



DAM!

*By DAVID MARTIN,
MISSOURI STATE HIGHWAY PATROL,
BOMB SQUAD*

Whenever another state agency calls the Missouri State Highway Patrol and asks for assistance we are happy to help, but when the Missouri Department of Natural Resources (DNR) called and asked if we would pick up some old explosives and remove some log jams with them our interest was piqued.

Due to unusually heavy rainfall throughout this spring and summer, some of the smaller waterways in Northern Missouri had become raging streams and swelled well beyond their normal banks. During these swells, the water carries downstream large amounts of silt, trees, branches, and brush. All of which are just looking for a place to call home; and when they do, they quickly start catching other debris as it tries to float past. One small waterway had swelled several times this spring and numerous logs, branches, brush, and a silt bed the size of Iowa had decided to take up residence in the middle of the stream. This quickly caused the ordinarily small stream to turn into a very long lake. The water being somewhat impatient, as it usually is, decided to take other routes around the jam. These other routes were causing problems, and the stream needed to be brought back to its normal flow.



When the DNR initially asked us to dispose of the old explosives, they said they had some cast boosters, det-cord, and some slurry tubes. When we met them at their storage barn, we found over 400 cast boosters, almost 7,000 feet of det-cord, and close to 1,500 pounds of slurry mix in twenty-pound tube sacks. They had dealt with logjams before and were loaded for bear. My first thought was, “What in the world am I going to do with all of these explosives?” After loading up the cast boosters and det-cord in our truck and securing the slurry mix back in its bunker, we went to take a look at the stream turned lake and its logjam. After a quick jon boat ride about a mile downstream, we found the jam; then I knew what we were going to do with all the explosives. At its widest point the stream was about fifty feet wide and nearly twenty feet deep but near the jam it dwindled to just a trickle we could wade across without getting our knees wet. We would have to attack it in several places as five smaller jams worked together to make one large jam. Some of the trees were larger than two people could reach around and some of the sticks were no bigger than your finger, but with the passing of time and the pushing power of the water, they were woven together to make a near watertight dam.



The flotilla, with Corporals Eric Eidson, Kevin Hunter and George Seek as riverboat captain.

Because of scheduling conflicts, it was just over a month before we could return to the stream to get the water flowing. We met on September 25, 2008 at the DNR office in Brookfield, Missouri. Corporal Jon “Erik” Eidson, Corporal Kevin Hunter, and I met with DNR Assistant District Supervisor, Kristi Purcell, DNR employee Tom Woodward, and retired Missouri Department of Conservation employee George Seek. We had brought with us the 400 cast boosters and 1,500 feet of det-cord. We drove to the slurry bunker and decided to tape two of the twenty-pound chubs together and primed them with the one-third pound boosters. Attached to the boosters was twenty feet of det-cord. We made twenty of the twin slurry loads (yes, that’s 800 pounds!) and loaded them into one of two jon boats we had available. Into the two boats we loaded the explosives, posthole diggers, pry bars, cameras, and bug spray (the MOST important item) along with food, water, and other supplies. As we launched our armada we were somewhat worried about the capacity of the two boats; it seemed if we kept our speed down and breathing shallow, we could just stay afloat. During our travel to the jams, we did have to keep an eye out for attacks



Looking upstream, with charges in place.



Sergeant Martin, Corporal Eidson and George Seek placing a charge under a logjam.

from wildlife. Apparently, Asian Carp have infiltrated the waterway and the sound of boat motors sometimes causes them to literally jump out of the water and smack anyone in their way. Some of these fish were big enough to have their own gravitational pull and a swift tail slap could have left a nasty mark, not to mention a new smell for everyone to deal with. Also, along the way we saw a large snake sunning itself on a tree limb inches above the water. Judging by the angry look he gave us as we went by he was either as upset about the water as we were, or he had just received another computerized phone call from a pollster. We arrived at the jams and found that since our last visit the hard rain (remnants of Hurricane Ike) had washed in even more silt. The jam was now as big as a red tape factory in Washington D.C.

As we brought the boats to shore everyone decided to reinforce our layer of spray bug repellent before a mosquito carried off the posthole diggers. We immediately went to work deciding where to place the charges. George, who had cleared jams in the past, was quickly put in charge of demolition placement. He had cleared at least four other jams in the past, which gave him four times more experience than any of the rest of us on the squad.



Cpl. Hunter, Tom Woodward and George Seek placing a charge on upstream side of logjam.



Sgt. David Martin digging a hole to place a charge in the jam.

We decided we would start with the furthest down stream jams and work our way upstream so we wouldn't have to be working in deep water as we blew the jams. We placed the forty pound charges as far under the jams as we could using the long pry bars to make or widen the holes as well as we could. We poured several five gallon buckets of sand and silt over them for tamping. To remove the silt piles we dug holes with the posthole diggers (the mosquito finally left it behind after dropping it three times) and buried the charges in the middle of the streambed as deep as we could, preferably at about four feet, but the silt and water kept backfilling some of the holes. When we couldn't bury them completely we covered the charge with mounds of silt/sand. Most of the larger log jams had charges placed front and back and we chain sawed the larger downed trees to weaken them. The only two problems we ran into were the mosquitoes that, I swear, had sponsor decals and the mud; you would have to walk three hundred yards to actually gain fifty.

We decided to fire the charges in two separate shots; the down stream half first, then check if additional shots would be needed before we did the upper half. The first shot would



Looking down stream, after first shot.

be 320 pounds of slurry plus the boosters and det cord. We connected all the chubs together with det-cord and placed a detonator to the leading end of the det cord. We ran shock tube to a safe area that featured a hundred feet walk through waist high grass that was as thick as peanut butter, which then opened to a large field that was flooded with six to eighteen inches of water and mud due the jams. About seven hundred fifty feet away from the stream, we found a dry area behind some old growth trees and set up for the shots there. After we made certain all was clear, we did our "fire in the holes" and fired it off. The shot was louder than expected, and we all quickly became tree huggers. After a waiting period to allow all the debris to fall back to earth, and my knees to strengthen, we went and checked our work. Everything went as planned with the exception of one log jam that didn't move quite as much

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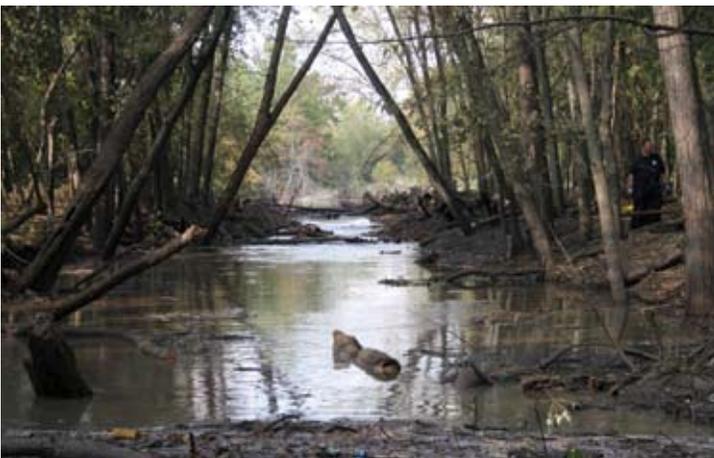


Cpl. Hunter and George Seek digging a hole for a charge.

as we would have liked. The largest of the downed trees was determined not to move. We had extra charges pre-made for such an occasion and more explosives were placed in the jam, this time closer to the main tree and tamped even better. The upper half was primed and connected to the single downstream jam that was left. We again tramped back to the safe area through the grass, water, and mud and got ready for the shot. We knew the shot to be over 400 pounds, and we were ready this time. The shot worked perfectly, I stilled hugged the tree, but at least we knew each other better this time. By the time we walked back to the stream, the water was already flowing and we could hear it babbling before we got to it. George said after the next good rain it would open up even more and hopefully return to its original flow. We loaded the boats back up with people and supplies and motored back to the trucks noticing the current that wasn't there before.

The day went without a hitch thanks to George Seek's expertise and everyone's attention to detail.

A harder days work could not have been done by anyone. Three separate state agencies worked together that day, and



Flowing stream.



Kris Purcell (DNR) and Sgt. Martin taking a break.

we all learned from each other. We experienced how to load large shots for clearing jams and shot over 720 pounds of explosive. We're looking forward to the next call from our Department of Natural Resources.

Dave is the bomb Squad commander for the Missouri State Highway Patrol. He has been with the Patrol for twenty-six years, the past twelve assigned to the Division of Drug and Crime Control, Technical Services Unit. When not working as a bomb technician he works with technical equipment to assist officers in their investigations. He has been a member of the IABTI Region III, since 1998.



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