

Basic information about ice jams

What is an ice jam?

An ice jam is a buildup of ice chunks that have broken loose upriver and then have become stuck together as they move down the river. Slushy ice can jam into the cracks and crannies between larger pieces of ice. Slush in the spaces makes the ice jam more solid than if it was only large chunks.

An ice jam creates a temporary “dam” in the river. An ice jam does not stop the river’s flow. The blockage does, however, slow the water’s natural flow. If the flow slows enough, the water level immediately behind the ice jam may rise above the river’s banks and onto the flood plain. It is not possible to predict how long an ice jam will last. Warm weather shortens the time, and cold weather lengthens it.

What conditions can create ice jams?

Several weather situations can create ice jams. Those conditions may occur separately or together. Several days of unseasonably warm weather may cause ice to break apart and begin moving downstream. Heavy rain may have the same result, even if there is a significant snow cover.

Shallow, slow-moving areas of the river are the most likely spots for ice jams, since the ice does not move rapidly through such areas. Sections where the river takes a wandering course also are likely ice jam locations. Areas with debris on the river bottom or along banks also are likely places for ice jams. Areas with sandbars or islands, or changes in the slope of the river bottom, also may be affected.

What about the Rogers hydroelectric plant?

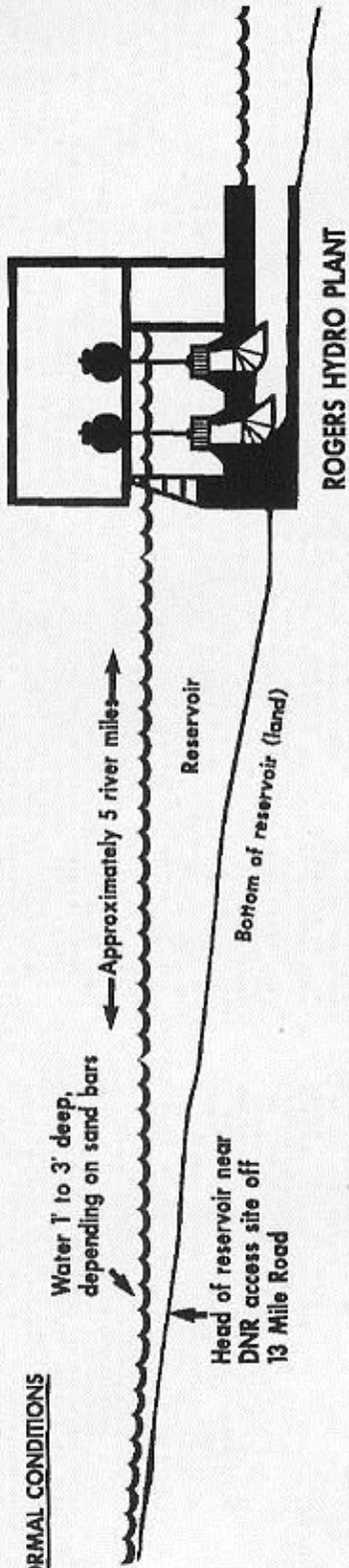
Here on the Muskegon River, Consumers Energy’s Rogers hydroelectric plant is downriver from shallow areas where ice jams have occurred in the past. The Rogers facility is a “run of river” plant. All water coming down the river to the plant is immediately passed through the plant’s generating equipment and/or spill gates. Consumers Energy’s focus is on public and employee safety.

The reservoir’s surface usually looks smooth, so even in summer it may be difficult to imagine that hundreds or thousands of cubic feet of water are moving down the river each second. Each cubic foot of water is more than seven gallons. The flow never stops.

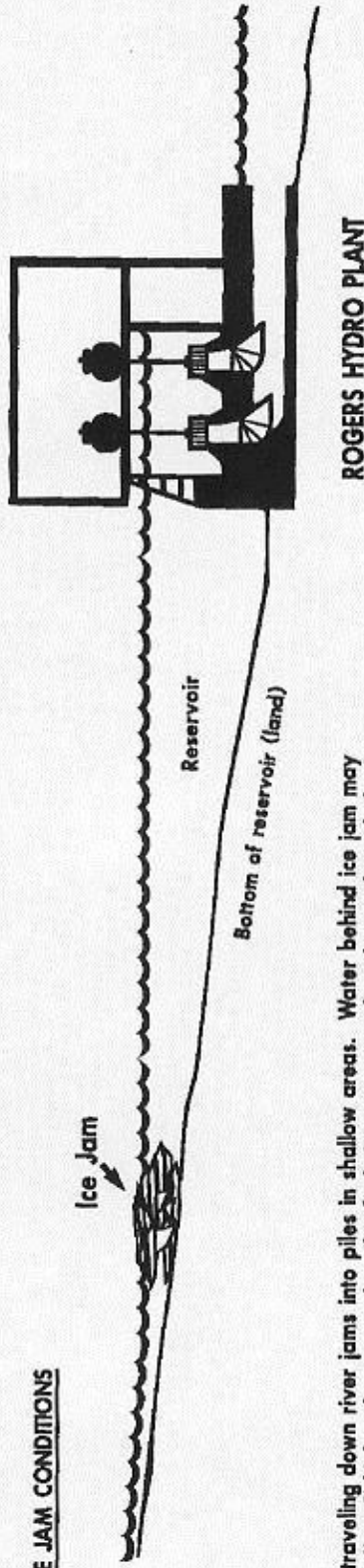
Because the river channel between the typical ice jam areas and the Rogers dam goes downhill, water making its way through or around an ice jam continues to flow on down to the dam as quickly as possible. It is immediately passed through the facility. Past experience has shown that changing the level of water in the Rogers reservoir did not speed up the release of water built up behind the upstream ice jam, in fact, changing the level of water in the Rogers reservoir could make the ice jam worse.

HOW ICE JAMS AFFECT RIVER LEVELS

NORMAL CONDITIONS



ICE JAM CONDITIONS



Ice travelling down river jams into piles in shallow areas. Water behind ice jam may rise 4' to 5' higher than normal until it finds its way around, under or through the ice. The water in the reservoir does not restrict that process.

What should I do to prepare for ice jams?

Know how your property's elevation compares with typical river levels. That will help you evaluate your potential for flooding during ice jams. Monitor mid- and late-winter weather closely to be aware of developing conditions likely to create ice jams.

Mecosta County has installed a water level gauge at the public landing on 183rd Avenue. The gauge is on dry land. Water approaching the gauge's location is a warning that the river's level is changing.

Area residents are welcome to check the gauge regularly as a way to monitor river conditions.

Being prepared before ice jam flood waters reach your property gives you more control over the situation. Over the years, some property owners have built walls to direct high water levels away from their property. Others have pumps in their basements. Others have used sand bags to guard against high water levels. Others have moved some personal property to higher ground or have removed valuables from basements. These things are much easier to do before an ice jam occurs.

What should I do if flood waters approach my property?

If high water begins to come onto your property, please call Central Dispatch at 911 or (231) 796-4811 to give county officials current information about your area. County officials monitor weather and river conditions and may recommend some residents leave their homes temporarily to escape flooding. The county also may be able to provide personnel or equipment to help residents evacuate.

Ice jams are a common condition of nature

Every cold weather state has the potential to experience ice jams. Monitoring weather and river conditions gives you some warning of when they may occur. Being prepared and knowing how to respond is your best defense.

Ways to protect your house and property.

Basement flood protection can involve a variety of changes to your house and property—changes that can vary in complexity and cost. You may be able to make some types of changes yourself. Complicated or large scale changes or those that affect the structure of your house or its electrical wiring and plumbing should be carried out only by a professional contractor licensed to work in your state, county, or city. Below are some examples of flood protection.

- **Install Sewer Backflow Values.** In some flood prone areas, flooding can cause sewage from sanitary sewer lines to back up into houses through drainpipes. Sewage backup not only causes damage, but also creates health hazards. Backflow valves have a variety of designs ranging from simple to complex. This is something that only a licensed plumber or contractor should do.

- **Raise or Flood Proof Heating, Ventilating, and Air Conditioning Equipment.** In flood prone houses, a good way to protect HVAC equipment is to elevate it above the areas that flood. Another method is to leave the equipment where it is and build a concrete or masonry block flood wall around it.
- **Anchor Fuel Tanks.** Unanchored fuel tanks can be easily moved by floodwaters. One way to anchor a tank is to attach it to a large concrete slab whose weight is great enough to resist the force of floodwaters. Elevate tanks to a minimum of at least one foot above the base flood elevation (BFE). Floating and/or damaged tanks pose serious threats not only to you, your family, and your house, but also to public safety and the environment.
- **Raise Electrical System Components.** Any electrical system component, including service panels (fuse and circuit boxes), meters, switches, and outlets, are easily damaged by floodwaters. All components of the electrical system, including the wiring, should be raised at least one foot above the base flood elevation (BFE).
- **Raise Washers and Dryers.** Washers and driers can easily be damaged in a flood. In order to prevent this from happening, utilities can be placed on cinder blocks one foot above the base flood elevation (BFE).
- **Add a sump pump in your basement.** Sump pumps can help keep groundwater from entering your home's interior.
- **Cut drywall so that it is one-half to 1-inch off the floor.** This is especially important in basements. Concrete floors commonly absorb ground moisture—especially in winter months. That moisture can wick up the wallboard if it's touching the floor, allowing mold to grow out-of-sight within the walls. (You can hide the gap with wood or rubberized floor trim.)
- **Don't forget to buy flood insurance.** Flood insurance provides year-round financial protection and improves your ability to quickly recover when severe storms strike and cause unexpected flooding. **Call your local insurance agent or you can reach National Flood Insurance Program specialists at 1-800-720-1090, or 1-800-CALL.**