

Bracing for Catastrophe: How a One-room School Museum Survived Two Devastating Hurricanes

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Figure 1: Hurricane Harvey making landfall.
Courtesy of www.nasa.gov.

In 2008, Catharin and Richard Lewis braced for Hurricane Ike, a Category 2 storm (on a scale of 1-5, 5 being the strongest) that made landfall in the Gulf Coast and caused widespread wind damage and flooding. Ike is estimated to have resulted in damages totaling 34.8 billion dollars.* The eye of the hurricane went right over League City, Texas, where the West Bay Common School Children’s Museum and the headquarters of the Country School Association of America (CSAA) are located. Nine years later (August 2017), Hurricane Harvey brought even more devastation. It is believed to have resulted in 126.3 billion dollars in damages caused largely by five feet of rain that drenched southeast Texas. A Category 4 hurricane, Harvey contributed to the deaths of eighty-nine people. Climatologists expected the storm to hit landfall two hundred miles south of League City, but it did not move as expected and eventually devastated the Houston area.** In the following interview, CSAA Directors Catharin and Richard Lewis discuss how they braced for both Ike and Harvey.

—Ed.

How would you describe the West Bay Common School Children's Museum?

In 2008 when the eye of Ike went right over League City, the children's museum consisted of a cluster of structures, the most important being a fully restored 1898 one-room schoolhouse. In and around the schoolhouse, children could step back in time and experience reading, writing, and arithmetic as they did in the 1890s. The schoolhouse, which was thirty feet long and eighteen feet wide, was built in 1898 and repurposed as a home in the 1930s. To enhance visitors' experiences, we added a large barn, a ramp for people with disabilities, a covered porch, and a fully functioning satellite toilet facility (outhouse) built in the rear of the property. The buildings were constructed on what is called "pier and beam" foundations, which means that when they were being built, they were raised off the ground and then tied down on blocks that sat on the ground. This arrangement provided some flood protection as the floor of the museum was already two feet off the ground when Ike and later Harvey hit. The 1898 building did not have electricity, but the city required that we install electricity and smoke/fire alarms. The entire school yard was fenced, and a huge barn held seating for visitors, artifacts, records, objects, and displays. A windmill was located in the side yard. Since the museum's opening in 1993, many thousands of children throughout Texas have visited the school as part of their elementary Texas history curriculum.

How and when did you learn that your museum might be in the path of Harvey?

In mid-August 2017 we had the usual warnings of a tropical depression in the Gulf of Mexico. Experts and district meteorologists forecasted that the storm would enter the Gulf and possibly hit the U.S. mainland in South Texas or Mexico. As the depression came closer and the storm grew stronger, the forecasters narrowed in on landfall near Corpus Christi, Texas, approximately two hundred miles south of Houston. Harvey was believed to make landfall as a Category 2 or 3 storm. A day or two before landfall, our local weather forecasters said their models were showing that more than fifty inches of rain would inundate our area. League City is a suburb of Houston, midway between Houston and Galveston. Yet our museum was so far away from the eye of the storm that we didn't worry. The strongest winds and the highest storm surge are usually on a storm's right side, called the "dirty side." We were on the dirty side, which meant

we would get some rain, but we did not think a single storm would set a national record for rainfall.

What were the first steps you took to protect the museum?

Most, if not all, of the measures described below were expected to minimize damage, not necessarily prevent it from occurring. We boarded up all windows of the schoolhouse (Figure 2). We also raised up every artifact that we could lift and put them on top of the wooden benches that we used for our children's program. Then we covered the benches with plastic and used duct tape to hold everything together. We used many large plastic sheets to keep everything dry. Large items like the five-hundred-pound bale of cotton that was already on a dolly were rolled over a giant sheet of plastic and tied up to create a very large bag. Plastic bags provided some measure of safety in case of minor flooding (less than twenty-four inches) and leaks in the roof. We taped large plastic sheets over all display cases, cabinets, mannequins and other items too heavy or bulky to move or lift. In the barn museum, we rolled up the area rugs and put them on the benches and covered the piano with plastic. We put plastic trashcans wherever we saw leaks, but they never amounted to much.

Which structures (for example, a windmill, outhouse) seemed most likely to be damaged if the storm hit nearby? What steps did you take to protect them?

We boarded up the windows and doors of the various buildings with precut plywood and removed loose objects that could become projectiles, like benches, barrels, trash receptacles, and decorations. We had a large windmill which we moved inside the barn. It was a very hard thing to protect since it was designed for the wind, just not one-hundred-mile-per-hour wind. Our outhouse was a substantial building with a concrete floor, so we didn't worry about it. Most school outhouses that are "real" can be pushed over by an adult and thus have to be secured in the ground.



Figure 2: Richard boarding up the windows of the schoolhouse before Harvey made landfall. All succeeding photographs in this article are courtesy of the authors.

Important historical and CSAA documents are stored in your barn. What did you do to preserve them?

Two file cabinets are fireproof, and the rest are regular business files. None of the business files are waterproof. All file cabinets were already sitting on six-inch wood risers to protect them from burst pipes and other minor flooding. We took the bottom two drawers from every file cabinet and put them on top of each cabinet and covered all of them with a large sheet of plastic and tape.

You have several other buildings. What did you do to protect them?

As was stated earlier, most of our buildings are on “pier and beam” foundations, which means they were raised off the ground and tied down on blocks that sit on the ground. This arrangement provided a certain level of flood protection since the floor was two feet off the ground.



Figure 3: Water went half way up the foundation blocks and handicapped ramp but did not get inside the schoolhouse or outhouse during and after Harvey.

Were you without electricity? If so, how did you manage that?

When Ike struck in 2008, we were without electricity for five days. This created a problem since we did not store food at the museum. By the time Harvey hit nine years later, we had some electricity. At home, we had a generator to keep the food cold. We ran a window unit air conditioner for a more restful sleep after we had cleaned all day. The museum had climate control for the artifacts, but since the archives had no windows, we could not use window unit air conditioners. It would have taken a very large generator to run the main HVAC unit. Most of the papers and artifacts had spent some of their lives in storage that was not controlled, so they would have one more week of that before returning to correct modern-day storage conditions. We decided that all objects that were dry were safe.

How were the two hurricanes alike and different?

Ike was primarily a wind event and Harvey was a water event. Considerable tree damage was caused by Ike (Figure 3).



Figure 3: After Ike, this pile was seventeen feet wide, sixty feet long, and ten feet high. The photo shows Richard waiting for FEMA to pick up the debris.

Standing water resulted from Harvey. The picture of the schoolhouse was taken in the morning after Harvey struck. Water reached the highest point during the night but by morning was beginning to recede. So the picture with the sidewalk showing (Figure 4) was probably under water during the night, but water never got into the schoolhouse.



Figure 4: The sidewalk in front of the school after a night of rain from Harvey.

Did you have sufficient help in preparing for the hurricanes?

We had three to four days before Ike hit and thus we were able to prepare for it. We had one helper for only a short time, so we did most of the work ourselves. We were fortunate the metal roof of the schoolhouse, which was installed in 1915, did not leak. We didn't prepare for Harvey because we thought the storm was going to make landfall two hundred miles away. During three days of solid rain, we went to the museum once or twice per day to check things out. The rain was blowing sideways most of the time, so even our brand new, solid metal roof on the barn museum leaked slightly around the edges.

What costs did your museum incur because of Ike and Harvey?

The biggest cost was the loss of revenue from cancelled class sessions. After Ike, we didn't have electricity for a week, and with so much tree damage (Figure 5) we remained closed a few weeks after the storm. We could have been open almost immediately after Harvey, but roads were flooded and bridges were washed out, so classes were canceled for a few days.

What advice would you give to museum staff who are facing catastrophe?

Prepare ahead of time. Gather flashlights, plastic, tape, and instructions for workers. Put these items in a labeled, clear plastic box so you can see what is in it. Act before the storm is upon you.



Richard and Catharin Lewis are charter members of the Country School Association of America (CSAA) where both serve on the Board of Directors—she as the archivist and he as chair of the National Schoolhouse Registry.

Catharin has a B.S. in family and child development. She was a Director of Christian Education for ten years while raising children. In 1993 she co-founded, with her husband Richard, the West Bay Common School Children's Museum in League City, Texas, which is now the headquarters of the CSAA. Catharin developed a "living history" curriculum for which she received commendation from a number of organizations, including the American Association of State and Local History.

Richard Lewis has a B.A. in business economics from Hood College. He pursued further studies at the Johns Hopkins University. He is a Vietnam veteran who worked thirty years for IBM and eighteen more as the manager of the Software Help Desk for the International Space Station at NASA JSC. He considers the schoolhouse the largest antique he has ever restored.

Notes

*A Look Back at Hurricane Ike 9 Years Later, <http://abc13.com/weather/a-look-back-at-hurricane-ike-9-years-later/2412026/>

**Kimberly Amadeo, Hurricane Facts, Damage and Costs, <https://www.thebalance.com/hurricane-harvey-facts-damage-costs-4150087>; Supercharged by Climate Change, Record Hot Seawater Fueled Harvey, *Commercial Appeal*, May 15, 2018.