

Statement of Erik D. Olson  
Senior Attorney  
Natural Resources Defense Council

**The Environmental Effects of Hurricane Katrina**

Submitted in Writing to  
Hearings Before the  
Committee on Environment and Public Works  
of the United States Senate

October 6, 2005



## Introduction

Thank you for the opportunity to present testimony in writing to the Committee. I am Erik D. Olson, a Senior Attorney with the Natural Resources Defense Council (NRDC), a national non-profit public interest organization dedicated to the protection of public health and the environment, with over 500,000 members. As part of my work at NRDC, I have been helping to coordinate our response to Katrina.

Yesterday, a delegation of NRDC senior staff, including Dr. Gina Solomon, M.D., MPH., an NRDC Senior Scientist, Al Huang, NRDC Environmental Justice Attorney, Patrice Simms, an NRDC Senior Attorney, and myself returned from a trip to New Orleans and surrounding areas. We toured many of the hardest-hit areas in and around the city and surrounding Parishes to survey the damage, worked with local scientists and experts to develop an independent testing program, met with city, state, and federal officials, and participated in detailed discussions with local community and environmental groups.

We have been working closely in this effort with a large number of other environmental, environmental justice, public health, medical, water industry, and other groups, including many organizations from Louisiana and Mississippi, such as Louisiana Environmental Action Network, the Deep South Center for Environmental Justice, and the National Black Environmental Justice Network. We are in daily touch with hurricane survivors and with experts and others who are tracking the effects of this devastating storm. In addition, as chair of the Campaign for Safe & Affordable Drinking Water, an alliance of over 300 public health, consumer, medical, nursing, environmental, and other groups that works to ensure that all Americans have safe drinking water, I have worked with many of our members that has taken a special interest in the impacts of Katrina. This testimony is submitted, however, only on behalf of NRDC.

Katrina is perhaps the single worst environmental catastrophe ever to befall the United States as a result of a natural disaster. Having just observed the extraordinary devastation of this calamity—as exacerbated by the subsequent Hurricane Rita—it is difficult to express the stunning and deeply moving extent of the human tragedy that has been left in its wake.

We saw thousands of homes devastated by the water; walls imploded, thick layers of sediment strewn inside and out, mold coating the interior of the homes, roofs collapsed, and some homes picked up by the water and moved into the middle of streets. Thousands of vehicles—cars, trucks, and buses—were completely or largely submerged and destroyed and are sprinkled in unexpected locations across the area, many left precariously leaning up against roofs, teetering on fences, stacked on top of each other, or crushed by the powerful water. Entire commercial strips were completely destroyed, schools and public buildings wrecked, power lines toppled including toxics-laden transformers, and gas stations ruined. The hard-hit areas were largely ghost towns, but in recent days, thousands of people are beginning to return.

The smell is overpowering in many areas. The strong smell of petroleum vapors is frequently encountered, as are the stench of putrefying sludge and organic matter, and the unmistakable odor of widespread mold. Dust swirls into your lungs when heavy equipment moves or a breeze kicks it up, as the muck has largely dried into a broken layer of dark residue from half an inch to several inches or more deep.

As any of the brave and stalwart citizens of Louisiana, Mississippi, and Alabama who survived Hurricane Katrina will tell you, this disaster has left an indelible mark on them and their families, communities, and environment. The loss of human life and widespread human misery that Katrina caused and continues to cause as we sit in this room today, are simply unfathomable.

This testimony will focus on the environmental effects of Katrina—and in particular on the potential effects of toxins in the storm-ravaged area. Specifically, I intend to focus primarily on the known and

potential human health effects of the widespread releases of raw sewage, petroleum, and other toxins into the environment.

### **Reports of Severe Pollution and Illnesses**

We are receiving regular, albeit anecdotal, reports of police, rescue workers, and ordinary people who have returned to or stayed in flooded areas and have become ill after contact with the flood water or muck. Reports of rashes and blisters where skin has contacted polluted water, infected sores that are not responsive to antibiotics, nausea, and vomiting are legion. Respiratory problems – including asthma among many people exposed to fumes in contaminated areas – also are being reported.

One woman's brother returned to his home to try to recover a few belongings, only to vomit three times upon entering the home due to the stench of sewage, decay, and chemicals. I spoke to the mother of a young man who wore hip waders into floodwaters, but whose skin came in contact with the toxic water. The same day, he developed a rash and blisters where his skin had touched the water. We have heard from many local citizens about police officers and other emergency workers who have come into contact with the polluted flood water, only to develop rashes and other symptoms. The long-term effects of this toxic exposure are unknown, and of profound concern to us and to many local citizens.

One public health nurse working with the Red Cross spoke to us and reported that she had seen, by her count, over a thousand evacuees in Mississippi, but she had no tetanus or hepatitis vaccine to give to evacuees who were planning to return home to their water-soaked communities.

We observed in our tour of hard-hit areas that as the floodwater has receded, and the toxin-laced sediment and residue has dried, dust begins to swirl with wind or disturbance. This fine, toxic dust presents a serious risk to citizens if inhaled.

In many of the hardest-hit areas, people returning home do not have ready access to emergency medical services, nor to nearby health clinics, physicians, or hospital emergency rooms. While improving, communications also remain difficult in many areas. It is therefore difficult to determine how widespread and serious these problems are, but it is likely that many people are suffering without appropriate medical care. There is an urgent need for better-coordinated and more comprehensive medical care and for ongoing disease surveillance by the Centers for Disease Control and Prevention or Agency for Toxic Substances Disease Registry.

There are enormous health hazards from the toxic residue and floodwaters. Contact with remaining water poses a serious risk of waterborne disease. Widespread petroleum spills and leaks have caused extensive and health-threatening air and water pollution, and as the heavy metal and other pollutant-laden residue in many areas from the flood dries and becomes airborne dust, it poses additional risks when inhaled.

### **Spills and Leaks of Oil and Toxic Chemicals are Numerous and Widespread**

According to U.S. Coast Guard and EPA data, as of September 18, 575 Katrina-related spills of petroleum or hazardous chemical had been reported. Just eleven significant spills released approximately 7 million gallons of oil, a portion of which was contained or cleaned up, but much of which was not.

We also understand that there are 350,000 or more ruined automobiles and other vehicles caught by the flooding that will have to be dealt with. The amount of gasoline and toxic fluids in these vehicles alone is enough to give one pause; if each gas tank contained approximately 8 gallons of gasoline, this adds nearly 3 million additional gallons to the 7 million-gallon total noted above. By comparison, 11 million gallons of oil were released in the Exxon Valdez disaster.

Moreover, at least four Superfund hazardous waste sites in the New Orleans area were hit by the storm. Across the storm-ravaged areas of Louisiana, Mississippi, and Alabama dozens of other toxic waste sites, major industrial facilities, ports, barges, and vessels that handle enormous quantities of oil and hazardous chemicals took a direct blow from Katrina.

In addition to oil and chemical spills, and potential releases from toxic waste or industrial facilities, one major source of toxins that has received very little public attention to date is the toxic sediment that has accumulated at the bottom of many of the lakes, rivers, and streams in industrialized areas over many decades due to industrial spills. These toxic underwater hotspots have long been of concern to state and federal officials. According to experts with whom we have spoken in Louisiana, many of these toxic hotspots have now been stirred up, and toxic sediment has been re-suspended, and re-deposited across large land areas, including in residential communities, by storm surge and floodwater.

To date, virtually no public information is available about toxic chemical levels in areas outside of New Orleans area. Moreover, there have been virtually no public reports of the results of chemical testing or inspections of storm-damaged industrial facilities outside of this immediate area.

**EPA Monitoring Shows Dangerous Levels of Air Contamination from Spills & Releases, but Agency Public Statements Offer Misleading Reassurances to the Public About Safety**

Agency data also show that elevated levels of toxic chemicals such as benzene and xylene, in some cases levels above the 24-hour safety limits, have been found in the air adjacent to spills.

Perhaps more troublingly, EPA has released air monitoring data from its Trace Atmospheric Gas Analyser (TAGA) buses and other monitors used across New Orleans, showing that contaminants are at unsafe levels for rehabilitating certain parts of the city. NRDC has reached this conclusion by comparing benzene monitoring results, posted on EPA's web site, to levels that the National Institute of Environmental Health Sciences (NIEHS) established to protect people from intermediate-term (e.g., two-week) exposures to this chemical -- a level of 4 ppb. Significantly, in 25% of the areas sampled in New Orleans, EPA monitoring shows levels of benzene more than twice this NIEHS intermediate safety level. Yet EPA's charts and discussions on its website only compare elevated air pollution levels to the much higher (50 ppb) acute NIEHS safety level -- that is, to a level that is only considered safe for very short-term (e.g., 24-hour) exposure. Moreover, no air or other sampling has been publicly reported for most areas around spills or chemical facilities outside of New Orleans.

## New Orleans Sampling Locations with More than Twice the NIEHS Safe Level of Exposure for Benzene

Location	PPB
Murphy Oil Refinery	88.0-170.0
LaSalle and Tulane Ave	8.2
Weidman and Monroe	8.5
Tall Timbers before Silver Maple Ct.	8.6
Cleveland St. and South Johnson	18.0
Barataria Blvd between Jessie St. and Rt. 18	11.0
N. Rampart and Canal	14.0
Wall Blvd and Pace	15.0
Tullis and Woodland near Cypress Grove Ct.	15.3
Glenwood Drive & Fairmont	11.0
Avenue A and Hector	21.0
Duplessis St. and Park St.	16.5
E. Maple Ridge Dr. and Maple Ridge Oak	9.0
Convention Center Blvd.	9.8
Oak Lawn and Veterans	8.5

*Note: NRDC compared sampled concentrations to safe levels (4 ppb) for exposure over a two week period as calculated by NIEHS. This comparison is discussed in our testimony.*

Despite the inadequacy of these test results, EPA asserts in its public materials that, “[t]he screening results indicated that chemical concentrations in most areas are below ATSDR health standards of concern.” <http://www.epa.gov/katrina/testresults/air/taga.html>. These kinds of agency statements have undoubtedly led to widespread confusion and may have misled the public and local officials about the safety of returning to polluted areas.

### **Returning Citizens and Many Responders Do Not Understand the Risks and Are Not Using Protective Clothing or Gear**

In light of the lack of adequate and accurate public information, people are returning to toxin-soaked areas without understanding the risks, and without being provided the proper protections, warnings, or knowledge. We are extremely concerned that there may be widespread illnesses and toxic exposure effects as toxin-soaked areas are repopulated.

We saw many citizens returning to petroleum or other toxin-tainted areas, generally using no masks or special protective clothing. EPA data show that not only does air pollution present a risk, but fetid floodwater that remains in some pockets of the flooded area and still soaks the interiors of many homes and businesses contain high levels of bacteria and other waterborne pathogens from raw sewage, and in many areas contain elevated levels of petroleum, lead, and other toxins.

Many people—both ordinary citizens and emergency workers or police personnel—are breathing petroleum vapors, coming into contact with petroleum and other toxin-polluted water, debris, or residue, or cleaning up polluted homes and businesses, with little or no personal protection. Whereas contract cleanup workers donning Tyvek “moon suits” cleaned up oil and hazmat spills, the public generally is using no protection even though they may well experience dangerous levels of exposure. The National Contingency Plan and EPA and OSHA regulations require that anyone working on response to an oil or hazardous substance spill be provided with appropriate protective gear, and contract cleanup workers are in some cases wearing protective gear. But from what we observed and according to reports we have

received, many local police and other workers in the area are not wearing protection such as respirators and protective clothing.

### **Environmental Injustices Will be Exacerbated Unless Cleanup and Rebuilding Changes**

There is a longstanding legacy of unfair and disproportionate toxic exposures to low income, predominantly African American communities in the New Orleans area and in much of Louisiana, Mississippi, and Alabama. This has resulted from years of industrial activity and waste disposal practices that hit these communities far harder than higher income, predominantly white communities. TRI and superfund facilities are located more often in low income areas and therefore are at greater risk to post-Katrina exposure. As cleanup proceeds and rebuilding begins, every effort must be made to remedy these environmental injustices through full cleanup, fair rebuilding practices, and full partnership with affected communities.

### **Toxics Testing Must Be Enormously Expanded, and Results Must Be Widely and Immediately Disseminated in a Publicly Accessible Format**

EPA has released a limited amount of water, sediment, and air testing for the New Orleans area. There are literally hundreds of reported oil and toxics spills, industrial waste dumps, and industrial facilities that handle substantial quantities of toxic chemicals across Louisiana, Mississippi, and Alabama that were hit hard by Katrina, but for which there has been no reported toxics testing.

In addition, even in those areas around New Orleans that were tested, often only a few samples have been reported for most locations, triggering concern that as water receded or came in from other locations, as re-flooding from Rita occurred, as leaks or spills spread, as waste leached, or as other conditions changed, toxic levels were likely to change as well, likely leaving toxic residues in many locations across the area.

We also are deeply concerned that EPA has delayed reporting many of its test results. As hundreds of thousands of people are returning to evacuated communities, it is critical that EPA release its data immediately upon receiving them, to assure that the public and local officials are informed about the risks.

In addition, we have heard from many local citizens and some local elected officials that EPA's method of releasing most test results—on the web—is not an effective way to get information to the vast majority of evacuees who do not have internet access and are often not able to digest and understand the data. EPA and CDC's press conference warning of the risks of coming into contact with the flood waters was helpful, but came so long ago that it is for many a distant memory that does not touch upon the hazards today from the soaked homes and debris, sediments, mold and other toxins citizens are likely to encounter as they return.

The lack of regular, understandable, and repeatedly-reiterated information through the mainstream media about the toxics threats and the need to take appropriate precautions (e.g. rubber boots, Tyvek suits, masks or respirators, impermeable gloves) is likely to lead to continued widespread misunderstandings and health threats.

### **EPA and Federal Officials Have “Punted” Their Responsibility to Assure the Safety of Returnees**

EPA is the nation's primary repository of expertise and regulatory and enforcement authority for controlling and responding to environmental toxin threats to the public's health. As such, the agency must assume the responsibility for assuring, after the massive spills and releases of oil and hazardous substances in the wake of Katrina, that the health of citizens living in or returning to the affected communities is fully protected.

Under such laws as the Clean Water Act (CWA), Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund), and Oil Pollution Act (OPA), and under its own National Contingency Plan (NCP) regulations, EPA bears the lead responsibility for evaluating and acting to remedy environmental health threats. With respect to the Katrina response, EPA has the legal authority and both the moral and legal obligation to ensure that the health of citizens potentially exposed to toxic chemicals as a result of hazardous substance or oil releases is fully protected.

The NCP regulations impose numerous obligations on the agency to ensure that its response to releases of hazardous substances or oil protect exposed citizens. For example, the NCP requires that after an oil spill, “[d]efensive actions *shall* begin as soon as possible to prevent, minimize, or mitigate threat(s) to the public health or welfare of the United States or the environment.” 40 C.F.R. §300.310(a)(emphasis added). Similarly, if “the discharge poses or may present a substantial threat to public health or welfare of the United States, the [EPA representative] *shall* direct all federal, state, or private actions to remove the discharge or to mitigate or prevent the threat of such a discharge, as appropriate.” *Id.* §300.322(b)(emphasis added).

Similarly, under RCRA section 7003(c)(emphasis added),

Upon receipt of information that there is hazardous waste at any site which has presented an imminent and substantial endangerment to human health or the environment, the [EPA] Administrator *shall* provide immediate notice to the appropriate local government agencies. In addition, the Administrator *shall* require notice of such endangerment to be promptly posted at the site where the waste is located.

Thus, it is not only EPA’s moral obligation to assure that citizens potentially at risk from an oil or hazardous substance release are adequately warned and protected, but also the agency’s legal obligation.

Unfortunately, EPA apparently has decided to “punt” to local authorities the responsibility to protect citizens’ health in the wake of the massive Katrina-related oil and hazardous chemical releases. Generally, these local authorities do not have a significant staff of environmental health experts available, nor do they enjoy access to the array of expertise and scientific information and resources that EPA has. They also are under enormous political pressure to allow rapid repopulation of the toxin-soaked areas.

EPA has repeatedly stated that it is not the agency’s obligation to decide whether environmental conditions in New Orleans and other areas affected by toxins and oil pollution are so dangerous as to warrant continued quarantine or additional cleanup prior to general repopulation of the affected areas. Instead, EPA and FEMA say these decisions are a local responsibility. EPA has even refused to make an explicit public statement about whether it is safe for the public to return to New Orleans and other hard-hit areas. The agency has neither the legal nor the moral right to pass the buck in this way, particularly since local authorities are working under difficult conditions, with communication limitations, displaced staff and other unimaginable challenges.

**Enormous Debris Disposal Operations, Including Proposals for Open Burning, Pose Huge Hazards**

According to recent reports, Katrina generated an estimated 100 million cubic yards of debris—enough to cover over 1,000 football fields 50-foot-deep with waste. This far exceeds the waste generated by any previous hurricane, and dwarfs the 1.5 million tons of debris from the World Trade Center attacks on 9/11. While some of this debris is merely downed trees or vegetation, much of it is destroyed housing, commercial buildings, 350,000 ruined vehicles, and a wide array of other detritus, much of which has been soaked by petroleum or other toxic chemicals, and much of which is intermixed with plastics and

other materials that will become toxic if burned. Disposal of this material presents an enormous challenge with no easy answers.

We observed staggering amounts of debris across the area. Collection and disposal has only begun, yet there are enormous above-ground open dumps where huge trucks have are constantly hauling waste to mammoth city block-sized two story-high open dumps of waste, including two huge dumps immediately adjacent to Louis Armstrong Airport. At least some of these dumps apparently are being operated by the Army Corps of Engineers.

Clearly, every effort must be made to recycle what can be salvaged. For example, “white goods” such as refrigerators, washers, dryers, air conditioners, etc., should, if possible, be recycled and any Freon removed. Steel and scrap metal from ruined vehicles and many destroyed structures also can be recycled. But manifestly, there is not yet a permanent disposal site for much of the rest of the waste. Reportedly, contracts for over a billion dollars for debris hauling and disposal have been issued.

The open burning of some debris has already begun, according to eyewitness accounts. In addition, state officials have begun to waive air pollution requirements and open burning bans. Much of the burning apparently will occur in open pits with “air curtains,” which have been advertised to control air emissions. Yet air curtains do not collect the air pollution—they blow air over the fire to improve oxygen flow and burning efficiency, but they do not collect the fumes or smoke. There may be a few mobile incinerators with air pollution controls, but clearly these incinerators do not have the capacity to handle even a significant fraction of the debris.

We are deeply concerned about the public health impacts of any widespread open burning of materials that are likely to generate large amounts of toxic gases and particulate matter. There are anecdotal reports that open burning of debris after previous hurricanes lead to increases in admissions to hospitals due to respiratory ailments. People whose health is already threatened by immediate exposure to toxins from spills and leaks and polluted water will only be put at greater risk.

Waste industry experts report that waste is being hauled to staging areas across Mississippi and Louisiana, and that Katrina waste disposal will occur not only in these states but also throughout the South. It is important that such disposal not add to the health threats and environmental injustices already suffered by many low-income and minority communities. For example, the Agriculture Street landfill in New Orleans, a controversial Superfund site that already threatened the health of a low income, predominantly African American community, received much of the waste from previous hurricanes, and was flooded after the recent levy breaks. As we plan the disposal strategy for wastes left by Katrina, we must consider the very real possibility that *future* storms will similarly inundate local disposal sites.

### **Ecological Impacts of Katrina and Rita**

We are not only concerned about the enormous public health risks posed by Katrina and exacerbated by Rita, but also the ecological effects of these storms. The associated spills, storm surge, and floodwaters often have carried salt water and pollution into sensitive and ecologically important waters and marshes that serve as the nursery for many rare birds, as well as fish, shrimp, and other forms of life. Reports are beginning to trickle in that serious saltwater contamination of freshwater wetlands is widespread in the storm-ravaged areas. In addition, huge oil and hazardous substance spills are likely to add to the adverse impacts. It is important that recovery efforts address these problems, and that natural resource damage assessments are funded and completed to determine the extent of the harm.



### **Cleanup and Rebuilding Should Proceed With Strong Health Protections; Waivers of Environmental Laws Would Kick Hurricane Victims While They Are Down**

New Orleans and the other storm-ravaged areas of Louisiana, Mississippi, and Alabama must be cleaned up and rebuilt to become healthy, thriving communities once again. Throughout this effort, cleanup standards and other health safeguards must be kept strong, to assure that people made vulnerable by the storm are not further threatened by inadequate cleanups or irresponsible reconstruction practices.

Accordingly, we and the local citizens with whom we have been in constant contact strongly oppose proposals to weaken cleanup or pollution standards – in the Gulf states or anywhere else in the country. Such an approach would kick these communities while they are down. It also would unnecessarily and unjustifiably threaten public health and the environment in other parts of the country. Already, there are several harmful bills introduced in Congress that would allow further harm to the health of the hurricane victims, while jeopardizing public health and environmental safeguards across the nation. While there may be the need for very limited, time-restricted waivers of certain requirements in consultation with the public, current law provides such authorities to EPA and often to state authorities. Sweeping waivers or weakening of current health and environmental protections are ill-advised and will only further hurt the victims of Katrina and Rita.

### **Local Citizens, Including Low-Income and Predominantly African-American Communities, Should Be Fully Informed and Integrated into Cleanup and Rebuilding Decisions**

It is critically important that local citizens be fully informed about the risks they face, and that these citizens be included as full partners in cleanup and rebuilding decisions. Involvement of *all* communities, including the low-income and predominantly African American communities hardest hit by Katrina, is critically important to a successful rebuilding effort. The National Contingency Plan requires public disclosure of information and involvement in cleanup and response efforts, and many federal laws, such as RCRA and CERCLA, as well as the National Environmental Policy Act (NEPA), require public involvement in government decision making about environmental cleanup, waste disposal, or rebuilding efforts. Without this involvement, there will be widespread suspicion and anger from the very communities that the response actions and rebuilding are intended to help. Further disenfranchisement of already disenfranchised communities will seriously undermine the success of any government cleanup and rebuilding program.

## *After Katrina: New Solutions for Safe Communities and a Secure Energy Future*

NRDC recently published a report, *After Katrina: New Solutions for Safe Communities and a Secure Energy Future*, which I am attaching to this testimony. This report addresses many of the reasons why past poor environmental policies made Katrina worse, and makes a series of recommendations for responding to the disaster, rebuilding better and safer communities, and developing a more responsible energy program that would reduce the threat that such catastrophic disasters pose to our energy supply and nation. Below, we summarize this report.

### **Katrina's Lessons**

Hurricane Katrina exposed shocking holes in both our social fabric and our security safety net when she tore through the Gulf Coast. The storm also carried important lessons about management—or mismanagement—of essential health and environmental safeguards.

Hurricanes are a fact of life on the Gulf Coast, and, invariably, some turn deadly. But decisions made by policymakers and elected officials have tremendous influence on our ability to absorb a storm's brute force. Their choices will also determine how quickly and how well communities cope with Katrina's environmental fallout, and whether low-income people of color will suffer as disproportionately in the aftermath as they did in the storm itself.

A century of poor planning and industrial abuse has stripped away much of the Gulf Coast's natural protection against storms and flooding. More than 1 million acres of coastal wetlands in Louisiana have been drained, lost to development, or starved of the Mississippi River sediments they need to survive.

These wetlands could have absorbed storm surge and floodwaters, substantially reducing the storm's impact. When the storm came ashore, it swamped aging, underfunded drinking water and sewage systems and hit more than 60 major industrial facilities and four Superfund waste sites hard in New Orleans alone, adding unknown toxins to the stinking, toxic flood.

Katrina caused nine oil spills totaling more than 7 million gallons, together ranking as one of the biggest U.S. spills in history. By contrast, the price shocks still rippling through the oil markets are not ultimately of Katrina's making. Rather they are due to soaring energy demand caused by years of official refusal to tackle our nation's energy dependence by diversifying our energy sources and improving fuel economy performance standards.

Fixing these problems will make Gulf Coast communities safer and more secure and reduce the longterm cost of coping with the disaster. Lessons from Katrina will pay dividends in other regions subject to extreme weather disasters as well.

### **Planning for a Change**

The Natural Resources Defense Council (NRDC) has assembled a team of its best experts on public health, toxic waste, urban design, coastal protection, energy security, and global warming to present a set of policies and practices to protect the safety and well-being of Gulf Coast residents—today, during the recovery, and onward into a healthier, more sustainable future.

### **Protect Gulf Coast Communities from Toxic and Biological Hazards**

The Environmental Protection Agency (EPA), the Centers for Disease Control and Prevention, and independent experts should immediately broaden toxicity testing of water, sediments, and soils, as well as

biomonitoring and health surveillance of responders and the public. Immediate widespread testing of water, sediment, and dried mud is critical to ensuring the safety of cleanup workers and returning residents, and for identifying toxic hot spots for containment and cleanup. Big industrial facilities, Superfund sites, and other toxic hotspots should be catalogued and evaluated, and any dangerous releases contained immediately. Immediate public disclosure of all information is also critical.

### **Quickly Restore Safe, Clean Drinking Water Supplies**

More than two weeks after Hurricane Katrina hit land on September 17, 2005, 186 public water treatment systems in Louisiana and 229 in Mississippi were seriously compromised, completely out of commission, or unaccounted for; and 172 sewage treatment plants were not fully functioning. Hundreds more in Louisiana, Mississippi, and Alabama were operational but expected to need repair or reconstruction. New Orleans' drinking water system was completely knocked out but has started pumping non-potable water in some areas for fire control.

All told, at least 2.4 million people were without access to safe drinking water and bacteria levels in floodwaters greatly exceeded public health standards shortly after Katrina. All these systems will need financial and technical assistance to get back into full, safe operation.

### **Restore Natural Coastal Buffers to Protect Against Storms**

Natural coastal barriers on the Gulf have nearly been destroyed by decades of industrial misuse and government-sponsored re-engineering gone awry. We must adopt a major coastal wetland restoration program in the wake of Katrina to build back what we ourselves destroyed. It is also critical to ensure that flood control projects ordered by Congress and developed by the Army Corps of Engineers are prioritized to protect population centers and serve legitimate flood control purposes, not the call of pork-barrel politics.

### **Rebuild for a Safe, Secure, Sustainable Future**

Now is a chance to restore New Orleans' 19th century elegance using today's know-how and technology. That means energy-efficient, weather-resistant housing designed according to voluntary federal standards that save money and improve comfort for people who live there, no matter what their income. And it means family-friendly, mixed-use, mixed income walkable communities like many affected areas had in earlier days.

### **Maintain Health and Environmental Safeguards**

Lobbyists and their congressional allies are already lining up hoping to undercut long-standing health and environmental safeguards in the name of hurricane recovery. In a few select cases, it may make sense to make temporary accommodations in federal health and environmental rules to address legitimate needs. But nearly all of these can be accommodated without changes in current law, much less the blanket suspension legal safeguard being proposed by special interests.

### **Repair the Racial and Economic Inequity of Health and Environmental Risk**

Environmental injustices have long plagued New Orleans and the Gulf Coast region. Cleanup efforts should adhere firmly to the standing Federal Executive Order designed to ensure environmental justice for communities of low income and color that are exposed to inequitable amounts of toxic pollution. In the rebuilding process, local governments' exercise of eminent domain powers should not be used to take properties in low-income communities of color.

### **Permanently Protect American Consumers from Energy Price Spikes**

In the wake of Katrina, oil and natural gas prices were skyrocketing. Although the worst of the panic induced run-up has abated, prices remain extremely high and experts are predicting a painfully expensive winter heating season. We cannot drill our way to energy security. The only real solution is to reduce the

amount of energy we need to keep the economy humming. That means stronger fuel economy standards and rules requiring more efficient heating and air conditioning equipment and other energy conservation technologies.

**Prevent the Added Threat of Global Warming**

Global warming didn't cause Katrina. But experts agree the warming climate caused by heat-trapping pollution is adding fuel to tropical storms—elevating category 3 storms into category 4 and so forth. Hotter climate also means more flood risk due to rising sea levels. There is growing bipartisan support in Congress and many states for concrete, market-based limits on global warming pollution.