

Bush Foundation

Giving **STRENGTH**

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Bush Fellows—Mending the fabric of communities



By Victoria Tirrel

On August 1, 2007, during the height of Twin Cities evening rush hour, the I-35W bridge spanning the Mississippi River near downtown Minneapolis collapsed. More than a dozen cars and their occupants plunged into the river. Other commuters emerged dazed and sometimes injured from cars that had miraculously fallen 64 feet with the bridge deck but not been submerged. In all, 84 cars and six construction workers had been on the bridge; 13 people died and 144 others were injured.

Through that frantic evening as the extent of the damage, death and injury revealed itself, two Bush fellows were busy—one saving lives and the other planning how to save a fat pocketbook.

On the scene in minutes

When the news flashed across televisions screens that the bridge had fallen, Jeffrey Ho, M.D. (BMF'03) hadn't made it home yet from his shift as a Meeker County deputy sheriff. But his neighbors knew him



Even though he is a sheriff's deputy in Meeker County, Minnesota, Dr. Jeffrey Ho (BMF'03) also is an emergency medicine physician. The combination of his medical and public safety skills lets him be more effective at each type of work.

Bridge collapse photographs courtesy of Tony Webster

well enough to alert him when he did get there. Within a few minutes, Ho had changed out of his deputy uniform, stowed his gun, changed into rescue gear and was on his way to the accident site.

In addition to his work as a deputy, Ho is also an emergency medicine physician who used a 2003 Bush Medical Fellowship to attend the police academy. He is one of five emergency medicine physicians in Hennepin County who rotates being on-call for the West Metro EMS System. He wasn't on-call that night, but it didn't matter. All five EMS physicians showed up, plus countless other first responders from area hospitals and other public safety organizations.

Four miles and nine minutes after leaving his west Minneapolis home, Ho was at the site. He was the second arriving EMS physician to the north side of the bridge. "The bridge was still, what felt like to me, unstable," Ho said. "We had falling pieces of masonry and concrete and things like that."

They began the triage process. "When you're faced with a mass casualty disaster, unfortunately you have to use battlefield-like triage principles. You have very limited resources, you're faced with a huge number of potential casualties and you have to start making decisions." In all, there were three fatalities on Ho's section of the bridge with hundreds of other people wandering around. In addition, one EMT was hit by falling debris. "He had on a helmet or that might have been a fatal injury."

Ho was at the bridge site for two to three hours, although most of the work for him as a physician and EMS provider was over in 90 minutes.

"The amazing thing was you get sort of tunnel vision. We were taking care of these people on the ground. Not until after the event was over did I look up and realize that above me, where the bridge had actually broken off, there were cars hanging off the edge over the top of us. It was a very eerie sight when you looked up and realized, 'wow, we've been working under this, and one of those could have come down at any point.' We never really thought to look up."

Ho is full of praise for those he worked with that night. "It was a phenomenal team effort. It's a big part of what

we train to do." He also lauded the community response. Many people showed up with bottled water or brought food later in the evening.

And he's grateful. "The fellowship training I was able to get through the Foundation added to my emergency training. I had the medical part, but what I didn't have was the public safety/emergency management stuff that I got through my police academy training and my on-the-job training as a deputy. That was invaluable in knowing how to work around that scene."

Saving fat pocketbooks

The Mississippi flows over the beautiful Saint Anthony Falls just a few hundred yards upstream of the collapsed bridge. This was the environment (and known upstream limit) of the federally endangered *Potamilus capax* (right), a mussel known colloquially as the "fat pocketbook."



Marian Havlik (BLF'76)

With bridge rebuilding plans evolving quickly, mollusk expert and consultant Marian Havlik (BLF'76), left, knew there was a window of opportunity to bring her crew to that section of the Mississippi, do a mussel survey and relocate any endangered mussels they found.

The fat pocketbook was first identified at Saint Anthony Falls in 1832, but none have been seen alive in the Mississippi in the last 40 to 50 years. That didn't faze Havlik, who said, "I'm of the opinion that they aren't seen because no one looks for them."

Havlik conferred with her crew of divers, one of whom has worked with her for more than 20 years, about their willingness to dive the murky and potentially dangerous bridge site. All were eager. If they found fat pocketbooks, they would relocate them to a muddy, calm area nearby



Above, Marian Havlik (center) used to join her dive team in the water, as shown in this 1992 photo, but these days she works mainly at identifying, measuring and counting what the divers bring up. “I don’t want to say that I’m getting too old to [dive],” she said, “but basically I have enough to do topside.”

so that construction could continue without harming the endangered mussels.

So Havlik set about doing the paperwork. She talked to both the Minnesota Department of Transportation and the Minnesota Department of Natural Resources, and she filed a request for her company to conduct a survey with all the contractors bidding on the job. In the end, the construction start date of October 15 meant there was almost no time for her crew to do the work.

Even so, it’s possible that any fat pocketbooks in the area may have fared well anyway. There were no piers in the old 35W bridge and aren’t any in the new design as well. Piers can be a big problem for mussels, not only because they disturb the riverbed but because builders also construct a coffer dam to surround the pier. When piers are part of a bridge project, Havlik’s team surveys the proposed footprint of the pier and the coffer dam, as well as a 20-foot buffer zone around that footprint. She’s had to become an expert at reading bridge plans and topographical maps. “You’d be amazed by how many things I’ve learned about engineering and construction, besides knowing things about mussels.”

Although it didn’t work out for a survey of the fat pocketbook, Havlik’s team is busy doing surveys and relocations across the Midwest, and even at other spots on the Mississippi. “We have found that the Mississippi isn’t as dead as we thought it was. It’s recovered in the last 20, 25 years.”

Havlik got interested in mussels because of her daughter’s science fair project. Like most moms in that late-1960s era, Havlik got “elected to help her.” Later, she was irritated that no one was listening to commercial clam buyers who were lobbying the DNR to put harvesting size limits on mussels. She took up their cause and hasn’t stopped advocating since. Her 1976 Bush Fellowship paid for training at Ohio State University under Dr. David Stansbery, a mollusk expert and taxonomist.

Since then, federal and state agencies have spent millions of dollars on mussel research because of her advocacy. In the beginning, “the biologists, who were mostly men, gave me a very hard time.” But after she gave a few papers and published, the professionals warmed. Now, she said, “I go to public hearings, and I never have to say a word.” 🌱

