

THE BRAINS BEHIND THE BUBBLES: Destin locals put life on hold to save waterways (PHOTOS and VIDEO)

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With more than 1,100 hours on the drawing board and hundreds of conceptual plans in the books, Craig Barker and Capt. Donnie Brown have a plan to keep oil from invading Destin harbor and Choctawhatchee Bay.

“We have been working so hard at this,” said Barker, the former Destin mayor. “I feel as though this harbor and the bay are our greatest assets. I am willing to do anything and everything humanly possible to save it.”

What started out as a smaller scale idea of Brown's grew into a tangible pneumatic air curtain with the help of Barker, who is a product

development engineer by trade.

The pneumatic air curtain, which is run by twelve giant compressors, will pump air through a pipe that is suspended in the water column, creating bubbles. As the bubbles leave the pipe, they gain velocity and size, and when they reach the surface the bubbles create a force in all directions. The force of the bubbles on the water's surface will create a barrier that would force underwater oil to the surface. A skimmer could then collect the oil.

The curtain will stretch 1,270 feet from the southeast side of Norriego Point to “the bend” in the beach near the west jetty.

The idea was conceived after Barker talked to longtime friend Brown, who was working on a similar concept that could be used in commercial marinas to clean up fuel leaks and oil spills. Capt. Brown is the owner of PumpOut USA, which specializes in boat services and maintenance products.

After driving to DeFuniak to see the prototype, Barker said that he “could tell right off the bat” there was some applicability with the device.

“It was a bit primitive when I saw it,” he remembered.

Well, that was 60 days ago, and now, once materials are received and money from BP comes in, the air curtain can be launched in as little as 10 days.

“We were trying to devise a system that would work in heavy currents and waves,” Barker said. “That was the original thought process, because that is where traditional booms fail.”

Barker said the currents in East Pass can reach up to three knots, and that is where you run into problems with traditional boom: The oil just makes its way underneath it.

After Barker and Brown had been working on the project for 10 to 15 days, they realized that the air curtain could be scaled up, and they began contacting area decision makers to hear their thoughts on the project.

From behind the wheel of one of his boats Capt. Brown told The Log that after testing the device for city leaders, the excitement level began to increase.

"I think it has a lot of potential," City Manager Greg Kisela said. "I don't think it will be bulletproof, but I hope it will get a majority of the oil."

The two longtime residents took the idea to the local Emergency Operations Center where the plan was applauded and elevated to the State EOC. After finding success at the state level, Barker and Brown took their idea to the Unified Command Center in Mobile, Ala., where after approval, the project was temporarily caught in limbo, since BP would ultimately be responsible for deploying any type of preventative measures.

While Barker and Brown have had to cut through their fair share of government bureaucracy and red tape, the project is set full throttle to move forward.

When asked how confident they are that the air curtain would work, they acknowledged the project is experimental.

"We have been able to demonstrate repeatedly that it works in testing, but in a real life scenario, we don't know," Barker said. "It has been peer reviewed by city and state engineers, and they were favorably impressed that we had done enough research and development."

"This apparatus wasn't specifically designed for this purpose, but it seems in practice that it should work," he added.

Barker said that when it comes to putting himself out in front of everyone, he is a little concerned. But he said that he "would rather try and not succeed, than not try at all."

"There is no other alternative," he said. "If the oil is suspended in the water column and comes into the pass, then it's going to get in the harbor and the bay."

He said that "if our system totally fails, and has no merit at all, then at least they haven't done any harm to the ecosystem. But if it does work, then they have hit a homerun."

When The Log asked the two men what it meant to be locals and to come up with a potentially lifestyle-saving device, they paused and thought about it for a few moments.

"I don't really know if I can quantify how much the quality of this water means to me, as a person who loves his community," Barker said. "There is no amount of money that I wouldn't invest. We are not in this for monetary gain. We have put our lives on hold for 60 days and are dedicated to this, but in my opinion, it's the right thing to do."

With \$200,000 already earmarked by the county for the project, Brown said that he will view the project as a success if they "can keep the oil from getting as bad as it has the potential to be."

While Barker and Brown may not be the first to have come up with this type of idea, they will be the first to use an air curtain to keep oil from coming into the water column, according to their research.

They said the idea has been used before in foreign countries to contain mousse-like substances at the water's surface.

With their large-scale air curtain almost ready to be deployed, Barker said the two men have "definitely taken a few inventive steps along the way, and plan to file for a provisional patent application," but right now they are just concerned about stopping the oil.

"This is going to be a very difficult project to implement," Barker said. "Probably the most difficult on the entire Emerald Coast, from Texas all the way to Carrabelle."