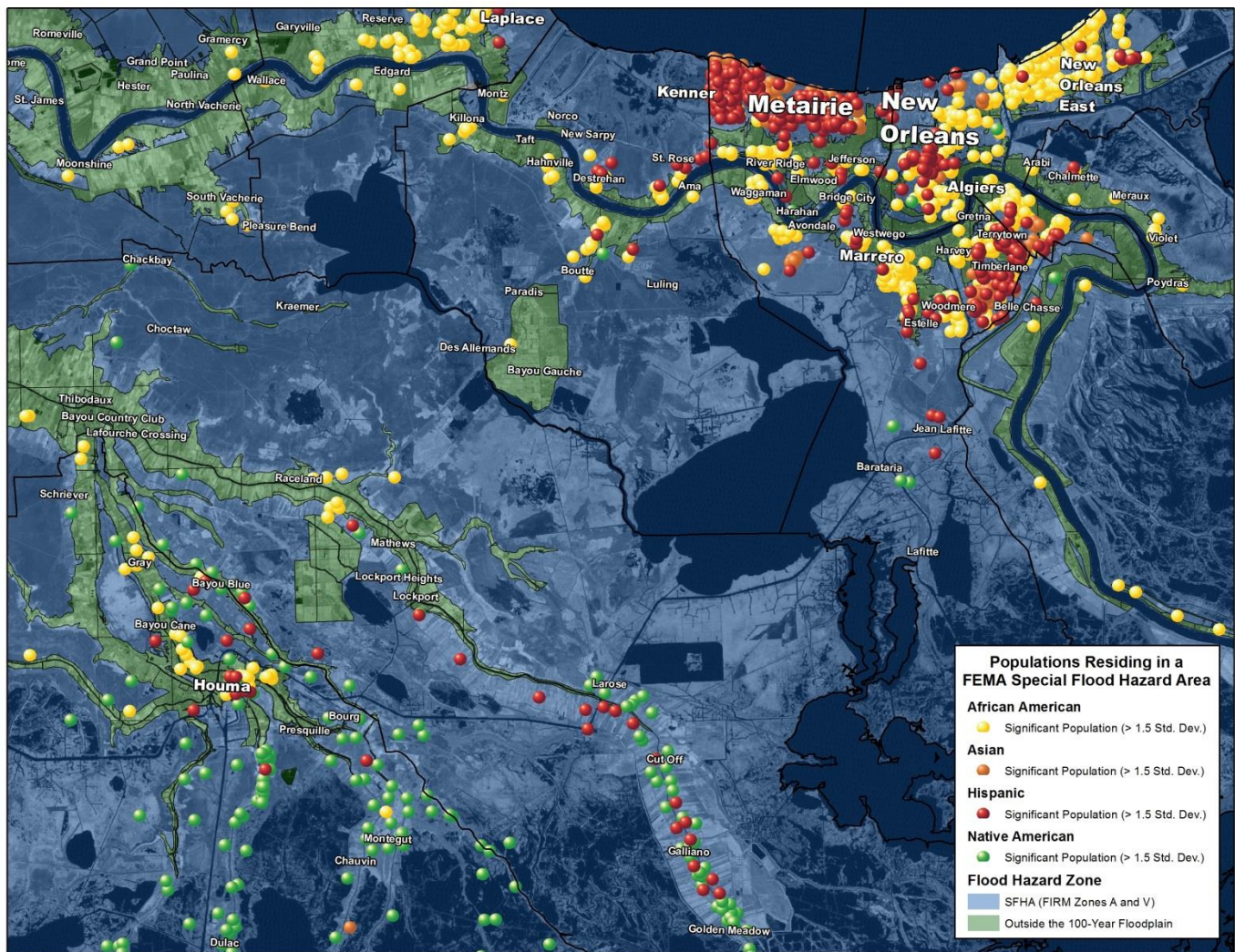


Tulane Institute on Water Resources Law & Policy

Community Resettlement Prospects in Southeast Louisiana

A Multidisciplinary Exploration of Legal, Cultural, and Demographic Aspects of Moving Individuals and Communities

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EXECUTIVE SUMMARY

This paper is a multidisciplinary approach to framing the potential for community resettlement in Southeast Louisiana. The paper has three sections: a survey of legal mechanisms used by the federal government to relocate individuals and resettle communities; a history of community dislocation in Southeast Louisiana; and a demographic analysis of the Louisiana communities facing the highest risk of displacement.

The Federal government has displaced individuals and communities for a wide variety of reasons – from public development projects to national security concerns – and used a variety of statutory authority. The statutes enabling the dislocation often have proven much more effective at relocating individuals than resettling entire communities; however, history shows both relocation and resettlement programs have a difficult time succeeding. Both federal and local support and funding often prove unreliable or unsustainable.

The history of population dislocation in Southeast Louisiana is generally one of failed government-intervention. Some communities have been driven away by flooding. Some have disappeared as a result of public works projects. Still others have maintained community integrity in spite of a lack of government consideration and assistance. Where resettlement efforts have been undertaken, they have been curtailed or limited for political or philosophical reasons. This history has led to an ingrained public distrust of relocation or resettlement projects.

Exploratory data analysis reveals that the communities most directly in harm's way and potentially in need of resettlement are largely minority, poor, and rural. Policy responses to increasing coastal hazards – in the form of federally subsidized flood insurance and Louisiana's 2012 Coastal Master Plan – have tremendous potential to impact population stability and regional migration. Analysis of the populations residing in the 100 year flood plain reveals that any rate increases in the National Flood Insurance Program (NFIP) are likely to be borne disproportionately by the state's minority populations. This includes the African American, Asian, and Hispanic populations in the New Orleans urban area and the Native American populations residing in southern Lafourche and Terrebonne Parishes. The Coastal Master Plan would potentially provide structural protection to over 86% of families at-risk in Southeast Louisiana. However, sparsely populated rural communities located along the coastal fringe where structural protection cannot be extended remain especially vulnerable to natural hazards and risks. Especially notable again are the Native American communities residing in southern Lafourche and Terrebonne Parishes.

Despite a variety of legal mechanisms available to the federal government when it wishes to move people, history has shown that implementing and properly funding such projects takes many key elements lining up and remaining aligned for the duration of the project. A local history has led to inherent distrust of government programs that could potentially help Louisiana communities. Those in harm's way have a demographic profile largely of marginalized populations. These issues combine to create in Southeast Louisiana a difficult environment for successfully moving people away from environmental hazards while allowing them to keep their communities and cultures in-tact.

Introduction: relocation vs. resettlement

The coming century is likely to see climate-driven migration on a scale never before experienced in human history. Climate change is expected to alter weather patterns, raise sea levels, and increase storm strength and frequency. These impacts will be felt across the globe. While dealing with just these problems will be enough to cause people to relocate in regions across the world, Southeast Louisiana has the added challenge of an already-collapsing coast. Although there is a plan to address the collapsing coast (Coastal Master Plan 2012), even if every project in the Plan is funded and works as intended, there will still be a large number of Louisianans displaced by sea level rise, storms, erosion, and, perhaps, by the planned projects themselves.

How Louisiana chooses to address these challenges (or ignore them) will determine their consequences. The “relocation” of individuals in Southeast Louisiana is inevitable. The resettlement of communities is far from guaranteed. Relocation is the default; individuals can and do relocate all the time, and relocation across Louisiana because of environmental hazards is happening across the Louisiana right now. Coastal parishes are losing population, and towns are shifting inland and shrinking.² It would take a concentrated, organized effort to keep these communities together while moving them out of harm’s way. That would be “resettlement,” and history shows that it is very hard to do.

This study makes an assumption that in this area, community resettlement, an option to be exercised only after all else fails, is greatly preferred over the relocation of individuals. These are communities with distinctive, proud, and valued cultural histories. People of this area have strong ties to place and community; the loss of either would be a tragedy. However, the decision as to whether resettlement or relocation is preferable is a decision for individual communities to make.

It is unknown exactly who will be displaced in Southeast Louisiana. How resettlement is or is not addressed, how coastal protection and restoration is or is not addressed, and how climate change and sea level rise is or is not addressed will determine the make-up of the affected population. That population could simply be “everybody south of I-10.” Other scenarios might be less dire, but, as this report shows, they are almost certain to disproportionately affect poor, rural populations dependent on the land and water for their culture and their livelihood.

This report has three parts: a survey of legal mechanisms for previous relocation and resettlement efforts across the United States, a review of examples of community resettlement in Southeast Louisiana and the cultural consequences of those incidents, and an examination of at-risk communities’ demographics in the face of environmental and policy change. Taken as a whole, the merging of legal and cultural experiences with current demographic realities will

² Amy Wold, “Gulf Coast residents moving inland, more commuting to jobs,” *The Advocate*, April 21, 2014 <http://theadvocate.com/news/8936018-123/gulf-coast-residents-moving-inland>.

shine a light on the realities of and possibilities for community resettlement in Southeast Louisiana in the coming century.

Legal mechanisms for prior relocation efforts in the United States

During the history of the United States, populations have been relocated under many circumstances— some shameful and some noble, some reactionary and some precautionary. From these circumstances there are lessons to be learned about what can and should, and cannot and should not, be done in attempting to resettle communities. In general, relocations have been undertaken in the name of public works or in response to a proven hazard. Alternatively, the need for a relocation policy is often simply ignored and individuals are left to their own devices—whether or not that results in a burden on the individuals, their communities, or society as a whole.

Relocation of individuals or families can be mandated, enabled, or simply ignored and allowed to happen. However, the resettlement of communities has proven a much more difficult task. Communities, beyond the context of federally recognized tribes, have no rights. Therefore organized efforts, when they exist at all, have usually focused on relocating individuals or households, not communities. When communities have been resettled together, nearby locations that can accommodate resettlement have appeared to be necessary. What follows are examples of the range of situations and legal mechanisms for relocating individuals and resettling communities that have played out over the past century all over the United States. In general, organized movements or buyouts have taken place when using eminent domain to enable public works projects, responding to disaster, in anticipation of a perceived problem facing or caused by a community, or when pollution control laws have been created or used because of a discovered danger to communities.

Public Works – Eminent Domain

The Tennessee Valley Authority and Shenandoah National Park were Federal public works projects created through the exercise of federally mandated eminent domain.³ While the methods used to obtain the land necessary for both projects were quite different, the two examples can show how eminent domain can assist federal and state governments to provide compensation to individuals who are displaced due to public works projects. Such scenarios are unlikely to have widespread application in Southeast Louisiana, but the possibility should not be discounted. In addition to the (theoretical) expansion of the Jean Lafitte National Historical Park and Preserve, some parties have advocated for an Atchafalaya National Park in South Central Louisiana, and it is entirely possible for public works projects to exercise eminent domain.⁴

³ 16 USCA Sec 81 et seq., 831c.

⁴ de la Rosa, Katie. "Sierra Club pushes for national park status." *The Advertiser*. July 19, 2014.

TVA

The TVA was established by the “Tennessee Valley Authority Act of 1933” as a corporation with the right to exercise eminent domain to accomplish the TVA’s purposes.⁵ Those purposes were to manage the hydroelectric plant in Muscle Shoals, Alabama, “improve navigation in the Tennessee River and to control the destructive flood waters in the Tennessee River and Mississippi River Basins.”⁶ Within the context of these purposes, the TVA could “exercise the right of eminent domain” to purchase, sell or condemn real estate in the name of the United States.⁷ Clearly, the displacement of communities was anticipated by Congress because the TVA was also given the power to convey “lands, easements, and rights-of-way... where any such conveyance is necessary in order to replace any such lands, easements, or rights-of-way to be flooded or destroyed as the result of the construction of any dam or reservoir now under construction by the Corporation....” Furthermore, Congress gave the TVA the power “to advise and cooperate in the readjustment of the population displaced by the construction of dams, the acquisition of reservoir areas, the protection of watersheds, the acquisition of rights-of-way, and other necessary acquisitions of land, in order to effectuate the purposes of the chapter.”⁸ The TVA took this mandate as far as building Norris, TN, a planned community to be a “showcase for rural electrification, decentralized industry, and town planning.”⁹ The TVA had a Congressional mandate to remake an entire region and the widespread powers to do so.

Initially, the 70,000 citizens forced to relocate from areas submerged by the new dams thought that the TVA was a worthwhile project. They dreaded relocation but understood that they had to do it for their country.¹⁰

Shenandoah National Park

In 1926, the Shenandoah National Park Act authorized the creation of the country’s first major national park in the Eastern United States.¹¹ The Act called for an area of 250,000 to 521,000 acres that, upon the transfer of title to the United States, would become the Park.¹² However, the Federal government was expressly denied the right to purchase land with public money. So the State of Virginia was left with the duty of obtaining title to the lands and then transferring it to the Federal Government.¹³ In 1926, Virginia set up the State Commission on Conservation and Development and authorized it “to acquire land by gift, purchase, or eminent domain.”¹⁴

⁵ 16 USCA §831 et seq., §831c.

⁶ 16 USCA Sec 831.

⁷ 16 USCA §831c(h)-(k).

⁸ 16 USCA §831c(1).

⁹ <http://newdeal.feri.org/tva/tva08.htm> TVA: Electricity for All. “The Planned Community of Norris, Tennessee.”

¹⁰ Michael J. McDonald and John Muldowny, *TVA and the Dispossessed: The Resettlement of Population in the Norris Dam Area* (Knoxville: University of Tennessee Press, 1981).

¹¹ 16 USCA §§403 et seq.

¹² *Ibid* §403.

¹³ Diane M. Dale, *The Boundary Dilemma at Shenandoah National Park*, 16 *Virginia Environmental Law Journal*. 607, 609 (1997).

¹⁴ *Ibid*.

The Commission acquired land for nine years by condemning and purchasing lands. Although many landowners challenged the constitutionality of the condemnation, the U.S. Supreme Court held that a state could condemn land with the intent of transferring it to the United States.¹⁵ However, it seems that Virginia, even wielding the power of eminent domain, was unable, or unwilling, to acquire enough land to fulfill the original vision of the Park. In 1932, the minimum required boundary area of the park was reduced to 160,000 acres.¹⁶ Although the Shenandoah National Park “only” attempted relocation and not resettlement, it stands as a lesson that without support from both the people being relocated and the agency (in this case the Commonwealth of Virginia) supervising the buyouts, relocation efforts can fall far short of their original vision.

In both cases eminent domain was used to carry out the government’s purpose. Both Congressional Acts contemplated that land acquisition would be necessary. The eminent domain exercised by the TVA was carried solely by the Federal Government, while Virginia obtained land and transferred it to the Federal Government to establish Shenandoah National Park. The benefit of eminent domain in both of these cases was that the government condemned land relatively efficiently, the displaced persons were given compensation for their land, and the projects were fully funded by the Federal Government. However, it is noteworthy that the Shenandoah project chose to use the state as a middleman for a project that did not have local or, therefore, state support. In order to be successful, any relocation or resettlement program that does involve the state must be one that has state and local support.

Disaster Response

Allenville, Arizona

In March and December of 1978 Arizona experienced severe storms that resulted in major flooding of communities located in the 100-year flood plain.¹⁷ The floods caused serious property damage to homes and destroyed the general infrastructure of a historically black community, Allenville.¹⁸ The President issued two Major Disaster Declarations on March 4¹⁹ and December 21 of 1978.²⁰ After the Executive Order was issued, residents of Allenville were evacuated from their community and housed in temporary trailers and mobile homes provided by HUD.²¹ The Federal Government exchanged land with residents of Allenville for a new plot of land in Hopeville, the newly chosen location outside of the 100-year floodplain.²²

¹⁵ *Via. V. State Commission on Conservation and Development of the State of Virginia*. 296 U.S. 549.

¹⁶ Act of Feb. 4, 1932, ch. 91, §1, 147 Stat. 37.

¹⁷ Moser, David A., U.S. Army Corps of Engineers, “Assessment of Economic Benefits from Flood Damage Mitigation by Relocation,” pg. 32 (February 1985)

¹⁸ *Ibid.*

¹⁹ <http://www.fema.gov/disaster/551>

²⁰ <http://www.fema.gov/disaster/570>

²¹ Moser, David A, pg. 32.

²² Moser, David A., pg. 32-33.

The land exchange was executed under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (“Act”).²³ The Act was to provide for a uniform system by which displaced persons would be provided for at the Federal Government’s expense.²⁴ In accordance with Section 207 and 208 of the Act the land was purchased by the state of Arizona.²⁵ The land was then transferred to the Allenville residents in exchange for a new piece of property in Hopeville.²⁶ After the residents of Allenville were relocated the Federal Government reimbursed the state of Arizona for all expenses associated with the residential transfer.²⁷ The town of Allenville was eventually bulldozed to allow the plains to flood without the risk of property loss in the area, but the act with “relocation” in its title was actually used to resettle a whole community.²⁸ Allenville and in the Mississippi River Valley show that community resettlement as a disaster response can work if there is political will and funding for a resettlement program.

The land exchange in Allenville and the buyouts in the Shenandoah were very different. One was a straight buyout with little government participation beyond removing people from a public works project. The other was an exchange of land that allowed the resettlement of a community, but both cases illustrate the use of the state as an intermediary between the citizens and the Federal Government.

1993 Mississippi River Valley Flooding

In 1993 record-breaking rains across the Mississippi River Valley flooded 17,000 square miles in 9 states. Forty federal levees and more than one thousand non-federal levees gave way or were overtopped. While some were able to enroll in the National Flood Insurance Program (discussed below) at the last minute, the majority of flooded Midwesterners did not have flood insurance.²⁹ Although in some towns, such as Chesterfield, MO there was a post-flood development boom in the floodplain, some other communities were able to move out of the floodplain. The Hazard Mitigation and Relocation Assistance Act of 1993 expanded on the Stafford Amendments of 1988 and federal funds for relocations went from \$6 million to \$130 million.³⁰ Although that \$130 million could be used for elevation, drainage or floodwalls, ninety percent went to buyouts that could be used for any building in the 100-year floodplain. Previously, buy-outs only occurred when property had repeatedly flooded or the damage

²³ Public Law 91-646; “Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970,” (January 2, 1971).

²⁴ *Ibid* at 1.

²⁵ *Ibid* at 5.

²⁶ *Ibid* at 5.

²⁷ *Ibid*.

²⁸ Strawhacker, Colleen A., et. al., “Deserted: Forgetting nature, humanity, and history in the Salt and Gila River Beds Script,” pg. 2.

²⁹ Klein, Christine A. & Zellmer, Sandra B., “Mississippi River Stories: Lessons from A Century of Unnatural Disasters.” 60 *SMU Law Review* 1471 (2007).

³⁰ *Ibid*.

exceeded fifty percent of the value of the building.³¹ The plan successfully removed from the floodplain more than 10,000 buildings in more than 200 communities.³²

In some cases, entire towns, like Valmeyer, IL, were moved. Valmeyer moved from the banks of the Mississippi River to a 500 acre parcel on a bluff overlooking the river.³³ The town held an election, and 66% voted for resettlement on higher ground.³⁴ \$35 million to fund the move came from sales of the damaged properties to FEMA, NFIP payments for those who had it, Small Business Administration loans; private money had to cover what the government did not.³⁵

Allenville and in the Mississippi River Valley show that community resettlement as a disaster response can work if there is political will and funding for a resettlement program. Unfortunately, that may only happen after a disaster has occurred and loss of lives and property have already taken place. Also, it seems noteworthy that these worked for small town or rural locations where the threat of disaster (in these cases, flooding) was a localized or linear threat, meaning there were available locations nearby for the communities to resettle.³⁶

One Step Beyond Disaster Response

The Resettlement Administration

On May 1, 1935, President Franklin D. Roosevelt signed "Executive Order 7027 Establishing the Resettlement Administration."³⁷ The Order created the agency under Columbia University economics professor Rexford Tugwell, who had promoted controlled farm production and a long-term land use program.³⁸ The program incorporated duplicative programs from other departments and received funding directly from the White House via the Emergency Relief Appropriation Act of 1935.³⁹ In addition to creating camps for migrants, the Resettlement Administration resettled more than 4,000 families, set up collective farming communities, and created three suburban communities to resettle the urban poor in "garden cities."⁴⁰ In the

³¹ *Ibid.*

³² *Ibid.*

³³ <http://www.freshstart.ncat.org/case/valmeyer.htm> "Operation Fresh Start, Valmeyer, Illinois" National Center for Appropriate Technology.

³⁴ AP, "River Town Votes to Move" *New York Times*, September 13, 1993.

³⁵ Brown, Patricia Leigh. "Higher and Drier, Illinois Town Is Reborn" *New York Times*. May 6, 1996.

³⁶ A potential future study that could be of some use would be to undertake a demographic evaluation of these communities such as is contained in this paper. A demographic comparison of communities successfully resettled could reveal previously unknown ingredients in the resettlement recipe.

³⁷ Franklin D. Roosevelt: "Executive Order 7027 Establishing the Resettlement Administration.," May 1, 1935.

³⁸ Namorato, M. (1998). "Resettlement administration." In Neil L. Shumsky (Ed.), *Encyclopedia of urban America: The cities and suburbs*.

³⁹ Emergency Relief Appropriation Act of 1935, approved April 8, 1935 (49 Stat. 115). It was this act that also gave FDR the power to create the Resettlement Administration (and many other agencies) out of thin air with merely an Executive Order.

⁴⁰ Namorato, M. (1998).

context of this paper the Resettlement Administration's goals would be considered relocation, but rather than move people from one community to many places, it aimed to take people from many places and move them to a few new communities.

To address rural poverty and economically "wasteful" lands, the RA instituted a voluntary program to purchase degraded or eroded land.⁴¹ The program also aimed to "stabiliz[e] that segment of the Nation's population which has been shifting back and forth between country and city."⁴² The resettlement would "be on an individual family basis. Families in poor-land areas will be given a chance voluntarily to relocate on land capable of providing a decent standard of living. Families will integrate themselves into existing community life."⁴³ However, despite funding and support from the White House, the programs proved to be too politically unpopular. Tugwell resigned, and in 1937 FDR signed Executive Order 7530 to transfer the program to the Department of Agriculture, where it was renamed the Farm Security Administration.⁴⁴ The Resettlement Administration, as it was originally conceived, lasted less than two years. The larger, more comprehensive, and more expensive program such as this, appears to be very vulnerable to changes in political support that derail the program's vision before it can be entirely established.

Anticipatory and Aspirational

Relocation of persons in any program costs millions of dollars. The benefit of having the federal government involved in these massive relocations is their access to money. In some cases the federal government provides directly for the funding in the same legislations as the relocation orders, in other cases funding comes after a plan is established. However, lessons can be learned when projects are not successful due to a lack of funding.

Japanese Internment

On February 19, 1942 Executive Order 9066 was signed by President Roosevelt.⁴⁵ The Order permitted the United States Military to use its discretion to exclude and remove, "any and all persons" from proscribed "military areas."⁴⁶ All removed persons were to be provided with a place to live.⁴⁷ Executive Order 9102 created the War Relocation Authority, operated through the Office for Emergency Management to carry out the relocation.⁴⁸ On March 21, 1942 Public Law 503 was enacted, establishing a criminal misdemeanor for all persons violating the military

⁴¹ United States, Farm Security Administration *The Resettlement Administration*. 1935, Washington, D.C: U. S. Govt. print. off. p. 14.

⁴² *Ibid.* p. 19.

⁴³ *Ibid.*

⁴⁴ Roosevelt, Franklin D. "Executive Order 7530, Transferring Functions, Funds, Property, etc., of the Resettlement Administration to the Secretary of Agriculture." December 31, 1936.

⁴⁵ Transcript of Executive Order 9066: Resulting in the Relocation of Japanese (1942)

⁴⁶ *Ibid.*

⁴⁷ *Ibid.*

⁴⁸ Executive Order 9102: Establishing the War Relocation Authority (1942).

zone orders.⁴⁹ During the next few months over 100,000 persons of Japanese descent were removed from their homes and businesses by the War Relocation Authority⁵⁰, and held in internment camps.⁵¹ The Executive Orders and the War Relocation Authority funded the camps, but not buyouts or reimbursement for the property lost by Japanese-Americans.⁵² In 1946 all 10 internment camps were closed and the military zone was lifted.⁵³

Dealings with American Indians notwithstanding, this was a uniquely shameful chapter in the history of the United States, and one nobody is interested in reviving.⁵⁴ Nonetheless, it is an important example of a federal government power that has been used to relocate individuals at a great scale.

Urban Indian Relocation Program

A series of laws and policy changes in the mid-twentieth century led to the relocation of more than 100,000 American Indians from reservations to urban areas.⁵⁵ The Snyder Act of 1924 granted citizenship to all American Indians.⁵⁶ The Indian Reorganization Act of 1934, or the Indian New Deal, assimilated many tribal governments and allowed them to set up Western-style governments.⁵⁷ After World War II, the Federal government adopted the policy of "Termination" to, essentially, get out of the Indian-governance business and end American Indians' unique role in governance. In 1950, the Navajo-Hopi Long-Range Rehabilitation Act was passed after their reservations were hit by major blizzards in the winter of 1947-48.⁵⁸ The Navajo-Hopi Act included an appropriation of \$3.5 million for "[d]evelopment of opportunities for off-reservation employment and resettlement and assistance in adjustments related thereto."⁵⁹ That same year, former director of the War Relocation Authority Dillon S. Myer was appointed Commissioner of the Bureau of Indian Affairs. As director of the WRA, Myer had discouraged the formation of community within the Japanese-American internment camps by not allowing self-governance or cultural activities and, following the war, prioritized integration with mainstream American culture over any return to previous ways of Japanese-American life; Myer saw parallels between the Japanese-American internment camps and the American

⁴⁹ Public Law 502 Chapter 191; March 21, 1941.

⁵⁰ National Park Service, "Timeline: Japanese Americans during WWII."

⁵¹ Executive Order 9066.

⁵² http://www.nps.gov/history/history/online_books/personal_justice_denied/chap4.htm Commission on Wartime Relocation and Internment of Civilians, "Personal Justice Denied," chapter 4.

⁵³ National Park Service, "Timeline: Japanese Americans during WWII"

⁵⁴ See President Gerald R. Ford's Proclamation 4417, Confirming the Termination of the Executive Order Authorizing Japanese-American Internment During World War II; the Civil Liberties Act of 1988 (102 Stat. 904) granted reparations to Japanese Americans interned in the camps.

⁵⁵ Kieval, Shira. "Discerning Discrimination in State Treatment of American Indians Going Beyond Reservation Boundaries," 109 Colum. L. Rev. 94, 106-07 (2009).

⁵⁶ Indian Citizenship (Snyder) Act of 1924, ch. 233, 43 Stat. 253. The many previous efforts by the Federal Government to relocate American Indians are not covered in this paper as they were not then considered citizens.

⁵⁷ Indian Reorganization (Howard-Wheeler) Act of June 18, 1934, ch. 576, 48 Stat. 984.

⁵⁸ Navajo-Hopi Long Range Rehabilitation Act of 1950, 64 Stat. 44.

⁵⁹ *Ibid.*

Indian reservations.⁶⁰ Myer's work to get Indians off of reservations and into cities started in 1951 when he expanded the relocation program that had started with the Navajo and Hopi.⁶¹ In 1956, Congress passed Public Law 959 which expanded the off-reservation relocation and training program and funded it to the sum of \$3.5 million a year.⁶² Despite the large number of Indians relocated to cities, the program could not have been called a success. The jobs found for Indians were poor and scarce, and the living conditions were nearly as poor as those back on the reservation. The program tried to relocate Indians far away from their home and discouraged communication with the reservation. Many, if not most, of the program participants eventually returned to the reservations, and those who did stay, rather than integrate into mainstream American culture, integrated into a pan-Indian culture that remained separate and retained their "Indian-ness."⁶³

Newtok, Alaska

The small village of Newtok, Alaska sits at the edge of the Bering Sea, which separates the United States from Russia, and the 350 villagers who reside there have been watching their homes and community slowly sink into the sea.⁶⁴ The highest point in Newtok is projected to be underwater by 2017.⁶⁵ In 2005, Congress enacted the Energy and Water Development Appropriations Act.⁶⁶ Section 117 permitted the Army Corps of Engineers ("Corps") to create solutions for disastrous erosion caused by rising sea levels.⁶⁷ The Corps completed a study and approved a project to take steps to relocate the village.⁶⁸ The project was approved for construction and was to begin by "relocat[ing] the community's barge ramp, dock, and related utilities."⁶⁹ Construction began in Newtok in 2006 paid for by a grant provided by the U.S. Department of Commerce, Economic Development Administration.⁷⁰ However in 2007, Section 117 of the 2005 Energy and Water Development Appropriations Act was repealed.⁷¹ In order for Newtok to continue with the relocation, the Village must find a non-Federal source for the remaining funds required to complete the project.⁷² So far, the Village Counsel has been unable

⁶⁰ Ono, Azusa, "The Relocation and Employment Assistance Programs, 1948-1970: Federal Indian Policy and the Early Development of the Denver Indian Community." *Indigenous Nations Studies Journal*, Vol. 5, No. 1, Spring 2004.

⁶¹ Burt, Larry, "Roots of the Native American Urban Experience: Relocation Policy in the 1950s." *American Indian Quarterly*, Spring 1996, p. 88.

⁶² Public Law 959 of 1956, 74 Stat. 930.

⁶³ Ono, Azusa (2004).

⁶⁴ Goldenberg, Suzanne, "Relocation of Alaska's singing Newtok village halted," *The Guardian* (August 5, 2013) available at, <http://www.theguardian.com/environment/2013/aug/05/alaska-newtok-climate-change>

⁶⁵ *Ibid.*

⁶⁶ U.S. Army Corps of Engineers; "Alaska Baseline Erosion Assessment: Study Findings and Technical Report", ES-2. (March 2009)

⁶⁷ *Ibid.*

⁶⁸ *Ibid.*

⁶⁹ *Ibid.* at 2-2

⁷⁰ *Ibid.*

⁷¹ *Ibid.*

⁷² *Ibid.* at 5-2

to find the funds.⁷³ It is unclear whether the relocation of Newtok will continue due to the repeal of Section 117.⁷⁴

While funding was explicitly provided for in the Executive Orders removing people of Japanese descent, Section 117 directed for the removal of the Newtok Community, but full funding was not provided. After the grant money ran out there was not sufficient funding to relocate the villagers, placing the project on hold. Because of how Section 117 was written, when federal money fell short the community and states are forced to provide the remaining funds if the project will ever be completed. A small village like Newtok does not have the ability to quickly generate the millions before the village is underwater, federal money must be provided to relocate the village to keep the community intact.

Reversals in policy and program support, for better or worse, again show how a program can be ended. All three programs above show the variety of means at the government's disposal if it wishes to relocate or resettle American citizens. Even if a legal mechanism, authorization, and appropriation do not exist for a specific program, they can be created. Clearly neither the Japanese-American internment nor the Urban Indian Relocation Program had local support, but the Newtok situation had local support, but was unable to maintain it. The continuous support of local populations, of the people who are being displaced, for the resettlement or relocation program is necessary.

Pollution

Love Canal

In the early 1910s, a canal was dug between the upper and lower Niagara Rivers to supply affordable power to homes and industry in northwestern New York.⁷⁵ The project was soon abandoned and the partially constructed canal was used as a municipal and industrial chemical dumpsite for the next 30 years, until it was covered with earth and sold to the Niagara Falls School Board for \$1.⁷⁶ An entire community was built on the site surrounding the old canal.⁷⁷ The community lived there until the late 1970s when the area experienced a record amount of precipitation and the chemical dumpsite was uncovered.⁷⁸

On August 7, 1978 President Jimmy Carter declared an Emergency approving emergency aid to relocate the Love Canal residents.⁷⁹ The Federal Emergency Management Agency ("FEMA") purchased properties, and was directly involved in the relocation activities of over 950

⁷³ Goldenberg 2013.

⁷⁴ Alaska Baseline Erosion Assessment, at 5-5

⁷⁵ Beck, Eckardt C., "The Love Canal Tragedy" EPA Journal – January 1979. p. 16 *et seq.*

⁷⁶ *Ibid.*

⁷⁷ *Ibid.*

⁷⁸ *Ibid.*

⁷⁹ Emergency Declaration – 3066, "New York Chemical Waste, Love Canal" (August 7, 1978).

residents evacuated from the contaminated area.⁸⁰ The Love Canal disaster resulted in birth defects, higher rates of cancer, and many other illnesses to the residents who lived there.⁸¹ As a reaction to Love Canal, Congress passed one of the country's most effective environmental statutes, The Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA").⁸² CERCLA provides a legal mechanism for the Federal Government to respond "directly to releases or threatened releases of hazardous substances that may endanger public health or the environment."⁸³ Love Canal was listed as a CERCLA superfund site in October of 1981.⁸⁴ The residents were bought out, but left to their own devices to find new housing in a market suddenly flooded with buyers, providing an example of a clear disadvantage of a relocation program.⁸⁵ It has since been cleaned-up, and in 2004 the site was delisted allowing for new residents to move into the area.⁸⁶

Agriculture Street Landfill (New Orleans, LA)

In the mid-1960s, the City of New Orleans shut down the Agriculture Street Landfill ("Landfill").⁸⁷ The Landfill was chosen as the development site for a low income community.⁸⁸ The Housing Authority of New Orleans and the Federal Department of Housing and Development built 167 housing units adjacent to the Landfill.⁸⁹ Residents moved into their newly built homes unaware of the buried landfill.⁹⁰

In 1993, the Environmental Protection Agency ("EPA") tested the soil in the area and found that the soil was contaminated with toxic and hazard materials, many of which were known to cause cancer.⁹¹ On December 16, 1994, the Landfill was listed on the National Priorities List as a Superfund site under the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"). Residents protested for buyouts. After the Landfill was listed EPA created a remediation plan for the area.⁹² The EPA determined, the contaminants found in the soil have "the potential for exposure of human populations," and if left unmitigated could present "imminent and substantial endangerment to public health, welfare, or the environment."⁹³

⁸⁰ EPA Region 2, "Love Canal, New York, EPA ID# NYD000606947; NPL Listing History," pg. 1 (September 9, 2004)

⁸¹ Beck, Eckardt C.

⁸² EPA Region 2 2004.

⁸³ CERCLA Overview, available at <http://www.epa.gov/superfund/policy/cercla.htm>.

⁸⁴ Federal Register Notice: September 08, 1983, "NPL Site Narrative for Love Canal"

⁸⁵ Blumenthal, Ralph, "Many from Love Canal Still Unsettled." *New York Times* (February 14, 1981).

⁸⁶ *Ibid.*

⁸⁷ U.S. EPA Memorandum, available at,

http://www.epa.gov/region6/6sf/louisiana/ag_street/important_documents/action_memo_agstreet.pdf p. 3

⁸⁸ Weeden, L. Darnell, "Hurricane Katrina and the Toxic Torts Implications of Environmental Injustice in New Orleans, 40 J. Marshall L. Rev. 1 at 14 (Fall 2006).

⁸⁹ *Ibid.*

⁹⁰ U.S. EPA Memorandum, p. 4.

⁹¹ "History of Agriculture Street Landfill Litigation" available at, http://bagnerislawfirm.com/history_of_agriculture_street_landfill_case.

⁹² "Agriculture Street Landfill Project Background," available at http://www.epa.gov/region6/6sf/louisiana/ag_street/la_ag_street_background.html.

⁹³ U.S. EPA Memorandum, pg. 11-12.

Based on this finding, the EPA removed topsoil and placed a “permeable geotextile fabric” over the contaminated soil and covered that with between 2 and 4 feet of clean topsoil.⁹⁴ After the remediation plan was carried out EPA determined the area was not harmful enough to warrant relocation of the community.⁹⁵ The EPA determined that the chosen method of remedial performance was consistent with the “presumptive remedy for municipal landfill sites” under CERCLA and was not inconsistent with Section 300.415(b)(2) of the National Contingency Plan.⁹⁶ Therefore, no one was ever relocated from the Agriculture Street Landfill because relocation was deemed to be too costly.

The tragedy of Love Canal created a legal mechanism for the efficient cleanup of and the costs associated with hazard substances releases threatening the human environment. Both Love Canal and the Agriculture Street Landfill were tragedies that could have been prevented. The enactment of CERCLA has assisted many states and communities in cleaning up hazardous waste sites, when they otherwise would not be able to afford the cleanup. However, as the Agriculture Street situation shows, even when the community wants to be relocated or resettled, the government is not always willing to accommodate.

Inactive/Passive/Policy Failure

All of the previous examples of relocation efforts have been reactionary. Something goes wrong, or an area of land is designated for a specified federal purpose, and the government must acquire land and condemn property. However, some natural disasters can be predicted, one of those is the flooding in the 100-year flood plain. Because flooding in these areas can be predicted, Congress established the National Flood Insurance Act (“NFIP”) to provide financial assistance to the damage caused by floods. When those affected by disasters cannot afford the bill, the government must pay the bill. NFIP provides an alternative to relocation in the form of flood insurance.

NFIP

The National Flood Insurance Act was enacted in 1968 as a means to provide affordable flood insurance to property owners who are identified as living in flood-prone areas.⁹⁷ The NFIP transfers part of the cost of flood damage from taxpayers to insurance companies and policyholders.⁹⁸ In 2006, NFIP was estimated to have yielded annual savings to the Federal government of \$527 million, and reduced annual costs to individuals by nearly \$1.5 billion.⁹⁹

⁹⁴ “Agriculture Street Landfill Project Background”

⁹⁵ Weeden, L. Darnell, at footnote 109.

⁹⁶ U.S. EPA Memorandum, pg. 16, 18.

⁹⁷ 44 C.F.R. § 59.2

⁹⁸ Statement for the Record by JayEtta Z. Hecker, Director Physical Infrastructure, “Flood Insurance: Challenges Facing the National Flood Insurance Program,” pg. 3 (April 1, 2003).

⁹⁹ Sarmiento, Camilo & Miller, Ted R. “Cost and Consequences of Flooding and the Impact of the National Flood Insurance Program (October 2006), pg. ix.

NFIP enforcement lies with the Department of Homeland Security's Emergency Preparedness and Response Directorate.¹⁰⁰ Originally participation in the program was purely voluntary.¹⁰¹ Now NFIP is available only to those local communities that implement regulations for building and developing property in flood-prone areas.¹⁰² If the flood-prone community chooses not to implement and enforce regulations, they are disqualified from receiving federal funds, flood mitigation, and federally-backed flood insurance.¹⁰³ That disqualification bars non-participating communities from receiving federal financial assistance even after a presidential disaster declaration.¹⁰⁴ The disqualification from receiving federal funds even in the case of emergencies was enacted in 1994 as a plan to increase the number of participating communities and expand the NFIP.¹⁰⁵ NFIP was intended to provide a front-end way for the Federal Government to financially protect itself and its citizens from future damage caused by natural disasters. However, the program, by subsidizing flood insurance, has done as much to encourage development in flood plains as anything. A bloated, insolvent program led to the passage of the Biggert-Waters Act in 2012. The act was intended to make the program solvent and sustainable. Yet when it became time to initiate insurance hikes, the outcry against the act was great and this spring Congress passed an act to delay rate increases and limit them in the future.¹⁰⁶ As it relates to community resettlement, the problem with NFIP, the Biggert-Waters Act, and the 2014 repeal is that these programs and acts have nothing in them to aid in the transition of communities out of flood zones. Instead, communities will flood. Some will keep their NFIP insurance and rebuild. Some will cash out their insurance money and move away. Many will have no choice, but little will be done to keep communities together and either get them out of the way before the floods come or treat them as a whole to preserve their identity after the floods recede.

The shifts called for by Biggert-Waters would have had the perverse effect of rendering some communities unmarketable and either stranding some communities in properties that could never be sold or creating the impetus for a federal buyout program. In the face of sea-level rise, the number of stranded, unmarketable properties would have been staggering.

Rightly or wrongly, the federal government clearly has a variety of powers to use to relocate people. However, the ability and, more importantly, the willingness to relocate entire communities to preserve their character have proven largely elusive. Even programs to assist relocation of individuals, let alone resettlement of entire communities, need political, financial,

¹⁰⁰ Statement for the Record by JayEtta Z. Hecker, Director Physical Infrastructure, pg.4.

¹⁰¹ *Ibid.*

¹⁰² Thomas, Edward A. & Medlock, Sam Riley, "Mitigating Misery: Land Use and Protection of Property Rights Before the Next Big Flood," 9 Vt. J. Env'tl. L. 155, 159 (2008).

¹⁰³ *Ibid.*

¹⁰⁴ *Ibid.*

¹⁰⁵ Statement for the Record by JayEtta Z. Hecker, Director Physical Infrastructure, pg.4.

¹⁰⁶ Bruce Alpert, "'Louisiana families finally have peace of mind' -- President Obama signs flood insurance bill into law," NOLA.com, March 21, 2014, http://www.nola.com/politics/index.ssf/2014/03/louisiana_families_finally_hav.html.

and popular support to succeed. The next section, a survey of past efforts in Southeast Louisiana, will also show the difficulty in successfully managing to resettle an in-tact community and the political and cultural price to be paid when those efforts fail to incorporate the desires of the communities being moved.

Past Relocation and Resettlement Efforts in Southeast Louisiana

The Setting

The Mississippi River Delta is a complex system driven by a range of shifting ecological and geophysical variables. Three centuries of major human modifications to deltaic processes tie social relations to biophysical processes in intricate ways, creating social-ecological dependencies that are difficult to disentangle analytically or politically. The linked social-ecological processes in the delta are underlain by specific patterns of capital investment and physical infrastructures that stabilize deltaic processes and enable human settlement, mobility, and economic production. Spatially, these investments in large scale infrastructure and flood protection show a strong core-periphery divide – a well-protected concentrated center contrasting strongly with a poorly-protected surrounding area. The high ground along the Mississippi river is easier to protect from storm surge, and the river channel and bank are the site of the most intensive investment in industrial and transport systems. These communities themselves often have their roots in earlier resettlements, often at global scale; communities in the region have been formed by the displaced from Canada, Croatia, the Canary Islands, and beyond. Community displacement and relocation in the deltaic plain has largely been driven by shifting patterns of flood disturbance and exposure in the urban periphery and coastal zone. However, these patterns are not simply a function of natural variation and processes. They are intertwined, physically and politically, with past policies of infrastructure provision and hydrological modification projects. Thus, flooding events that are managed (river diversions), and also the contours of more “natural” events like storm surges are reflective of historical patterns of political power and capital investment in the region.

Native Americans utilized the deltaic plain in a largely seasonal capacity before European settlement. Without river levees, springtime flooding could place vast territories under water for weeks at a time, and summertime hurricanes could violently inundate similarly large tracts. The development of flood protection infrastructure during the 18th, 19th, and 20th centuries ensured that riverine flooding was not a major threat after the 1930s. Hurricane storm surges have remained a major hazard in a large swath of the coast, particularly in the Southeastern plain and New Orleans Metropolitan area. Major flood protection investments have tended to prioritize urbanized areas for protection, though under conservative sea level rise, subsidence, and land loss scenarios, ostensibly “protected” areas remain vulnerable to storm surges.

A Difficult History: Examples of Relocation and Resettlement in Southeast Louisiana

Actual community displacement and relocation in coastal Louisiana has historically been induced primarily by shifting patterns of flooding events, reactive public policies, and institutional/legal mechanisms developed in response to flooding events, and federal projects where immanent domain applies. There is a broader set of cases where relocation was sought unsuccessfully by certain interests. A long history of dissatisfaction with and resistance to relocation policies exists in the region. A running theme throughout the examples is the persistence of poorly managed relocation initiatives that bred mistrust between residents and formal authorities managing the resettlement programs. In some cases, that mistrust is developed over generations, and contemporary flood control and coastal restoration programs are confronting the contentious politics spawned by decades of broken promises, poor communication, and outright malfeasance by public officials. The following section reviews a few examples of these actual and proposed relocation strategies.

St. Malo & Manila Village

Some relocations have occurred due to the acute impacts of hurricane storm surges and were managed by localized and legally informal community institutions. St. Malo, a small community of Filipino fishermen existed in the Biloxi Marshes of extreme eastern St. Bernard Parish between the late 18th century and 1915, when a major hurricane destroyed the community.¹⁰⁷ The community members who survived moved to inland and gradually assimilated into less exposed communities in St. Bernard, Orleans, and Jefferson Parishes. The St. Malo re-settlement predates modern systems of disaster relief and federal involvement in flood protection, leaving community members with little access to capital for rebuilding St. Malo. With no state-managed flood protection system in place, the responsibility for the persistence or relocation of the community lay entirely within the social networks of the residents. Manila Village, a seasonal shrimping outpost in coastal Jefferson Parish, suffered a similar fate, and was largely destroyed in 1965 and abandoned for more inland settlements.¹⁰⁸ Dozens of similar examples of community-led and funded resettlement are mentioned in the historical record.

Old Shell Beach

The construction of large-scale federal water infrastructure projects in the coastal zone has led to the reorganization of land-water interfaces and severed some communities from the mainland. The excavation of the 75 mile Mississippi River Gulf Outlet (MRGO) between 1958 and 1965 represents the largest single federal investment and physical modification undertaken by federal authorities in the region during the 20th century. It was, however, the New Orleans

¹⁰⁷ George Boeck. 1980. "Documentary History of the Filipinos in Louisiana." Prepared for Louisiana State Museum. Available from http://www.esaubeock.com/index/Filipinos_in_Louisiana.html. Accessed February 15 2014. St. Bernard Parish is immediately east of New Orleans and extends eastward beyond the towns of Meraux, Poydras, and Violet seen in Figure 3 and others.

¹⁰⁸ *Ibid.*

Port Authority, or Dock Board, who was responsible for procuring the land for the channel and negotiating with impacted communities. Shell Beach, on the shores of Lake Borgne, was home to around nine resident families in 1961 when the MRGO severed the roadway leading to the fishing outpost.¹⁰⁹ Most of these families were of European descent, including some with roots in the Canary Islands. Old Shell Beach was consistently impacted by Hurricane storm surges and is close to the St. Malo community which was destroyed in 1915. Hurricane Flossie in 1956 destroyed many of the homes on Shell Beach, and the same year, the MRGO was authorized by the US Congress. Originally Dock Board officials proposed a ferry service to Shell Beach, requiring no relocation. Running cost concerns emerged, and Dock Board planners decided to instead purchase the properties, provide new properties for families on the inland side of the MRGO, and pay for the relocation costs of domiciles and other property to the new area.

The new community remains known as Shell Beach, and the descendants of some of the original relocated residents still operate businesses there. Since most of the residents used their homes as fishing businesses, the resettlement costs to landowners involved the loss of business during the move, and the ensuing disruption of local fisheries as the canal was dredged through the area. As is common in these scenarios of partially-funded resettlement, some residents took advantage of the compensation to transition their families to new industries, or leave the region altogether. Due to coastal erosion induced by the MRGO, New Shell Beach has become nearly as exposed to storm surges as Old Shell Beach, but the New Orleans Dock Board (a State of LA body) ceased taking any responsibility for the impacts of the channel after the community was resettled. The legal responsibility for additional impacts by the MRGO was taken on by the US Army Corps of Engineers, which enjoyed broad immunity from legal action pertaining to the operation and maintenance of its projects. The opposition to the MRGO and other water infrastructure projects in the region since 1961 has been marked by outright contempt for federal officials and engineers in charge of planning and public engagement.¹¹⁰ It is worth noting that one of the most vocal opponents of the use of river diversion projects in the LA Coastal Master Plan is the son of one of the original families relocated from Old Shell Beach in 1961.¹¹¹

Fazendeville

The Fazendeville community was an African-American village in St. Bernard Parish Louisiana. Established soon after the Civil War, the community was home to 40-50 families of color for nearly 100 years.¹¹² The village fell within the historical footprint of the Chalmette Battlefield, where Andrew Jackson led American forces against a British Naval invasion attempt in 1814. Congress established the site as a National Battlefield in the 1930s, but Fazendeville remained

¹⁰⁹ "Shell Beach Exodus" *New Orleans Times-Picayune*. May 21, 1961.

¹¹⁰ United States Army Corps of Engineers, New Orleans District. Minutes, Mississippi River Gulf Outlet Restoration Plan Public Meeting. Light City Church, New Orleans, LA. February 8th, 2011. Available from <http://mrgo.gov/ProductList.aspx?ProdType=study&folder=1339>. Accessed 18 September, 2014. See pgs. 35-39.

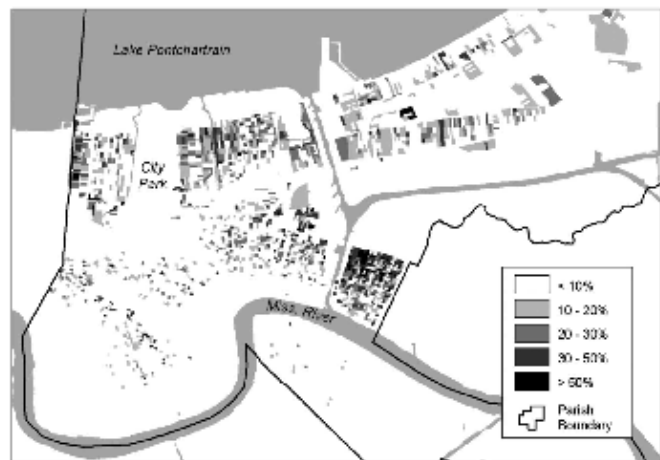
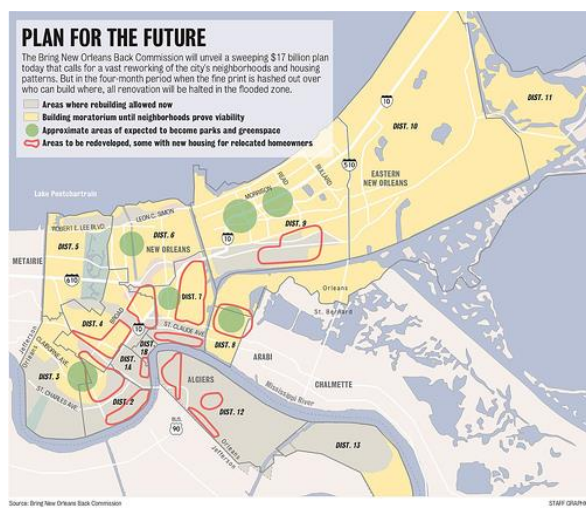
¹¹¹ *Ibid*.

¹¹² Joyce Marie Jackson. "Declaration of Taking Twice: The Fazendeville Community of the Lower Ninth Ward Empowering Place" *American Anthropologist* Vol. 108, No. 4 (December 2006) 766-780.

on the footprint of the site. Few African Americans were living in St. Bernard Parish during this period, and area experienced massive in-migration of white families from New Orleans who were moving in part in response to the desegregation of New Orleans' public school system. In 1962, under the auspices of New Orleans Sesquicentennial celebration, the National Park service began a program of forced purchases and condemnations of structures in Fazendville. By 1964, all properties had been vacated and demolished. Most of Fazendville's residents moved to the nearby Lower Ninth Ward, which offered affordable land and by the mid 1960s was becoming a majority African-American neighborhood as white families left for St. Bernard Parish. Some Fazendville residents perceived these various convulsions as interrelated: that their forced relocation was not entirely about the Battlefield's historical integrity, but was related more importantly to the demographic shifts and schools crisis that was gripping the area at the time. The battlefield status was seen by some as a pretext for removing African Americans from a parish essentially ruled by a white elite that publicly espoused white supremacy.

Whatever the political process of resettlement actually reflected, the case of Fazendville demonstrates the importance of addressing community concerns directly and avoid the tendency of powerful political institutions to appear to "speak technically, but act politically." Historic preservation, and more pertinent to this paper, the land management programs wrapped in the language of "sustainability" and "resilience" run the risk of presenting themselves as immune to particularities of uneven political power and structural inequality that mark many communities in Louisiana.¹¹³ In the case of the residents of Fazendville, and in dozens of other similar communities dealing with flooding and resettlement, the mistrust of official narratives from authorities became a commonly held attitude amongst community members, and one passed through generations.

The Green Dot / Road Home Programs



¹¹³ As the demographics section of this paper demonstrates, uneven power and structural inequality is still a glaring issue evident when analyzing who is in harm's way and who is left out of state and federal protection mechanisms.

Figures 1 and 2. Left showing the Urban Land Institute's 'Green Dot' plan. Map at right shows the State of Louisiana Road Home program's buyout program. Parcels are shown with percentage of homeowners taking buyout options rather than rebuilding in place.

An infamous episode in adaptation planning in New Orleans, called by geographer Richard Campanella as the "great footprint debate," is relevant to discussions of future resettlement programs.¹¹⁴ The case highlights the critical importance of participatory planning and public engagement by public officials — an especially important but difficult task in a setting where residents have already been displaced and are difficult to identify and communicate with. The transition of hazard prone urbanized / residential areas to other land uses, including more natural habitats (e.g., water, greenspace, urban forest) in areas of New Orleans where a low percentage of residents are returning became a point of speculation and controversy after Katrina in 2005. This process was notable for the profound lack of public trust in government and land developers that it underscored.

Maps produced in the immediate aftermath of Hurricane Katrina by the Urban Land Institute (ULI) and the Bring New Orleans Back Commission's (BNOBC) Urban Planning Committee depicted portions of low-lying residential areas converted into wetlands or greenspace (figure 1). These images were introduced prior to the development of the Road Home Program, which provided for voluntary buyouts and restoration grants to homeowners. Thus, these proposed conversions to uses other than residential were generally seen not only as decreasing the market value of surrounding residential property, but also as potential schemes to deny residents the right to return to their former homes and force their resettlement. This was, as the Fazendville case illustrates, not an unprecedented or even unreasonable expectation given prior programs. Indeed, one of the "green dots" entirely subsumes the tract where Fazendville residents had relocated in the 1960s. The maps and proposed land uses were met with public hostility and became important artifacts in a contentious and racially charged mayoral election in 2006.

The public discourse regarding the fate of the Lower Ninth Ward neighborhood in particular spawned accusations of an effort to dispossess landowners in lieu of industrial development or green space. Mayor Nagin publicly responded to criticism of the ULI and BNOBC maps by stating emphatically that the return of African-American residents was his priority, and that no neighborhood would be targeted for abandonment or conversion to greenspace.¹¹⁵ Even without the use of eminent domain, which Nagin categorically ruled out, many areas of the city have been slow to repopulate.

As of February 2010, more than four years after Hurricane Katrina, the city has numerous areas where fewer than 50 percent of residents have returned. Green and Olshansky evaluated the extent to which New Orleans homeowners exercised the buyout options in the Road Home

¹¹⁴ This section is drawn in part from an earlier publication (Meffert & Lewis 2012). Any citation or publication of this section should be discussed with Joshua Lewis, jlewis9@tulane.edu.

¹¹⁵ Baum, Dan. "The Lost Year." *The New Yorker* (August 21, 2006).

program (i.e., selling their property to the Louisiana Land Trust and not returning to their pre-Katrina property).¹¹⁶ Figure 2 shows that numerous significant clusters of sellers emerged from this voluntarily program. Not surprisingly, all of these clusters are in lower lying areas of the city that were impacted the most from the flooding in the aftermath of Hurricane Katrina and are, in several cases, in the same regions of the city that the BNOBC Urban Planning Committee recommended potential land use changes to encourage open park land. Green and Olshansky call the Road Home program “the most concentrated infusion of money by any HUD program in history.”¹¹⁷ The program received over 200,000 applications for assistance, and around 140,000 received some kind of financial support. Nearly 10,000 homeowners in coastal Louisiana opted to sell their homes to the state, half of whom were in Orleans Parish, and a significant portion in St. Bernard Parish.

Despite the historic infusion of capital that the Road Home program represented, it was not without problems.¹¹⁸ The Road Home program relied on homeowners to navigate a complex administrative process that required owners to produce detailed paperwork regarding their homes. This was often difficult for residents whose files were destroyed in Katrina, who remained displaced from their homes, were elderly or disabled, and so forth. Further, a federal judge ruled in 2010 that the program was racially discriminatory, because the home values used in the grant calculations were based upon pre-storm home market values in all areas, including historically marginalized communities where property values were depressed, regardless of a home’s construction or square footage. Basing payouts on market value meant that the historical inequalities and the legacies of racist housing policies were inscribed into the program. The state of Louisiana took measures to correct this discriminatory effect with some success, though dissatisfaction and mistrust in the program remain prevalent.

The Road Home program demonstrates the expensive nature of reactive compensation programs, and shows that even broad-based state-led public policies are not immune from discriminatory practices. The generic formulas necessary for such a large program meant that historical patterns of inequality appeared only in the market values of homes, rather than in a more localized and nuanced fashion. The early stigma placed on rezoning, resettlement, and the use of green space as a hazard mitigation feature created a political atmosphere where “green” public policies were seen by some as Trojan horses for the forced resettlement of communities suffering greatly from flooding. This prevented a more pragmatic public conversation about the urban footprint, and contributed to a serious issue of the long-term costs of infrastructure provision in areas where many homeowners took state buyouts. In both Orleans and St. Bernard parishes, public water and drainage utilities are struggling to provide

¹¹⁶ Green, T. and R. Olshansky. (2012) “Rebuilding housing in New Orleans: The Road Home Program after the Hurricane Katrina disaster.” *Housing Policy Debate* 22(1). 75-99; Olshansky, R. and T. Green. (2009) “Homeowner Decisions, Land Banking, and Land Use Change in New Orleans after Hurricane Katrina.” Lincoln Institute of Land Policy Working Paper WP09TG1.

¹¹⁷ Green, T. and R. Olshansky. (2012).

¹¹⁸ A full discussion of this is beyond the scope of this paper, and the work by Green and Olshansky is helpful for greater detail.

adequate services to areas where only a few residents have returned, but where they are legally obligated to maintain an entire network of pipes, sewers, and pumps. The recent contamination of the public water system in St. Bernard Parish with a brain-eating amoeba highlighted the problems of maintaining modern infrastructure in the “new normal” of sparse settlement in previously urbanized territory.¹¹⁹ Public officials and other powerful stakeholders must, in future processes, acknowledge historical events and the legacies of past injustices in land use and housing policy. This matters in the development of mechanisms like the Road Home Program, but also in the development of coastal restoration projects like river diversions, which will displace residents and transform coastal ecosystems. Without an honest and public conversation, the expectation of residents will remain that officials tend towards a “speaking technically, acting politically” approach in which true intentions, costs, and benefits, are veiled behind a public discourse that centers on vague concepts and confusing technical details, but fails to speak to the experience and concerns of impacted communities.

Land Abandonment, Vegetative Conditions, and Land Management

The eastern flank of the metro area, including the 8th and 9th wards of New Orleans and the Arabi/ Chalmette communities of St. Bernard Parish have seen significant depopulation and voluntary resettlement to other parts of the region.¹²⁰ The previous section offers some explanation of the failure of comprehensive resettlement and land management reforms. In the absence of such a program, the structures on significant tracts of residential lands have been razed and the plantable space on the properties is in various stages of vegetative succession. In Orleans Parish, some of these lots are managed by state and city authorities use work crews and tools to clear empty lots of vegetation. In other circumstances, remaining local residents and neighbors maintain the vegetation on empty lots near their own. In many instances, however, vegetation is left to grow unchecked and in less than a year, woody shrubs and trees begin to form a low canopy. The Tulane/Xavier Center for Bioenvironmental Research, the US Forest Service, and the Stockholm Resilience Centre are cooperating on a vegetation inventory of the area to assess the vegetative conditions and assess how different land management strategies impact plant structure, community, and diversity. Preliminary results indicate that within heavily flooded areas in Orleans parish, high vegetative diversity has emerged in areas with a mixture of unmaintained (now forested) lots and lots maintained using crews and tools. Much of the woody species colonizing the lots are exotic or invasive plants which are problematic in the region. Poor land management and a lack of consensus around zoning and land use planning have created an additional haven for aggressively invasive trees like the Chinese Tallow (*T. Sebifera*).

In contrast, over the Parish line in Arabi and Chalmette, it is likely that overall vegetative diversity has in fact decreased since Katrina. In these communities, lots where homeowners once planted shrubs and herbaceous landscape plants, uniform expanses of grasses (lawns,

¹¹⁹ Alexander-Bloch, Benjamin. “St. Bernard water system tests positive for rare brain-eating amoeba, CDC confirms.” NOLA.com (September 12, 2013).

¹²⁰ See the areas marked “New Orleans East” “Arabi” and “Chalmette” on Figure 3 and others.

essentially) dominate the vacated lands. These grasslands are maintained regularly by parish and state officials, as well as local residents. Special programs enabling St. Bernard residents to purchase abandoned lands adjacent to their own were also conducive to creating an effective vegetation management program in the area.

These developments are relevant to our discussion here in that large-scale resettlement or relocation of communities would likely entail large-scale abandonment of residential areas and decreased management of those sites by land owners and municipalities. With invasive plants a growing problem statewide, effective land management policies should be developed to ensure that invasive species can be minimized in the vegetative conditions that emerge under new structural and management contexts. Agricultural land uses may prove most beneficial to former residents and property owners, with the added benefit of avoiding the rapid colonization of properties by invasive plants which are difficult and expensive to remove once they've become established.

Demographic Analysis of Populations Susceptible to Relocation in Southeast Louisiana

While other social and economic factors have played a large role in population migration throughout Louisiana's history, the present-day environmental challenges of residing in the coastal zone form overriding and immediate social concerns facing the state's coastal communities. As the rate and intensity of natural hazard events continue to climb, population migration becomes an increasingly likely response. In this portion of the study, we are focusing on two primary drivers of environmental migration; the physical risks and hazards and the policy responses to these hazards. Policy responses have focused on attempting to reduce risk through coastal protection and restoration and allowing residents to live with existing levels of risk through subsidized flood insurance policies. While the environmental factors show that certain populations do experience a disproportionate level of risk, it is the policy responses that may ultimately determine the degree of population stability in the region.

Relocation of individuals and resettlement of communities is generally seen by planners and policy makers as a resort of last choice. As Louisiana's Coastal Protection and Restoration Authority (CPRA) notes, only a small percent of vulnerable locations would have to consider voluntary acquisition or population migration, with most being able to utilize building elevation and flood-proofing as an alternative.¹²¹ The Center for Planning Excellence (CPEX), while still noting that relocation is seen as a last resort strategy, considers strategic relocation of communities as an essential planning strategy both the Mississippi Delta region and the lower riverbanks of southeast Louisiana.¹²²

¹²¹ CPRA (Coastal Protection and Restoration Authority). (2012). *Louisiana's Comprehensive Master Plan for a Sustainable Coast*. Baton Rouge, Louisiana: CPRA (Coastal Protection and Restoration Authority).

¹²² CPEX (Center for Planning Excellence). (2012). *Best Practices Manual for Development in Coastal Louisiana* (p. 120). Baton Rouge, Louisiana: CPEX (Center for Planning Excellence).

Social Vulnerability and Population Migration

Social vulnerability involves the relative ability of an individual, household, or community to respond appropriately to changing environmental conditions.¹²³ Migration and relocation, adaptive responses to such changing conditions, are highly influenced by the degree of social vulnerability of the impacted communities. Lack of income, lack of transport, age, gender, and minority status may all contribute to the ability of a community to relocate out of potentially hazardous environments. Many of these factors are highly co-dependent and the impacts on several different disadvantaged socioeconomic groups may be similar. The effect of demographic factors on migration is most likely to be seen through interaction with other drivers, particularly economic.¹²⁴

Socioeconomic status is a primary economic driver of population migration. At the most basic level, wealth and income influence both the cost of moving and people's ability to move.¹²⁵ The percentage of the population living in poverty, for example, is direct measure of the community's ability to both evacuate and locate housing when faced with a natural hazard event.¹²⁶ This problem is exacerbated as the stock of affordable housing continues to decrease nationwide, particularly in host communities far from disaster sites. As evidenced in the aftermath of Hurricane Katrina, housing prices in host communities increased significantly within two weeks of the storm.¹²⁷ This is not just a problem for low-income populations, but also for those families with large numbers of children, who may have more difficulty locating longer-term housing and larger rental units. How individuals and communities respond to environmental stressors and the specifics of that response, in terms of who goes where and when, is determined by the socioeconomic status of specific communities and the existing patterns of social vulnerability within those communities.¹²⁸

In addition to the risk of losing access to affordable housing, the risk of losing wage employment is very high both in urban and rural displacements for those employed in enterprises, services, or agriculture.¹²⁹ Access to employment and livelihood opportunities has

¹²³ Levine, J. N., Esnard, A.-M., & Sapat, A. (2007). Population Displacement and Housing Dilemmas Due to Catastrophic Disasters. *Journal of Planning Literature*, 22(1), 3–15.

¹²⁴ Black, R., Adger, W. N., Arnell, N. W., Dercon, S., Geddes, A., & Thomas, D. (2011). The effect of environmental change on human migration. *Global Environmental Change*, 21, S3–S11.

¹²⁵ *Ibid.*

¹²⁶ Levine 2007.

¹²⁷ *Ibid.*

¹²⁸ Black et al 2011.

¹²⁹ Darlington, J. D., & Woodell, G. (2006). *The Relationship between Coastal Restoration and Community Relocation: An Annotated Bibliography and Analysis of Alternative Relocation Scenarios*. Research report for Governor's Applied Coastal Science Program.

been shown to influence and drive regional migration patterns.¹³⁰ Access is not only dependent upon the presence or absence of job opportunities, but the ability of the individual to commute to the employment location. This ability is in turn highly dependent upon socioeconomic status. Research has shown, for example, that high income individuals tend to commute farther for work because they can afford to do so.¹³¹ Conversely, individuals reliant upon public transportation for job access are often unable to commute long distances and therefore show less desire to relocate.¹³²

One final aspect related to access to employment involves the relocation of the businesses and industries themselves. The loss of business and therefore employment opportunities in certain communities are a key driver in population outmigration. However, the degree to which populations are able to move to a new community for work are highly dependent upon the demographics of the host community. One major cause of minority employment difficulties, for example, is the relocation of employers from areas where these minorities have traditionally lived to highly segregated suburban communities. Research has shown that when employers move into highly segregated communities, minorities are less likely to move closer to the job location, which leaves minorities little choice but to commute longer distances. The net result is increased costs of employment for minorities relative to non-minorities and, consequently, greater joblessness for minority workers.¹³³

Ultimately, increased commuting costs and a reduction in the reliability of income may become a limiting factor in the ability of individuals and households to migrate. These effects will vary amongst different demographic groups, suggesting that the economic impacts of environmental change will have a different impact on migration in different parts of a community.¹³⁴ However, we have already seen a widening disassociation between Southeast Louisiana's "working coast" and the residences of those workers as more and more who work in Plaquemines, Terrebonne, or Lafourche Parishes live outside the parish.¹³⁵

This study explores the spatial distribution of socially vulnerable populations in southeast Louisiana, and the potential impediments to relocation faced by these populations. Factors such as socio-economic status, race, ethnicity, and gender each present their own suite of concerns for planners and policy makers, and an understanding of these factors is vital to effective coastal zone management and planning.

The initial portion of this analysis will examine the population currently at increased risk of inundation due to rising sea level and increasing storm surges. As part of this portion of the

¹³⁰ Black et al 2011.

¹³¹ Fernandez, R. M. (1994). Race, Space, and Job Accessibility: Evidence from a Plant Relocation. *Economic Geography*, 70(4), 390.

¹³² Levine 2007; Perry, R. W., & Lindell, M. K. (1997). Principles for managing community relocation as a hazard mitigation measure. *Journal of Contingencies and Crisis Management*, 5(1), 49–59.

¹³³ Fernandez 1994.

¹³⁴ Black et al 2011

¹³⁵ The Data Center, "The Coastal Index, April 2014," p. 7.

analysis, we will also examine the population currently protected by levees, both natural and human built. Populations residing in lowlands outside of the influence of any form of structural protection are clearly more vulnerable to environmental hazards and are more likely to be forced to migrate out of harm's way.

Next, we will examine the areas that are targeted for nonstructural protection in the State's 2012 Coastal Master Plan. The lack of planned large scale structural protection in these locations creates a situation where residents must decide how willing they are to live with increasing risk. In some of these areas, risk may be reduced by elevating or flood-proofing homes, but in other areas, effective risk reduction may only be achievable through relocation or migration.

Finally, we will look at the population that currently resides in the 100 year flood zone, as identified by FEMA on the Flood Insurance Risk Maps. For populations residing in SFHAs, insurability will in all likelihood be a determining factor on where people can stay and where relocation areas might be targeted in the future.

Study Area

This study examines the demographics and population of nine parishes of southeast Louisiana, including Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John the Baptist, and Terrebonne Parishes. These parishes cover all of southeast Louisiana south of Lake Pontchartrain, from the Mississippi River delta to the edge of the Atchafalaya Basin. This area is notable for its combination of urban and rural populations as well as the varied distribution of racial and ethnic groups. Finally, this area is notable due to its status as a working coast, where much of the population is employed in various natural resource extractive industries, such as oil and gas, fishing, and agriculture.

In total, the study area consists of 20,419 populated census blocks located in nine parishes in southeast Louisiana. Over 55 % of these are located in areas that FEMA designates as Special Flood Hazard Areas (SFHAs) on flood maps. Special Flood Hazard Areas are subject to inundation by a 100-year flood, which is used by the National Flood Insurance Program as the basis for insurance requirements nationwide.

Community Vulnerability to Significant 100-Year Inundation

To determine the risk level of coastal populations, we looked at the anticipated flooding occurring from a 100 year storm event under a less optimistic, future without action scenario.¹³⁶ Within the study area, the mean projected inundation is 6.44 feet, with a standard deviation of 6.23 feet. We looked at the population anticipated to experience significant flooding of 12.67 feet, one standard deviation above the mean. It is important to note that

¹³⁶ CPRA 2012; Johnson, D. R., Fischbach, J. R., & Ortiz, D. S. (2013). Estimating Surge-Based Flood Risk with the Coastal Louisiana Risk Assessment Model. *Journal of Coastal Research*, 67, 109–126.

areas outside this inundation zone might well experience an above average amount of flooding during a 100 year event. Similarly, the effects of a 500 year storm would clearly impact a much larger area than that shown. The purpose of utilizing the 100 year flood plain for this analysis is to more accurately compare and contrast the NFIP special flood hazard areas, the Master Plan structural protection limits, and the degree of anticipated flooding.

One final point worth noting is that the inundation dataset used for this portion of the analysis represents modeled future data and not any specific historical storm. Thus, areas such as New Orleans East and Chalmette, which experienced highly significant flood levels in the hurricanes of 2005, are not modeled to be significantly flooded in a future 100 years storm event. The dataset used here models flooding in these protected areas on anticipated distribution of water entering the communities via overtopping, breaches, and rainfall, minus any volumes removed by pumping.¹³⁷

The results of this initial analysis reveal that the Asian and Hispanic populations are significantly more exposed to flooding risks than non-Asian and non-Hispanic populations respectively. While the African American and Native American population do have large population clusters located within the potential inundation zones, an analysis of the distributions of these populations reveal that they are less likely overall to reside in zones of significant flooding. This is due to the fact that a large number of Native Americans reside in the Houma area and a large number of African Americans reside in New Orleans East, areas which would generally not experience the same level of inundation that south Terrebonne, New Orleans' Central City, or the Jefferson Parish Lakefront might. It should be noted once again that we are examining areas of statistically significant flooding in this portion of the analysis. Other locations in the study area would be expected to experience levels of inundation during a 100 year storm event below the threshold used for this particular analysis.

An examination of the at-risk population clusters for each of our racial and ethnic groups reveals a significant difference in population distributions. Of particular importance to this analysis is that there is a clear urban-rural division between populations. An initial examination of the at-risk population clusters for each of our racial and ethnic groups reveals noticeable differences in population distribution. Of particular importance to this analysis is that there is a clear urban-rural division between populations. The African American, Asian, and Hispanic populations all tend to reside in concentrated clusters on land located off of the natural levees of the Mississippi River. Notably, there are several large clusters of significantly high numbers of African Americans, Asians, and Hispanics residing off of the natural levees in central New Orleans, in New Orleans East, and in the densely populated communities on the east and west banks of Jefferson Parish. Conversely, the Native American population residing in the 100 year floodplain, resides largely in rural communities south of the city of Houma in small towns such as Dulac, Chauvin, and Montegut.

¹³⁷ Johnson, Fischbach, and Ortiz 2013.

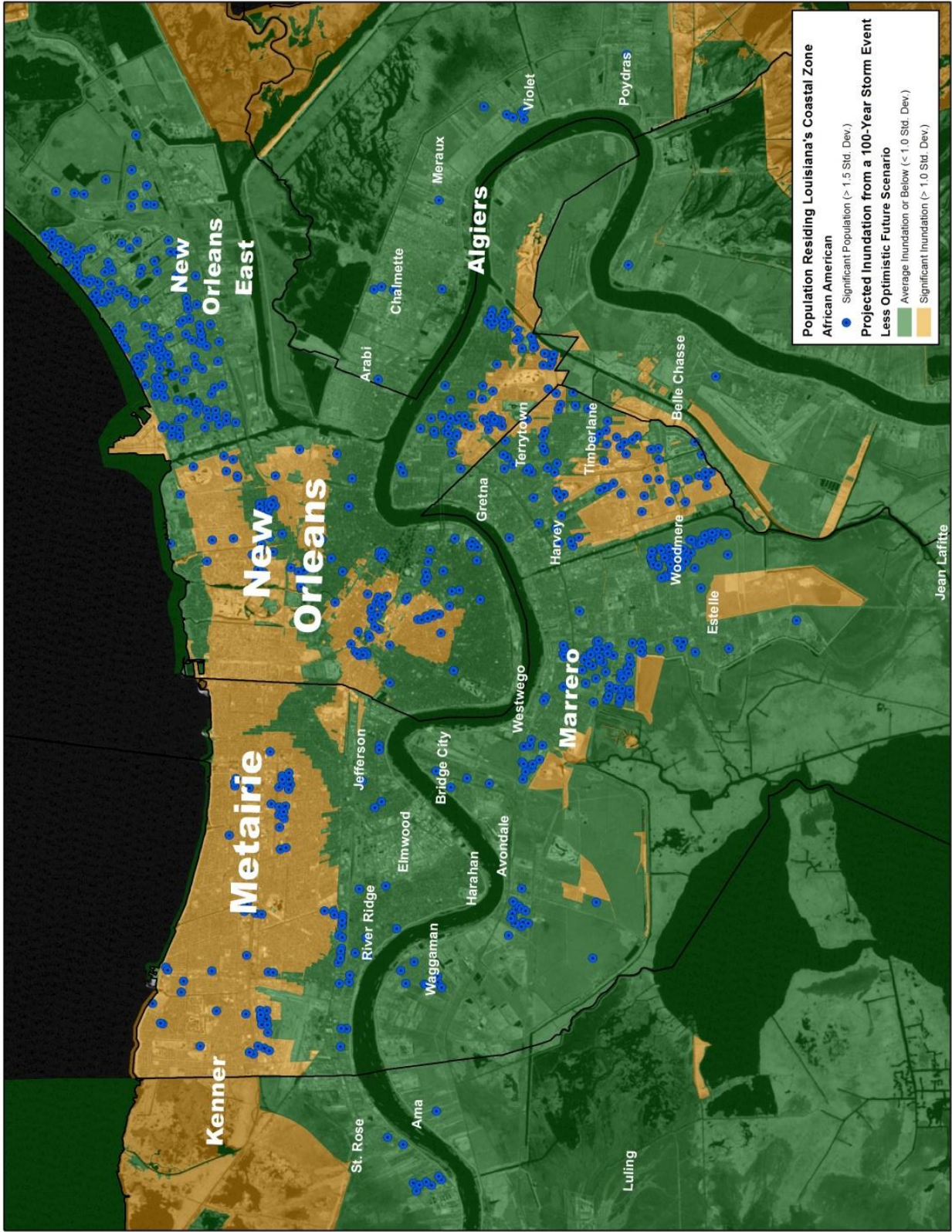


Figure 4

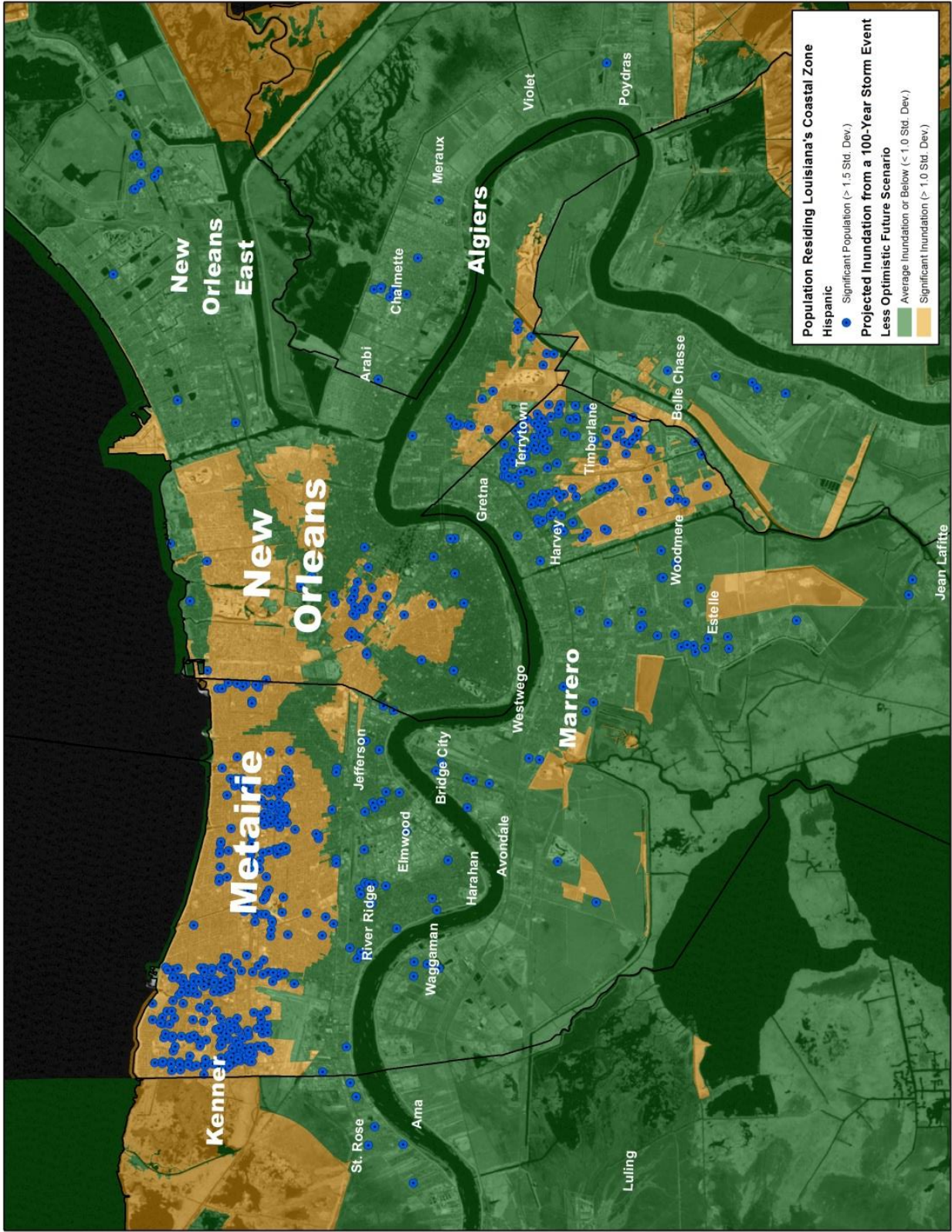


Figure 5

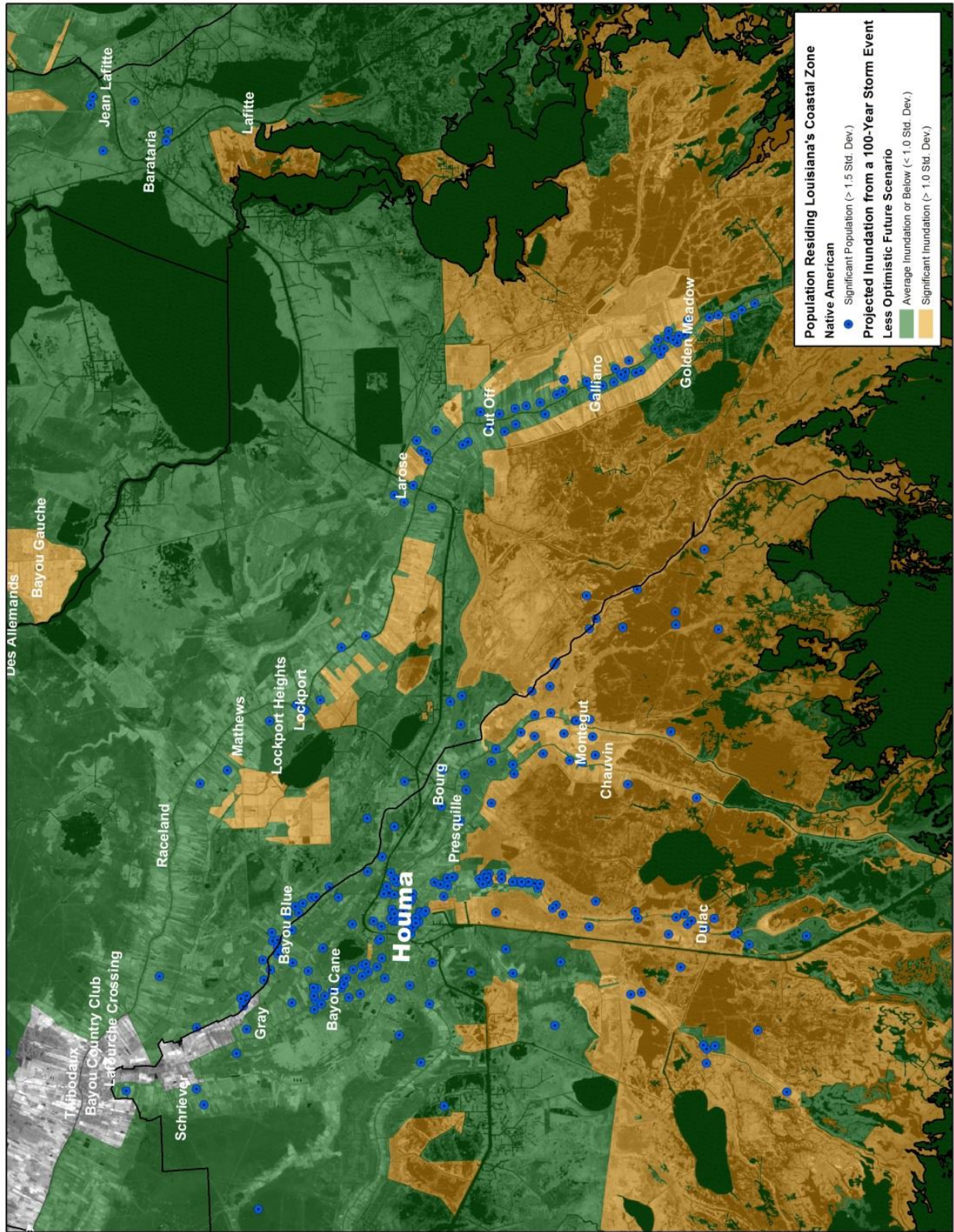


Figure 6

MASTER PLAN PROTECTION

Louisiana’s coastal Master Plan, if fully implemented, would extend 100 and 500 year protection to over 85% of the 20,419 populated census blocks included in our study area, targeting the remaining 3,010 blocks for some type of nonstructural protection. Nonstructural projects included in the Master Plan are intended to elevate and flood-proof homes and businesses to reduce storm related flood risks.¹³⁸ In areas where elevation and flood-proofing are not feasible or where homes and businesses would need to be elevated higher than 18 feet, voluntary acquisition and relocation would be an option.

The Master Plan protection levels are a function of total population and population density. Highly populated urban areas are targeted for 500 year protection while smaller densely populated areas are targeted for 100 year protection. Rural areas that do not meet the threshold levels in terms of total population and population density are targeted for 50 year protection, achievable largely through nonstructural mitigation measures. The boundaries were determined using a combination of legal and census defined community boundaries and expanded to include all contiguous census block with a density of 1,000 persons per square mile.¹³⁹

Note that northern boundary of the Master Plan study area extends to the approximate location of interstate highways 10 and 12 and excludes some fastland areas.¹⁴⁰ While areas outside of the Master Plan analysis area may be regarded as protected, due to elevation and distance from storm surge zones, we did not include them in our analysis of Master Plan protection levels.

For this portion of the analysis, we examined the population in our study area that is anticipated to receive protection beneath the 100 year storm level, representing approximately 15% of the total census blocks in the area. In analyzing the proposed levels of protection provided to the communities of southeast Louisiana, we are not making a determination as to the feasibility of achieving the goals set forth by the state planners and scientists. The degree to which the Master Plan is implemented and is able to provide protection at the targeted levels to the communities is vital to determining the degree to which relocation and migration out of the coastal zone become necessary.

Based upon the criteria used to delimit the protection areas as noted above, the areas targeted to receive 50 year protection are generally small towns and sparsely populated rural areas. Overall, the Master Plan’s focus on heavily populated communities has extended protection to several minority populations currently residing in areas at risk of being flooded by a 100 year event. Significantly, this extends a higher level of protection to much of the Asian, African

¹³⁸ CPRA 2012.

¹³⁹ *Ibid.*

¹⁴⁰ Johnson, Fischbach, and Ortiz 2013. “Fastlands,” in the context of Louisiana coastal management, means those lands, including wetlands, that are surrounded by publicly-owned or maintained levees. 43 LA ADC Pt1, §700.

American, and Hispanic populations, particularly notable in New Orleans East and both banks of Jefferson Parish. On the opposite end of the spectrum, the protection level of the Native American remains little changed under the 2012 Master Plan. Higher levels of protection are afforded to Houma as well as the protected communities located along Bayou Lafourche in neighboring Lafourche Parish. However, much of the at-risk Native American populations reside in the small rural communities found south of Houma. These communities, due to their proximity to the coast and their rural nature, make them especially vulnerable to natural hazards and risks.

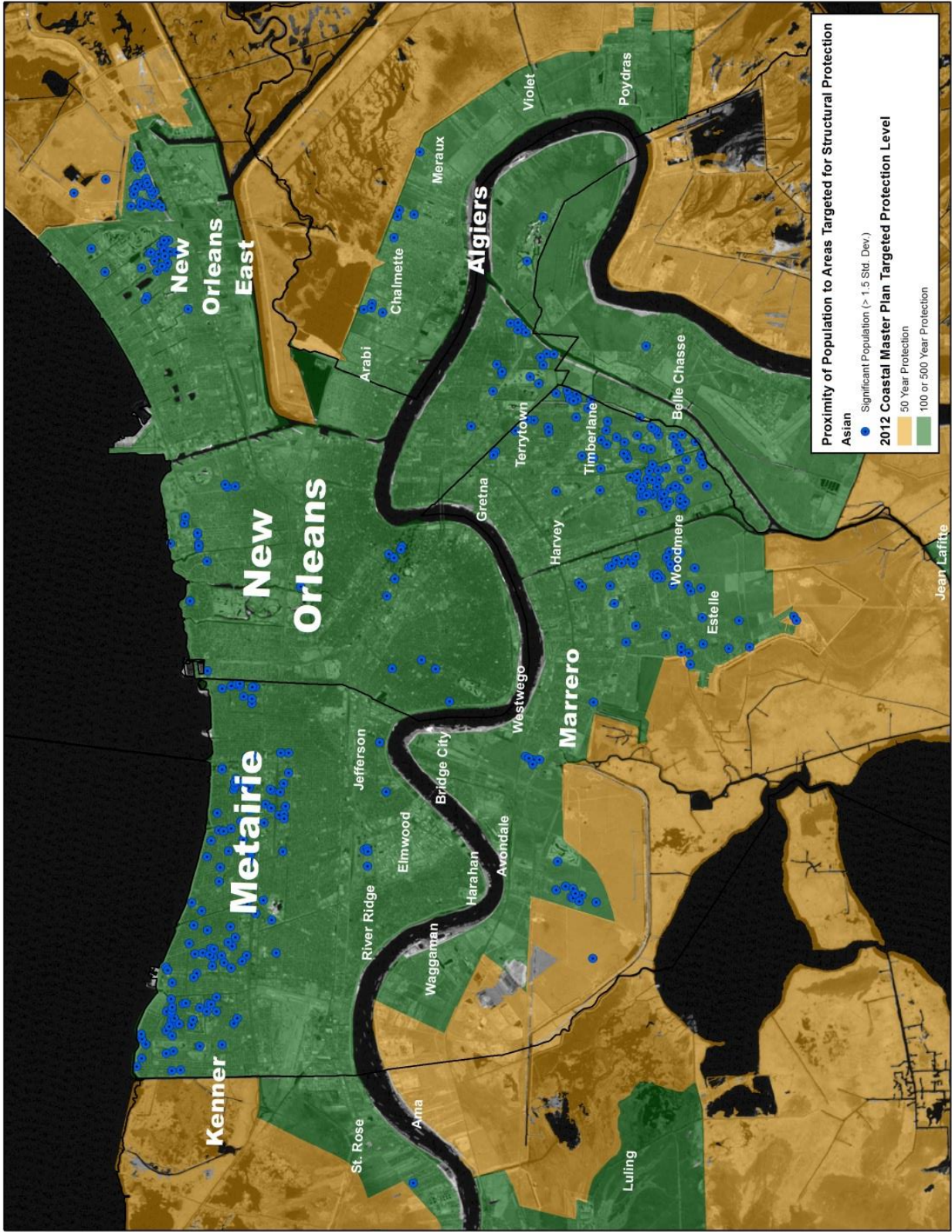


Figure 7

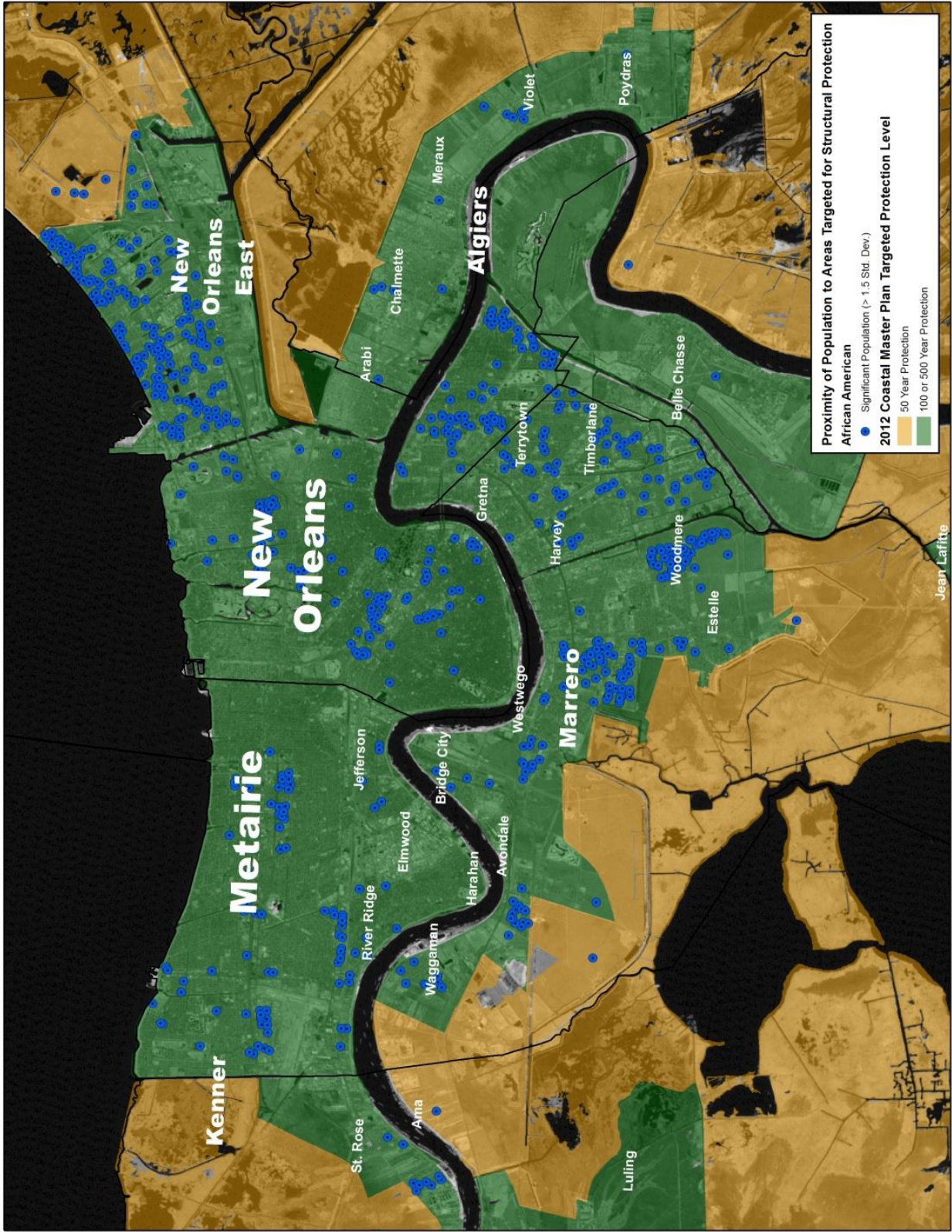


Figure 8

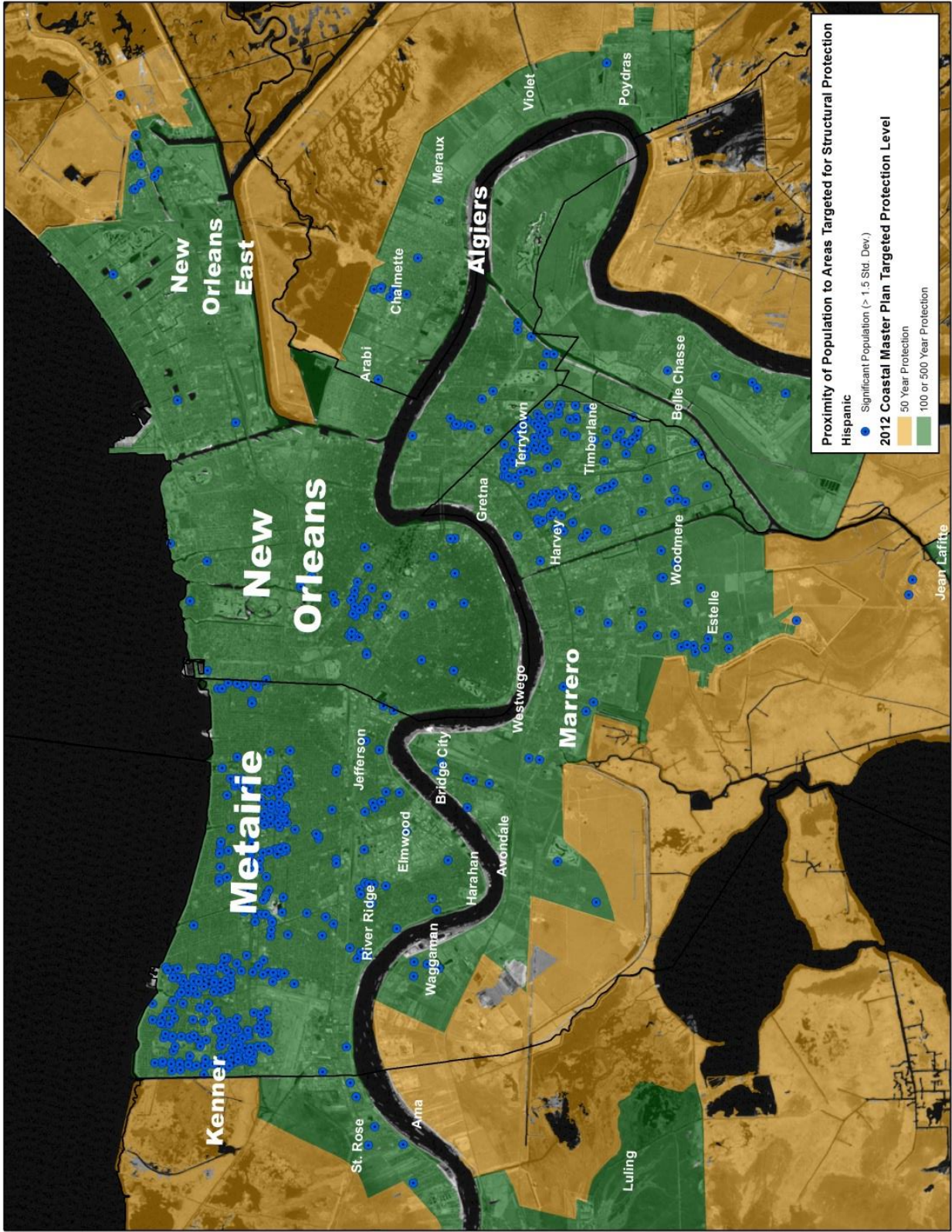


Figure 9

FEMA Flood Insurance Rate Maps

The United States Congress created the National Flood Insurance Program (NFIP) in 1968 to allow homeowners, renters, and business owners to purchase flood insurance backed by the federal government. In 2012, after years of financial instability in the NFIP, the Congress passed the Biggert-Waters Flood Insurance Reform Act. One key provision of Biggert-Waters is a phased increase in flood insurance rates for homes located in flood zones. Flood insurance rate increases have been estimated to be as high as 25 percent per year for four years until the full rates are reached.

The Federal Emergency Management Agency (FEMA) uses a series of flood insurance rate maps (FIRMs) to determine whether or not a home is located in a flood zone. For this portion of the analysis, we examine those homes that are located in Special Flood Hazard Areas (SFHAs) according to the most up to date FIRMs available. FEMA identifies the flood zone as an area with a 1% or greater chance of flooding in any given year. Flooding here is defined as having an average inundation depth of one foot or greater.

An exploratory analysis of the population residing in the 100 year flood plain reveals that any rate increases in the NFIP are likely to be borne disproportionately by the state's minority populations. In New Orleans and the surrounding region, the only non-SFHAs are the Mississippi River natural levee and the Metairie Ridge. The minority populations throughout the region reside, significantly, outside of these natural levees, making the African American, Asian, and Hispanic populations in the New Orleans region disproportionately vulnerable to the NFIP insurance rate increases. Similarly, the Native American communities in Lafourche and southern Terrebonne Parishes reside in significant numbers within the FEMA-designated SFHAs. It is also worth noting that there are clusters of Hispanic population residing in the Larose to Golden Meadow corridor in Lafourche Parish.

The question for planners and policy makers is whether coastal protection and restoration efforts, when fully implemented, will have any impact on the flood insurance rates that coastal property owners pay. Ultimately, it is these increasing flood insurance costs that could be the final overriding factor that forces residents to migrate out of Louisiana's coastal zone, regardless of the level of protection that can be achieved through the implementation of the state's Master Plan or any other form of structural or nonstructural protection achieved in the future.

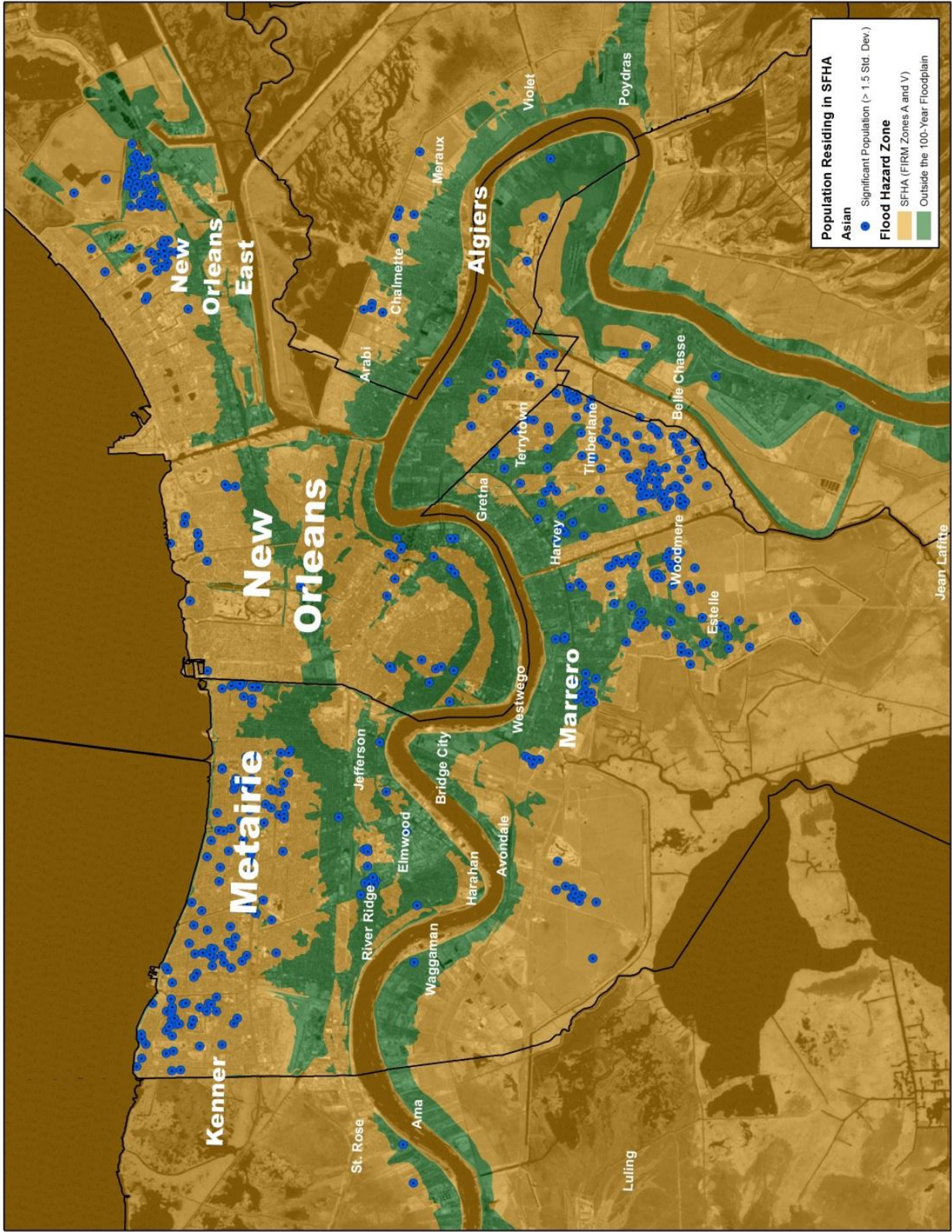


Figure 11

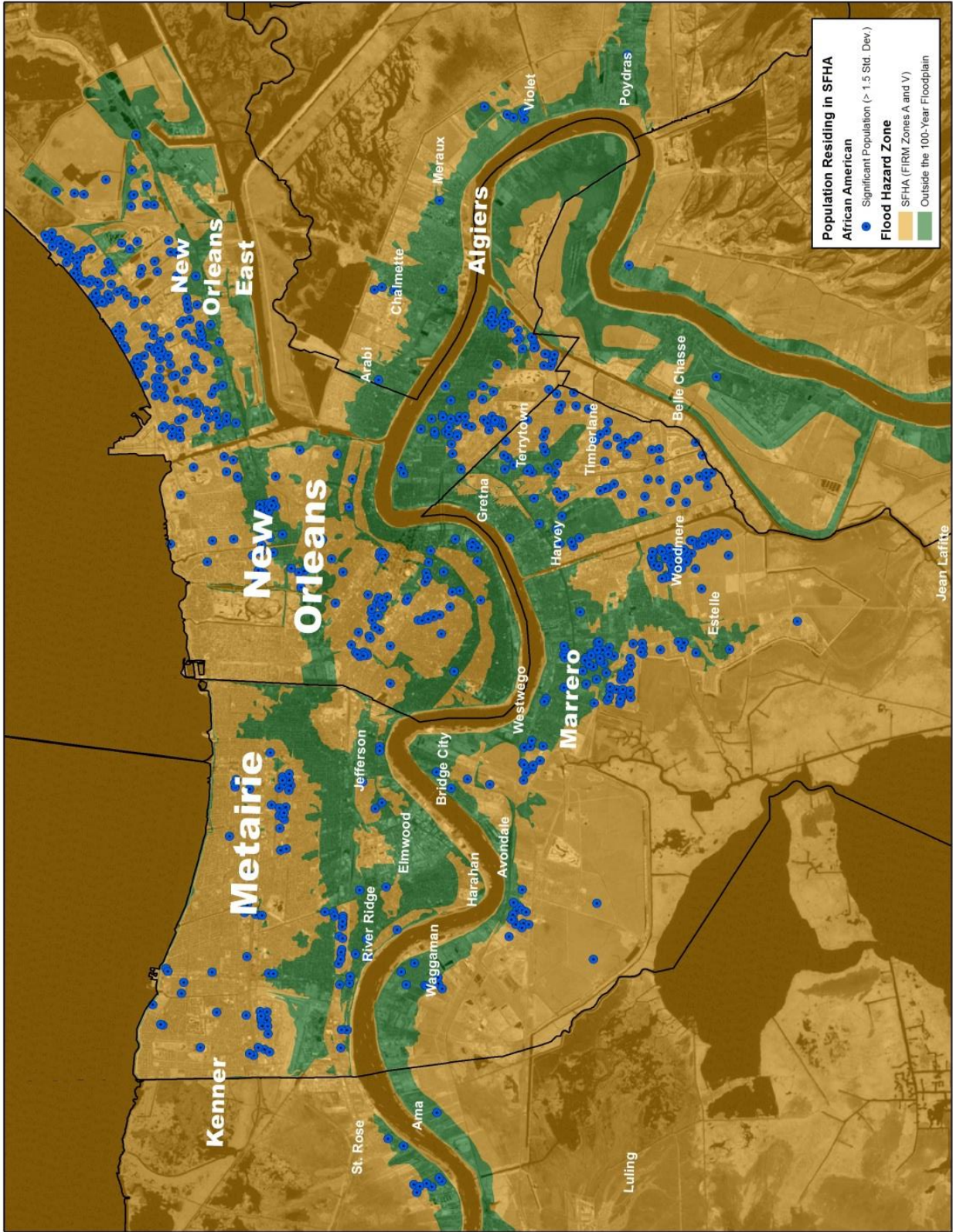


Figure 12

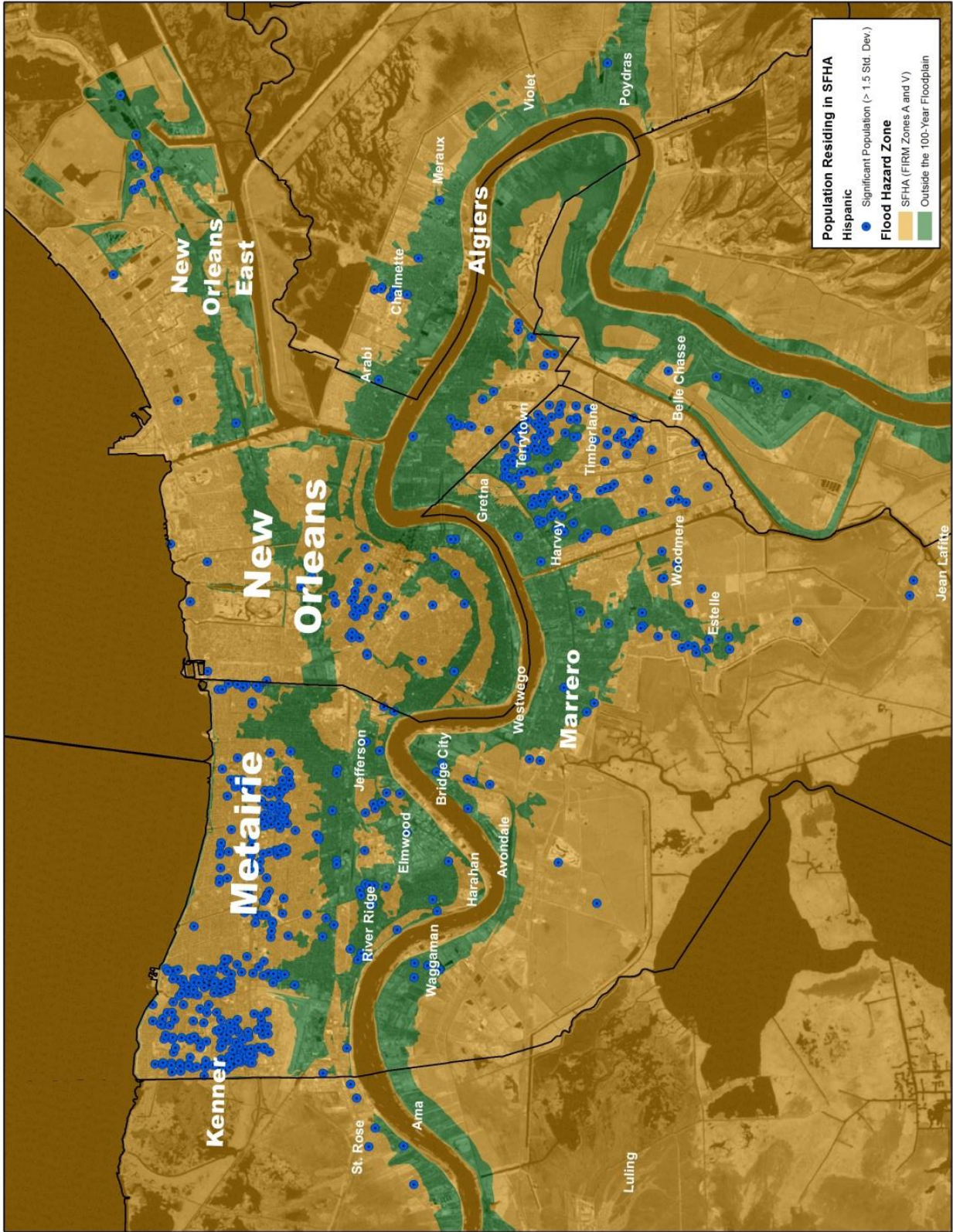


Figure 13

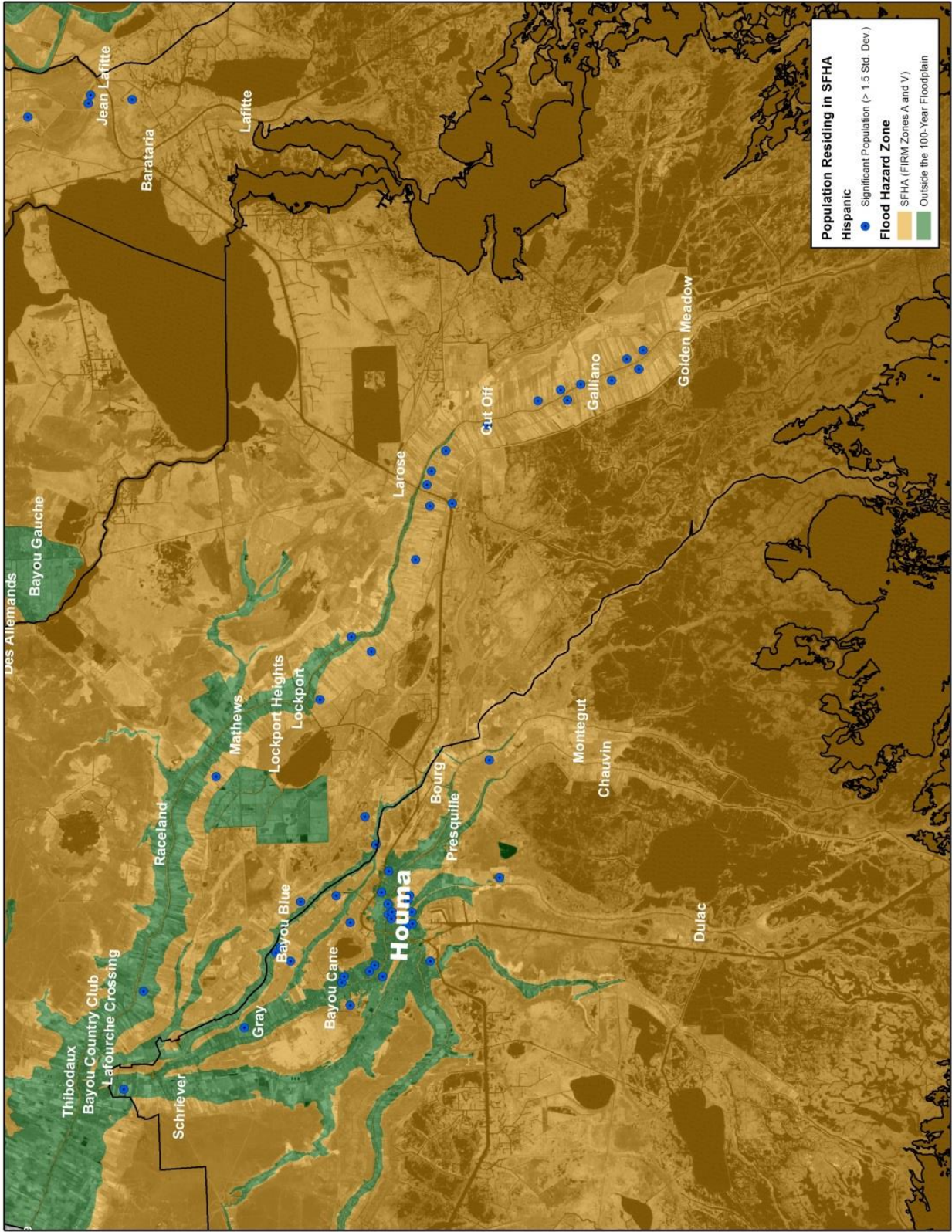


Figure 14

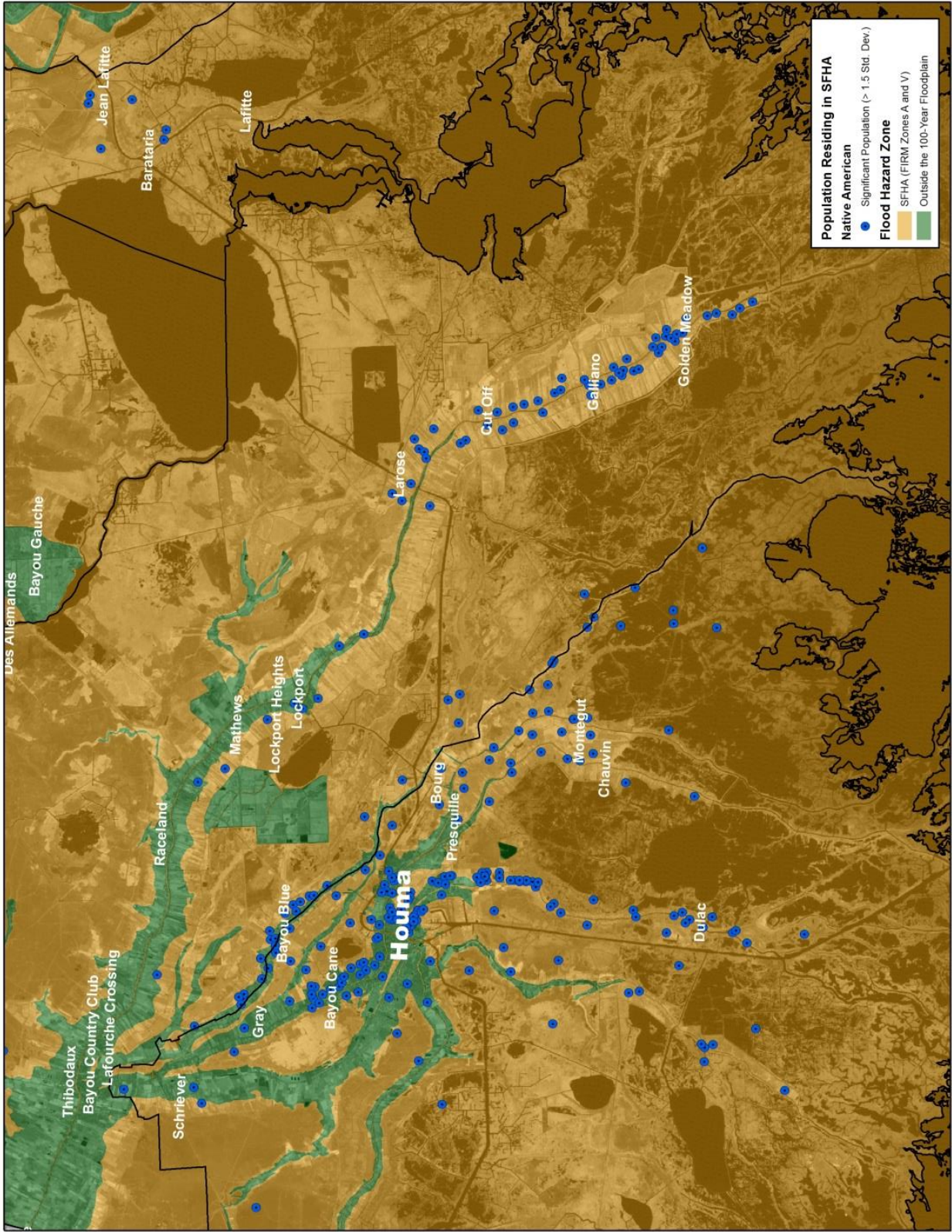


Figure 15

Discussion

As Perry notes, relocation becomes more desirable as a means of mitigation when negative consequences of an environmental threat are high and measures which yield significant protection are limited in efficacy, safety and feasibility, or when the monetary cost is high.¹⁴¹ In this study, we explored each of these three factors; an environmental threat, the limits of protection measures, and high monetary costs of remaining in the community are prohibitive. Ultimately, we discovered that the policy responses to the hazards have the potential to reshape the human landscape as much as the physical risks. As seen in Tables 1-4, families in southeast Louisiana face different levels and types of risk, each of which may potentially serve as a barrier or facilitator of population movement.

The two policy responses to the emerging environmental risks in southeast Louisiana are striking in their differences and their potential to impact population stability in the coast. The 2012 Master Plan is ambitious in scale and, if the stated goals are attained, has the potential to provide a high level of protection to over 86% of families in our study area. Similarly, nearly 85% of poor families would be targeted for heightened protection. Contrast this with the populations at economic risk due to potential rate changes in the National Flood Insurance Program. Over 58% of families and families in poverty would be adversely impacted by NFIP rate changes.

As noted earlier, the decision to undertake voluntary relocation is often driven by economic factors. The decision of individuals and households to choose to either live with risk or relocate to another location will vary depending on the individual socioeconomic conditions. Environmental change will thus have a differential impact on migration in different parts of the community.¹⁴² In coastal Louisiana, socially vulnerable families are potentially caught in a situation where they lack the resources to evacuate or find housing and cannot afford to pay increased flood insurance rates. In such instances, relocation assistance may be the only means by which low-income families residing in high risk zones are able to relocate. In many cases, the same assistance programs that provide grants for elevating structures also provide assistance for relocation.¹⁴³

Table 1

Families in Southeast Louisiana	Significant Inundation Zone (100-Year Storm)	Special Flood Hazard Area (FEMA)	Targeted for 100 or 500 year Protection (2012 Master Plan)
Protected	194,429	113,483	233,548
Not Protected	76,147	157,093	37,028

Table 2

Families in Poverty in Southeast Louisiana	Significant Inundation Zone (100-Year Storm)	Special Flood Hazard Area (FEMA)	Targeted for 100 or 500 year Protection (2012 Master Plan)
Protected	25,597	14,520	29,759
Not Protected	9,453	20,530	5,291

¹⁴¹ Perry 1997.

¹⁴² Black et al 2011.

¹⁴³ CPEX 2012.

Table 3

Married Families with Children in Poverty in Southeast Louisiana	Significant Inundation Zone (100-Year Storm)	Special Flood Hazard Area (FEMA)	Targeted for 100 or 500 year Protection (2012 Master Plan)
Protected	2,983	1,788	3,877
Not Protected	1,668	2,863	774

Table 4

Female Headed Families with Children in Poverty in Southeast Louisiana	Significant Inundation Zone (100-Year Storm)	Special Flood Hazard Area (FEMA)	Targeted for 100 or 500 year Protection (2012 Master Plan)
Protected	15,005	8,508	17,294
Not Protected	5,204	11,701	2,915

Each of these programs also has differential impacts on various minority groups throughout southeast Louisiana (Tables 5-8). In extending protection to the majority of the population residing in the developed areas of the coastal zone, the 2012 Master Plan has essentially reduced the anticipated level of risk for the African American, Asian, and Hispanic populations of the region. For all three of these population groups, the odds of residing outside of a structurally protected area has been reduced to significantly less than 1.00, the value at which there is no significant difference between the number of residents residing within a protected area and the number of residents residing outside that protected area (Figure 16). However, because a large portion of the Native American population resides outside of these structurally protected areas, they are over eight times more likely to only receive nonstructural protection under the Master Plan than non-Native American populations. While the Native American risk ratio stands out in Figure 16, it is perhaps more important to note that, under the current NFIP flood maps, all four racial and ethnic minority groups examined in this study are significantly more at risk than the non-minority communities. The Native American and Hispanic populations are nearly 1.5 times more likely to reside in the FEMA designated 100 year flood plain while the Asian population is nearly twice as likely.

Because they are significantly more likely to reside in a location subject to increasing flood insurance rates and because they are far more likely to only receive nonstructural protection than other minority groups, the Native American is one community that bears special notice when discussing relocation and population migration. In particular, it should be noted that special concerns need to be addressed when racial, cultural, or economic minorities are relocated.¹⁴⁴ While relocation is seen as a last resort strategy, when it must occur, special attention needs to be given to the cultural, social, and personal needs of minority communities. Only by including the needs of the community as a whole can residents come to recognize that they can recreate their community in a safer location.¹⁴⁵

Table 5

African American Population in Southeast Louisiana	Significant Inundation Zone (100-Year Storm)	Special Flood Hazard Area (FEMA)	Targeted for 100 or 500 year Protection (2012 Master Plan)
Protected	292,545	146,714	372,990
Not Protected	106,342	252,173	25,897

¹⁴⁴ Darlington 2006.

¹⁴⁵ *ibid.*

Table 6

Asian Population in Southeast Louisiana	Significant Inundation Zone (100-Year Storm)	Special Flood Hazard Area (FEMA)	Targeted for 100 or 500 year Protection (2012 Master Plan)
Protected	18,682	8,092	29,258
Not Protected	11,735	22,325	1,159

Table 7

Hispanic Population in Southeast Louisiana	Significant Inundation Zone (100-Year Storm)	Special Flood Hazard Area (FEMA)	Targeted for 100 or 500 year Protection (2012 Master Plan)
Protected	47,497	28,916	85,115
Not Protected	41,041	59,622	3,423

Table 8

Native American Population in Southeast Louisiana	Significant Inundation Zone (100-Year Storm)	Special Flood Hazard Area (FEMA)	Targeted for 100 or 500 year Protection (2012 Master Plan)
Protected	9,229	4,210	8,244
Not Protected	3,626	8,645	4,611

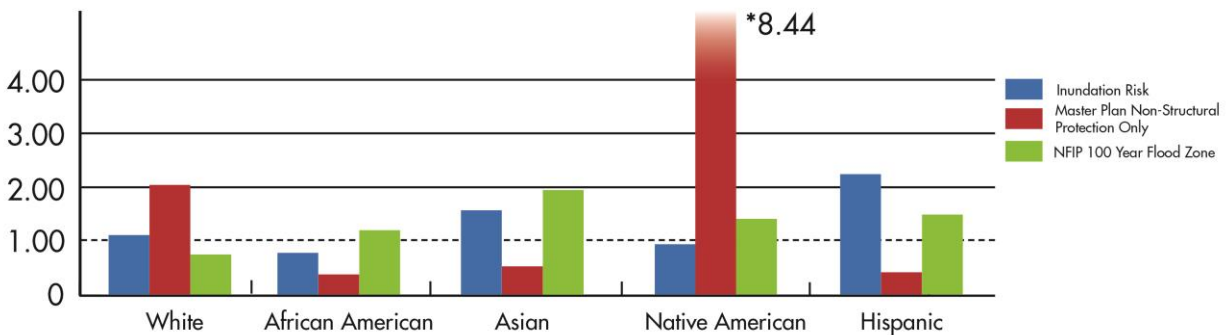


Figure 16

One final finding of this analysis suggests that there is one additional factor that could have a great influence on how nonstructural protection projects are implemented, including voluntary relocation programs. The distributional patterns found here suggest that there is a clear dichotomy between urban populations at risk and rural populations and that alternative responses may be necessary to protect different populations. The African American, Asian, and Hispanic populations, for example, tend to concentrate in highly developed urbanized areas, generally in densely populated, low-lying locations within levee polders. Many rural Native Americans living in the coastal zone, on the other hand, reside in small towns with no business district, no schools, churches, grocery stores, or post offices.¹⁴⁶ Residents of these small towns often commute to other towns in the region for work or work as commercial fishermen.

The social and cultural effects of migration out of developed urbanized areas would present a suite of impacts significantly different from those resulting from migration out of rural settings. While very little research has been conducted on environmental migration out of urban settings, it is clear that there are significant differences between intra-urban or exurban migration and the rural to urban migration traditionally considered in environmental migration

¹⁴⁶ Darlington 2006.

studies. Issues specific to urban outmigration have been studied in other contexts, and may include issues such as the following:

1. Vacant housing
2. Blighted neighborhoods
3. Changing demographics as new residents move into at-risk areas
4. Diminished tax or rate base relative to the cost of maintaining infrastructure.

Local, state, and federal governments considering implementing a strategic relocation program in coastal Louisiana need to consider several different factors when attempting to mitigate any adverse impacts of population migration, chief among these being the socioeconomic status and demographic makeup of the at-risk communities. Relocation authorities should be sensitive, for example, to differences in household structure which may characterize some minority communities.¹⁴⁷ Finally, the geography and settlement characteristics of the region must be considered and the urban and rural characteristics of the communities need to be assessed. Changing environmental risks affect agricultural productivity and rural livelihoods in different ways than they affect the locations of urban industry, employment, and settlement.¹⁴⁸ Each of these factors contributes to the degree of social vulnerability of Louisiana's coastal communities and therefore may serve to either trigger or hinder community outmigration.

Synthesizing the Three Approaches: A Discussion and Conclusions

The history of community resettlement across the United States and in Southeast Louisiana shows us a variety of possibilities but few successes. The mechanisms and plans in place for protecting coastal communities appear to be unsustainable, unfunded, unrealistic, or insufficient. From the perspective of preserving these communities, it is an untenable situation leaving some of the region's most socially vulnerable people in the most physically vulnerable places.

The lesson to be learned from the history of relocation and resettlement across the country and in Southeast Louisiana is that it is easy for these projects to go poorly. Despite a wide array of powers the government can exercise to move American citizens, they are often loath to do so. Should a program be implemented, it needs sustained political and financial support to continue throughout the duration of the project. Furthermore, for a resettlement or relocation project to be successful from the perspective of the people being moved, they need to support the plan and be involved in the decision-making process from the beginning. If the citizens impacted do not start the process themselves, they, at the least, need to be engaged by a responsive agency. Every party with a role to play in a resettlement or relocation project, such as when the state is used as an intermediary, needs to be invested and interested in playing their role.

¹⁴⁷ Perry 1997.

¹⁴⁸ Black et al 2011.

With notable exceptions in certain exposed communities (and particularly amongst Native Americans), many coastal landowners and other stakeholders are reluctant to initiate or participate in a political process and dialogue that might seem to take their relocation or displacement as a foregone conclusion, especially with state and federal flood protection funds at play.. The last thing activists and community leaders want to do is admit “defeat” and give up on homes and lands that have been in their families for generations. The last thing policymakers want to do is push for an unpopular program of resettlement that would have a high chance for failure even if it did get adequate funding—which it almost certainly wouldn’t. Given the history of the government’s efforts in the region, like Road Home, local communities have a deep distrust of government programs’ ability to determine what would be needed to institute community resettlement. Again, the easiest option for all stakeholders is to do nothing. This is the default. It is the disorganized scattering of people out of coastal communities to who-knows-where.

So where does this leave these communities? Going forward, stakeholders need to be involved in the updating of Louisiana’s Coastal Master Plan to insure that nonstructural efforts remain in the plan and that they are adequately structured to serve those who need it the most in coastal communities. Stakeholders need to be involved in determining the future of NFIP: will it continue? Will it be made solvent? Will it be affordable? Who will it cover? What will be considered when determining flood maps? These questions cannot be answered without the participation of stakeholders from coastal communities.

Further research is clearly needed, as well. This study is only a basic exploratory survey of legal mechanisms of relocation, the cultural history of relocation in Southeast Louisiana, and the demography of those in the crosshairs of relocation. An in-depth analysis of the communities of coastal Louisiana is needed to gain a more complete understanding of the impacts of Louisiana’s coastal crisis, as well as the policy options to address the potential impacts of this crisis on these communities. As noted earlier, lack of income, lack of transport, age, gender, and minority status are all factors which may contribute to the ability of a community to relocate out of potentially hazardous environments. The effect of these demographic factors on migration is most likely to be seen through interaction with other drivers, particularly economic. In other words, being elderly or female or minority does not make one more likely to have to migrate, in and of itself. However, these demographic factors combined with certain economic factors may have a significant effect on future population migration and the ability of individuals to relocate out of harm’s way. It seems as though an economic study of the cost, including indirect costs such as loss of tax revenues or increased burdens on social programs or infrastructure, of community resettlement versus individuals relocating needs to be undertaken. Perhaps a more complete picture of the costs of relocation versus resettlement may paint a different picture than simply measuring how much has to be appropriated by Congress for a single program.