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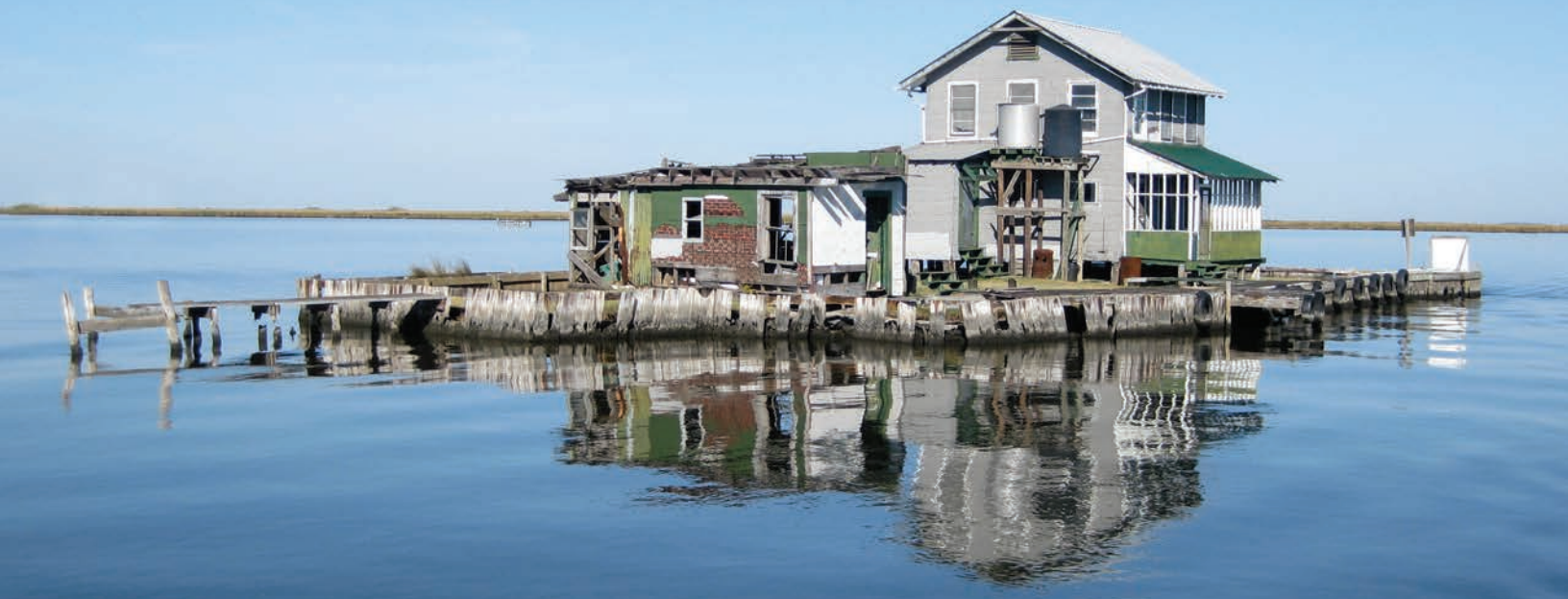
WATER MARKS

Louisiana Coastal Wetlands Planning, Protection and Restoration News

April 2019 Number 59

Water and wetlands infuse a sense of place

Land Loss Erodes the Foundations of Coastal Cultures



April 2019
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This legislation funds wetlands restoration and enhancement projects nationwide, designating nearly $80 million annually for work in Louisiana. The state contributes 15 percent of total project costs.

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ABOUT THIS ISSUE'S COVER . . .

Louisianans have long lived with, by and on the water; the coastal environment has shaped and defined their cultures and lifestyles. But as wetlands dwindle and convert to open water, the unique and historic folkways of this region are at risk of vanishing along with the land.

Photo: Copyright Diane Huhn

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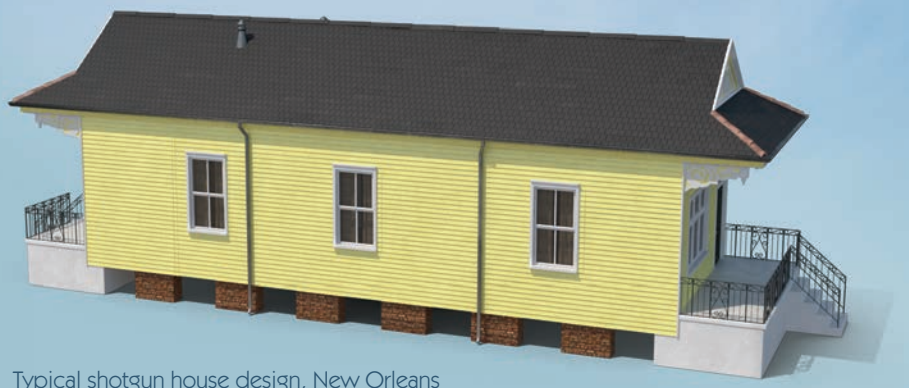

Typical shotgun house design, New Orleans

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ONCE THE LAND OF BOUNTY, COASTAL MARSHES FACE DEATH BY WATER

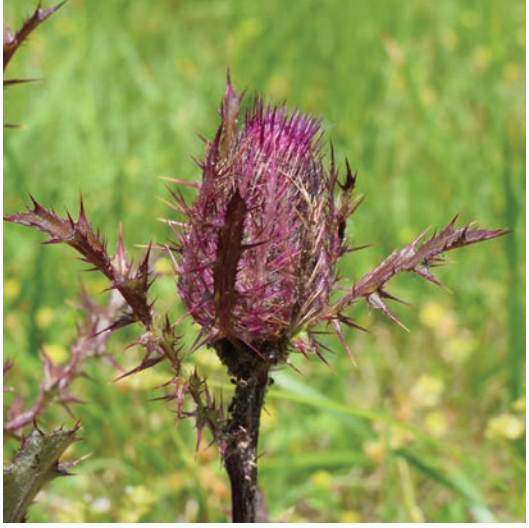
For Coastal Cultures, Plants Comprised the Stuff of Life

Wherever humans have settled, they have depended on the surrounding environment to provide sustenance, shelter, medicines and raw materials from which to fashion objects of utility and beauty. In Louisiana's coastal region, rich soil, plentiful fresh water and long growing seasons provided bountiful harvests of fruits, vegetables, roots, seeds and grasses. Wetland loss has threatened the habitats of some plants important to Louisianans in years past, yet many species persist where marsh remains.

Many wild foods that early inhabitants ate are still collected today. Blackberries and persimmons are familiar fruits. An ingredient in many gumbo recipes, filé derives from dried sassafras leaves. Other wild foods offer tastes similar to foods commonly found in a grocery. "Young palmetto plants have a stalk-like growth near the root that reminds me of turnips," says Jean Landry, program manager for The Nature Conservancy on Grand Isle. "And, after boiling them several times to remove the toxins, the spring leaves of the nightshade tastes like spinach."

For some, flavor and memory blend inextricably in a food. Gary LaFleur, Jr. recalls his grandmother sending the kids out to the pasture to collect native thistle for an Easter salad. "You cut down the thorny stalk, peel it back and chop it up," LaFleur says. "It tastes kind of like celery."

On the coast, vegetative communities vary according to factors such as soil saturation, water salinity and height above sea level. As land loss swamps marshes and increases the salinity of water far into the estuary, some plants cannot adapt and die. Already some species important in natural healing lore have become difficult to find or have disappeared altogether.



Larry Allain, U.S. Geological Survey

It may look formidable to the uninitiated, but Louisianans who know how to disarm the thorny thistle declare its fresh, crisp taste in a springtime salad justifies the risk of torn flesh and blood-ied fingers.

LaFleur, a biology professor and director of the Center for Bayou Studies at Nicholls State University, leads excursions to find the American lotus and eat its seeds. "If you break seeds out of the pods and eat them fresh, they're like pecans," says LaFleur, "or you can boil them like peanuts." Foraging for lotus requires a mid-summer trip up the estuary into freshwater ponds. "The plant's a bit picky about its habitat," says LaFleur, "but when you see the seed pod lifted on a stalk three feet into the air, you can be confident you're approaching a healthy, well oxygenated water system."

For early coastal inhabitants, cultivated plants increased the abundance of nutritious choices. "Vegetables were a large part of our diet," says Lanor Curole, program director for the Native American United Houma Nation. "Okra, corn, peas, onions, squash and pumpkin were garden staples. We added whatever meat we had available. Often it was pork, or fish, occasionally waterfowl – whatever we could catch or hunt or raise as livestock." In addition to gardening, many coastal residents grew citrus, fig, peach and other fruit trees. The trees flourished in the coastal climate, providing both food and a marketable commodity.

The wetland medicine cabinet

In addition to nutrition, plants provided medicines and palliatives when illness occurred. Peppermint, horsetail, elderberry, and yaupon holly are familiar plants among the dozens known for healing properties. "Many medicinal plants grow wild in the wetlands, but they can be poisonous if not used correctly." says Curole. "Our

Macmaus (pixabay.com)

A native of swamps and marshes, the dwarf palmetto was a source of food and materials for Native Americans and early European settlers to build shelters and make a variety of utilitarian objects. Craftspeople today continue to fashion the fronds into hats, fans, mats, brooms and other items. Seldom exceeding 10 feet in height, the plant has become a popular shrub in landscape design.

traditional tribal healers, or traiteurs, knew the appropriate plant preparation and prayer for healing."

Knowledge of healing plants was passed down through generations. Now changes in wetland ecosystems have made some medicinal species hard to find, displacing them or diminishing their abundance. "Additionally, lifestyle changes increase the difficulty of finding these plants," Curole says. "People think they are weeds and spray them with pesticides, or mow them down in their lawns."

plants are receiving new scrutiny and earning new respect among professionals searching for better answers to human health problems.

The wetland plant storehouse

Among a plethora of flora, coastal Louisianans found plants to fulfill just about every need. Long among the most useful was the dwarf palmetto, an evergreen shrub widespread in the coastal region. Native Americans used palmetto for thatched roofs and siding on their structures. Immigrants adopted the practice, which continued in some rural areas into the 1960s. Palmetto was fashioned into all sorts of useful objects, most notably baskets but also hats, fans, brooms, mosquito switches and duck blinds. "Our people knew how to harvest the heart of the palmetto while the leaf is still closed so the plant doesn't die," says Curole. "We used every part of the plant. There was no waste."

Cypress is another plant important in the history of coastal cultures. In construction, cypress was used for exterior framing, foundation piers and shingles. Inside, the wood was used for molding, flooring and cabinetry. Water resistant, cypress was favored for boats, especially for the Louisiana dugout, or canoe, known as pirogues. "Cypress logs were like a gift from nature," says LaFleur. "Downed and hollowed out, it was almost already a pirogue." Houseboat builders favored long, single cypress boards to fashion the gunnels of their barges. Strips of cypress from logs submerged for a length of time were woven into sturdy baskets. In the past woodcarvers concentrated on producing cypress duck decoys; today, craftspeople have expanded their motifs beyond the utilitarian to find inspiration in the many creatures – birds, reptiles and mammals – that live in the wetlands.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Among the plants used by traditional healers are (left) American beautyberry, the roots of which make a tea purported to ease dysentery and stomach aches; (center) coral bean, or mamou, contributing seeds and roots to a tea or syrup to treat flu systems, respiratory problems and stomach cramps; and (right) ground cherry, from which, using roots and leaves, a tea is made to treat stomach aches and poultices to soothe burns.

Spanish moss still flutters in the coastal breezes. The visitor may think the long, gray strands hanging from tree limbs simply lend a ghostly atmosphere to the landscape, but people dependent on the resources they found in their natural environment recognized its usefulness. Botanically a bromeliad, not a moss, the plant is cured to expose its black, fibrous core. Mixed with mud it forms bousillage, an adobe-like material used for centuries in Louisiana's buildings. Mattresses and pillows were stuffed with Spanish moss. It was woven into horse blankets and twisted into rope. Today these objects are fabricated from modern, industrial materials; using Spanish moss has primarily become the province of craftspeople who fashion dolls and animal figures out of it.

Whether providing a necessity like lumber for housing or an enhancement like dyes for cloth or seeds for jewelry, the diverse and abundant coastal vegetation furnished the region's people with materials either required for survival or desired for comfort and creative expression.

As wetlands vanish, plant diversity and distribution decline

On a geological scale, the changes in Louisiana's coastal landscape are occurring suddenly and rapidly. Changing conditions favor some plants and create scarcity of others. Threats to vegetation, both wild and cultivated, include

- changing local weather patterns
- rising temperatures
- hurricanes, storm surges and flooding
- erosion, exacerbated by manmade canals and oil pipelines
- disappearance of protective barrier islands and wetlands
- subsidence and saltwater intrusion
- increasing conversion of fresh and brackish marshes into saltwater marsh

Coastal protection and restoration projects, such as those undertaken by CWPPRA, cannot cool the atmosphere nor reverse sea-level rise. But CWPPRA projects have demonstrated methods to mitigate other threats by rebuilding barrier islands, recreating protective wetlands and limiting saltwater intrusion. Success in restoring habitats and in slowing the rate of transformation in coastal Louisiana gives plants more time to flourish, reproduce and adapt. Protecting the wetlands protects the diverse and abundant coastal vegetation as well, and with it the wildlife, the people and the cultures that depend on it for their sustenance and their identity. WM

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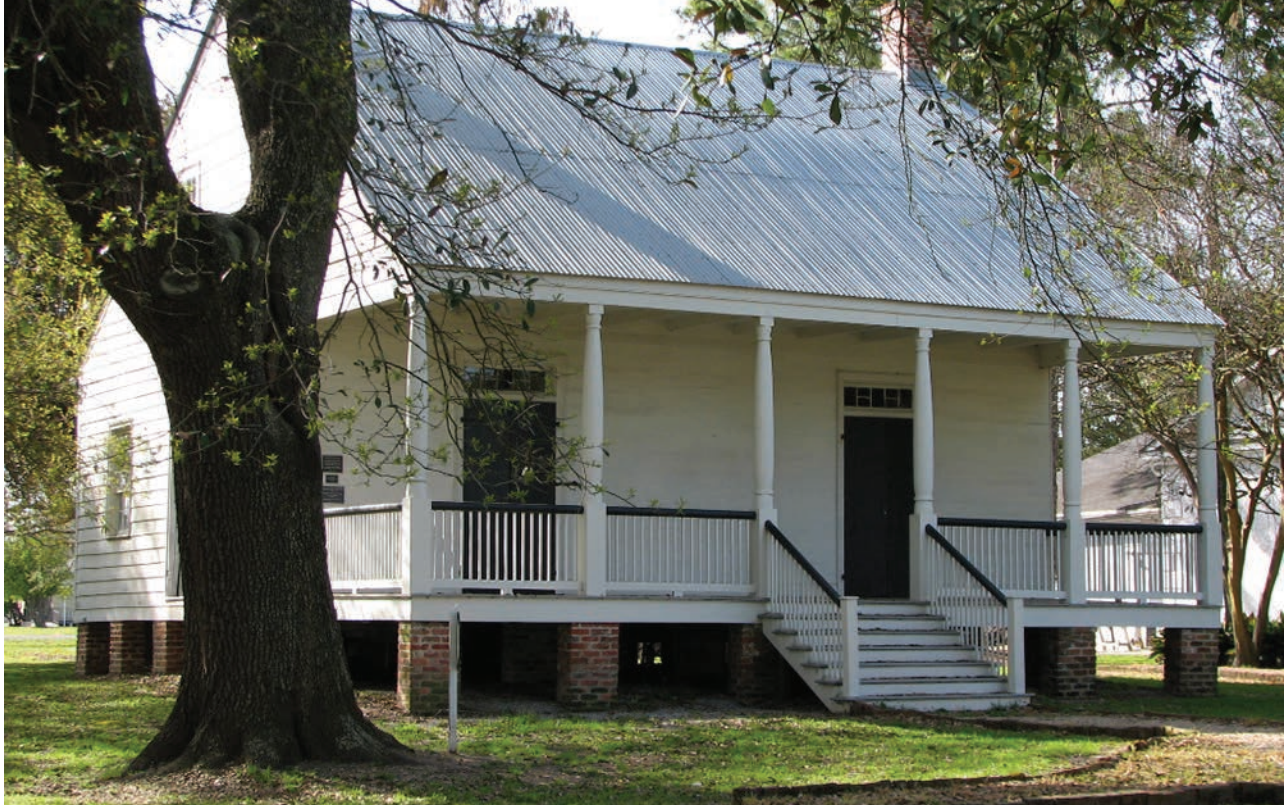
Medicinal plants, left to right: Lizard's tail makes a tea used for its anti-inflammatory and sedative properties. Mashed, the plant can be applied directly to wounds and skin inflammations. Center: Hackberry was used to sooth sore throats and promote reproductive health. Right: Mints of various flavors were made into teas and oils. Peppermint soothed toothaches, cold and flu symptoms. Spearmint reduced fever and headaches and aided digestion.



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The cultural expression of architecture

Louisiana's Dwellings Designed for Hot, Wet Weather

Heat, humidity, hurricanes and rainfall are age-old obstacles to living comfortably in south Louisiana's climate. Close to the coast indigenous people met these challenges by building pole structures without walls on raised platforms. Breezes blew through them freely and thatched roofs provided cooling shade. "These impermanent dwellings were constructed seasonally," says Eddie Cazayoux, a Louisiana architect specializing in sustainable architecture and historic preservation. "Further inland, Native Americans built more substantial, lasting structures with walls of wattle and daub. Horizontal sticks were woven between sticks stuck in the ground; the chinks between the sticks were filled with mud mixed with Spanish moss that had been treated to release its inner, wiry structure."

When French colonists arrived, they first replicated the architecture of their homeland. Designed to provide warmth in a cold climate, the fire-heated thermal mass of French houses, with short walls and few windows, were ill suited to Louisiana. "The settlers quickly learned to address human comfort by incorporating shading and ventilation in their buildings, as the Native Americans did," says Cazayoux. "Wide, overhanging porches provided shade and protection from rainfall, and shutters kept out the sun. Raising the ceilings and adding windows and transoms increased air flow."

Both the Native Americans and the French used the thermal mass of their structures – wattle and daub, or bousillage (a mud-and-moss mixture), or brick infill between wooden posts or a half-timber frame – to stabilize temperatures. "Mass efficiently transmits both hot and cold," says Cazayoux.

This house, designed in the Creole style, displays features common to coastal architecture that enhance the comfort of living in Louisiana's climate: Large trees provide cooling shade, brick piers lift the floor away from wet ground and shallow floods, a porch overhang protects the structure from rain, and transoms above windows and doors increase air circulation in the home's interior.

"Especially in this climate, keeping the thermal mass of a house protected from the sun helps to stabilize its interior temperature."

To cope with a high water table and seasonal flooding, the colonists adopted the practice of raising their structures off the ground. First they used rot- and insect-resistant cypress blocks, then turned to piers of brick made from local clay. Planting trees, siting a house to capture prevalent breezes and sloping porches downward to shed rain water further adjusted their architecture to Louisiana's environment.

Immigrants arriving from warm places added their traditions to coastal Louisiana's architecture. Carribeans introduced galleries (narrow passageways open on one side and running along the length of a wall) on one or more of a building's facades, increased the number of doors opening onto the galleries and built exterior stairs to access different levels.

From the 1740s through the 1940s, many Louisiana houses both large and small incorporated these features. Over the decades building materials changed somewhat, as different lumbers and more weather-resistant brick became available. House design was modified to reflect nationwide trends and to accommodate the tastes of a growing, diverse population, yet it commonly maintained the features early settlers had relied upon to cope with Louisiana's coastal climate. Even mail-order houses, popular at the turn of the 20th century, offered porches with overhanging roofs and large windows for good ventilation. In case of flooding, a floor plug for easy drainage was an option for models sold in Louisiana.

Living on the water in a wet world

In coastal areas, the choice location for housing was on high ground, on ridges and bayou banks. But for people who wanted an inexpensive dwelling close to the marine resources that provided their sustenance and livelihoods, houseboats were a less expensive homesteading option.

Most houseboats were long and narrow – a "shotgun" house of consecutive rooms built on a platform supported by a plank barge or floating logs. Floating docks attached to houseboats might add extra space for live fish tanks, kids' playgrounds or a weekend dance floor. Gathering in communities often with multi-generational kinship ties, houseboats floated on every river and bayou. Usually houseboats were affiliated with some land adjacent to where they were moored, but they could swiftly relocate to respond to changing conditions such as high water or the migration of fish.

"The history of houseboats in the Atchafalaya swamp gives us insight into today's bayou communities," says Ray Brassieur, professor of anthropology at the University of Louisiana at Lafayette. "Both the swamp and the coastal wetlands are dynamic environments where human intervention has caused dramatic change. Levees built in the 20th century to turn the Atchafalaya Basin into a Mississip-

Living near – if not on – the water, Louisianans have long devised methods of coping with formidable weather. Among residents determined to remain where they live even in the face of a changing climate and rising seas, the practice of raising homes on stilts above anticipated flood levels is again finding favor. Some local governments now mandate elevating structures in areas particularly vulnerable to flooding.

pi River floodway trapped waterborne sediment in the swamp, slowly converting it into land. Houseboat dwellers were forced off the water. Conversely, on the coast, erosion and subsidence is converting land into water. It is difficult to adjust to this rapid environmental change, but people of the wetlands must either find new land to move to or turn to living on the water."

Maida Owens, director of the Folklife Program for Louisiana state's Division of the Arts, knows there are lessons to be learned from houseboats. "Houseboats can cope with coastal conditions," she says. "They move around. They withstand water. They float in floods. About the time people were moving from houseboats onto land, building houses on slab foundations with sheetrock walls was becoming a prevalent practice. It is not a practice well suited to Louisiana – rising water inundates ground floors of slab-built homes. Wet sheetrock becomes soggy and molds. While people appreciated gaining amenities like running water and air conditioning, there are aspects of living on houseboats, of living so close to nature, that can benefit our architecture today."

"Facing today's challenges of storms, floods and sea-level rise," says Brassieur, "houseboats are the answer, and always will be. They offer flexibility as shorelines erode, land floods and the landscape changes."

Past practices suggest solutions for living in an endangered ecosystem

Under a forecast of climate change, with temperatures increasing, sea levels rising and storms intensifying, living comfortably in coastal Louisiana faces enhanced challenges. Even with the continued efforts of CWPPRA and other agencies to counter ecological decline, the threat of land loss will persist. However, old methods of responding to environmental conditions could guide future building and construction on Louisiana's coast. Houses that float may experience renewed popularity. Building materials impervious to water may become run-away favorites. Already in some areas building codes require elevating structures a certain height above sea level, or stipulate break-away ground-floor walls – walls that would wash away in a tidal surge. History points to which roof designs are best able to withstand wind and indicates the degree of strength of glass required to resist the impact of airborne projectiles. Old-fashioned architectural features that increase shading, promote ventilation and moderate temperatures are as valued in today's homes as they were 200 years ago.

"A house designed with nature in mind is more comfortable and costs much less to condition, if a mechanical system is needed at all," says Cazayoux. "Our ancestors understood that hot air rises and cool air falls, that the movement of the sun across the sky is different in summer than it is in winter. They knew that prevailing breezes come from the southeast in coastal Louisiana, and that ground temperatures stay constant around 70°F. They considered these elements of nature in designing their architecture, and we can combine many of their solutions with contemporary inventions to build dwellings well suited to 21st century conditions. Best of all, not only are environmentally responsive buildings more sustainable, they also provide a stage that allows the occupant to dance to the rhythms of changing seasons." WM

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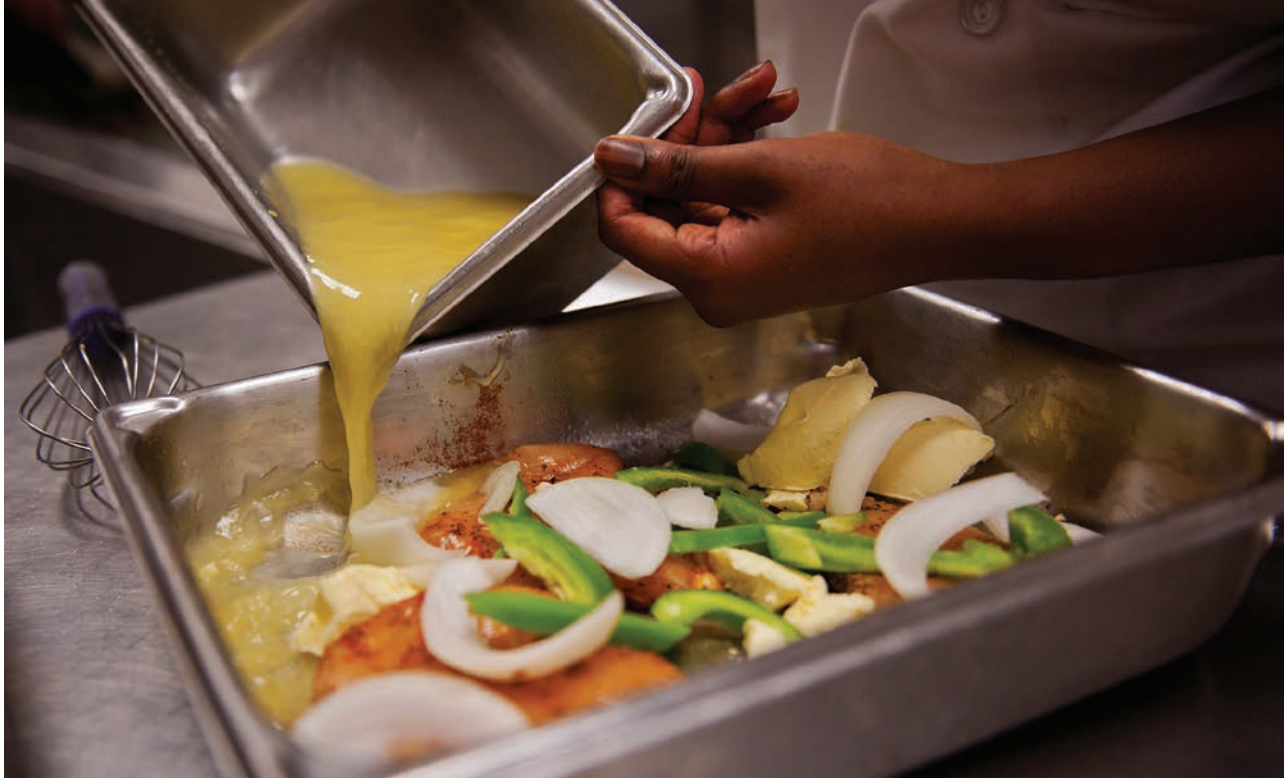
Bousillage, a mixture of mud and Spanish moss, was packed between timber frames and held in place with sticks to form walls of buildings. The dense material provided an insulating mass that moderated interior temperatures in both summer and winter.



Samuel King, Jr., U.S. Air Force

AS WETLANDS VANISH, SO DOES THE TIME-HONORED PRACTICE OF LIVING OFF THE LAND

Feather, Fin and Fur: Ingredients for Coastal Cuisines

Crawfish étouffée. Filé gumbo. Boudin sausage. The "holy trinity" of onions, green peppers and celery – for people who relish regional cuisines, these words conjure the flavors of Louisiana.

Louisiana's culinary traditions are rooted in the land and in its history. Since the formation of the Mississippi River's delta, a wide variety of fruits, vegetables and grasses have grown in the coastal region, supplying plentiful nutrition to fish, wildlife and human inhabitants. "Historically, our people relied upon the resources available in the wild for food," says Shirell Parfait-Dardar, chief of Grand Caillou/Dulac Band of Biloxi-Chitimacha-Choctaw. "Although our ancestors did farm and grow vegetables, they depended on sustenance from foraging for edible plants, harvesting fish and shellfish from the waterways, and hunting waterfowl and game."

As European settlers began to arrive in the region, they too relied on these wild sources of nutrition. But they also brought their own cooking practices and food traditions, introducing livestock and growing numerous plants cultivated in their home countries. Each immigrant group contributed the flavors, culinary methods and customs of their home country to the mélange that developed into Louisiana's signature cuisines.

Some people like to divide Louisiana's food traditions into Creole and Cajun; others think city and country cooking better distinguish the differences among cooking styles. However, food

Known as the holy trinity of Cajun cooking, onions, bell peppers and celery are the base of many regional dishes such as crawfish étouffée, gumbo, and jambalaya. Rice, now commonplace, replaced bread as early Acadians learned the climate of Louisiana was ill suited to wheat production but favorable for the growth of the starchy grain. Before refrigeration chicken and pork were protein staples; today the abundance of fish and shellfish permeates Louisiana's signature cuisines.

historian Jay Steiner prefers the terms southern Louisiana and southwestern Louisiana cuisines. "Southern Louisiana fare reflects the influence of European, west African and Native American cultures," Steiner says. "Sometimes called Creole cooking, it is city food – the cuisine of New Orleans, concerned with appearance and presentation as well as with taste. In the more rural region of southwestern Louisiana, the food tends to be simpler and more provincial, using organ meats and tough greens. Loosely labelled as Cajun, it is prepared for meals at home, not for restaurants, and recipes vary from family to family and from place to place."

While coastal Louisiana's climate still favors growing food and raising livestock, wetland loss has changed gardening practices. With altered hydrological patterns and without the buffer of marsh, even a strong south wind or high tide can push water onto people's property, stranding cows and chickens and drowning plants. Further, says Lenor Curole, program director for the Native American United Houma Nation, "At least in Dulac and Pointe au Chien, repeated floodings have raised salinity levels in the soil to the point where plants won't flourish. Many ask if it's worth the effort to garden in the face of flooding."

It is beyond the scope of coastal restoration projects to heal the land completely, but they do add protection against the consequences of wetland loss. For instance, CWPPRA's marsh creation projects increase the marsh-edge buffer of wave-quelling vegetation, shoreline protection limits the conversion of small water bodies into large ones, and hydrologic controls restrict the influx of salt water into project areas.

"If it walks, crawls, flies or swims, we have a recipe for it"

However one categorizes Louisiana's cuisines, all share a cornucopia of local ingredients. "It's a good climate for farming," says Steiner. "Traditionally, readily available produce – squash, cabbage, corn, collard greens, okra, peppers and numerous other foods – play a prominent role in our diet. Pork and chicken have been mainstays, but only since the development of re-

Cooking – and eating – in Louisiana has long centered on family and community. Techniques and recipes are passed down through generations, and preparing food together remains a social event. Whether butchering and barbecuing a pig in a neighbor's back yard or stirring up cakes in a church kitchen, the tradition of cooking together and sharing food remains a cornerstone of coastal Louisiana's folkways.

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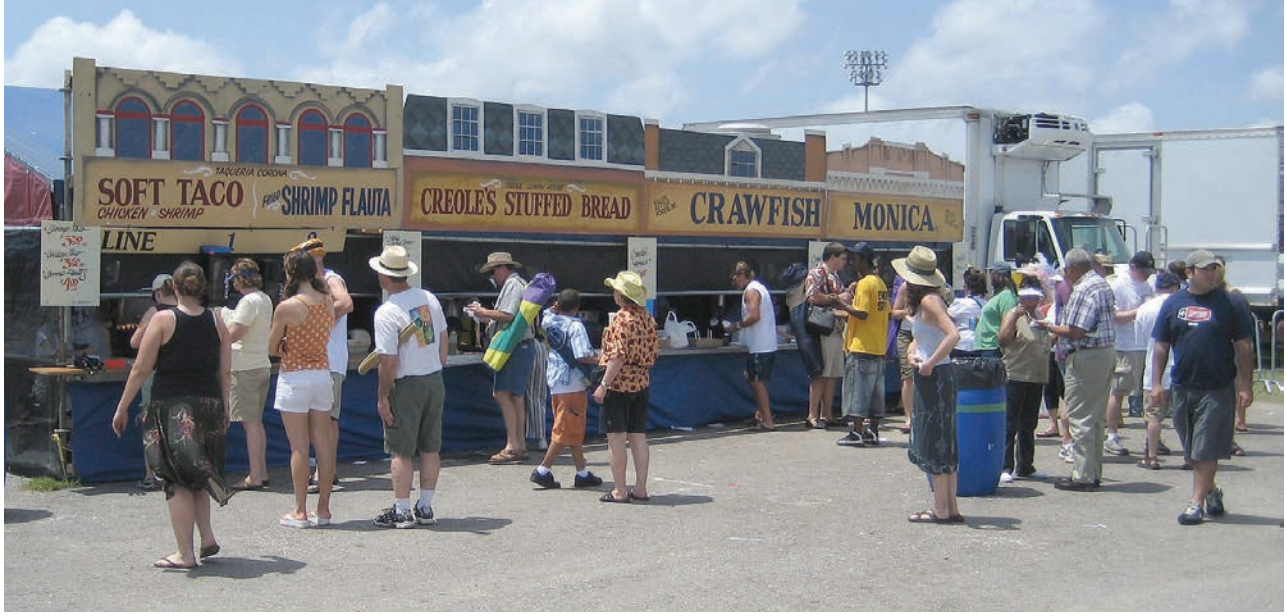

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Food booths at the New Orleans Jazz Festival reflect the bounty of local ingredients as well as the mosaic of immigrant influences that are inherent to the region's character. Music and food are arguably coastal Louisiana's most well-known cultural attributes, and many festivals combine the two, giving residents a reason to party and visitors a taste of bayou living.

frigeration and the construction of paved roads has fish become reliably obtainable outside of bayou communities. Shrimp, freshwater fish, catfish and crawfish are big restaurant entrées now. They reflect the bounty still to be found in Louisiana's wetlands."

Although economic opportunities in coastal Louisiana have increased and grocery stores now pepper the landscape, many Louisianans continue to hunt and fish to put food on the table. Chris Sons' father, whose German ancestors immigrated to the region in the 19th century, taught his son how to bait a hook and shoot a gun. "Dad brought home frogs, oysters, alligators – he always came home with some sort of game, and we ate whatever he caught." Sons too hunts for food, but he enjoys the challenge of stalking deer and tracking wild hogs. "Hogs damage the environment by rooting and wallowing, so any effort to cull their numbers helps to protect native habitat." Sons also traps nutria, an herbivore so damaging to wetland vegetation that a CWPPRA program offers cash incentives to hunters for harvesting them.

By eating everything that he kills – "even nutria," he says – Sons continues a tradition long held by marsh dwellers. Although plentiful food sources created rich hunting grounds teeming with shrimp, oysters, crabs, fish, ducks, geese, marsh hens, deer, bear, raccoons, squirrels and rabbits, Parfait-Dardar says the practice of her people was to waste nothing. "Utilizing as much of the animal as possible showed respect and honored the animal's spirit," she says.

Toufay dodo – party until you go to sleep

"How food is eaten is as important as what the food is," says Jean Landry, program manager at Grand Isle for The Nature Conservancy. "In our part of the world we offer visitors whatever's on the stove and a cup of coffee – not just a glass of water. There's always food at our festivals. Traditions centered on collecting or preparing food bring us together geographically and generationally. It is a way we keep the past alive as we move forward."

"In Cajun country, we don't need an excuse to eat and drink and dance, but it helps to have one," says Philip Frey, a historian and a descendant of 18th century immigrants from Acadia. "Festivals tied to a food-sharing tradition give us a chance to party. In this climate before refrigeration, when a farmer butchered an animal he'd invite all his family and his friends and neighbors over to eat before

the meat spoiled. We still enjoy getting a lot of people together and sharing food. We still hold boucheries, killing the hog in the morning, cooking it over an open fire and using every part of the animal so there is no waste. Everyone pitches in during the day-long fete, chopping wood, stirring pots, making sausage, playing music, and sharing the custom among generations."

Steiner believes Louisiana's food traditions are preserved in the home. "We share oral histories passed down through the family about how to cook," he says. "Ingredients change – for instance, gumbo used to be an okra-based stew; now some people substitute a roux for the thickening power of okra – but it is the techniques that sustain the character of a cuisine."

Wetland conditions bring changes to the table

Steiner says changes in the job market and in the environment are reflected in the coastal region's food. "There's a tension between the energy economy and traditional ways of getting food from the land," he says. "Environmental disasters that threaten fish threaten our culinary way of life. After the Deepwater Horizon oil spill, seafood availability was restricted and prices rose. Fracking, logging and pipeline construction impinge on hunting. You can buy crawfish and catfish and alligator, but most people don't realize they are farmed and not widely available in the wild."

"After the oil spill, our fishermen had to fish in new areas farther away from home," says Curole. "That increased the time and expense of fishing. Fuel costs cut into profits. Imports drove prices down. Now the fishermen are watching the wetlands erode and saltwater creep into their yards. It's hard to encourage youngsters to take up fishing as a vocation when you're facing circumstances like these."

"Land loss has swept away the docks I grew up fishing from," says Frey. "Now you have to have a boat. Boats cost money. It limits how much I can fish, and what I can teach my own son."

Gary LaFleur, Jr., grew up hunting ducks. "Dabbling ducks like resting in a marsh pond rather than in open water," the biology professor at Nicholls State University says. "But a pond could convert to open water within a year's time. It was startling to go back to a pond I'd visited season after season and see it had totally disappeared, with no landmarks left for points of reference."

The coast will never return to the conditions known to the ancestors of today's Louisianans, but efforts to protect and restore the wetlands, such as projects that CWPPRA conducts, can reduce loss and slow the pace of change. The fertility and productivity of the ecosystem persists. Safeguarding the landscape safeguards the sources of foods that distinguish Louisiana's customs and cuisines. WM

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Fruits and vegetables flourish in southern Louisiana's climate, and local cooks make good use of this plethora of produce. Once ubiquitous, home vegetable gardening has waned as lifestyles change and supermarkets provide quick convenience. In some areas, those who continue to grow their own food have resorted to building raised beds or gardening in containers because salt water, creeping into their yards, has raised the soil's salinity beyond the tolerance level of vegetation.

WaterMarks Interview with Marcelle Bienvenu

Food writer and instructor, Chef John Folse Culinary Institute at Nicholls State University in Thibodaux, La.

WATERMARKS: Eating locally grown and harvested food has become fashionable across the nation. How about in Louisiana?

BIENVENU: Louisiana cuisines have always been built on the abundance the sea offers – fish, shrimp, crabs and oysters. This approach isn't recent, it has been the case for more than 300 years, even before the founding of New Orleans in 1718. What comes from the sea, along with locally grown sugarcane, sweet potatoes, strawberries, and rice, has always been the basis of our distinctive dishes.

WATERMARKS: What about availability? Does Louisiana have the wealth of ingredients it once had?

BIENVENU: The availability of seafood always fluctuates in response to events, whether they are acts of nature or caused by humans. Hurricanes have destroyed vast fishing areas along the Gulf Coast. In 2010 the Deepwater Horizon oil spill forced the shut-down of shrimping and of miles and miles of oyster beds. Both commercial and sport fishing were banned, creating a seafood shortage that was hard to fill. But even before the oil spill, once plentiful seafood was becoming harder to find.

WATERMARKS: Can you give an example?

BIENVENU: The story of redfish, or red drum, is a good illustration. In 1980, shortly after Chef Paul Prudhomme began serving blackened redfish at his restaurant in New Orleans, demand for the fish soared. In response, the fishing industry exploded. Fishermen saw the redfish population dwindle at an alarming rate. To determine its true status and to develop rules to protect the species, the National Oceanic and Atmospheric Administration – the federal agency responsible for the nation's fisheries –surveyed the population. It revealed that redfish numbers had been declining precipitously for years, even before Prudhomme's dish became popular. Management rules had not kept up with the increased numbers of fish caught by both commercial and sports fishermen.

Now stringent laws curtail the amount of seafood that can be caught and protect the sustainability of our fisheries. Even so, as our coastline vanishes we

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Once derided as mudbugs and considered a poor man's food, crawfish, or crayfish, have in recent years experienced a renaissance of popularity; a current moniker for the crustacean is freshwater lobster. To meet rising demand, most crawfish are now farmed rather than caught in the wild. The muddy water alongside rice ponds makes ideal crawfish habitat.

are seeing a significant reduction in the amount of seafood readily available. It's nothing like what we enjoyed 40 or so years ago. And even as fisheries are better managed, there are fewer and fewer commercial fishermen. They just can't keep up with the cost of bait, gas, and the maintenance of their boats.

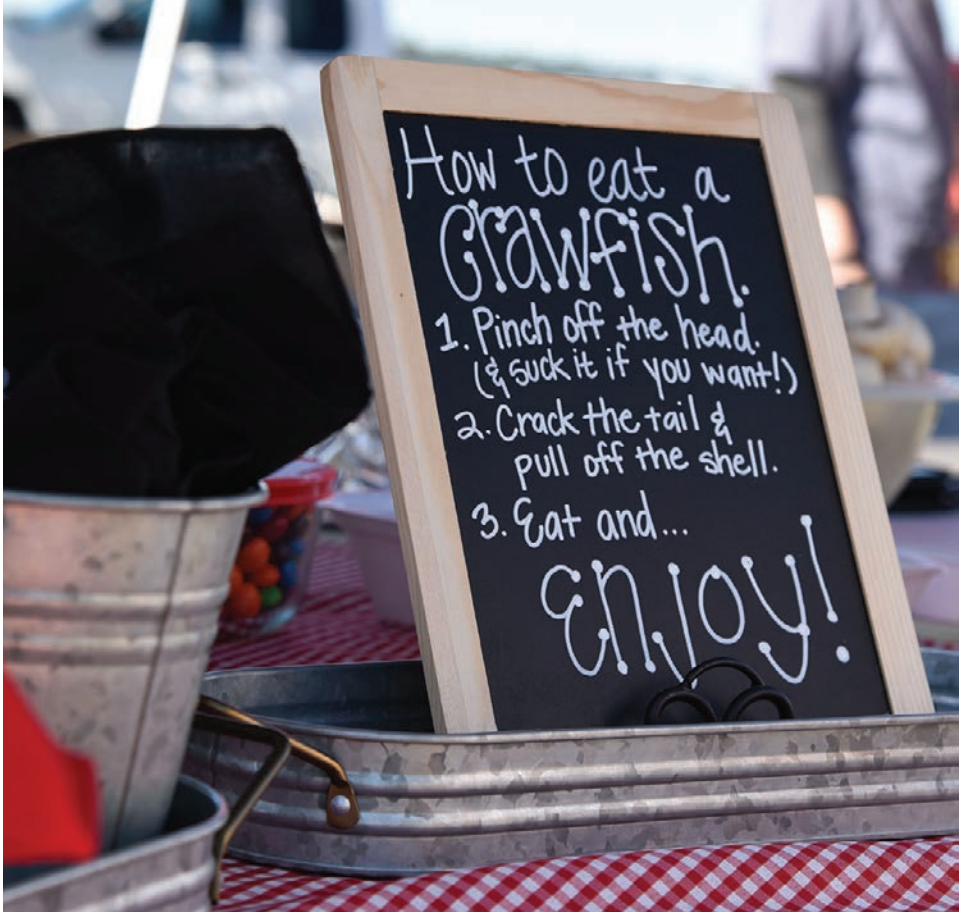
WATERMARKS: So how has the change affected the kind of food eaten at home?

BIENVENU: The recipes haven't changed as much as the type of seafood used in them. Seafood, especially oysters and shrimp, has become quite expensive. It's difficult to find redfish, snapper or pompano at local markets because most of those fish are sold to restaurants. Innovative locals are using bycatch, once thought of as "trash" fish, such as banded rudderfish or Spanish mackerel. Some of us are using fish imported from other areas. Fishermen in the Atchafalaya Basin still bring in catfish and other freshwater fish, but nowadays large supermarkets carry seafood from other parts of the country that was not available 30 years ago.

While oyster beds are now in good shape and the shrimping industry is still doing well, crawfish has become the big business. These freshwater crustaceans are farmed in ponds covering thousands of acres, although they are still available in the wild from the Atchafalaya Basin.

WATERMARKS: Has the younger generation kept seafood at the core of what it likes to eat?

BIENVENU: I don't think we are eating as much seafood on a regular basis. My father was an avid sportsman and always brought home enough fish for us to live on almost year-round. But there seem to be fewer and fewer family fishing and crabbing expeditions – either they are too expensive or the younger generation is just not interested in fishing for their supper. Teaching classes on Louisiana seafood, I've noticed younger people often do not want to spend the two or three hours some of our dishes take to prepare. They're happy to use ready-made, boxed items because they want something quick and easy.



Kemberly Groue, U.S. Air Force

WATERMARKS: Louisiana is known for food-based celebrations. Can you describe some of them?

BIENVENU: There are festivals that honor just about every available seafood – oysters, shrimp, crawfish, catfish and all kinds of other fin fish. While festivals may showcase many ways a single food can be cooked and eaten, they are also celebrations of community and our coastal way of life. A Lake Charles festival pairs art and crabs. Jambalaya goes with jazz in New Orleans while crawfish are coupled with swamp pop in Breaux Bridge. Food and festivities are tightly intertwined in Louisiana, and give visitors a way to experience who we are.

WATERMARKS: What do you consider essential to preserve the character of Louisiana's distinctive food traditions?

BIENVENU: Rather than one spice or one ingredient or one flavor, I think the character of Louisiana's cuisine is captured in the ways we approach food and its preparation. The process of cooking, the way of eating—it's very important. Our lives revolve around food. It's who we are; it's our entertainment, what brings us together. Really, it's what makes us Louisianans. WM

WATERMARKS

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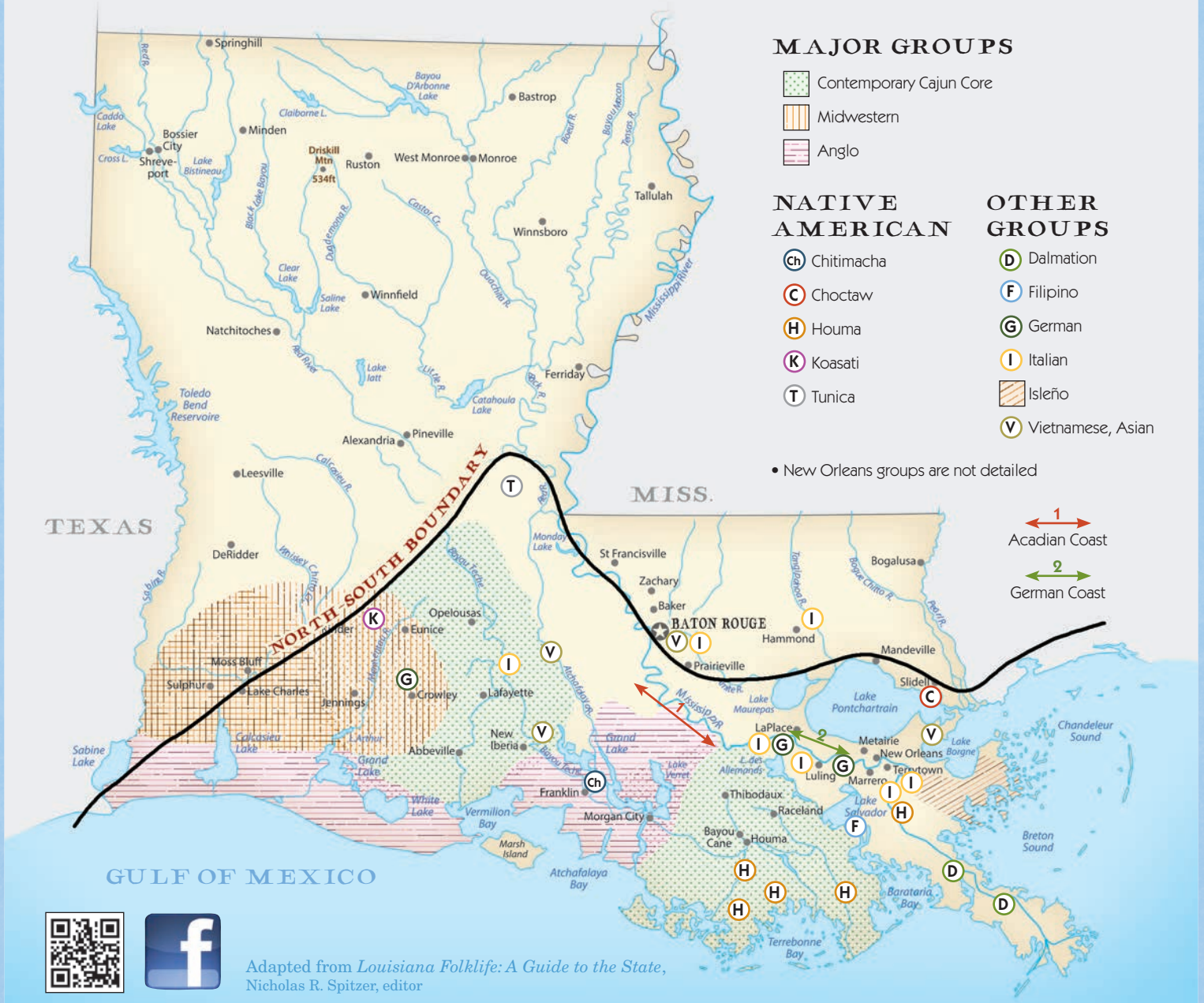

Adapted from *Louisiana Folklife: A Guide to the State*, Nicholas R. Spitzer, editor