

Chapter 6 Ice Jam Mitigation Assistance

a. In most instances, the lead agency in ice jam mitigation is the U.S. Army Corps of Engineers. Other Federal agencies involved in ice jam mitigation include FEMA, the U.S. Geological Survey, and the Bureau of Reclamation.

b. At the state level, many agencies play important roles in helping to reduce the threat of, prepare for, or clean up after flooding, including environmental conservation agencies, disaster services agencies, and/or transportation departments.

c. At the local level, county and city governments, as well as schools, utility companies, private relief organizations, private businesses, and individuals all participate in ice jam mitigation efforts.

d. An excellent overview of emergency management techniques has been prepared by the International City Management Association. *Emergency Management: Principles and Practice for Local Governments* (Drake and Hoetmer 1991) provides an accessible foundation in the principles of emergency management that would be useful for ice jam mitigation as well as other natural hazards. Other free public awareness, preparedness, mitigation, and floodproofing materials can be found in the reference list.

6-1. U.S. Army Corps of Engineers

As the agency responsible for most of the nation's river management, USACE plays a major role in ice jam mitigation efforts. In cooperation with local authorities, the Corps has designed and built levees, flood control dams, and ice control structures, as well as participated in emergency response to ice jams. A recent survey (White 1992) shows that Corps districts have implemented a wide variety of effective strategies in rivers around the country, including ice jam removal, evacuation, sand bagging, and technical advice.

6-2. Cold Regions Research and Engineering Laboratory

a. One of four research laboratories operated by USACE, CRREL specializes in problems associated with cold regions. The CRREL Ice Engineering Research Branch is involved in research that increases knowledge of the causes of ice jams and methods that can be used effectively to reduce the occurrence and effects of ice jams.

b. Any Corps district office can contact CRREL to monitor and study an ice jam problem area or help develop an innovative project to reduce ice jam flooding potential.

6-3. Ice Jam Database

a. With the help of individuals and agencies involved in ice jam mitigation, CRREL has developed an ice jam database. More than 7,000 ice jam events are included. The database includes existing knowledge of the strategies used by the Corps district offices and others to deal with ice jams around the country (Figure 6-1).

b. Specifically, the database informs an emergency manager whether or not a particular river has ice jam potential, or which measures have been used successfully to reduce damages in previous ice jam situations. The database covers:

- River name.
- Date of ice jam(s).
- Nearest towns and state.
- Type of ice jam(s).

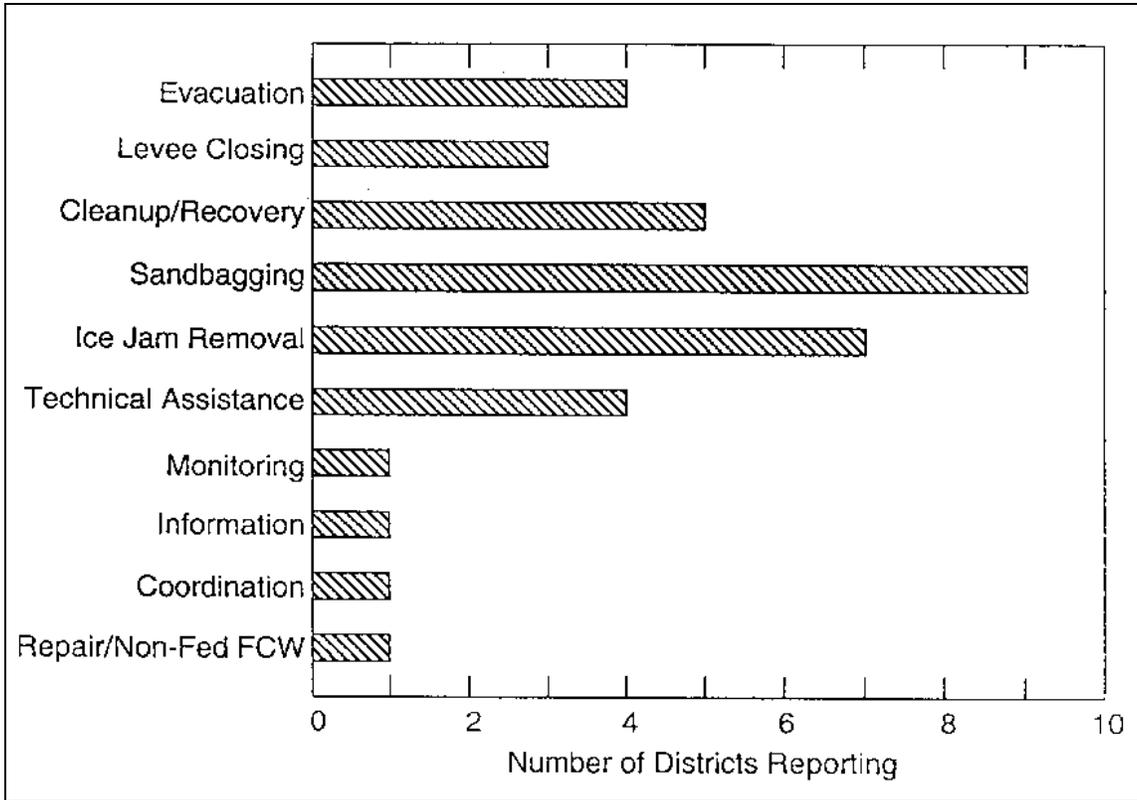


Figure 6-1. Emergency response measures reported by districts (White 1992)

- Extent of damages.
- Points of contacts.
- Publications (if available).
- Information, if available, on whether the ice jam can be classified as a freezeup, midwinter, breakup, or combination jam.
- The range of ice jam mitigation design measures attempted.
- The efficacy of any emergency response methods used in the past.

c. The database is available to PC users on either 3.5-in. or 5.25-in. floppy disks and allows users to browse; sort by river, state, or year of event; and print database entries.

d. For more information on the ice jam database, contact the Ice Engineering Research Branch at CRREL by phone at (603) 646-4378 or fax (603) 646-4477.