

The Impact of Katrina

Initial Report from Interviews
Conducted in Coastal Mississippi

Preliminary Analysis



 **The John C. Stennis
Institute of Government**

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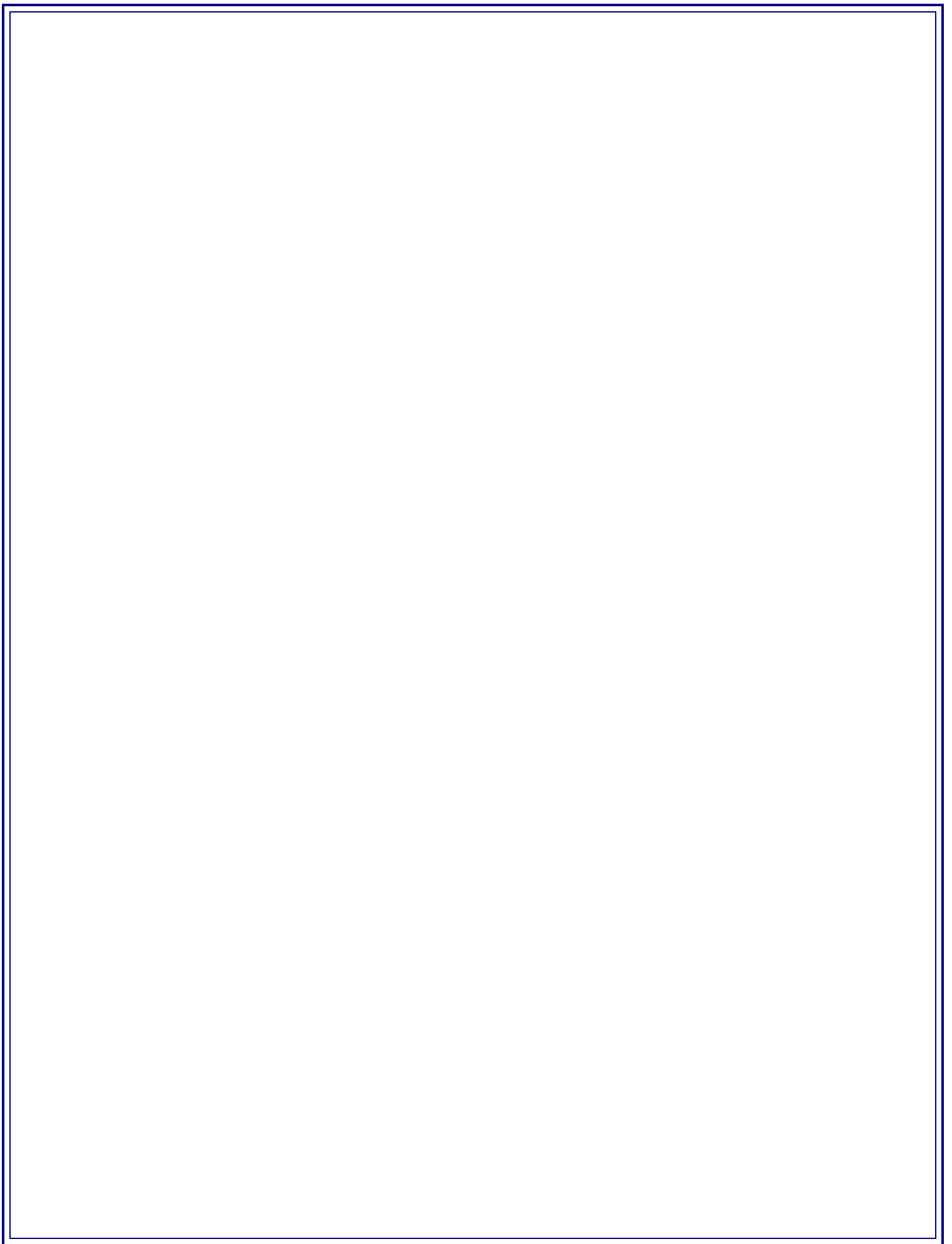
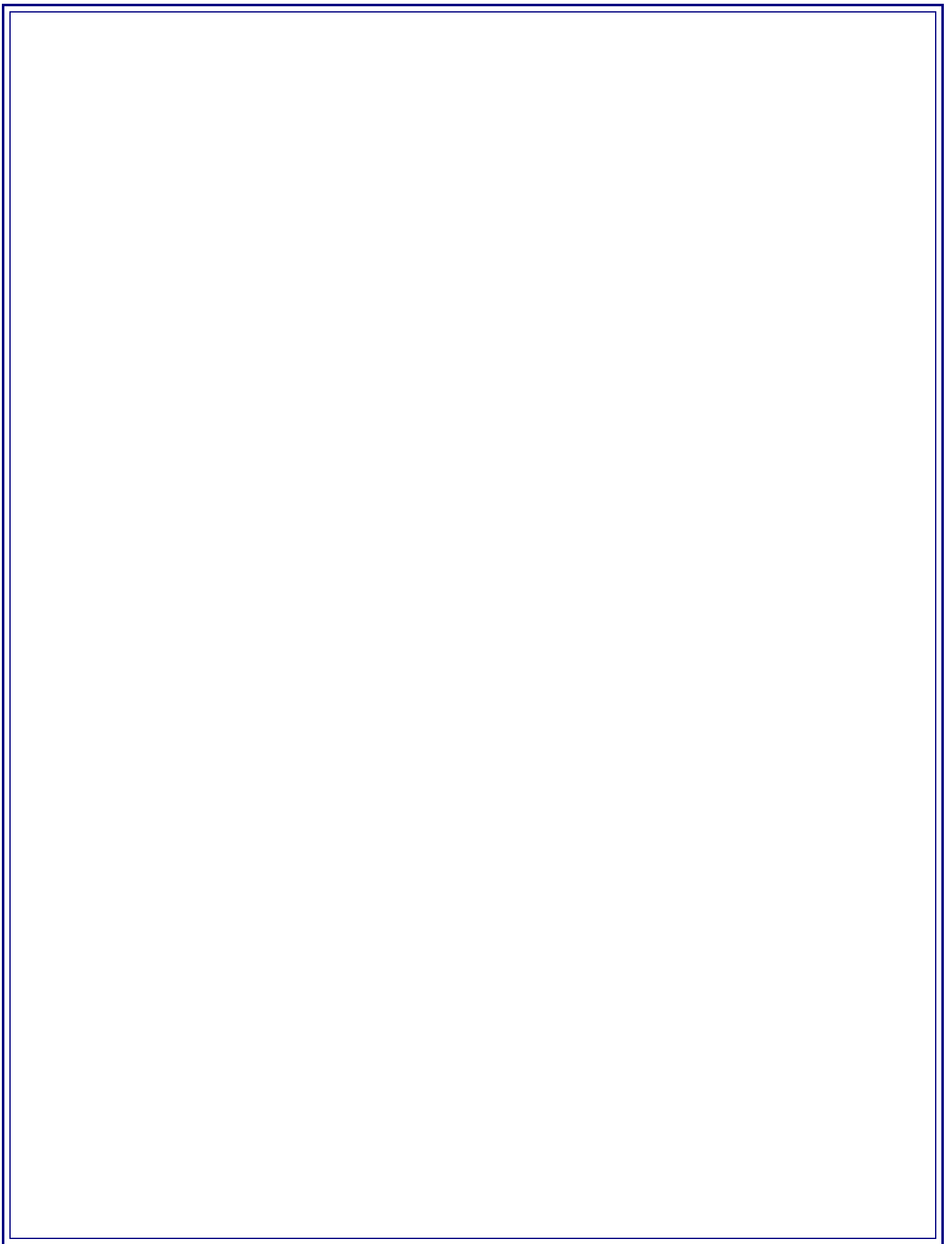


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Introduction

Hurricane Katrina made its' second landfall at 6:10 a.m. on August 29, 2005 as a strong Category 4 hurricane near Buras Louisiana in Plaquemines Parish, with recorded wind speeds of over 140 miles per hour and its third landfall on the Mississippi/Louisiana border near Pearlington, an unincorporated community in Hancock County with recorded wind speeds of 125 miles per hour.¹ Katrina's wind field created a storm surge that exceeded historic maximums with combined high winds and a storm surge of up to 30 feet, Katrina wrought devastation to homes, schools, businesses, important historic landmarks and to the lives of residents along Mississippi's Gulf Coast. This unprecedented disaster completely destroyed wide swaths of Jackson, Harrison, and Hancock counties wreaking complete and total destruction in areas South of I-10 bordering the waters of the Gulf Coast and major damage to many communities North of I-10. The fortune or misfortune of geography and the serendipity of nature played a significant role in the magnitude of destruction across coastal Mississippi; generally the magnitude of destruction is greater moving west from Pascagoula towards the Mississippi/Louisiana border – Katrina's point of landfall. In many communities the physical destruction of homes and businesses adjacent to Highway 90 and the coastal waters of the Gulf Coast is complete; entire communities – such as Point Cadet, Henderson Point, and Waveland – have been scoured from the earth by high winds and storm surge. Power in Hancock County was not restored in many areas for up to 20 days or more, roads were choked with debris and downed trees cutting the area off from assistance and aid. The destruction wrought by Katrina displaced thousands of people and placed enormous burdens on municipal and county governments as they sought to provide essential services to citizens. The toll of Katrina to the lives of the people and to local economies cannot yet be tallied. As communities struggle to recover from the impact of Katrina and attempt to rebuild, the Herculean nature of this task becomes increasingly evident with each passing day. Although the initial storm debris has been largely cleared, basic services have been partially restored, and some semblance of a normal life has returned in selected areas – the magnitude of need is shocking. Written reports and media accounts provide only a brief overview of the deep need that exists throughout the Hurricane impacted areas of Mississippi. Personal interviews and observations presented in this report are intended to provide decision-makers with additional insight into the financial necessities and gaps in funding that continue to exist, particularly those needs of elected local officials and local governments that are overwhelmed, under manned, and under resourced to meet the day to day operational needs of their communities and whose time and resources are severely constrained. Local municipalities and county governments across coastal Mississippi must receive better information, communication, support and assistance as they struggle to recover from the impact of Hurricane Katrina. The burden of leadership has fallen heavily upon the shoulders of local elected officials, the magnitude of the tasks confronting Mississippi's coastal leaders requires increased supportive and collaborative efforts at the state and federal level to enable these public servants to meet the needs of the citizens whom rely upon them to stitch back the fabric of their lives shredded by Katrina. In many communities local business leaders played a vital role in recovery and continue to do so. Local collaborations between elected leaders, strong local county and municipal economic development organizations (i.e. Harrison County, the Hancock County Port and Harbor Commission, and Jackson County Economic Development) and their local business partners have been critical to successful planning and recovery efforts. These local collaborations and their past success in developing a healthy and strong economy, provide an effective framework for future recovery efforts across the Mississippi Coast, utilizing Katrina related Federal resources to further augment this existing, local organizational infrastructure will enable these local organizations to increase their human and technical infrastructure capabilities to meet the demands of recovery and to assure that recovery efforts remain responsive to the citizens that elect these leaders.

¹ The National Climatic Data Center reports that Katrina was at her strongest at about 4 p.m. on the afternoon of August 28th. Maximum sustained winds were reported at 175 mph and the minimum central pressure dropped to 902 mb.

POPULATION AND DEMOGRAPHIC CHANGES

This report utilizes a wide variety of existing secondary and primary data and statistics to provide the reader with a perspective on the issues confronting Mississippi's coastal communities as they recover from the impact of Katrina. There exists little reliable data or statistics that provides accurate quantitative measures of change, improvement, or progress. The Institute staff conducted multiple interviews with elected and community service providers to acquire information and statistics at the local level, there existed high levels of variability in the responses – however, the insights gained during these interviews provide a new understanding of the complexity and multiplicity of issues that confront local governments on a daily basis. Post-Katrina, everything is difficult and solutions remain to be found.

The three Katrina-impacted counties studied by the John C. Stennis Institute of Government at Mississippi State University were Jackson, Harrison, and Hancock. Within these three counties, 375,000 people were impacted by Hurricane Katrina. According to the U.S. Census Bureau² in 2005 approximately 13 percent of Mississippi's total population lived in these three counties prior to Katrina, Harrison County had the second largest population (193,890) and Jackson County had the fourth largest population (135,940); Hancock County ranked 15th among Mississippi's 82 counties with a total population of 46,711. In terms of population growth, the average county population growth across all Mississippi counties during the period 2000 to 2005 was 2.69 percent, with 41 of the 82 counties gaining population and 41 losing population. Pre-Katrina, the three coastal counties all experienced population increases ranging from 2.22 percent (Harrison County's population increased 4,209) to Hancock County's population increase of 8.71 percent (a population increase of 3,744). Hancock County had the eighth largest percentage population gain among Mississippi's counties during the period 2000 to 2005.

Jackson County was a community with a population of approximately 135,940 residents prior to Katrina,³ with approximately 46,676 households.⁴ The incorporated cities of Jackson County are: Pascagoula (population 26,200), Ocean Springs (population 17,225), Moss Point (population 15,851), and Gautier (population 11,681).⁵

Residents in Jackson County completed 58,543 FEMA applications for individual assistance (IA), of these 83.5 percent were approved (48,869). As of June 24, 2006, the FEMA Individual Assistance Program had distributed \$256,624,338 of Individual Assistance to applicants (\$5,251 per approved application).⁶

Jackson County's population has not changed dramatically as a result of Katrina and its economy has rapidly rebounded from the impact of Katrina.

Harrison County was a community with a population of approximately 193,810 residents prior to Katrina;⁷ total households from the 2000 Census were 71,538. The five incorporated cities of Harrison County are: Gulfport (population 71,127), Biloxi (population 50,644), Long Beach (population 17,320), D'Iberville (population 7,608), and Pass Christian (population 6,579).⁸

² U.S. Census Bureau, 2000 and U.S. Census Bureau Population estimates for 2005
http://factfinder.census.gov/servlet/GCTDownload.csv?_lang=en&_showChild=Y&_downloadoptions=true

³ U.S. Census, 2005 Population Estimate. http://factfinder.census.gov/servlet/GCTDownload.csv?_lang=en&_showChild=Y&_downloadoptions=true

⁴ U.S. Census Bureau, 2000

⁵ Ibid.

⁶ FEMA DR-1604-MS. Recovery Fact Sheet. April 4, 2006. <http://www.fema.gov/news/newsrelease.fema?id=27080>

⁷ US Census, 2005 Population Estimate http://factfinder.census.gov/servlet/GCTDownload.csv?_lang=en&_showChild=Y&_downloadoptions=true

⁸ U.S. Census Bureau, 2000.

Residents in Harrison County completed 108,315 FEMA applications for individual assistance (IA), of these 87.6 percent were approved (94,935). As of June 24, 2006, the FEMA Individual Assistance Program had distributed \$ 465,065,401 of Individual Assistance to applicants (\$4,899 per approved application).⁹

Hancock County was a community with a population of approximately 46,711 residents prior to Katrina.¹⁰ Total households from the 2000 Census were 16,897. The two incorporated municipalities in Hancock County are Bay St. Louis (population 8,209) and Waveland (population 6,674); other population centers include Pearlinton (population 1,684), Diamondhead (population 5,912), Kiln (population 2,040), Shoreline Park (population 4,058), and Cleremont Harbor - completely destroyed by Katrina.

Residents in Hancock County completed 27,093 FEMA applications for individual assistance (IA), of these 90.4% were approved (24,503). As of June 24, 2006, the FEMA Individual Assistance Program had distributed \$ 193,792,489 in assistance to applicants (\$7,903 per approved application).¹¹

Estimates of Hurricane Katrina's impact on population gains/losses within the three coastal counties most severely devastated by Katrina are highly unreliable and exhibit significant variance depending upon the source and method used to estimate population. Many former residents are no longer living permanently within their former county of residence, many are living and working elsewhere but returning home on weekends to repair their homes with the intention of returning on a permanent basis at a later date, many are living elsewhere but commuting back to their former home communities to work. Although some former residents of coastal Mississippi have relocated and may never return to their former hometown areas, this would be the exception as native Mississippians have a very strong, emotional bond to their home place and to their land. There has been a significant influx of construction and temporary labor – although a large number of these construction laborers may transition to permanent residency primarily because reconstruction is anticipated to take three to five years and also because the quality of life in coastal Mississippi is exceptionally high. Katrina-related population loss at the county level generally declines as one moves east from Katrina's point of impact. Waveland and Bay St. Louis experienced horrific damage and losses to residential structures; in some locations towns and residential neighborhoods are completely destroyed and there are many areas where residential communities are "like ghost towns." Generally, the closer to the Gulf, the greater the devastation and resulting population loss. It is common to see impressive reminders of the resilience and determination of the people of coastal Mississippi – many ingenious and most unusual living accommodations have been crafted together by residents who refuse to be driven from their homes. The initial losses and destruction of Katrina have been compounded by the emotional loss and the new financial realities of rebuilding. For example, new FEMA flood elevation requirements and exponential increases in insurance rates have created additional hardship for the people. These elevation requirements frequently make the cost of rebuilding cost prohibitive for lower income people and for the elderly on fixed incomes - who also require accessibility to their homes. Escalating property values and construction costs make relocation within the area prohibitively expensive. For some, returning to the coast is not an option due to financial constraints.

Table 1 indicates a potential range of population decrease of between 50,000 to 60,000 persons across Jackson, Harrison, and Hancock Counties; with Hancock County experiencing a 24 percent decline in population, Harrison a 20 percent decline, and Jackson County a six percent population decrease. As no reliable population statistics exist, these figures may be inaccurate.

⁹FEMA DR-1604-MS. Recovery Fact Sheet. April 4, 2006. <http://www.fema.gov/news/newsrelease.fema?id=27080>

¹⁰ U.S. Census Bureau, 2005 Population Estimate. http://factfinder.census.gov/servlet/GCTDownload.csv?_lang=en&_showChild=Y&_downloadoptions=true

¹¹FEMA DR-1604-MS. Recovery Fact Sheet. April 4, 2006. <http://www.fema.gov/news/newsrelease.fema?id=27080>

Table 1: Household Population Estimates

County Name	Household Population Estimates			
	Official Series July 1, 2004	Official Series July 1, 2005	Special Estimate January 1, 2006 ¹²	Census Bureau 2005 ¹³
Hancock	45,428	46,240	35,129	46,711
Harrison	185,178	186,530	155,817	193,810
Jackson	133,020	134,249	126,311	135,940

As demonstrated in Table 2 below, Pre-Katrina the three coastal counties of Mississippi enjoyed relative prosperity when compared to the state, exhibiting higher Median and Per Capita Income and lower poverty levels for all groups (i.e. children, those over 65 years of age, and families). In rank order, Jackson County had the third highest Median Household Income when compared to other Mississippi Counties and Harrison and Hancock Counties ranked within the top ten counties in the state of Mississippi in Median Household Income. However, this relative prosperity must be viewed within the context of Mississippi having the second highest poverty rate in the nation and among the lowest Median income levels. For example, the U.S. Median Household income in 1999 dollars was \$41,994 and the Poverty Status for All Ages at the National level is 12.4 percent; in terms of rank Mississippi has the second lowest Median Household income in the nation and the second highest poverty rate.¹⁴

Table 2: Median Income

Median income in 1999 (dollars)			Per capita income in 1999 (dollars)	Poverty Status All Ages	Related Children	65 years and older	Percent of Families
	Households	Families					
Mississippi	31,330	37,406	15,853	19.9	26.7	18.8	16
Hancock County	35,202	40,307	17,748	14.4	17.9	10.3	11.2
Harrison County	35,624	41,445	18,024	14.6	20.7	11.3	11.6
Jackson County	39,118	45,091	17,768	12.7	17.8	12.1	10.5

Source: U.S. Census Bureau, 2000

Additional demonstration of the relative prosperity of Mississippi's coastal counties is the higher Average Wage per Job in Harrison, Hancock, and Jackson County as compared to the State (see Table 3).

Table 3: Average Wage per Job

Average Wage Per Job ¹⁵	2004
Mississippi	\$28,174
Hancock	\$35,149
Harrison	\$29,309
Jackson	\$32,750
Gulfport-Biloxi, MS (MSA)	\$29,842
Hattiesburg, MS (MSA)	\$27,315
Jackson, MS (MSA)	\$31,501
Pascagoula, MS (MSA)	\$32,009

Race and Ethnicity

¹² U.S. Census Bureau, Special Population Estimates for Impacted Counties in the Gulf Coast Area: http://www.census.gov/Press-Release/www/emergencies/impacted_gulf_estimates.html

¹³ U.S. Census, 2005 Population Estimate

¹⁴ U.S. Census Bureau, 2000.

¹⁵ Source: Regional Economic Information System, Bureau of Economic Analysis

As demonstrated in Table 4 below, the three coastal counties of Mississippi exhibit a lower percentage of African-American citizens, but a higher level of diversity in the population of Asian and Hispanic/Latin-American residents when compared to the state of Mississippi.

Table 4: Race and Ethnicity

	White	African-American	Asian	American Indian	Hispanic/Latin-American
Mississippi	61.4	36.3	0.7	0.4	1.4
Hancock County	90.2	6.8	0.9	0.6	1.8
Harrison County	73.1	21.1	2.6	0.5	2.6
Jackson County	75.4	20.9	1.6	0.3	2.1

Source: U.S. Census Bureau, 2000. GCT-P6: Race and Hispanic or Latino: 2000

Employment

Pre-Katrina, the three coastal counties of Jackson, Harrison, and Hancock generally had unemployment rates lower than the state level of unemployment; the level of unemployment varied between communities as demonstrated in Table 5. For example, Pascagoula's unemployment rate was 9.3 percent, higher than the state unemployment rate of 7.4 percent, however communities such as Ocean Springs (4.6 percent unemployment) or Lyman (1.3 percent unemployment) had unemployment levels much lower than the state unemployment level. Commuting statistics and the percent of the workforce who worked outside their county of residence indicate that Pascagoula, Gulfport, and Biloxi were employment centers within the region.

Table 5: Labor Force Statistics

	Population 16 years and over-- Percent in labor force	Civilian Labor Force: Percent Unemployment	Percent using Public Transportation	Mean Travel Time to Work	Percent who worked outside county of residence
Mississippi	59.4	7.4	0.6	24.6	31.9
Jackson County	61	6.7	0.4	23.7	29.5
Gautier city	60.5	6.7	0.9	23.3	22.3
Moss Point city	61.4	9.9	0.3	22.4	13
Ocean Springs city	59.6	4.6	0	21.4	43.6
Pascagoula city	61.7	9.3	0.5	18.1	9.9
Harrison County	65.1	6.1	0.5	21.8	11
Biloxi city	66.8	6.5	0.7	18.8	9.2
D'Iberville city	70.4	6.8	0	21.3	18.9
Gulfport city	63.6	7.1	0.7	20.2	7.1
Long Beach city	65.7	3.3	0.1	20.3	13.1
Pass Christian city	60	6.2	0	26.6	25.1
Saucier CDP	64.2	4.6	0	28.3	14.2
Hancock County	56.7	6.9	0.4	32.5	40.9
Bay St. Louis city	60.7	6.9	0.3	26.5	34.3
Diamondhead CDP	51.5	6.1	1.1	35	52.4
Kiln CDP	59.2	7.3	0	29.4	29.1
Pearlington CDP	55.3	7.8	0	37.5	50.3
Shoreline Park CDP	53.9	8.6	0	37.2	44.6
Waveland city	58.7	5.1	0.2	24.4	31.9

U.S. Census Bureau, 2000. GCT-P12: Employment Status and Commuting to Work: 2000

KATRINA IMPACTED COASTAL MISSISSIPPI COUNTIES

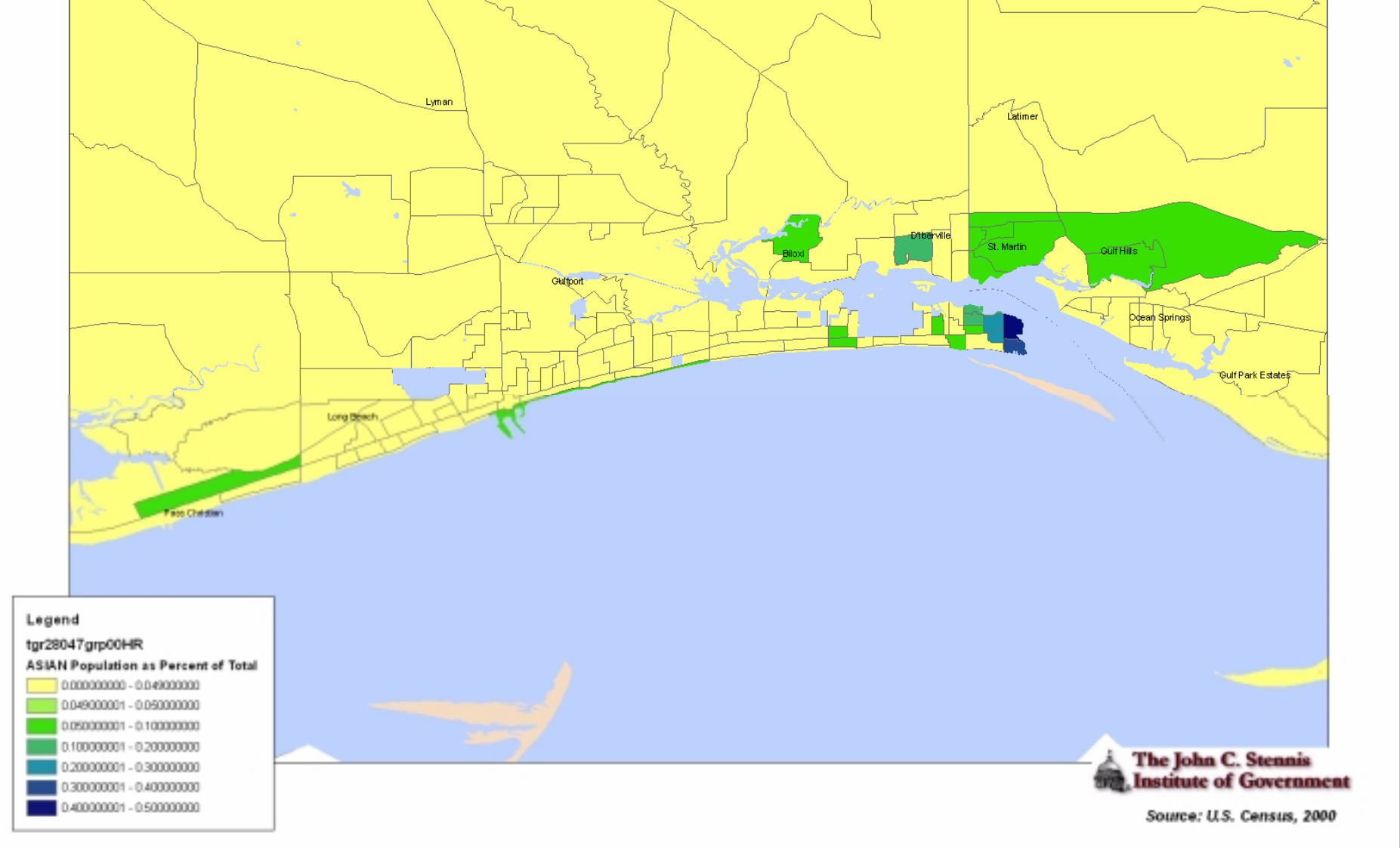


Figure 2: Asian Population Demographics

A multiplicity of factors determined the impact of Hurricane Katrina on each county along the Mississippi Gulf Coast. These factors include, but are not limited to: geographic proximity to Katrina's third landfall and related storm surge, wave crest elevations, and wind speeds; the geographic configuration of communities (i.e. topography or elevation, proximity of housing and business density to coastal areas), the age of the physical infrastructure, the economic mix of local economies and the geographic location of businesses. There exist correlations between construction typologies and specific business/building use typologies, such as the structural system, building envelope, and/or foundation type. For example, typical low-rise commercial buildings such as downtown store fronts, resort retail business, food service or strip malls are usually constructed using slab-on-grade construction methods. These types of structures experienced heavy damage and few of these structures located near the coast line survived when storm surge exceeded first floor levels. Newer high-rise condominiums, high rise office buildings, and hotels that were built using elevated, cast in place, reinforced concrete construction methodologies generally perform well depending on elevation. Pre-engineered metal building used for warehouse or storage facilities, appear to exhibit age/quality related performance along the Mississippi Coast. The common use of EIFS (exterior insulation and finish systems), which performs poorly in either high wind or storm surge, is commonly used as a building envelope material for gas service stations and commercial low-rise buildings. There is also

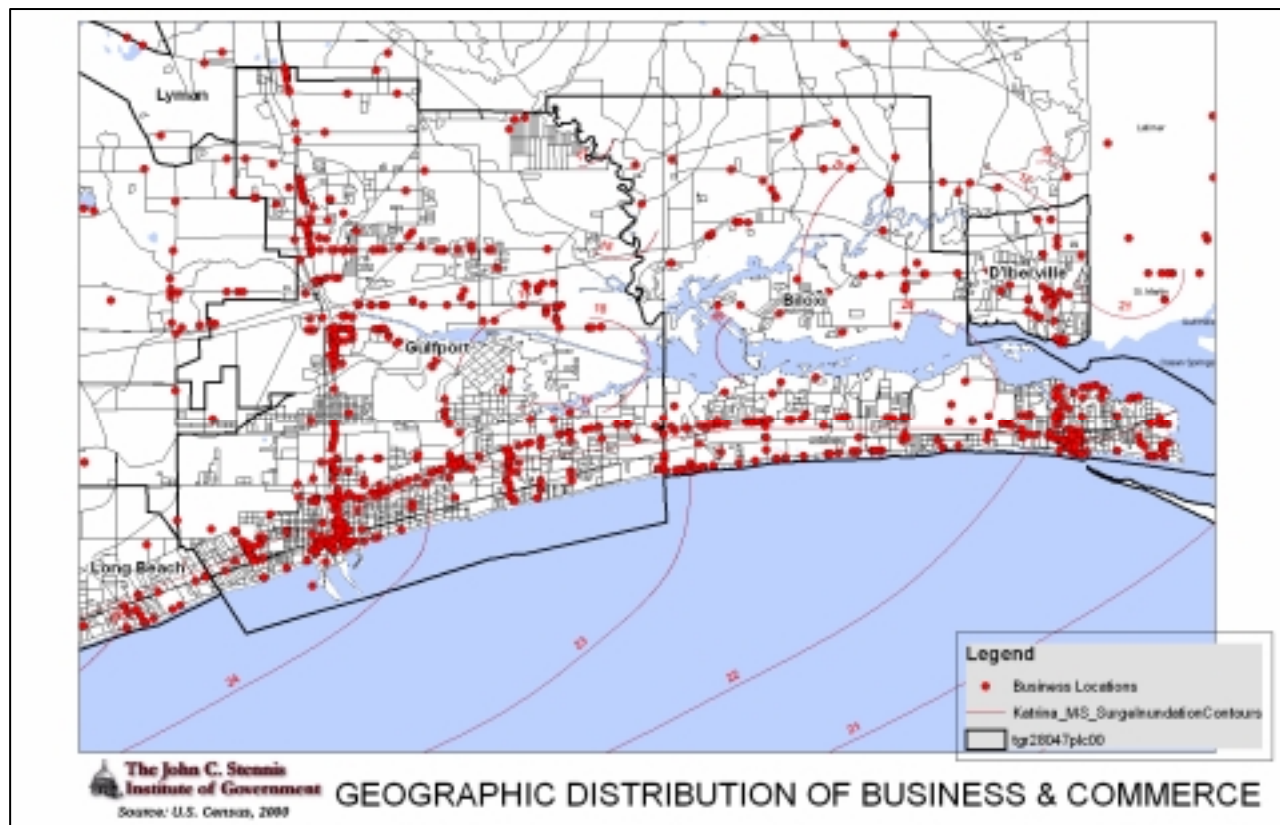


Figure 3: Geographic Distribution of Business Enterprises

evidence from visual observation that the raised bed of the CSX railroad and large, structurally sound buildings may have acted as a breakwater and reduced the level of damage in some areas.

Pre-Katrina, Mississippi did not have statewide building codes, except for state-owned buildings. Many coastal areas had developed over long time periods and exhibit a high degree of variance in the age,

construction typology and methods of building structures. Areas such as Biloxi, with its historic emphasis on resort and tourism development, grew up parallel to the beachfront and to Highway 90. With the more recent development of the casino industry, business development in Biloxi tended to cluster near casinos with business concentration in proximity to the beach. As a result, the business physical infrastructure of Biloxi has been almost totally destroyed. Alternatively, although Gulfport's early business development and downtown business district clustered close to the port, the business base also grew parallel to Highway 49 and extended farther inland with significant density in proximity to I-10 and Highway 49. As a result, when compared to Biloxi, a greater number of businesses in Gulfport survived Katrina. This has created variance in the recovery process. For example, the casino industry in Biloxi is rapidly rebuilding and generating gaming tax revenues, however the retail sales tax base has lagged significantly when compared to Gulfport. Gulfport has become the regional retail sales center for the adjacent counties and has experienced a significant increase in sales tax and related revenues due to the survival of its retail infrastructure. Biloxi experienced a loss of sales tax revenue of \$2,675,327 for the period July 1 through June 30, 2006 when compared with data for the same period in 2005. During the same period, Gulfport's sales tax revenues increased \$5.5 million.

Variability in sales tax revenues for municipalities (see Figure 4) is related to the geographic distribution of the physical infrastructure of the retail sales tax base, the survival of the retail infrastructure, and the mix of the retail infrastructure. For example, as communities in the coastal area rebuild the demand for construction materials has increased dramatically. Municipalities such as Gulfport with a strong mix of building material suppliers, such as Home Depot, 84 Lumber, and Lowe's Home Improvement have acted as significant sales tax revenue generators. In Gulfport, Delmar Plaza, Gulfport Outlet Mall, and the Wal-Mart Super Center – all located near I-10 and inland from the coast have all reopened for business. Conversely, Edgewater Plaza and Mall in Biloxi which contained a mix of large retail stores such as Dillard's Department Store, Sears and adjacent strip malls have not yet reopened due to Katrina damage.

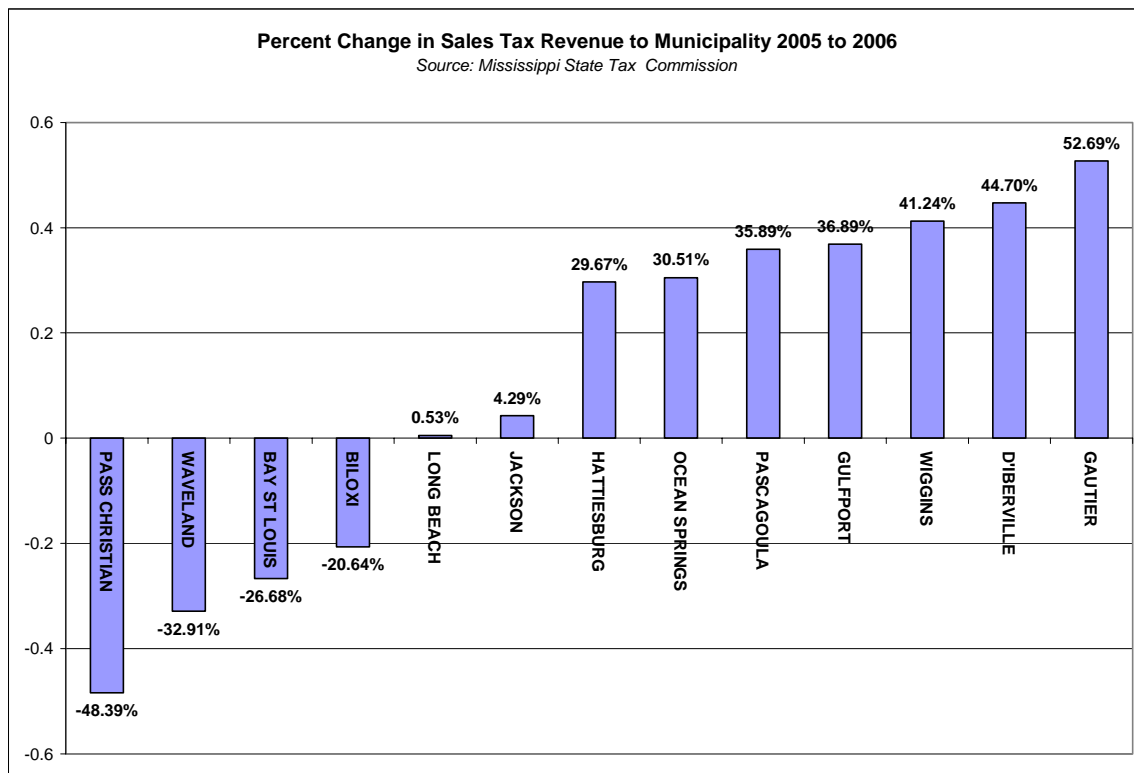


Figure 4: Percent Change in Sales Tax Revenues

THE EFFECT OF HURRICANE KATRINA ON EMPLOYMENT IN MISSISSIPPI'S COASTAL COUNTIES

Biloxi-Gulfport – Harrison County

According to Bureau of Labor Statistics reports, the impact of Katrina caused the loss of approximately 42,000 jobs in the Biloxi-Gulfport area. Approximately 25,300 persons in the Service sector and 16,700 persons in the Hospitality and Leisure sector lost their jobs due to Katrina related impacts. Pre-Katrina, employment in the Service sector in the Biloxi-Gulfport area had been steadily increasing. Another large employer, the Hard Rock Hotel and Casino was scheduled to open when Katrina hit the Mississippi Coast. Immediately after Katrina, employment in the Service sector dropped precipitously, falling from a total employment level of 104,800 persons in August 2005 to a low of 79,500 in January of 2006 as the shock waves of Katrina's impact reverberated throughout the local economy. Since January 2006 employment in the Service Sector has gradually increased, but 22,800 jobs in the Service sector have not yet been replaced.

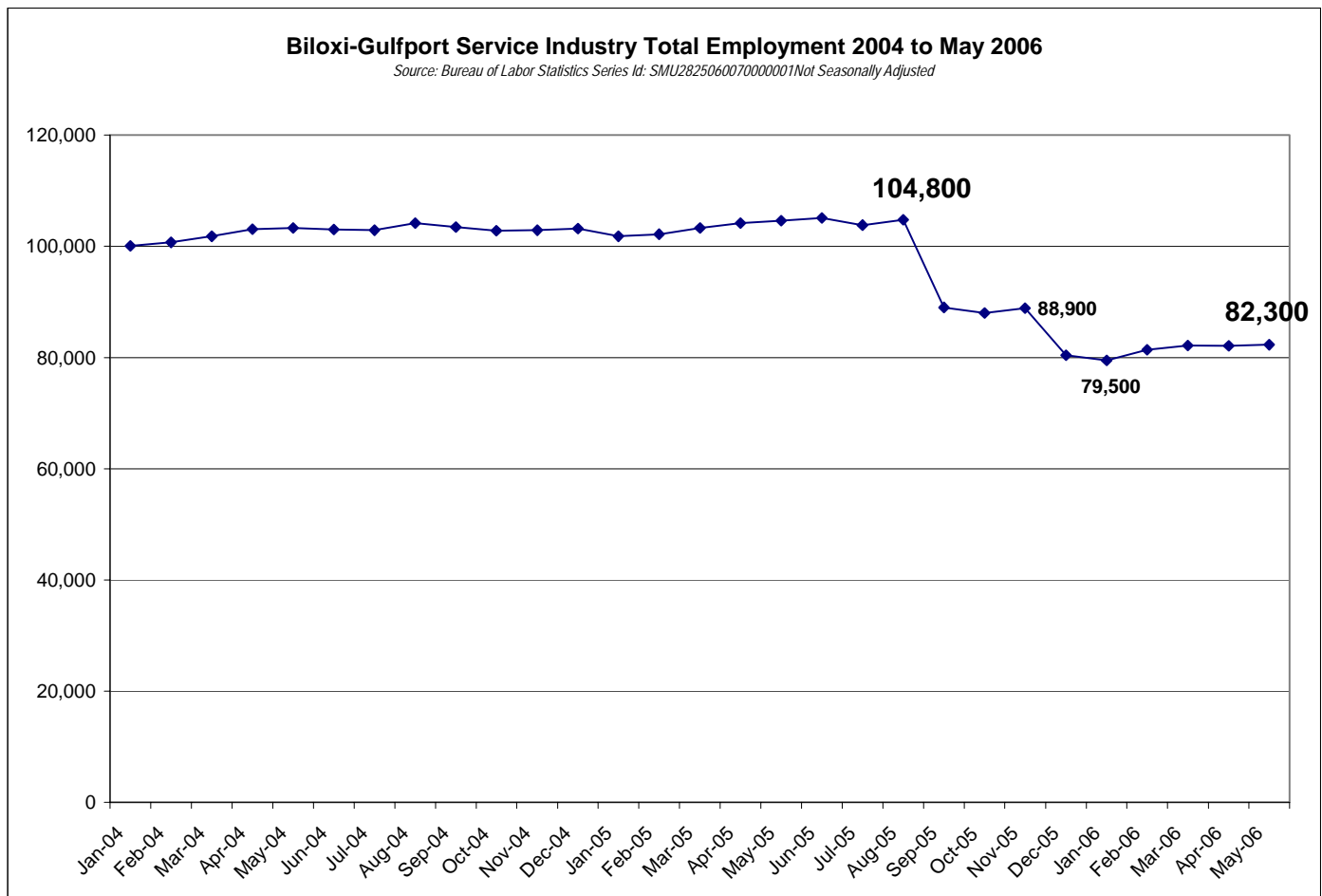


Figure 5: Biloxi-Gulfport Service Industry Employment

In the Hospitality and Leisure sector of the Biloxi-Gulfport economy, approximately 16,700 persons lost their jobs. Employment in this sector has been increasing since December of 2005, but is still at approximately 50 percent of its pre-Katrina level. Although the economy of the area is slowly recovering, total non-farm employment is still 22,500 lower than pre-Katrina levels. The speed of employment recovery

will increase rapidly as renovations and repair of the Beau Rivage and Grand Casinos are completed and reopen – if workforce housing issues can be resolved.

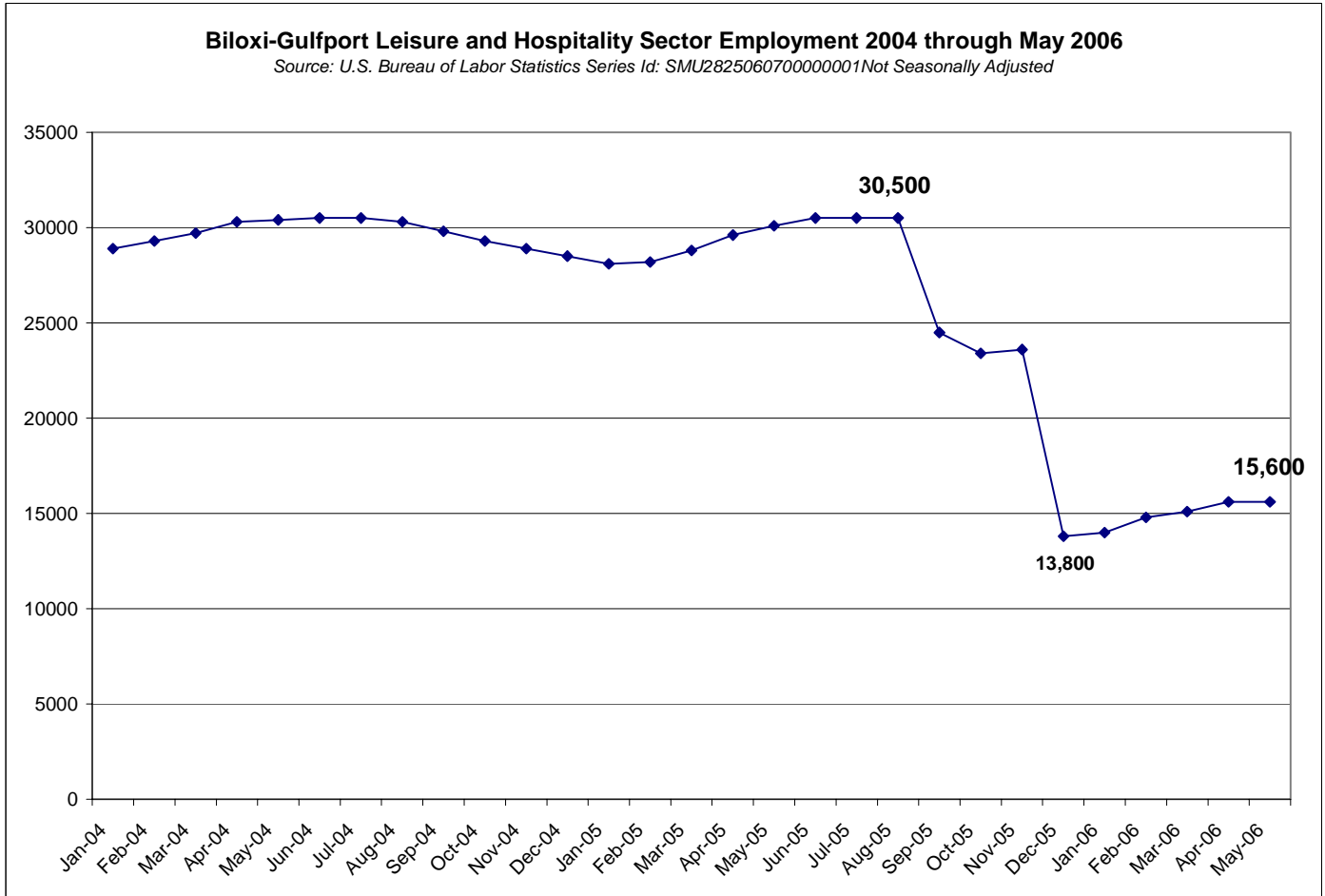


Figure 6: Biloxi-Gulfport Leisure and Hospitality Employment

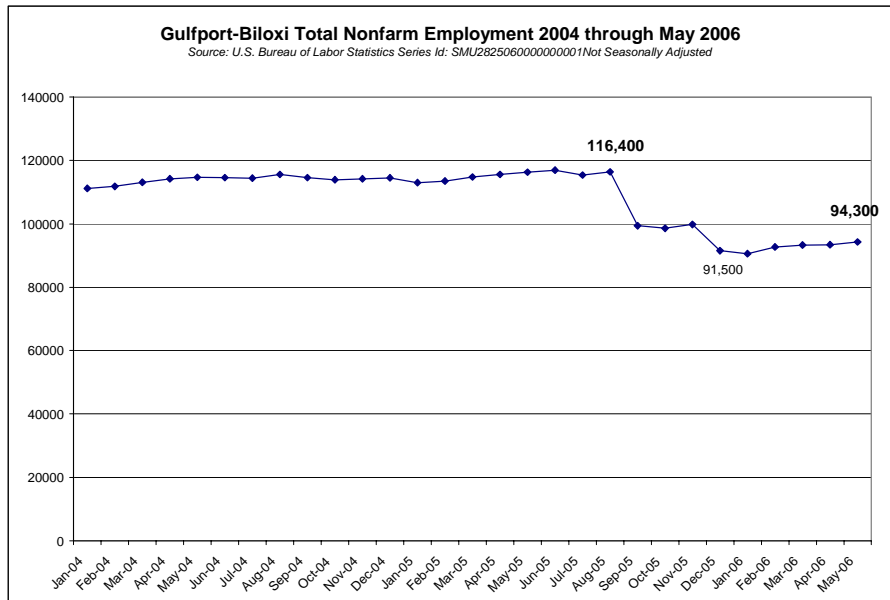


Figure 7: Gulfport-Biloxi Nonfarm Employment

Historically, coastal Mississippi counties have had among the lowest unemployment rates in the state. Immediately after Katrina, unemployment levels in the Biloxi-Gulfport area increased from 5.9 percent in August, 2005 to 22 percent in September 2005. Since that time unemployment levels have been declining but are still twice as high as pre-Katrina unemployment levels. At the County level, Harrison County's unemployment rate increased to 22.6 percent in the month after Katrina, but has decreased to 13 percent as of May 2006 – still remaining approximately 7 percent higher than pre-Katrina levels.

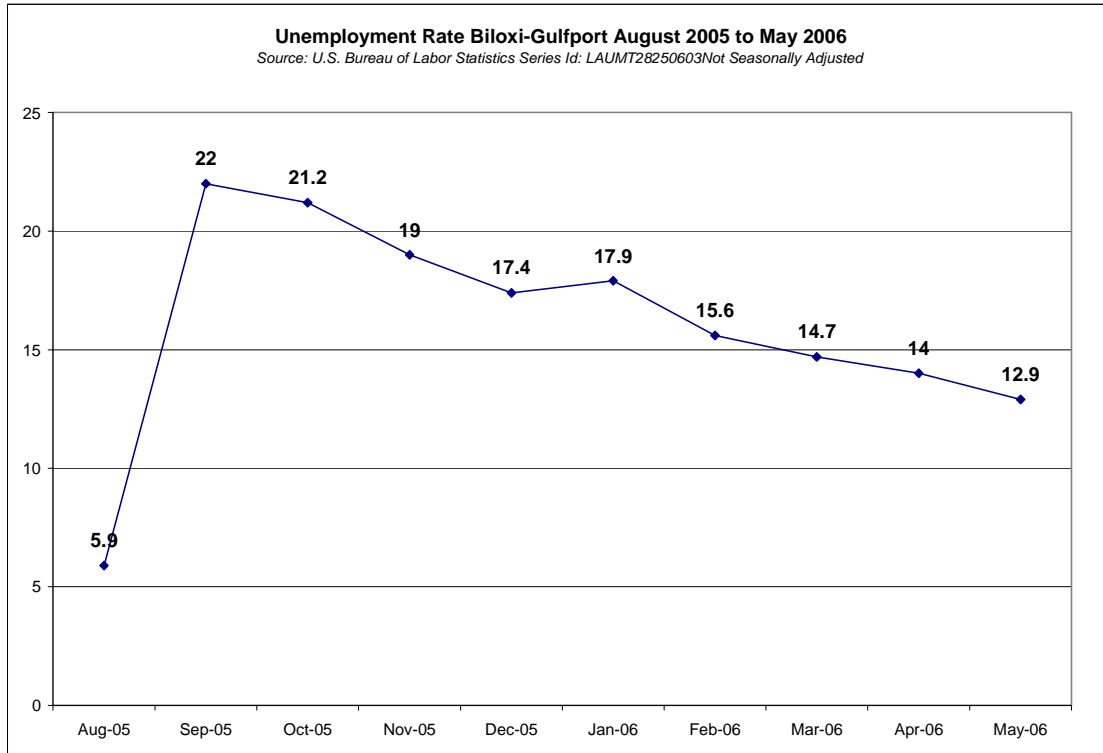


Figure 8: Unemployment Rate Biloxi-Gulfport

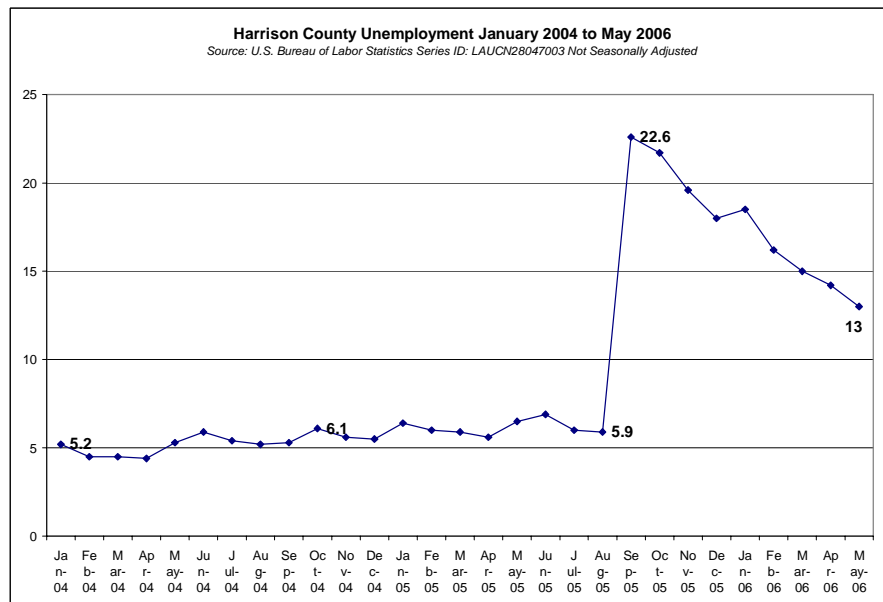


Figure 9: Harrison County Unemployment

Pascagoula – Jackson County

Total Non-farm employment in Pascagoula dropped by 6,500 jobs immediately after Katrina, however Pascagoula's employment rapidly recovered and is approaching pre-Katrina levels as of May 2006; Service sector employment was the largest component of employment loss in Pascagoula, dropping 3,200 persons immediately after Katrina – however, Pascagoula's Service sector employment levels had exceeded pre-Katrina levels as of May 2006.

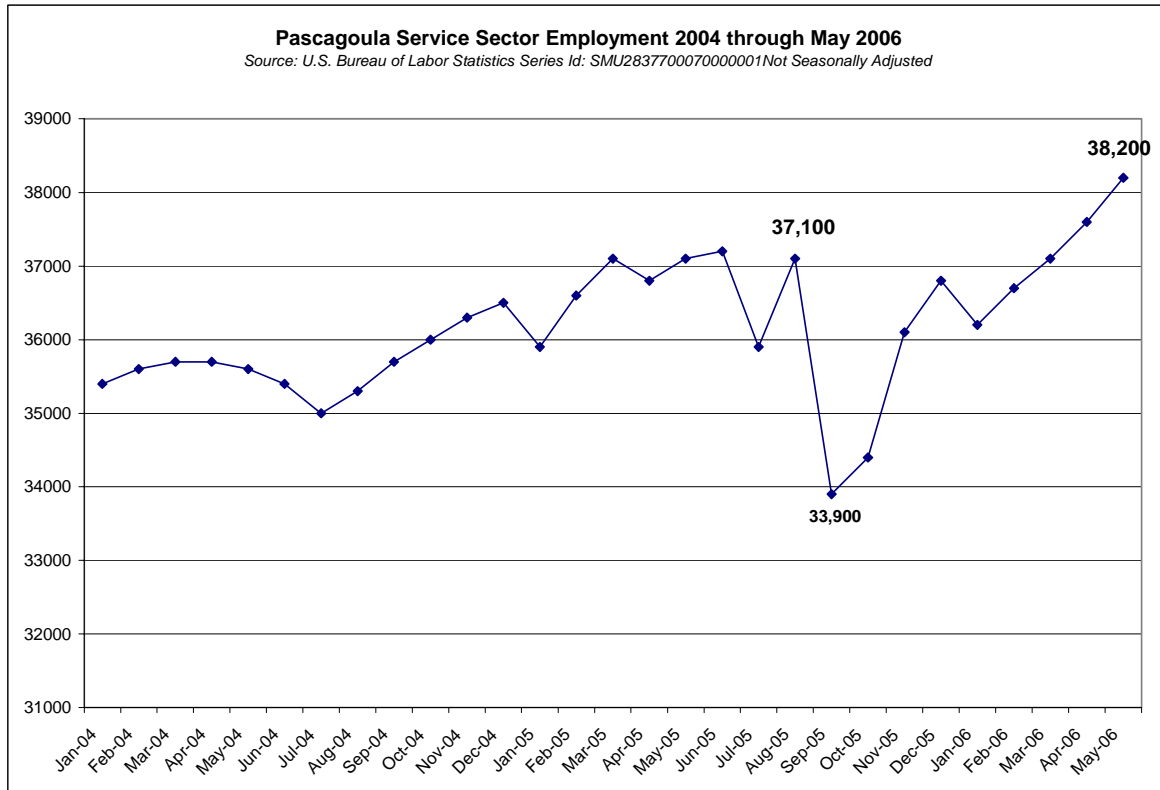


Figure 10: Pascagoula Service Sector Employment

Pascagoula's rate of unemployment increased from 6.9 percent pre-Katrina to 21.9 percent immediately after Katrina, the unemployment level in Pascagoula has been declining since September 2005 and was 9.5 percent as of May 2006. Jackson County experienced similar Katrina-related increases in unemployment, with unemployment increasing by 16.6 percent from a level of 6.4 percent in August of

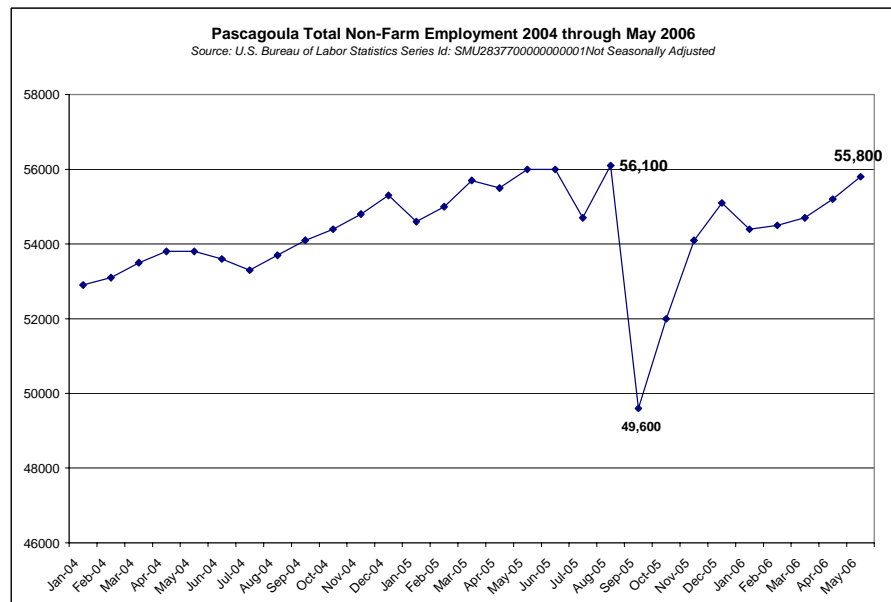


Figure 11: Pascagoula Total Non-Farm Employment

2005 to 23 percent in September of 2005. Since September, unemployment rates in Jackson County have declined. As of May 2006, unemployment levels in Jackson County had decreased to 9.3 percent – approaching pre-Katrina levels.

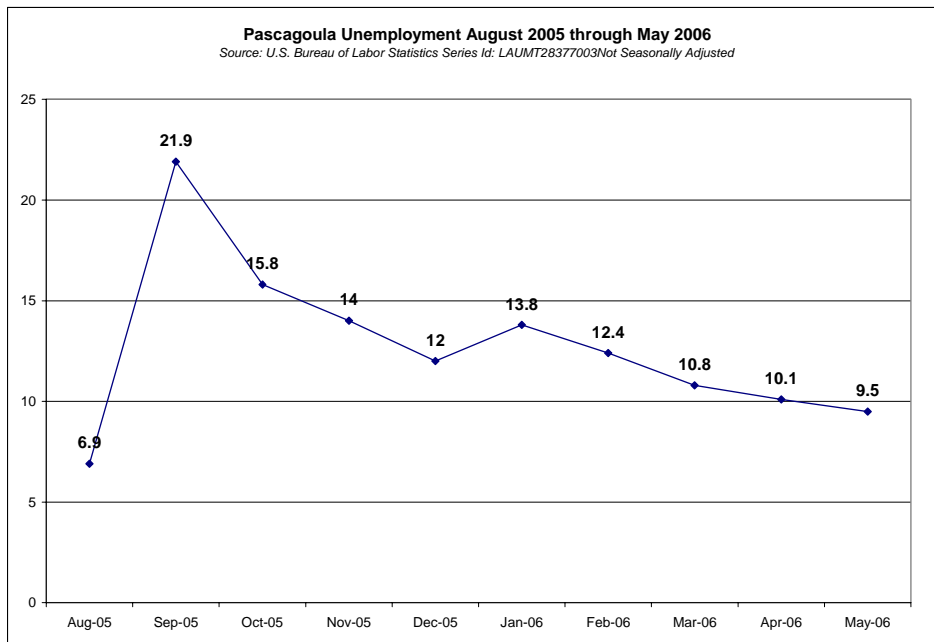


Figure 12: Pascagoula Unemployment

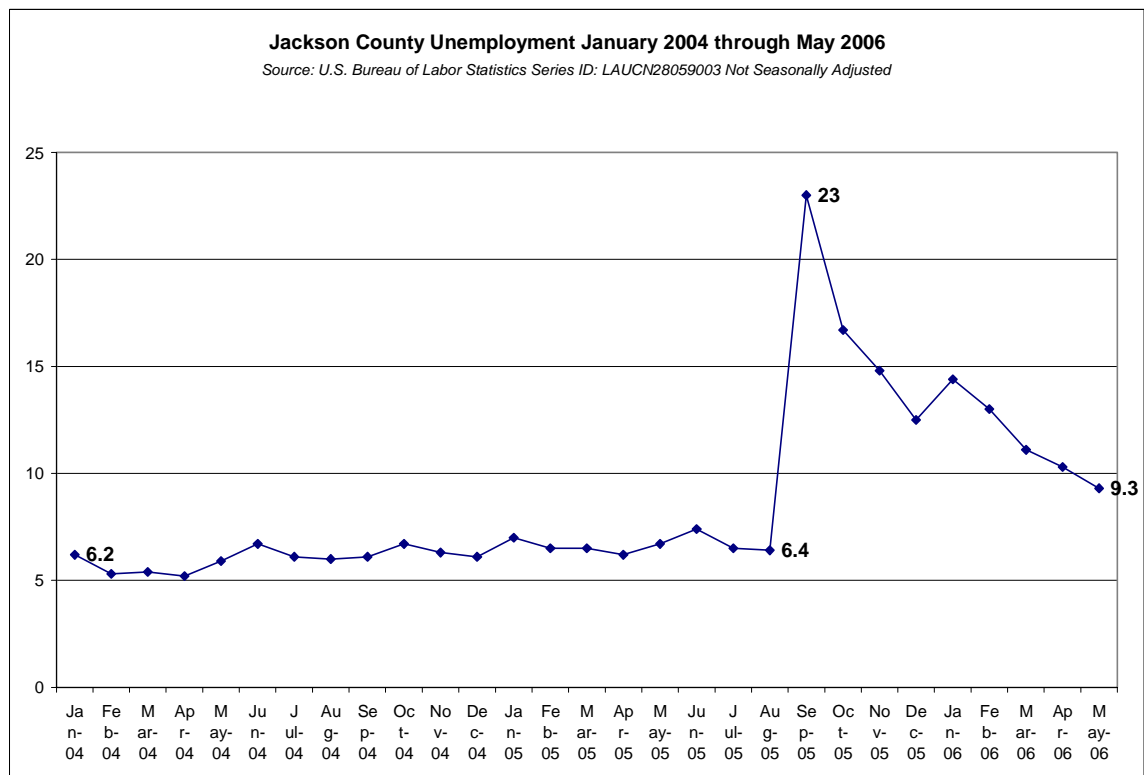


Figure 13: Jackson County Unemployment

Bay St. Louis/Waveland – Hancock County

In Hancock County approximately 5,000 people lost their jobs as a result of Hurricane Katrina, of these approximately 4,000 people were still unemployed as of May 2006; unemployment increased 16.4 percent from 5.9 percent in August 2005 to 22.3 percent in October 2005. Although unemployment levels have declined since October 2005, approximately 13.1 percent of the population is still unemployed. Comparable local area employment and unemployment statistics are not available from the U.S. Bureau of Labor Statistics for the incorporated municipalities of Bay St. Louis and Waveland.

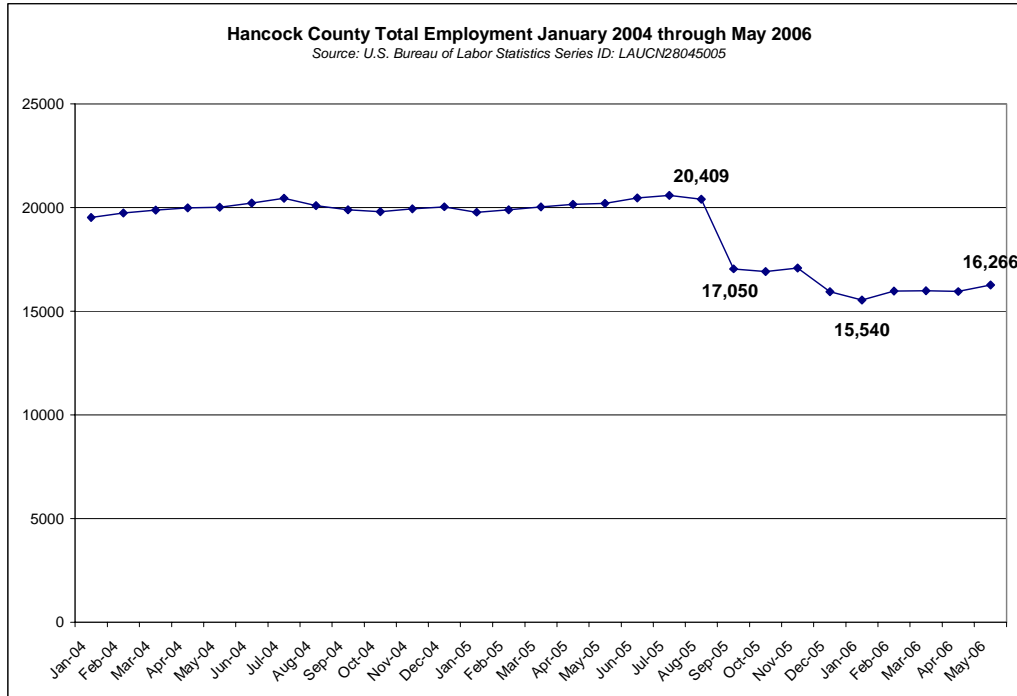


Figure 14: Hancock County Employment

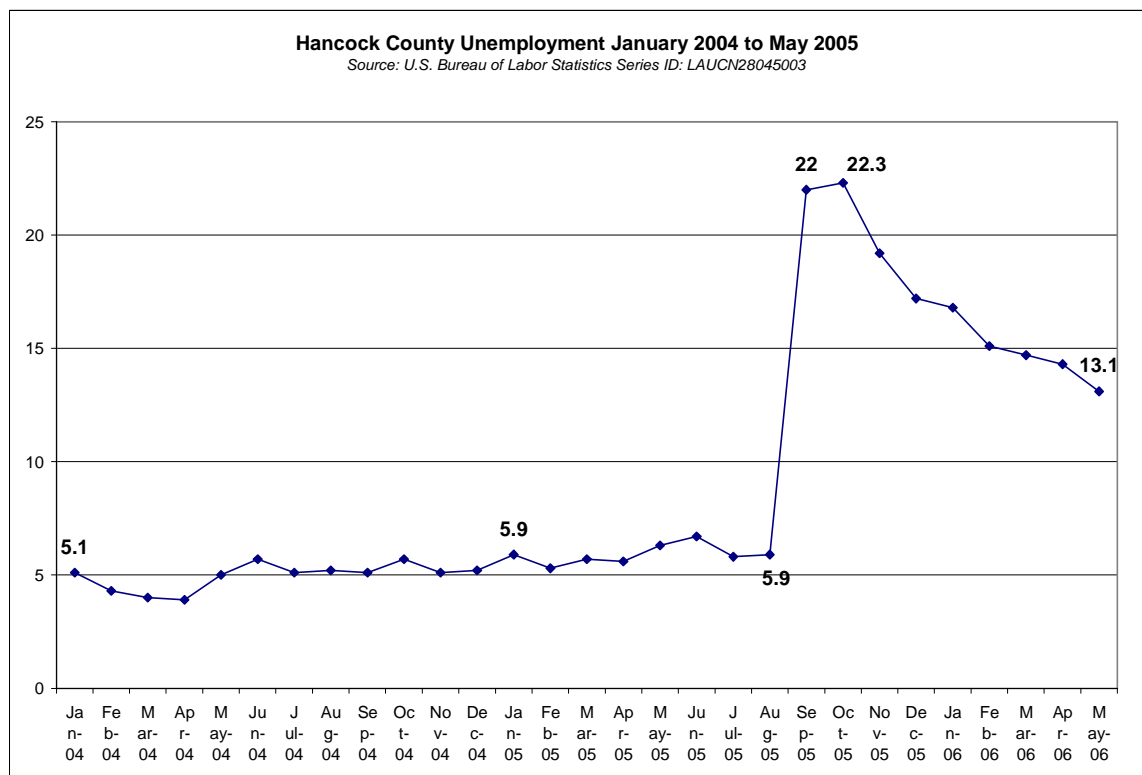


Figure 15: Hancock County Unemployment

Katrina had an abrupt and significant impact on employment across the three coastal counties of Jackson, Harrison and Hancock. Unemployment rates in each of the counties increased by 17 percent during the one month period from August 2005 to September 2005. Post-Katrina, employment levels have increased at varying rates between counties. As of May 2006, Jackson County's unemployment level had declined to within three percentage points of pre-Katrina levels, but Harrison and Hancock counties were still experiencing unemployment rates that were approximately 7 percent higher than pre-Katrina levels.

Hancock County experienced an extended increase in unemployment rates during the month long period from September to October with unemployment increasing, during this same time period Jackson and Harrison counties' unemployment rates began to decline. This extended period of increasing unemployment in Hancock County was probably due to the isolation of the area which was cut off from any significant assistance for an estimated 20 days and the resulting obstacles to recovery efforts. This delay in employment recovery extended over a longer period for Hancock County, with unemployment levels of 18.5 percent continuing through January of 2006. In recent months, the rate of increase in employment levels in Hancock County has accelerated and as of May 2006, unemployment had declined to 13.1 percent.

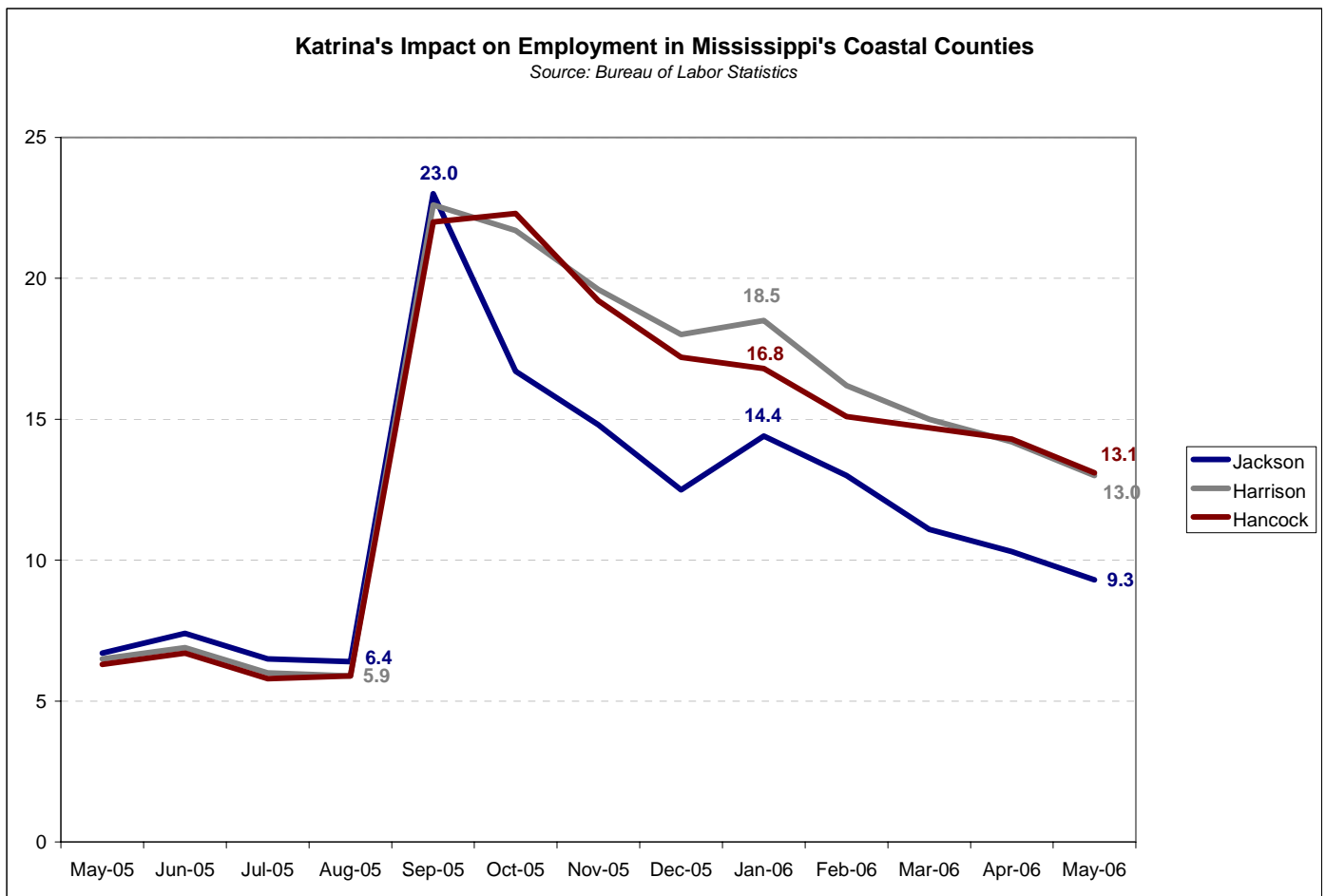


Figure 16: Katrina's Impact on Employment

EMPLOYMENT IN COUNTY AND MUNICIPAL GOVERNMENT – COASTAL MISSISSIPPI

Interviews with governmental entities across Coastal Mississippi generally indicate that there is a significant need to increase staff levels to meet the challenge of responding to the post-Katrina recovery needs of citizens. Pre-Katrina, county and municipal governments of the coastal communities were adequately staffed and well resourced. Unlike many governmental entities in other areas of Mississippi that face significant resource constraints to adopting efficient processes and technologies such as GIS mapping systems, most coastal governments were able to adopt these tools to increase the efficiency of government. Due to strong economies, the majority of coastal governmental entities had the financial resources to recruit and hire highly qualified and well-trained administrators, Planning, Building & Zoning, and emergency response personnel (i.e. Police, Fire, and Public Works). The burden of recovery will continue to fall heavily upon the shoulders of local and county governments, in particular on building inspectors, planning and zoning, and public works departments. During the immediate recovery period, building inspectors worked long hours to inspect structures to enable rapid re-occupancy and to provide approvals so that electricity could be turned on quickly for residents. Building inspectors had to balance the need to quickly enable the re-occupancy of a residence or business with the structural integrity of the building and the safety and health of occupants. Examination of structural damage, mold, and environmental issues (i.e. asbestos issues with older buildings) or contamination; assuring that unscrupulous property owners did not endanger the life and health of building occupants created overwhelming demands upon building inspectors. Most building and zoning departments achieved the goal of a 48 hour turn around in ROE permitting processes. Interviews indicate that a significant amount of tension existed between the professional opinion of local building inspectors and representatives of FEMA or Army Corps of Engineers as to the condition of structures, whether structures required demolition, and the level of damage to structures.

Due to the uncertainty of the impact of Katrina on government revenues and self-generated incomes combined with the overwhelming increase of demands on city and county governments to respond to Katrina issues, municipal and county governments were faced with extraordinarily difficult issues related to staffing levels. Increased demand for services indicated the need to increase staff to meet the needs of recovery; anticipation of revenue shortfalls indicated that municipal and county governments might face difficulty meeting payroll. Every government official interviewed indicated that this issue was of deep concern to them, not wanting to compound the devastating impact of Katrina on the lives of their employees with job layoffs. Fortunately, due to good fiscal management – many municipal and county governments could rely upon reserve funds to bridge this gap during the initial response period. However, as the months have passed and the full toll of Katrina related revenue losses and increased expenditures have begun to make their full impact – virtually every municipal and county government needs more funding to meet their human resource requirements. This need is relatively consistent across all coastal counties, only the magnitude is variable. In many cases additional work loads were absorbed by countless dedicated employees and top elected officials worked immeasurable hours to respond to the needs of citizens. The work of municipal and county elected leaders and the employees of these municipalities and counties are case studies in exemplary public service, dedication, and commitment to the citizens they serve. Reports of millions of FEMA dollars pouring into communities creates a false impression; these funds only provide reimbursement for the cost of labor, lost equipment, and basic infrastructure repair – it does not represent a financial gain for any of the county or municipal governments that received this disaster aid, plus a cash match must be provided for all grants received. In many cases FEMA and disaster assistance was not allowed for actual overtime or did not replace lost equipment to pre-Katrina levels. Most municipal and

county governments had to borrow heavily to meet disaster response and recovery needs. The fact that there was no funding available to meet the real needs of municipal and county governments is a common area of bitter complaint across coastal Mississippi.

Information on municipal and county employment levels is not comprehensive. All municipal and county elected officials and their employees are consumed with responding to the recovery needs of citizens and the day-to-day operations of local governments. Under normal conditions, municipal and county governments have significant work burdens – post-Katrina these workloads have exponentially magnified. Therefore, scheduling meetings and interviews to respond to information requests by Stennis Institute staff represented one more time consuming activity for governmental employees and local public servants. It was not uncommon for interviews to last 2 hours or more, and for areas of discussion to encompass a broad area of issues.

Employment levels are a sensitive issue for many governmental entities; most employees were devastated by Katrina. Evacuation, loss of homes and possessions, plus the destruction to cars and other forms of transportation coupled with the need to care for family members and neighbors created serious personal issues for all government employees at the local level. County and municipal governmental entities had to balance the personal needs of employees with the need for governmental entities to respond to the needs of citizens and to react to myriad emergencies across the cities and counties of coastal Mississippi. During and immediately after Katrina, the actions of municipal and county employees gave a very personal meaning to a phrase normally reserved to honor U.S. military personnel - “above and beyond the call of duty.” In some cases employees who could not balance personal and professional responsibility voluntarily resigned from their jobs. In a few extreme cases, employees were terminated for failing to report to duty in areas of critical emergency response need. Across the board, all county and municipal governments made a concerted effort to retain staffing at pre-Katrina levels and reduced employment levels through attrition only. With the exception of Hancock County, government employment levels have remained stable. However, according to one interview source, there has been a high turnover of building officials. This source indicated that seven building officials have left (or are about to quit) their employment across the coastal counties.

Jackson County

Katrina’s storm surge damaged almost every county office building with three to four feet of water, creating the need to relocate many county employees to new buildings. No figures are available, but the county is and has been hiring new employees on a continuous basis.

Pascagoula reports not losing a single employee because of Katrina and having taken extensive measures to assist employees to remain at their jobs to meet the needs of citizens. However there are reports here, as in counties across coastal Mississippi of the enormous burden placed on building officials and the tension that exists between local officials and FEMA or the Army Corps of Engineers. As one official said, “we live here and are responsible for the safety and lives of our citizens.”

Harrison County

The County Board of Supervisors met immediately after Katrina in an emergency session on September 9, 2005 to declare an emergency freeze on the hiring of all personnel with the exception of Public Safety Officers.

In Biloxi, the municipality implemented a hiring freeze post-Katrina making the decision to retain all municipal employees in spite of potential revenue shortfalls. The Mayor and City Administration were dedicated to retaining all employees, allowing employment levels to decrease only through attrition. Pre-Katrina, the City of Biloxi employed 675 employees, losing a maximum of approximately 100 employees through attrition post-Katrina, but has begun rehiring new employees in recent months. No classification of job loss in specific categories was available. The City of Biloxi has hired 5 building inspectors to increase its ability to fast-track building permits and approvals as Homeowner grant funds begin to enable residents to begin rebuilding and to keep pace with approximately 26 new condominium projects slated for the municipality.

In Gulfport, a hiring freeze and policy of attrition but no layoffs for municipal workers was instituted shortly after Katrina to enable the city to assess the impact of Katrina on revenue streams. Pre-Katrina, Gulfport employed approximately 740 employees, post-Katrina employment levels reduced by a total of 80 employees. In recent month the city has begun hiring new employees to prepare for increased demand for services during the recovery process. As with other municipalities throughout the Mississippi Coast, the City of Gulfport accessed \$18 million of cash reserves and borrowed \$16 million from the Federal Community Disaster Loan program to fund ongoing operating expenses. No breakdown by area was available.

Hancock County

Bay St. Louis reports employment was significantly impacted by Katrina. The Police Department had 28 employees pre-Katrina, it is currently down to 18 and is about to lose two more people. They are currently seeking to hire new personnel. Public Works reports pre-Katrina employment at 39, post-Katrina employment at 15. *Waveland* reports employment in Public works as being hard hit by Katrina. Pre-Katrina employment in the Street Department was 17, post-Katrina at 8; in the Utility Department pre-Katrina employment was 8, post-Katrina at 2; employment in the Police Department was 27 pre-Katrina, reduced to 15 post-Katrina. Interviews revealed that the loss of housing infrastructure, the virtual destruction of these communities and its psychological impact on residents, coupled with the trauma – emotional and financial - experienced by many employees has created significant obstacles to replacing employees. Both Bay St. Louis and Waveland report heavy equipment losses to Public Works, Fire and Police Department with no funding source or required cash match for Federal funding sources available to replace this lost equipment.

Bay St. Louis and Waveland are in deep need of employees, budgets are extremely tight, and these municipalities are meeting salaries but buying only what they absolutely need to maintain governmental operations. For example, In Bay St. Louis, pre-Katrina employment in the Utility and Street departments was 11 and 17 respectively but has fallen to 2 employees in the Utility department and 8 in the Street Department. Employees interviewed indicated that “employees are desperately needed – but budgets are tight.” Public works personnel indicate that the workload is overwhelming. However, in many municipal service areas, human resources constraints have been slightly alleviated due to reduced demand for services as a result of population decline. For example, Bay St. Louis reports that there have been increased calls for medical assistance from elderly residents with heart and respiratory problems, but that due to the loss of the housing infrastructure and the fact that large areas of the community are deserted, calls to the fire department have decreased. The police department in Bay St. Louis reports that drug overdoses, attempted suicides and domestic violence has increased – particularly in areas where residents are crammed into FEMA trailers or other tight living quarters. More recently small fires and forest fires have

begun to plague coastal areas, as downed and damaged trees or remaining debris dry out and become a fire hazard.

KATRINA'S IMPACT ON THE BUSINESS ECONOMY

Jackson County's Economy

Jackson County's economy appears to be quickly rebounding from the impact of Hurricane Katrina; there are multiple factors that contribute to this economic recovery. Although Katrina did have a very significant and long-term impact on the county's annual revenue due to losses in property taxes, damage to business, infrastructure, and the costs associated with paying for recovery, elected leaders and the business community came together quickly to assure rapid recovery. For example, Chevron Refinery deposited \$14 million in property taxes three months early to provide support for the county's revenue stream.¹⁶ Jackson County's diversified industrial/commercial/retail economy, a skilled labor force, excellent transportation infrastructure that includes rail, marine, and highway infrastructure has enabled Jackson County to recover more rapidly than its sister coastal counties of Harrison and Hancock. Jackson's good fortune to have had less extensive damage to its port facility, when compared to the more extensive damage to Gulfport's harbor and port facilities has contributed significantly to the county's recovery.

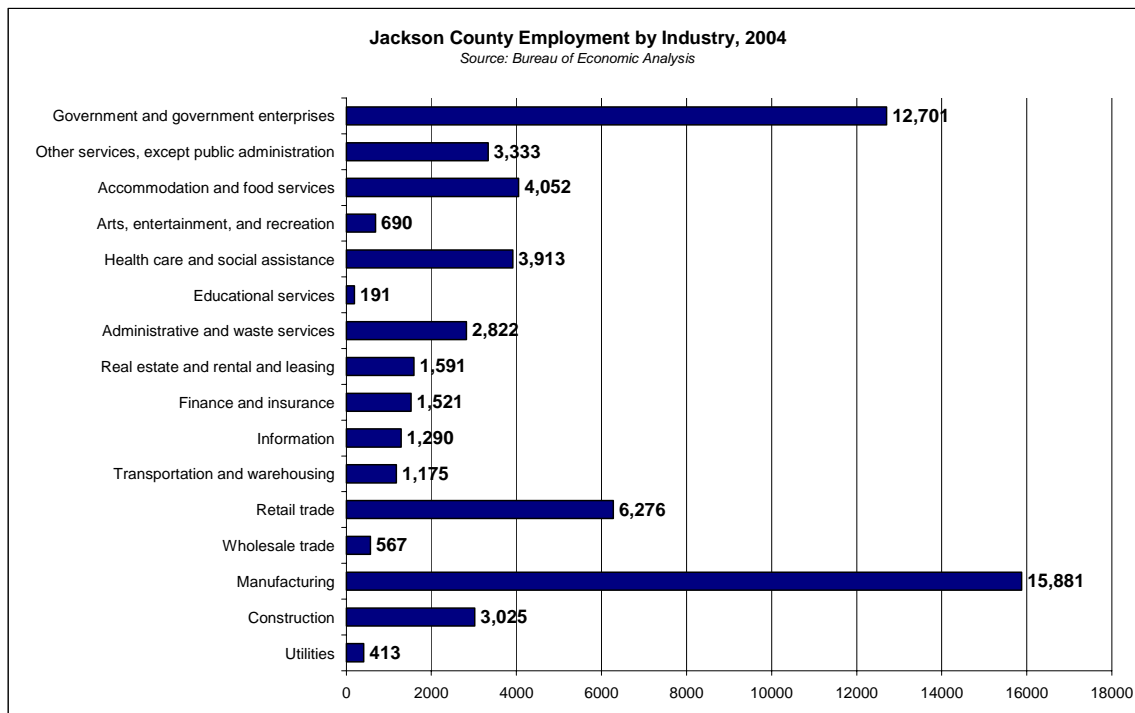


Figure 17: Jackson County Employment by Industry 2004

Table 6: Composition of Government Employment

Federal, civilian	762
Military	3,011
State government	423
Local government	8,505

¹⁶ Jackson County Board of Supervisors, State of the County, 2006. Presented by Robert Norvel, Sr. to the Pascagoula Rotary Club http://www.co.jackson.ms.us/GIPages/GICSOC_2006.html

Jackson County's largest employment sectors are Manufacturing, Government, Retail Trade, and Accommodation and Food Services.¹⁷ Northrup Grumman Ship Systems, in continuous operations since 1938 (at Ingalls Shipyard), is Mississippi's largest single employer with more than 12,500 employees located at two shipyards.¹⁸ The U.S. Naval Station at Pascagoula supports approximately 2,000 active duty military personnel, 200 civilian workers, 850 reservists, and 4,100 family members of active duty personnel; its' total economic impact on Jackson County is estimated at \$100,000 million annually. On August 24, 2005 NS Pascagoula was selected for closure by the Base Realignment and Closure Committee of the Department of Defense – the closure of this base, compounded by the devastation of Katrina is a severe economic blow to Jackson County's economy, particularly when considering the important role this facility played during initial response and recovery activities. FreideGoldman Halter Ltd., a world leader in construction and refurbishment of deep water oil rigs, employs almost 4,000 workers.¹⁹ Chevron's Pascagoula Refinery employs over 1,200 people; it is the seventh largest refinery in the U.S. Chevron estimates that approximately 300 employees and contractors lost their homes due to Hurricane Katrina, the corporation responded to Katrina by setting up a tent-camp to provide housing and services for 1,500 employees and contractors that were impacted by Katrina. In addition, Chevron committed over \$8 million to support Katrina related recovery efforts. Chevron's Jackson County DayCare Recovery Team restored 39 licensed daycare facilities that were destroyed or damaged by Katrina. Due to Katrina, Chevron's Pascagoula refinery production facilities were shut down; the loss of the capacity to produce up to 325,000 barrels of oil per day for a 40 day period resulted in a loss of \$350 million in Chevron's third-quarter profit.²⁰

The Port of Pascagoula has been a major economic generator for Jackson County since World War II. The Pascagoula Ship Channel is a 42-foot-deep, 14-mile canal, which extends from the Gulf into the Port's two harbors – the Bayou Cassotte Harbor and the Pascagoula River Harbor.²¹ Mississippi's largest port, the Port of Pascagoula, handles over 28 million tons of cargo each year.²²

The Jackson County Port Authority sustained \$15 million in damages at port facilities due to 135 mile per hour winds and a 14 to 16 foot tidal surge. In 2004, Port business had increased by 21 percent and in 2005 tonnage was forecasted to increase 46 percent.²³ Rapid clearing of debris from harbors, channels, docks and warehouses enabled traffic to move back into the harbors on a restricted basis on September 8, 2005. As of July 2006 the Port is operating at 95 percent of its pre-Katrina level.²⁴ The Port served as an important center for Katrina response activities including berthing for the U.S. Navy's hospital ship the *U.S. Comfort*, equipped with 1,000 hospital beds and 12 operating rooms. With medical offices and clinics shut down by Katrina, and hospitals filled to capacity, the U.S. Comfort provided medical assistance to citizens.

¹⁷ Bureau of Economic Analysis, 2004 <http://www.bea.gov/region/regionals/reis/action.cfm#>

¹⁸ Mississippi Development Authority, <http://www.mississippi.org/content.aspx?url=/page/2964&>

¹⁹ Jackson County Chamber of Commerce. <http://www.jcchamber.com/dobus.html>

¹⁸ <http://www.chevron.com/news/press/2005/2005%2D10%2D13.asp>

¹⁹ Jackson County Economic Data. www.co.jackson.ms.us/GIPages/GICEcon.html. March 25, 2006.

²⁰ Ibid.

²¹ Jackson County Board of Supervisors, State of the County, 2006. Presented by Robert Norvel, Sr. to the Pascagoula Rotary Club http://www.co.jackson.ms.us/GIPages/GICSOC_2006.html

²² Mark Andrews, Port Director; Port of Pascagoula E-News Report, <http://www.portofpascagoula.com/enews.htm>

²³ Ibid.

The Port also berthed the Holiday cruise ship and provided living accommodations to 1,400 coast residents who had lost their homes in Katrina.²⁵

Harrison County's Economy

Harrison County's largest employment sectors are Government/Government Enterprises, followed by Accommodation/Food Services and Retail Trade.²⁶ Harrison County is home to Keesler Air Force base, which employs approximately 16,000 people. Damage to Keesler is estimated at \$1 billion, with approximately \$299 million in damage to 1,588 base housing units.²⁷ Other major employers include the Naval Construction Battalion Center in Gulfport which employs approximately 4,400; Memorial Hospital in Gulfport with 2,200 employees; and the Veteran's Administration Gulf Coast Health Care Center in Biloxi with approximately 1,500 employees. Pre-Katrina, the Beau Rivage Casino (Biloxi) employed approximately 4,200 and the Grand Casino employed approximately 5,500 employees. The county's economy was mainly tourism driven, as evidenced by approximately 24,000 persons employed in the Accommodation and Food Services sector; 5,000 persons employed in Arts, Entertainment, and Recreation sectors; and approximately 14,000 persons employed in Retail Trade. Katrina destroyed or shut down every one of the 12 casinos operating in Harrison and Hancock County and the vast destruction of Katrina brought all tourism to a halt. Harrison County had an estimated 13,561 hotel/motel rooms before Hurricane Katrina. As of April 1, 2006 only an estimated 3,794 hotel/motel rooms remained open. The Mississippi Hotel and Lodging Association projected that it will be a minimum of two years before room tax collections return to pre-Katrina levels. However, three casinos have already reopened in Biloxi and the hotel/motel shortage that existed in the months immediately following Katrina has considerably lessened.

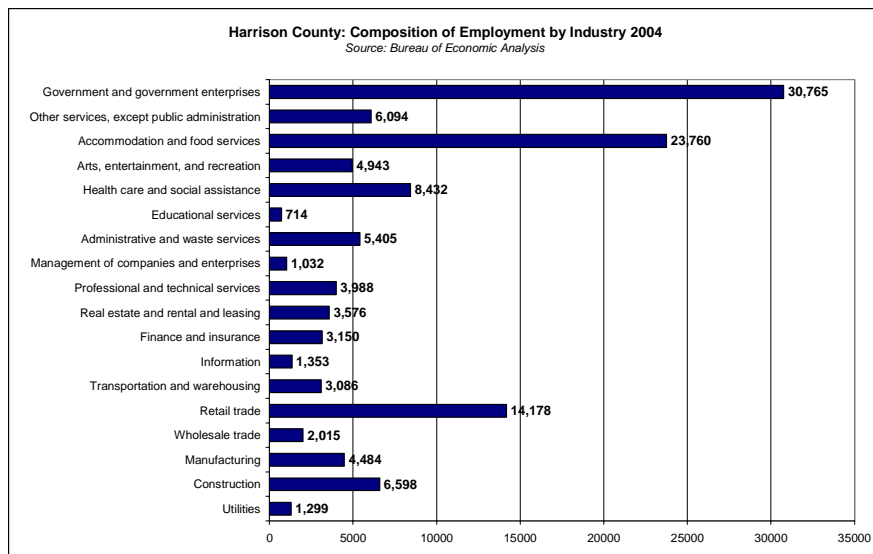


Figure 18: Harrison County Employment by Industry 2004

Table 7: Composition of Government Employment

Composition of Government Employment	
Federal, civilian	6301
Military	12084
State government	2048
Local government	10332

²⁶ Bureau of Economic Analysis, 2004

²⁷ eMilitary.org May 2005. <http://www.emilitary.org/article.php?aid=4610>

Hancock County's Economy

Hancock County's economy consisted of a diverse mix of high technology and research industries attracted to the area due to NASA's John C. Stennis Space Center coupled with cultural heritage/historic tourism. The Stennis Space Center (SSC) is the largest employer within the county, creating 19,700 jobs in direct and indirect employment and has a direct economic impact of \$503 million within a 50 mile radius of the facility.²⁸ The Stennis Center acted as a magnet for related industry with a heavy research emphasis on environmental, engineering, space, national defense, and cutting edge technologies. In 2005, SSC housed approximately 30 governmental and private sector firms to include: the National Oceanic and Atmospheric Administration (NOAA), a Navy Seal training facility, Lockheed Martin, and a Naval Research Laboratory. Although approximately 25 percent of employees at SSC lost their homes, the Center was spared major damage by Hurricane Katrina, but estimates of \$600 million in damage have been reported.²⁹

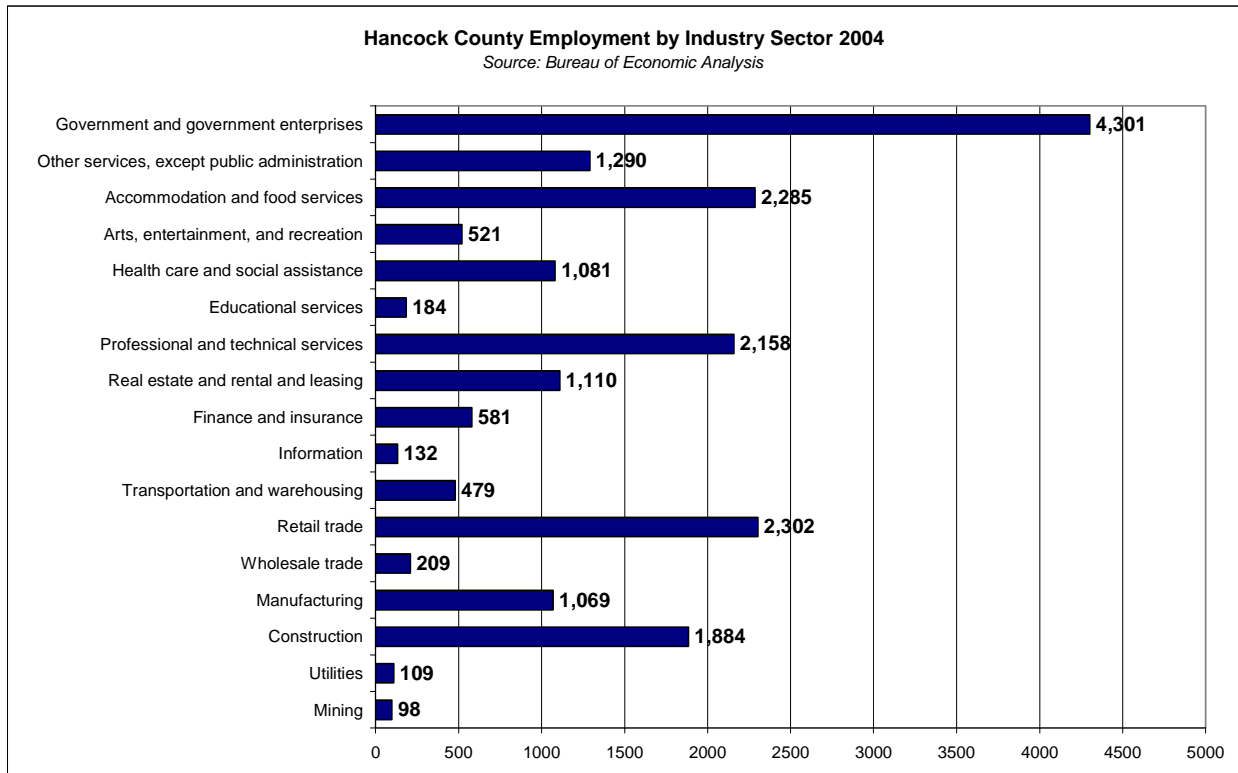


Figure 19: Hancock County Employment by Industry 2004

Table 8: Hancock County Composition of Government Employment

Composition Government Employment	
Federal, civilian	1536
Military	555
State government	62
Local government	2148

²⁸ NASA Public Affairs Office, March 2006; <http://www.nasa.gov/centers/stennis/news/newsreleases/2006/STS-06-035.html>

²⁹ USINFO.STATE.GOV, NASA Press Release, September 9, 2005

Port Bienville in Hancock County, is listed among the top 30 Container Ship ports in the U.S.³⁰ Major firms located in Port Bienville Industrial Park included Trinity Marine; Manufab, Inc.; Peoples Bank; Contech Power Systems; Kimberly Clark; polychemie, Inc.; Marine Concrete Structures; Eaglebrook; Professional Construction Service; Atlas Powder Company; General Electric Plastics; Wellman, Inc.; and Calcon Carbon Corporation. Damage to the Industrial Park's infrastructure is estimated at \$70 million; The Hancock County Port and Harbor Commission received \$6.6 million in Federal funding to repair damage to rail lines destroyed by Katrina.³¹ Local residents talk about shrimp boats that were washed up onto the railroad tracks near Port Bienville.

Casino Magic operating in Hancock County played an important role in attracting tourists and as a generator of tax dollars for the local community; approximately 50 percent of Waveland's city revenues were generated from casino taxes. Hollywood Casino and the Silver Slipper Casino are planned to open in 2006. Waveland and Bay St. Louis were noted for an eclectic mix of intimate and "down-home" eating establishments, artists-in-residence, gallery shops, and related main street ambiance. An estimated 800 of Hancock County's small businesses were destroyed – of the remaining 500 many have not yet reopened. As of July 2006, the opening of Lowe's and Wal-Mart in Hancock County was eagerly anticipated by local leaders – not only to meet the rebuilding needs of residents, but also as a source of badly needed sales tax revenues.

THE CLEAN-UP PROCESS

According to reports, FEMA negotiated a \$975 million contract with the U.S. Army Corps of Engineers for debris clean-up in Mississippi. As of April 27, 2006 a total of \$535 million in Debris Removal Public Assistance dollars had been approved by FEMA for expenditure in the state of Mississippi.³²

One indicator for the debris clean-up process and measuring the need for infrastructure repair is to utilize FEMA reports of Public Assistance. Upon the issuance of a Presidential Disaster Declaration Public and/or Individual Aid is available through provisions of the Stafford Act. In the state of Mississippi the process followed by local governments to request Public Assistance related to Katrina damages was to submit Project Worksheets to request financial assistance from FEMA. Upon notification of approval of the Project Worksheet by FEMA, the work would be completed by the public agency (i.e. county or municipal government) and then substantiating documentation would be submitted to MEMA. MEMA would then review these documents and approve, disapprove, or modify the amount of reimbursement received by the public agency. FEMA's Public Assistance (PA) Branch collects information on public property, including debris removal and repairs to infrastructure, public buildings, utilities, roadway, and other projects. These Public Assistance reports are considered by some to be reliable indicators of the amount of damage. Figures from the FEMA "Project Worksheets and Total Public Assistance Funding," dated April 27, 2006 indicate that the state of Mississippi was approved for \$1,055,439,452 in public assistance.³³

³⁰ SOURCE: U.S. Department of Transportation, Maritime Administration, U.S. Waterborne Foreign Trade Containerized Cargo, based on the original data source: Port Import/Export Reporting Service, available at http://www.marad.dot.gov/Marad_Statistics/Container-03.htm as of June 4, 2004.

³² FEMA-1604-DR-MS April 27 2006 http://www.fema.gov/doc/press/1604_342.doc

³³ Ibid.

Table 9: FEMA Public Assistance Projects

County	Number of Applicants	Debris Removal	Protective Measures	Roads & Bridges	Water Control Facilities	Public Buildings	Public Utilities	Recreational or Other	State Management	Sum:
	Disaster Total:	775 PWs \$535,926,733	1,232 PWs \$233,813,224	387 PWs \$14,293,415	17 PWs \$955,226	2,678 PWs \$90,688,995	445 PWs \$137,651,871	601 PWs \$32,844,886	1 PW \$9,265,102	\$1,055,439,452
Harrison	27	48 PWs \$206,516,278	123 PWs \$11,164,827	14 PWs \$3,198,080		162 PWs \$27,609,219	20 PWs \$8,260,916	91 PWs \$22,398,969		\$279,148,289
State & agencies	124	223 PWs \$53,785,698	299 PWs \$174,165,588	19 PWs \$574,088	10 PWs \$891,334	618 PWs \$9,884,937	105 PWs \$7,730,315	90 PWs \$846,923	1 PW \$9,265,102	\$257,143,984
Hancock	27	18 PWs \$20,601,591	94 PWs \$19,124,261	5 PWs \$6,750,380		139 PWs \$26,984,226	56 PWs \$91,591,748	16 PWs \$2,622,951		\$167,675,157
Jackson	18	18 PWs \$26,116,025	86 PWs \$9,217,049	13 PWs \$396,953	3 PWs \$50,109	303 PWs \$21,131,135	54 PWs \$27,413,737	61 PWs \$4,615,426		\$88,940,434

Source: FEMA Number of Projects and Total Public Assistance Funding Obligated by County As of: April 27, 2006

Jackson County

Figures from FEMA-1604-DR-MS report updated April 27, 2006 (see Table 9) show that Jackson County developed 538 Project Worksheets (PWs) totaling \$88,940,434. These figures represent 8.76 percent of the total 6,136 PWs approved and 8.43% of PA dollars obligated. Of the total PWs in Jackson County 303 were for damage to public buildings. A total of \$26.2 million was approved for debris removal.

The hurricane created 5,328,200 cubic yards of debris in the county, FEMA indicates that 95 percent of was cleared by March 30, 2006.³⁴

Harrison County

Figures from FEMA-1604-DR-MS report updated April 27, 2006 (see Table 9) show that Harrison County developed 458 Project Worksheets (PWs) totaling \$279,148,289. These figures represent 7.46% of the total 6,136 PWs approved and 26.45% of PA dollars obligated. Of the total PWs in Harrison County 162 were for damage to public buildings. A total of \$206 million was approved for debris removal.

Hancock County

Figures from FEMA-1604-DR-MS report updated April 27, 2006 (see Table 9) show that Hancock County developed 328 Project Worksheets (PWs) totaling \$167,675,157. These figures represent 5.34% of the total 6,136 PWs approved and 26.45% of PA dollars obligated. Of the total PWs in Hancock County 139 were for damage to public buildings. A total of \$20.6 million was approved for debris removal. The U.S. Army Corps of Engineers estimated that there were 6 million cubic yards of debris in the county – enough to fill up 150 football field to a height of 50 feet.

³⁴ FEMA DR-1604-MS. Recovery Fact Sheet. April 4, 2006.

Table 10: Coastal Mississippi Debris Removal as of June 6, 2006

Coastal Mississippi Debris Removal as of June 6, 2006				
Debris Removal in Cubic Yards	Cumulative to Date	Estimated Remaining	Initial Estimate	Percent Removed
Hancock County	2,934,933	217,867	3,152,800	93.1%
N Waveland	455,000	45,000	500,000	91.0%
Bay St Louis	1,570,826	24,674	1,535,500	98.5%
S Waveland	905,517	41,683	947,200	95.60%
Harrison County	2,605,745	87,385	2,693,130	96.8%
Biloxi	2,488,835	111,165	2,600,000	95.7%
Gulfport	2,820,647	9,103	2,829,750	99.7%
Jackson County	1,814,900	26,861	1,814,761	98.5%
Pascagoula	1,206,008	875	1,206,883	99.9%
Three County Total	22,232,970	660,904	22,693,874	97.1%

Source: Governor's Commission on Recovery and Renewal from FEMA-1604-MS

The clean-up process as of June 1, 2006 is rated as extensive across all three coastal Mississippi counties.

Field Researcher Comments: Elected officials generally indicate that the clean-up process is technically close to completion in coastal Mississippi counties. This is a highly contentious issue, as much of the debris is “still standing.” In most communities there are wide swaths of residential and commercial structures that will need to be torn down and disposed of in the future – after the Federal disaster assistance is terminated. Many building inspectors are deeply concerned about the structural integrity of remaining buildings and anticipate that a significant number of structures remain to be demolished. Visual observation of physical infrastructure indicates an overwhelming level of clean-up remains to be completed throughout the coastal communities. There is an interesting contradiction between the recognition that an enormous amount of work, effort and countless man hours have contributed to an impressive amount of debris having been removed – and the realization that so much still remains. Barges, shrimp boats, tractor trailers, and floating casinos have been removed, and the street are now clear of debris – but, a drive down U.S. 90 from Biloxi to Gulfport, observing commercial and residential structures with building envelopes that look like cracked eggshells, coupled with the tangled and eerie steel skeletons of destroyed buildings provides insight into the magnitude of debris removal yet to be completed. This will be a costly and difficult task that will again fall upon the shoulders of elected officials, and potentially upon municipal and county budgets. Although FEMA policy assumes that the insurance proceeds to be received by business firms will pay for this demolition activity, long delays in the receipt of insurance proceeds coupled with uncertainty of future business prospects, escalating insurance costs throughout the coast, costs of demolition, increasing construction material costs, and limited supply of construction labor has hampered this element of recovery and debris clean up across coastal Mississippi.

The Project Worksheet process was frequently mentioned during interviews with local elected officials as being extremely time consuming, inconsistent over time, lacking certainty or reliability in the process. Elected officials frequently did not have adequate human resources to complete time consuming and duplicative paperwork, experienced long delays in receiving reimbursement, and found inconsistencies between FEMA and MEMA in the administration, interpretations of allowable and non-allowable expenditures. Although all elected officials were deeply in need of financial assistance to recover from Katrina, this appears to be an area of deep disappointment and lingering resentment, and an area that hampered the speed of recovery in many communities. For example, multiple elected officials indicated

that the high turnover of FEMA contract personnel – sometimes as frequently as every two to three months, unwillingness of FEMA personnel to provide written documentation of statements or opinions as to allowable or non-allowable expenses, differing opinions and statements from one FEMA representative to another, apparent lack of knowledge on the part of FEMA contract personnel, slow response from MEMA, discrepancies between approved expenditures (for example FEMA approving a specific amount and then MEMA reducing the allowable amount of reimbursement to the governmental entity) made the entire process unreliable. A January 3, 2000 Joint Legislative Committee on Performance Evaluation and Expenditure Review (PEER) report to the Mississippi Legislature; found that “a lack of a unified project management system for tracking and reporting project status has contributed to MEMA’s inability to assess the status of outstanding claims and measure processing timeliness.” Interviews with local officials indicate that this problem had not been resolved in the intervening 5 years from the date of publication of this PEER report and the impact of Katrina.

THE RECOVERY PROCESS

Jackson County

Many municipal and county buildings were damaged by Katrina due to storm surge, wind, and flooding. Damage to Public Works and Code Enforcement buildings is estimated to require \$1.7 million to repair. Estimates of damage to public buildings are \$21.1 million and damage to public utilities is \$27.4 million. Additional figures were not available. The progress of the recovery process for Jackson County is rated as extensive with electricity, phone service, water, sewer, gas and other utilities restored to all occupied housing and business units. Of the three coastal counties, Jackson recovered the most quickly due to being farthest from Katrina’s point of impact and receiving relatively less impact from storm surge – however, this is not to underestimate the severe level of damage received by smaller coastal communities not included in this study, such as Gautier and Ocean Springs.

The City of Pascagoula, following the advice of James Lee Witt at the time he was director of FEMA, maintained insurance and a contract for Disaster Recovery Services with Crowder Gulf, Inc. that provided a comprehensive scope of services to the city to include emergency road clearance and debris removal from public rights-of-way, demolition of specific structures, and project management with damage surveys and FEMA Project Worksheets. According to municipal personnel, this insurance and contract for Disaster Recovery Services was a major factor in efficient and rapid recovery operations in Pascagoula.

Harrison

Major infrastructure damage to all public utility infrastructure occurred throughout Harrison County, exact estimates for repair and replacement of public utility infrastructure was not available to the researchers. Harrison County submitted FEMA project worksheets to reimburse \$8.2 million in Katrina related repairs to public utilities and \$27.6 million in repairs to public buildings. Road and Bridge repair costs were \$3.2 million.

The City of Biloxi had wide swaths of housing and infrastructure wiped away by Katrina. Specific infrastructure damage includes the complete destruction of 10 seafood processing plants and related infrastructure with an estimated replacement value of \$56 million. The loss of this industry represented significant job losses to the vibrant Vietnamese community located in East Biloxi on Point Cadet – this community lost not only their homes, but also their primary source of income with the destruction of the Seafood industry. The City of Biloxi’s port, marina, and docking facilities were wiped out by Katrina. As of

the writing of this report, no estimate of the cost of reconstruction was available but estimates of \$10 to \$20 million have been discussed. The port, marina, and docking facilities in Biloxi were important sources of revenue. A study of the Biloxi Port Commission conducted by the Stennis Institute in 2002 indicated that approximately \$1.7 million in annual revenues were generated by the port.³⁵ Biloxi is a principal fishing port in Mississippi. In 2003 Biloxi-Gulfport commercial fisheries caught 17.4 million pounds of fish with an estimated market value of \$26.8 million, ranking it 22nd in revenue compared to all commercial ports in the U.S. All three of Biloxi's marine haul-out facilities were destroyed or rendered inoperable by Katrina.³⁶ No repairs or reconstruction have begun on these facilities as of July 2006. However, Harrison County Economic Development is conducting study and planning activities to develop a strategy for the restoration and redevelopment of the Seafood Industry, the estimated cost for this project is \$56 million. Local officials indicate that this project would save approximately six to seven thousands jobs that were lost when Katrina destroyed the existing seafood industry buildings and infrastructure. The reconstruction of the Lighthouse Fishing Docks is estimated to cost \$1.5 million.

Biloxi City Hall and the City Hall Annex were flooded by Katrina, all electrical and computer systems received major damage. The cost of repair and replacement is estimated at \$2.5 million. The J.L. Scott Aquarium and Marine Education Center was a leading national center for ocean, marine, and coastal sciences that provided educational workshops, seminars and training for educators and pre-college students throughout the region, as well as Marine educational Summer Camps and hands-on learning programs for students in multiple age groups. This important educational resource was destroyed by Katrina. The estimate to replace this important community resource is \$20 million; insurance covered only \$800,000 of the damage to the facility.

The City of Gulfport. The Port of Gulfport is the third largest port in the Gulf of Mexico in terms of tonnage that moves through the port – it provided over 7,300 jobs and generated \$250 billion of direct economic impact. The Port experienced heavy damage from Katrina - with significant debris; multiple berths rendered inoperable; the Dole Terminal maintenance, operations, and administrative offices destroyed; and utility, storm water, electrical, and sewer system severely damaged or destroyed. The estimated costs to replace, repair, and harden the Port of Gulfport against future hurricanes is \$775 million.

Electricity, phone service, water and sewer service, gas and utilities have been restored to all inhabited residential and business structures. However, the level of damage is extensive – money and financial resource constraints are acting as a major barrier to the rapid recovery of Harrison County and the municipalities located within it.

Hancock County

The City of Bay St. Louis is the County Seat of Hancock County. A significant level of the public infrastructure – the County Courthouse, the Courthouse Annex, the Hancock County Sheriff's Office and Jail, Public Works, and Emergency Operations Center – were destroyed or severely damaged by Katrina. The estimate to repair or replace these facilities is approximately \$58 million. Funding for these activities should be available either through FEMA Public Assistance programs, under Hazard Mitigation Planning Grant programs, or through funding normally available through FEMA ESF14 Long Term Recovery

³⁵ The Biloxi Port Commission Study, 2002. <http://www.msgovt.org/files/biloxiportcommission.pdf>

³⁶ Source: Dr. William Hogarth, Assistant Administrator, National Marine Fisheries Services, NOAA, U.S. Department of Commerce, Testimony to U.S. House of Representatives, December 2005.

Programs. The Hancock County Public Library, and the libraries in Pearlington, Waveland, Kiln, and Bay St. Louis received severe damage or were completely destroyed – estimates for repairs were not available.

The storm surge created by Katrina back-charged sewer, water, and natural gas systems throughout coastal Mississippi causing damage and the need for costly repairs. Silt and impaction with debris damaged inflow and outflow storm drainage infrastructure. In many areas entire systems require complete reconstruction of the utility infrastructure. Many of these projects are eligible for FEMA Public Assistance funds, but many communities do not have the matching funds required for FEMA funding. A major obstacle to recovery will be the rebuilding and repair to public utility infrastructure and the need for communities to secure the required matching funds.

The City of Waveland estimates \$36.5 million of repairs to the utility infrastructure: \$7.9 million to repair water systems, \$21.9 million to repair sewer systems, \$2.7 million for damaged gas system repairs, and 3.8 million for storm drainage systems. A shortfall of approximately \$1.5 million exists at the municipal level to provide matching grant funds.

The City of Bay St. Louis estimates \$57.6 million of repairs are required for the public services infrastructure: \$18.4 million to repair water systems, \$22.3 million to repair sewer systems, \$3.3 million for damaged gas system repairs, \$6.8 million for storm drainage systems, and \$6.7 million for repairs to utility systems. A shortfall of approximately \$2.9 million exists at the municipal level to provide matching grant funds required to obtain FEMA grants to make these required repairs.

Waveland and Bay St. Louis both lost their public marina and pier facilities. These facilities are important to both the quality of life of residents and as an important amenity to the tourism industry and to the commercial fishing industry. The marina facilities generated important tax and fee revenues for both municipalities. Estimated reconstruction costs are \$6 million per municipality.

For all three counties, major bridges connecting coastal communities via Highway 90 have been lost – these bridges were a major connector route for local residents commuting to work in adjacent communities and acted as feeder roads for local cultural and heritage tourism. A major driver of tourism activities throughout coastal Mississippi counties was the ability for tourists to meander across the Mississippi Coastline via highway 90 to visit restaurants and attractions from Ocean Springs across to Casinos in Biloxi and then on to artists colonies and charming downtown venues in Bay St. Louis and Waveland. Failure to rapidly rebuild this important connector route will act as a barrier to the rapid economic recovery of the region. Funding delays in Washington, DC coupled with heated disagreements between local communities and the Mississippi Department of Transportation have contributed to delays in rebuilding of the Highway 90 bridges connecting Bay St. Louis and Pass Christian which was Hancock County's direct link to Gulfport; and the rebuilding of the Highway 90 bridge from Ocean Springs to Biloxi. Before Katrina 30,000 cars traversed this bridge daily. Estimated costs for reconstruction of the Ocean Springs/Biloxi and the Bay St. Louis Bridge span is \$400 million.³⁷

The magnitude of damage and the absence of financial resources are acting as a primary obstacle to recovery.

³⁷ Mississippi Department of Transportation, Hurricane Katrina Update, March 2006. <http://www.mdot.state.ms.us/news/facts.htm#Katrina>

Multiple important historic buildings were lost across coastal Mississippi. The rich historic architectural infrastructure that was lost to Katrina has not yet been fully assessed. These historic structures had significant emotional value to residents throughout the state of Mississippi and this architectural legacy was a major source of cultural heritage tourism throughout the region. Normally, funding to “harden” historic structures against future disasters may be available through ESF14 Long Term Recovery or Hazard Mitigation Planning grants if these activities are included in the Hazard Mitigation Plan of the community. Some communities are examining the use of these funds, coupled with Historic Preservation tax credits to finance the rebuilding of their historic downtown areas.

FISCAL AND ECONOMIC EFFECTS

Gross State Product is a measure of the value of all goods and services produced within a state; it is the state level equivalent to Gross Domestic Product – a national measure of economic productivity. The decline in relative growth from the prior year in Mississippi’s GSP may be a preliminary indicator of the impact of Katrina on Mississippi’s economy. A comprehensive analysis of the impact of Katrina on Mississippi’s economy is beyond the scope of this report. Figure 20 indicates that in the two years prior to

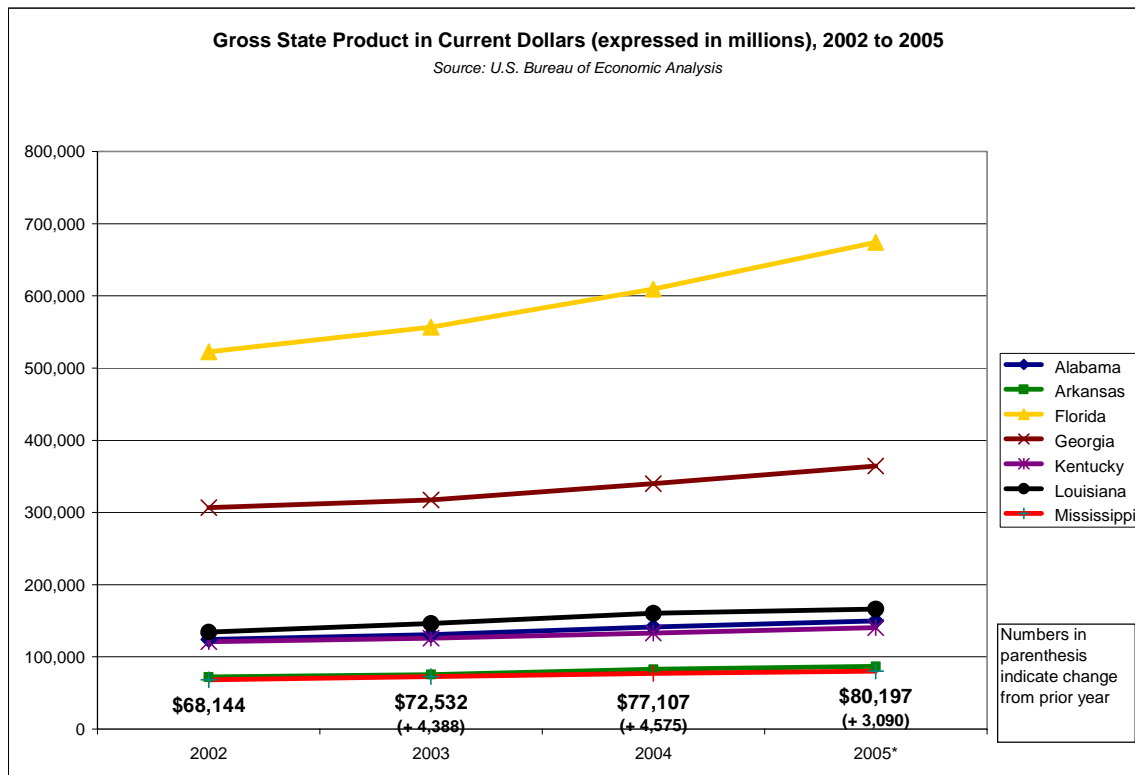


Figure 20: Gross State Product 2002 to 2005

Katrina, Mississippi’s GSP grew \$4.3 billion (6.44%) from 2002 to 2003, grew \$4.5 billion (5.93%) from 2003 to 2004, but grew only \$3.1 billion (4.01%) from 2004 to 2005 – this decreasing rate of growth may be an indicator of Katrina’s impact on Mississippi’s economy due to the disruption of economic and business activities.

State of Mississippi

Katrina's impact on the revenues and tax collections in the state of Mississippi was significant. According to the Mississippi State Tax Commission's Cash Report dated June 2006, total collections increased 9.92% an increase of approximately \$580 million comparing the period July 1 to Date for the period 2004 – 2005 and the same period for 2005 – 2006 (see Table . Although in some cases it is difficult to discern whether impacts are Katrina related, associated with normal growth, changes in consumer behavior, government policies or law – the magnitude of change in certain categories are most likely attributable to Katrina related effects. There are indications that residents of Mississippi have been impacted double fold by Katrina, having lost their homes or received major damage to their homes and contents, coupled with the loss of motor vehicles – these citizens must then replace these destroyed items; paying related costs and sales taxes on destroyed items; however in many cases the losses may be written off against income taxes. The cost of these losses is then compounded due to rising prices of gasoline and related taxes, and the cost of building materials and related taxes. Although further in-depth investigation of these issues is required, certain assumptions can be made:

- The destruction of residential homes and related Property Tax Relief policies of the state of Mississippi is associated with the 92% decrease (approximately \$138 million decrease) in ad valorem taxes. The loss of ad valorem taxes to municipal and county government will negatively impact the ability of these entities to provide services to their communities and to fund recovery activities.
- The 3.7 percent decrease (\$37,000 loss) in City Utility Tax is most likely associated with power outages and vacated/damaged housing units not yet reoccupied.
- The destruction of residential homes, with evacuees seeking shelter in hotels and motels, coupled with increased construction labor occupying hotels and motels is associated with the 20.9 percent increase (\$148,000 increase) in Occupancy Tax.
- The destruction of residents' motor vehicles and the need to replace or rent vehicles is associated with increases in Casual Auto Sales (66.6 percent - \$5.1 million increase); Motor Vehicle Rental Sales Taxes (49.1 percent - \$2.3 million increase); and the 20.4 percent increase Motor Vehicle Title Fees (\$922,969 increase). Motor Vehicle Privilege Taxes increased by \$5.7 million.
- The destruction of casinos on the Gulf Coast is associated with the 18.3 percent decline (\$61 million) in Gaming Fees and related taxes. Many Mississippi coastal communities rely upon Casino revenues to provide services to residents.
- As residents and business owners begin to rehabilitate their homes and businesses and replace items lost due to Katrina, the majority of these replacement items i.e. clothing, furniture, household and office supplies, plus the cost of building materials, are subject to sales tax collections. These activities most likely contributed to the 15.96 percent increase (\$ 377 million increase) in sales tax collections.
- The \$2.47 million increase (1.62%) in Insurance Premium Tax is associated with escalating costs of insurance that are likely to be Katrina related
- The reduction in Timber Severance Tax, a decline of 15 percent from the prior period is perplexing and requires further examination. The Timber Severance Tax is a privilege tax upon each person engaged in the business of growing, felling, cutting, severing and producing logs or any timber products from the soil or water, for sale, profit or commercial use; or purchasing, logging, or selling logs or timber products for commercial purposes. If the tax is not been paid by producer, grower, or vendor, the tax becomes the liability of the purchaser and is paid by him. Timber damage in Mississippi was estimated at \$1.285 billion with an estimated three years of timber felled by Katrina. The Army Corps of Engineers let contracts for clean-up.
- The increase in Hazardous Waste fees is associated with contamination and Katrina related debris and clean up

The rebuilding and recovery of Mississippi has barely begun as of the date of this report. Over the next two to three years as the majority of replacement housing is constructed and as citizens accumulate income to replace items lost in Katrina, settle insurance claims, or obtain Homeowner grants it can be anticipated that Sales Tax Revenues in the State of Mississippi will continue to increase dramatically. It can also be anticipated that until significant residential rebuilding efforts begin, ad valorem tax revenues will continue to be suppressed.

Table 11: Mississippi State Tax Commission Cash Report June 2006

	JULY 1st TO DATE FISCAL 2005-2006	JULY 1st TO DATE FISCAL 2004-2005	% CHANGE FISCAL YTD	Change Dollar Amount FISCAL YTD
TOTAL COLLECTIONS	\$6,432,488,538.97	\$5,851,714,926.72	9.92%	\$580,773,612.25
SALES TAX	\$2,756,185,027.72	\$2,379,044,585.39	15.85%	\$377,140,442.33
WITHHOLDING TAX	1,248,288,595.30	\$1,157,871,312.89	7.81%	\$90,417,282.41
USE TAX	280,211,274.53	\$207,635,300.55	34.95%	\$72,575,973.98
CORPORATE TAX	444,056,749.78	\$402,287,428.48	10.38%	\$41,769,321.30
PETROLEUM TAX	436,117,148.20	\$422,960,152.80	3.11%	\$13,156,995.40
GAS SEVERANCE TAX	42,226,500.06	\$30,595,469.98	38.02%	\$11,631,030.08
OIL SEVERANCE TAX	42,182,787.66	\$32,035,061.63	31.68%	\$10,147,726.03
SPECIAL COUNTY TAX	52,311,433.84	\$44,104,616.42	18.61%	\$8,206,817.42
ALCOHOLIC BEVERAGE TAX & PROFIT	73,685,009.57	\$67,895,510.95	8.53%	\$5,789,498.62
MOTOR VEHICLE PRIV. TAX	105,813,794.51	\$100,109,645.03	5.70%	\$5,704,149.48
CASUAL AUTO SALES	12,858,747.73	\$7,717,522.78	66.62%	\$5,141,224.95
INSURANCE PREMIUM TAX	155,833,284.63	\$153,354,493.91	1.62%	\$2,478,790.72
M.V.RENTAL SALES TAX	7,016,279.75	\$4,706,047.49	49.09%	\$2,310,232.26
TOBACCO TAX	58,118,105.60	\$56,018,643.96	3.75%	\$2,099,461.64
BEER TAX	31,795,534.92	\$30,193,551.49	5.31%	\$1,601,983.43
INCOME & ESTIMATE TAX	318,294,187.99	\$316,990,081.22	0.41%	\$1,304,106.77
HAZARDOUS WASTE	3,779,887.75	\$2,808,434.94	34.59%	\$971,452.81
MOTOR VEHICLE TITLE FEE	5,443,493.93	\$4,520,524.90	20.42%	\$922,969.03
TVA IN LIEU	19,875,509.80	\$19,291,347.26	3.03%	\$584,162.54
RAILROAD, UTIL.,& MUN.GAS	7,552,385.87	\$7,340,588.64	2.89%	\$211,797.23
OCCUPANCY TAX	859,744.50	\$711,041.41	20.91%	\$148,703.09
PHONE 911 SURCHARGE	1,621,290.45	\$1,494,646.53	8.47%	\$126,643.92
STATEWIDE PRIVILEGE TAX	465,560.57	\$451,592.66	3.09%	\$13,967.91
RAIL CAR IN LIEU	3,430,572.20	\$3,426,585.00	0.12%	\$3,987.20
NUCLEAR PLANT IN LIEU	20,000,000.00	\$20,000,000.00	0.00%	\$0.00
AMS SETTLEMENT FUND	10,000,000.00	\$10,000,000.00	0.00%	\$0.00
PULPWOOD SCALING FEE	0.00	\$0.00	0.00%	\$0.00
FREPORT WAREHOUSE TAX	0.00	\$0.00	0.00%	\$0.00
TIMBER SEVERANCE TAX	3,666,604.35	\$3,671,933.56	-0.15%	(\$5,329.21)
CITY UTILITY TAX	974,736.68	\$1,011,739.56	-3.66%	(\$37,002.88)
ABC PERMIT & FILING FEES	4,673,903.50	\$4,731,015.00	-1.21%	(\$57,111.50)
AD VALOREM	11,058.00	\$149,862.86	-92.62%	(\$138,804.86)
TIRE DISPOSAL FEE	2,436,944.01	\$2,787,666.86	-12.58%	(\$350,722.85)
INSTALLMENT LOAN TAX	6,384,836.20	\$8,552,605.32	-25.35%	(\$2,167,769.12)
ESTATE TAX	2,763,888.65	\$12,620,115.03	-78.10%	(\$9,856,226.38)
GAMING FEES & TAXES	273,553,660.72	\$334,625,802.22	-18.25%	(\$61,072,141.50)

Source: Mississippi State Tax Commission <http://www.mstc.state.ms.us/info/stats/cashrpt.htm>

Mississippi State Tax Commission Cash Report
Period July 1 to Date
Percent Change Fiscal Period 2004 to 2005 compared to Fiscal Period 2005 to 2006
Note: graph reflects only categories with largest percentage change for period

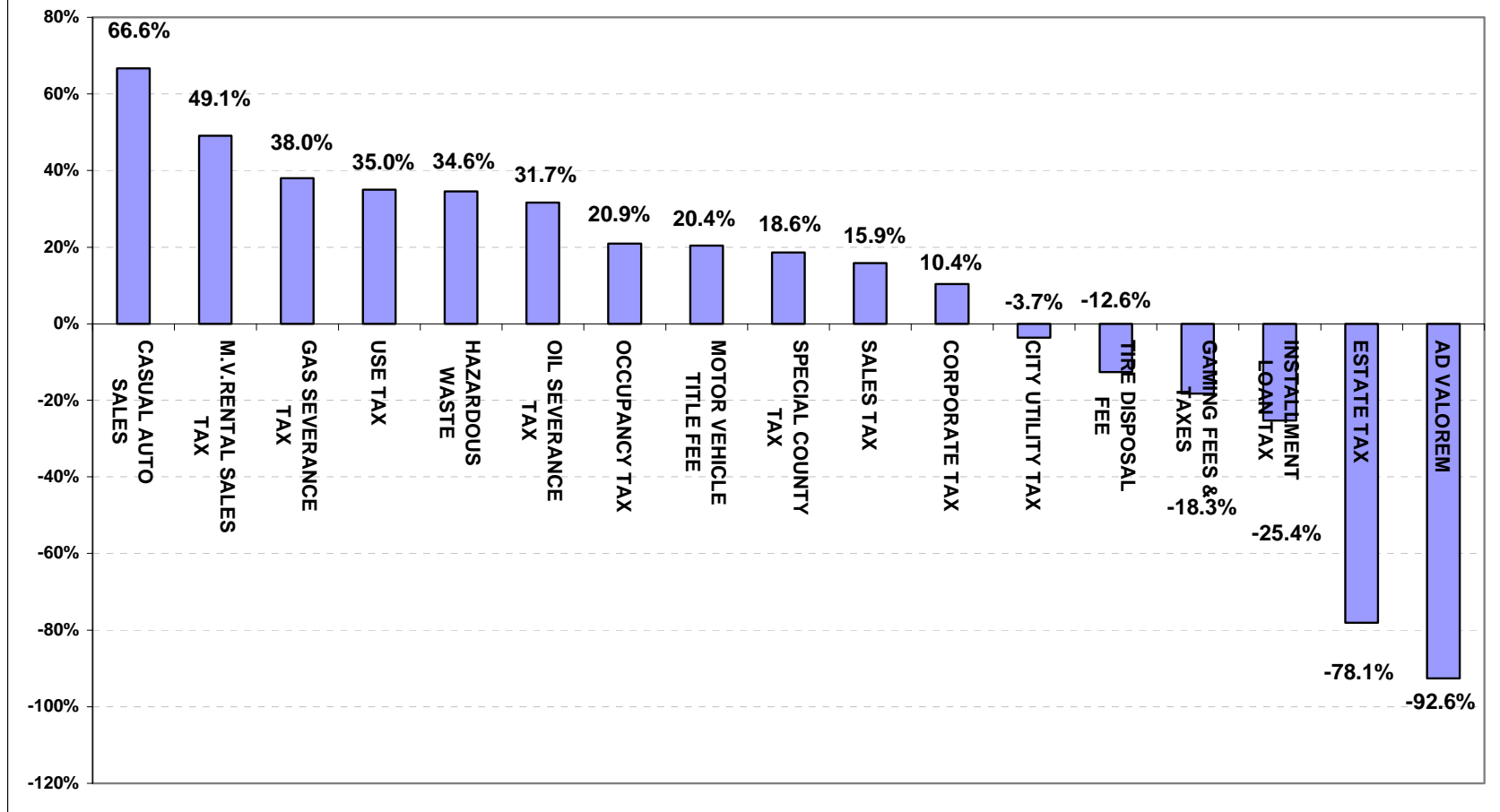


Figure 21: Mississippi State Tax Commission Cash Report

Gaming Gross Revenues

State level losses of Gaming Revenues provide a measure of the loss of the Casino operations within Mississippi's Coastal Counties. Gaming Fees and Taxes decreased approximately \$62 million or 18.35 percent. Gross gaming revenues in Mississippi's coastal counties of Hancock and Harrison County (Jackson does not have casinos) exhibited a decrease of \$338.5 million during the period January through December 2004 compared to the same period in 2005, with no Gross Gaming Revenues during the months of August, September and October of 2005. Gaming revenues from Mississippi coastal counties account on average for approximately 45 percent of total gaming revenues to the state of Mississippi.

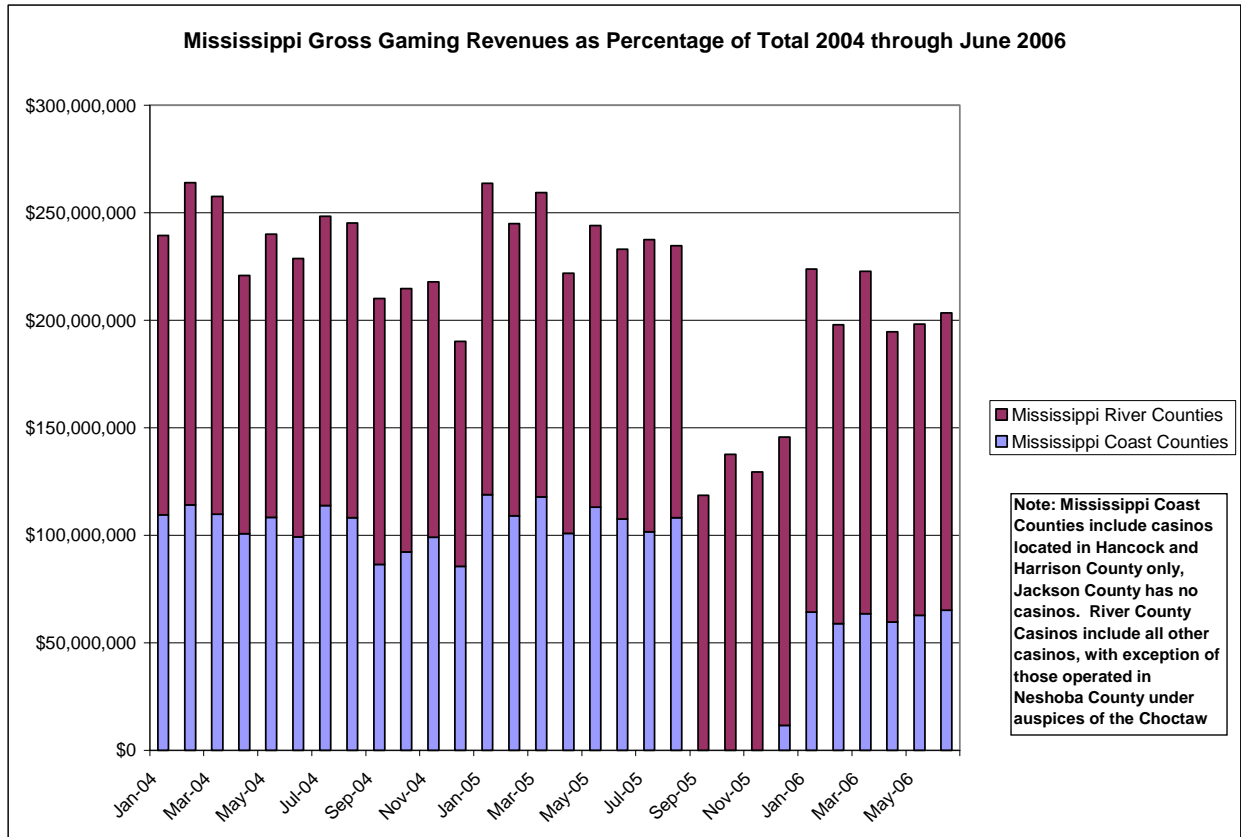


Figure 22: Mississippi Gross Gaming Revenues 2004 to 2006

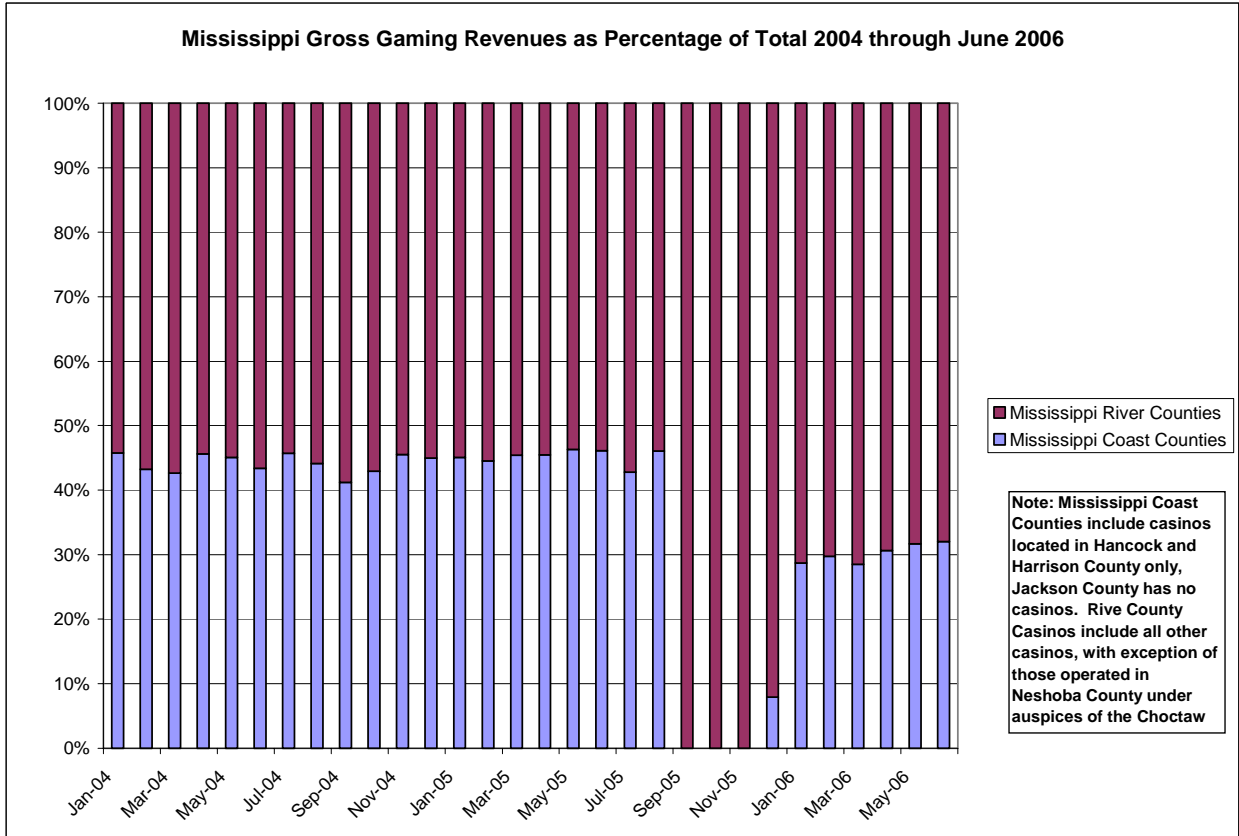
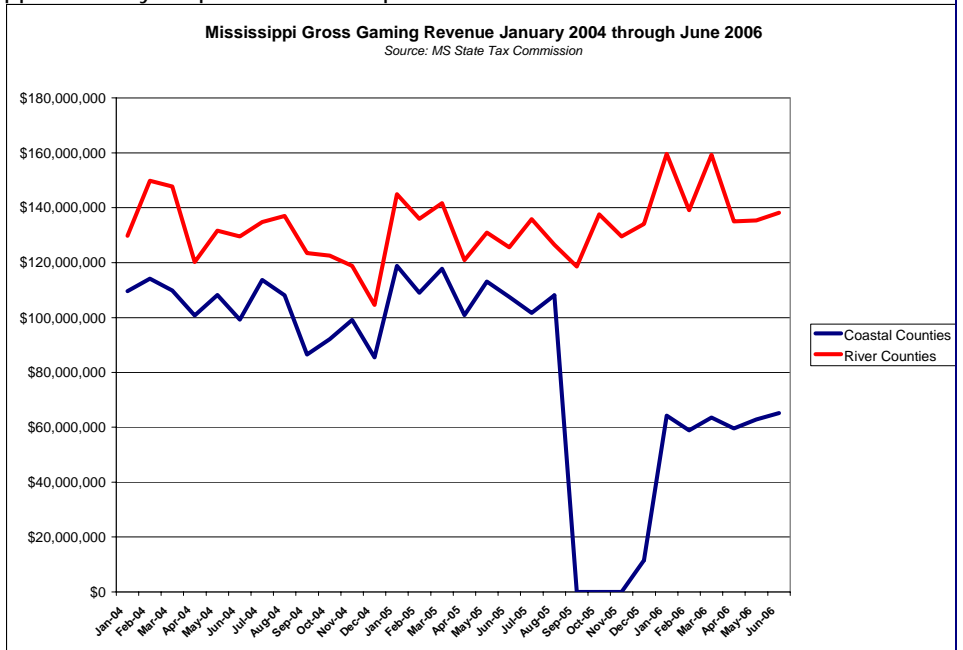


Figure 23: Mississippi Gross Gaming Revenues as Percent of Total

Beginning with the reopening of the Imperial Palace, gaming revenues in coastal counties began rebounding but still remain at approximately 60 percent of their pre-Katrina level. For the month of June 2006, gross gaming revenues for coastal Mississippi counties were reported to be \$65.1 million.³⁸ These revenues are directly attributable to casinos in Biloxi as no other casinos were operating in other coastal Mississippi counties as of that date. There is some evidence to suggest compensating shifts in total casino revenues to Mississippi's River Counties occurred that compensated for state level casino revenue losses in



³⁸ Source: Mississippi State Tax Commission 2006, <http://www.mstc.state.ms.us/taxareas/misc/gaming/stats/GamingGrossRevenues.pdf>

Mississippi Coastal Counties. There is some evidence to suggest that Mississippi's Gross Revenues from Gaming were experiencing a downward trend over time, as suggested by the slightly negative slope of the trend line exhibited in Figure 24 below; Gaming revenues should rebound as coastal casinos begin to reopen. This area of econometric inquiry is beyond the scope of this report; further investigation into these issues is an important area of further study.



Figure 24: Growth in Mississippi Gaming Revenues 2004 to 2005

Gaming Tax Revenues

Gaming Tax Revenues, Gaming Tax Revenues to the General Fund, and County/Municipal Gaming Licenses & Tax Transfers declined during the period ending June 30, 2006 as compared to the same period for the prior year. Comparing the period July 1, 2004 to June 30, 2005 with the period July 1, 2005 to June 30, 2006 Gaming Fees and Taxes transferred to the General Fund declined by 13.55 percent – a decrease of \$22.8 million; Transfers to Local Government declined by 19.93 percent – a decrease of \$20.3 million from the prior year.

	June 2006	June 2005	07-01-2005 to 06-30-06	07-01-2004 to 06-30-05	INCREASE (DECREASE) AMOUNT	INCREASE (DECREASE) PERCENT
Gaming Fees & Taxes Transferred to:						
General Fund	\$12,282,838	\$13,462,811	\$145,710,583	\$168,540,140	(\$22,829,557)	-13.55%
Gaming License & Taxes (Counties & Cities)	9,024,282	10650049.63	93,112,688	\$113,461,765	(20,349,077)	-17.93%
Gaming Bond Sinking Fund	3,000,000	See Note	36,000,000	See Note	36,000,000	0.00%
Budget Contingency Fund	0	4,314,604	0	\$54,595,052	(54,595,052)	-100.00%
Gaming to State Highway Dept	0	0	0	0	0	0.00%
Total Gaming Fees & Tax Transfers	\$24,307,120	\$ 28,427,464	\$274,823,271	\$336,596,957	(\$61,773,685)	-18.35%

Source: Mississippi State Tax Commission <http://www.mstc.state.ms.us/info/stats/transfer/Tran0604.xls>

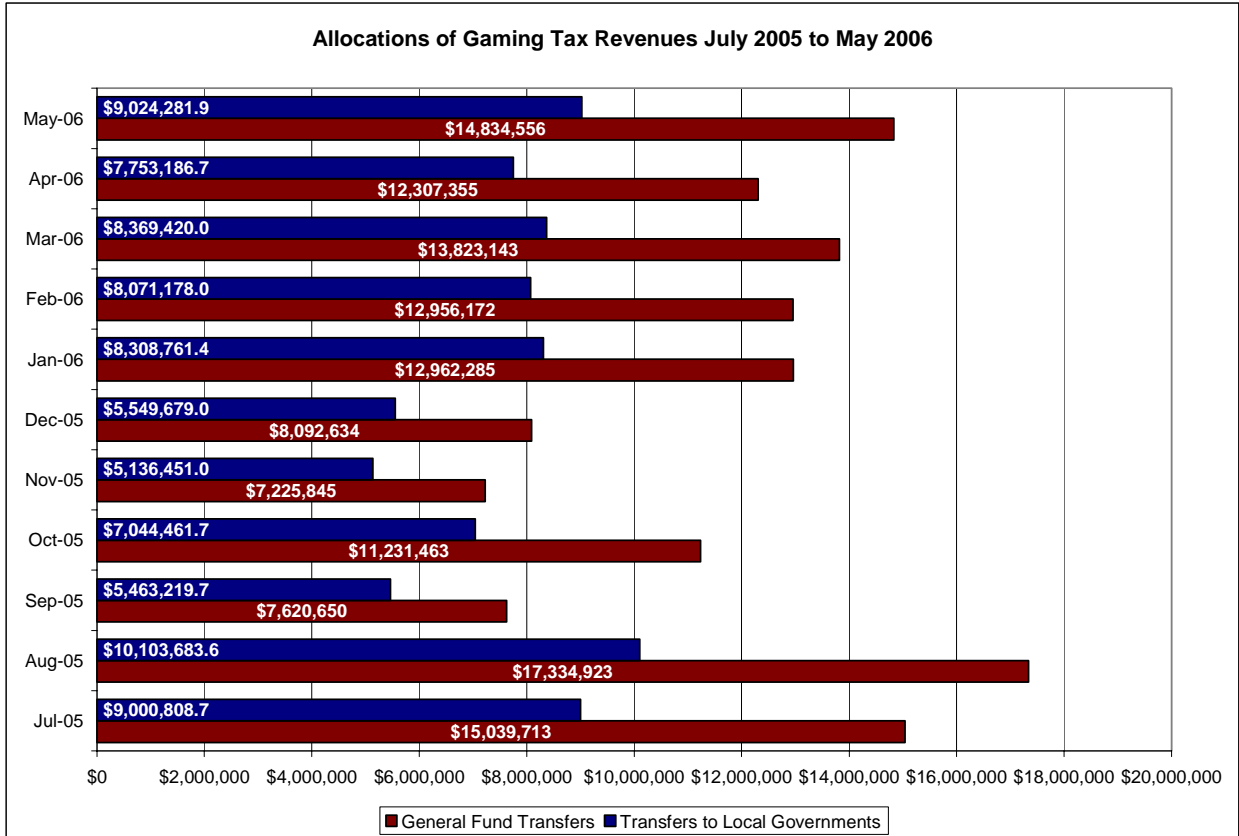


Figure 25: Allocation of Gaming Tax Revenues July 2005 to May 2006

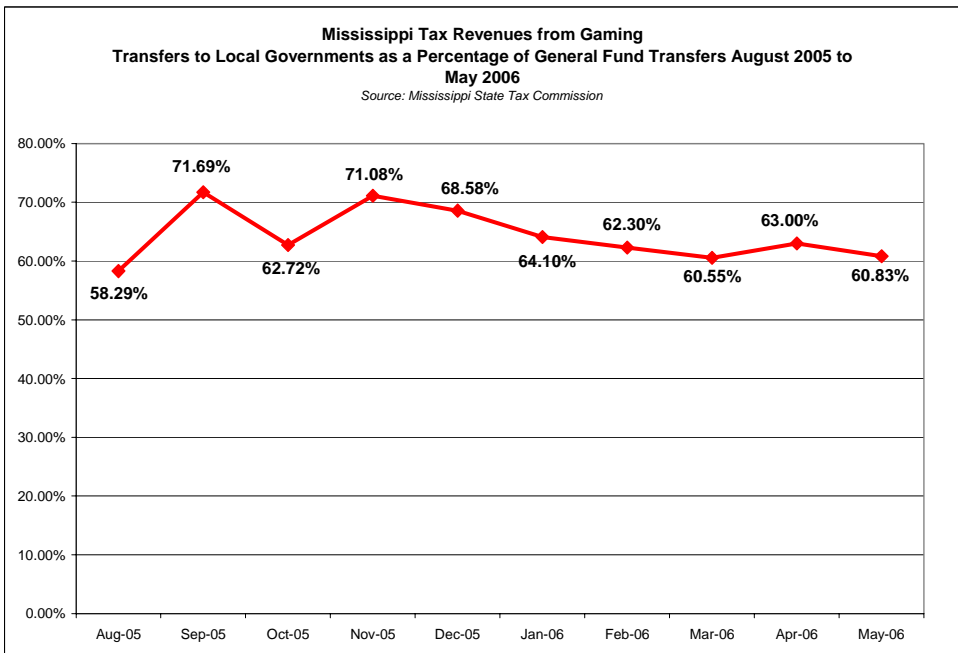


Figure 26: Mississippi Tax Revenues from Gaming

Sales Tax Revenues

As previously reported, sales tax collections at the state level increased approximately 15.85 percent at the state level when comparing the July 1, 2004 to June 2005 fiscal period with the same fiscal period for July 1, 2005 to June 2006.³⁹ In the industry sectors reported by the Mississippi State Tax Commission, approximately 15 percent of statewide Gross Sales and Gross Tax are generated by the three coastal counties, contributing approximately \$339 million in Gross Tax Revenues annually to state coffers.

Table 12: Sales and Tax by Industry Group Fiscal Year 2005

Sales and Tax by Industry Group Fiscal Year 2005	
Jackson County	
Number of Taxpayers	2,811
Gross Tax	\$82,639,928
Gross Sales	\$1,320,130,364
Harrison County	
Number of Taxpayers	5,142
Gross Tax	\$229,785,190
Gross Sales	\$3,650,145,836
Hancock County	
Number of Taxpayers	1,239
Gross Tax	\$27,514,491
Gross Sales	\$454,014,403
Three Coastal Counties Combined	
Number of Taxpayers	9,192
Gross Tax	\$339,939,609
Gross Sales	\$5,424,290,603
State of Mississippi	
Number of Taxpayers	73,544
Gross Tax	\$2,225,490,658
Gross Sales	\$36,089,417,703
<i>Mississippi State Tax Commission, Annual Report Fiscal Year Ending June 2005</i>	
http://www.mstc.state.ms.us/info/annualreport/fy2005/MSTCAAnnualReport2005.pdf	

One method for evaluating the importance of the three coastal counties contribution to Gross Sales Tax collections is to calculate a Gross Sales Tax contribution ratio. If collections were equal across each of Mississippi's 82 counties, then each county would be anticipated to collect approximately 1.2 percent of total Gross Sales Tax collections and the ratio would equal "1." Using this approach, the three coastal counties would be expected to contribute 3.6 percent of total collections, they actually contribute 15 percent. Using Gross Sales Tax contribution ratio, the ratio for the three

³⁹ Mississippi State Tax Commission Dash Report as of June 2006, Schedule A.

coastal counties is 4.175, indicating a very significant contribution to statewide Gross Sales Tax collections.

Table 13: Sales and Tax by Industry Group Municipalities Fiscal Year 2005

SALES AND TAX BY INDUSTRY GROUP FISCAL YEAR 2005	
Biloxi	
Number of Taxpayers	1,381
Gross Tax	\$67,922,276
Gross Sales	\$1,007,212,597
Gulfport	
Number of Taxpayers	2,109
Gross Tax	\$99,279,825
Gross Sales	\$1,514,291,692
Pascagoula	
Number of Taxpayers	717
Gross Tax	\$29,783,226
Gross Sales	\$465,157,114
Waveland	
Number of Taxpayers	266
Gross Tax	\$12,584,832
Gross Sales	\$191,004,282
Bay St. Louis	
Number of Taxpayers	372
Gross Tax	\$7,349,963
Gross Sales	\$112,328,690
Total Municipalities Under Study	
Number of Taxpayers	4,845
Gross Tax	\$216,920,122
Gross Sales	\$3,289,994,375
State Total for Cities	
Number of Taxpayers	51,633
Gross Tax	\$1,848,697,972
Gross Sales	\$28,366,627,454

Sales Tax Revenue Transfers to Municipalities

MISSISSIPPI STATE TAX COMMISSION				
DIVERSIONS TO CITIES FROM SALES TAX COLLECTIONS				
CITY	July 1 to Date		Percent Change for Period	Absolute Dollar Change
	2006	2005		
BAY ST LOUIS	\$1,007,728	\$1,357,007	-25.74%	-\$349,279
BILOXI	\$10,036,138	\$12,711,466	-21.05%	-\$2,675,328
D'IBERVILLE	\$5,146,803	\$3,525,279	46.00%	\$1,621,524
GAUTIER	\$3,249,267	\$2,089,297	55.52%	\$1,159,970
GULFPORT	\$25,139,743	\$18,021,642	39.50%	\$7,118,102
OCEAN SPRINGS	\$4,941,702	\$3,750,471	31.76%	\$1,191,231
PASCAGOULA	\$7,327,239	\$5,421,321	35.16%	\$1,905,918
PASS CHRISTIAN	\$608,070	\$1,253,533	-51.49%	-\$645,464
WAVELAND	\$1,561,286	\$2,239,566	-30.29%	-\$678,281
WIGGINS	\$1,905,223	\$1,333,178	42.91%	\$572,045
TOTAL	\$60,923,199	\$51,702,761	17.83%	\$9,220,438

Source: Mississippi State Tax Commission, June 2006

Hotels and Tourism

	Rooms Pre- Katrina	Rooms Post- Katrina	% Rooms Post- Katrina
Hotel Inventory - not casinos			
<u>Hancock County</u>	1,225	182	14.90%
Bay St. Louis	718	3	0.42%
Waveland	162	0	0.00%
Diamondhead	345	179	51.90%
<u>Harrison County</u>	13,561	3,971	29.30%
Biloxi	9,227	2,160	23.40%
Gulfport	3,471	1,375	39.60%
D'Iberville	426	426	100.00%
Pass Christian	176	0	0.00%
Long Beach	261	10	3.80%
<u>Jackson County</u>	2,572	2,228	86.60%
Pascagoula	631	489	77.50%
Gautier	250	170	68.00%
Ocean Springs	1,062	1,036	97.60%
<u>Hotel Inventory - Casinos - City</u>			
Bay St. Louis	492	0	0.00%
Biloxi	5,975	1,723	28.80%
Gulfport	1,000	0	0.00%

LEVEL OF CHANGE IN OWN-RAISED REVENUE

Jackson County

Jackson County and Pascagoula report that self generated revenue streams are approaching pre-Katrina levels, but additional resources are needed to recover from the impact of Hurricane Katrina. The budget for Jackson County was \$120 million for Fiscal Year 2005 – 2006. Ad Valorem taxes normally account for approximately 75 percent of county self-generated revenues. Over the ten-year period from 1995 to 2005, the County Board of Supervisors has been able to reduce millage rates from a high of 65.365 to a low of 53.500 as of 2005. As demonstrated in Table 14, the strong diversified mix of Jackson County's economy is a source of significant revenue, with ten large firms contributing approximately \$40 million annually to the ad valorem tax base.

Table 14: Major Ad Valorem Tax payers in Jackson County

Top Ten Ad Valorem Tax Payers in Jackson County
1. Chevron — \$13,946,009.55
2. Mississippi Power — \$11,292,757.15
3. Northrup Grumman — \$5,710,489.62
4. Gulf Power — \$4,107,532.80
5. Bell South — \$1,654,259.45
6. Gulf Stream Nat. Gas -- \$740,560.83
7. Mississippi Phosphate -- \$725,498.96
8. Wal-Mart --- \$724,771.59
9. First Chemical --- \$633,521.51
10. BP Amoco --- \$237,161.90
Source: Jackson County Tax Collector 2002

Post Katrina, Jackson County has a degree of uncertainty as to the impact of Katrina on revenues and the costs associated with recovery from Katrina. Jackson County property tax assessments are down \$350,000,000 in real property and up \$250,000,000 in personal property. An increase of \$7 million in revenues is anticipated when Mississippi Power Company comes to the end of their exemption period by year end. In FY 2006, car tag fees had increased substantially. Jackson County's self-generated revenues are rated as approaching pre-Katrina levels.

Harrison County

Harrison/Biloxi report that revenue streams are increasing but the costs of recovery have created deep need for additional revenues and financial resources. Harrison County revenues are estimated at \$92 million annually and expenses at \$ 87 million. Property tax revenues account for approximately \$45 million of total revenues. Comparing the period July 1 through June 20 2005 to the same period in 2006, Harrison County's Tourism Tax revenues have decreased 23.65 percent (a decline of \$772,752).

Biloxi. Historically, gaming tax (32 percent of total), ad valorem taxes (24 percent of total), and sales tax (19 percent of total) are the three largest components of Biloxi self-generated revenue stream. Since the implementation of gaming and related gaming taxes in 1992, these taxes have been the largest single revenue source for the City of Biloxi. Municipal revenues are generally estimated at \$55 million with expenditures ranging between \$48 and \$52 million. Fiscal management controls have enabled the municipality to create cash reserves, these reserves enabled the municipality to meet disaster response and recovery costs effectively.

Gulfport. The largest revenue source for the City of Gulfport is property taxes, estimated at \$19 million annually and comprising 33 percent of total self-generated revenues; sales tax revenues account for approximately 30 percent of municipal revenues and were \$17 million in 2003. General and Program Revenues in 2003 were \$56.8 million and expenses were \$62 million.⁴⁰ Gulfport's sales tax revenues have increased.

Harrison County's self-generated revenues are rated as much lower post Katrina; Biloxi's are rated as much lower – but these revenue streams should rapidly increase given the combination of the rapid reopening of casinos and the large number of permitted condominium developments, assuming solutions can be found for workforce housing. Gulfport's self-generated revenue streams are rated as rapidly approaching pre-Katrina levels, mainly due to sales tax increases. The duration of these significant increases in sales tax revenues may be impacted as the business infrastructure in adjoining municipalities and counties increases – i.e. the opening of Lowe's and Wal-Mart in Hancock County. The damage to the Port of Gulfport and lagging reopening of operations may dampen recovery. However, for the period of time that Gulfport is able to retain its position as a primary building supply and retail shopping area and as rebuilding activities increasingly gear up in coastal Mississippi – sales tax revenues should continue to remain extremely strong.

Hancock County

Hancock County's operating budget is approximately \$35 million annually of which, approximately 50 percent is generated from property tax revenues – the county anticipates revenue shortfalls in the range of \$10 to \$16 million in the next fiscal year. Hancock County reports that revenue streams are beginning to increase, but the ad valorem tax base has been severely impacted by Katrina. Hancock County's revenues are lower than pre-Katrina, but due to rapid growth in certain residential areas, escalating property values, lack of damage to major economic drivers such as Stennis Space Center and the rapid recovery of the Port of Bienville, this segment of the economy and related revenues should recover fairly quickly. However, revenues related to gaming, sales tax, and tourism will be much slower to recover.

- Approximately 50 percent of Bay St. Louis' revenue base was generated from gaming taxes, sales taxes are estimated by City officials to fall from about \$1.5 million to about \$400,000. Property taxes are estimated to be reduced by approximately 50 percent. Estimates indicate that the City's budget will be reduced by about 70 to 80 percent of its' pre-Katrina level.
- The City of Waveland has an annual budget of approximately \$6.5 million of which \$1 million was generated by property tax. City officials estimate that immediately after Katrina, sales tax collections were cut to zero, but are now approaching 20 percent of pre-Katrina levels.

⁴⁰City of Gulfport, Comprehensive Annual Report, 2003. <http://www.ci.gulfport.ms.us/CAFR2003.pdf>

Waveland and Bay St. Louis are struggling to survive, the residential and business base of these communities has been decimated, own-raised revenue is much lower than pre-Katrina. For Hancock County, with the Stennis Space Center and growth in related research activities coupled with the economic strength of the Port of Bienville, and the strong residential growth in areas such as Diamondhead, self-generated revenues although currently evaluated as significantly lower than pre-Katrina should rebound within two to three years to pre-Katrina levels.

MUNICIPAL/COUNTY BORROWING

Jackson County

In 2005, Jackson County reduced their debt from \$57 to \$34 million, refinancing some debt. To prepare for recovery and rebuilding related expenses, Jackson County established a \$16 million line of credit. In the City of Pascagoula property tax revenues are down considerably – the full impact will not be felt until 2007. The municipality is “borrowing all over the place – borrowed from the Disaster fund as much as possible – but can’t use that money for what we really need it for. Insurance costs have increased considerably – there are things we now have to insure that we have never had to insure before.”

Harrison County

The Harrison County Board of Supervisors authorized the issuance of a General Obligation Bond not to exceed \$50 million to raise money for the purpose of financing and refinancing the County’s outstanding indebtedness and paying the cost of issuance of County Bonds and Bank Bonds in November 2005 and authorized the approval of a Special Community Disaster Loan in the amount of \$16.4 million in December 2005.

The City of Biloxi relied predominantly upon existing reserves to fund recovery activities. This city appears to be extremely healthy from a financial perspective. The city had taken out a business interruption insurance policy prior to Katrina; approximately \$10 million of an estimated \$40 million in payments from this policy has already been received. These proceeds assisted Biloxi to meet immediate response and recover needs. Historically, the City of Biloxi has worked hard under its present leadership to improve bond ratings and to reduce debt service. At the time that the current administration took office, Biloxi’s municipal bonds were “junk bonds and rated accordingly.” As of August 2005, the City of Biloxi had a Standard & Poor’s rating of A and the Port of Biloxi Commission was rated BBB+⁴¹

The City of Gulfport took out a \$16 million Community Emergency Assistance loan from FEMA to use for operating revenue.

Hancock County

Hancock County has five outstanding tax-free bond issues totaling \$18.8 million, rated A2 and \$300 million in taxable municipal general obligation bonds.

The City of Bay St. Louis has borrowed \$1.4 million from the Special Community Disaster Loan Fund and \$6.3 million from Mississippi Development Authority. It has applied for an additional \$10 million in loans to cover operating and recovery costs.

⁴¹ Lexis/Nexis Financial Times Information, The Bond Buyer, August 31, 2005.

Waveland had two outstanding municipal bonds - \$700,000 in a non-rated general obligation and \$345,000 on a school bond issue, both owned by local banks.

Researchers Notes: The loss of the property tax base is further exacerbated by the use of FEMA trailers as temporary housing. As long as ownership of the trailers resides with FEMA, the Federal Government or the State – the trailers are exempt from ad valorem property taxes. To a limited degree, this property tax loss may be compensated for by assessing hook-up and related fees at FEMA trailer parks. Mississippi property tax codes also contain a provision that provides for the reassessment of property values when non-income producing property is converted to income producing property. For example, undeveloped land or land used for agricultural purposes, when converted to an income producing trailer park may be reassessed or reclassified to generate additional ad valorem tax revenues. Losses of property tax from FEMA trailers may also be offset in the future as mobile homes replace permanent site built housing because mobile homes are taxed as personal property at the higher rate of 15 percent rather than as real property and are not eligible for Homestead exemption. However, mobile homeowners who own the land on which the mobile home is located have the option of declaring the mobile home as real property; this requires that the wheels and axles be removed and the mobile home must be anchored and blocked in accordance with the rules and procedures promulgated by the Commissioner of Insurance of the State of Mississippi. After the wheels and axles have been removed and the mobile home has been anchored and blocked in accordance with such rules and procedures, the mobile home can be considered to be affixed to a permanent foundation. At this point the mobile home will be taxed at the lower rate of 10% and eligible for Homestead exemption. Ad valorem property tax losses related to Katrina are also associated with reductions in assessment values related to property damage. For example, in Hancock County damaged properties are assessed at the “value of improvement,” i.e. for example if only a concrete slab and 2 x 4 frame remains – then the assessed value of the property is reduced accordingly. Under Mississippi Code, there are special exemptions related to disasters that enable homeowners to retain their homestead exemption on real property for 12 months after a disaster when a disaster event forces the relocation of the homeowner. Unfortunately, circumstances arise where individual residential home owners after suffering the loss of their homes may find themselves paying higher taxes to live in mobile homes unless they take the required steps to assure that these homes qualify as real property.

Individuals working in County government and in the financial industry indicate that Northern Hancock County is “experiencing phenomenal growth.” Property values are escalating to triple their pre-Katrina market price, with an average cost of \$150 per square foot for new residential construction in areas, such as Diamondhead, that are experiencing rapid growth. Three new banking firms are relocating into the area (planned prior to Katrina), new business loans are up and growing at a rapid pace and new mortgages are also growing.

All municipal and county officials interviewed by Stennis Institute staff expressed vigorous optimism about the future of their communities and the opportunities for strong economic growth and recovery – but there is concern about the temporary revenue shortfalls and the financial costs associated with response and recovery. Across coastal Mississippi, governments are wrestling with multiple difficult issues. It is only the magnitude of revenue constraints that varies from county to county and between municipalities. Most have been forced to borrow heavily to cover these costs and are deeply concerned about the financial future of their communities and their ability to continue to provide a high level of service to residents. The immediate response to Katrina -

repairing services and infrastructure has been extremely costly and most elected officials recognize that they have barely scratched the surface of the long-term cost of recovery. At the local level of government - the hard, difficult, and costly process of recovery is a grim reality. Ten months after Katrina, many areas still look like war zones – in spite of the diligence, long hours and hard work that have been expended responding to the devastation wrought by Katrina. Many residential, commercial and industrial buildings still standing (barely) are structurally unsafe and will eventually need to be torn down – many officials are concerned about how this cost will be borne after the Public Disaster Assistance mandated under the Stafford Act expires. These costs will act as yet another barrier to the recovery of the coast, as either governmental entities or for-profit developers will bear the costs associated with remediation and rehabilitation. Financial constraints prevent most municipal and county governments from hiring additional personnel to enable them to meet an overwhelming demand for assistance from residents and local businesses. Some elected officials express concern for plans to establish new bureaucratic entities that will duplicate services already offered by municipal and county governments or by local county economic development organizations – such as Planning, Building & Zoning, and permitting process, that could be more efficiently administered and alleviate funding shortages if additional dollars were made available to county or municipal governments for human or technological resources; there is also concern about assuring decision-making remains responsive to citizens and residents by remaining within the hands of elected rather than appointed bureaucrats.

Long delays in processing reimbursement for FEMA approved Public Assistance projects, denial or discounting of the total reimbursement to county and municipal governments is of significant concern throughout the region. Interviews indicate that backlogs of paperwork at MEMA have resulted in millions of dollars being withheld from local governmental entities at a time when it is critically needed for recovery. All communities expressed need for funding sources to provide matching funds for available grants, particularly to meet the required cash match for FEMA Public Assistance grants.

Intergovernmental Aid

According to FEMA-1604-MS reports as of July 2006, Mississippi Coastal Counties received a total of \$910 million in Individual Assistance and \$640 million in Public Assistance. As of July 12, 2006 The Small Business Administration reports 30,473 Home Loans in the amount of \$2 billion and 4,464 Business Disaster Loans in the amount of \$498 million. No local official interviewed could verify the figures for SBA loans, a database of business disaster loans available on SBA's Website⁴² indicates that approximately \$398 million SBA disaster loans were approved for businesses in the three coastal counties of Hancock, Harrison, and Jackson County – however this database is not dated and this information may not be reliable.

Direct FEMA Contracts Nationally

As of July 10, 2006 FEMA awarded \$6,231,281,184 in contracts in support of Hurricane Katrina Recovery efforts. Approximately 13 percent of the total amount of FEMA contracts was awarded to local businesses domiciled in Alabama, Louisiana, and Mississippi. Alabama received 3.44 percent (approximately \$214 million), Louisiana received 8.23 percent (approximately \$506 million), and Mississippi received 1.43 percent (approximately \$89 million) of the total dollars awarded by FEMA for Katrina recovery related contracts. Of all contracts let by FEMA,

⁴²<http://www.sba.gov/cgi-bin/disasterloan2.pl?office=ms&year=05>

approximately 25 percent of the total dollar value were awarded to small businesses and 75 percent were awarded to "other than small business;" approximately 2 percent were awarded to small disadvantaged businesses (including minority owned firms), and slightly less than 2 percent (1.99%) were awarded to female owned business firms. The largest percentage of the total dollar amount of FEMA contracts were contracted to firms located in the state of Virginia (30.72% or approximately \$1.92 billion).

FEMA Assistance to Local Governments and State Agencies

Upon the issuance of a Presidential Disaster Declaration Public and/or Individual Aid is available through provisions of the Stafford Act. In the state of Mississippi the process followed by local governments to request Public Assistance related to Katrina damages was to submit Project Worksheets to request financial assistance from FEMA. Upon notification of approval of the Project Worksheet by FEMA, the work would be completed by the public agency (i.e. county or municipal government) and then substantiating documentation would be submitted to MEMA. MEMA would then review these documents and approve, disapprove, or modify the amount of reimbursement received by the public agency. FEMA's Public Assistance (PA) Branch collects information on public property, including debris removal and repairs to infrastructure, public buildings, utilities, roadway, and other projects. These Public Assistance reports are considered by some to be reliable indicators of the amount of damage. Figures from the FEMA "Project Worksheets and Total Public Assistance Funding," dated April 27, 2006 indicate that the state of Mississippi was approved for \$1,055,439,452 in public assistance. Of this amount, \$9.3 million was awarded in the category of "State Management." A total of \$257.1 million (24.36 percent of the total value of all awards to Mississippi) was allocated to the State and other agencies; the balance was distributed among the Mississippi Counties impacted by Katrina (see page 24 for FEMA Public Assistance Funding Obligations).

The process of completing and submitting Project Worksheets and subsequent allocation and reimbursement processes was the most frequently mentioned issue during interviews with local elected officials. It was described as being extremely time consuming, inconsistent over time, lacking certainty or reliability in the process. Local municipal and county entities frequently did not have adequate human resources to complete time consuming and duplicative paperwork, experienced long delays in receiving reimbursement, and found inconsistencies between FEMA and MEMA in the administration, interpretations of allowable and non-allowable expenditures. Although all elected officials are deeply in need of financial assistance to recover from Katrina, this appears to be an area of deep frustration and lingering resentment, and an area that hampered the speed of recovery in many communities. For example, multiple elected officials indicated that the high turnover of FEMA contract personnel – sometimes as frequently as every two to three months, unwillingness of FEMA personnel to provide written documentation of statements or opinions as to allowable or non-allowable expenses, differing opinions and statements from one FEMA representative to another, apparent lack of knowledge on the part of FEMA contract personnel, slow response from MEMA, discrepancies between approved expenditures (for example FEMA approving a specific amount and then MEMA reducing the allowable amount of reimbursement to the governmental entity) made the entire process unreliable.

Many governmental entities reporting having to reassign their "best and brightest" to working strictly on preparing Project Worksheets, dealing with the maze of bureaucracy, and fighting to obtain funding. During a time when all personnel were needed to provide services to respond and

recover from Katrina, allocating valuable human resources to this process was difficult. Some governmental entities report that they still await millions of dollars in reimbursements from FEMA/MEMA.

These reports raise question as to whether the number of Project Worksheets and the amount of Public Assistance received by municipal and county governments is truly a function of the level of destruction within a community or is actually a measure of the ability of local governments to circumnavigate the massive level of documentation and paperwork required or possibly a function of the level of knowledge and competency of FEMA/MEMA personnel assigned to specific county or municipal governments.

The rate of change in the total dollar amount of Intergovernmental Aid was significant. County and municipal governments report working well together and deeply appreciative of the vast assistance received from other states in responding to Katrina. A quantitative dollar value for this aid is not available.

Interlocal Cooperation

The Harrison, Hancock, and Jackson County Boards of Supervisors had strong, collaborative relationships pre-Katrina. Post-Katrina, supervisors from the three coastal counties have held a series of meetings to further solidify planning and to provide mutual support to recover from Hurricane Katrina, and specifically for Harrison and Jackson County to assist Hancock County which in the words of Jackson County Supervisor Tim Broussard, “seemed to be getting the short end of the stick.”⁴³ Interviews with elected leaders across coastal Mississippi indicate that municipal and county governments are not receiving the level of financial assistance they need to address the many issues they are facing in recovering from Katrina. Many elected leaders suggest that coastal Mississippi’s economic contribution to the General Revenue Fund of the State of Mississippi has been significant over time and that it is now time for that historic contribution to be “shared back” by the state. Many also indicate no active engagement in the development of ESF14 planning activities for the funding that is normally provided to municipal and county governments related to housing and permanent housing, and the restoration of public facilities and infrastructure.⁴⁴ In fact county officials generally could not respond to questions about their role of participation with FEMA/MEMA in developing the state’s Hazard Mitigation and Emergency Response Plan or the level of funding that is available to governmental entities through ESF14 (Emergency Support Function). This indicates significant information and communications gaps exist between local governments and Federal or state agencies. It also indicates that due to poor communication, overburdened local governments may not fully aware of the full range of financial resources available to meet Katrina recovery needs. Although there were widespread announcements by the Governor’s Office of Recovery & Renewal about ESF-14 planning sessions held within coastal counties, it is possible that local elected leaders did not understand the magnitude of funding that is available to their communities under this program, and the importance

⁴³ The Sea Coast Echo, June 7 2006.

⁴⁴ http://www.fema.gov/rebuild/lcr/plan_resource.shtm

of their participation in this process. This communication and information gap will act as a major obstacle to recovery of Mississippi's Gulf Coast counties. Excellent examples of ESF-14 plans exist on the Internet,⁴⁵ and models of ESF-14 planning activities, such as that of Santa Rosa County, Florida are also available on the Internet.⁴⁶

Time and human resource constraints in responding to the recovery needs in Mississippi's most devastated counties and municipalities may have created situations that prevented the three coastal counties or municipalities from accessing available funding such as funding to improve their Geographic Information Systems as did the Pearl River Board of Supervisors who were able to secure funding through grants from the U.S. Army Corps of Engineers, FEMA and other entities to develop enhanced GIS systems; or to pursue funding under the Hazard Mitigation Grant Program that is available to county governments to purchase and relocate, or to elevate homes in repetitive loss areas and/or located within concentrated areas of flooding. These types of funding could provide significant financial assistance to municipal and county governments to assist in rebuilding their communities or to implement strategic community redevelopment plans.

Much Interlocal cooperation is taking place informally and in many cases mutual assistance activities are spread across the minutes of Board of Supervisor meetings. For example, an interlocal agreement between Harrison and Jackson County related to the South Mississippi Regional Response Team for weapons of Mass Destruction is spread across the minutes of the Board of Supervisor's authorizing board members to execute this agreement. Public works personnel in Bay St. Louis report working together with Waveland to informally provide equipment and mutual assistance, with both municipal entities having lost almost all vehicles and equipment this local cooperation is a necessity. Badly needed donations of vehicles and equipment are being received from other states.

The level of cooperation across governmental units was frequently cited as "saving us." For example, Orange County and Polk County Florida set up an emergency communications center within three days of Katrina striking Waveland and Bay St. Louis. According to Mike Pendergast, Assistant Police Chief, this group brought in an "800" (800 Mhz mobile communications system) and stayed here for three months. With the "800" we could communicate with other coast departments."

It is noteworthy that appreciation and deep expressions of thanks were extended to the multitude of volunteers that arrived from numerous states across the nation. It is impossible to recognize within the scope of this study the many expressions of individual gratitude for the assistance provided by an army of individuals and organizations that arrived in Mississippi to help with response and recovery.

Researchers Assessment.

With the exception of Hancock County and particularly Waveland and Bay St. Louis, employment levels as of July 2006 are not significantly different than pre-Katrina levels. However, over the next few years as recovery efforts related to housing and economic recovery move from planning to

⁴⁵ <http://www.dca.state.fl.us/recovery/index.cfm>

⁴⁶ http://www.dca.state.fl.us/recovery/pdf/santarosa/SantaRosaLTRPLAN_WEB.pdf

implementation, the demands upon personnel and human resources and related financial resource needs will escalate dramatically for municipal and county governments. The lack of workforce housing, escalating costs of living – related to the need for long distance commutes to work and increasing demand for labor is creating labor shortages and driving up labor costs. Municipal and County governments must compete in the same market for labor. Pre-Katrina, the starting salary for many governmental positions was only slightly above Federal Minimum Wage. Post-Katrina, on the Mississippi Coast, starting pay for cashier positions or fast food service jobs is commonly advertised at \$8.00 to \$10.00 per hour, many casinos are advertising starting salaries of \$12.00 per hour. This pay scale is equivalent to an annual salary of \$26,880 – how can municipal governments with starting salaries for Fire-fighters at \$9.16 per hour compete for qualified personnel in this environment?

Balancing the absence of affordable workforce housing with increasing labor demand is a significant problem across all coastal Mississippi communities – this need, with no solution of any magnitude in sight – is the most serious obstacle facing any employer. For coastal municipal and county governments – notably among the best managed and staffed in Mississippi – uncertain future revenue streams, increasing demand for services, and heavy borrowing to compensate for unreimbursed recovery costs represents a real challenge with no easy solutions, except the obvious need for more financial resources. Unfortunately, over time and nearly one year after Katrina struck Mississippi peoples' patience and "teeth-gritted" determination to face these obstacles is wearing thin and blame tends to move upward; voters blame local governments, local governments blame state government, and state government looks to Washington, D.C. for answers to the question – "what happened to the financial assistance?" In spite of these difficulties, every municipal and county elected official in Jackson, Harrison, and Hancock County looks optimistically forward to a very bright and prosperous horizon with strong economic growth and a better life for the citizens they serve.

HOUSING

Mississippi

The accuracy of housing unit damage estimates is in question. Estimates vary based upon the source. As of February 12, 2006 FEMA reported Mississippi's total housing unit damage as 220,384 units with damage of varying magnitude to 21% of Mississippi's total housing stock using 2000 Census data and FEMA February 12, 2006 data.⁴⁷ Of the 220,384 damaged units, 71.6 percent were owner-occupied housing units and 28.4 percent were renter-occupied. Of the 157,914 Owner occupied-housing units that received damage from Katrina, approximately 18 percent received flood damage; of the 62,470 renter-

⁴⁷ Source: Current Housing Unit Damage Estimates, February 12, 2006; Data compiled from FEMA Individual Assistance Registrants and Small Business Administration Disaster Loan Applications Analysis by U.S. Department of Housing and Urban Development, Office of Policy Development and Research

Table 15: Housing Damage Estimates

	Owner-Occupied Housing Units				Renter Occupied Housing Units			Renter Occupied Subtotal	TOTAL
	Insurance Status			Owner Occupied Subtotal	Type of Structure Unit Located				
	Hazard & Flood	Hazard Only	No Insurance			Single Family	Multifamily (less than 10 units)	Multifamily (10 units or more)	
Homes with Flood Damage									
<i>Homes in FEMA 100 year Flood Plain</i>									
Minor Damage	90	135	55	280	165	32	147	344	624
Major Damage	2,455	1,829	831	5,115	1,661	139	939	2,739	7,854
Severe/Destroyed	2,494	978	771	4,243	1,378	141	904	2,423	6,666
Subtotal	5,039	2,942	1,657	9,638	3,204	312	1,990	5,506	15,144
<i>Homes outside the 100 year Flood Plain</i>									
Minor Damage	144	1,408	378	1,930	1,073	166	815	2,054	3,984
Major Damage	2,324	9,534	1,779	13,637	4,255	694	2,597	7,546	21,183
Severe/Destroyed	1,090	1,438	595	3,123	1,361	221	702	2,284	5,407
Subtotal	3,558	12,380	2,752	18,690	6,689	1,081	4,114	11,884	30,574
Total units with Flood Damage									
	8,597	15,322	4,409	28,328	9,893	1,393	6,104	17,390	45,718
Homes with no Flood Damage (generally wind damage)									
Minor Damage	2,169	71,189	41,939	115,197	28,779	3,000	7,474	39,193	154,390
Major Damage	327	7,566	4,244	12,137	2,704	332	1,566	4,602	19,739
Severe/Destroyed	388	715	1,149	2,252	811	101	373	1,285	3,537
Subtotal	2,884	79,470	47,232	129,586	32,294	3,422	9,353	45,080	174,666
TOTAL	11,481	94,792	51,641	157,914	42,187	4,826	15,457	62,470	220,384
U.S. Census Bureau 2000				756,967				289,467	1,046,434
Percent of Total				20.86%				21.58%	21.06%

Source: Current Housing Unit Damage Estimates, February 12, 2006

Data compiled from FEMA Individual Assistance Registrants and Small Business Administration Disaster Loan Applications

Analysis by U.S. Department of Housing and Urban Development, Office of Policy Development and Research

occupied housing units, 27.8 percent received flood damage. Of all housing units that received severe damage or were destroyed (a total of 15,610 units), approximately 9,618 were owner-occupied (6 percent of all damaged owner-occupied units) and 5,992 housing units were renter-occupied (9.6 percent of all damaged renter occupied units). Approximately twice as many housing units (owner- and renter-occupied) with flood damage were outside of the FEMA 100 year flood plain (as opposed to inside the 100-year flood plain). Among the 9,638 owner occupied housing units located within the 100-year flood plain that received some level of damage, approximately 44 percent were severely damaged or destroyed; for the 18,690 owner occupied housing units outside of the 100-year flood plain experiencing flood damage, approximately 16.7 percent were severely damaged or destroyed.

Of the 157,914 owner-occupied housing units in Mississippi that received damage from Katrina, approximately 33 percent had no insurance coverage (51,641 homeowners), and of the 28,328 units that received flood damage approximately 70 percent of homeowners had no flood insurance. Assuming these figures generated by the February 12, 2006 FEMA report are accurate, a large number of Mississippi homeowners (approximately 2,752) who were located outside of the flood plain and whose homes flooded, but who did not have any insurance and those with homes located within the 100-year flood plain (9,638 homeowners) will not be eligible to receive assistance under the program guidelines issued by the Office of the Governor to qualify for Mississippi Development Authority's Homeowner Assistance Program; nor will the 129,586 homeowners whose homes received damage from Katrina, but did not flood. According to the Monday, February 6, 2006 release of information from the Office of the Governor, to qualify for up to a \$150,000 Homeowner CDBG block grant guideline a home must have been owner-occupied and located in Jackson, Hancock, Harrison, or Pearl River County; must be outside the federally designated 100-year flood zone, yet flooded due to Hurricane Katrina, and the owner must have had homeowners' insurance – the program does not provide assistance for rental property or to second homes. Using the FEMA data presented in Table 15, of the 220,384 housing units (owner and renter occupied) damaged by Hurricane Katrina, approximately 15,938 homeowners (7 percent of all housing units impacted) will be eligible for grant funding under the proposed Homeowner CDBG block grant guidelines, of these 3,558 homeowners were covered by both flood and hazard insurance. As of May 9, 2006 the Mississippi Development Authority announced that 9,600 Homeowner Grant applications had been accepted by MDA since the program began in April 2006 – the announcement stated that an additional 1,200 application were anticipated.⁴⁸

Mississippi Coast Counties

Housing estimates available from the U.S. Census Bureau, 2000 indicate a total of 152,386 housing units within the three coastal Mississippi counties of Jackson, Harrison, and Hancock County; representing 13.1 percent of Mississippi total Housing stock. At the state level there are approximately 1.16 million housing units, homeowner vacancy rates are 1.6 percent and rental vacancy rates are 9.2 percent.⁴⁹ Of the vacant housing, 10.8 percent is for sale only; 25.5 percent is for rent; and 18.9 percent was used for recreational or occasional use. According to the U.S. Census Bureau,⁵⁰ the Median Value of Owner Occupied Housing in the state of Mississippi was \$71,400 in 2000. The Median Value of Owner Occupied Housing in the three impacted coastal counties was \$92,500 in Hancock County; \$87,200 in Harrison County; and \$80,300 in Jackson County. As demonstrated in the following county specific paragraphs, associated monthly owner costs and median rents reflect these higher median housing values when compared to state levels. At the state level, Median Selected Monthly Owner Costs were \$752 and Median Contract Rent was \$334 monthly.

Every public elected official, municipal and county employee, and resident interviewed by the Stennis Institute indicated deep concern about the status and planning for replacing workforce and low-income housing, and indicated it was their highest priority concern. There is great concern for the welfare and safety of the large number of residents who have lost their homes and are currently displaced or crammed into inadequate FEMA trailers. FEMA reports that as of February 2006

⁴⁸ Mississippi Development Authority, May 2006. <http://www.mississippi.org/files/press/20060509HOARelease.pdf>

⁴⁹ U.S. Census Bureau GCT-H5. General Housing Characteristics: 2000.

⁵⁰ U.S. Census Bureau, GCT-H9: Financial Housing Characteristics: 2000

there were 95,700 Mississippians living in 35,500 FEMA trailers.⁵¹ At the local level, estimates of the number of FEMA trailers are a little uncertain. For example, officials estimated that between 10,000 to 20,000 FEMA trailers were located within Jackson County and 9,000 FEMA trailers are located in Hancock County. As of December 12, 2005 there were 6,123 FEMA trailers in place in Harrison County and requests filed for a total of 9,123 FEMA Trailers;⁵² the City of Biloxi issued permits for 2,400 temporary trailers within the municipality. Brigadier General Spraggins, Harrison County Emergency Management Agency estimates that 32,000 people are living in 13,000 FEMA trailers within Harrison County. Given the high level of security and difficulty gaining access to these FEMA facilities, no accurate estimates could be obtained. With a new Hurricane season begun, the safety of citizens is a primary concern for all elected officials. The economic recovery of the coast is highly dependent upon the supply of affordable, workforce, and lower-income housing; it is a critical issue and will become increasingly so as business and industry attempts to recover. Low-income, workforce housing is a key element to the economic recovery of the coast. There exists a serious shortage of housing for construction labor. This creates significant obstacles to the rebuilding of the coast as the shortage of supply and costs of house coupled with increased demand for construction labor housing has escalated the cost of housing and consequently, the cost of labor. Housing and labor shortages have acted as a severe impediment to reconstruction at every level. Tourism is a major economic driver of coastal Mississippi, employment in the retail and service industry creates relatively low-paying jobs. Lack of housing is creating severe labor shortages across coastal Mississippi. It was cited by all elected officials in Harrison, Hancock, and Jackson County as the number one priority of need.

The most severely impacted areas of coastal Mississippi also exhibited the highest housing density as municipalities and business were located in proximity to water and residential communities grew up in proximity to employment and economic activity. For example the most densely populated areas of Biloxi, Gulfport, Waveland, and Bay St. Louis were located adjacent to water. Of specific concern was the impact of Katrina on low-income and elderly population. New FEMA, flood plain and elevation requirements for rebuilding will act as a barrier to building low-income and elderly housing in many of the coastal communities; increasing the costs of rebuilding in former residential communities or due to restrictions associated with the receipt of Community Development Block Grant or FEMA funding. As the county and communities begin rebuilding, consideration should be given to building multi-family housing and to providing affordable housing for senior citizens and low-income residents.

There exists a considerable variance in the estimates of Katrina related damage to the housing stock. This report uses the February 12, 2006 "Current Housing Unit Damage Estimates," data compiled from FEMA Individual Assistance Registrants and Small Business Administration Loan Applications; analysis by the U.S. Department of Housing and Urban Development's Office of Policy Development Research. During personal interviews with local officials and community residents, attempts were made to verify the figures presented in the paragraphs below, no constancy of response was obtained; visual inspections of communities are inadequate to verify damage estimates. The Stennis Institute utilized GIS mapping systems to integrate FEMA disaster maps and U.S. Census Block Group data to generate additional estimates.

⁵¹ FEMA: "By the Numbers: Mississippi Recovery Update for Hurricane Katrina, February 2006.
<http://www.fema.gov/news/newsrelease.fema?id=23565>

⁵² Gulf Coast News, Harrison County Update, December 12, 2005. <http://www.gulfcoastnews.com/GCNharrisonCDupdate.htm>

Jackson County

Within Jackson County there were an estimated 51,678 total housing units of which an estimated 47,676 were occupied; the vacancy rates among owner occupied housing was 1.5 percent and the vacancy rate among renter occupied housing was 10.1 percent. Of the vacant housing, 13.7 percent was for sale; 34.2 percent was for rent; and 15.3 percent was used for recreational or occasional use. The Median Value of Owner Occupied Housing in Jackson County was \$80,300 according to the U.S. Census Bureau (2000), Median Selected Monthly Owner Costs were \$811 and Median Contract Rent was \$425.

The February 12, 2006 report "Current Housing Unit Damage Estimates" prepared by the Federal Coordinator for Gulf Coast Rebuilding, estimates that a total of 30,514 housing units were damaged in Jackson County; or approximately 64 percent of all occupied housing units. Of these 16,302 houses, apartment buildings and mobile homes received major or severe damage and 14,212 had minor damage in Harrison County. A more recent FEMA Inspection Reports dated April 2006 indicates that Hurricane Katrina completely destroyed 1,287 owner-occupied housing units and 756 rental units in Jackson County and that another 8,725 residential housing units sustained major damage (defined as more than 50 percent damaged) in Jackson County.⁵³

Harrison County

Within Harrison County there are an estimated 79,636 total housing units of which an estimated 71,538 were occupied; the vacancy rates among owner occupied housing was 1.9 percent and the vacancy rate among renter occupied housing was 10.6 percent. Of the vacant housing, 10.7 percent was for sale; 39.0 percent was for rent; and 20.7 percent was used for recreational or occasional use. The Median Value of Owner Occupied Housing in Harrison County was \$87,200 according to the U.S. Census Bureau (2000), Median Selected Monthly Owner Costs were \$831 and Median Contract Rent was \$456.

The February 12, 2006 report "Current Housing Unit Damage Estimates" prepared by the Federal Coordinator for Gulf Coast Rebuilding, estimates that a total of 48,651 housing units were damaged in Harrison County; or approximately 68 percent of all occupied housing units. Of these 24,447 houses, apartment buildings and mobile homes received major or severe damage and 24,204 had minor damage in Harrison County. The report also estimates that 62 percent of owner-occupied housing units and 78 percent of renter-occupied units were damaged. The report estimates that approximately 50 percent of damaged housing units were occupied by low and moderate income persons. Many smaller communities across coastal Mississippi, such as Pass Christian and Long Beach have had their entire housing stock devastated by Katrina. Entire neighborhoods need to be rebuilt. Communities such as Henderson Point and East Biloxi lost over 90 percent of their housing stock to the storm.

The Mississippi Region VIII Housing Authority reports that 1,230 Section 8 units were damaged or destroyed. The Housing Authority had 242 Public Housing units that were completely destroyed or severely damaged and are currently uninhabitable; of these units 83 were occupied by senior citizens. The Biloxi Housing Authority reports that 320 units were completely destroyed or damaged.

⁵³ FEMA INSPN 09, April 4, 2006.

Biloxi currently has 924 new condominium units under construction and another 10,067 in the permitting process.

Hancock County

Within Hancock County there are an estimated 21,072 total housing units of which an estimated 16,897 were occupied; the vacancy rates among owner occupied housing was 2.1 percent and the vacancy rate among renter occupied housing was 15.3 percent. Of the vacant housing, 6.9 percent was for sale; 14.9 percent was for rent; and 56.8 percent was used for recreational or occasional use. The Median Value of Owner Occupied Housing in Hancock County was \$92,500 according to the U.S. Census Bureau (2000), Median Selected Monthly Owner Costs were \$808 and Median Contract Rent was \$417.

The February 12, 2006 report "Current Housing Unit Damage Estimates" prepared by the Federal Coordinator for Gulf Coast Rebuilding, estimates that a total of 15,202 housing units were damaged in Hancock County; or approximately 90 percent of all occupied housing units. Of these 11,796 houses, apartment buildings and mobile homes received major or severe damage and 3,406 had minor damage. According to more recent FEMA Inspection reports (dated June 2, 2006), approximately 70 percent of Hancock County's occupied housing units suffered major or severe damaged (defined as damage exceeding 50 percent of a structure's value) as a result of the winds and storm surge from Hurricane Katrina. The city of Waveland was decimated – approximately 90 percent of its housing stock destroyed. Bay St. Louis also had significant damage to its housing stock, losing approximately one-half of its housing units to the storm. According to summary data derived from FEMA Individual Assistance applications and Small Business Administration Disaster Loan applications, 90 percent (15,202) of Hancock County's 16,897 occupied housing units suffered some damage and 69.8 percent had major or severe damage.⁵⁴

Of the total number of housing units destroyed in the County, 371 units managed by the two local public housing authorities or funded by the U.S. Department of Agriculture (USDA) were left uninhabitable. HUD reports that 101 units managed by the Bay St. Louis Housing Authority were destroyed or severely damaged and that 75 units managed by the Waveland Housing Authority were destroyed. Senior citizens and special needs residents occupied 54 of these units. USDA reports 270 units funded via its Section 515 direct loan program were severely damaged and rendered uninhabitable. About half of these units were in Waveland and the other half in Bay St. Louis.

Reviewer Comments: Across the Mississippi Gulf Coast the most common issue is "housing – housing – housing." Almost every elected official commended the work of Mississippi's Congressional Delegation and Governor Haley Barbour for working hard to obtain Federal funding to assist coastal communities. Responses to the method of allocations and speed of distribution of that funding is highly variable and requires more in-depth analysis. Repeatedly the issue of the slow speed of meeting housing needs and lack of information on a comprehensive strategy for addressing the need for low-income, elderly, and workforce housing was mentioned during interviews. Property prices are escalating; construction material prices, construction labor

⁵⁴ FEMA Individual Assistance and SBA Disaster Loan Applications, Summary Data, 2/12/06.

shortages are driving up the cost of building, and insurance costs are further escalating the cost of housing. Upper-income housing growth is significantly on the rise, however workforce, elderly, and low-income housing represents a significant challenge across coastal Mississippi. The massive destruction of housing, the large number of former residential property owners who were either not insured, underinsured, or have had difficulty collecting insurance represent a very significant challenge. Many elected officials express concern about the large number of FEMA trailers and plans for creating temporary housing solutions as having the potential to segregate housing based on income and to create slums that never existed in the community before if “temporary” solutions turn into permanent solutions due to income constraints for lower income groups. This possibility is not unrealistic considering that there still exist FEMA trailer parks in Port Charlotte since Hurricane Charley hit Florida in 2004. The magnitude of this issue creates a need to seek sophisticated and knowledgeable expertise from national investors and developers to provide realistic solutions for financing large scale, high-quality mixed-income development that can rapidly meet the need for work force and lower-income housing, and resolve serious issues associated with the need for housing for the elderly.

HEALTH AND HOSPITALS

Public health and emergency planning related to public health needs is normally designated as Emergency Support Function 8 (ESF8), this function is among the most critically important and most difficult of all emergency planning activities due to the continuum of planning contingencies that must be integrated into the process. The continuum of events from natural to manmade disasters and the nature of events from slowly emerging (i.e. disease epidemics) to sudden events (i.e. terrorism) require planning that integrates the potential for a multitude of unpredictable events that will require a different mix of response personnel, methods and techniques, and resources. Each disaster event may be specific to the geographic occurrence of the event (i.e. rural versus urban, warm versus cold climate) and the capabilities and resources of emergency responders at the local, area, state, regional and federal levels. The nature of ESF8 planning requires developing multi-hazard plans that identify available potential networks of a wide range of resources from personnel, equipment, supplies and other resources that are capable of responding to a gamut of events from small, contained events to events that are large, uncontained and may span a broad geographic area. Under normal circumstances, local and state ESF8 response plans may rely upon existing internal resources available within a state or plan for support functions being provided by adjacent states during response and immediate recovery. The nature of Hurricane Katrina’s broad geographic impact and the magnitude of destruction was an unprecedented event. Within this context, emergency response and ESF8 systems functioned extremely well in the state of Mississippi. Thousands of health care professionals and volunteers exerted admirable and Herculean efforts to respond to the public health needs of citizens impacted by Hurricane Katrina. More things went right than went wrong. Understanding the complexity of the public health response in the state of Mississippi is beyond the scope of this study, however initial interviews have surfaced issues that require further study and examination to improve the ability of the public health system to respond to future disasters. The “lessons learned” in coastal Mississippi may make a valuable contribution to saving lives and reducing morbidity during future events that may occur at any time or place in the nation.

Across coastal Mississippi, hospitals operating with emergency generators faced immediate crisis with fuel supplies to keep these generators operating. Hospitals provided not only health care services, but frequently became the refuge of last resort for citizens seeking shelter. Highly trained FEMA DMAT (Disaster Medical Assistance Teams) teams were deployed across the hurricane impacted states, however only 55 teams were available to provide assistance to Texas, Louisiana, and Mississippi. The skill and expertise of these teams is remarkable. A DMAT team from Missouri established an emergency medical and triage operation in tents on the parking lot of Hancock Medical Center which was forced to close due to damage from Katrina. Shortly after the Missouri DMAT teams' arrival, another team from Florida arrived to provide assistance and these activities were supplemented by a MASH unit set up by the Mississippi National Guard. These medical assistance teams received overwhelming thanks, appreciation, and praise as being highly skilled, well-prepared, and a vital resource for meeting the medical and health care needs of the community.

The Mississippi Department of Health (MDH) deployed approximately 1,400 employees across Mississippi to respond to medical needs, approximately 160 nurses specially trained to care for special-needs patients were deployed to emergency shelters across the state. Medical supplies from the Strategic National Stockpile were requested prior to Katrina making landfall and arrived in Jackson, Mississippi to be broken down for distribution to Hospitals. The state of Mississippi was the first state to deploy CDC's Strategic National Stockpile (SNS). The SNS is designed to supplement and re-supply state and local public health agencies in the event of a national emergency anywhere and at anytime within the U.S. or its territories, with first shipments arriving within 12 hours of request; by acting quickly MDH received SNS and was prepared to respond to the public's health needs.

An interview with Steve Delahousey, Harrison County Medical Disaster Officer indicated that requesting pharmaceutical and medical supplies from the SNS through MDH was not without some problems. With no information available as to the specific supplies contained in the SNS, apparently for security purposes, orders and requests for materials would be placed with no immediate feedback and related uncertainty as to the availability of these supplies. As a result there are reports of difficulty accessing and receiving medical supplies from the Jackson center of operations for MDH. For example, one elected official reported having to wait three days to receive a tetanus shot. According to Mr. Delahousey, disaster response planning prior to Katrina anticipated the need for Hepatitis, Tetanus, and antibiotics; but the unanticipated destruction of local pharmacies and related shipment and delivery problems of medications such as Insulin and Hypertension medication created supply shortages. Additional problems arose with patients needing dialysis. Although a local provider was able to meet the needs of 300 patients requiring dialysis, when fuel for generators and water to provide the treatment began to run short, FEMA and MEMA refused to approve the necessary supply of fuel and water because the entity providing the dialysis treatment to patients was a for-profit company. As a result, these dialysis patients were relocated out of the state of Mississippi. Additional communications and coordination problems have been reported due to the Mississippi Department of Health Emergency Operation Center and Harrison County Emergency Operations Center not being co-located in the same facility. Currently, there exists concern about where Special Needs Shelters will be located and the availability of staffing for Special Needs Shelters. This issue was discussed by community non-profit service providers as being a serious problem for them to conduct emergency response planning and to plan for the transportation and needs of the populations they serve. According to

Mr. Delahousey, the location of Special Needs Shelters cannot be identified until information is available from the Mississippi Department of Health regarding staffing availability of trained personnel.

Public health officials from Florida, North Carolina, Kentucky, Illinois, and Indiana came to Mississippi to assist with health care response. According to Mr. Delahousey, the Mississippi Board of Nursing quickly and efficiently responded to the credentialing of health care volunteers and coordinated teams of relief volunteer nurses across the coastal counties.

In a disaster of the magnitude and scope of Katrina, confusion, the breakdown of communication, process and procedure failures are understandable. Against a backdrop of reports of difficulty accessing and receiving medical supplies from the MDH Jackson facility, problems deploying volunteer medical personnel from outside the state, and serious communication failures between MDH and local medical disaster officers, MDH has commissioned the North Carolina Institute for Public Health to study the response to Katrina to evaluate response and to assure that system failures are addressed. As of the writing of this report, the MDH website indicates the report is completed but the link to the report is inoperable.

Harrison County elected officials are conducting an evaluation of medical and health care issues that impact local citizens. Specifically a shortage of trauma surgeons and the impact on trauma surgical care in hospitals that serve west Harrison County and Hancock County has created extended transport time, increased costs for ambulance services, and added workloads for trauma surgeons located in Biloxi, Ocean Springs, and Singing River hospital in Pascagoula. To address this issue the Mississippi Coastal Trauma Services Region, a consortium of hospitals serving Hancock, Harrison, and Jackson County have created a staggered on-call system for hospitals. For example Biloxi Regional hospital is designated for eight days a month, Memorial Hospital in Gulfport is designated for five days a month, and Singing River Hospital in Pascagoula is the on-call hospital for 10 days a month. Supervisors in Harrison County have considered declaring a medical emergency to obtain Federal assistance to obtain doctors.

Jackson County

The Singing River Hospital System (SRH) operates Singing River Hospital in Pascagoula and Ocean Springs Hospital. The Singing River system is a 551 bed facility. Both of these facilities remained open, using emergency generator power, to provide emergency treatment and medical care during Katrina.

Harrison County

Biloxi Hospital, formerly owned by Tenet Healthcare Corporation, was sold to Health Management Associates, Inc on May 31, 2006 just prior to receiving a \$340 million property insurance and loss of business operations settlement for Katrina related damage to the Biloxi Hospital and five Louisiana hospitals owned by Tenet.⁵⁵

Biloxi Regional Medical Center, is a 153 bed, acute care private hospital in downtown Biloxi – one block from the gulf, it remained open and operational throughout the storm to meet the needs of

⁵⁵ Market Watch, July 6, 2006 <http://www.marketwatch.com/News/Story/Story.aspx?dist=newsfinder&siteid=google&guid=%7B5A21425C-84AA-469F-96C6-19740D38BBA2%7D&keyword=>

those impacted by the disaster, with supplies and relief medical crews being supplied from Health Management Associates' other hospitals. This 153-bed facility received significant damage from Katrina.

Memorial Hospital received heavy damage from Katrina. This facility with over 400 beds, 2,100 employees and 260 physicians, located three blocks from the Gulf had approximately 290 patients in the hospital and 700 staff members who remained on duty continuously during the six days after Katrina. The hospital acted as a healthcare and emergency medical treatment facility and as a place of last refuge for storm battered residents. As of December 2005, the hospital was fully operational and accepting patients. Approximately 20 percent of all staff members lost their homes to Katrina.

Hancock County

Hancock Medical Center in Bay St. Louis received severe damage from Katrina, losing its roof and has damage estimated at \$20 to 25 million. The Center employs approximately 500 people of whom 75 percent either lost their home or had significant damage. The emergency room reopened by October 5, 2005. This hospital is approximately 24 feet above sea level and one mile from the ocean – during Katrina a storm surge 3 feet high swept through the ground level of the hospital.

ELEMENTARY AND SECONDARY SCHOOLS

Elementary and secondary schools throughout Mississippi received extensive damage from Katrina; in the three coastal Mississippi counties the damage was extensive. Sixteen schools (K-12) in the state of Mississippi were totally destroyed by Hurricane Katrina, with an additional 79 school districts across the state suffering storm damage in varying degrees.⁵⁶ According to the Mississippi Department of Education (MDE), Hurricane Katrina will cost the state school system an estimated \$668.5 million dollars. This figure is based upon the estimated cost of school bus replacement (\$9.4 million), school repairs and reconstruction (\$321.2 million), furniture and equipment replacement (\$22.5 million), technology replacement (\$40.7 million), textbook replacement (\$39.6 million) and instructional materials (\$235 million). It is estimated that more than 15,000 students, teachers and administrators from the Gulf Coast were left homeless after the storm.⁵⁷ Approximately 7,000 students enrolled into other school districts in the state after the storm and at least 1,400 students had requested school records be transferred to out of state districts.⁵⁸ The impact of the storm on the public school system would be felt statewide. Not only had over half of the districts across the state suffered physical damages from the storm, they would have to absorb the influx of 7,000 new students in an already financially strapped system.

One of the harshest long term impacts for coastal school districts is the effect upon funding received from local taxes. It may be several years before local ad valorem tax revenues return to their pre-Katrina figures. The Mississippi Department of Education (MDE) estimates that lost tax revenues from gaming, which would have gone to the school districts, are over \$300 million.⁵⁹ The time it takes for the gaming industry to restore their standing to pre-Katrina levels is very costly to the school system, given that they depend on gaming generated local tax revenues for a significant part of their funding. To make up for this loss in revenue the Governor's office and MDE have

⁵⁶ Mississippi Department of Education, Annual Report, 2005.

⁵⁷ The Governor's Commission on Recovery, *Rebuilding and Renewal, After Katrina: Building Back Better Than Ever*, December 31, 2005.

⁵⁸ *ibid*

⁵⁹ *ibid*

sought federal funding to make up the difference. The issue of rebuilding the local tax base coupled with the uncertainty of fluctuating enrollment patterns are cause for great concern among educators.

Out of the funds that Congress appropriated to offset property tax and gaming revenue loss, \$1.65 billion was authorized to aid K-12 schools that were either damaged or were serving students in Katrina affected areas.⁶⁰ Funding assistance has also come from many private sources. Cisco established the "Mississippi Education Initiative" and funded it at \$20 million. BellSouth donated \$2.5 million to be used for online high school courses for displaced students. The Pantry, Inc. gave \$100,000 to be used for public schools. The Mississippi Association of Educators is issuing grants ranging between \$200 to \$2,000 for children and schools out of money made available from the NEA Hurricane Katrina Relief Fund. The Mississippi School Boards Association has established the Mississippi Hurricane Katrina School Relief Fund as well as the Adopt-a-School program in which schools around the country have "adopted" coastal schools affected by Katrina.⁶¹

In January of 2006, the Mississippi Board of Education approved awarding grant dollars out of the Hurricane Katrina Education Recovery Act through the Immediate Aid to Restart School Operations. Money awarded to the eligible school districts was only taken out of the first \$100 million of the total \$29 billion federal relief package.⁶²

According to MDE out of the \$1.65 billion for schools, \$645 million will go toward displaced students, \$750 million is for school operations, \$5 million will go toward homeless students and \$200 million will go toward higher education institutions impacted by Katrina. The Hurricane Katrina Education Recovery Act also requires that 20 percent of the funds be used for non-public schools.

School districts reopened with help from 400 FEMA portable classrooms and the use of their own reserve funds. The FEMA portable classrooms were not enough to provide for the students in the coastal area and the MDE assisted local districts with locating additional vendors to provide portable units for sale or lease. Elite Modular and Magnolia School Supply were the approved vendors for the portable units. Prices began at \$42,000 for a single classroom with a bathroom, \$53,000 for a double classroom without a bathroom and \$55,000 for a double classroom with bathroom, which included delivery and setup. Normal delivery took about 3 weeks for the units.⁶³ A study conducted by the General Accounting Office in response to complaints about contracting practices used by the Army Corps of Engineers to purchase 450 portable classroom trailers for a total contract price of \$30.7 million indicates that the unit price from Akima Site Operations, LLC was \$84,395 per unit for a single classroom with a bathroom, and \$108,371 for a double classroom with a bathroom.⁶⁴

Reserve funds were dangerously low when the Federal Relief Package was passed and the paperwork for insurance and FEMA assistance was proving to be slow in processing. Bay St.

⁶⁰ H.R. 2863, Title IV- Hurricane Education Recovery Act, Subtitle A- Elementary and Secondary Education Hurricane Relief

⁶¹ www.mde.k12.ms.us, Mississippi Department of Education

⁶² The Governor's Commission on Recovery, *Rebuilding and Renewal, After Katrina: Building Back Better Than Ever*, December 31, 2005.

⁶³ www.mde.k12.ms.us, Mississippi Department of Education

⁶⁴ GAO-06-454 Report to Congressional Committees, Army Corps of Engineers Contract for Mississippi Classrooms, May 2006. <http://www.gao.gov/new.items/d06454.pdf>

Louis-Waveland school district received \$7,046,405; Biloxi public schools received \$5,334,323; Gulfport received \$6,978,060; with Hancock County receiving \$3,325,560; and Harrison County received \$9,038,833. Jackson County school district received \$6,865,052; Ocean Springs received \$3,390,370.99 and Pascagoula received \$7,865,254. Twenty-one non-public schools, primarily religious based, collectively received a total of \$91,188,214.⁶⁵

The U.S. Department of Education has established a website that lists available aid, dates and distribution of aid money and a link for donations to be matched with needs of school districts affected by Katrina and school districts that are serving displaced students.⁶⁶ According to this site Mississippi received \$100 million on January 5, 2006 as a first installment from Restart Aid.

By February of 2006, every state in the union had applied for Impact Aid funds except Hawaii. On March 2, 2006, Mississippi received \$13.6 million on the first installment of Impact Aid plus an additional \$4.8 million on March 28, for the first quarter adjustment on per student amounts. On March 29, 2006 the second installment was distributed with Mississippi receiving \$21.2 million. The third installment was sent the next day, March 30, with Mississippi receiving \$17.4 million. In June of 2006, Congress approved an additional \$285 million for education, with \$235 million to go to schools serving displaced students.⁶⁷

Biloxi public schools and Gulfport High School were the first to reopen on September 26, 2005. The rest of the Gulfport schools opened on October 3, 2005. Hancock County schools opened on October 14, 2005 and Pascagoula schools opened on October 6, 2005. The last school district to reopen was Waveland-Bay St. Louis, on November 7, 2005, serving the hardest hit area.⁶⁸ By December of 2005, school enrollment in many of the districts most heavily damaged had returned to approximately 75% of pre-Katrina enrollment figures.⁶⁹

Jackson County

The Jackson County School District had an enrollment of 8,431 students prior to Katrina. East Central Elementary, Middle, and High School received relatively little damage. St. Martin High School was damaged and St. Martin Middle School was destroyed – St. Martin lost all of its instruments and music supplies due to roof damage and was still in deep need of replacement instruments and music supplies as of July 2006.

St. Martin Middle School, Jackson County



Pascagoula

⁶⁵ www.mde.k12.ms.us, Mississippi Department of Education

⁶⁶ www.hurricanehelpforschools.gov, U.S. Department of Education

⁶⁷ *ibid*

⁶⁸ www.mde.k12.ms.us, Mississippi Department of Education

⁶⁹ The Governor's Commission on Recovery, *Rebuilding and Renewal, After Katrina: Building Back Better Than Ever*, December 31, 2005.

The Pascagoula school district had a total enrollment of 7,559 students prior to Katrina. All schools in the Pascagoula system were flooded or received some level of damage from Katrina, only Pascagoula High School was not flooded. Beach Elementary school was destroyed; the Colmer and Trent Lott Middle Schools received major damage and lost all supplies, equipments, and texts. The Pascagoula Central Elementary School has been approved for a \$1.35 million Public Assistance grant from FEMA to repair water damage from storm surge.

Harrison County

The Harrison County Public School District had a total enrollment of 13,049 students prior to Katrina. Registration for schools has just begun for the 2006 school year.

Biloxi

When classes resumed for Biloxi public schools on September 26, 2005, they reopened with an enrollment of 3,167 students, down from the 6,125 students enrolled prior to the storm. By May of 2006 enrollment in Biloxi public schools had increased to 4,526.

The largest single Public Assistance grant authorized by FEMA was \$4.75 million to repair the Gorenflo Elementary School in the Biloxi School District. This school was flooded by a six foot storm surge, leaving mud and debris covering the building as the storm surge receded. The Nichols Elementary School will receive a grant of \$4.55 million to repair floors, ceilings, doors and drywall, along with electrical and mechanical components.

Gulfport

Prior to the storm, the Gulfport School District served 6,300 students in seven elementary schools, two middle schools, one high school and one alternative school.

Bay St. Louis-Waveland

2,380 students were enrolled in Bay St. Louis-Waveland public schools before Katrina. As of May, 2006, 1,440 were enrolled. Ninety-six percent of students now qualify for free meals. Before Katrina, approximately 60% qualified. Only two cafeterias in the district are in operation. Food is prepared there and transported to two other campuses. High school students have to walk to the middle school for meals. 800 computers were lost due to the storm. So far the district has only been able to replace 120 of these.

Two elementary schools in this district will have to be rebuilt and many other schools require extensive structural work. Current estimates for repairs in this district are over \$40 million. The immediate future tax base revenue is anticipated to be 50 to 65% less than prior to the storm, in addition to an unemployment rate for the county that has risen to 20.6%.

A \$4.47 million Public Assistance Grant from FEMA has been awarded to the Bay St. Louis Waveland School District to restore the North Bay Elementary School, Waveland Elementary School, Bay Middle School and Bay High School – these buildings were flooded with three to eight feet of water. Funding paid for the remove of damaged contents and debris, to clean and dry out the buildings and to repair and replace flooring, walls, ceilings and mechanical systems. An additional \$1.12 million in Public Assistance has been awarded to demolish and replace the Elementary Center Building on the Waveland Elementary School campus.

There has been extensive negative change to the educational systems across coastal Mississippi. Although most schools have reopened, there exist teacher shortages due to the damage to the housing infrastructure and escalating costs of housing. Uncertainty exists regarding enrollment numbers and the number of students returning, this creates significant problems for administrators' planning and hiring decisions. Although extensive efforts and significant progress has been made in repairing and reopening schools, serious shortfalls in funding continue to exist.

Researchers Notes: Discussions with elected officials indicate deep concern for the impact of Katrina on local school systems. Grants received to repair infrastructure are not sufficient to replace millions of dollars of lost textbooks, teaching materials, computers and technology, or lost band instruments, uniforms, and music supplies. These financial losses are compounded by the loss of teachers and students – many lost their homes, some lost family members, and many students have lost dear friends and schoolmates. Many students live with their families in cramped FEMA trailers or other inadequate living arrangements that provide no quiet places to study and do homework. Libraries and learning resources have been damaged and in many cases family relocation has placed children far from access to libraries and learning resources. Katrina's initial devastation to the physical infrastructure of the coast can be assessed, measured, and eventually repaired – the emotional toll of Katrina continues to impact the lives of children, students, and their teachers in a deep and long-lasting – but immeasurable way.

As of January 2006 it was reported⁷⁰ that Moody's had downgraded the ratings of three school districts in Louisiana and four in Mississippi. These lower credit ratings result in higher interest rates and increase the costs to school districts that issue bonds to repair or rebuild schools. In Mississippi, the Biloxi district's rating was lowered from A2 to A3 on a \$70.3 million outstanding debt; however, the district had insurance policies to protect against interruption from revenues and a \$3 million insurance payment should offset expected losses. The Gulfport School District maintained an A3 rating on its \$8.7 million in outstanding bonds. The Hancock County School District was downgraded from A2 to A3, and Hancock and Harrison County schools experienced rating declines in Moody's report.

Increased costs associated with bond ratings, building repair and reconstruction, escalating insurance costs, labor scarcity and related increased in construction costs, replacing lost teaching materials, and textbooks create difficult challenges to the recovery of the educational systems. Despite the millions of dollars that have been donated by philanthropic organizations, the federal and state government – these dollars are not reaching the intended recipients rapidly enough or in sufficient number, and perhaps a false impression has been created that "all is well" on the Mississippi Coast. In fact, the need is great. It is difficult to believe that in a nation of the vast wealth of the United States, that some schools have been forced to close or to consolidate in order to stretch limited financial resources or that the simple needs of students are not being met. How do we explain that many schools have not yet been able to replace computers and teaching material, or that students do not even have band instruments almost one year after Katrina?

⁷⁰ Education Week, January 11, 2006 Volume 25, Issue 18, page 12

The Business Community and Non-profit Organizations

The donation and volunteer efforts of corporate and non-profit organizations was overwhelming in response to Katrina. These efforts are so extensive, they exceed the capacity of this report to enumerate. An excellent source to obtain information on all corporate giving is available on the website of the Independent Sector: <http://www.independentsector.org/relief/index.html>

During interviews with local officials, the efforts of the Chevron Corporation, multiple local banks, and the efforts made by casinos to retain and relocate employees who lost their jobs due to the destruction of the casino industry was frequently mentioned. The John S. and James L Knight Foundation provided \$1 million to the Gulf Coast Community Foundation to provide partial funding for the Governor's Commission for Recovery, Rebuilding and Renewal to create a visionary plan for the rebuilding of South Mississippi and the Gulf Coast.

United Way, The Corporation for National and Community Service Corporation (AmeriCorps) and the Mississippi Commission for Volunteer Service, the American Red Cross, Catholic Charities, Lutheran Disaster Response, the Morrell Foundation, Back Bay Mission, and Habitat for Humanity are frequently mentioned as being important contributors to response and recovery activities across coastal Mississippi.

Many non-profits have accessed Federal aid to assist in their work. For example, the National and Community Service Corporation allocated \$2.5 million to the Mississippi Commission for Volunteer Service to provide additional disaster assistance. AmeriCorps teams have been deployed throughout Mississippi to provide assistance in disaster recovery, volunteer coordination, debris removal and home repair. During the month of March MCVS coordinated the work of 30,000 volunteers across the state. MCVS is working with MEMA to develop procedures for coordinating volunteer efforts in future disasters. MCVS estimates that over 150,000 volunteers have come through the state of Mississippi to participate in Katrina disaster assistance and relief. During recovery, MCVS played a major role in helping local organizations to secure volunteers and to coordinate these efforts. As a result of "lessons learned" MCVS is working to develop a system that can track and allocate volunteers. A part of this initiative involves creating a strong volunteer center network on the coast that is capable of tracking and assigning volunteers to organizations from the ground. MCVS identified the challenge of moving unaffiliated volunteers into productive roles with responsible organizations when the work is on the coast and the coordination is being done from Jackson. This problem was similar to that experienced by the Mississippi Department of Health's experience in assigning medical health care volunteers from its Jackson center of operations to hospitals and health care facilities on the coast during Katrina.

Researchers Notes: Discussions were held with representatives of the Gulf Coast Latin-American Association regarding the increasing Latin and Hispanic workforce that is being attracted into the Gulf Coast area. There has been a significant increase in the Latin and Hispanic community – many of these individuals are undocumented. Disregarding the issues associated with illegal immigration, there are human and social issues that deserve attention. Due to the anticipated length of time – three to five years – that there will be increased demand for construction labor across coastal Mississippi there is a high probability that many Latin and Hispanic workers will relocate their families into the area, many may remain in the area permanently. This will create increasing demands upon schools, health care facilities, and the social infrastructure. There are

already reports of crowded living conditions, inequitable treatment in housing, the absence of translators in the criminal justice system, refusal to provide health care, and unfair labor practices. It will be important to prepare these new residents and to prepare the community to achieve cultural assimilation. The earlier that programmatic activities are begun, the higher the probability that positive outcomes will be achieved.

SUMMARY ANALYSIS

It is beyond the scope of this report to enumerate the long list of individual actions and the actions of organizations that made a significant contribution to the response and recovery of the Mississippi Gulf Coast Communities during and in the aftermath of Katrina. The purpose of this initial analysis is to provide a background and framework to guide further study.

Three consistent themes emerged from interviews conducted across coastal Mississippi:

1. The need for workforce and low-income housing – the housing needs of lower income groups and the elderly are not being met
2. The need for access to financial resources at the local level, particularly for municipal and county governments, to meet recovery needs
3. Many communication systems failed across the board and acted as a major problem during response and recovery

Initial assessment of problems that need correction to improve emergency response:

- A. Consistent policies and procedures between FEMA and MEMA regarding Public Assistance funds
- B. Better communication and information to assist local elected officials to determine what financial assistance is available to them and assistance in securing that funding
- C. MEMA's procedures for review, approval, and disbursement of Public Assistance funds
- D. Improved coordination between Mississippi Department of Health's Emergency Operations Center and County Emergency Operations Centers
- E. Better systems for credentialing and assigning volunteers
- F. Comprehensive participation by local governments and local organizations in the development of the state's Comprehensive Emergency Response Plan