

State of Maine
River Flow Advisory Commission/Drought Task Force
Report on Current Conditions
March 7, 2002

The Drought Task Force issued previous reports in August, September, November and December, 2001, and January 2002. All previous reports are available on the Internet at www.state.me.us/mema/drought

On March 7, 2002, the River Flow Advisory Commission and the State Drought Task Force held a combined meeting.

The River Flow Advisory Commission meets at least once annually in the late winter to assess current hydrologic conditions and the potential for spring flooding.

The Drought Task Force was convened in August of 2001, and held additional meetings throughout the fall. The Commission and the Task Force share a core membership of state, federal and private sector agencies who deal with water resource issues. They look at similar data in their deliberations; therefore this report will reflect concerns of both flood and drought.

Throughout this report, references are offered for further information.

Overview:

Despite a February in which precipitation across the state was slightly above normal, drought conditions have not substantially improved as the winter of 2001-2002 has progressed. Although stream flows have approached normal for the end of February, ground water statistics as of the end of December show record and near-record lows in many instances, and the US Drought Monitor, issued by the Climate Prediction Center of the National Weather Service, continues to show the entire state in severe to extreme drought.

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 *may experience some spring relief but should be aware that relief may be short-lived. For others, problems may continue without relief.*

Flood potential in the state is below normal, based on snowpack content and current streamflows. Flooding can still occur even in the midst of drought conditions, as it did in 1987. Too much rainfall in a short space of time can cause significant flooding at any time.

Current Conditions:

Streamflows and Runoff:

Streamflows were in the normal range throughout the state of Maine, except in portions of northern and southern Maine where runoff was below-normal. Runoff was in the normal range throughout the state, except in portions of northern and southern Maine where runoff was in the below-normal range. Runoff was below normal for the ninth consecutive month and for twelve of the last thirteen months at the Mattawamkeag River site.

Storage

The total amount of water in usable storage in the five reporting basins at the end of February was 23 percent of capacity, which is below the long-term end-of-February average of 44 percent.

Total quantity of water in usable storage decreased by 3,862 million cubic feet (mcf) and at the end of the month was 38,195 mcf. The following table shows conditions in the five reporting systems at the end of February, as reported by the river basin managers, expressed in percent of reservoir capacity.

| Reservoir System | Reservoir Capacity (mcf)* | This Month (% Full) | This Month Last Year (% Full) | Long-term Average (% Full) |
|-----------------------------------|---------------------------|---------------------|-------------------------------|----------------------------|
| St. Croix River Basin | 26,845 | 31 | 46 | 55 |
| West Branch Penobscot River Basin | 58,700 | 9 | 30 | 39 |
| Kennebec River Basin | 44,730 | 32 | 36 | 45 |
| Androscoggin River Basin | 28,100 | 30 | 39 | 39 |
| Sebago Lake | 9,700 | 22 | 34 | 45 |
| TOTAL OF FIVE SYSTEMS | 168,075 | 23 | 36 | 44 |
| * mcf-millions of cubic feet | | | | |

During the winter, the Maine Department of Environmental Protection (DEP) and the Federal Energy Regulatory Commission (FERC) worked with river basin managers to reduce river levels below minimal levels, in order to preserve storage until the spring recharge. Minimum flows have been reduced at sites on the Androscoggin, Kennebec, Presumpscot, and St. Croix Rivers, as well as the West Branch of the Penobscot.

In the north country, regulated river flows are holding steady while reservoir levels continue to drop. There is a general consensus among the river managers that current flows can be maintained using water currently in storage until spring.

Ground Water

Ground-water levels were below-normal for the entire state of Maine. Six of the ten wells recorded record month-end lows for February. One well recorded an all time low. Two wells showed water-level decreases during the month. Water levels in seven wells had decreased when compared to water levels at the end of February 2001.

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.

The USGS Monthly Current Conditions Report for February is online at:
<http://me.water.usgs.gov/02.feb.html>

Weather and Climatology:

The US Drought Monitor, issued by the Climate Prediction Center, shows the entire state in severe to extreme drought. Between 3 and 9 inches of rain in a week would be needed in one week to bring the index up to normal. The winter of 2001-2002 (December through February) was the 15th driest on record.

Slightly above normal precipitation for February was more than balanced by below-normal totals for January, leaving dramatic precipitation deficits all over the state, as much as 20 inches below normal in some areas since January 2001. In the short term, Maine is in a slightly more active weather pattern, which has brought some significant rainfall over much of the state in the last two weeks, and will bring more over the next 6 to 10 days. Long-term weather forecasts, although approximate, indicate normal precipitation and temperatures.

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.

The US Drought Monitor can be found online at: **<http://enso.unl.edu/monitor/monitor.html>**

Snow Survey:

Recent rainfall has wreaked havoc on the snowpack across the state. The statewide snow survey conducted March 4 through 6 showed below normal water content levels in the snowpack through most of the state. A band across central to northern Maine shows in the normal range, but values through this section are in the low end of normal. Weekly surveys will continue until snow has disappeared. All snow survey reports and maps are posted on the Internet at **www.state.me.us/mema/weather/snow.htm**.

The recent rain and premature runoff from the snowpack, before the ground has thawed enough to allow significant recharge of the groundwater, may have negative ramifications later on in the spring and summer.

Flood Potential:

Flood potential is below normal across the state, based on snowpack water content and current streamflows. However, flooding in Maine does not usually occur as a result of snowmelt alone. A severe rain event dropping a large amount of rain in a short period of time could still create extreme flooding.

Ice conditions are not expected to contribute to flood potential this spring. In southern Maine, rivers and streams are virtually free of ice. In northern Maine, open channels were noted in many rivers, with the ice showing signs of rot. However, ice conditions will be monitored locally until rivers are clear.

Because of the great attention being given to the current drought conditions, it is likely that the public is not attuned to flooding dangers. Special public information efforts may be needed to keep up awareness of flood potential.

Summary:

Despite above normal precipitation for February, and expected rainfall in the first half of March, drought conditions persist. Premature loss of water from the snowpack may mean less spring recharge over, although streamflows, in all but southern Maine, have come into the normal range for the time being. Reservoirs have begun to fill almost a month before the historical start of runoff. Spring recharge conditions will be closely monitored, and reassessed in early May.

Background information:

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

Flood Insurance Program Update:

Even in this year of drought, with winter's ice and with spring rains, flooding is always a threat to those properties that are in the floodplain. In fact flooding can happen any time of the year. One very important item that property owners and renters should consider is the purchase of flood insurance. Unfortunately, many individuals think that their homeowner's or business owner's insurance policy will cover any losses. These insurance policies typically do NOT cover damages from flooding. Flood Insurance must be purchased separately. *There is a 30-day waiting period* before the policy goes into effect. Some estimates indicate that only 21% of those structures in the floodplain in Maine are covered by flood insurance.

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 continue to be extremely busy. On the average, the wait time between contacting a driller and the start of the job is measured in multiple weeks. Almost all drillers are currently drilling only for customers who are out of water. Attention being paid to emergency cases is causing construction deadlines to fall behind.

Due to the early warm-up and rain, local road restrictions have gone up in many parts of the state. An emergency bill in the legislature would loosen permit restrictions on the movement of well-drilling equipment on posted roads. LD 2150 was voted "Ought to Pass" by the Joint Standing Committee on Transportation on March 7.

Public Water Supplies:

The State Drinking Water Program has is working with some 40 public water supplies on emergency permitting. These locations have had to drill new wells or make other infrastructure changes to cope with water shortages.

It is expected that seasonal business owners may discover water shortages when they arrive to open their campgrounds, restaurants and other businesses this spring. This may well engender a surge in requests for emergency well siting and permits.

Fire Suppression:

Several rural counties have reported concerns about fire suppression in the spring and summer months. The ponds and streams that supply dry hydrant systems are very low; this water resource may not be available for fire fighting in rural areas. In addition, large amounts of water

for fire fighting drawn from a municipal water system may create a problem for a system with closely managed supplies.

Other Issues

Information for Homeowners:

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. Implementation of the Emergency Conservation Program has just been approved for Maine, which can provide grants up to 50% for well-drilling or other water transport or delivery costs, A variety of other programs will be made available if 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 issued some Urgent Needs Funds for community water supplies. Other CDBG assistance may assist some communities whose citizens have private well problems. The application deadline for these programs has passed, and grants will be awarded later in the year.

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

- DECD: Mike Baran, 624-9816, 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:

Flood

The National Weather Service Forecast Offices in Gray and Caribou designated Friday, March 8 as “Flood Awareness Day”. They distributed flood awareness and preparedness information to media outlet across Maine.

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

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

The State Planning Office, Floodplain Management Program, issued a press release early in March emphasizing that homeowners insurance does not cover flooding, and that there is a 30-day waiting period after the purchase of a policy before that policy goes into effect. This press release is available online at: www.state.me.us/spo/flood/flood.htm

Drought

In mid-December, Governor King focused attention on the drought problem, and introduced a state 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**. The site will continue to be updated with new information as long as drought conditions persist.

The Maine Rural Water Program has sponsored a series of workshops for their members, in which the Drinking Water Program, MEMA, USGS and NWS all participated. All agencies represented on the Task Force continue to respond to public and media inquiries, and to do outreach to their constituents.

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.
- A renewed effort will be put on data collection, to assess the costs accrued by public facilities, and the numbers of households with dry or problem wells.
- A subgroup of the Task Force will look at any potential impediments to expedited permitting for water utilities making drought-related emergency infrastructure repairs or improvements.

Conclusion:

Maine finds itself in early March still with soberingly low ground water levels. Below normal water content in the snowpack and long-term predictions for only normal precipitation make it unlikely that drought conditions will be quickly alleviated, although a short term spring recharge will bring some normalcy back to streamflows.

Flood potential is below normal, but public officials should keep in mind that major flooding can occur even in the midst of drought conditions, as occurred in 1987.

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 early May, 2002. 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