



Ohio Environmental Council

[UNLEASHING THE POWER OF GREEN]



Environmental-Conservation Briefing Book 2013

Dear Reader,

One person can make a difference.

In days like these, we need more than ever to remember how strong a single voice can be and what impacts we can have when we work together. This is one of the greatest strengths of Ohio's environmental-conservation movement.

Together, we are a voice for Ohio – for clean water, fresh air, open space, green energy, sustainable farmland – everything that makes Ohio great.

Our voices inspire change and growth for a better future in Ohio.

In 2008, we urged lawmakers to see the benefit in energy efficiency, and in return, they gave us one of the strongest clean energy standards in the country. In 2012, we championed the Clean Ohio Fund and helped secure \$42 million in appropriations.

But not all voices in the Statehouse have Ohio's best interest at heart.

In late 2012, utility giant FirstEnergy tried to use the lame duck session to repeal the energy efficiency standard. So we spoke up, and we said no.

2013 brings us even more challenges, including yet another push from FirstEnergy and another fight for Clean

Ohio Fund dollars. But with it also comes more opportunities. We will continue to be a strong presence at the Statehouse and together, we can make sure our voices are heard – each and every one.

In partnership with a great lineup of environmental-conservation partners, the Ohio Environmental Council shares a vision of a clean, green, healthy Ohio, and we are pleased to present this year's Ohio Environmental-Conservation Briefing Book.

Representing tens of thousands of Ohioans, the organizations that contributed to this Briefing Book have prepared a comprehensive guide for lawmakers, agency officials, and the news media, as well as for Ohio's citizen-advocates.

Each section contains background information, public policy recommendations, and contact information from experts in each issue area.

Together, we can achieve a better Ohio for our families and a prosperous future where our quality of life is built on a foundation of clean water, fresh air, and sustainable land use. We look forward to working with all interested parties to make that vision come true.



A handwritten signature in black ink, appearing to read 'Keith Dimoff'.

Keith Dimoff
Executive Director
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Acknowledgements

The following organizations have contributed briefing papers included here:

American Lung Association in Ohio
Buckeye Forest Council
Environmental Law & Policy Center
Freshwater Future
Lake Erie Charter Boat Association
National Great Lakes Campaign
Ohio B.A.S.S. Nation
Ohio Environmental Council
Ohio Network for the Chemically Injured
Ohio Wetlands Association

The 2013 Environmental-Conservation Briefing Book is produced by the Ohio Environmental Council (OEC). It is intended to provide information to the public, legislators, state officials, and media representatives about important environmental and conservation challenges and opportunities in Ohio.

Views expressed on a particular issue are not necessarily shared by the OEC, its member groups, or other organizations that have contributed to this book.

For a printed version of this book, please contact the Ohio Environmental Council at OEC@theOEC.org or (614) 487-7506.

The Ohio Environmental Council is Ohio's leading advocate for fresh air, clean water, and sustainable land use. We have a widely respected 40-year history of innovation, pragmatism, and success.

The mission of the Ohio Environmental Council is to secure healthy air, land, and water for all who call Ohio home.

Using legislative initiatives, legal action, scientific principles, and statewide partnerships, we secure a healthier environment for Ohio's families and communities.

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Asian Carp

THE ISSUE

A menace is rapidly converging on Ohio. One that threatens to devastate native fish stocks and the recreational and economic value that Lake Erie's fishery provides Ohio.

Last year, the Ohio River Valley Water Sanitation Commission and Department of Natural Resources captured five silver carp in the Ohio River near Cincinnati—its first confirmed sighting and capture in Ohio waters. (Officials already had capture several big head carp—a related fish—near Portsmouth, Ohio.)

In addition, in summer 2012 13% and 1% of water samples collected from the Sandusky Bay and River and Maumee Bay and River, respectively, tested positive for silver carp environmental DNA (eDNA). eDNA is DNA, such as a fish scale, that is shed by these carp and are found in water samples.

Bighead carp has been caught in Lake Erie previously in Sandusky Bay, but never silver carp. While one bighead carp has been found, which was bred in the South and released in Lake Erie, there has never been a confirmed presence of silver carp in Lake Erie. These positive hits suggest that live fish are present in Lake Erie, but the eDNA does not tell us if a spawning population has established itself in Lake Erie.



At the same time, Asian carp—big head and silver carp—are swimming their way toward Lake Michigan. eDNA testing has detected the presence of Asian carp throughout the Chicago Waterway System and in Lake Michigan watershed. A spawning population of silver carp

also has been detected in the Wabash River, IN, just a half-mile flood plain away from the Maumee River. Unless decisive action is taken, it may only be a matter of time before Asian carp make their way to Lake Erie and Ohio's waterways.

Asian carp are invasive species that were brought to the U.S. to control weeds in aquaculture ponds in the South and escaped into the Mississippi River during a flood. These fish breed like mosquitoes, spawning multiple times a year, and eat like hogs, consuming up to 20% of their body weight. They can grow to more than 4-foot long and weigh up to 100 pounds. Silver carp can also jump several feet out of the water when disturbed by a boat motor. Imagine a 100-pound fish leaping out of the water and smacking into someone. In the Mississippi River, adults have sustained broken collarbones, noses, and teeth, as well as being knocked unconscious. Think about what could happen to a child hit by one of these!

Asian carp also can dominate aquatic ecosystems by out-competing native fish for food and habitat, like perch, bass, and walleye. As they feed near the base of the food chain, they can cause an entire system to become depauperate (poorly or imperfectly developed). In addition, new information from the U.S.G.S. confirms that

Asian carp selectively feed on the good algae and excrete the bad algae. As the algae passes through the carp's gut the bad algae becomes concentrated, further fueling the toxic algal blooms Lake Erie is experiencing.

So much is at stake for Ohio if Asian carp get a toehold in Ohio's waterways or into our Great Lakes. Lake Erie is the walleye capital of the world and supports one of the biggest freshwater commercial fisheries in the world. In Ohio, about a third of the state's perch quota is allotted to the commercial fishing industry.

If Asian carp invade the Great Lakes, they could devastate Ohio's nearly \$1 billion fishing industry in Lake Erie and permanently alter how recreational boaters, anglers, wildlife watchers, and tourists use and enjoy Lake Erie and its many tributaries. As a result of tourism and travel from boaters, anglers, and wildlife watchers, Ohio gains \$11.5 billion in revenue annually and supports one out of every ten jobs along Ohio's portion of the Lake Erie watershed. The impact of the Asian carp would be irreversible to the people, wildlife, and economies that rely on Lake Erie.

THE NEED

Hydrological separation of the Mississippi River and Great Lakes watersheds must be a top priority, especially the connection at Chicago and eventual severing of other connections, like connections the Little Killbuck Creek and Ohio-Erie Canal at Long Lake in Ohio. This will achieve our objective of stopping the movement of live organisms between the two watersheds.

The only way to guarantee achieving that objective long-term is by physically separating the two watersheds—hydrological separation. Any other option (e.g. technology barriers, dead zones, perpetual chemical treatments) will ultimately fail.

To achieve this goal, it is essential that we prevent Asian carp from establishing breeding populations in Lake Michigan and Lake Erie. This includes eradicating carp that are past the electric barrier in the Chicago, and ensuring carp do not spread through pathways leading into the Lake Michigan and Lake Erie watersheds. There are multiple management strategies for achieving this objective (poisoning, lock closures, electrofishing, population control, additional technology barriers, etc.), but none of them can prevent establishment alone.

These strategies must be applied aggressively, strategically, flexibly, and in a coordinated way to be successful in stopping the carp from establishing breeding populations in the lakes until we can permanently hydrologically separate the Great Lakes and Mississippi River watersheds, as well as install a permanent solution at Eagle Marsh to keep all sizes of Asian carp out of the Maumee River.

While Asian carp have already established themselves within the Ohio River watershed, as of yet they have not gain a toehold on Ohio's portion of the Ohio River watershed. The Ohio Department of Natural Resources is working with other Ohio River watershed states to thwart the advancement of these destructive fish into Ohio's portion of the Ohio River watershed. These states could greatly benefit from the support and coordination that could be provided by the U.S. Fish and Wildlife Service (U.S. FWS).

Asian Carp

RECOMMENDATIONS

The Ohio General Assembly should pass a resolution urging Congress to:

- Urge the U.S. Army Corps of Engineers (U.S. ACE) to be able to move forward with an engineering option to permanently separate the Mississippi River and Great Lakes watersheds by January 2014. Last year Congress mandated the U.S. ACE to speed up their study on engineering options on how to separate the two watersheds. Congress' intent was for the U.S. ACE to move forward after the submittal of their final report in January 2014 with an engineering option that would permanently separate the watersheds. The U.S. ACE, however, reads their mandate as only needing to be ready to select an engineering option for further study.
- Direct the U.S. ACE to expedite construction of any and all barriers to accomplish this hydrologic separation based on risk assessment but not contingent upon the presence of invasive species.
- Fund Asian carp management and control such as the U.S.FWS Asian Carp Management and Control Plan and the Regional Coordinating Committee Management and Control Plan for Bighead, Black, Grass, and Silver Carp.

Support and urge the passage of the *Strategic Response to Asian Carp Act* (Senate Bill 125/House Resolution 358), which would task the U.S.FWS with coordinating a new federal multi-agency effort to provide high-level technical assistance, coordination, best practices, and other means of support to state and local agencies trying to stop the advancement of Asian carp within the Ohio River watershed.

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Clean Construction Requirements

THE ISSUE

Diesel engines are efficient, durable, and long-lasting pieces of machinery. Their low maintenance and efficient generation of power and electricity has led to their widespread use in heavy duty buses, trucks, trains, marine vessels, and non-road equipment used in construction and agriculture, and at airports.

Yet diesel engines have a downside. Their emissions contain harmful constituents such as particulate matter and nitrogen oxides, as well as 40 hazardous air pollutants, including known or probable carcinogens. In fact, according to the U.S. EPA, diesel exhaust presents a lung cancer risk 3 times higher than the cancer risk of all other air toxics, combined. Exposure to diesel emissions has been linked to serious health effects, including a compromised immune system, aggravated asthma and allergy symptoms, heart and lung disease, cancer, and early death. In fact the World Health Organization has labeled diesel emissions as a carcinogen.

Ohio is hit especially hard. According to the Clean Air Task Force, Ohioans suffered these diesel pollution health impacts in 2010:

- 409 early deaths
- 392 non-fatal heart attacks
- 408 pediatric asthma ER visits
- 288,641 minor restricted activity days

The combined health impacts of diesel pollution cost Ohio \$3.6 billion in health care costs and lost worker productivity.

THE NEED

The U.S. EPA has adopted clean emissions standards for all highway diesel trucks made beginning in model year 2007. In 2010 nitrogen oxide (NOx) controls were required for new diesel trucks. This reduces NOx emissions by 95%. This is positive. However, an existing 11 million diesel trucks and construction vehicles are expected to remain in service and continue polluting at elevated emission rates for up to another 30 years.

The non-road diesel vehicle and equipment pollution, including construction equipment, is estimated at 6,032 tons per year of particulate matter and 69,574 tons per year of nitrogen oxide (NOx). In Ohio, 118,000 diesel powered engines were used in the construction industry in 2007 building roads, bridges, homes, and other community structures.

Heavy duty construction vehicles on construction projects are heavily polluting. It is not uncommon to see black smoke coming from a stack on a wheel loader. They emit black carbon—a climate agent 2,000 times more potent than CO₂ over a 20 year period. However, technologies exist that reduce pollution by more than 85%.

Clean diesel technologies create and sustain Ohio jobs while reducing deadly

national levels. For every \$1 spent on diesel cleanup programs, \$13 is realized in health and economic benefits.

The state should not use tax payer money to harm the public's health. Many counties are teetering on failing air quality standards (many counties are in "maintenance" category) for particulate matter and ozone pollution. Failure to comply with the Clean Air Act means emission reductions on sources of pollution.

Solutions exist through the six "R's" of diesel cleanup:

Refuel with cleaner fuels.

Repower installing new, low-emission engines in older chassis.

Replace older vehicles with new lower-emission models.

Rebuild or repair by performing routine maintenance and periodic engine rebuilds can keep emission rates at or near original levels.

Reduce idling can save money by reducing fuel usage as well as wear and tear on the engine.

Retrofitting engines with modern emission control technologies that can cut pollution up to 95%.

RECOMMENDATIONS

- The state should invest \$50 million a year (sustainable funding) in the Ohio Diesel Emission Reduction Grant program. Using U.S. EPA's estimates, this investment would yield \$650 million in health and economic savings.
- The state should adopt clean construction requirements to require all construction projects sized \$2 million or larger that use public funds to install modern pollution controls or use tier 4 engines.
- The state should adopt a stringent no-idling policy for state vehicles and a state law prohibiting excessive idling (similar law in Illinois and in the city of Cleveland).
- Local governments should adjust construction contracts to prefer clean fleet projects.
- The Federal government should require all public works projects sized \$2 million or larger to use retrofitted engines, tier 4 engines.

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Disposal of Dredged Sediments

THE ISSUE

The Toledo Navigational Port is essential to the health and vibrancy of Ohio's coastal economy. However, the port is in a vulnerable position. Located in the shallowest portion of Lake Erie, the port *must* be dredged on an annual basis to maintain a clear navigational route.

Dredging is a costly yet necessary practice that is funded almost entirely by the U.S. Army Corps of Engineers (U.S. ACE), which typically does not have the funding necessary to remove all of the material required to maintain the most favorable navigational route.

As a result, there is large backlog (4 million y³ in 2009) and potential upcoming disposal restrictions have caused the U.S. ACE to label the Toledo Harbor as a "critical" concern regarding dredge management, which means navigation could be *restricted within 5 years* if management is not modified.

Moreover, the U.S. ACE is required to choose the least expensive option for sediment relocation, so long as the option meets particular environmental requirements. Until now, open-lake disposal has been the option relied on for "clean" material (i.e. without contamination). Any material deemed unacceptable for aquatic disposal due to potential environmental contamination is placed in a confined disposal facility (CDF).

However, since 1987, the Ohio EPA has stated that open-lake disposal lowers the water quality in Lake Erie and in 2008 the state tasked the Ohio EPA with capping open-lake disposal of sediments in the western basin of Lake Erie at 50,000 cubic yards. Yet, the CDF space available for Toledo Harbor dredging projects is only large enough to hold a small portion of the annual dredged material and will not suffice as the alternative to open-lake disposal.

Although open-lake disposal has the lowest immediate cost, long-term environmental consequences, and hazard response costs (e.g., beach closures due to harmful algal blooms) quickly outweigh the initial cost-save.

Open-lake disposal harms Lake Erie by:

Providing additional food and protection to nuisance species, like HABs,

- Of particular concern is the linkage between open-lake disposal and harmful algal blooms (HABs). Although thought to be a problem restricted to the 1960s and 70s, HABs have returned and are creating potential public health hazards along many Lake Erie shorelines. Open-lake disposal likely supports the occurrence of these blooms by providing nutrient-rich waters that feed that algae and sediments that, when resuspended, provide protection from damaging direct sunlight (Brannan 2009, Millie *et al.* 2009, Rinta-Kanto *et al.* 2009, Kutovaya *et al.* 2012). The extra food and protection allows these tiny algae to thrive and become what we know as a harmful algal bloom.

Changing the makeup of the lake bottom

(Harvey *et al.* 1998, Wilbur *et al.* 2007, Morgan *et al.* 2012)

- Although the U.S. ACE makes efforts to dispose of material so as to not interrupt fish spawning, the dumping of the dredge material inevitably disrupts the makeup of the lake bottom. The material smothers habitats and temporarily blocks sunlight, which directly impacts surrounding lake life.

Increasing turbidity, which lowers water quality and housing prices

- Open-lake disposal may impact housing prices along the shoreline. Sediment is one of the biggest factors in poor water quality – clearer water means higher property values (Ara *et al.* 2006). Therefore, depositing such high volumes of sediment into the lake provides an additional source of resuspension and water turbidity, which in turn may harm water quality and property values.

THE NEED

Currently, the U.S. ACE claims that if Ohio EPA does not continue to allow the U.S. ACE to continue to dump in the open lake, they will no longer dredge the navigational channel within the Maumee River. Every year, the Ohio EPA reluctantly approves a permit for about half of the amount the U.S. ACE requests for open-lake disposal.

The Ohio EPA would like to limit the amount of dredge material that could be dumped into the open lake to 50,000 cubic yards or less. They have drafted rules that would cap the limit of open-lake disposal at 50,000 cubic yards, but pulled them when the U.S. ACE claimed they would not dredge the Maumee navigational channel at all.

RECOMMENDATIONS

- The Ohio General Assembly should pass a resolution urging Congress to limit the amount of dredge material by amending the Rivers and Harbors Act and Water Resources Development Act to prohibit the open-lake disposal of dredge spoils from the Maumee River navigational channel in quantities larger than 50,000 y³.

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Great Lakes Compact

THE ISSUE

The Great Lakes are a world-class treasure, holding 20% of the Earth's and 95% of our nation's freshwater supply. They are a sanctuary for a diversity of wildlife and provide unparalleled recreational opportunities. They truly are among the natural wonders of the world.

Here at home, Lake Erie is a precious resource that is vitally important to both Ohio's environment and economy. Lake Erie supplies drinking water to 3 million Ohioans and supports 1 out of every 10 jobs in seven counties that border the Lake Erie coastline. Tourism and travel in the Ohio Lake Erie basin generates \$10.1 billion annually to the Ohio economy and supplies \$1.4 billion in federal, state, and local taxes.



However, the Great Lakes and Lake Erie are very fragile and vulnerable to depletion and degradation. Each year, groundwater recharge, snowmelt, and rainfall replenish only about one percent of the water in the basin. The other 99% is finite and nonrenewable.

Thus, in 2008, Ohio joined with seven other Great Lakes states in adopting the Great Lakes

Compact—an unprecedented joint agreement providing protections against diversions of water outside of the Great Lakes basin and unwise water use within the basin. Following the passage in each individual state, the Compact was adopted by the U.S. Congress and is now law.

The Compact significantly increases protection of the Great Lakes basin waters by, among other provisions:

- Prohibiting the diversion of water out of the Great Lakes drainage basin, except for small diversions to nearby communities suffering public supply shortages;
- Requiring each state to develop environmental standards for judging new proposals for water withdrawal and consumptive use (water taken and not returned);
- Requiring each state to develop and implement a water conservation and efficiency program consistent with the state's goals and objectives.

THE GREAT LAKES COMPACT IN OHIO

Each state is in various stages of implementing the protections outlined in the Great Lakes Compact.

In summer 2011, Governor Kasich vetoed legislation passed by the Ohio General Assembly that violated the Compact and put Lake Erie and the economy that relies

on it at risk. Subsequently the Governor's office drafted a new bill that was later passed by the General Assembly in the spring of 2012. This bill became Ohio law in fall 2012. Despite several significant improvements in the new legislation, four serious problems remained. These four flaws leave Lake Erie at risk for unsustainable water use and threaten the opportunity for our children and grandchildren to use the Lake as we do today. These four flaws are:

No protections for Lake Erie tributaries. By only protecting the Lake Erie Basin as a whole and not protecting the rivers and streams, the legislation rolls back Ohio law and violates Ohio's binding agreement with the other Great Lakes States. As a result, Ohio could experience low or no-flows in rivers and streams, which could lead to more toxic algal blooms, less fish, limited recreation, decreased tourism, and an increased need for dredging.

Aggrieved Person. For the first time in Ohio history, the bill outright abandoned Ohio's public trust responsibility to care for all Ohio's waters and eliminates the right of anglers, boaters, and other recreational users to appeal a water withdrawal or water use decision that negatively impacts their ability to enjoy Ohio's natural resources.

90-Day Averaging of Water Withdrawals. The bill measures water withdrawals and consumptive uses as an average over a 90 day period as opposed to a "per day" measure. This opens the door for facilities or industries, including oil and gas operations, to withdraw and/or consume quantities of water in excess of the permit thresholds but still not be required to be issued a permit. Fish and other wildlife are unable to survive hours let alone days without sufficient water and oxygen.

Experimental Permits. While this could encourage the development of new and important water conservation technology, the bill as currently written, creates loopholes that allow water users to not comply with the "no significant impact" provision of the Compact. In addition, the legislation does not outline how many times a water user could apply for an experimental permit.

Although Ohio has passed legislation, the state must now take the final steps to fully develop a permitting program for new or increased water withdrawals and consumptive uses. Ohio's permit program must be fully implemented by December 8, 2013. The Ohio Department of Natural Resources (ODNR) is currently in the process of developing agency rules that will shape a number of important requirements under Ohio's permitting program.

As part of this process ODNR will work with two separate advisory groups. The first group, which consists of statutorily appointed members, began meeting in February 2013. This advisory committee is tasked with defining what will be considered a "significant adverse impact" to Lake Erie's waters and wildlife. The outcome of this committee will play a critical role in determining what protections will be provided to Lake Erie's waters and wildlife. The second group, which will consist of Lake Erie stakeholders, has not yet been convened by ODNR. This group is will be tasked with providing recommendations regarding the "nuts and bolts" of a permit program such

Great Lakes Compact

as the information required in a permit application and various timelines, among other items. Both committees will play a critical role in shaping Ohio's Compact permitting program.

RECOMMENDATIONS

Stakeholder engagement will be critical as ODNR works through developing both the definition of "significant adverse impact" and the nuts and bolts of the permit program. Both advisory committees hold open meetings in which members of the public can attend and will be afforded an opportunity to comment. OEC strongly encourages Lake Erie advocates to engage in these groups. To receive information on these meetings contact Division of Soil and Water Resources Chief, Karl Gebhardt, at (614) 265-6618.

In addition, there are a number of future steps that will take place as ODNR works through both these two areas. At the conclusion of the group tasked with defining "significant adverse impact" Chief Gebhardt must return to the General Assembly to present ODNR's recommendation. This recommendation is then subject to approval by the General Assembly. The outcome of the second group task with the broader permit program will then be subject to public review and comment and a hearing at both the Common Sense Initiative (CSI) and the Joint Committee on Agency Rule Review (JCARR). As such, it will be important for Lake Erie advocates to follow this issue and engage with ODNR, the General Assembly, CSI and JCARR as the permit program moves through the agency rulemaking process.

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Horizontal Fracking

THE ISSUE

A relatively new drilling technology—known as high-volume, horizontal hydraulic fracturing—now makes it possible to reach natural gas reserves that underlie much of the state of Ohio.

Commonly referred to as “horizontal hydrofracking” or just “fracking,” drilling into deep-shale formations requires more land, water, and chemicals than conventional oil and gas drilling.

After drilling vertically to a depth that reaches slightly above the shale, the drillbit is turned horizontally and pushed into the shale, as much as a mile or more.

Small fractures are created in the targeted area with underground explosions and a mixture of sand, water, and chemicals is injected at high pressure into the newly created fractures to further crack the rock and release the gas.

The environmental, public health, and community impacts from oil and gas drilling in other states are significant. Incidents have ranged from spills, accidents, and blowouts to leaking wells and improper storage of waste materials. Our sister state, Pennsylvania, had more than 1,000 shale gas well violations in 2011, alone.

FACTS

WATER USAGE

Hydrofracturing requires the use of approximately 5.6 million gallons of water for each “frack” and a single well could be fracked multiple times. An average family of four in Ohio uses about 300 gallons of water per day. By comparison, the water used in ONE “frack” would supply 52 households with water for an entire year.

The withdrawal of such large amounts of water from local resources already is threatening small streams and tributaries in Ohio.

WATER CONTAMINATION

Contamination of underground sources of drinking water may occur due to faulty well construction or through the presence of naturally-occurring underground fissures and faults or previously unregistered abandoned mines or wells.

A recent peer-reviewed study from Duke University analyzed private water wells in Pennsylvania and found methane concentrations to be 17 times higher on average in areas with active shale drilling and extraction than in non-active areas.

Contamination of surface waters may occur from surface level spills accidents, or dumping; sedimentation from runoff of new well pads and roads; and through inappropriate placement of new pipeline infrastructure.

CHEMICALS

Many of the chemicals used in fracturing—hydrochloric acid, diesel fuel components, and formaldehyde to name a few—are highly toxic and can have serious short- and long-term health effects on humans.

Industry spokespersons assert that chemicals used in the fracturing process make up only a small percentage of fracking fluids.

Even so, due to the high volume of water needed, operators use between 205,000 and 935,000 lbs of chemicals each time a well is “fracked.”

AIR QUALITY

Hazardous air emissions are released from a variety of sources throughout the fracking process. These include hydrogen sulfide, volatile organic compounds, sulfur dioxide, BTEX (benzene, toluene, ethylbenzene and xylene), as well as methane and natural gas.

Known public health effects from these emissions include reproductive, respiratory, and blood disorders, as well as central nervous system and neurological effects.

A health impact study of Garfield County, Colorado, found that people living within 500 meters of a well had a higher risk of negative health effects than those living outside that range (EnergyWire, March 20, 2012).

LOCAL IMPACTS

Local communities will experience additional risks to public safety and infrastructure due to significant increases in heavy truck traffic.

Fracking operations can take anywhere from 900 to 1,300 truckloads of materials including drilling rig equipment, water, chemicals, sand, and waste fluids.

In 2004, Ohio lawmakers repealed local permitting authority over oil and gas drilling and gave it to the Ohio Department of Natural Resources (ODNR). This is important because many of the impacts of fracking are felt locally, but communities have almost no say over the permitting process.

RECOMENDATIONS

Ohio’s regulatory framework, though improved, is currently inadequate, lacking the necessary controls and enforcement capacity to fully protect Ohioans and our natural environment.

Recent reforms to oil and gas drilling law (SB 165 & SB 315) did not fully incorporate protections specific to the unprecedented scale and foreseeable risk of deep-shale gas drilling.

Horizontal Fracking

MORATORIUM

The Ohio General Assembly should immediately issue a moratorium ordering ODNR to withhold approval of new well permits involving high-volume, horizontal hydraulic exploration, drilling, or extraction until such time as it is demonstrated to be safe for the environment and human health and is properly and effectively regulated.

STRENGTHENED REGULATIONS

The legislature and agencies must significantly strengthen regulations to include increased public safety and environmental protection, improved industry accountability and enforcement, increased industry transparency and financial responsibility, and strengthened property owner protections.

The U.S. Environmental Protection Agency (EPA) is conducting a comprehensive research study to investigate the potential adverse effects of hydraulic fracturing on water resources. Final results are expected by 2014.

Ohio's natural gas reserves will still be available when the U.S. EPA concludes its study. Ohio should not allow risky deep-shale gas drilling before the conclusion of the EPA's study.

SEVERANCE TAX

Governor Kasich has proposed to increase the state's severance tax on oil and gas production. The Ohio Environmental Council supports an increase in the state's severance tax; however, we do not support this tax increase funding state income tax relief.

CURRENT SEVERANCE TAX

Ohio's severance taxes on oil and gas are among the lowest of all energy states. The driller pays a dime per barrel for the severance tax and another dime in a conservation fee. Whether oil is selling for \$35 or \$150 per barrel, Ohio is getting just 20 cents. The severance tax on natural gas also is too low, at 3 cents (including a half-cent conservation fee) per thousand cubic feet (MCF).

GOV. KASICH'S PROPOSAL

Gov. Kasich proposes raising rates on fracked oil and natural gas liquids to 4 percent with a tax break that lowers it to 1.5 percent for up to 24 months. Fracked dry gas would be taxed at 1 percent. A small share of the revenues – no more than what would be raised at today's low rates – would be used for oversight and regulation of the industry. The rest would be given back in income tax cuts.

OEC'S PROPOSAL

Ohio's current taxes on oil and gas are too low, and the Governor's proposed increase is still too low. Policy Matters Ohio found that Ohio's effective severance

tax rate on oil over the past 10 years has been just 0.19 percent (policymattersohio.org/beyond-boom-dec2011). Many big oil and gas producing states have much higher severance tax rates. For example, North Dakota taxes oil at 11.5% and Alaska at 12.5% for early years and 15% later. The OEC proposes a 5% tax on fracked oil and natural gas, with no tax break during the first 24 months of production. We propose that these resources be used to fund mitigation of impacts to local communities, hire increased oil and gas inspectors, and cap orphan oil and gas wells.

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Logging in State Forests & State Parks

THE ISSUE

Ohio House Bill 153 (passed in 2012) opened state parks to commercial logging for the first time ever. Park areas have been zoned for clearcutting, and the Ohio Division of Forestry (DOF) soon plans to administer sales of park timber.

DOF continues to favor the environmentally destructive practice of clearcutting in our state forests. Only a very small portion of our state forests is protected from future logging.

Once 95% forested, Ohio is now only 30% forested. Most forests in the state are young, highly fragmented, and riddled with non-native, invasive species. Overall, there is a lack of interior or “deep” forest habitat that would support interior forest and headwater stream species.



Similarly, there is a drastic shortage of desirable natural areas for public recreation: Ohio ranks 47th in the nation in public land available for recreation per capita and 7th in population. Fewer than 13% of Ohio’s forests are publicly owned. Despite these facts, Ohio’s state forests are managed primarily for logging purposes.

Ohio’s 21 state forests comprise 191,000 acres (0.7% of Ohio’s land base) and the Wayne National Forest comprises

234,000 acres (0.8% of Ohio’s land base). While small in percentage, these public areas are critical because they provide the state with larger tracts of contiguous forestland than typically found on private land.

Thus, public lands provide an opportunity to preserve and restore healthy and diverse forest ecosystems, while providing for species habitat and low-impact recreational opportunities.

THE NEED

Managing state forests for biological and recreational services instead of timber production is a high-benefit commodity that cannot be provided by the private sector or most private landowners.

State forests and state parks are uniquely situated to provide one of the most endangered ecosystem habitats in the eastern United States: large tracts of un-fragmented interior forestlands.

RECOMMENDATIONS

- Repeal the provision of HB 153 that opened our state parks to commercial logging.
- Ban the practice of clearcutting on our state forests and promote late, not early, successional habitat. DOF currently is putting great emphasis on the need to create more early successional habitat, which is habitat that develops after clearcutting. This type of habitat also results from natural disturbances like ice storms. Due to intense logging, this habitat exists in abundance on eastern forests, while forests that are more than 200 years old register as 0%.
- Create more wilderness areas and High Conservation Value Forest (HCVF) zones that are off-limit to commercial logging. Currently, the vast majority of our state forest system is slated for logging over the next several decades. The legislature should designate at least one-third of all state forest land as wilderness or HCVF that is free from commercial logging.
- Our state forests are legally governed by the principle of multiple-use; i.e., in addition to logging, DOF must focus on priorities such as wildlife, habitat, and recreation. Current multiple-use management is heavily weighted towards the logging side of the equation. Setting aside no-cut areas will allow portions of our forests to grow old once more, and will help restore the balance missing from state forest management.

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Manure Brokering

THE ISSUE

You've heard of stock brokers and real estate brokers but until recently, the concept of brokering manure has been unimaginable.

Traditionally, farmers have spread manure produced by their livestock on their own land, recycling the valuable nutrients into their soils to support next year's crop. As industrial livestock facilities have grown in size and become more specialized, the concept of a Confined Animal Feeding Operation (CAFO) has developed.

On a CAFO, a very large number of animals are confined at a particular location onto which feed is imported and livestock products and manure are exported. Therefore, the amount of manure produced dramatically out-paces the availability of nearby land to properly recycle the manure.

This imbalance has dramatically increased the amount of time, equipment investment, and record keeping necessary for an industrial livestock facility to responsibly manage its manure volumes. One way of avoiding these requirements is for the livestock facility to contract their manure distribution through a third-party "manure broker."

Such an arrangement relieves the livestock facility owners and managers from the obligation of record keeping (they need only report that the manure was contracted to a broker). This arrangement likewise avoids the need for investment in equipment for manure distribution, and also of their responsibility/liability for any environmental mishaps. Therefore, the challenge of dealing with the massive accumulations of manure, associated with large industrial livestock operations has increasingly fallen to third-party manure brokers.

These third-party brokers are legally separate and independent from the producer of the manure and in most cases legally separate from the ultimate recipient of the manure. They operate under a certification program conducted by the Ohio Department of Agriculture (ODA). Those certified under this program are called Certified Livestock Managers (CLMs). The CLMs are required to keep records, but not required to report these records to the ODA nor are their records regarded to be a part of the CAFO permits that are required by the ODA.

This distinction has created a major loophole in the regulatory structure for industrial livestock facilities.

THE NEED

When a permitted CAFO directly supervises the distribution of manure produced by its livestock, they are required to submit their management plans to the Ohio Department of Agriculture (ODA) as a part of their CAFO permit. The ODA can directly oversee the specific fields, application rates, and timing and methods of application. ODA has great leverage because its permit approval is essential for operation. Beyond that, ODA has the power to administer fines.

In cases where the CAFO contracts distribution to a third-party broker (CLM) , livestock CAFO operators benefit by simplifying their management challenge, reducing their capital investment in equipment, and avoiding liability for proper disposal.

The brokers are required to keep records and follow rules for proper application rates and setbacks, but the ultimate recipient land owner carries legal accountability for the ultimate disposition of the manure, including runoff that may occur from his or her property.



This represents a major gap in the chain of accountability, effectively removing manure management plans as a part of the operating permits and making it far more difficult for an agency director to gage the environmental impact of a permitted operation.

So in cases where a livestock facility may reside in a nutrient-impaired watershed, and an agency director may wish to be assured that nutrients will be exported from the watershed, doing so will now require extensive detective work.

Thus, the third-party brokering system hinders the agency’s ability to gain such assurances by relieving the facility manager of the obligation to submit a plan to that effect.

RECOMMENDATION

Third-party manure brokers should be deemed to accept sole or shared custody for the appropriate distribution of livestock manure under their physical control. Either the livestock facility owner or the third-party contractor should be responsible for supplying a comprehensive manure distribution report to the Ohio Department of Agriculture detailing the particular location (including soil tests), rates, and date of application and soil and weather conditions. Agencies could therefore be assured of proper manure management.

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Multiple Chemical Sensitivity

THE ISSUE

Exposures to toxic chemicals found in everyday life can lead to disabling health conditions including Multiple Chemical Sensitivity (MCS), asthma, cancer, depression, and Parkinson's Disease. MCS is caused when exposure to toxic chemicals subsequently results in ongoing intolerance to trace amounts of numerous chemicals.

Some chemical/environmental barriers to every day life include:

- Fumes from diesel engines, which contain over 40 different toxins including benzene and formaldehyde; natural gas; gasoline; and other petrochemical emissions
- Maintenance chemicals that include cleaning disinfectants, solvents, carpet shampoos, waxes, and polishes, many of which also contain dangerous inert ingredients
- Improper ventilation and oxygen levels in buildings
- Construction and remodeling chemicals and equipment including wallboard, treated woods, paints, wallpapers, solvents, glues, lacquers, and varnishes
- Pesticides, fungicides, rodenticides, and insecticides, all of which are dangerous and must be registered with the U.S. EPA.
- Cigarette smoke
- Carpet that may be manufactured from dyed and treated materials and uses toxic foam padding and toxic glues. Chemical residue left by occupants and chemicals used to clean carpet contribute to the chemical soup
- Food contaminated with heavy metals, toxic sludge, and pesticides
- Fumes emitted by copy machines, faxes, computers, printers, chlorinated, and triplicate part papers
- Fumes from perfumes, scented deodorants, hair sprays, body lotions, laundry soaps, fabric softeners, dry cleaning, and fragrance emission devices
- Exposure to water contaminated from pharmaceuticals, and gas drilling activities

THE NEED

Regulations, policies, and laws are needed to protect people from the escalating health and environmental impacts and resultant disabilities caused by exposures that are easily preventable. Physicians and health care providers need to be trained in this area to provide appropriate medical care to those who have been harmed.

While the law provides for the accommodation of all disabilities, public places typically cannot accommodate those with MCS. Published guidelines are needed and would also benefit those suffering other health effects from environmental exposures.

The U.S. Access Board completed a study of Indoor Environmental Quality (IEQ). The project, conducted by the National Institute of Building Sciences, resulted in

numerous troubleshooting solutions. The IEQ Project Reports are online at <http://bit.ly/IEQstudy>.

IEQ Committee members learned that those with MCS react to the same environmental triggers as those with other health conditions. Only the response is different.

Successful accomplishments have included inexpensive retrofitting of hospital rooms for MCS patients, the installation of diesel retrofits on ambulances and school buses, the creation of perfume-free public meetings, and guidelines for modifying rooms to accommodate those with MCS.

Public places are out of the question for the chemically sensitive without accommodations for their condition. Retrofitting of diesel vehicles with emission controls and the elimination of unnecessary idling can reduce the impacts on the public's health.

Government offices, retail stores, employers, grocers, restaurants, apartments, hotels, entertainment facilities, and others must be educated to initiate readily achievable protocols that will protect the public. Most disabling exposures were preventable.

RECOMMENDATIONS

How can we protect the public and accommodate those with MCS?

1. Require retrofits on all diesel ambulances and other diesel equipment
2. Require no idling policies for all vehicles
3. Legislation to control toxic emissions from lawnmowers and outdoor yard equipment
4. Create and enforce perfume free policy for public meetings and events.
5. Require safe patient rooms and areas in all hospitals and medical offices to accommodate those with MCS and others who have been sensitized
6. Fund education about health risks associated with consumer products
7. Provide funding and/or grants for programs that encourage and teach the public to read labels, research ingredients, and choose safer alternatives
8. Pass legislation that provides safety measures to protect public health from unnecessary exposures in the workplace, multi-family dwellings, and public buildings.
9. Provide legislative whistle blower protections and incentives to report those who violate
10. Create a commission to study and report to the legislature on the health effects from pesticides, fertilizers, water contamination, and food additives.

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Nutrient Application Fee

THE ISSUE

The use of chemical fertilizers, containing phosphorus and nitrogen, as well as recycled animal manure, has helped American farmers to achieve an impressive level of productivity in modern cropping systems.

American farmers apply some 4,247,000 tons of phosphorus fertilizer annually (USGS Fact Sheet 3004, 2012). Ohio Farmers apply some 120,000 tons (Ohio Phosphorus Task Force).

Traditionally, farmers have been taught that phosphorus attaches tightly to soil particles, remaining stable in the soil, so they do not need to be concerned about losing their investment in purchased phosphorus to farm run-off.

More recent research has revealed that phosphorus stability is quite variable, depending on many factors including soil test, the solubility of the phosphorus compounds being used, cropping, and drainage systems.

Total farm application rates of chemical fertilizer have been stable to declining in past two decades, yet levels of soluble phosphorus in lakes, rivers, and streams of agricultural watersheds have been steadily increasing as larger farms adopted surface application as their primary practice, and often defaulted to autumn applications to spread their workload.

The consistent annual increase in soluble phosphorus (since 1995) has mirrored an increase in the incidence of harmful algae bloom (HABs). This problem has become so severe in some areas that entire lakes have been closed to all human contact, an action necessitated by the toxic nature of HABs.

With HABs increasing in severity and frequency, threatening human health and business profits, government agencies have been spurred into action.

Agencies have allocated millions of additional dollars toward remedial measures, such as alum treatment. Support has also been geared toward voluntary agricultural conservation practices targeting affected watersheds. They have also taken the unprecedented action of adopting a “distressed watershed” rule and implementing the rule in the most severely impaired watershed in Ohio.

The OEC appreciates the commitment of government agencies in dealing with the effects of these extreme water quality problems, however we also understand that governments lack the resources to treat the symptoms of the growing list of affected watersheds, especially as the list now includes Lake Erie.

We strongly advocate for proactive measures to deal with the major causes of the outbreaks, including nutrient pollution from agricultural operations.

THE NEED

Controlling agricultural non-point pollution is inherently challenging. The principal tools used to address agricultural run-off have traditionally been voluntary conservation practices, which are offered to farmers with financial support from

USDA. Adoption of these practices has been sporadic, rendering unpredictable results.

Prior to the adoption of the distressed watershed rule, participation rates among farmers in persistently-impaired watersheds has remained low.

Not surprisingly, voluntary conservation practices are most often adopted by those farmers who are predisposed to be environmentally responsible. Others are left to continue their bad habits and practices.

RECOMMENDATION

The OEC proposes a targeted nutrient application fee.

Such a fee would be added to each ton of phosphorus fertilizer, nitrogen fertilizer, or manure. The fee would be credited back if farmers or farm supply businesses follow best management practices, such as implementing proper rates, timing, and application methods (4Rs).

A program administered in this manner would:

- reward (hold harmless) good environmental stewards;
- be costly only to those who engaged in environmentally risk-laden practices, providing a market-based incentive to change behavior;
- provide a revenue stream that could be used to administer the program and to support environmental remediation.

An application fee, set at the appropriate level (perhaps \$5.00/ton), could be very effective in motivating farmers and farm supply businesses to change their standard practices for fertilizer application.

It could also support the budgets of agencies, which may be increasingly called upon to offer more services in distressed watersheds.

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Ohio's Clean Energy Laws

THE ISSUE

In 2008, the Ohio General Assembly enacted Ohio Senate Bill 221 (SB 221), creating Ohio's Renewable Portfolio Standard (RPS) and Energy Efficiency Resource Standard (EERS); combined, these two standards require Ohio's investor-owned utilities – American Electric Power (AEP), FirstEnergy, Duke Energy, and Dayton Power & Light (DP&L) – to generate 12.5% of their electricity from renewable resources by the year 2025, and reduce their customers' energy consumption by a cumulative 22.5% by the year 2025.

These minimum standards for renewable energy development and eliminating energy waste through energy efficiency retrofits were widely supported by both Democrats and Republicans, passing by a 132-1 margin. And, as of 2011, all four investor-owned utilities are in full compliance with the standards, meeting the annual benchmark goals set in Ohio law.

Ohio's Clean Energy Laws have significantly reduced harmful emissions that are attributed to Ohio's energy sector. In the first two years of Ohio's RPS and EERS, significant CO₂ savings were realized¹: *2,267,647 tons of CO₂ in 2009-2010*. Reductions in air pollution will only continue to grow when you take into consideration the high level of power production and usage in the state of Ohio.² Once the 12.5% renewable energy requirement is fully implemented by the year 2025, Ohio will produce the second highest amount of renewable energy in the country, behind only California.³

Ohio's RPS and EERS have led to significant investments in Ohio's economy and Ohio jobs. According to The Pew Charitable Trusts, Ohio has experienced the 4th highest level of green job growth in the country.⁴ As of 2012, approximately 35,000 Ohioans are employed in clean energy industries. Ohio is now the second largest producer of solar panels in the country and since 2009, Ohio has vaulted up to 16th in the nation in solar energy installation.

In that same time, Ohio has added more than 400 Megawatts (MW) of wind energy resources and another 1300 MW are on the way. 100% of these MW are from facilities located within the State of Ohio.

Additionally, since 2009, Ohio's electric consumers have saved more than \$1.7 billion on their electric bills due to Ohio's EERS policy. By reducing demand for electricity, utilities can defer the tremendous cost of building new generation facilities and expensive upgrades to transmission and distribution systems, further reducing the overall cost of electricity. Ohio law regulation stipulates that energy efficiency programs offered by utilities must be cost-effective, meaning the cost of

¹ Figures calculate 1 metric ton of carbon dioxide (CO₂) per MWH for Ohio's electric mix and 146,299,793 MWH of electric sales in Ohio annually.

² Ohio is the 4th largest consumer of power behind Texas, California, and Florida. (2007 Data from EIA) Ohio consumes 161,771 million kwh per year. Ohio is the 7th largest producer of power in the country. 3.5% of all energy consumed in the U.S. is generated in Ohio. (2010 Data from EIA). Ohio's renewable energy and environmental energy laws are tied to consumption, not generation.

³ Assuming Florida and Texas do not pass and implement similar renewable energy standards.

⁴ According to "The Clean Energy Economy" report, PEW June, 2009.

efficiency programs must be less than the savings realized by customers. This provision in the law ensures that customers always win when it comes to investments in energy efficiency.

Ohio is on the right path. Our Clean Energy Laws are attracting renewable energy and energy efficiency companies to Ohio who want to develop projects and use the RPS and EERS to help incentivize such development. Ohio is such an attractive state, that in spring of 2012, Ohio Governor John Kasich affirmed his support for Ohio's Clean Energy Laws by proposing to add new qualifying technologies to Ohio's EERS and RPS. By June of 2012, Ohio Senate Bill 315 was signed into law and allowed for certain Waste Energy Recovery (WER) technologies to qualify as a renewable resource under the state's RPS and both Combined Heat and Power (CHP) and WER to qualify as an efficiency measure under the state's Energy Efficiency Resource Standard. Ohio's utilities now have new tools which to meet their annual benchmarks for renewable energy generation and energy savings.

THE NEED

Some are calling for a re-evaluation of this successful legislation. Such a counterproductive move could not come at a worse time, when considering Ohio's economic recovery and slow return to growth. The renewable energy industry is helping lead the charge, increasing jobs at a pace unrivaled in other parts of the economy. Additionally, Ohio's energy efficiency provisions are saving customers money.

Because of Ohio's Clean Energy Laws, Ohio is taking a major role in one of the biggest growth industries in the world. Clean energy companies, which include makers of electric cars, solar panels, and biofuels, commanded 23% of all venture capital dollars in 2010.⁹

Venture capital dollars are coming to Ohio because of this legislation, and jobs and new manufacturing and emissions reductions are the result.

So what will happen if these essential standards go away? First, the gradual transition of Ohio's energy sector from primarily fossil-fuel-fired resources to clean, renewable resources will be significantly slowed; as a result, Ohioans will continue to suffer from the harmful air pollutants that come from coal-fired power plants. Second, Ohio residential, industrial, and commercial customers will pay much more for energy in Ohio. Ohio's energy efficiency requirements have saved consumers over half a billion dollars already. If this essential requirement goes away, consumers will pay more – much more. Lastly, Ohio is becoming a remarkable leader in clean energy research and development.

⁵ *Cleveland Plain Dealer*, "Huge Solar Panel Farm Coming to Southeast Ohio," October, 5 2010.

⁶ 2011 Ohio Utility Scorecard, Environment Ohio.

⁷ AEP report to Ohio Collaborative, February 23rd, 2011.

⁸ Only the FirstEnergy companies have shown resistance to the energy efficiency targets. FirstEnergy applied for a waiver of its 2010 efficiency obligations in late January 2011.

⁹ *Venture Investment in Clean Tech Companies Rose in 2010*, Reuters, March 15, 2011.

Ohio's Clean Energy Laws

Abandonment of our clean energy standards would mean we walk away from a thriving *global* economic sector, and smother our Northwest Ohio solar manufacturing hub, our Northeast Ohio wind manufacturing hub, and other new expanding industries like fuel cell production.

RECOMMENDATION

Let Ohio's Clean Energy Standards – both the RPS and EERS – continue to work!

These minimum requirements on Ohio's utilities are saving customers money, improving our air quality and creating jobs. A legislative effort to weaken these standards will stifle one of the few bright spots in Ohio's economic picture and send a negative message to clean energy and energy efficiency companies that are looking to develop projects in Ohio.

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Ohio's State Nature Preserves

THE ISSUE

Ohio is a heavily modified state, with little undisturbed land remaining and very limited outdoor recreation opportunities and resources. Most of Ohio's wetlands have been destroyed, more than 90% of our forests have been logged multiple times, and relatively few high quality habitats for rare species remain. Ohioans have responded by creating numerous private organizations and many local and state agencies to provide various types of land protection.

The strongest legal protection provided by state government for natural lands is the Ohio Natural Areas Act, passed in 1970. This Act declares dedicated (under the Natural Areas Act) state nature preserves as the "highest and best use" of the land. This system has protected the land, provided for coordinated and competent management, and prevented taking via eminent domain acquisition for other purposes. Thirty separate entities own or manage dedicated preserves, and this

system has been overseen and managed by the Ohio Division of Natural Areas and Preserves (DNAP) within the Ohio Department of Natural Resources. Currently there are 127 dedicated preserves totaling 28,038 acres.



Daughmer Savannah, Crawford County

Private citizens, with the State's promise that their land would always be protected as a nature preserve, donated or made gift-sales of some of these properties to the State and to other organizations with the intent that the properties be dedicated

and permanently protected. That promised protection is now failing to maintain the properties because of insufficient funds and leadership.

THE NEED

From July 2010 to June 2011, DNAP received no tax dollar funding by the choice of the DNR Director. In addition, DNR reassigned all DNAP employees to other divisions, with the Natural Heritage Program staff going to the Division of Wildlife, Scenic Rivers staff to Watercraft, and the few remaining preserve management staff to Parks and Recreation. Most of the nature preserve land managers were transferred to other jobs within State Parks and are no longer available for nature preserve management. Replacement managers often have no habitat or rare species management experience and no knowledgeable people in supervisory positions. The Natural Heritage Database and data management staff were retained, but the biologists who collected and updated the data were reassigned within the Division of Wildlife such that records are not being updated and the data is now losing value as it becomes outdated.

Ohio State Parks has not received adequate support for over 15 years and their budget and staff have been severely reduced (> 50%). State Park leaders and staff are honestly trying to care for the preserves, but they lack the budget and knowledge to get the job done. Parks are public properties managed primarily for public use and enjoyment, while nature preserves have been acquired and managed for their rare species and high quality natural habitats. There will always be a tendency to choose the urgent, visible needs of public parks instead of the less visible needs of habitat management in nature preserves. Preserves are now losing the very species and features for which they were acquired. Visit www.onapa.org for details.

RECOMMENDATIONS

The overall goal is to re-establish the state's commitment to protect Ohio's finest natural lands within a state nature preserve system that is adequately funded and effectively managed.

To accomplish this, the following actions are necessary:

1. Encourage the Administration, the Ohio General Assembly, and Ohio DNR to recognize the need to properly care for and maintain the nature preserve system.
2. Retain DNAP as an independent Division of the ODNR with an adequate budget and restore competent leadership.
3. Rebuild the DNAP constituency and inform Ohioans as to the status and activities of the nature preserve system and its managers.
4. Immediately begin conducting necessary ecological management at the most fragile preserves with the help of volunteers and competent project planners until the program is fully re-established.
5. Promote the natural areas checkoff on the personal income tax return to acquire both financial and widespread public support for the program and the preserves.
6. Provide staff and funding sufficient to keep a high quality Natural Heritage database, preferably within DNAP.

Provide funding for land acquisition to complete or more fully protect the existing preserves and to allow for acquisition of additional high quality natural lands.

For More Information

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Outdoor Wood-Fired Boilers

THE ISSUE

Wood-fired boilers, also called hydronic heaters, burn wood to heat liquid which then heats and provides hot water to homes, buildings, and swimming pools. They are usually located outside the buildings they heat in small sheds with short smokestacks. The smoldering fires create heavy smoke and the short smokestacks release this pollution close to the ground where it lingers. Some people also burn green wood, producing even more smoke, or burn household trash or other debris which can release harmful chemicals.

The recent increase in the use of outdoor wood boilers (OWBs) is of particular concern to public health and environmental agencies because the cumulative stack emissions from these appliances are usually significantly higher than other EPA-certified wood burning appliances and, unlike wood and pellet stoves, are currently unregulated.

Emissions from wood-fired boilers can cause serious health problems including increased respiratory symptoms, increased hospital admissions for lower respiratory infections, worsening asthma, and a decreased ability to breathe. Research has shown that fine particulate matter, like that released from wood-fired boilers, contributes to human health problems including cardiovascular disease, chronic lung conditions, and premature death. Those most at risk from wood-fired boiler pollution are children, the elderly, and those with diabetes, lung disease, and heart problems.

THE NEED

The use of wood-fired boilers is increasing as people look for ways to reduce heating costs. Ohioans have purchased over 20,000 outdoor boilers since 1990. Sales continue to increase.



High fuel costs make wood-fired boilers an appealing purchase and sales are likely to continue to increase in the foreseeable future.

Outdoor wood-fired boilers emit much more pollution than other stoves and furnaces used for heat.

In fact, one outdoor wood-fired boiler can emit as much soot, or fine particle pollution, as :

- 2 heavy-duty diesel trucks;
- 22 EPA-certified indoor wood stoves;
- 45 passenger cars;
- 205 oil furnaces; **OR**
- 8,000 natural gas furnaces

RECOMMENDATIONS

The Ohio EPA should adopt the model regulation created by the Northeast States for Coordinated Air Use Management. These regulations require new wood-fired boilers to meet reasonable emissions standards to protect the public's health and prohibit the burning of materials that would produce toxic chemicals.

The model regulations require existing boilers that do not meet prescribed emissions standards to make adjustments to protect the health of neighbors, including:

- Installing a boiler at least 500 feet from a property line, and
- Having a permanent smokestack that is five feet higher than the peak of any roof structure within 150 feet of the boiler.
- Prohibiting OWB use during the summer months and in heavily populated areas.

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Public Participation & Transparency

THE ISSUE

Transparency is a necessity when governmental decisions impact human and environmental health. A transparent government, however, must not act as if it's in a fish bowl, open for the people to see but still shutting out the people from direct participation. Transparency must incorporate a dialogue where ideas are communicated clearly and effectively, participation is afforded to all who seek it, and state agencies are accountable to its citizens.

The goal of participation is to improve the quality, legitimacy, and capacity of environmental assessments and decisions. Studies show that effective participation leads to better results in terms of environmental quality and other social objectives, and can enhance trust and understanding among parties.

THE NEED

Transparency in State Legislation

Much of the activity that goes into the creation and passage of state legislation happens in standing committees. However, the testimony from witnesses, and the questions asked by legislators, witnesses' answers, and commentary from witnesses and legislators is not transcribed nor in any way made available to the public.

Such "legislative transparency" is vital not only to inform the public of the activities of their government, but to memorialize the true intent of legislation, and keep legislators accountable for what they say (or sometime what they do not say) during this vital part of the legislative process. Further, floor session debates, which provide legislators the opportunity to explain why they are voting a certain way on legislation needs to be codified and widely disseminated in order to help keep lawmakers accountable.

Transparency in Agency Decision-making

Concerning executive agency decisions, too often, the public is provided an opportunity to comment on regulatory changes and permits only after a draft decision is made. For a decision that the agency has taken 6 to 12 months to decide, the public has 30 days to read, seek counsel, and provide meaningful comment.

Public and stakeholder involvement as early as practical in the process would allow the agency to conduct a complete and objective analysis, limit unnecessary legal action, and foster community understanding on sometimes controversial issues.

Participation, too, is only effective if the public is adequately notified. Notice of regulatory actions is routinely given through newspaper publication and sometimes by online posting. It is impractical to assume that citizens will be adequately informed only through a newspaper posting.

The agency must be accountable to all parties interested in regulatory changes and permits. Despite well-intentioned efforts, agencies often do not provide adequate responses to community comments or explanations for decisions made in final actions. For the benefit of the parties who took the time, effort, and limited resources to comment on a proposed action, and the validity of the decision-making process, the decision maker must explain why the comment was or was not considered in the final decision.

RECOMMENDATIONS

Legislative Transparency

The General Assembly must amend its rules and/or pass legislation to allow for:

- Transcription of all legislative committee hearings, including: testimony, questions from legislators, answers, and commentary;
- Transcription of legislative floor sessions and debates;
- Dissemination of these transcripts on readily available websites or otherwise easily accessible by the public;
- A mechanism to codify legislative intent for all legislation;

Executive Agency Transparency

- The Ohio General Assembly should conduct a robust accounting of the best and most productive modes of informing and involving the interested public in decision-making. Ohio must pass one clear and concise law on transparency and public participation processes for all decisions by executive agencies dealing with human and environmental health impacts.
- The Ohio General Assembly should require each state agency to publish its responses to any oral and written testimony received, acknowledging the comment and the agency's official reasoning for or against incorporating it into the permit or regulation at issue.
- State agencies must take all practical measures to involve stakeholders and community members throughout the decision-making process. The Ohio General Assembly should review current rules and statutes on public participation, and eliminate any potential barriers to full and effective public involvement.
- Technology should be utilized to provide real-time transparent and accurate information on permit processing status. Such a permit tracking system should be readily available and easily identifiable online, and should track permits from the moment an application is received.

For More Information

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Turning Point Solar Project

THE ISSUE

The project in question is the Turning Point Solar Project, a plan to build a 49.9 megawatt solar plant near Zanesville, Ohio. American Electric Power (AEP) teamed up with Agile Energy to build more than 225,000 solar panels across 500 acres of land that has been reclaimed from strip mining, which would be the single largest solar power project east of the Rockies ever. It would allow AEP to avoid building more heavily polluting coal and natural gas capacity, something Ohio desperately needs.

The benefits of the project are several. First, the solar panel producer Isofoton was planning to ramp up production in Ohio parallel to the project, producing hundreds of permanent manufacturing jobs in Napoleon as part of Ohio's burgeoning clean energy manufacturing sector. The jobs to run and repair the facility as needed could never be outsourced, providing increased economic security to the Muskingum County region, where over 17% of the population lives under the poverty line.

Secondly, pumping 50 megawatts of clean solar energy back into the grid is a vast environmental improvement over covering that capacity with new coal or natural gas fired plants. Ohio leads the nation in toxic industrial air pollution, emissions are greater than the second place state by 36%, clearly showing that producing new energy without air pollution is not a want, but a need. The Turning Point Solar Project would be an economic and environmental boon in a state that sorely needs forward progress in both of those categories.

THE NEED

PUCO's decision to reject AEP/Turning Point's financing method was based on the argument that AEP had not successfully proven to the Commission that Turning Point was necessary. In a three to one decision, the Commission voted to strip Turning Point from a larger report about AEP's projected power needs. AEP did not have the approximately \$180 million on hand to pay for the project, and were thus planning to spread it out as a charge on every utility bill, letting every customer pay for it on the theory that it would also benefit every customer.

In the past, the PUCO has allowed this same method, provided that it could be proven to be necessary and the market would not provide the same resource. PUCO experts agreed that it was necessary as part of their larger report on AEP, meaning that the commission elected to ignore the advice of its own staff to attempt to block Turning Point. Following the PUCO's decision business and environmental groups slammed the decision as a political favor to FirstEnergy Corp., a rival utility to AEP that opposed the project.

After the decision by the PUCO, Turning Point planners came back with a 'Plan B' to attempt to bring the project to fruition. The plan to save the project is basically finding large institutions that have the stability and economic means to sign a long term contract to buy the power produced by the facility; like cities, counties, or universities. This would prevent the cost from being spread out across all consumers, eliminating the hurdle at the PUCO. It would also provide the incidental

benefit of being a massive PR win for any institution that stepped up to commit to the project.

If Ohio University in Athens decided to sign on and get a portion of their power from solar instead of from the aging Lausche Heating Plant, a coal and natural gas powered facility, they would meet a whole series of green initiatives, support economic development in southeast Ohio, and save money. Not only would the multiple purchasers receive benefits along those lines, they would also receive the benefit of being a leader in moving Ohio's energy economy forward. It would be a win for the organization, a win for consumers, a win for the environment, and a win for Ohio.

RECOMMENDATION

The OEC's recommendation on this is simply to encourage Ohio lawmakers and potential purchasers to buy their energy from Turning Point. As outlined above, Ohio's universities are major purchasers of energy. Ohio's legislators can work with the Board of Regents, PUCO, and individual colleges and universities to ensure they have all the tools necessary to purchase energy from the Turning Point project.

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Vernal Pools: Ohio's Hidden Wonders

THE ISSUE

Healthy wetlands are a vital component of our communities.

Ohio is a water-rich state (“Ohio” means “Good River,” named by the Iroquois people) and it is appropriate that the state formally designate wetlands, in particular the vernal pool, for official recognition. Having a state wetland designation acknowledges the important role wetlands play in slowing flood waters and increasing property values, and highlights the unique natural landscape of Ohio.

Vernal pools are seasonal wetlands that fill up with snow melt and rain water in spring and usually dry up in mid-to-late summer. They can be as small as a few feet across or as large as several acres. However, each has been shaped and molded over decades or even hundreds of years.

THE NEED

Vernal pools are different than other bodies of water, such as streams, rivers, and other wetlands. Because vernal pools dry up, they do not contain predatory fish. This makes vernal pools valuable amphibian reproductive areas.

Vernal pools can be found in all 88 counties in Ohio and provide habitat for a plethora of animals including migratory birds, turtles, snakes, frogs and toads, salamanders, and hundreds of species of invertebrates. Some of Ohio's rare and endangered species, such as the blue spotted salamander and the spotted turtle, call vernal pools home or rely on them for their habitat.

Current efforts are under way by nonprofit organizations such as the Ohio Environmental Council and the Ohio Vernal Pool Partnership to monitor and document Ohio's vernal pools. On any given night in the spring, thousands of animals utilize these special places for breeding, eating, and sleeping.

Scientists continue to research and reveal vernal pools' unique ecosystem. For example, the eggs (called “cysts”) of the fairy shrimp that inhabit vernal pools can lay dormant in the ground for more than a decade before hatching.

Fairy shrimp are the fresh water cousin to the brine shrimp.

Vernal pools not only benefit wildlife, but people as well. As wetlands, they slow flood waters that otherwise would damage



private property and public infrastructure. Vernal pools also filter sediment from entering streams and rivers.

According to the Ohio EPA, sediment is the number one waterway pollutant. Vernal pools support the many animals that eat mosquitoes and their larvae, including frogs, toads, salamanders, dragonflies, and birds. Vernal pools also provide an excellent teaching tool for educating young people about life cycles, geology, and hydrology.

RECOMMENDATIONS

The Ohio General Assembly should pass legislation that recognizes the vernal pool as the official state wetland and prohibit any impacts to vernal pools until a comprehensive database of vernal pools is created. This modest effort would draw much new public recognition and appreciation of these important, but quickly disappearing, natural wonders.

The Ohio EPA should adopt strong protections for vernal pools. Because of their small size, they usually are overlooked or clumped into low quality wetlands.

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Wetlands

THE ISSUE

Ohio once had approximately 5 million acres of wetlands throughout the state. These dynamic ecosystems provide a plethora of benefits to our communities and are critical contributors to our overall well-being. However, since the late 1700's and early 1800's, we have destroyed more than 90% of those wetlands. Ohio ranks second (only to California) in percentage of wetlands lost. As a result, we must put a premium on our remaining wetlands.

Wetlands provide many benefits to our state and our communities. Wetlands store and slowly release flood waters that would otherwise cause damage to private property and public infrastructure (such as roads, bridges, buildings, etc.), and contribute to underground water aquifers during times of drought. They allow suspended materials in the water to filter out to the bottom before entering in our rivers and streams. According the Ohio EPA, sediment is the number one waterway pollutant in Ohio.

Urban wetlands are usually ranked as “low quality” based on biological diversity. However, their physical and chemical functions are highly valuable because they filter out pollutants that otherwise would reach our rivers and streams. These wetlands play a vital role in the urban setting.

Wetlands remove carbon from the air and sequester it. When a wetland is destroyed, the carbon is released and carbon sequestration ceases. A report by the Ohio State University revealed that a one-acre wetland in a temperate zone (like Ohio) can store about 1,250 pounds of carbon dioxide a year.

In addition, wetlands provide habitat for thousands of species that rely either completely or partially on wetlands for their life cycles. They also provide opportunities for photography, canoeing, fishing, hunting, and education, and an opportunity to escape the stressful day-to-day life in the city for individuals and families.

Wetland types include vernal pools, marshes, fens, bogs, and swamps.

THE NEED

Despite these many benefits, wetlands continue to be damaged or destroyed. The Ohio EPA's 401 wetland and stream permit program does not address all of the benefits that are lost when a wetland is impacted and does not require a natural inventory prior to permitting.

Once the wetland is impacted, the wildlife disappears or is displaced, sometimes moving closer to residential areas, causing conflicts with human populations.

RECOMMENDATIONS

- The Ohio General Assembly should pass legislation that requires a natural inventory for all 401 applicants to be performed by the applicant. This inventory should reflect the true diversity of a site and not a one-time visit. The inventory should document all birds, mammals, amphibians, reptiles, and invertebrates (critical links in the food web) and should reflect nocturnal, ephemeral, and diurnal species. This will help to ensure that the mitigated wetland will replace all the original wetland's values and functions.
- This legislation also should give the Ohio EPA the authority to develop the system in which a permittee shall collect the data. The Ohio General Assembly should allocate the resources needed for this inventory.
- The Ohio General Assembly should pass legislation placing a moratorium on wetland impacts in the watersheds of impaired rivers and streams. This would allow the state's actions to bring these waterways up to the targets of swimmable and fishable water quality.



An Ohio wetland



Wetland loss due to development

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