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Stressful Lives of Louisiana Environmentalists

Robert A. Thomas

Center for Environmental Communications
Department of Communications
Loyola University
New Orleans, Louisiana 70118-6195
bthomas@loyno.edu

THE QUESTION

A few years ago, I and several other environmentally concerned citizens were contacted by two major national foundations and asked to discuss why we thought Louisiana environmentalists seemed to have difficulty getting along with one another. It was apparent that these foundations have concerns about their support of groups involved in such shenanigans. They believed that environmentalists in other regions show more collegiality than do local environmentalists and sensed that the local situation was diluting their grants' effectiveness in Louisiana.

As I tried to think through the issues, my thoughts ran the gamut from "There is no problem" to "Because we're all jerks." No, neither worked. I focused my attention on Louisiana's most prominent environmental issues, mentally listed the challenges confronting our citizens, and a plausible explanation emerged. It is a story about a relatively small population (1.4% of the United States) that is relatively poor (49th of 50 states, U. S. Census Bureau, 2001a) and relatively poorly educated (often reported in the press as 49th or 50th out of 50 states) having to live with all the effects of the highest concentration of environmental dilemmas in the nation.

UNIQUE CHALLENGES

A cursory review of Louisiana's major environmental challenges gives a context within which we can frame an analysis of Louisiana's environmental situation.

1. **THE MISSISSIPPI RIVER.** At once a blessing and a curse, the Mississippi River is the most influential and defining element of coastal Louisiana. Its large size and deep channels (which need to be dredged for deep

draft ships) allow Louisiana to be among America's shipping elite. Depending on the year, New Orleans is usually first or second in ship visits and/or tonnage of product handled. Most residents along the Mississippi obtain their drinking water from the river and use the river to flush their waste. The river creates an environment that provides a template for Louisiana's rich cultural heritage that is the basis for one of the nation's largest tourist meccas. And there is that special feeling one gets from sitting on Old Man River's banks and just feeling his presence.

The Mississippi River drains 41% of the continental United States and portions of two Canadian provinces. A blessing resulting from this fact is that over the last 3000-6000 years, Louisiana's coastal system has been formed from the richest topsoil that the heartland of America has to offer. This richness has resulted in the Lower 48's most productive fishery and the basis for being called the "Sportsman's Paradise." Virtually everyone in Louisiana has a direct or indirect connection to the coastal zone—economic and/or cultural.

On the other hand, this huge American drainage system brings to Louisiana the bulk of our country's runoff products (nutrients, pesticides, herbicides), sewage (most cities, like New Orleans, use the river to dispose of their treated secondary waste) and other elements of urban drainage, and industry effluents.

The present concern over "dead (=hypoxic) zones" off the Louisiana coast (Rabalais and Turner, 2001) is a direct result of the nutrients flowing from the mid-U.S. into the Gulf of Mexico. Each year, from mid-summer to mid-fall, an area of Gulf of Mexico water as large as 8000 square miles becomes depleted of life-giving oxygen. Dr. Nancy Rabalais and other scientists at the Louisiana Universities Marine Consortium in Cocodrie, LA, have discerned that the cause of the hypoxic zones

is connected to the nation's agricultural market. Each summer, throughout the heartland of America, farmers fertilize their fields. Any nutrients not quickly absorbed by the target soil are likely to find their way to local creeks, irrigation and drainage canals, rivers, and the like. These nutrient-rich waters eventually make their way to the Mississippi, then the Gulf of Mexico. During summer and early fall, the Gulf of Mexico tends to be rather calm, and the low water flow of that period causes less dense freshwater to sheet across the more dense Gulf marine water, thus carrying the nutrients to the natural Gulf currents that the Coriolis Effect¹ sends flowing to the west. The increased availability of nutrients (especially nitrates) in the warm water causes huge algal blooms. As the algae live and die, they consume huge quantities of oxygen (much more than they produce in life), and the water soon becomes hypoxic (oxygen deficient). Species that can move quickly (speckled trout, redbfish, tuna, etc.) avoid the zone, but those that can't (bottom dwelling species, plankton, etc.), die. Scientists are still studying the impact of hypoxia on the Gulf, but it seems probable that a lack of oxygen in a zone the size of New Jersey is not good for the environment or the economy.

Most other impacts from river-borne waste lack scientific evaluation, giving every New Orleanian a lingering fear of the effects of chronic exposure.

Key consideration: Most of the hypoxia problem is caused by runoff from 41% of the Lower 48 states, and 100% of the direct impact is experienced by Louisianians.

2. THE PETROCHEMICAL CORRIDOR. Due to the presence of a highly navigable river (for shipping products) with a massive flow rate (for dilution of waste water), cheap energy, proximity to interstate and rail transit, abundance of natural resources (hydrocarbons, salt, etc.), rural land, proximity to other chemical manufacturers (for needed by-products² produced by their neighbors and sale of many of their own by-products), long-term tax incentives, and historically little local resistance, southern Louisiana has long been popular for siting elements of the nation's petrochemical indus-

try.

Louisiana is always in the top three states in the nation when it comes to levels of production of chemicals and pollution. For all the reasons listed in the paragraph above, Louisiana will presumably always be one of the nation's top three producers of chemical products, with pollution rankings following closely.³

Louisianians have a love-hate relationship with the petrochemical industry. We love the jobs, eventual tax money, and economic spin-offs, but we are deeply concerned about the 10 year tax exemptions, potential for disasters, and the untested/unproven long-term health effects of exposure to a wide variety of chemicals that are released into the air and water, as well as those stored on the surface, buried, and deep-well injected into the ground. There is constant debate among those who say there is no health exposure, those who say we are all doomed to have cancer, and those who simply don't know who or what to believe.

This type of concern can be overbearing.

Key consideration: Of the total membership of the Louisiana Chemical Association, only one small company is headquartered in Louisiana. The rest answer to out-of-town folks for their environmental/safety/health directions and decisions.

3. OILAND GAS PRODUCTION. Louisiana has historically been one of the nation's leaders in the production of oil and gas, being rivaled only by Texas. In Louisiana, new technologies are allowing for locating and making accessible more sites for extraction. Around the nation, there is a tendency for states to avoid exploration and extraction (e.g., in Florida, California, and North Carolina coastal waters). Each time a state is successful in preventing extraction for hydrocarbons, Louisiana must take up the slack. In 1992, when then President Bush proclaimed that there would be no offshore oil extraction in Florida and California, environmentalists around the nation cheered. Louisiana environmentalists groaned, knowing that this proclamation meant that more pressure would be placed on Louisiana in order for those states and the rest of the country to continue receiving large

¹ The Coriolis Effect, named after the French scholar Gaspar Gustave de Coriolis who calculated the math, helps us understand the relationship between our spinning earth and the fluid on its surface. Suffice to say that as the earth spins toward the east (at a speed of about 25,000 mph at the equator), the water tends to flow to the west as the terra firma moves out from under it toward the east. Thus, water flowing from the mouth of the Mississippi River flows toward the west. For an excellent discussion of how currents develop in the world's oceans, read Brylske (2001).

² By-product is what industry calls unused materials that result from their manufacturing process. They often build new facilities that use by-product from another portion of the plant to produce yet another product to sell; production of the new product produces a new suite of by-products. They are constantly searching for other uses for by-products, since it costs them significantly to dispose of them within the regulatory demand. Often the plan involves using certain by-products that leave by-products that are less harmful. Citizens, especially environmental activists, consider and call industry's "by-product" "pollution" - because many of the by-product chemicals are known or feared to be harmful to the environment and/or human health.

³ Being in the top three polluters today means that our citizens are exposed to massive amounts of air and water borne pollutants - 149,834,312 pounds according to the state's 1999 Toxic Release Inventory numbers (and this is a 20% decrease over 1998 levels) (Louisiana Department of Environmental Quality, 2001). For this reason, we associate being in the top three as being very bad. If industry works diligently (encouraged by public pressure and an appropriate level of regulatory command) and improves efficiency within its plants, we may see the day when we are still in the top three, but the tonnage of pollutants are 10% or less what they are today.

quantities of artificially cheap gas and oil. Louisianians also know that when the price of oil moves from, say, the present \$29 per barrel, to \$60 or above, those states may well reconsider their prohibition (and no one will send Louisiana money to recover from the devastation of years and years of supplying the nation with cheap oil and gas).

Key consideration: America's lifestyle and economy are heavily dependent upon hydrocarbons, and Louisiana represents only 1.4% of the U.S. population while carrying a much larger percentage of the production of oil and gas. Though present-day oil and gas extraction technology is less environmentally intrusive, historical methods have left coastal Louisiana irreparably scarred.

4. COASTAL EROSION. Louisiana has 40% of the coastal wetlands of the continental United States, and is experiencing 80% of the loss in the same zone. Between 1956 and 1978 Louisiana lost an average of 41.83 square miles of coastal wetlands each year; recent studies indicate that the rate dropped to 25.34 square miles between 1983 and 1990 (Dunbar et al., 1992). The loss rate is often quoted as an area the size of a football field every 15 minutes (this is correct for the loss of 25 square miles per year).

So, what does that mean? Louisiana's entire culture revolves around wetlands. One of the wonderful elements of south Louisiana, the key to its success in tourism, is the melding of what is locally called our "gumbo culture." That is, a heterogeneous culture based on mixing many different homogeneous cultures. Of the many groups that settled our wetlands, most did so to continue the activities of their heritage. Croats are the oystermen; Isleños (from the Canary Islands) are fishers; Phillipinos once dried and "danced the shrimp"⁴ on platforms at "Manila Village;" Cajuns (Acadians) hunt, trap, and fish; and so on. Over time, each culture (including those settling in Louisiana from Europe, Africa, and Asia) contributed to the existing gumbo.

Steve Cheramie, an elder of the Houma Nation, says that when their land erodes into the Gulf of Mexico, the Houma will cease to exist as a people. Like the Houma, if we lose our wetlands, we lose our culture.

Key consideration: I repeat, Louisiana has 40% of the Lower 48's coastal wetlands, and is experiencing 80% of the loss. Add to that the fact that 80% of coastal Louisiana is owned and controlled by interests outside the state, and one can understand the citizen's feelings of encroaching, uncontrollable doom.

5. POTENTIAL FOR FISHERIES DECLINE. Louisiana supplies our nation with about 40% of the fisheries arising from the Lower 48 states. For the

years 1995-99, National Marine Fisheries Service (2001) data for the top ten ports reveal that Louisiana ports delivered more tonnage of fisheries landings than did any other state (Louisiana is first with a total of 5.432 billion pounds; Alaska is second with 4.819 billion pounds; Seattle, WA, and Reedville, VA, each had just over one billion pounds). Louisiana's rich wetlands, with their marshes and estuaries, are the crucial nurseries for the enormous food web that exists in the fertile Gulf of Mexico. It is obvious that the food web is important to the health of the Gulf, but there is also a very important economic web associated with the wetlands. Take for example the menhaden (pogie) fishery. Menhaden are relatively small fish that swim in schools of hundreds of thousands of individual fish. They feed on plankton, tiny floating organisms. Plankton feed directly or indirectly on organic material, originating from coastal marsh plants, that enters the Gulf of Mexico via estuaries. There is a direct link between coastal marsh and the livelihood of pogie schools.

An economic web begins with the pogie fishers. They spend lots of money to pursue their quarry. They buy boats, insurance, equipment, ice, food, gasoline, nets, and engines. They pay boat painters and mechanics, and rent or own dock space. In the course of their lives, they have families, own or rent homes, buy insurance, shoes, clothes, food, cars, furniture, etc.

The web doesn't end with them. They take their product to rendering (pogie) plants, and we see another section of the economic web. Owners, employees, and suppliers are integral components of Louisiana's economic web. The same can be said for their direct clients and those not so direct: trucking companies, poultry and catfish farmers, and so on and so forth. In one way or another, every Louisiana citizen is linked to a healthy fishery, thus to a healthy coastal wetlands ecosystem.

At a time when other fisheries, such as Chesapeake and Stellwagen Banks (off Massachusetts), are collapsing, Louisiana's fisheries have filled the gap and prospered. But there is fear that the hayride may teeter and fall.

There are more fishers, better fishing technology, no comprehensive management plans, constant turmoil and no consensus over by-catch and TEDs, no agreement on how soon coastal erosion and sea level rise will adversely impact fisheries, battles between commercial and recreational fishers - all occurring while our coastal wetlands (= fishery incubators) continue to erode at a rate of 25 square miles annually.

Metaphorically thinking, imagine being locked inside a large grocery store. In the beginning, there is plenty of food. And there is plenty of food for a long,

⁴ After drying shrimp in the sun on raised platforms built especially for that purpose, Chinese, Filipinos, and friends walked over the shrimp, thus causing the shells to separate from the meat. They walked, talked, and otherwise interacted with their friends, and the process became known as "dancing the shrimp" (Davis, 1992). One can imagine that out of boredom, they probably talked with friends, pranced around, and at least occasionally enjoyed the activity.

long time. For months, or even years, you live well and take the Scarlet O'Hara perspective ("I'll think about that tomorrow"). But at some point, the food runs out and you face death. Louisiana environmentalists fear that we are being misled, that coastal fisheries are doing well today principally due to the enormous influx of organic material into the Gulf of Mexico.

Key considerations: Might our fisheries be benefitting from as yet unidentified aspects of hypoxia and the fact that our rapidly eroding coastline is feeding it with abnormally and non-sustainable quantities of organic material? What will happen when erosion reaches the point when there is little organic contribution to the estuaries and Gulf of Mexico?

6. ENVIRONMENTAL JUSTICE. If one wants to identify an issue that is among the most difficult to resolve, find one that involves social concerns, emotion, environment, politics, economic development, multinational companies, and allegations of racism. Have it birthed by a Presidential Executive Order (number 1298) so that it is communicated with lightning speed to all federal agencies, resulting in an expanding bureaucracy whose job it is to ferret out alleged violations. Wallah! You have "environmental justice."

Environmental justice is a subset of Social Justice⁶, the notion of equity among all peoples. The concept is that all humans should have equal access to information, resources, and opportunities.

Some would argue that environmental justice either doesn't exist, or is very rare. They think that what most call environmental injustice is in fact social injustice. Specifically, that the miseries of people living along industry fence lines are caused not by environmental factors, but by the social plight the people experience daily - poverty, lack of education, not employable, living outside the information stream, poor access to social services, ignored by community leadership, and otherwise marginalized.

Call it what you want, but anyone who refutes the need for justice in these communities is, in my opinion, just wrong. Every thinking person should realize that none of us will prosper while some of us are mired in poverty and all that that entails.

But how does environmental injustice (*sensu stricto*) arise? Many believe it occurs when sinister corporations choose to locate in minority neighborhoods, due to their inhabitants' inability or will to keep the corporations out. Industry and their supporters contend that siting decisions are based on the availability of specific resources (such as variety and proximity of transporta-

tion, raw materials, adequate land, reasonable energy costs, and the like).

Historically, there have undoubtedly been instances of the former being a portion of the decision, but it is doubtful that modern companies are foolish enough to think that they can succeed with this antediluvian approach. Any that do are doomed to failure (or a tardy reform in their attitudes).

Nonetheless, Louisiana has one of the densest chemical industry corridors in the nation, and the corridor has developed along the Mississippi River, which was also one of the main gateways to plantations in the Old South. This situation has resulted in an inordinate number of African-Americans living along fence lines, and makes Louisiana a prime candidate as the poster child of the environmental justice debate. With all that Louisiana environmentalists have to contend, the advent of environmental justice issues has placed even more pressure on our shoulders.

Key considerations: How do we help the business community understand the value in embracing the concept of social justice in their neighborhoods? Will national environmental groups go beyond confrontational activism and work with economic interests for the good of the communities of concern? Are we capable of putting racism in our past, or are there just too many people and groups who harbor racist feelings or whose interests are served by maintaining the conflict?

CLOSURE

If each of the above six topics is viewed as a transparent environmental overlay (with each affecting the "view" of the others), then the following must also be considered as important overlays:

- Louisiana has a relatively small population (4.5 million). Between 1990 and 2000, it grew the least among southern states, expanding by only 5.9% while others ranged from 10.1-26.4% (U. S. Census Bureau, 2001b).
- Louisiana has a chronic challenge with education.
- Louisiana's economy is still declining. It headquarters only one Fortune 500 company presently, as opposed to five in 1990. Louisiana's economy is rated 48th among the states by the Gold and Green 2000 report (Kromm et al., 2000).
- Louisiana has an over abundance of poverty (Russell, 2001).
- Louisiana has a population that does not adequately access existing health care.
- Most final business decisions are being called by peo-

⁵ This topic is thoroughly discussed in the present publication (Kuehn, 2001: taxonomy; East, 2001: media coverage; Hollander, 2001: moral command and industry's responsibility; and Brehm, 2001: personal experience). Taylor (2000) presents a historical perspective, and defines the field in terms of a new paradigm.

⁶ Kuehn (2000:10698-702) presents a thorough discussion of social justice, though he begins his discussion by implying that social justice is a goal of environmental justice rather than considering environmental justice to be a subset of social justice.

ple outside Louisiana who have no personal stake in protecting the state's quality of life. (As mentioned above, only one member of the Louisiana Chemical Association is headquartered in Louisiana. Additionally, 80% of Louisiana's coastal wetlands are owned by out-of-state entities). In essence, Louisiana operates as a third-world economy hosting globalized (from other states) industry.

- Because so many Louisianians' livelihoods are dependent on fisheries, oil and gas, the petrochemical industry, the river, and the like, there is little resistance to those who control them.
- Extraction companies enjoy a favorable political climate in Louisiana.
- Citizens are fearful of the environmental living conditions. Louisiana is rated 50th among the states when using environmental indicators selected by the Gold and Green 2000 report (Kromm et al., 2000).
- A recent study shows Louisiana 49th in the well-being of its children (Mullener, 2001).
- The rest of the U.S. is showing little to no concern for the environmental stress its consumers' needs place on Louisiana's environment.
- National environmental groups refuse to give coastal Louisiana's needs and concerns the same visibility and sustained attention that they so eagerly give to the Everglades, endangered species, Alaska National Wildlife Refuge, California's coasts, etc.
- Louisiana's laissez faire, joie de vivre, and laissez le bon temps roulez cultural attitudes have allowed the festering and tolerance of an easily manipulated political climate.
- And I'm sure the heat and humidity figure into the equation some way!

So, a relatively small, under-educated, rather poor, hard working, tolerant population labors, with little outside attention, to support the needs of a hydrocarbon-petrochemical-fish hungry nation. They do so in a region that is rapidly eroding into the sea at the opening of a huge plumbing system that drains almost half the country.

Is there another place in the United States where dedicated, intelligent, generally well-meaning people who care about the future of their environment must labor against such overwhelming odds of national importance? Can you name just one other place?

I often think how easy it would be to live in a place where landfill issues reign supreme (we have those issues, too), or where I would fight to clean a beautiful river that drains one or two states. Or what about beautiful areas that are threatened by increasing urbanization (us, too)?

I don't mean to belittle the environmental concerns of the citizens of other places. I have lived and worked elsewhere and have many friends who are dedicated to

restoring the earth in communities throughout the United States. I simply have come to believe that a large part of my precious state's environmental dilemma is a product of geography, history, politics, and yes, culture.

A couple of large foundations have recently focused their environmental support elsewhere. I hope they don't think Louisiana's problems are solely of her own making, or that they are passé, or that Louisiana is beyond hope. Louisiana serves the nation, and she deserves the nation's support!

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