

**State of Maine  
Drought Task Force  
Report on Current Conditions  
January 23, 2002**

The Drought Task Force issued previous reports in August, September, November and December, 2001. All previous reports are available on the Internet at [www.state.me.us/mema/drought](http://www.state.me.us/mema/drought)

The Drought Task Force was convened in August of 2001, and held additional meetings throughout the fall. The Task Force is made up of state, federal and private sector agencies who deal with water resource issues.

Throughout this report, references are offered for further information.

**Overview:**

Drought conditions have not substantially improved as the winter of 2001-2002 has progressed. In fact, ground water, stream flow and surface water statistics as of the end of December show record and near-record lows in many instances, and the Palmer Index, a measure of drought maintained by the National Weather Service, has continued to drop.

*The calendar year of 2001 was the driest in 107 years of record-keeping in Maine. Even normal precipitation from now through spring will not be sufficient to lift the state out of drought conditions.*

Maine communities and residents who are experiencing water supply problems *should be prepared to see those problems continue.*

**Current Conditions:**

*Precipitation data from January through December 2001 in Maine confirms this year as the driest in 107 years of record-keeping.*

*Hydrologic Conditions:*

According to the December Current Water Resources Conditions Report of the USGS, groundwater levels were in the below-normal range for the entire state of Maine. Groundwater levels were in the below-normal range for the entire state of Maine. Six of the ten wells recorded record month-end lows for December. Two wells recorded all time lows. Five wells showed water-level decreases during the month. Water levels in ten wells had decreased when compared to water levels at the end of December 2000.

It is difficult to project specific well status and prognosis across the state on the basis of monitoring wells alone. However, the status of these wells represents an indicator of widespread vulnerability.

Runoff was in the below-normal range throughout the state, except in northern Maine where runoff was in the normal range. Runoff was below normal for the seventh consecutive month and for ten of the last eleven months at the Mattawamkeag River site. Runoff was below normal for the eighth consecutive month and for thirteen of the last fifteen months at the Narraguagus River site. A record low daily flow for December of 55 cfs was recorded at the Narraguagus River site.

Storages in Maine's lakes are also well below normal. The total amount of water in usable storage in the five reporting basins at the end of December was 29 percent of capacity, which is below the long-term end-of-December average of 60 percent. Power production has been curtailed at many sites.

The USGS Monthly Current Conditions Report for November is online at:  
**<http://me.water.usgs.gov/01.dec.html>**

The Maine Department of Environmental Protection (DEP) and the Federal Energy Regulatory Commission (FERC) have been working with river basin managers to reduce river levels below minimal levels. It is hoped that lowering flows now will preserve storage until the expected spring recharge. Minimum flows have been reduced at sites on the Androscoggin, Kennebec, Presumpscot, St. Croix, and Union Rivers, as well as the West Branch of the Penobscot.

Although some storages are experiencing a slight winter recharge because of warm weather and runoff, the runoff received now will not be available in the spring.

#### *Weather and Climatology:*

The Palmer index, a matrix of several factors such as temperature, precipitation and soil moisture, shows extreme drought across the state. Between 8 and 11 inches of rain in a week would be needed in one week to bring the index up to normal.

Precipitation deficits are dramatic all over the state, as much as 20 inches below normal in some areas. Long-term weather forecasts, although approximate, indicate normal precipitation and temperatures. There is some indication that precipitation may actually be below normal. Totals for January are so far generally running below normal.

Precipitation would have to run between 125% and 150% of normal over the next several months to bring the state out of drought conditions. The chances of this happening are minimal.

#### *Snow Survey:*

A preliminary snow survey was done in early January, but there is not enough historical snowpack data for this time frame for comparative analysis. Another survey will be done in early February, and weekly surveys will begin the first week in March. All snow survey reports and maps are posted on the Internet at **[www.state.me.us/mema/weather/snow.htm](http://www.state.me.us/mema/weather/snow.htm)**.

#### *Summary:*

In an average year, hydrologic systems begin at “full”. Summer evapotranspiration (water taken up by growing plants and trees) and usage drains hydrological systems to perhaps “half-full”. The winter snowpack and spring runoff then refills hydrological systems to “full”.

Under the existing conditions, summer evapotranspiration and useage have critically drained hydrological systems. An average snowpack may refill hydrological systems to only to “half-full”, and summer evapotranspiration and usage could drain hydrological systems to critical levels again.

*Background information:*

<http://www.umaine.edu/mainecclimate>

[http://www.ncdc.noaa.gov/ol/climate/research/prelim/US/US\\_prelim.html](http://www.ncdc.noaa.gov/ol/climate/research/prelim/US/US_prelim.html)

<http://lwf.ncdc.noaa.gov/oa/climate/research/prelim/drought/spi.html>

<http://lwf.ncdc.noaa.gov/oa/climate/research/prelim/drought/palmer.html>

[http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/cdus/palmer\\_drought/](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/cdus/palmer_drought/)

<http://enso.unl.edu/ndmc/enigma/indices.htm#palmer>

*Weather sites:*

<http://www.nws.noaa.gov/er/gyx>

<http://www.nws.noaa.gov/er/car>

<http://www.state.me.us/mema/weather/genweath.htm>

**Public Water Supplies:**

The PUC reports that Island Falls, Monson, Mt. Desert, New Portland, Port Clyde, Winter Harbor public water systems have requested voluntary conservation and Castine has imposed mandatory water restrictions.

Some of the water systems which are currently experiencing problems have historically had problems in dry periods and have not addressed these shortfalls adequately.

There is some concern that the operators of some public water supplies may not fully recognize the gravity of the current conditions. A drought fact sheet was sent to all public water supplies in the state in December. The Maine Rural Water Association has scheduled 5 workshops for water utilities to give them more detailed information about the drought and its effects. The USGS, NWS, Drinking Water Program and MEMA are expected to participate

**Private Water Supplies:**

Failure of private rural wells represents a greater problem for the public than possible shortages from public water supplies. Many of the involved agencies are experiencing an increase in calls from members of the public with dry wells.

*Well Drilling*

Well drillers are universally extremely busy. On the average, the wait time between contacting a driller and the start of the job is measured in multiple weeks.

Members of the Task Force have been working with the Maine Ground Water Association, which represents a majority of licensed well-drillers and pump installers in the state, to make sure good information is available on well-drilling status. An informal survey of Maine's well drillers conducted in early January shows at least 649 families with dry wells in the state on drillers' waiting lists. MEMA is using a working estimate of 1300 replacement wells drilled, or waiting to be drilled, as a result of the drought. It is difficult to judge how many individuals are out of water, since many do not report this information to their towns, and cannot afford or have decided not to have a well drilled and therefore do not show up on a well-driller's list.

Almost all drillers are currently drilling only for customers who are out of water. All other customers who want wells are being asked to wait. Drillers are maintaining standard rate schedules although their costs are higher in winter months.

The ability to drill wells through the winter depends on the weather. Most drillers are equipped to drill in very cold conditions. However, water must run through piping on the rigs in order to drill. When the wind chill drops significantly below freezing, productivity will drop dramatically and at times drilling is not possible at all. Therefore, depending upon the weather, the actual backlog has the potential to actually be somewhat shorter or potentially much longer than indicated above.

Since all of New England is experiencing some degree of drought, attracting drilling crews from other states is unlikely. In addition, Maine's licensing and professional standards would have to be met by any driller from out of state.

Maine roads are typically posted for weight restrictions beginning in the early spring. Restrictions often exist in some areas to the end of May. This will create a problem if large backlogs of wells to be drilled still exist, since the posting of roads will curtail movement of well drilling equipment. MEMA is working with all involved on a solution to this problem.

### *Other Issues*

Lowering of the pump within the well may provide a short-term solution in some instances. A licensed professional (well-driller or pump installer) should be contracted to do this.

Homeowners may opt to install storage tanks in their basements to store water either pumped from their wells at a low rate over a period of time, or to store water hauled from another site. Homeowners are urged to put only water from a known clean source (such as a public water supply) into home water systems.

General information about wells and well-drilling is available on the web site of the State Drinking Water Program. Homeowners can determine if the driller they are thinking of hiring is licensed and in good regulatory standing by contacting the Maine Well Drillers and Pump Installers Commission (207-287-5699)

Individuals should let their towns know if they are having water supply problems. This will lead to better information about the magnitude of the problem; in addition, the town may be able to offer some emergency assistance.

### *Not Recommended*

Some homeowners are resorting to having wells refilled, either through paying for a water hauler to make a delivery, or through town fire departments doing this as a service for residents. **This practice is not advisable.** Water dumped into a well will last perhaps 3 days before it completely drains away. More of the water will drain into the ground in this time frame than can usually be used by the household. In addition, contamination of water systems can result by opening the well and introducing water of outside origin. Contamination of the area surrounding the well or the aquifer can also result.

### **Economic Impact:**

Hydroelectric production has been severely curtailed at all sites across the state. This has resulted in reduced income for industries that sell power, and additional costs for paper companies that ordinarily produce much of their own power, and have now had to purchase additional power from other sources.

A number of public water supplies have had to make infrastructure improvements including drilling additional wells in order to meet their water needs. The cost of these capital outlays is not yet determined.

Individuals who have lost private water supplies have expended personal capital to drill new wells, install storage systems, purchase drinking water or relocate their families.

Farmers have suffered crop loss, and in some cases have had to sell livestock at a loss because they lost water supply.

Because so much of the state's tourism industry is dependent on water, from whitewater rafting to dug wells at camps all over inland Maine, a water resource crisis that continues into next summer will affect that industry greatly.

All of these losses are difficult to quantify, but the aggregate is easily in the millions of dollars.

### **Sources of Assistance:**

*USDA, Agricultural Disaster Assistance.* A federal agricultural disaster declaration has been made for the State of Maine for the army worm infestation. A declaration has also been requested for the summary drought conditions. A variety of loan programs are made available when an agricultural disaster is declared. Farmers should check with their Farm Service Agencies for information on available programs.

*USDA, Rural Development:* The 504 Loan and Grant Programs are available to qualified individual homeowners. Applicants must live in an area designated as rural, must own the house and the land it is built on, and income-qualify for the assistance. Loans are 1%, and can be

written for as long as a 20-year term. Grants are available to qualified applicants at least 62 years of age.

More information on this program is available from USDA, Rural Development, at:

- Presque Isle (serves Aroostook and Washington Counties): 764-4155/4157.
- Bangor (serves Hancock, Knox, Lincoln, Penobscot, Piscataquis, Somerset and Waldo Counties): 990-3676
- Lewiston (serves Androscoggin, Cumberland, Franklin, Kennebec, Oxford, Sagadahoc, and York Counties): 753-9400

*Community Development Block Grant (CDBG)*, administered by the Department of Economic and Community Development (DECD) has one current program, and one program starting in the spring, that would allow towns to assist residents with water supply problems. A town, group of towns or a county must be the applicant, and then develop a program to assist low or middle-income residents with the funds. DECD advocates towns joining together to apply for grants. The following CDBG programs have been identified as possible sources of assistance:

*Urgent Need Funds:* A total pool of \$200,000 is currently available. There is a limit of \$100,000 on any single grant. Low to middle income residents are targeted. The State of Georgia is currently using this program to help drill wells for individuals.

*Innovative Housing Assistance Program:* Available in early 2002, this program can be used for a specific housing need. This requires a 20% soft match by the community(ies). There is a limit of \$400,000 per single grant. Low to middle income families are targeted.

*Housing Rehabilitation Grants:* If a community has an active grant, it may be modified to include well drilling if certain criteria are met.

*Communities are urged to determine if these programs could help them to assist their citizens.*

More information is available from DECD or the jurisdiction's Regional Planning Commission.

- DECD: Mike Baran, 624-9816, [mike.baran@state.me.us](mailto:mike.baran@state.me.us)

*General Assistance:*

Individuals should check with town General Assistance (GA) Administrators to determine if their situation qualifies for assistance.

*Community Support:*

Some towns or utilities may be delivering water to elderly or special needs residents, making town water available to residents, making shower facilities available, etc. Towns need to be encouraged to continue to offer emergency assistance where needed.

**Public Information:**

In mid-December, Governor King held a media briefing on the drought situation, which focused attention on the problem. Concurrently, the Task Force launched a web site featuring tips for homeowners, links to scientific data, and all Task Force reports. The address of the site is **[www.state.me.us/mema/drought](http://www.state.me.us/mema/drought)**. The site will continue to be updated with new information as long as drought conditions persist.

Maine Municipal Association (MMA) provided extensive information for communities through their December newsletter. MEMA also published information in its newsletter, distributed to emergency managers across the state. Reports and tips for homeowners were distributed to all State Legislators.

A fact sheet for public water supplies was developed by Maine Rural Water Association, PUC and the Drinking Water Program and distributed to all water utilities.

The Department of Human Services, General Assistance program (GA) has communicated with towns about available assistance programs, and the inadvisability of refilling wells. All agencies represented on the Task Force continue to respond to public and media inquiries, and to do outreach to their constituents.

Additional informational and educational resources are available through the National Drought Mitigation Center, connect with the University of Nebraska at Lincoln, online at **<http://enso.unl.edu/ndmc>**.

#### **Action Steps:**

- State and Federal agencies and professional organizations will continue to offer technical assistance to communities, public water supplies and individuals, as they have done through this event.
- More public information will be developed, and various methods will be used to get the information distributed.
- Research will continue into possible sources of financial assistance.
- Organizations currently offering assistance programs will continue to assist applicants, and process applications as efficiently as possible.
- MEMA continue to work with all involved parties on the issue of road weight restrictions exemptions for well-drilling equipment.

#### **Conclusion:**

Maine finds itself in late January still with soberingly low ground water and stream flow levels. Weather outlooks make it doubtful that any more than normal precipitation will be experienced in the next weeks and months, which will not alleviate the drought conditions. All agencies involved in water resources issues, as well as those who respond to community problems and human needs, will need to continue to monitor the situation closely, and work in their areas of expertise to support Maine citizens.

The next meeting of the Drought Task Force is scheduled for March 7, 2002, concurrent with the annual meeting of the River Flow Advisory Commission. All or selected members of the Task Force will come together sooner if conditions warrant.

**Information Resources:**

U.S. Geological Survey  
207-622-8201  
<http://me.water.usgs.gov>

National Weather Service, Gray, Maine  
207-688-3216  
<http://www.nws.noaa.gov/er/gyx>

National Weather Service, Caribou, Maine  
207-496-8931  
<http://www.nws.noaa.gov/er/car>

Maine Department of Conservation, Maine Geological Survey  
207-287-2801

Maine Emergency Management Agency  
207-626-4503  
<http://www.state.me.us/mema>

Maine Department of Human Services, State of Maine Drinking Water Program  
207-287-2070  
<http://www.state.me.us/dhs/eng/water>

Maine Department of Economic and Community Development (CDBG information)  
207-624-9816

G:\DOCUMENTS\River Flow Advisory Commission\Drought\Drought Report 012302.lwp