

A health message about arsenic in local drinking water

(Note: The following article is submitted by tribal Environmental Health and the tribal Utilities Department.)

Recently there has been a lot of discussion involving arsenic in the drinking water. Do most people know what arsenic is?

Arsenic is a semi-metallic element in the periodic table. It is odorless and tasteless. It enters the water supplies from natural deposits in the earth or from agricultural and industrial practices. Arsenic in the earth is found primarily in volcanic rock.

Arsenic occurs naturally in rocks and soil, water, air, and plants and animals.

For most people, food is the largest source of arsenic exposure (about 25-50 parts per billion per day, or ppb), with lower amounts coming from drinking water and air.

Among foods, some of the highest levels are found in fish and shellfish; however, this arsenic exists primarily as organic compounds, which are essentially non-toxic.

Arsenic can be further released into the environment through natural activities such as volcanic action, erosion of rocks, and forest fires, or through human actions.

Approximately 90 percent of industrial arsenic in the U.S. is currently used as a wood preservative, but arsenic is also used in paints, dyes, metals, drugs, soaps, and semi-conductors. Agricultural applications, mining, and smelting also contribute to arsenic releases in the environment.

Higher levels of arsenic tend to be found more in ground water sources than in surface water sources (i.e., lakes and rivers) of drinking water. Compared to the rest of the United States, western states have more systems with arsenic levels greater than 10 ppb.

Parts of the Midwest and New England have some systems whose current arsenic levels are greater than 10 ppb, but more systems with arsenic levels that range from 2-10 ppb. While many systems may not have detected arsenic in their drinking water above 10 ppb, there may be geographic "hot spots" with systems that may have higher levels of arsenic than the predicted occurrence for that area.

Parts Per Billion (ppb): Visualize a swimming pool, which represents our drinking water. Next visualize adding 25 or 50 drops of water to it. That's a good comparison when thinking of what parts per billion would look like.

Possible Health Affects of Arsenic Exposure

Non-cancer effects can include thickening and discoloration of the skin, stomach pain, nausea, vomiting, diarrhea, numbness in hands and feet, partial paralysis, and possible blindness. Arsenic has been linked to cancer of the bladder, lungs, skin, kidney, nasal passages, liver, and prostate.

Livestock and arsenic

The University of Colorado's website for recommended levels of toxic substances in drinking water for livestock, has listed the upper level of arsenic to be 0.2 mg/l. The tribal-public water systems are under the recommended level.

Overview of new rule: EPA FR 6976

On January 22, 2001 the United States Environmental Protection Agency (EPA) made changes to the allowable Maximum Containment Level (MCL) for arsenic. The new rule changes the MCL of 50 ppb (parts per billion) to 10 ppb. The purpose was to improve public health by reducing exposure to arsenic in drinking water.

On January 19, 2006 US Environmental Protection Agency grants Simnasho Water System an arsenic compliance exemption until the year 2015. An exemption does not exempt a water system from complying with the arsenic standard. Instead, it provides additional time

to comply. On January 23, 2006 the new MCL of 10 ppb becomes effective. (Simnasho Water System was granted an exemption until 2015) You can find more information on the web at: <http://www.epa.gov/safewater>

Tribal water system

In 1999 the Warm Springs Tribe coordinated a study by Arasmith Consulting Resources, Inc.

The study determined that the treatment method was very expensive and didn't remove arsenic to an acceptable level.

November 2002: Warm Springs began working on the arsenic problem when the standard changed (although we had a five-year extension). Arsenic Characterization Report produced for Region 10 EPA by Skeet Arasmith. Kanim Smith Sr., Anthony "Chaz" Mitchell, and Herb Graybael are notified/involved.

September 2003: Arsenic Removal Pilot Study Report, Lee Engineering Inc. for Arasmith Consulting Resources, Inc.

Indian Health Service found that the installed treatment methods were not working as promised therefore they requested additional studies for best treatment/cost operations. A contract for this study is to be completed this year.

The Confederated Tribes of Warm Springs have been monitoring the arsenic levels and have published the results of an independent laboratory in the annual Consumer Confidence Reports (CCR).

The tribe sends arsenic samples to independent labs for analysis and must report levels out of compliance with the national standards to the U.S. Environmental Protection Agency.

The tribe was given an extension by U.S. EPA until 2015 for the new compliance rule for arsenic. The tribal water systems have always been in compliance with the standard of 50 ppb and have published their results in the annual CCR of each water system.

The affected local water system is the Simnasho Water System.

The water source for the Simnasho system is groundwater wells.

The Tribal Water Works Department, Environmental Health Office, and the Indian Health Service are doing a feasibility-study for arsenic removal and analyzing water source alternatives.

The cost for surface water treatment and arsenic removal are substantial therefore we must be careful when choosing remediation solutions and alternatives.

Short-Term Options:

1. Install a treatment system to remove arsenic (lease or purchase). The price is about \$300,000.
2. Earth20 can deliver water to each resident for the 24-30 month water treatment implementation period at a cost of about \$50,000 a year.
3. A reverse osmosis filter station at Simnasho Fire & Safety and the Three Warriors Market. People can bring in water to have it filtered. Cost of about \$3000 each for 600 gallon unit X 2 = \$6000

Long-Term Solutions:

1. 2007-2008: Indian Health Service has \$150,000 budget to complete an arsenic treatment feasibility study. The contract is currently with Warm Springs Contracting Department as a proposal.

Once the six or seven month study is complete, the best treatment option can be implemented. Indian Health Service has money for the water treatment/alternate water source implementation. An estimated implementation time is approximately 30-36 months.

For more information please call Utilities at 553-3246; Environmental Health Department at 553-4943; or the U.S. EPA Drinking Water Hotline: 1-800-426-4791.

News from Indian Country

PacifiCorp to limit turbines to help Klamath fish

(AP) – PacifiCorp has agreed to shut down two small hydroelectric powerhouses at Upper Klamath Lake during late summer and early fall so they won't kill endangered fish.

The Portland-based utility agreed to negotiations after the conservation group Oregon Wild filed notice it would sue under the Endangered Species Act to protect shortnosed suckers and Lost River suckers that get sucked into the turbines on Link River Dam, which controls water flowing out of the lake into the Klamath River.

The deal includes a provision that 22 percent of annual operating revenues from the turbines, about \$100,000, will go into a fund for habitat restoration around the lake.

PacifiCorp is owned by a subsidiary of Omaha, Neb., based Berkshire Hathaway Inc., which is controlled by billionaire Warren Buffett.

Pat Reiten, president of PacifiCorp subsidiary Pacific Power, said the company already was planning to decommission the Link River Dam's 3.8 megawatts of power, and was limiting operations in summer when the suckers were present.

This agreement shuts down both powerhouses completely from mid-July through mid-November, when some adults and many juvenile suckers congregate in the southern end of the lake following spawning season.

Reiten added that the U.S. Fish and Wildlife Service had indicated concerns over the turbines' impact on suckers, and this deal should lead to greater certainty over continued power production until the company gives up the powerhouses. It still must be approved by the agency.

Oregon Wild spokesman Steve Pedery said he hoped the settlement would serve as a model for talks over whether to remove the Iron Gate, Copco No. 1, Copco No. 2 and J.C. Boyle Dams on the Klamath River in Oregon and California to help struggling salmon runs.

Oregon Wild was thrown out of talks that led to an agreement between farmers, Indian tribes, conservation groups and fishermen that calls for removal of the dams, but PacifiCorp has not agreed to go along with it. The utility is proceeding with its application for a new operating license, saying it would agree to dam removal only if it does not cost their customers money.

Reiten said he also hoped the Link River talks would serve as a model, noting that Pacific Power has agreed to settlements in its last six applications for dam license renewals, and negotiation is preferable to litigation. PacifiCorp is owned by MidAmerican Energy Holdings Co., which is based in Des Moines.

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Tribe spent \$300,000 on trial in smoke shop raid

CHARLESTOWN, R.I. (AP) – Chief Sachem Matthew Thomas estimates it cost \$300,000 to defend himself and six other members of the Narragansett Indian tribe at their recent trial.

The men were charged after scuffling with state troopers during a 2003 raid on a tribal smoke shop in Charlestown. Gov. Don Carcieri ordered the raid because the tribe was selling tax-free cigarettes.

Thomas and two other tribe members were convicted early this month on misdemeanor charges that are unlikely to mean prison time.

Thomas told The Providence Journal the expense was worth it because the tribe believed state police used unnecessary force, and that it had the right to open the tax-free shop on its land.

The state attorney general's office said it spent about \$17,000 on the trial, which it said was necessary to uphold the rule of law.

Navajo lawmaker attempts to outlaw piracy on reservation

ALBUQUERQUE, N.M. (AP)– Edmund Yazzie was playing in a hard rock Christian band three years ago when he got a call telling him a company was selling his band's CDs over the Internet and on the Navajo Nation.

While such bootlegging is illegal under federal law, it's not illegal on the reservation. The Thoreau, N.M., man hopes to change that with legislation he's sponsoring during the Tribal Council's spring session next week in Window Rock, Ariz.

"I always thought if I ever went into the councilship, that would be one of my goals, to get the pirating law in place," said Yazzie, who is in his first council term. "That's just not fair to the music artist. Some of the musicians, this is their livelihoods."

Anyone caught manufacturing or selling copyrighted material without the owner's permission could be jailed for a year, ordered to pay a \$5,000 maximum fine or both under the proposed legislation. All equipment used to produce or distribute CDs or DVDs and any money made from those sales also could be confiscated.

The law would not apply to those who do not benefit financially from recording CDs, DVDs or live performances.

Independent filmmaker Shonie De La Rosa of Kayenta, Ariz., said piracy is "huge" on the Navajo Nation. A day after he and his wife premiered "Mile Post 398" – a feature length film about the hardships of alcoholism on the reservation – it was being sold at a flea market.

"We put a lot on the line financially and we took that gamble that hopefully people that like our stuff will go out and purchase it where we can at least break even," he said. "Then someone comes along and takes what we worked so hard for and just steals it."

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Montana tribe looks to sell juvenile dinosaur fossil

BROWNING, Mont. (AP) – The Blackfeet Tribe's business council has authorized selling a 74-million-year-old dinosaur fossil to help ease a budget shortfall, tribal Chairman Earl Old Person said.

The prospect of the sale has some people debating whether the tribe should sell the fossil or build a museum to display it. Proponents of a museum say it would keep the fossil on the reservation while attracting tourists and money to the area. "There are pros and cons to selling it," said Reis Fisher, director of procurement for the tribe, who added the tribe would need to research whether a museum would even be economically viable.

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Tribe joins greenhouse gas emissions project

DURANGO, Colo. (AP) – The Southern Ute Indian tribe is joining efforts to establish standards for reporting and tracking greenhouse gas emissions.

The tribe said this week that it will start reporting its greenhouse gas emissions to The Climate Registry, a non-profit organization based in Los Angeles.

The registry already has enlisted 39 U.S. states including Colorado, seven Canadian provinces, six Mexican states, the District of Columbia and three tribal nations, including the Southern Utes.

Several corporations, non-profit organizations, cities and counties also are reporting their emissions to the registry, which was established last year.

The registry aims to provide a clearer picture of the types of emissions being generated and their sources.

"It will offer a baseline of data, which is necessary for moving forward in reducing and regulating these types of pollutants," said James Temte, an air-quality scientist for the tribe.

Emissions reports will be verified by private companies. Participants pay fees of \$450 to \$10,000, depending on their size.

The Southern Ute tribe has taken other steps to address climate change.

Earlier this year, the Tribal Council approved an air-quality code, taking the tribe one step closer to regulating its own air quality with the aim of tightening standards within the reservation's boundaries.