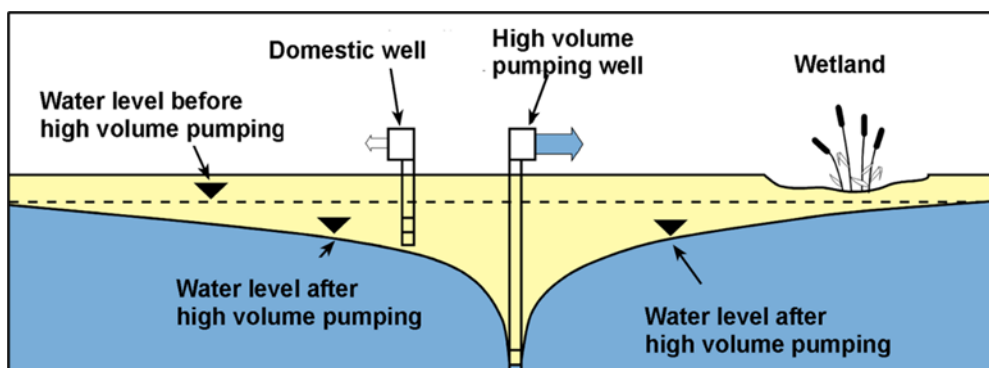


## Blaine-Ham Lake area well interference

In August 2022, the Minnesota Department of Natural Resources (DNR) began receiving calls from residents of the north-metro Twin Cities suburbs of Blaine and Ham Lake whose wells were out of water. These residents rely on their own domestic water wells for household water. The DNR suspected that *well interference* had occurred and started investigating.

### What is well interference?

Pumping from a high volume well lowers the water level in the surrounding groundwater aquifer. Well interference occurs when the water level drops below a domestic well pump, so the pump cannot reach or pump water (see illustration below). In Minnesota, the DNR investigates possible well interferences at no cost to the domestic well owner. The DNR only investigates well interference complaints after a well driller has inspected the well **and** the homeowner has submitted a [well interference complaint form](#).



Well interference happens when high volume water use lowers the groundwater level below the pump of nearby domestic wells

### How many domestic wells had problems?

As of May 1, 2023, the DNR has received calls, emails or letters from more than 150 residents experiencing water supply problems in the Blaine-Ham Lake area. The DNR provided all of those residents with information about the DNR's process for investigating well interference complaints. The DNR has received 74 well interference complaint forms. Because there are so many well interference complaints (and we continue to receive complaints), the DNR is investigating the complaints in batches. As of May 1, 2023, the DNR has completed its investigation of 50 complaints. The locations of these 50 complaints are shown on the map on the next page. The map shows:

- Fewer water supply problems were reported in the City of Blaine, because the city has a municipal water supply system that provides water to residents, so there are fewer domestic wells.
- More well problems occurred in the adjacent City of Ham Lake, because they do not have a municipal water supply system and all residents get their water from private domestic wells.

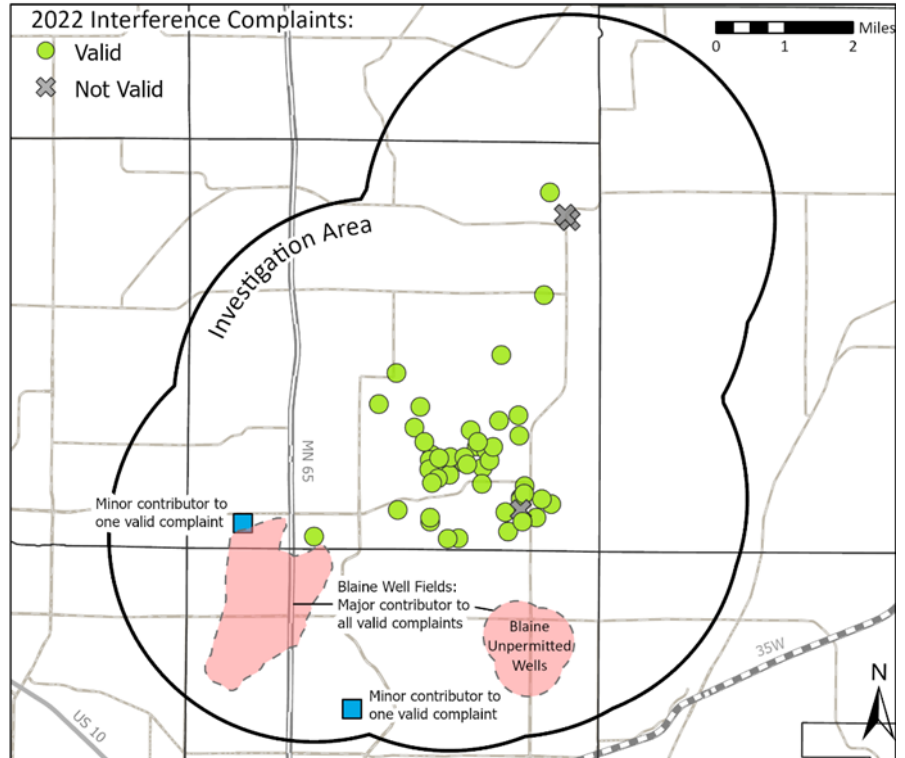
# What caused domestic wells to run out of water?

The DNR reviewed groundwater use, groundwater levels, geology and well construction to find out why so many wells went out of water. We found that:

- Groundwater use in the area was the highest on record in 2022. The city of Blaine used about 1.7 billion gallons of groundwater in 2022, which is about five times more than all other high volume users in the area combined.
- Groundwater levels in 2022 were the lowest on record in many [observation wells](#) because of very high groundwater appropriation and use.
- Groundwater aquifers in this area are strongly connected to each other. That means that pumping large volumes of water from one part of the aquifer can cause water levels to drop several miles away.

The DNR investigation showed that the large volume of water pumped by the City of Blaine in the summer of 2022 was the main reason domestic wells went dry. Of the 50 complaints evaluated so far, the DNR has determined that 47 ran out of water due to high volume pumping. The DNR determined that these 47 complaints are valid. The other three complaints were determined not valid because water supply problems were caused by reasons not related to high volume pumping (e.g., a broken pump).

This map shows the investigation area for the report, as well as the locations of the complaints and contributing high volume wells.



## What happens next?

1. The DNR will work through the [well interference settlement process](#) with the City of Blaine, two area golf courses, and residents associated with the 47 valid complaints.
2. The DNR will continue to investigate outstanding and future complaints.
3. The DNR will review the City of Blaine's permit to make sure domestic water supplies continue to be protected.

## Contacts

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**Blaine-Ham Lake area well interference webpage:** [https://www.dnr.state.mn.us/waters/watermgmt\\_section/blaine-ham-lake-well-interference.html](https://www.dnr.state.mn.us/waters/watermgmt_section/blaine-ham-lake-well-interference.html)