards for new development. By requiring that stormwater is controlled on site, local governments would take taxpayers off the hook for subsidizing infrastructure improvement for new development, and they would ensure environmental benefits by keeping pollution out of local waterways.

The PIRGIM report, “*Waterways at Risk: How Low-Impact Development Can Reduce Runoff Pollution in Michigan*”, which was co-sponsored by American Rivers, a Washington D.C.-based non-profit environmental group, is available on the Internet at: [www.pirgim.org/reports/waterwaysatrisk.pdf](http://www.pirgim.org/reports/waterwaysatrisk.pdf).

## **Billions Needed to Remediate MTBE, But Exact Costs Disputed** – Craig D. Brooks, Executive Director

It's not surprising that the cleanup of sites contaminated with methyl tertiary butyl ether (MTBE) will be very expensive, but just how expensive is being disputed. According to an independent report by ENSR International, a Massachusetts-based consulting firm, it will cost between \$1 billion and \$3 billion over the next 30 years to remediate sites contaminated with MTBE, but most will be paid for by parties responsible for its use and contamination. The estimate, however, is far lower than other cost projections from water utilities.

MTBE is a member of a group of chemicals commonly known as fuel oxygenates. Oxygenates were added to fuel supplies throughout the United States as a way of reducing carbon monoxide and ozone levels caused by auto emissions. Since 1979, MTBE replaced the use of lead as an octane enhancer. MTBE, however, has been found to make its way into groundwater from leaking underground storage tanks and contaminate sources of drinking water. Once MTBE leaks, it migrates quickly and dissolves easily in water. Public and private drinking water wells across the country have been impacted by MTBE. According to the Environmental Protection Agency, there are approximately 145,000 public water systems that serve over 111 million residents in the United States. In addition, there are over 15 million private groundwater wells in the United States.

The overall cost estimates identified in the ENSR study have been disputed by representatives of water utilities, which have consistently placed the cleanup

costs much higher. Two studies commissioned by the American Water Works Association (AWWA) and the Association of Metropolitan Water Agencies (AMWA) examined the costs to remove MTBE contamination from public drinking water systems across the United States. These studies update the estimates made available in 2001 which estimated MTBE cleanup costs at \$29 billion. The AWWA and AMWA studies indicate that the cleanup costs are likely to be in the range of \$25 to \$33.2 billion and could be as high as \$85 billion or more.

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### **The overall costs of MTBE remediation are in dispute, but 36 states reported MTBE contamination in drinking water and more than 2,300 water systems have been impacted**

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According to the reports, 36 states reported MTBE contamination in drinking water above the taste and odor threshold, and over 2,300 water systems have been impacted by MTBE. A review of the data shows that approximately 320 large size public drinking water systems have been impacted by MTBE resulting in an estimated cost for treatment of \$21.2 billion. Approximately 539 medium sized public drinking water systems have been impacted by MTBE with an estimated treatment cost of \$9.1 billion, and approximately 1,456 small sized public drinking water systems have been impacted with a resulting treatment estimate of \$2.9 billion. The total cost for these systems is estimated to be \$33.2 billion.

The implication of all the studies demonstrates that MTBE is a very serious problem and the economic and environmental impacts to remove this contaminant from drinking water are substantial.

The reports can be downloaded from <http://www.awwa.org>; or <http://www.amwa.org>, or <http://www.remediationweekly.com/volumetwonumbertwentytwo.html>.

### **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



✓ Thursday, January 12, 10 a.m., Penn Stater, Conference Room 107, State College – Legislative Forestry Task Force Meeting. If you plan to attend the task force meeting, please contact the committee office in advance at 717-787-7570

**The Joint Conservation Committee takes this time to wish everyone a safe and happy holiday!**



## COMMITTEE CHRONICLES . . .

REVIEW OF SOME MEMORABLE COMMITTEE EVENTS

The committee recently heard from the Pennsylvania Recreation and Park Society (PRPS) and the PA Department of Conservation and Natural Resources (DCNR) regarding the implementation of the Pennsylvania Recreation Plan.

*In the photo at right, Vanyla Tierney, chief of Greenways and Rivers*



*Partnerships at DCNR, describes the plan to a large audience (photo at left) at the committee's Environmental Issues Forum. The statewide recreation plan has been in the formative stages for some time and is now being implemented. The presentation provided an update on that process.*



*In the photo at right, committee Chairman Rep. Scott Hutchinson (2<sup>nd</sup> from left) pauses for a photo with presenters (l. to r.) Larry Williamson, DCNR's Deputy Secretary for Conservation and Engineering Services; Tierney; and consultant Bill Forrey, representing PRPS.*



**(Continued from page 1)**

The advisory committee would include representatives of the state Department of Environmental Protection (DEP) and the federal EPA's Region III staff, representatives of the operations management for publicly-owned sewer systems, consulting engineers specializing in sewage treatment system design and operation, and experienced practitioners of public accounting, finance or economics related to the design, construction, operation or maintenance of public sewer systems.

The task force's agenda is an important one when you consider that approximately 9 million Pennsylvania citizens are served by public sewage collection and treatment systems, and that EPA and DEP have estimated that the upkeep and replacement costs of rapidly aging system infrastructure amount to more than \$8 billion. The systems already represent tens of billions of dollars of capital investment and they must operate around-the-clock, all the while having to meet ever more stringent compliance standards. They often represent a community's largest environmental investment and play a key role in maintaining environmental health as well as being key factors in a community's economic development and growth.

The second resolution is Senate Resolution 137, which was adopted by the Senate on November 14 and is awaiting action in the House. This resolution re-establishes the JCC's Legislative Forestry Task Force, and sets out its agenda items for this legislative session.

There are five items that the forestry task force will examine:

- the growing threat of forest pests and diseases, including but not limited to the emerald ash borer, sudden oak death syndrome and Asian longhorn beetle;
- the impact of municipal ordinances on accessing private forests and conducting sustainable forestry;
- the U.S. Forest Service's survey of the private forest land owner in Pennsylvania;
- prescribed burning as a forest regeneration management tool; and
- the impact of government's increasing acquisition of private forest lands and the maintenance of these acquisitions as working forests.

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**To see the JCC's Legislative Forestry Task Force's 2005 report, visit the "Reports" page on the JCC website at <http://jcc.legis.state.pa.us>, or call the JCC office at 717-787-7570 for a hard copy.**

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Once again, as it has for several legislative sessions, the forestry task force will work together with an advisory committee composed of the PA Department of Conservation and Natural Resources' (DCNR's) Bureau of Forestry, the PA Department of Agriculture's Hardwoods Development Council, the PA Game Commission, Penn State University's School of Forest Resources and Cooperative Extension Service, and the U.S. Forest Service, as well as members of the forest products industry, non-profit conservation and environmental organizations, and other organizations the task force deems appropriate.

The first meeting of the forestry task force is planned for January 12 and ultimately it will issue a report on its findings with recommendations to the General Assembly.

These are resolutions that top the JCC's priority list for 2006. The task forces, advisory committees and the JCC will work hard to fulfill their stated goals. Here's wishing all our readers success with their new year's resolutions and the happiest of holiday seasons.

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