



## **What is an ice jam?**

Pieces of floating ice carried with a stream's current can accumulate behind any obstruction to the stream flow. Obstructions include river bends, mouths of tributaries, points where the river slope decreases, as well as dams and bridges. The water held back can cause flooding upstream, and if the obstruction suddenly breaks, flash flooding can occur downstream.

## **Are all ice jams the same?**

There are 2 main types of ice jams: freeze-up ice jams and break-up ice jams. Freeze-up jams happen when extremely cold air temperatures occur over open water. This results in the rapid production of large amounts of river ice that can jam downstream. Break-up jams account for about 2/3 of local ice jams, and occur when rapid thaw and/or runoff entering the river system break the existing ice cover and cause jamming downstream.



## **Is ice jam flooding more common in certain areas?**

Yes, some areas are certainly more prone to ice jam flooding than others. The impact at any given location depends on the local terrain and construction and obstructions to the flow as mentioned above. Over the years, ice jams have caused flooding on many local rivers including the Rock, Green, Skunk, Iowa, Edwards, and Wapsipicon Rivers. Some creeks may also be subject to ice jamming with varying impacts.

## **When is an ice jam most likely to occur in the Midwest?**

Ice jams occur almost every year in the Midwest. An ice jam can occur anytime from early winter to late spring, depending upon air temperature patterns. Freeze-up jams typically occur between late November and mid February and break-up jams typically occur between mid-February and late March.

## **How are ice jams monitored?**

Ice jams are typically monitored and reported by local residents or officials. If a jam happens to occur near and downstream from a river gage, rising river levels behind the ice jam may be tracked by the gage. The Corps of Engineers (COE) Cold Regions Research and Engineering Laboratory classifies and maintains a database of ice jams across the U.S. (see link below).

## **Can an ice jam be mitigated?**

The impact of some ice jams may be mitigated, either through advance measures or emergency measures. Advance measures include construction of ice/flood control structures or weakening the ice when potential for a jam exists. Emergency measures after a jam forms include excavation, traditional flood fighting, or doing nothing. The appropriate mitigation technique varies from location to location and from jam to jam depending on its specific characteristics. The COE web site listed below includes details explanations of the various mitigation techniques.

### **On the web:**

- U.S. Army Corps of Engineers ..... [www.crrel.usace.army.mil/icejams](http://www.crrel.usace.army.mil/icejams)
- COMET River Ice Online Training ..... [www.meted.ucar.edu/topics\\_hydro.php](http://www.meted.ucar.edu/topics_hydro.php)
- NWS Ice Jam Background ..... [www.weather.gov/greatfalls/icejam](http://www.weather.gov/greatfalls/icejam)
- National Weather Service Quad Cities ..... [www.weather.gov/quadcities](http://www.weather.gov/quadcities)