5. ENVIRONMENTAL CONCERNS

"Toxic Gumbo"

Hurricane Katrina left behind an environmental nightmare. In addition to scooping up and depositing toxic sediment sludge from the bottom of lakes, rivers and the Gulf of Mexico (as discussed below), Katrina struck 466 facilities handling large quantities of dangerous chemicals, and 31 hazardous waste sites along the Gulf Coast. Among the known contaminants and toxins that mixed with the floodwaters in New Orleans, are: oil, gasoline, hexavalent chromium, mercury, arsenic, chloroacetic acid, fecal bacteria from flooded sewage facilities (including E. coli),[136] household hazardous wastes,[137] pesticides and unattended corpses of the dead.

The United States Coast Guard reported more than 7 million gallons of oil and between 1 and 2 million gallons of gasoline from plants and depots in southeast Louisiana were spilled as a result of the hurricane. Spills of oil and other toxic chemicals pose a particularly serious public health threat when they dry and become airborne as invisible, breathable particulates. One of the first spill reports to come in was that of an oil tanker that had run aground and was leaking fuel.[138] Among the multiple oil spills from above-ground tanks was a tank breach at the Meraux Murphy Oil Refinery where over a million gallons of oil leaked into the floodwaters. Residents whose homes were flooded are being told not to return.[139]

Under the Resource Conservation and Recovery Act (RCRA) facilities that manage hazardous materials are required to have emergency plans to prevent waste or toxins from being released into the environment. The multiple spills suggest that adequate containment mechanisms were not constructed by the owners and companies of the leaking facilities.

The decision to pump the contaminated floodwaters out into Lake Pontchartrain will seriously compromise the fish and other organisms of the lake, and "will also undo the hard-won success of cleaning up Lake Pontchartrain to the point that portions were recently deemed safe for swimming."[140]

Superfund Sites Hit

Hurricane Katrina struck 16 superfund toxic waste sites, 3 of which were flooded, being in the environs of the City of New Orleans, one of them totally submerged. The flooded Superfund sites in Louisiana and Mississippi contained contaminants that include heavy metals associated with developmental problems and increased risk of cancer, and polycyclic aeromatic hydrocarbons, which are known carcinogens. These dangerous materials joined the rest of the dangerous contents of the "toxic gumbo" that mixed in the floodwaters and were then pumped into the Gulf of Mexico and Lake Pontchartrain. Here we have an example of a disaster compounding a disaster, as the toxic spills that created superfund sites (and there is nothing 'super' about them) should never have been allowed to happen in the first place and should have been cleaned up years ago.

In 1995, Congress allowed the taxation of crude oil and chemical feedstocks that provided revenue for the Superfund program to expire. Now comes an environmental catastrophe on the scale of Katrina and while the Superfund in its earlier incantation would have been the perfect vehicle for cleaning up the toxic mess in the Gulf, the work of cleaning up thousands of Superfund sites across the United States of America has come to a virtual standstill. The residents of the Gulf region thus face an uphill battle in getting federal assistance for clean-up, for if there is no money to restore local government, to get people housing so they can return and get jobs and rebuild the tax base, there is unlikely to be any money left for environmental cleanup. This is tragic, since the scale of the problem is simply too vast for local self-help groups or even for state and local government.

Testimonials from Independent Researchers

Independent researchers have reported environmental contaminants such as arsenic, benzo(a)pyrene and petroleum hydrocarbons exceeding Environmental Protection Agency and Louisiana Department of Environmental Quality Standards present in a one eighth inch layer of visibly distinct sediment covering most ground surfaces after the removal of floodwaters from New Orleans and environs.

Wilma Subra, President of Subra Company, an environmental research firm which she founded in 1981, is perhaps the foremost independent expert on this issue. A resident of Iberia, Louisiana, Subra has earned enormous respect in Louisiana and the Gulf Coast, even before Hurricane Katrina. Within 48 hours of Katrina's landfall, she was in the field, assessing the damage, taking test samples and assessing them, figuring out what community members would need to deal with resulting environmental hazards, working with other organizations to get necessary supplies to affected residents.

She has shared her data with the Environmental Protection Agency (EPA), and the EPA has shared its sampling data with her. Both sets of data matched perfectly. Where there is a disagreement is in the *interpretation* of the data. The EPA finds there is no long-term health risk, and has excused itself from the enormous task of removing the sediment sludge.

Wilma also spoke at the New Orleans community event.[141] The section that follows is drawn from Subra's presentation.

The key term to understand about why Hurricane Katrina has created an environmental emergency for the Gulf Coast is "sediment sludge." What is this? All of the historical discharges into the Gulf of Mexico and other water bodies throughout the 1900s wound up in the sediment layer at the bottom of these water bodies. These discharges included issue from untreated wastewater from treatment plants. The last time there was a storm surge even comparable to that of Hurricane Katrina was when Hurricane Betsy hit New Orleans in 1965.

Since that time, the degree of concentration of new chemical effluents in the sediment sludge is far greater than what it was at the time of Betsy.

The storm surge from Hurricane Katrina "scooped up" all this contaminated sediment in these water bodies, carrying it over land and spreading it all over everything. It was not deposited only in New Orleans. The line of contamination extends from Mobile Bay to the Louisiana-Texas line. On top of this, Hurricane Rita's storm surge deposited more contaminated sediment on areas already hit by Katrina and other areas. Wherever a storm surge came ashore *and* where there were breaches in the levees, the sediment sludge was spread all over. In some areas it is very sandy, like at the London Avenue Canal, and in other areas it is more silty, as at the Seventeenth Street and Industrial Canals.

What makes this sediment sludge dangerous is that it contains high levels of dangerous chemical such as:

- arsenic: a heavy metal and a suspected cancer-causing agent;
- polynuclear aeromatic hydrocarbons (PAHs): a big word, but the reader may be more familiar with the danger of waste from creosote facilities—PAHs comprise one of the chemical compounds in creosote that makes it toxic; and
- benzo(a)pyrene: a probable carcinogen, and the most toxic of these three.

Added to these chemicals are such organisms as:

- fecal choliforms: from untreated sewage;
- Staphylococcus aureus ("Staph"): an organism that gives you sore throat and skin infections; and
- salmonella: another bug that gives you food poisoning.

All of these organisms are alive and well in the sediment sludge. The sludge is very available, it is on the surface, and has been spread all over the yards and sidewalks. It is easy to kick up. When the organisms enter the lungs, and the affected person visits the doctor, the physician typically assumes that he is dealing with only one of these types of organisms, not more than one type. Hence the treatment typically fails because multiple types of organisms are causing the problem.

Exposure to these toxins can come through skin contact, resulting in skin rashes that do not respond to normal antibiotics; and inhalation, which can result in persistent respiratory problems and what local doctors are calling "Katrina cough."[142] While all the health agencies dispute this claim, all the medical doctors who have treated the responders, who have treated the people who return to their houses, say it is real, and it results mostly from recurrent, long-term exposure.

The local government has declared that in most areas it is safe for residents to return to their homes. But in reality, the presence of sediment sludge inside houses and on the yard means that returning residents are at risk of exposure to very toxic substances and contamination where the organisms are concerned.

In the aftermath of the Hurricane, Wilma Subra worked with the Louisiana Environmental Action Network (LEAN), a grassroots organization which at the time had very limited resources. Together with the Southern Mutual Health Association and Oxfam America, they assembled and began distributing kits for returning residents that included tybec suits, respirators, gloves, booties and essential cleaning supplies, advising residents to use the kits to avoid contact with the hazardous materials. They encouraged small children, pregnant women and the elderly not to go in until the hazardous material was cleaned up and addressed.

They approached FEMA and asked FEMA to take over and distribute the kits. FEMA declined. They asked the EPA. The EPA declined. So it was left up to LEAN, a local grassroots organization, to spearhead the enormous effort of providing these safety kits to returning residents. The kits were distributed through local community self-help groups like the Common Ground Relief Collective, and through local Churches, who in turn distributed them to their constituents.

The sediment sludge varies in depth. At the various sites of the levee breaches, the layer of sediment sludge deposited into residential areas could range from four to even as much as twelve feet. In most other affected areas away from these breaches the layer could be as thick as three to six feet, but once it dries it becomes a thin, dry layer of hazardous material that can easily become airborne upon contact. Over time, this material will travel. The delay in addressing this problem, with the refusal of the EPA to do the clean-up in spite of the fact that the EPA is the Incident Command agency responsible for clean-up, will mean that any clean-up effort will become more difficult over time, because the material will have gotten more spread around. Thus there is an urgent need for action at the federal level to get the clean-up effort started.

Monique Harden serves as International Policy Counsel for the National Black Environmental Justice Network. Ms. Harden also spoke at our community meeting, and below is a summary of her presentation.

What we are seeing in the Gulf Coast is a repeat of 9/11. In the aftermath of the attack on the World Trade Center the EPA was there saying the air quality was good when in fact it wasn't. And just recently we heard the news about a 9/11 rescue worker who died of black lung at the age of 34. Is this the future for New Orleans?

The Hurricane Relief Bill which was passed by Congress in the name of providing immediate aid to the affected region waived all public health and environmental laws. This was the opposite of what was needed to protect residents from harmful exposure. Since Katrina, the EPA has been going through this process of "assessing." This sounds good but means very little. Wilma Subra discovered the presence of arsenic and diesel fuel substances at levels above safety limits. Both of these materials can cause cancers in the long term. The presence of these toxic hazards on

streets and sidewalks would, under existing regulations, qualify the entire region affected by the sediment sludge to be declared a Superfund site.

One would think that since we can easily demonstrate the presence of toxins at levels that would qualify our neighborhoods to get on the Superfund list, that we should be able to get the EPA interested in doing the clean-up. But so far, this has not been the case.

Recommendation: Congress should revive the Superfund program, which taxes polluters to pay for the environmental cleanup they are responsible for creating in the first place.

Looking at the data for arsenic, the EPA sets the screening level at 0.39 milligrams per kilogram. The screening level means further study is required. The Mississippi Department of Environmental Quality (DEQ) has a screening level of 0.4 milligrams, but the Louisiana DEQ sets the screening level at *12.0* milligrams per kilogram. There are states that will not allow children to play on soil with arsenic levels above 5.0 milligrams per kilogram. But in New Orleans and in places along the Gulf Coast, *average* levels of arsenic widely exceed 12 milligrams per kilogram. Now it is important for Members of Congress to understand how inadequate our system of environmental protection is. It's fine if you don't need it, but once you need it, you're in trouble. This is because the EPA sets no levels above which clean-up would be required. What's the *clean-up* level? No one can say. Even in terms of screening levels there is a problem, because in the case of Hurricane Katrina, the EPA has abandoned its own standards in favor of the more lax standards of States. So in Mississippi, arsenic samples above 0.4 milligrams per kilogram will merit further study. But in Louisiana the EPA only does further study if samples reach 12.0 milligrams per kilogram or higher.

The EPA and the Army Corps of Engineers have also declined so far to undertake the task of cleaning up the sediment sludge. Wilma Subra has been quoted as saying: "I get the impression that they don't want to remove anything, because if they do start removing, they set a precedent."[143]

The Failure of the EPA to Act

As soon as residents began returning to the region, returning residents and responders began reporting widespread cases of respiratory problems, asthmas and skin rashes. Law enforcement and emergency service personnel who waded for hours or days in the toxic floodwaters are now reporting medical problems that doctors are having a hard time diagnosing. These problems are being given names like "Katrina Rash" and "New Orleans Crud." Symptoms include terrible itching on the skin, abdominal cramps, high fevers. Says one responder: "They dumped us in New Orleans without the right equipment and they didn't give us shots or respirators." "I'm tired of my chest hurting," says a another.[144]

The Environmental Protection Agency failed to develop any broad strategic plan for dealing with the post-hurricane environmental clean-up and public safety, detailing goals and methods of achieving them. Tens of thousands of disaster responders and returning residents were allowed into damaged areas without receiving sufficient warnings or

information about levels of contamination, health risks or necessary precautions. Given the comparatively enormous resources at their disposal, the refusal by the both the EPA and FEMA to assist in local efforts to protect residents and responders from exposure to toxins and contaminants that the EPA's own data shows are present in quantities exceeding safety limits is an outright scandal.

There is still time to act. With sufficient government testing, warning and support, the people of the Gulf Coast region could be protected from similar dangers arising from the above-mentioned post-hurricane environmental hazards.

Recommendation: Congress must pass legislation directing the Environmental Protection Agency to establish a comprehensive assessment and protection plan for the citizens of the Gulf Coast to protect the public from environmental contaminants and infectious materials that pose a threat to public health and safety in the aftermath of Hurricane Katrina.

The wetlands of the Gulf Coast are eroding. It took thousands of years for the sediments of the Mississippi River to build up the healthy marshes and barrier islands of the coastal wetlands. These wetlands serve as a natural shield, buffering the impact of storms. Yet over a million acres or 25% of the total number of acres of wetlands have disappeared since 1930 due to the diversion of the replenishing sediment and fresh water with the building of shipping canals and flood control works, among other causes. Every hour, a piece of land the size of two football fields is lost to the open water.[145] The "Coast 2050" plan envisions redesigning the flood control and shipping system to restore healthy sedimentation and replenish the wetlands. The price tag is usually estimated at between $14 and $25 billion for a 50 year project. One expert suggests that for every mile of wetlands passed by a storm surge, flooding would be reduced by a foot.[146] Congress needs to get involved and play a facilitating role in local efforts to restore one of America's greatest natural treasures.

Recommendation: Congress should establish a commission to work with scientists, engineers and state and local governments to explore the feasibility of the "Coast 2050"[147] plan to restore the coastal wetlands.