

# Conservation Committee Report

Volume 18 Issue 2

Jack Walters—Conservation Chairman

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## The Conservation Pledge

I give my pledge as an

American to save and faithfully defend from waste, the natural resources of my country; the soil, the water, the air, the minerals, the plant life and the wildlife.

This is my Pledge!

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## CDC discovers new bacteria species that causes Lyme disease

Researchers have discovered a second type of bacteria that causes Lyme disease that is carried by the same deer tick, but that veers from the condition's typical symptom of a "bull's eye" rash.

The Centers for Disease Control and Prevention (CDC) with the Mayo Clinic and health officials from Minnesota, Wisconsin and North Da-

kota said in a press release Monday that the bacteria *Borrelia mayonii*, as well as the previously known bacteria *Borrelia burgdorferi*, can cause Lyme disease.

"This discovery adds another important piece of information to the complex picture of tick-borne diseases in the United States," Dr. Jeannine Petersen, microbiologist at the CDC, said

in the release.

Lyme disease, a tick-borne illness, infects more than 200,000 Americans per year, and, if left untreated, can cause potentially life-threatening damage to the heart, joints and nervous system. If treated early with antibiotics, its early symptoms

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## EPA forced to admit neonicotinoids killing bees

The results of a new risk assessment study by the Environmental Protection Agency has forced the agency to conclude that neonicotinoids have a detrimental impact on pollinators, including honey bees.

Neonicotinoids (AKA neonics) – manufactured by Bayer and Syngenta and peddled by Monsanto, Dupont and Dow — are the most widely used pesticides and can be applied as seed coatings or mixed with water used to irrigate plants. About 95

percent of all commercial U.S. corn and canola crops and most all commercial cotton, sorghum, sugar beets, fruits, vegetables, berries, leafy

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## **CDC discovers new bacteria species that causes Lyme disease**

of fever, headache and fatigue can pass after two to four weeks, according to the Mayo Clinic.

The CDC said in the release that the newly discovered bacteria is associated with those symptoms plus nausea and vomiting, as well as diffuse rashes and a higher concentration of bacteria in the blood. The first-discovered bacteria was associated with a rash that forms a “bull’s eye” shape.

Scientists discovered the new species when six of 9,000 samples of people suspected of having Lyme in Minnesota, Wisconsin and North Dakota were found to have bacteria that was genetically distinct from *B. burgdorferi*. After DNA sequencing, researchers found the bacteria belonged to a different *Borrelia* species. According to the release, a culture test at the CDC analyzed blood from two of the patients.

The CDC said their findings suggest the new bacteria is limited to the upper Midwest. The agency couldn’t identify it in any of the other estimated 25,000 blood samples drawn during the same period from residents suspected of having Lyme in the other 43 U.S. states— including in the Northeast and Mid-Atlantic, where Lyme borne of *B. burgdorferi* is most common.

Source: FoxNews.com

## **EPA forced to admit neonicotinoids killing bees (continued)**

greens, and cereal grains are treated with neonics. The most widely used neonic is imadacloprid.

Under pressure from Big Agriculture, the Food and Drug Administration and the EPA have long resisted efforts to link neonics to diminishing pollinator populations. But bee growers have long blamed neonics for their declining bee populations and the dreaded colony collapse disorder. In colony collapse disorder, bees simply leave the hive and disappear. Neonicotinoids affect the bees' central nervous system and impair their ability to navigate, which would explain why they don't return to the hive.

### **The effects of neonicotinoids**

Canadian beekeepers note that they experience significant loss just after corn planting season. They blame the pretreated corn seeds, stating that air seed causes the neonicotinoid dust to fly through the air and drift onto plants near corn fields.

Researchers from American Purdue University found that bees that died or were dying as part of a die-off in the spring of 2013 demonstrated symptoms of neurotoxins and contained traces of neonicotinoids thiamethoxam and clothianidin and noted that seed treatments of field crops (primarily corn) are the only major source of these compounds.

A 2012 study by the European Food Safety Commission found that neonics pose an unacceptably high risk to bees and the industry-sponsored science upon which regulatory agency recommendations were based were flawed.

The EPA's Assistant Administrator Jim Jones noted that if nectar brought to a bee hive contains 25 parts per billion of imadacloprid, "there is a significant effect" on the hive's vitality. It can lead to less honey, fewer bees and a "less robust hive."

### **Pollination plus superfoods**

In addition to pollinating our crops, honey bees produce honey, which can be considered the ultimate superfood.

Based on the numerous health benefits, honey may provide more nutrients, vitamins and minerals than meat, eggs, milk, grains and vegetables. Plus, it contains only about 100 calories per teaspoon.

Unlike refined sugar, honey and other natural sugars — like those found in dates, figs and raisins — are live physiological sugars which contain the germs of life.

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## **EPA forced to admit neonicotinoids killing bees (continued)**

According to the Waikato Honey Research Unit, honey is now being accepted as a standard of care in treating skin ulcers as well as wounds and burns. Researchers indicate that applying honey to your skin helps reduce inflammation, swelling and pain; causes offensive odors to vanish; and promotes rapid healing of the skin, often with little scarring. In many cases, honey was more effective in treating infected lesions that were not responding to standard antibiotic and antiseptic therapy.

**Source:** Bob Livingston founder of *Personal Liberty Digest*<sup>™</sup>,

## **EPA Releases Scientific Report Showing U.S. Coastal Waters a Mix of Good and Fair Health**

The U.S. Environmental Protection Agency (EPA) released the 2010 National Coastal Condition Assessment showing that more than half of the nation's coastal and Great Lakes nearshore waters are rated good for biological and sediment quality, while about one-third are rated good for water quality. In almost all coastal waters, however, contaminants in fish tissue pose a threat to sensitive predator fish, birds, and wildlife. The National Coastal Condition Assessment is part of a series of National Aquatic Resource Surveys (NARS) designed to advance the science of coastal monitoring and answer critical questions about the condition of waters in the United States.

Since more than half the nation's population lives near coastal waters, and that number is increasing every year, it is important for us to understand the condition of these highly productive and fragile habitats so we can properly manage and protect them," said Joel Beauvais, EPA Deputy Assistant Administrator for Water. "The latest science confirms we must keep paying close attention to our coastal waters, reduce the pollutants that are harming water quality, and protect those areas still in good condition."

The summarized findings are:

Biological Quality is rated good in 56% of coastal and Great Lakes nearshore waters. Healthy communities of bottom-dwelling macroinvertebrates (such as worms and clams), which are indicators of biological quality, are supported in these waters.

Water Quality is rated fair in 48% of coastal and Great Lakes waters and good in 36% when measuring phosphorus, nitrogen, water clarity, chlorophyll a, and dissolved oxygen concentrations. The most widespread stressor for water quality is phosphorus.

Sediment Quality is rated good in 55% of coastal and Great Lakes nearshore waters based on low levels of sediment contaminants and sediment toxicity.

Ecological Fish Tissue Quality is rated good for less than 1% of the nation's waters. This means there is a potential threat to the most sensitive predators (fish, birds, and wildlife) that consume fish in most waters

Change in conditions were mixed between 2005-2006 and 2010. Water quality remained unchanged, biological quality improved 17%, and sediment quality declined by 22%.

Excessive phosphorus, potentially from sources such as sewage and fertilizers, is the greatest contributor to the poor water quality rating in coastal waters. It can result in undesirable algae blooms, lowered concentrations of dissolved oxygen, and reduced water clarity. Selenium is the greatest contributor to the poor ecological fish tissue rating.

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## **EPA Releases Scientific Report Showing U.S. Coastal Waters a Mix of Good and Fair Health (continued)**

It is a naturally occurring mineral in the environment that may be increasing due to human activities. Selenium is an essential dietary nutrient for all organisms. However, it exhibits highly bioaccumulative properties. Chronic exposure to selenium concentrations greater than background levels can adversely affect reproductive and early life-stage success in wildlife.

EPA conducted the National Coastal Condition Assessment in partnership with state water quality agencies and other federal agencies, including the National Oceanic and Atmospheric Administration. One in a series of surveys conducted under EPA's National Aquatic Resource Survey program, it is based on sampling conducted in 2010 at 1,104 sites in the coastal waters of the U.S. and nearshore waters of the Great Lakes. It is the fifth in a series of reports assessing the condition of coastal waters of the US. National surveys have been completed for wadeable streams (2004), lakes (2007), rivers and streams (2008-2009), coastal waters (2010), and wetlands (2011). EPA and our partners plan to continue to assess each of these waterbody types on a five-year rotating basis.

For more information: <http://www2.epa.gov/national-aquatic-resource-surveys>

Source: The U.S. Environmental Protection Agency (EPA)

## U.S. shale exploration just got more interesting

I have dear friend who works for a major electric utility that powers Virginia, part of North Carolina and West Virginia. It also has far flung operations in natural gas, coal and various other fuels for its generation facilities.

Now we usually think of utilities' employees either working the lines, manning the generation and distribution operations or sitting in an office looking at billing and usage trends. But these firms have a significant amount of resources dedicated to commodities and futures trading as well as meteorological and technology divisions. They need to hedge their fuel production and supply, and they need to know the weather; it's very big money.

Fortunately, my friend sends me some of the company notes that get sent out to the company to keep those who are interested informed on any news some of these divisions discover. A recent memo forwarded to me was about some very interesting developments in fracking.

### What's fracking?

Fracking is one of the technologies that has allowed US energy companies to access all the oil and natural gas in massive fields that were previously inaccessible. By "fracturing" the thick shale layers above a field, drillers can now tap into the gas or oil that is in between these shale layers.

But there are two big issues with fracking.

One is that it uses a lot of water. And then the waste water, with the fracking chemicals in it, has to be stored and disposed of in a safe manner. Some operations do this very responsibly and well. Others significantly less so.

Also, given the recent droughts and shrinking potable water supply, water is a very important commodity to a lot of various stakeholders. And sometimes, that contaminated water ends up in drinking water for surrounding farms and towns, killing crops and livestock.

The other issue involves concerns about how safe fracking is in general. One of the key concerns is that in some places fracking can cause earthquakes.

This assertion has been made for years, especially in California, but there was little hard data to prove this one way or the other. Well, one of the links in the memo that was forwarded to me talked about wastewater from fracking operations in Ohio's Marcellus Shale is linked to all the earthquakes in a town in Ohio that had no known past quakes.

That's a big deal. Now, big industry will certainly make sure its phalanx of experts are deployed casting doubt on this potential issue. For example, most utilities have huge interests in the natural gas that comes out of the Marcellus Shale (and all the other shale fields), because they not only buy it, they also produce and ship it.

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## **U.S. shale exploration just got more interesting (continued)**

Don't be surprised if these stories start to grow again now that the Flint water story is out.

If you live in rural communities and there are fracking operations around, you may want to have your water checked by the local plumber to make sure your well water hasn't suffered.

### **Fracking 2.0**

But the next story in the note was far more encouraging.

Apparently GE and Norway's Statoil are developing a new technology for fracking using only frozen carbon dioxide (CO<sub>2</sub>) gas. The CO<sub>2</sub> would be chilled at the wellhead to a super critical fluid that is neither solid nor liquid and then propel the sand and other fracking chemicals into the shale.

This could be a game changer and it's still in the early stages, but it's something to watch very carefully because even if big energy and big utilities can hold off issues with water use and destruction in fracking areas – or worse, earthquake-generated fracking – it's costly and slows down the entire process.

Transitioning to a waterless fracking compound that essentially evaporates once used would alleviate all the major concerns raised about fracking.

Keep an eye on GE's Ecomagination unit that has put significant resources into this, as well as Statoil and a Southwest firm called Ferus. Also, Canadian firms FracMaster and GASFRAC Energy Services are exploring similar work.

Now if these U.S. producers could just solve the energy pricing problem....

Source: GS Early, Personal Liberty Digest

## Pennsylvania Water Systems Not the Cause of Lead Exposure

An analysis of public water systems in Pennsylvania cities with high lead exposure rates shows that drinking water is not the source of the lead. Out of the more than 150 public water systems reviewed by the Pennsylvania Department of Environmental Protection (DEP) none had exceeded EPA standards for lead in the drinking water. The water systems tested serve more than 6 million people – nearly half of the residents of the state.

“We can definitively say that none of these 159 water systems have exceeded EPA action levels for lead. This eliminates one of the possible sources for the exposure,” said DEP Secretary John Quigley. “DEP has regulations and programs in place to monitor lead levels in drinking water, and they are working.”

According to Department of Health, the primary source of childhood lead poisoning in Pennsylvania continues to be exposure to aging, deteriorating lead-based paint (chips and dust), and not drinking water. The age of Pennsylvania's housing stock contributes to this problem. While lead was banned from paint in 1978, many older dwellings still contain layers of pre-1978 paint. According to 2010 Census data, Pennsylvania ranks third in the nation for having the most housing units identified as having been built before 1950 (when lead was more prevalent) and fourth in the nation for housing units identified as having been built before 1978, according to a 2014 Department of Health report.

Public water systems must regularly sample water from the homes they serve. These tests target homes known to have lead pipes, lead solder, or lead service lines. The EPA action level for lead is 15 parts per billion (ppb) or 0.015 milligrams per liter. If 90% of tested homes are below the 15 ppb action level, a water system is considered safe.

Pennsylvania residents on public water systems can see the results of the most recent testing by visiting DEP's Consumer Confidence Report and searching by their water system name or by the county they live in (on the results page, contaminant 1022 is copper, 1030 is lead).

Pennsylvania residents are encouraged to visit [www.dep.pa.gov/lead](http://www.dep.pa.gov/lead) for more information on lead in drinking water.

The Department of Health provides a toll-free Lead Information Line (1-800-440-LEAD) to respond to caller questions and provide electronic materials about lead poisoning and other environmental hazards. For more information, please also visit the Healthy Homes and Lead Poisoning Prevention FAQ.

Source: Pennsylvania Department of Environmental Protection (DEP)

## PROJECT TO PROVIDE CLEANER WATER, BETTER WILDLIFE HABITAT

### PROJECT TO PROVIDE CLEANER WATER, BETTER WILDLIFE HABITAT

*Rocky Mountain Elk Foundation secures grant to clean up acid-mine drainage on game lands.*

An abandoned coal mine that has been seeping harmful acid drainage into waterways on and downstream of state game lands is being cleaned up with a grant from the state Department of Environmental Protection.

Work has begun on a reclamation project on State Game Lands 100 in Snowshoe Township, Centre County. The project is funded through the Growing Greener Watershed Protection program with a \$1,003,139 grant sponsored by the Rocky Mountain Elk Foundation.

Acid mine drainage is a major problem for water quality in the bituminous coal fields of Pennsylvania. It is a result of past unregulated coal mining, and mines that never were reclaimed to restore habitat.

The acid mine drainage on State Game Lands 100 discharges into Contrary Run, which is a tributary to Beech Creek.

The project will reclaim the abandoned mine land and neutralize the acidic water in Contrary Run by adding a limestone filter to passively treat the water discharging into the stream.

Berner Construction Inc., a Women Business Enterprise located in Gap, Pa., was awarded the construction contract through a competitive bid process. The project will include reclamation of 40 acres of abandoned mine land with 3,300 linear feet of dangerous highwalls. These highwalls are steep, exposed cliffs that create unsafe conditions for people and wildlife. The high-quality grassland to be established as part of the reclamation will provide excellent habitat for elk, white-tailed deer, turkeys and other game and nongame species.

The project area is adjacent to several other previously abandoned mine areas that recently were reclaimed, resulting in over 180 acres of improved wildlife habitat.

Due to the many habitat-improvement projects, an expanding elk herd exists on State Game Lands 100 and surrounding areas. For the first time in modern history, the Game Commission issued five elk hunting licenses in 2015 for the hunt zone including State Game Lands 100, resulting in the successful harvest of two bull elk.

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## **PROJECT TO PROVIDE CLEANER WATER, BETTER WILDLIFE HABITAT (continued)**

The Rocky Mountain Elk Foundation is dedicated to ensuring the future of elk, other wildlife, their habitat and our hunting heritage. For over 25 years, RMEF has been an important conservation partner in Pennsylvania's elk management program by funding the preservation or enhancement of nearly 21,000 acres of valuable habitat in the north-central region.

As a 501(c)(3) nonprofit organization, RMEF was able to apply for and receive the grant through which the work is being done.

More information on RMEF is available at [www.rmef.org](http://www.rmef.org).

The project was designed and is being managed by Alder Run Engineering LLC, with oversight from the Centre County Conservation District and DEP. Construction and revegetation of the site should be completed in 2016.

Source: PA Game Commission

## EPA Releases Online Mapping Tool to Help Protect Drinking Water Sources

The U.S. Environmental Protection Agency today released DWMAPS – the Drinking Water Mapping Application to Protect Source Waters. This robust, online mapping tool provides the public, water system operators, state programs, and federal agencies with critical information to help them safeguard the sources of America’s drinking water.

DWMAPS allows users to learn about their watershed and understand more about their water supplier. DWMAPS also lets users see if sources of their drinking water are polluted and if there are possible sources of pollution that could affect their communities’ water supply. DWMAPS can even guide users to ways they can get involved in protecting drinking water sources in their community.

“A key part of having safe drinking water is protecting the sources – the streams, rivers, and lakes where utilities withdraw water,” said EPA Administrator Gina McCarthy. “DWMAPS is the latest example of how EPA is using technology and digital tools to better protect public health and the environment.

Utilities and state drinking water program managers can also use DWMAPS with their own state and local data. It allows them to identify potential sources of contamination in their locations, find data to support source water assessments and plans to manage potential sources of contamination and evaluate accidental spills and releases. DWMAPS also integrates drinking water protection activities with other environmental programs at the federal, state, and local levels.

DWMAPS can provide users with information to update source water assessments and prioritize source water protection in any location or watershed in the country. Specifically, DWMAPS helps users to:

- **Identify potential sources of contamination** in locations defined by users;
- **Find data to support source water assessments and plans** to manage potential sources of contamination;
- **Evaluate accidental spills and releases**, identifying where emergency response resources for accidental releases must be readily available; and
- **Promote integration of drinking water protection activities** with other environmental programs at the EPA, state, and local levels.

The mapping system will not display the locations of Public Water System facility intakes, but it does contain a wide variety of data useful to the protection of drinking water sources. EPA developed DWMAPS in consultation with EPA regional drinking water programs, state drinking water regulators, and public water systems.

Visit [www.epa.gov/sourcewaterprotection/dwmaps](http://www.epa.gov/sourcewaterprotection/dwmaps)

Source: The U.S. Environmental Protection Agency

## Wolf Administration Highlights Steps to Reduce Lead Exposure

National events about lead exposure have generated new concerns for Pennsylvanians related to the safety of their homes and water. The Wolf Administration takes the issue of lead exposure very seriously and state agencies will continue to work together on their coordinated response to address lead exposure in communities across the commonwealth. The Departments of Health (DOH) and Environmental Protection (DEP) both work diligently to protect children from lead exposure and have many resources available for residents to learn more and take action on lead.

According to Department of Health, the primary source of childhood lead poisoning in Pennsylvania continues to be exposure to aging, deteriorating lead-based paint (chips and dust), and not drinking water. The age of Pennsylvania's housing stock contributes to this problem. While lead was banned from paint in 1978, many older dwellings still contain layers of pre-1978 paint. According to 2010 Census data, Pennsylvania ranks third in the nation for having the most housing units identified as having been built before 1950 (when lead was more prevalent) and fourth in the nation for housing units identified as having been built before 1978, according to a 2014 Department of Health report.

“The Department of Health is very concerned about elevated lead levels in children wherever they may occur. Our community health nurses work closely with health care providers and families every day to provide education about lead exposure and facilitate home inspections if needed to identify the source of the exposure,” said Health Secretary Dr. Karen Murphy.

“Protecting the state's water and the health and safety of our citizens is DEP's mission,” said Department of Environmental Protection Secretary John Quigley. “Ensuring the safety of our drinking water is essential. We have policies and programs in place already to protect Pennsylvanians.”

### Department of Health

The Department of Health provides a toll-free [Lead Information Line](#) (1-800-440-LEAD) to respond to caller questions and provide electronic materials about lead poisoning and other environmental hazards. For more information, please also visit the [Healthy Homes and Lead Poisoning Prevention FAQ](#).

Residents should be proactive and follow steps to ensure the health and the safety of children in their residences and can find all the resources DOH provides [here](#).

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## **Wolf Administration Highlights Steps to Reduce Lead Exposure (continued)**

DOH's Lead Surveillance Program tracks and monitors childhood lead activity through the Pennsylvania National Electronic Disease Surveillance System (PA-NEDSS). PA-NEDSS is a web-based application system that receives all lead reports on Pennsylvania's children. Through PA-NEDSS, the Division of Child and Adult Health Services can identify possible high-risk areas, locate areas of under-testing, and identify other potential service gaps.

DOH's Community Health Nurses (CHN) monitor elevated lead levels in children ages seven and under living in Pennsylvania. The CHNs contact the family to provide education on laboratory results, sources of lead exposure, actions to take to prevent/decrease the risk of exposure and help facilitate follow-up testing between client's and their pediatricians. In cases where there is significant lead exposure, CHNs will work with the pediatrician and facilitate referrals to obtain home inspections which can identify the source of exposure as well as provide hands-on education to parents.

### **Department of Environment Protection**

Federal and state regulations require that public drinking water suppliers regularly test for contaminants including lead. DEP monitors water suppliers to ensure that they are complying with testing requirements to safeguard our public drinking water supplies. DEP also provides information to private well water users on how to properly maintain their systems to reduce their exposure to lead. DEP has created a new section of their website for information on lead in drinking water for consumers [here](#).

Since lead exposure in drinking water typically comes from your plumbing fixtures and not the source of your water supply, it's important for both public drinking water customers as well as private well water users to follow these tips to reduce your exposure to lead:

Run your water to flush out lead. If water hasn't been used for several hours, run water for 15-30 seconds or until it becomes cold or reaches a steady temperature before using it for drinking or cooking. This flushes out any stagnant water in your home plumbing and replaces it with fresh water from the water main in your street.

Use cold water for cooking and preparing baby formula. Do not cook with or drink water from the hot water tap; lead dissolves more easily into hot water. Do not use water from the hot water tap to make baby formula.

Do not boil water to remove lead. Boiling water will not reduce lead. In fact, lead concentrations will be higher in water that is boiled since some of the water is removed as steam.

Test your water for lead.

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## Wolf Administration Highlights Steps to Reduce Lead Exposure (continued)

Contact your water system for more information about getting your water tested. Some water systems may offer to test your water free of charge. Your water system can also provide information about local laboratories that conduct lead testing. If you're a private well water user, you should contact a DEP-accredited lab for information about water testing. [Here is the link](#) to a listing of DEP-accredited labs.

Identify whether your house's plumbing fixtures contain lead. There are lead check swabs that can detect lead on plumbing surfaces such as solder and pipes. These swabs can be purchased at plumbing and home improvement stores.

Monitoring frequencies for lead and copper vary based on previous sample results. A new water system is tested every 6 months until they have 2 consecutive periods of compliance (so it could be the first 2 tests); after that they go to annual monitoring, and if, after 3 years of clean annual tests, they can go to a once-every-three year monitoring schedule. All large water systems (serving more than 50,000) and those small/medium water systems that have installed corrosion control treatment are also required to monitor for water quality parameters to ensure that corrosion control treatment is being properly operated and maintained.

If lead concentrations exceed the legally acceptable level in more than 10% of customer taps sampled, the system must undertake a number of additional actions to control corrosion. These actions include completion of a corrosion control treatment feasibility study, submission of a permit application, and construction or modification of corrosion control treatment facilities. If the action level for lead is exceeded, the system must also inform the public about steps they should take to protect their health and may have to replace lead service lines under their control.

If lead action level is exceeded, public water systems are required to implement a public education program within 60 days. Printed materials must be delivered to all customers, the local or state health department, and other organizations. In addition, water suppliers must provide the results of all lead testing performed on individual homes to the homeowner within 30 days, along with an explanation of the health effects of lead, a list of steps consumers can take to reduce exposure to lead, and contact info for the water system.

Source: The Departments of Health (DOH) and Environmental Protection (DEP)