Dams come in many sizes and shapes.

In the spring and during other periods

other two, along with the two rafters, were

the river. One firefighter drowned; the

craft capsized. All three were thrown into

ers on board. In the turbulent water, the

boat was launched with three firefight

accident summoned help, and a rescue

Rock-bottom Dam and trapped in the cur

An early fall storm had made the

dead and four had been injured.

sons in dam safety. By the time the epi

river users and rescue teams valuable les

of events in Binghamton, New York, taught

late September 1975, a tragic chain

engines have been trapped and capsized by lowhead dams

The Berning Mill Dam on the Crow River near St. Michael,

Minnesota was typical of a lowhead dam. Water flowing over

devices; water flows constantly over them.

In sum, these factors combined with

Our Lowhead Dams

Problems with these dams are not

confined to New York. Deaths of victims and rescuers have occurred in nearly ev
ey state, including our own. Most of the

several hundred lowhead dams in Minne

sota were built during the late 1800s and early 1900s. Many have been abandoned

or are no longer used.

One such dam which was removed

was located on the Crow River, which

forms the boundary between Hennepin and Wright counties. In July 1979, events

nearly as tragic as the Binghamton inci
dent began with what was alleged to have

been a dare.

A 25-year-old man wearing a boat

cushion on his back plunged over the

Berming Mill Dam on an air mattress.

The river was unusually high for the summer and the man was trapped in the hydraulic.

Occupants of two canoes below the
dam attempted to rescue him, only to

become victims of the current themselves. The first canoe capsized. Fortunately, the
canoest was washed clear of the dam and

reached shore safely. The second canoe

with two men and a woman was pulled

into the spillway. It broke in two throwing

all three occupants into the river.

A state trooper arrived on the scene, but

was unable to rescue the man who was

wearing the boat cushion trapped below the dam. Instead, the trooper turned his efforts to

the woman from the second canoe who

had been brought ashore by two fisher-

men. He and two bystanders managed to

keep her breathing until more help arrived.

That evening she died at the hospital.

Two days later, the bodies were recov

ered. The final toll: three deaths.

The Minnesota DNR teaches rescue techniques at a Fast-Water Rescue School. In a drill, a rescue team pulls a float through the bed. A victim caught in the boil could hang onto the float and be pulled free.
As tragic as these deaths were, however, they were not unique. The dam which has claimed the most lives is the Red River’s Drayton Dam located on the Minnesota-North Dakota border 40 miles north of Grand Forks. Since it was built in 1964 over a dozen people have died in its spillway. Despite warning signs, ordinances, and city and state police officers patrolling the site, fishermen and canoeists continue to press their luck at the base of the dam.

RESCUE

In 1980, officials of the Ohio Department of Natural Resources were dismayed to learn that, in two years, nine firefighters and police officers in that state had lost their lives, and others had been injured, in fast-water-rescue attempts. Additional checking revealed the same type of deaths and injuries had occurred in other states. These accidents involved rescue personnel who were injured or killed in what had been considered routine water emergencies. Typically, the rescue personnel, like adventuring river users, were confident of their equipment, knowledge, and experience.

Only a few fortunate rescuers have survived a trip through the current below a lowhead dam. Dennis Lutz, a Miamisburg, Ohio, firefighter, described his experience attempting to rescue a teenager:

“You can’t believe how powerful the current is. As my buddy and I approached the dam, the boat seemed to rise and move rapidly forward. It’s like being caught by a monster. It just won’t let you go.”

The rescue boat filled with water and capsized as the strong current sucked it into the dam. Lutz was dragged down into the hydraulic, battered along the bottom, caught in a submerged tree, wrenched free, and pushed to the surface, only to have the cycle repeated. Lutz was finally rescued, but his companion and the teenager drowned.

In response to these tragedies, the Ohio DNR Division of Watercraft, with the assistance of firefighters, the Red Cross, and canoeists, developed techniques that can help those faced with a fast-water-rescue problem.

The techniques that Ohio devised have been put into practice across the U.S.

Lowhead dam rescues are either shore- or boat-based. Shore-based rescues are used on dams up to 300 feet wide which have accesses at both ends. If rescue by a throw-line is not possible, a line with a rescue buoy in the center is placed across the river. This can be done with a line gun, or by using a boat downstream from the dam. Rescuers on both sides of the river then work the line up to the victim and pull the victim to shore.

Dams where access to both ends is not possible, or dams that are wider than 300 feet, generally require a boat-based rescue. This method requires two boats which are connected by a safety line. The first boat approaches the dam from downstream, being careful not to enter the hydraulic. A flotation device on a line is then cast to the trapped person. The second boat remains 100-150 feet downstream. Its purpose is to assist in the rescue and keep the first craft from being pulled into the dam.

Other techniques have also been used successfully, including specialized watercraft and a coupling which allows an ordinary fire hose to be inflated with compressed air and pushed out to the victim.

Rescue techniques must be realistic and simple. Rescue agencies must know the dams in their area, take measures to prevent accidents, and plan and practice rescue methods.

The Drowning Machine
Written by Kim A. Elverum and Tim Smalley
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