

Components of Coastal Land Loss

Land loss in the coastal zone is a problem with broad environmental and economic consequences. Land loss, which is land turned to water or land covered with water, is a result of many interacting factors such as subsidence, sea level rise, flood control structures, canals and navigation channels, storms and wave action, herbivory, and development. The wetlands of coastal Louisiana are being converted to open water at a rate greater than 20 square miles a year (See www.btnep.org Lower Barataria–Terrebonne Estuarine Basins Habitat Change Map).

The survival of the Lafourche Parish communities depends on the marshes, swamps, and barrier islands that absorb storm surges from the Gulf of Mexico. Every mile of marsh between your home and the Gulf can reduce the depth of storm surges by seven inches. Because hurricane storm surges at the Gulf shoreline can reach up to 20 feet (as was the case with Hurricane Camille near Biloxi), this natural protection is what makes marsh communities like Cocodrie more habitable than areas like Timbalier Island. Without these buffers, storms would regularly flood the communities where most residents of Barataria–Terrebonne live. Of course, if the marshes and swamps disappear, we can always expand the levee system. But even today, the highest hurricane protection levees often cost more than \$3 million per mile and rarely exceed 14 feet above sea level. Alternatively, it makes sense to preserve as much of the natural system as we can before we are forced to adopt more expensive, less effective solutions.

As swamps and marshes disappear, we lose the animals that depend on these habitats (See Figures 9 & 10). Our abundant resources of fish, shellfish, and ducks have always allowed families to make a living fishing and trapping when times are hard. Losing this economic cushion would affect all residents of the Barataria–Terrebonne region.

Marshes act as giant filters for pollution and sediment, screening out harmful substances before they damage other habitats. After the sediment has been absorbed, the microorganisms living in marshes can break some of the organic pollutants down. Without the regions vast marshes, we lose their service as natural filters (see BTNEP's [Saving the Good Earth: A Call to Action](#)).

The cumulative impact resulting from land loss includes changes in water, which contribute to increase in salt–water intrusion, losses in storm buffering capacity, loss of migratory birds' area, and diminishing nursery grounds for Louisiana's coastal fish and shellfish resources.





Picture by: Diane Baker

Figure 9. Swamps and bottomland hardwood forests are home to deer, Barred Owls, wild turkeys, Pileated Woodpecker, squirrels, bullfrogs, Sac-o-lait, Prothonotary Warbler, Yellow Crowned Night Heron, bass and other wildlife.



Picture by: Diane Baker

Figure 10. Marshes are home to alligators, nutria, diamondback turtles, killifish, Clapper Rails, Great Egrets, Red-winged Blackbirds, Redfish, Speckled Trout, shrimp and other wildlife. There are 4 types of marshes: fresh, intermediate, brackish, and salt.