

## **Deforestation of the Redwoods**

The cutting of forests has been practiced for as long as humans have utilized the value of burning carbon and the utilitarian value of making mobile vehicles and shelter. In the Pacific Northwest, there has been great controversy since the creation of the round blade and man's ability to fell forests at lightening speed with monstrous capacity. The externalities or indirect consequences of this cutting has only come to the forefront of people's thinking when such things as spotted owls, or salmon habitat come into the media. What is vaguely understood is the intricate nature of the workings of the ecosystems in which these trees live, and how important they are to keeping the greater global climate picture intact.

What is even more unknown or little considered is the "other redwoods." Those trees called bald cypress in the bayous and marshlands of Louisiana. And now their demise is not at the blade of a sawyer, but by suffocation by drowning.

What has happened to the trees besides the felling of the giants for lumber was also an indirect killing due to drowning. Those periodic dry lands come no more, because Louisiana is "losing its land" at such a fast pace that it actually appears that the water is rising. That the sea is rising drowning the cypress trees along with its mangroves, marshlands and thousands of wetland inhabitants.

On a global scale, with an increase in warming of planet Earth's surface we see global rising of the oceans. Unnatural losses at such a rapid rate that are seen every day in Louisiana; 8 feet of shoreline lost in 7 months, 4 feet underwater was a baseball field just 20 years ago. An area the size of Connecticut, the whole southern land area of Louisiana - three million acres - is washing out to sea to the Gulf of Mexico.

## **History**

Louisiana contains 25% of America's total coastal wetlands and 40% of the nation's total salt marshlands, formed and created over 7,000 years. Over these 7,000 years the mighty Mississippi River, more than a half mile wide and 200 feet deep, carries a vast watershed from parts of three Canadian provinces and 2/3 of the continental United States. It is the world's third-longest river carrying sediments for thousands of miles and depositing it all along coastal Louisiana either through annual flooding along its lower stretches or in creating new land at the mouth of the river called deltas. This land flow equals to 160 million tons per year ravaging at a rate of 600,000 cubic feet per second. It took 7,000 years to create 6,000 square miles of wetlands and just over a century to reduce it close to death.

Every thousand years or so, the Mississippi sediments blocked and rerouted the river towards the path of least resistance, the shortest route to the Gulf of

Mexico. A new delta would be built, spreading new land along a wide coastline, the bayou region of Louisiana. The barrier islands, only 12 remaining today are the old remnants created by the Mississippi River, left behind long ago when the river delta used to push farther out into the Gulf of Mexico.

Coastal Louisiana by itself, accounts for an astonishing 30 percent of America's annual seafood harvest, measured by weight. Crabs, just one small part of this massive estuarine waterscape of fresh, brackish, and saltwater habitats spread across endless bays, lagoons, inlets, and marshes shaped by the Mississippi River and more than half of the shrimp caught in Louisiana is in these waters. The shrimp are here entirely because of the land.

95% of the fish and shellfish caught commercially in Louisiana depends on the wetlands as a nursery and source of food sometime in their life. A billion dollar industry. Oysters harvested from these rich beds produce more than 10 million pounds of oyster meat per year, more than any other state in America.

Wetland habitats are the most biologically productive areas on earth, in Louisiana's coastal zone there are no fewer than 353 species of birds residing here. 20% of all the ducks in North America, 4 million of them, overwinter in coastal Louisiana. It is the Mississippi "flyway" that area in the migratory path between north and south America.

Forest dwelling songbirds alone are disappearing at a rate of 1 to 3 percent each year, and over a 10 year period at least nine types of Gulf shorebirds declined to half or less of their former numbers. Most disturbing, the total number of birds detected by radar crossing the Gulf of Mexico each year has decreased by half within the last twenty years. Habitat loss is at top of the list.

### **Trouble**

It took 7,000 years to create 6,000 square miles of wetlands known to have been intact as late as the 1880s. In just over a century, almost a third of that land, 1,800 square miles has disappeared due to human interference.

One-third of the 6,000 sq miles of wetlands has disappeared over the last century solely due to human interference. Sediments have dropped by half since the 1950s due to the construction of dams along the Missouri and upper Mississippi that allow no more than 40% of the river's flow to be diverted to coastal marshes for land-building due to ship navigation requirements to the city of New Orleans.

It was the great flood of 1927 that killed over a thousand people in Arkansas, Mississippi and Louisiana and the beginnings of the Army Corps of Engineers perfecting the construction of massive, unbreachable levees along the entire lower Mississippi, never to let it stray its course again. This frozen river streams past New Orleans and out into the Gulf where its sediments are dumped off the continental shelf thousands of feet below. Through this reactive adaptation, Louisiana adopted the Dutch model: flood control, levees, dredged canals for navigation, forced drainage of swamps, large-scale marshland elimination, and the end result was all the same.....the land began sinking.

In the 1930s, at almost the exact same time the lower Mississippi River was finally conquered with levees, oil exploitation began throughout the bayous. This infrastructure still produces 18% of annual US oil supplies and 24% of natural gas supplies. These marshes are filled with pipeline canals, 10,000 miles of them. These canals trigger disastrous erosion and every 14 years the canals double their width.

Just offshore there are hundreds of oil platforms, while just 30 miles further south there are 4,000 + platforms and drilling rigs, servicing 10 fold the number of wells. It is a vast hydrocarbon reservoir below the ocean. and now our oil technology is creating the largest artificial mass of offshore property ever conceived. Oil is 20% of the state's GEP and through this fear of loss, no one is saying there is a problem.

**20 years ago** this tree was on a solid bank of land , today it is under 4 feet of water. The marsh is continuing to disappear at a rate of 25 sq. miles each year. If there were a foreign intruder stealing 25 sq. miles of the country's land every year, would there not be a force of war to stop this? Why, is nothing being done now?

For every 2.7 miles of marsh grass, absorbs a foot of a hurricane's storm surge. There are 2 million people that rely on this and New Orleans, already 8' below sea level, gulf shore was 50 miles away a century ago. Today it is about 20 and shrinking fast.

4 tombs visible 10 months ago are now underwater. In Leeville, there are many underwater cemeteries now. Another ecological collapse is the city of Houma, now just 2 feet above sea level on land that is sinking 4 feet a century, and the city's main source of drinking water is increasingly contaminated by saltwater intrusion, forcing officials to draw water from the bayou which drains the murky swamp.

With the death of marsh grass – as each square foot dies, so does the root

system holding together the delicate soil below. Once the roots decompose completely, erosion quickly follows and it is this square foot that joins the others in its conversion to open water. Although this process has always been occurring, the problem is that no new sediment is being added to generate new land as it always has been.

### **Perception**

Many people feel that the problem is just too big for them to solve. People's perceptions are skewed because the estuaries are productive and even more so when the grasses die in the marshes. They decompose providing more food than expected for the shrimp, that multiply, but it is a short fix it will be a very rapid and total collapse.

That coastline is dying not because anyone wanted it to die or consciously made it happen, but because of the unintended consequences of human engineering and technology.

### **The value is in the land**

The value is in the land that provides crucial wildlife habitat, nature & beauty that also provides 1/5th of America's domestic oil, and a billion dollar seafood industry, as well as hurricane protection for nearly 1 percent of the nation's population, 2 million people.

The Coalition to Restore Coastal Louisiana, along with many conservationists and volunteers are finding quick fixes that are only small parts of the puzzle to correct this huge flaw. Things like Christmas tree barriers, and sand bag barricades are common as well as artificial concrete barrier islands to replace the rapid loss of the last remaining 12 barely above water today.

Louisiana's only hope is a proposed 95 mile long "controlled diversion" of the lower Mississippi River – essentially an earth ditch on a colossal scale which would bring as much as a third of the lower Mississippi's flow down what is called the Third Delta Conveyance Channel it is a hulking waterway carrying up to 200,000 cfs of water for \$2 billion in construction costs.

What took 7,000 years to create will be destroyed in another 10 or 20 if action is not taken now. Louisiana needs the Mississippi River to manufacture land – islands, wetlands, stable shorelines – so that an entire culture and economic way of life can survive.