Appendix R: Environmental Justice

Environmental Consequences

Table 1 shows the 66 HSDRRS projects *within* the five parish boundary and if there is an EJ community within 1.0 miles of the project. The goal of the EJ analysis is to identify if there are any high, adverse disproportionate impacts to EJ communities from the federal action (inthis case, construction of the HSDRRS). An EJ community is defined as the area of interest (for example within 1.0 miles of the project) having more than 50 percent of its residents identifying as a minority or if 20 percent or more of households live below the poverty level. Identification of EJ communities near project sites is the first step in determining if there are high, adverse disproportionate impacts to these areas.

Summary of EJ Findings
EJ communities are located throughout the HSDDRS and were impacted from the HSDRRS construction. Additionally, there are non-EJ communities located within the HSDRRS who were also impacted from construction activities, including transportation impacts, noise an excavation of borrow material. All of the adverse impacts from the building of the HSDDRS were temporary in nature with conditions returning to normal after construction activities were completed. Burdens of project construction to the human environment include road closures, levee top closures and noise were felt by EJ and non EJ communities. The benefits of the HSDRRS, including flood risk reduction, is felt by all communities with the HSDRRS. Therefore, there are no high, adverse disproportionate impacts to EJ communities.

IERs Within the HSDRRS Project Area

St. Charles Parish
The IER #1 and IERS #1 project area, which contains of minority and low-income communities, includes several Census-Designated Places (i.e., Norco, New Sarpy, Destrehan, and St. Rose) and census block groups. The largest census block group near the project corridor does not have a population because it encompasses mostly marshland and part of the Shell Chemical industrial complex. However, the nearby towns of Destrehan, New Sarpy, Norco, and St. Rose all had minority populations of at least 50 percent of the population. All of the other IERs in St. Charles Parish did not have an adjacent EJ community.

Three supplemental reports were completed after November 2010 and include:
- IERS 1.b, La Branche Wetlands Levee Access Road and Ditch Relocation, and
- IERS 2.a, West Return Floodwall, and
- IERS 16.b, Western Terminus.

EJ communities near Norco and New Sarpy, La were identified near the IERS 1.b project based upon minority and low-income population data. There is not an EJ community within a one-mile radius of IERS 2.a and 16.b projects.

Table 1. Minority and Low-Income Communities Adjacent to the HSDRRS *Within* the Project Area

IER#	Minority Population greater than 50%	20% or more of Households Living Below Poverty
St. Charles Parish		
1/S 1 **S 1.b**	Yes	Yes
2/S 2/**S 2.a** and 16/S 16.a/**S 16.b**	No	No
Jefferson Parish		
3/S 3.a and 15/**S 15.a/S 15.b**	No	No
14/S 14.a	Yes	No
17	No	No
18 (Churchill Farms Site)	No	No
19 (River Birch Phase 1 and Phase 2 Sites)	Yes	Yes
26 (South Kenner Road Site)	No	No
31 (River Birch Expansion)	Yes	Yes
PIER 37 (Jean Lafitte Mitigation)	No	No
PIER 37 (Bayou Segnette Mitigation), SPIER 37a	No	No
SEA 306c	No	No
Orleans Parish		
4	No	No
5/**S 5.a**	Yes	Yes
6/S 6	Yes	Yes
7/S 7	Yes	Yes
11 Tier 2 Pontchartrain/**S 11.d**	Yes	Yes

IER#	Minority Population greater than 50%	20% or more of Households Living Below Poverty
11/S 11 Tier 2 Borgne/**S 11.b/S 11.c**	No	No
27/ **S 27.a**	Yes	Yes
18 (Maynard Site)	No	No
19 (Eastover Site)	Yes	Yes
25, **S 25.a** (Stumpf Site)	No	No
29 (Eastover II Site)	Yes	Yes
SIER 36 (Bayou Sauvage Mitigation Site)	No	No
EA #496 (17th St Outfall Canal Remediation)	No	No
Plaquemines Parish		
12/S 12/**S12.a/S 12/13**	Yes	Yes
13/**S 13.a**	Yes	Yes
17	Yes	Yes
22 (West Bank Site N)	No	No
33/S 33.a	No	No
St. Bernard Parish		
8/ **S8,9,10.a**	No	No
9	Yes	Yes
10	No	No
19 (DK Aggregates Site)	No	No
EA #526 (Pump Station Seepage Repair)	No	Yes
EA #527 (St. Mary's Pump Station Safe House)	Yes	No

Source: IER documents.

Jefferson Parish
An EJ community surrounds the IER 14 and IERS 14.a projects, the Westwego to Harvey Levee. Additionally, Churchill Farms, River Birch and South Kenner Road sites are borrow pits that were used to construct the HSDRRS and all have minority or low-income residents living near the sites. Other IER projects constructed in Jefferson Parish did not have an adjacent EJ community.

Five additional HSDDRS IER supplements or new projects in Jefferson Parish were analyzed:

- IERS 15.a, Lake Catoauatche Relocation of Access Road and IERS 15.b, Lake Catoauatche Bank Stabilization,
- PIER 37, Jean Lafitte Mitigation Project and PIER 37, Bayou Segnette Mitigation Project, and
- SEA 306.c, Installation of the Permanent Pumps at the Harvey Canal Sector Gate.

The five supplemental projects in Jefferson Parish do not have nearby EJ communities**.**

Orleans Parish
Communities located adjacent to the HSDRRS footprint described in IER #5, 6, 7, 11 Tier 2 Lake Pontchartrain, IER #25, 27 and #29 were identified in their respective IER documents as having a majority of residents identifying as minority or at least 20 percent of residents living below the poverty level.

Seven additional HSDDRS project modifications or new projects in Orleans Parish were constructed after November 2010:

- IERS 5.a, Permanent Pump Stations Additional Right-of-Way,
- IERS 11.b, IHNC Levees and Floodwalls and IERS 11.c, IHNC Borgne Barrier Shoreline,
- IERS 11.d, IHNC Seabrook Extended Construction duration,
- IERS 25.a, Stumpf Stockpile Site,
- IERS 27.a, Outfall Canals Staging Areas, London Ave and 17th Street Canals, and
- SIER 36, Bayou Sauvage Mitigation Site and
- EA #496, 17th Str Outfall Canal Remediation.
-

The IERS 5.a action consisted of acquiring additional permanent and temporary ROW necessary for construction of the permanent pump stations at the 17th Street, London Avenue and Orleans Avenue Outfall Canals. The additional land needed for construction of the permanent pumps at the 17th Street and Orleans Avenue Canals is near a majority white community with incomes well above the poverty level. There is an EJ community near the construction areas of the London Avenue Canal. The neighborhoods just east of the canal consist of both majority minority residents with at least 20 percent of residents having incomes below the poverty level.

IERS #11.d, IERS #25.a and IERS #27.a identified EJ communities near the project construction activities. Both IERS 11.d and IERS 27.a report that neighborhoods near the construction zone had both majority minority population and 20% or more of residents with incomes below poverty level.

The IHNC Seabrook Extended Construction IERS 11.d evaluates the potential impacts associated with schedule delays for constructing the surge protection sector gate in the IHNC at Lake Pontchartrain. Construction of the project required that the IHNC be closed to watercraft

for an additional year due to weather and other construction-related delays. Several EJ communities are near the construction zone, to the west of the IHNC, including Pontilly and Pontchartrain Park. EJ communities are also adjacent to the construction access and staging areas of IERS 25.a and 27.a.

The Bayou Sauvage Mitigation site, 17th Street Outfall Canal Remediation project and IERS 11.b and #11.c do not have EJ communities nearby.

Plaquemines Parish

Three IERs in Plaquemines Parish have EJ communities near the project site, IER #12, S 12/13, and IER #17. Five HSDDRS projects or supplements in Plaquemines Parish were completed or are under construction after November 2011:

- IERS 12.a, GIWW Access Road, IERS 12/13, Waterline
- IERS 13.a, Eastern Tie-In, Temporary Closure of Hero Canal
- IERS 33, MRL Levee, Belle Chase, IERS 33.a, MRL Levee, Belle Chase Resilient Features

The neighborhood around IERS 12.a and S12/13 is mostly comprised of minority residents. Additionally, there is a minority and low income community near the Eastern Tie-In project at the Hero Canal, IER 13.a.

St. Bernard Parish

Only IER #9, Caernarvon Floodwall in St. Bernard Parish, has an EJ community nearby. Three new projects were completed after November 2011:

- IERS 8,9,10.a, Chalmette Loop Levee and Caernarvon Floodwall,
- EA #526, Pump Station #2 and #3 Seepage Repair,
- EA #527, St. Mary's Pump Station safe house

There are no EJ communities near the construction area of IERS 8, 9 and 10.a. However, an EJ community is near Pump Station #2 and #3 as well as near the St. Mary's Pump Station safe house.

IERs *Outside* of the HSDRRS Project Area

Table 2 lists the IERs, by Parish, and the EJ conditions of any HSDRRS project that is located *outside* of the HSDRRS project area. Most of these projects are contractor-furnished borrow sites outside of the HSDRRS that were environmentally cleared to supply levee building material to the CEMVN projects in the Greater New Orleans metropolitan area. Any suitable materials found within their perimeters could be utilized by a construction contractor to provide borrow material for construction of levee or floodwall projects that are part of the HSDRRS.

Table 2. Minority and Low-Income Communities Adjacent to the HSDRRS Actions *Outside* of the Project Area

IER #	Minority Population	Households Living Below Poverty
Plaquemines Parish		
31 (Idlewilde Stage 2)	No	No
32 (Citrus Lands)	Yes	No
32 (Idlewilde Stage 1)	No	No
32 (Plaquemines Dirt and Clay Site)	Yes	No
St. Bernard Parish		
23 (Acosta and 1025 Florissant Sites)	No	Yes
31(Acosta 2 Site)	No	Yes
St. Charles Parish		
18 (Bonnet Carre Spillway)	No	No
23 (3C Riverside) and 32 (3C Riverside Phase 3)	Yes	Yes
St. James Parish		
30 (Big Shake Site)	No	No
St. John the Baptist		
26 (Willow Bend)	Yes	Yes
29 (Willow Bend II)	Yes	Yes
St. Tammany Parish		
29 (Tammany Holding Area)	No	No
SPIER 36 (New Zydeco Mitigation Site)	No	No
PIER 36 TIER 1 (Milton Island Mitigation)	No	No
Hancock County, MS		
19 (Pearlington Dirt Phase 1)	No	No
23 (Pearlington Dirt Surface Mine Site)	No	No
31 (Port Bienville Site)	No	No

Source: IER reports and 2009-2013 U.S. Census Bureau.

Most of the borrow sites that were used to construct the HSDRRS are outside of the HSDRRS project area and are located in uninhabited areas. IERs #18, 19, 23, 26, 29, 30, 31, 32 and 35 are the NEPA documents prepared for borrow pits outside of the HSDDRS. The following 12 borrow sites were excavated for HSDRRS construction, and are located outside of the five-parish HSDRRS region:

- Idlewild 1 and 2, Citrus Lands and Plaquemines Dirt and Clay in Plaquemines Parish,
- Acosta and Acosta 2 and 1025 Florissant in St. Bernard,
- Bonnet Carre Spillway and 3C Riverside in St. Charles Parish,
- Big Shake in St. James Parish,
- Willow Bend and Willow Bend II in St. John the Baptist,
- Tammany Holding Area in St. Tammany Parish, and
- Pearlington Dirt Phase 1 and Phase 2 and Port Bienville in Hancock County, Mississippi.

Four of the twelve borrow pits have either a low-income or minority neighborhood within a one-mile radius of the borrow site, and they include 1025 Florissant/Acosta and Acosta 2, 3C Riverside, Willow Bend and Willow Bend II, Plaquemines Dirt and Clay and Citrus Lands.

Other IERs located outside of the HSDRRS project area include the PIER 36 and 37 which present mitigation sites and consider impacts related to construction of the HSDDRRS on the Eastbank and Westbank of New Orleans. Two mitigation projects located outside of the HSDDRS project area are located in St. Tammany Parish are were evaluated in the TIER documents, including the Milton Island and New Zydeco mitigation sites for the LPV projects. Neighborhoods around these sites are not EJ communities.

4.2.15.2 Impacts of HSDRRS

4.2.15.2.1 HSDRRS 2011 Impacts

Environmental Justice

Public involvement has been a key component of the NEPA Alternative Arrangement process for the USACE. Through the 200 public meetings, over 6,500 site visits and field trips, postings to the www.nolaenvironmental.com website, notices of availability providing an opportunity for the public to comment for all IERs, and focused neighborhood project design meetings, minority and low-income residents in the Greater New Orleans Metropolitan Area that were potentially impacted by HSDRRS construction activities and borrow site excavation had the opportunity to be involved in HSDRRS planning and design. By incorporating public comments and concerns into all HSDRRS project designs, the USACE has taken into account the potential for any disproportionate impacts on low-income and minority communities with each HSDRRS action, and modified construction implementation plans as necessary.

During the HSDRRS scoping meetings and the CED scoping meeting, the comment or question often arose regarding the timing of the HSDRRS work in low-income and minority communities, in relation to other more affluent non-African American communities. In response, the USACE reiterated that the HSDRRS construction work was approached from the standpoint that *ALL* communities within the HSDRRS project area were provided the same 100-year level of risk reduction. The same series of analysis, design, and construction and environmental planning steps were required to be completed prior to the execution of a construction contract for work on all HSDRRS reaches. However, each HSDRRS action had different challenges that could require specific increases in schedule time for one or more of these steps, which could ultimately affect the execution of the construction contract award. In general, at the beginning of the design process it was unknown which, if any, of these steps caused potential delays in the project execution and ultimately the timing of the construction of that particular action. Therefore, although useful to the public and a way to potentially alleviate concerns of residents of minority and low-income communities, exact construction timelines were not provided in the IERs. Public meetings and press releases were used to track progress on individual IERs as environmental compliance, design, and construction moved forward.

There are no permanent disproportionate impacts on minority or low-income communities from HSDRRS construction *within* the system levee boundary. All communities within the HSDRRS project area were impacted by construction of the risk reduction system and will benefit from flood risk reduction. Many HSDRRS reaches are within uninhabited areas or overlay existing levee and floodwall alignment ROWs. However, some HSDRRS reaches are adjacent to residences and businesses, and in these reaches, short-term construction impacts, such as noise, dust and transportation, were experienced by all residences and businesses located near the HSDRRS, regardless of race or income level. No disproportionate impacts on low-income or

minority communities occurred from HSDRRS construction, because all residences and businesses were impacted to some extent and are provided an equal level of risk reduction. Further, all floodwalls, floodgates, pump stations, and levees were built adjacent to communities composed of all different income levels and races.

A vast majority of the 66 IERs and Supplemental IERs evaluated project modifications within an existing ROW in areas having environmental compliance and in uninhabited areas where there would be no EJ impacts to any community. One IER supplemental of note did cause temporary construction impacts for longer than expected. IERS 11.d, IHNC Seabrook Gate Extended Construction, incurred weather and project delays during construction of the surge protection sector gate in the IHNC at Lake Pontchartrain which lengthened the construction schedule for an additional year. The construction activities, including pile driving and other construction related noise and truck traffic affected communities near the project, particularly the Pontilly and Pontchartrain Park neighborhoods. Meetings with the community residents were held to explain the reasons for the extension and to describe the USACE Best Management Practices which minimize noise from pile driving, dust from transport of materials and road congestion. The impacts due to construction activities, including noise, air quality and traffic were temporary and disproportionate high adverse effects did not occur. The majority of Orleans Parish residents are minority and over 20 percent have incomes below the poverty level. Additionally, the effects of building the HSDRRS were felt by everyone living within the system boundary.

The EJ analyses of most of the IERs and Supplemental IER projects completed after November 2010 showed that there would be no disproportionate adverse impacts to low-income or minority residents living within the hurricane system. New projects completed after November 2010 including, PIER 36, LPV Mitigation; PIER 37, WBV Mitigation; EA#496, Outfall Canal Remediation; EA#526, Pump Station #2 and #3; EA#527 Seepage Repair; and St. Mary's safe house all did not have a disproportionate impact on an EJ community. IER 33 and IERS 33.a described the Co-Located MRL Levee and Resilient Features projects in Belle Chasse, LA. There were no disproportionate, adverse effects from the construction of these projects to nearby residents in Belle Chasse. Residents living within block groups around the MRL projects, between LA Highway 23 and the Mississippi River, did not meet the criteria for being a minority or low-income community.

Many borrow sites located *outside* of the HSDRRS are in undeveloped areas, and excavation of material in those borrow sites had no disproportionate impacts on minority or low-income communities. However, some borrow sites proximate to residential neighborhoods (within a 1-mile radius), but *outside* of the HSDRRS boundaries (and therefore, not receiving the risk reduction benefits of the HSDRRS, but experiencing the temporary construction impacts) had the potential for short-term noise, air quality, and traffic impacts on nearby residences, and in some locations, these temporary impacts could only be experienced by minority or low-income communities. Table 4-3 provides a listing of borrow sites where temporary noise and air emissions, and transportation impacts occurred proximate (i.e., within a 1-mile radius) to low-income or minority communities outside of the HSDRRS boundaries. No permanent disproportionate impacts occurred on minority or low-income communities from any borrow site excavation, because noise and air emissions and transportation impacts ceased at the end of the use of the borrow site.

Table 3. Borrow Sites* *Outside* of the HSDRRS
Impacts to Minorities or Low-Income Communities within a 1-Mile Radius

IER#	Impact Description**
St. Charles Parish	
18	There are no minorities or low-income neighborhoods surrounding the Bonnet Carre Spillway.
23	Temporary construction-related impacts on minorities and a low-income community from the 3C Riverside borrow site were not high, adverse disproportionate impacts.
32	Temporary construction-related impacts on minorities and a low-income community from the 3C Riverside Phase 3 borrow site were not high, adverse disproportionate impacts.
Plaquemines Parish	
31	There are no minorities or low-income neighborhoods surrounding the Idlewild Stage 2 borrow site, according to US Census block group data.
32	There were no disproportionate temporary construction impacts on a minority community around the Citrus Lands site.
32	There were no disproportionate temporary construction impacts on a minority community around the Plaquemines Dirt and Clay borrow site.
St. Bernard Parish	
23	There were no disproportionate temporary construction impacts on a low-income community around the 1025 Florissant borrow.
23	There were no disproportionate, temporary, construction impacts on a low-income community around the Acosta 1 and Acosta 2 borrow sites
St. Tammany Parish	
29	There are no minorities or low-income neighborhoods surrounding the Tammany Holding borrow site.
St. James Parish	
30	There are no minorities or low-income neighborhoods surrounding the Big Shake borrow site.
St. John the Baptist Parish	
26	Temporary construction-related impacts on a minority and low-income community from the Willow Bend Phase I borrow site were not disproportionate.
29	Temporary construction-related impacts on a minority and low-income community from the Willow Bend Phase II borrow site were not disproportionate.
Hancock County	
19	There are no minorities or low-income neighborhoods surrounding the Pearlington Dirt Phase 1 borrow site.
23	There are no minorities or low-income neighborhoods surrounding the Pearlington Dirt Phase 2 borrow site.
31	There are no minorities or low-income neighborhoods surrounding the Port Bienville borrow site.

*Utilized for HSDRRS construction as of August 2015

** Taken from various IER reports.

4.2.15.2.2 HSDRRS 2057 Impacts

The future levee lifts would cause temporary and sporadic construction impacts on residents and businesses, which would affect the socioeconomic resources and low-income and minority communities in a manner similar to the original levee construction for the HSDRRS improvements. Noise, air quality, and traffic impacts would potentially occur for citizens near these particular levee reaches. Future construction footprints could be greater than the HSDRRS 2011 levee footprints, and potentially require additional ROW acquisition. Should increased ROW be necessary, then any property acquisitions would have limited impacts on property tax

revenues. However, maintaining the earthen levees at the 100-year risk reduction level would continue to provide a benefit to the region's residents, businesses, and industries within the project area, which would in turn reflect positively on employment and income due to a reduction in storm-damaged properties from storm surges and hurricane flood events. No adverse long-term socioeconomic impacts would occur from HSDRRS 2057 construction.

The future levee lifts currently will require excavation of existing borrow and new borrow sites which will require new NEPA documentation. Prior to any new borrow sites being developed, the USACE would fully investigate the proposed borrow area's setting and any impacts on socioeconomic resources, including the potential to disproportionately impact low-income and minority communities near any borrow site. In addition, the USACE would be required to follow any specific parish ordinances (e.g., Jefferson Parish) for any borrow sites, which could further reduce impacts on low-income and minority communities or socioeconomic resources in the borrow project excavation areas. However, temporary impacts on noise, air quality, and traffic impacts would potentially occur to citizens residing near these borrow sites. Additionally, indirect impacts from new borrow sites could include reductions in property values in the vicinity and indirectly lower tax revenues for the parish where the borrow site would be located.

Future expenditures for levee lifts and HSDRRS maintenance activities would provide an economic benefit to the region. These expenditures are not known at this time, but given the volume of material needed for future levee lifts, and the scale of the structural components requiring periodic testing and maintenance, these expenditures in the community would be substantial.

4.2.15.3.1 Cumulative Impacts of HSDRRS 2011 and HSDRRS 2057

The HSDRRS construction and associated excavation of borrow contributed directly and indirectly to short-term cumulative impacts on the socioeconomic resources throughout the project area during construction. Most of the HSDRRS construction and excavation of borrow did not cause disproportionate cumulative impacts on low-income and minority communities within the project area. However, all citizens, regardless of race, income level or age, experienced short-term cumulative impacts during construction due to heightened noise levels, air emissions, and traffic congestion. Lowering flood risk to the Greater New Orleans Metropolitan Area and maintaining that reduced risk of flooding in the future would cumulatively cause long-term economic and population growth in the region and, thus, would lead to cumulative beneficial impacts on the region's businesses and industries, which would in turn reflect positively on employment and income in the HSDRRS area. Cumulatively, the expenditures in the region for construction, maintenance, and future levee lifts have provided billions of dollars to the economy of the region since Hurricane Katrina. Although this can never replace the value of lost property, productivity, and lives, the expenditures are a significant beneficial cumulative impact of the HSDRRS. No long-term adverse cumulative socioeconomic impacts would occur from HSDRRS construction and borrow site excavation.

4.2.15.3.2 Cumulative Impacts of Present and Future Regional Actions

Present and future actions by the USACE and other local, state, and Federal agencies would contribute to an overall long-term cumulative benefit to socioeconomic resources, as many

projects in the area are tied directly to either regional recovery projects or projects to enhance flood risk reduction, or contribute to wetlands and coastal restoration.

Storm Damage Reconstruction

In conjunction with ongoing efforts to restore existing floodwalls, floodgates, and levees throughout the project area, there are ongoing government- and community-based efforts to restore and create new opportunities in the project area. Rebuilding schools, hospitals and clinics, and fire and police protection facilities in the hurricane-affected areas is having a positive effect on overall socioeconomic resources such as increased housing values and population increases, and would provide a better business climate within the project area. These same reconstruction projects would also enhance community cohesion and result in overall positive socioeconomic benefits to all within the system, including minority and low-income communities. Major and minor renovations on municipal buildings, parks, and community centers as part of street repair projects in St. Charles, Jefferson, Orleans, Plaquemines, and St. Bernard parishes would improve socioeconomic resources for all citizens in the project area. Some storm damage reconstruction projects could have temporary adverse impacts on nearby businesses, residential housing, and low-income and minority communities in the area due to noise, traffic congestion and road closures, and air quality emissions. However, in the long term, both enhanced and rebuilt facilities and related infrastructure projects would provide benefits to the region due to increases in construction employment, materials procured from local businesses, increases in adjacent property values, and an overall increase in community cohesion and regional growth.

Community revitalization has been a central focus in rebuilding areas affected by the storm. The lack of affordable, stable housing in the city has been defined as one of the central problems of recovery in the area. Several agencies and programs have started rebuilding houses and neighborhoods or provided funding and support for rebuilding in the Greater New Orleans Metropolitan Area such as Habitat for Humanity, Rebuilding Together, the Road Home Program and the Lot Next Door Program. Recent 2010 projects included the dedication of 50 houses that were restored and made safe in the Gentilly area over the course of 5 days as part of a Rebuilding Together *Fifty for Five* effort. In many cases these efforts are focused on low-income and minority populations, which would have positive direct cumulative beneficial impacts on these communities.

Additional short-term benefits on community and regional growth would result as local, state, Federal agencies and non-profits in the area spend money in the region on storm damage reconstruction. Several Federal agencies (e.g., Department of Homeland Security, FEMA, HUD) have authorized spending in the hurricane-affected areas. For example, HUD spent $16.7 billion in Federal funds in their Community Development Block Grants program helping to rebuild damaged housing and other infrastructure (Department of Homeland Security 2008). FEMA has funded $5.5 billion to repair and replace damaged public infrastructure and the U.S. Department of Transportation spent $2 billion to repair and rebuild highways and bridges in Louisiana and Mississippi. The overall economic benefit from these projects, when combined with the $14 billion spent on the HSDRRS, would result in long-term beneficial impacts in the region in terms of jobs, materials and supplies, and other expenditures.

Redevelopment
In general, redevelopment in all the affected parishes would have beneficial long-term socioeconomic impacts on the region, including low-income and minority communities. However, short-term impacts due to these construction activities could cause traffic congestion and construction noise and air quality issues.

Should new housing developments or other construction projects occur within jurisdictional wetlands, the developers are required to submit permit applications to the USACE Regulatory Permit Office, per Section 404 of the CWA. Private developers and homeowners nationwide, as well as within the HSDRRS project area, rely upon the availability of wetlands mitigation banks to meet the compensatory mitigation requirements of their CWA 404 permits. Mitigation banking is the use of a wetland, stream, or other aquatic resource area that has been restored, established, enhanced, or preserved for the purpose of providing compensation for unavoidable impacts on aquatic resources authorized by Department of the Army permits. A mitigation bank may be created when a public or private entity undertakes compensatory activities under a formal agreement with the Corps of Engineers. Mitigation banks are generally approved for a specific geographic area known as the service area, and an Interagency Review Team reviews the banking instrument for the bank and advises the District Engineer on the establishment and management of the bank. The value of a bank is defined in "compensatory mitigation credits," which are available for sale and utilizes ecological assessment techniques to certify that those credits provide the required ecological functions. In other words, mitigation banks allow Section 404 permit holders the ability to transfer their liability for adverse impacts on jurisdictional wetlands and non-jurisdictional BLH for the design, construction, monitoring, ecological success, and long-term protection to another site or a third party.

There are a limited number of mitigation banks within the HSDRRS watersheds. The USACE's online Regulatory In-lieu Fee and Bank Information Tracking System, called RIBITS, indicates that there are 59 mitigation banks in the CEMVN regulatory boundaries. Of those, 13 are sold out and one is suspended. Of the remaining 45 active and approved banks only a portion of those are within the HSDRRS project area or adjacent to the HSDRRS project area's Hydrologic Unit Code (USACE 2011a). Private developers and homeowners rely upon the availability of wetlands mitigation banks to meet the mitigation requirements of their CWA Section 404 permits.

Coastal and Wetlands Restoration
Coastal and wetlands restoration projects, including the restoration or creation of marshes, would increase the sustainability of southeast Louisiana through the maintenance of recreational and commercial fishing, tourism, hunting, boating, and storm surge reduction. Increased access to the marsh and coastal areas would allow for increased ecotourism, which would thereby increase business income and jobs within the region.

Wetlands and coastal restoration in south Louisiana would aid in storm surge risk reduction. In addition, several proposed wetlands restoration projects in the project area could improve water quality in several nearby water bodies, including Lake Pontchartrain, Lake Salvador (shoreline protection), the MRGO, and Lake Borgne. Marsh restoration projects such as Management of Rosethorne Municipal Effluent and South Shore of the Pen Shoreline Protection, Marsh Restoration in Jefferson Parish ($63 million for 10 miles of shoreline [Save Our Lake 2005]),

and the operation of the Caenarvon freshwater diversion canal, could also improve aquatic habitat and potentially provide habitat for fish displaced from construction-related impacts. The marsh restoration projects could create positive impacts for the seafood industry and create more job opportunities within the project area and region. Additionally, for those low-income populations that practice subsistence fishing, the improvement in aquatic habitat would have indirect beneficial impacts on minority and low-income communities.

Flood Risk Reduction Projects

Levee modification along the Mississippi River and MRGO deep-draft deauthorization would temporarily impact socioeconomic resources and low-income and minority communities in the Greater New Orleans Metropolitan Area. Approximately $24 million was spent to construct the MRGO total closure structure (USACE 2009o).

The estimated cost for the NOV project is between $857 million and $1.29 billion, and the available project funding is $769 million. The estimated cost for the New Orleans to Venice, Incorporation of Non-Federal Levees project is $456 million, and the available funding is $671 million. These estimated costs include mitigation. To date, $500 million has been spent on SELA projects (since 1997), another $100 million in emergency money was spent on seven SELA projects, and there are $345 million in expenditures remaining to be spent in the region (SELA 2010). These projects' expenditures and construction activities would provide a temporary cumulative economic boost to the area and affect low-income and minority communities similar to the HSDRRS construction activities. However, the socioeconomic resources of all communities in the area would be improved in the long term with the reduced risk of flooding, and no long term disproportionate impacts on low-income or minority communities would occur.

Although these flood risk reduction projects, along with others, would contribute to additional temporary adverse impacts on residents and businesses from construction activities, socioeconomic benefits in the region due to increased jobs, and spending on supplies and materials in the area would offset any disproportionate short-term impacts on low-income and minority communities in the project area.

Transportation

There would be beneficial effects on jobs, and material and equipment expenditures in the project area and region from large transportation projects. There is the potential for short-term (construction) and long-term disproportionate cumulative impacts on low-income and minority communities in the project area from transportation projects. Additionally, transportation projects that bisect neighborhoods, such as the IHNC Lock Project, can adversely impact community cohesion. However, all Federally funded projects are required to evaluate the socioeconomic impacts, including evaluating Environmental Justice issues, and would seek to avoid disproportionate impacts or would mitigate the impacts. Alternatively, regional transportation projects would aid in reducing traffic congestion and provide a better quality of life for working commuters, which is a beneficial cumulative impact on residents of the region, regardless of race or economic status.

4.2.15.3.3 Summary of All Cumulative Impacts for Socioeconomic Resources and Environmental Justice

Cumulatively, the disruption of waterways from construction activities, the changes in commercial and recreational fishing activities and previous closures of water bodies in the region from the BP oil spill, and temporary closures of waterways from bridge construction and lock replacement projects would cause direct adverse impacts on industries that rely heavily on barge traffic and on commercial fisheries. Large construction projects have short-term socioeconomic impacts regionally on residents and businesses from increased noise, dust, and traffic congestion. Periodic lane and road closures that delay and idle traffic have indirect cumulative economic adverse impacts due to time lost from other economic-generating activities. EJ and non EJ communities could be impacted by large construction projects, but the adverse impacts are normally short-term and the long-term impacts are the socio-economic and flood risk reduction benefits to EJ communities. However, although there would be short-term adverse cumulative impacts on socioeconomic resources within the project area, most of the adverse impacts occurred during construction activities of the HSDRRS and other regional projects.

Many Federal agencies (e.g., DoD, FEMA, HUD) have authorized spending in the hurricane-affected areas. Short-term and long-term benefits on community and regional growth would result as local, state, and Federal agencies and non-profits in the region continue to spend money in the region on storm damage reconstruction, redevelopment, coastal and wetlands restoration, and other flood risk reduction projects. These tens of billions of dollars of investments all have an economic multiplier effect which, when combined with the $14 billion spent on the HSDRRS, results in long-term beneficial impacts in the region in jobs, sales of materials and supplies, housing values, and other expenditures. Additionally, the greater level of risk reduction provided by the HSDRRS and other risk reduction projects regionally would cumulatively improve economic conditions in the long-term through reduced insurance costs and greater investment. Thus, the long-term regional cumulative impacts on socioeconomic resources would be predominantly beneficial and are considered by the majority in the region and the Nation as essential.