

A Sand Trap in the Gulf

By Robert Young
New York Times
June 11, 2010

OF the many cleanup solutions being pursued in the Gulf of Mexico, few are as ambitious as Louisiana's berm project. The Army Corps of Engineers recently authorized the state to construct some 45 miles of artificial berms in an effort to protect Mississippi River Delta wetlands and barrier islands from the oil gushing from the Deepwater Horizon leak, with BP promising to pay the state \$360 million for the entire project. Many more miles may be authorized in the coming weeks.

The state understandably wants to move quickly and on a large scale, and no one wants to stop a project like this simply because it is spending too much of BP's money. The problem, however, is that the berms won't work as promised, and their construction will monopolize resources that could be used more effectively elsewhere.

The berms, essentially a series of long, low-lying islands made of dredged sand, seem like a good idea for blocking an oil slick. But as any engineer will tell you, the difficulties are often in the details. Although federal and state agencies were given only a short time to respond to the application, their comments, included in the permit documentation, raise serious concerns about the proposal and its potential effects.

The Environmental Protection Agency and the Department of the Interior, for instance, question whether an effort that will take at least six months to build will appreciably diminish the amount of oil entering the delta wetlands.

Moreover, both agencies note that the berms are not designed to block the tidal flow of water completely, which would be deadly to the wetlands they are meant to protect. But that makes it unclear how much oil the berms would actually prevent from passing into the marshes and estuaries, even when the project is completed.

Then there is the question of the berms' longevity. The ebb and flow of coastal waters is extremely powerful; even without a storm, the berms will begin to erode immediately. Vast portions are likely to be already gone before the rest of the project is finished.

Of course, summer in the gulf is hurricane season, and at six feet above sea level at high tide, the berms will not have the elevation or sand volume to withstand storm waves or surges. If just one of this year's storms passes near them, they will be wiped out.

Then there are the environmental risks. A completed berm could potentially increase the impact of storm surges on the coastal lowlands, and instead of blocking oil it could merely redirect the natural tidal flow — and with it thousands of gallons of oil — to even

more environmentally important areas. Likewise, by impeding the outflow of water, it could prevent the natural flushing of some oil.

If we knew for certain that the berms would keep significant amounts of oil away from fragile wetlands, then such risks might be worth it. But the proposal was so hastily written that no one has estimated its chances of success, or worked out the possibility of adverse consequences. There's not even a clear, scientific rationale for the efficacy of the design. Instead, it simply presents the project's logic as self-evident.

Now that these berms have been given permits, the Louisiana governor's office and the Corps of Engineers should, at the very least, engage scientists and engineers to monitor the first berm to see how it performs and examine any unintended impacts. If it does in fact take several months to build the other berms, there will be plenty of opportunities to change the design if needed or abandon the effort if it is failing.

We should also remember that while there is no magic bullet for the spill, that doesn't mean we should just try everything and see what sticks. It would be more prudent to continue fighting with methods like modified booms (as is being suggested for Alabama's Perdido Pass) and collection until effective long-term solutions can be fully vetted by engineers and scientists specializing in coastal environments.

The BP spill will be with us not for weeks or months, but for years. If we want to do our best to stop the oil from hurting critical habitats, then it's worth taking a little time to get it right.

Robert Young is a professor of coastal geology and director of the Program for the Study of Developed Shorelines at Western Carolina University.