

# Drought Resources for Public Water Systems

information from department of natural resources

Minnesota Department of Natural Resources (DNR) officials say Minnesota has entered the Drought Warning Phase under the Statewide Drought Plan. As drought conditions persist, the Drought Plan requires that the DNR take additional actions. These actions include convening the State Drought Task Force, increasing public awareness of drought, and asking public water suppliers to implement demand reductions to have water use 50% above January levels. To learn more about the actions, see below.

## What is a Drought Warning Phase?

Minnesota has entered the Drought Warning Phase. Since we have not had a Drought Warning since 2012, you may want to familiarize yourself with the Minnesota [Statewide Drought Plan](https://files.dnr.state.mn.us/natural_resources/climate/drought/drought_plan_matrix.pdf) (https://files.dnr.state.mn.us/natural\_resources/climate/drought/drought\_plan\_matrix.pdf)
(4-page document). Now that we are in the Drought Warning Phase, the Drought Plan requires that the Minnesota Department of Natural Resources (DNR) take additional actions. These actions include: convening the State Drought Task Force, increasing public awareness of drought, and asking public water suppliers to implement demand reductions with the goal of having water use 50% above January levels. This is the third of five drought phases.

## What water suppliers are impacted?

Drought conditions are designated according to watersheds. Seven of the 12 major watersheds are currently in severe drought including: the Red River, the Mississippi Headwaters, and the Minnesota River watersheds. Approximately 500 water suppliers are now in a watershed with severe drought conditions. Those water suppliers, who have both surface and groundwater systems, were notified on July 16. If you did not receive a notice from the DNR, your watershed is not in severe drought, however, you are strongly encouraged to prepare now, because of the continued rapid increase in severe drought across much of the state.

## What if we have deep wells?

If your watershed is in severe drought, then you are to implement additional water conservation measures, *even if you have deep wells or your community itself is not in severe drought*.

## When do we need to take action?

Additional water conservation measures must begin as soon as possible with a focus on reducing outdoor water use. Examples include:

* Reducing the number of days that lawn irrigation is allowed, e.g. only one or two days per week.
* If there are splash pads, reducing the hours of operation or water pressure.
* Encouraging residents to reduce car washing and to delay pressure-washing homes until fall or next spring.
* Inspecting and fixing leaks in the water supply system, hydrants, city pools, and fountains.
* Encouraging your ten largest water users to save water.

Public water suppliers are required to comply with the State Drought Plan. Efforts to meet water conservation goals must be implemented. There are no mandatory restrictions at this time. Mandatory restrictions would only occur under a “critical water deficiency declaration” by the Governor, and that would only occur under exceptional drought conditions in the Emergency Drought Phase.

What about hydrant flushing during a drought?

At a minimum, wait until mid-September or even October to do the hydrant flushing. Or, if you are not getting customer complaints, maybe wait until spring. Some cities in Minnesota are moving to only one flush per year rather than twice per year. Now is a good time to evaluate your flushing program to ensure maintenance of water quality and water conservation. Continue to check that the hydrants are not leaking and that they are in good condition for firefighting.

During the droughts in California, water utilities changed the way they did routine flushing. California Water Association published an interesting article on this topic, [How the Drought Affects Routine Water Main Flushing to Maintain Water Quality (https://calwaterassn.com/how-the-drought-affects-routine-water-main-flushing-to-maintain-water-quality/)](https://calwaterassn.com/how-the-drought-affects-routine-water-main-flushing-to-maintain-water-quality/).

## ****Should cities allow developers to install new sod during restrictions?****

Perhaps you could reach a compromise with the developers. Some suggestions:

* It would be best to delay sod installation until the fall when the temperatures are not so hot and there would be better chance of successful root growth.
* If sod is installed with irrigation systems, then they should be required to install Smart Irrigation Controllers certified by the EPA WaterSense program (retail cost approximately $230). Woodbury has been very satisfied with the Rachio controllers but there are many other models available. Studies conducted by the University of Minnesota have shown these controllers save an average of 49% of outdoor water use for homes.
* Require that irrigation systems be set to only operate early in the morning or later in the evening when temperatures are cooler.
* Require that irrigation systems be adjusted so sprinklers only water the lawn and not the house, sidewalk, or street.
* Have the systems set to water in several short sessions rather than one long one, in order for the lawn to better absorb moisture and avoid runoff. Grass only needs 1” per week – although new sod may need more (I’m not an expert on new sod).
* You may want to have a hefty fine for the above requirements.

## ****Should residents be allowed to drill a new private well in city limits?****

Drilling private wells in areas with city water is up to individual city ordinances. Most cities prohibit the drilling of wells where city water is available, or in wellhead protection areas.   Existing wells are allowed to be used by most cities, but some cities require them to be sealed.

Drilling private wells in a city may not be a good idea for several reasons:

1. It may conflict with your MDH Wellhead Protection Plan and increase the possibility of aquifer contamination over time.
2. Private well use in proximity to the city wells may cause an increased drawdown of the city well water levels. This in turn may increase pumping costs to the city or even endanger the city water supply.
3. If people use private well to irrigate their lawns this inevitably brings up a fairness issue. If it is allowed, the city council should adopt an ordinance that says private wells must comply with city watering restrictions.

## ****Should residents be allowed to pump water from lakes to irrigate lawns?****

Many communities have communicated to their residents and businesses about reducing water use, conserving water, and using water as efficiently as possible. This may include lawn watering restrictions within a particular community. However, pumping directly from a lake for watering a lawn typically isn't regulated by a local community where the lake is located. Rather, pumping water from a lake would only require a permit from the DNR if the homeowner or business is using in excess of 10,000 gallons per day or 1 million gallons per year. Most people watering their lawns with lake water do not require a DNR permit because the appropriation of water is below the permit thresholds.

Permitted water users are told to suspend their appropriation of water if specific low flow or low water level thresholds are met. In many northern and central Minnesota watersheds these low flow thresholds have occurred and so the DNR has notified permitted water users to suspend their water use from a surface water (lakes, rivers, streams, and wetlands). Residents and businesses can continue to pump water from a stream, river or lake if they are using less than 10,000 gallons per day (permit-required threshold). This is considered their riparian right as long as the water user owns land abutting the surface water.

The DNR encourages residents, businesses, and public water suppliers to conserve and use water efficiently. Local governments like cities, counties, watershed districts and soil and water conservation districts are best-positioned to share educational resources to encourage them to use water efficiently.

## ****Are there best practices for irrigating athletic fields?****

To have a safe sports field that prevents injuries to athletes, it is important to maintain turfgrass health and density. Healthy turfgrass depends using the right grass species, mowing correctly, fertilizing properly, watering enough, etc. At this point in Minnesota, irrigation is needed to provide the water needs of turfgrass, especially on an athletic field that receives wear and compaction stress, in contrast to a home lawn or ornamental turf area that isn't being intensely used. The University of Minnesota Turfgrass extension irrigator recommends the Cornell University’s sports field best management practices, available at [Investing in Safe Sports Fields (http://safesportsfields.cals.cornell.edu/)](http://safesportsfields.cals.cornell.edu/).

## Where can I learn more?

The DNR encourages all public water suppliers tosign up to receive GovDelivery drought email updates at [Drought in Minnesota (https:/www.dnr.state.mn.us/climate/drought/index.html)](https://www.dnr.state.mn.us/climate/drought/index.html). The weekly drought update, released each Monday, includes information about current drought status, fire danger and state burning restrictions, and sample stream flows and lake levels. DNR will offer a drought webinar soon.

Subscribers also will receive State Drought Task Force meeting summaries and agendas. The DNR convened the task force in July, when Minnesota entered the Drought Warning Phase. The State Drought Task Force comprises 21 state, federal, tribal, regional and local agencies and organizations with water-related responsibilities.

DNR’s webpage [Drought in Minnesota (https://www.dnr.state.mn.us/climate/drought/
index.html)](https://www.dnr.state.mn.us/climate/drought/index.html) includes current information on water conservation efforts, lake level and river flow data, drought and streamflow maps, and a new table providing information about temporary water appropriation suspensions by watershed.

The Minnesota Rural Water Association conference, from August 24-26, will have sessions on drought. Templates and outreach materials from [EPA WaterSense (https://www.epa.gov/watersense)](https://www.epa.gov/watersense). For community-specific questions or water supply concerns, contact your DNR Area Hydrologist or Carmelita Nelson at 651-259-5034 or Carmelita.nelson@state.mn.us.

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