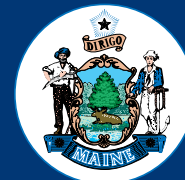




# Activities in Maine



## ATSDR in Partnership With Maine

The Agency for Toxic Substances and Disease Registry (ATSDR) is the lead public health agency responsible for implementing the health-related provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). ATSDR is an Atlanta-based federal agency with more than 400 employees and a budget for 2004 of approximately \$73 million. ATSDR assesses the presence and nature of health hazards at specific Superfund sites, helps to prevent or reduce further exposure and illnesses resulting from those hazards, and expands the knowledge base about the health effects of exposure to hazardous substances.

ATSDR works closely with state agencies to carry out its mission to serve the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and disease related to toxic substances. ATSDR provides funding and technical assistance to states and other partners through cooperative agreements and grants to identify and evaluate environmental health threats to communities. These resources enable state and local health departments and other grantees to further investigate environmental health concerns and to educate communities. From **fiscal years 1987 through 2003**, ATSDR awarded more than **\$450,000** in direct funds and services to **Maine** for financial support of specific environmental health activities. In addition to direct funds and services, ATSDR staff provides technical and administrative guidance for state-conducted site activities.

## ATSDR Site-Specific Activities Public Health Assessment-Related Activities

One of ATSDR's important mandates is to conduct **public health assessments** of all National Priorities List (NPL) sites and of other sites where a significant threat to public health might exist. **Fourteen** sites have been designated to the NPL in **Maine**.

A **public health assessment** is a written, comprehensive evaluation of available data and information about the release of hazardous substances into the environment in a specific geographic area. Such releases are assessed for current or future impact on public health. ATSDR, in collaboration with public health and environmental officials from **Maine**, has conducted **14** public health assessments in the state, including the following recent examples.

- **Eastern Surplus**—ATSDR first became involved in the Eastern Surplus Company site in the 1980s when the **Maine Department of Environmental Protection (MEDEP)** started investigating the site. From 1946 through 1976, the site in Meddybemps was used for storing and selling military surplus goods and other refuse. Because of past activities at the site and the potential for site-related contaminants to impact Meddybemps Lake and Dennys River, the site was placed on the NPL in June 1996.

Since the 1980s, groundwater, private wells, surface soil, surface water, sediment, ambient air, and fish tissue have been sampled. Sampling results indicate that on-site soils were contaminated with various organic compounds, polychlorinated biphenyls (PCBs), and metals that migrated into the underlying groundwater; surface water; sediments; and, possibly, biota.

A number of removal and cleanup actions have occurred at the site. These actions included removing hazardous materials (e.g., drummed chemicals and stained soil) and physical hazards (e.g., decayed gas cylinders and debris), excavating contaminated soil, installing a groundwater pump-and-treat system, and conducting long-term monitoring to verify the effectiveness of the remedial actions.

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A small year-round residential community lives in Meddybemps. This population triples in the summer when seasonal residents occupy homes along the lake. The **Passamaquoddy Tribe** lives downstream of the site and reported that it formerly used the area for gathering medicinal plants and for subsistence hunting and fishing.

ATSDR identified and evaluated five potential exposure pathways in the public health assessment released in March 2003: drinking water from private wells and Meddybemps Lake; trespassing and contacting surface soil on site; using Meddybemps Lake and Dennys River for recreation; inhaling airborne contaminants from the site; and gathering plants, hunting animals, or fishing near the site.

In the March 2003 public health assessment, ATSDR classified the site as an indeterminate public health hazard. ATSDR classified current and future exposures at the site as posing an indeterminate public health hazard because of limited fish data and no plant data to address community health concerns and to make a public health call related to these potential exposure pathways. The Passamaquoddy Tribe has expressed interest in resuming its use of the site for more extensive fishing, hunting, and plant gathering.

ATSDR determined that other potential exposure pathways (groundwater, surface soil, surface water, sediment, and air) pose no current or future public health hazards. Furthermore, the U.S. Environmental Protection Agency (EPA) has conducted remedial actions (e.g., groundwater treatment and soil removals) to reduce or eliminate current and future exposures to contaminants in these media. ATSDR evaluated EPA's soil cleanup levels to confirm they were protective of public health.

ATSDR characterized past exposures at the site as an indeterminate public health hazard because no data are available to characterize past exposures (i.e., before remedial activities in the 1980s and 1990s) to contaminants in surface soil, air, and biota.

Additional fish and mussel samples should be collected to assess potential health hazards from current and future fishing in Meddybemps Lake

and Dennys River. Specifically, fillet and whole body fish samples should be analyzed for PCBs and mercury. Additional sampling should provide data that represent the nature and extent of contamination in edible fish and mussel species, seasonal variations, and variations in size and age. Because the Passamaquoddy Tribe specifically named the Atlantic salmon as being important to the tribe, ATSDR recommends this species be sampled in addition to the other fish samples to address community health concerns.

ATSDR supports the agreement between EPA and members of the Passamaquoddy Tribe to survey the site to identify plants used for tribal purposes. ATSDR will review the data and provide information to the Passamaquoddy Tribe and the community as data become available.

ATSDR recommended that the site owner consider demolishing or implementing access restrictions to prevent trespassing at the dilapidated hydroelectric power unit straddling Dennys River and to eliminate this physical hazard.

- **Callahan Mining Corporation**—The Callahan Mining Corporation site is a former zinc/copper open-pit mine operated adjacent to and beneath Goose Pond in **Brooksville**. The site was contaminated by metals from the open-pit mining operation and residual chemicals from mining separations processes. Since the mine ceased operations in 1972, dams preventing water from entering Goose Pond have been removed, and the pit is currently under water. Elevated levels of heavy metals, including cadmium, copper, lead, and zinc, have been measured in surface water, sediments, biota, soil, and waste piles on site.

The final public health assessment released in April 2003 concluded that the site contains physical hazards and elevated levels of heavy metals. These physical hazards could cause injury to people visiting the site. The levels of heavy metals and other contaminants in the soil and other media are not expected to cause adverse health effects in people because of the low frequency and duration of likely exposures.

Several contaminants at the site are known to accumulate in biota. Not enough information exists about potential contaminant levels to fully determine whether adverse health effects are

possible from eating fish or shellfish collected from Goose Pond or Goose Cove. People who occasionally eat mussels from Goose Cove are not likely to experience health effects from contaminants associated with the site. However, collecting or eating shellfish from Goose Pond, Goose Cove, and other nearby areas is banned because of elevated levels of metals and other pollution.

ATSDR recommends that the property owners discourage access to the site by using signage and barriers until physical hazards are removed and cleanup activities are complete.

ATSDR recommends that EPA, **MEDEP**, or other relevant agencies conduct more extensive biota sampling to determine concentrations of heavy metals in fish and shellfish tissues in Goose Pond; Goose Cove; and if determined to be appropriate, waters adjacent to Goose Cove. Adequate background sampling should be conducted to determine the naturally occurring concentrations of heavy metals in the Brooksville area.

ATSDR recommends that the Holbrook Island Sanctuary ranger and Brooksville and Maine State Police increase vigilance to ensure that people follow the shellfish ban and other fish advisories applicable near the site.

EPA will complete remedial investigation activities for the site. If requested, ATSDR will work with EPA and/or MEDEP to develop an appropriate biota sampling plan for the site.

A **health consultation** is a written or oral response from ATSDR to a specific request for information about health risks related to a specific site, chemical release, or hazardous material. A health consultation is a more limited response than a public health assessment is. To date, **98** documented health consultations have been conducted at **34** sites in **Maine**, including the following recent examples.

- **Buck's Harbor Air Force Radar Tracking Station**—Past operations at the former Buck's Harbor Air Force Radar Tracking Station in **Machiasport** resulted in groundwater contamination that has migrated beyond station boundaries and affected private drinking water wells. When contamination was discovered in 1994, the Army Corps of Engineers and **MEDEP**

installed carbon filtration systems to remove groundwater contamination. Because of either the low concentration of trichloroethylene (TCE) in groundwater or the use of a carbon filter system, none of the residents are exposed to harmful levels of TCE in their residential water.

Members of the surrounding communities are concerned about the health impacts from past exposure to TCE. Some residents perceive an increase of illness in their community and are concerned about cancer and its possible relation to TCE in groundwater.

In November 2000, ATSDR was asked to review groundwater sampling data and investigate possible public health impacts from exposure to TCE in residential wells. The purpose of the health consultation released in August 2001 was to determine public health impacts of exposure to TCE in groundwater, recommend appropriate actions needed to reduce or eliminate exposure to hazardous substances and protect public health, and respond to community concerns regarding chemical contamination originating from the former radar tracking facility.

ATSDR's investigation found no data to indicate a current human health hazard from exposure to groundwater contamination. In the health consultation, ATSDR recommended that the Army Corps of Engineers and MEDEP continue close monitoring of private drinking water wells near the site and include other private wells in sampling program. In addition, ATSDR recommended that state health and environment agencies provide information about private well maintenance and water laboratory analysis to current and future residents who live near the site.

- **Loring Air Force Base**—The **Aroostook Band of Micmac Indians** is acquiring land formerly used by Loring Air Force Base in **Limestone**. ATSDR is working with the Aroostook Band of Micmac Indians and the Loring Air Force Base to determine ATSDR involvement in a health consultation related to hazardous materials found on this land.
- **Penobscot Indian Nation Dioxin Food Chain Contamination**—ATSDR has an interagency agreement with the Bureau of Indian Affairs (BIA) to provide public health support to BIA for various issues. ATSDR, BIA, EPA, U.S. Geological

Survey, and the **Penobscot Nation** developed a protocol to study dioxin contamination of sediments and fish tissue from portions of the Penobscot River. After the sampling from outside sources is complete, ATSDR will analyze the fish tissue data in the form of a health consultation and will recommend health education if needed.

## Health Education and Community Activities

As part of its ongoing outreach activities in affected communities, ATSDR takes proactive steps to involve communities in identifying their health concerns and developing actions to address them. A recent example of this type of involvement in **Maine** is an informational fact sheet created for community members near the Callahan Mining Corporation site. The objective of the fact sheet was to identify community concerns related to the site.

## Health Studies

Health studies are investigations to determine the relations between exposures to hazardous substances and adverse health effects. Health studies also define health problems that require further investigation through, for example, health surveillance or an epidemiologic study. Following are examples of past health studies or investigations that ATSDR conducted or supported in Maine.

- **McKin Dump Site**—In 1987, the **Maine Department of Health Services (MDHS)** conducted a study of persons exposed to contaminated well water near the McKin Dump Site. The objective of the study was to evaluate heart, urinary, skin, liver, eye, blood, and immunologic systems in Gray residents and former Gray residents whose health could have been affected.

Too few people participated in the study to draw substantive conclusions. Low participation occurred despite repeated efforts to locate potential study participants. Overall, the results of this study did not indicate that the health of any exposed residents had been severely compromised.

- **Union Chemical Company**—This study conducted by ATSDR provided technical assistance to **MDHS**. The study assessed the mortality patterns of a **South Hope** cohort who lived within a 1-mile radius of the Union Chemical Company site at any time between 1967 and 1987.

Of the 444 people included in the study, 35 died during the 20-year period. When compared with the U.S. population, after adjusting for age, race, sex, and year of death, and using standardized mortality ratios (SMRs) for specific causes of death as well as for all causes of death, the SMRs for these categories were no greater than expected. These data indicated that excessive deaths did not occur in the cohort. The final report was published in June 1993.

## Resource Materials

ATSDR develops materials for public health professionals and medical care providers to use to assess the public health impacts of chemical exposures. These resources are available in print, on the ATSDR Web site, and on CD-ROM. For example, medical management guidelines are available for acute chemical exposures to more than 50 chemicals. These guidelines were designed to aid emergency department physicians and other emergency health care professionals, such as first responders, who manage acute exposures resulting from chemical incidents. ATSDR's toxicological profiles comprehensively describe health effects; pathways of human exposure; and the behavior of more than 250 hazardous substances in air, soil, and water at hazardous waste sites. The toxicological profiles are used primarily as a comprehensive resource by health professionals at all levels. These profiles have been sent to requesters, including representatives of federal, state, and local health and environmental departments; academic institutions; private industries; and nonprofit organizations in Maine. ATSDR also has developed extensive resources for community members.

**For more information, contact ATSDR toll-free at 1-888-42ATSDR (1-888-422-8737) or visit the ATSDR Web site at [www.atsdr.cdc.gov](http://www.atsdr.cdc.gov).**