

MEMO TO: Mike Ganley CENAN-OP-EM. John Hasselman CENAN-OP-EM
SUBJECT: Late winter ice conditions on northern New York and Vermont Rivers in the
New York District
DATE: 16 March 2005

On 16 March 2005, Andy Tuthill checked ice conditions by air on the New York District rivers listed below. The focus was on sites where historic ice jams and ice jam floods are known to have occurred.

Mohawk River, Hudson R. confluence to Utica
Hudson River, Corinth to Albany
Bouquet River, Lake Champlain to Elizabethtown
Ausable River, Keene Valley to Lake Champlain
Great Chazey, Mooers to Lake Champlain
Mississquoi River, Lake Champlain to Enosburg Falls

In general, the rivers in the northern portion of the district are very winter-like in appearance with nearly complete ice covers under deep snow, with very little open water showing. From Glens Falls south the Mohawk Valley, open water sections and open leads are much more prevalent.

The *Hudson River* is open from Corinth, through Glens Falls and beyond Albany as far as visible (Fig. 1).

The *Mohawk River* is nearly ice-free from above Scotia as far as Utica with very little ice jam potential. The lowest 25-miles above the dams at Cohoes is covered in sheet ice (Fig. 2). At the upstream end of this sheet ice cover, a 3-mile-long ice jam fills the channel upstream of Route 5 Bridge at Scotia (Fig. 3). With the exception of a 5-mile-long ice-covered section upstream of the weir at Fultonville, the Mohawk is mostly open as far as Utica.

Fulmer and Steele Creeks are mostly open through the villages Mohawk and Ilion, with partial ice covers in their upper reaches. I would say that the potential for breakup ice jams and flooding on these two streams is low. *Moyer Creek* is ice covered near the mouth, then open for several miles as it passes through Frankfort with a nearly complete ice cover on its upper reaches (Fig. 4). Based on ice volume, ice jam potential on Moyer Creek is somewhat higher than on Fulmer and Steel.

The northeastern NY rivers: the *Bouquet, East Branch of the Ausable, Great Chazey, and the Mississquoi* in Vermont have complete ice covers and are still very winter-like in appearance. A major thaw with rain could still produce ice jams and flooding on these rivers. Fig. 5 shows the E. Branch of the Ausable at Jay, NY which has experienced a number of ice jam floods. The Great Chazey ice run commonly jams in the backwater of Lake Champlain to flood low-lying residential sections of Champlain, NY (Fig. 6). Fig. 7 shows a complete ice cover on the flat-lying lower reaches of the Mississquoi, one of Vermont's best-known ice jam rivers.

The weather pattern of the past week of partly cloudy, with highs in the 40 and lows in the 20 is forecast to continue for at least another week. This is ideal for gradual melting and weakening of the ice covers and decreasing the potential for severe ice jams and flooding. At this point, the ice jam potential for the Mohawk River and tributaries is low and decreasing. The ingredient needed for dynamic ice breakup and ice jam flooding would be heavy rain and none is forecast. Due to the significant remaining ice volume, the ice jam potential remains higher on the northern rivers, which will take longer to loose their ice. This is particularly true of the East Branch of the Ausable whose upper reaches lie in and the shaded mountain valleys.

Respectfully submitted,

Andrew M. Tuthill, P. E.
Ice Engineering Group
Remote Sensing/ GIS Branch
US Army Engineer Research and Development Center
Cold Regions Research and Engineering Laboratory
72 Lyme Rd.
Hanover, NH 03755

603-646-4225 phone 4477 fax



Fig. 1. Hudson River at Glens Falls, NY



Fig. 2. Mohawk River below Scotia, NY.



Fig. 3. Looking downstream at the ice jam on Mohawk River at Scotia.



Fig. 4. Moyer Creek and the village of Frankfort.



Fig. 5. The East Branch of the Ausable at Jay, NY, a frequent ice jam flood location.



Fig. 6. Great Chazy River at Champlain, NY, looking upstream towards Champlain NY, a common site for ice jam floods.



Fig. 7. Missisquoi River looking downstream towards Swanton, VT, and Lake Champlain.