



US Army Corps  
of Engineers  
Mississippi Valley Division



# Corps Hurricane Response

*Task Force Hope Status Report*

*September 19, 2008*

## Hurricane Gustav priority repairs mostly complete

*Hurricane Ike damage assessment still on-going*

Hurricane Gustav provides test of system's resiliency, highlights importance of risk reduction

*By Susan Spaht*

Immediately after Hurricane Gustav rolled over south Louisiana on September 1, assessment teams from the Corps, the state and the levee authorities were on the ground and in the air identifying possibly damaged areas. More than 30 areas were found, of which 18 were listed as priority areas that needed immediate repairs or improvements.

The teams began these repairs with the goal of having the work done before Hurricane Ike made landfall. All but two were completed. *(completed priority repairs are listed below)*

Hitting the west Louisiana coast on September 13, Hurricane Ike caused extensive flooding. The flooding is preventing the teams from complet-



**Immediately after Hurricane Gustav, Corps, state and local teams were on the scene assessing any damages to the HSDRRS and getting priority repairs and improvements done before Hurricane Ike's arrival.** (USACE Photos)

ing all ground assessments. However, aerial assessments have already been made of the affected area, and the teams were able to perform ground assessments on Grand Isle and Plaquemines on September 16.

The teams have identified six priority areas that will be inspected for possi-

ble damage from Hurricane Ike. Those areas are:

1. Larose to Golden Meadow

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2. Terrebonne
3. Levee West of Burwick & Lower Atchafalaya
4. Plaquemines
5. Grand Isle
6. Lafitte

As soon as assessments are complete, all necessary repairs will be done as soon as possible.

#### Priority Areas/Hurricane Gustav

Here are the Hurricane Gustav priority areas that were repaired or improved as of September 10, i.e., in advance of Hurricane Ike:

1. **I-Wall at Railroad Gate** near Almonaster - soil and limestone fill replaced.
2. **IHNC West Side**, north of Highway 90 - refilled HESCO baskets.
3. **West of Harvey Canal**- more rock added to augment existing riprap at Westminster Pump Station.
4. **St. Bernard Parish**: Verret to Caernarvon Levee - low areas of 3 ramps to top of levee created by contractor.
5. **East of Harvey**: Belle Chasse Pump Station No. 2 - 18" gap in wall filled with plate.
6. **IHNC Relief Wells** – damaged outlet pipes repaired.
7. **Tie-in at St. Rose Drainage Structure** – riprap added for strengthening/scour protection.
8. **Company Canal** – barge gate seal repaired.
9. **Old to New Westwego Floodwall** – seepage at pipeline crossing north of Lapalco Bridge repaired.



HURRICANE GUSTAV, September 1, 2008



HURRICANE IKE, September 13, 2008

10. **Bayou Segnette Floodwall Tie-in** – additional scour rock provided for strengthening.
11. **Lake Cataouatche Levee at Hwy. 90** – additional embankment provided to raise and strengthen existing sheet pile I-wall.
12. **New Orleans East Levee**, Hwy. 11, Hwy. 90 and I-10 – levee and transitions strengthened.
13. **New Orleans East Levee** – exposed discharge pipe on floodside of slope repaired.
14. **Bayou Bienvenue Floodgate** - broken gate cable replaced.
15. **North GIWW / Michoud Slip** – gap between armoring and wall repaired.
16. **Plaquemines Parish Citrus Lands Levee** breach repaired.
17. **New Orleans to Venice Levee** - all

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soil boring holes on levee reaches repaired.

18. **Mississippi River Levee** at Chevron Pipeline - low levee section in Empire to Buras reach repaired.

**Test of the system**

When Hurricane Gustav slammed into the Louisiana coast, it not only brought 12-foot surges and 110 mph winds, it also provided a first real test of the system and structures of the Hurricane and Storm Damage Risk Reduction System (HSDRRS).

“This hurricane clearly demonstrated the critical nature of the work that we are doing here in the greater New Orleans area,” said Col. Alvin Lee, Commander of the New Orleans District. “This remains the Corps’ number one domestic priority.”

Even before Hurricane Gustav barreled across Cuba and headed in to the Gulf of Mexico, the U.S. Army Corps of Engineers was preparing for its possible arrival on the Gulf Coast, and simultaneously watching tropical storms Hanna, Ike and Josephine – since all had the potential of becoming threatening hurricanes.

In thanking the Corps employees and contractors for their work over the past three years, and praising them for their excellent preparation for Gustav, Commander Lee wrote in a recent letter:

*“Hurricane Gustav provided an opportunity to test the system; and the structures did their job. Gustav was not a benign event here in New Orleans...especially the surge and wave run-up that caused limited overtopping along the floodwalls in the Inner Harbor Navigation Canal.*



Assessment teams inspect areas after Hurricane Gustav



*The work that was done by our team along the IHNC was critical.*

*These improvements included reducing I-wall stick up, building scour protection on the protected side of the I-walls, armoring transition points*

*between earthen levees, and concrete structures such as flood walls, flood gates, pump stations, etc. The repaired and replaced structures in the IHNC provided increased strength and resilience.”*



# New Orleans District rolls out new, improved Web design

*Streamlined site is prototype for U.S. Army Corps of Engineers*

By Sarah McLaughlin  
& Mallory Moore

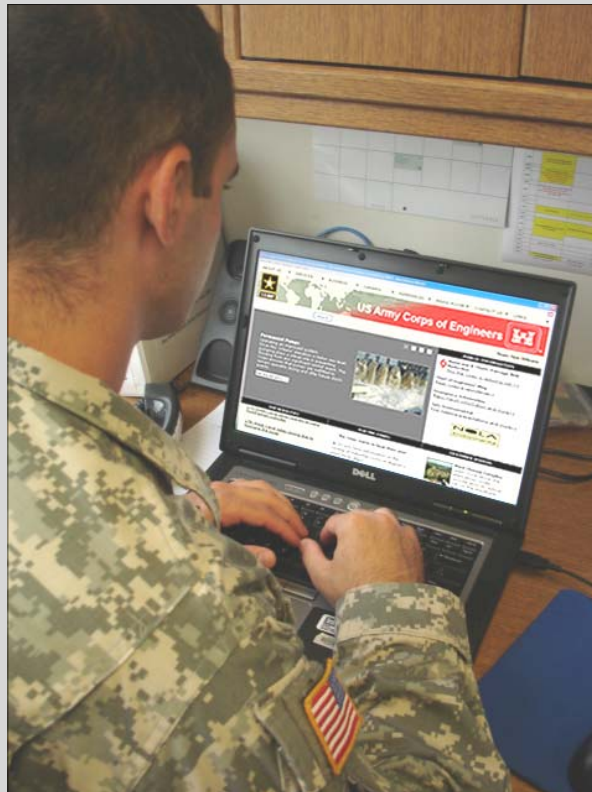
**T**he U.S. Army Corps of Engineers has crossed the threshold into a new phase of development, one in which the repositioning of its brand has become a fundamental point of focus. An integral part of this re-branding will be to create a more uniform presence on the World Wide Web, an effort that has the potential to increase the level of familiarity and trust between the agency and the public it serves by providing the most relevant, accurate and timely information.

As a precursor to the organization-wide roll out, the New Orleans District launched its revamped Web site on September 16.

## **Less is more**

In addition to a new look and feel, the New Orleans District site has been drastically consolidated, shrinking from more than 30,000 pages to about a 1,000 pages. Condensing content is one of the most challenging tasks associated with a monumental Web site transition but, in doing so, the Corps has achieved an environment that will no longer overwhelm a user with an overabundance of information nor disorient a user with redundant or conflicting information.

Another useful feature is the integration of post-Katrina knowledge into the content. The new site showcases the Hurricane and Storm



**Capt. Nick Del Toro explores the newly-designed New Orleans District web page which went online September 16.** (USACE photo illustration by Tom Durel)

Damage Risk Reduction System and details post-Katrina repair and construction. Users will also see a brand new information system, which presents geographically referenced data using Microsoft Virtual Earth.

## **Streamlined navigation**

One of the most significant improvements in the new site design is the addition of features that allows a

user to navigate through different sections. The new site has a static top horizontal navigation menu from which all of the key public touch points are accessible. The user can also see a "breadcrumb trail," which indicates how he or she arrived at the current page. A new search mechanism powered by Google is yet another function that makes this site so innovative.

## **Content Management**

As part of the web migration, all district sites will ultimately incorporate a Content Management System (CMS) powered by Microsoft Sharepoint. The CMS component will allow designated personnel to publish approved content to the website. This new feature should result in the timely presentation of accurate information. With a CMS, progress can be reported directly from the Corps as it happens.

The new site accomplishes the kind of environment conceptualized by the Corps' leadership, successfully communicates key messages, and presents the most current information in a more consistent manner.



Please visit the New Orleans District Web site at:  
[www.mvn.usace.army.mil](http://www.mvn.usace.army.mil).

# PUBLIC SAFETY No. 1 priority of Corps and partners

By Lu Christie

**T**he Corps works with many partners – federal, state and local – to assure the best communication and collaborative processes are followed in building the Hurricane and Storm Damage Risk Reduction System (HSDRRS). The Corps cannot accomplish this monumental task alone. Hurricane Gustav highlighted the interrelated work of the Corps and another of its partners, the Coast Guard. Both work in concert to ensure public safety during the event of hurricanes in the Greater New Orleans area.

The Coast Guard, to further ensure safety and security of the maritime infrastructure, requires marine facilities to have “Heavy Weather Action Plans” for use during hurricane conditions. The plans describe what actions will be taken when a hurricane approaches and threatens landfall in southeast Louisiana.

The plans were effective in aiding the Port of New Orleans to re-establish operations and enable maritime commerce to proceed along the Mississippi River and in the port after Gustav’s landfall.

The IHNC has three basic sections: a southern section from the Mississippi River lock to the Florida Avenue Bridge, a turning basin connecting the southern and northern sections with the Intracoastal Waterway, and the northern section that extends from the turning basin to Lake Pontchartrain.



**During Hurricane Gustav, more than a dozen unmoored vessels jammed this area, the railroad bridge just underneath the I-10 high rise at the IHNC.**

(USACE Photo by Capt. Nick Del Toro)

Because the southern section has a minimal buffer zone between the navigational channel and the wall and levee flood protection system, the Coast Guard, after Katrina, added a requirement for the removal of commercial vessels from this area. They enforced this requirement for Hurricane Gustav.

However, during that storm, several ships broke loose from their moorings in the IHNC. These were located along the turning basin. Many drifted west and ran aground on the west and north sides of the turning basin. The Coast Guard ordered these vessels removed and launched an investigation into why they broke their moorings.

Loose and windblown vessels (ships, barges, boats, etc.) could cause

catastrophic damage to floodwalls and other protective and maritime infrastructure.

Prior to Hurricane Ike’s potential landfall in the region, the Coast Guard Captain of the Port ordered vessels, barges and other floating structures removed from the IHNC three basic sections no later than 12 hours prior to the onset of any tropical storm conditions at the mouth of the Mississippi River as forecasted by the National Weather Service.

The Corps works in concert with its many partners, including the Coast Guard, to assure the safety of the citizens of New Orleans. The removal of vessels in the IHNC in advance of hurricanes will assure flood-wall stability and safety.





# Outfall Canal Pumps and Gates



**17<sup>th</sup> St. Canal**

**Pump Capacity:**  
9,200 cfs

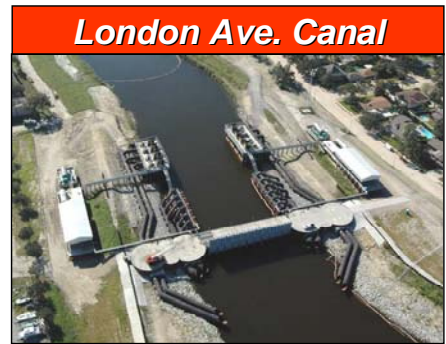
- 18 hydraulic pumps
- 11 direct drive pumps
- 14 bridge pumps
- Safe Water Elevation 6 ft.



**Orleans Ave. Canal**

**Pump Capacity:**  
2,200 cfs

- 10 hydraulic pumps
- Safe Water Elevation 8 ft.



**London Ave. Canal**

**Pump Capacity:**  
5,200 cfs

- 12 hydraulic pumps
- 8 direct drive pumps
- Safe Water Elevation 5 ft.

Here's how pumps and gates were used during recent hurricanes



**17<sup>th</sup> St. Canal**

**Hurricane Gustav (1-2 Sept.)**

- Gates closed for 18 hours
- Peak pump flow 7,240 cfs
- Duration of pumping 9.4 hrs.

**Hurricane Ike (12-13 Sept.)**

- Gates closed for 37 hours
- Peak pump flow 5,200 cfs
- Duration of pumping 6 hours



**Orleans Ave. Canal**

**Gates not closed**

**Hurricane Ike**

- All pumps operated for 3.3 to 6.5 hrs. during



**London Ave. Canal**

**Hurricane Gustav**

- Gates closed for 36 hrs.
- Peak pump flow 5,200 cfs
- Duration of pumping 26 hrs.

**Hurricane Ike**

- Gates closed for 60 hrs.
- Peak pump flow 2,000 cfs
- Duration of pumping 17.4 hrs.



# West Bank Structures

**Harvey Canal**



Pumping Capacity: 750 cfs

- 7 hydraulic pumps
- Safe Water Elevation 2.6 ft.

**Company Canal**

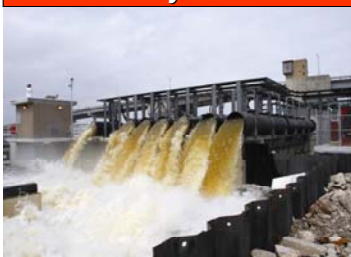


Pumping Capacity: 0 cfs

- Safe Water Elevation 3 ft.

## Here's how pumps and gates were used during recent hurricanes

**Harvey Canal**



Hurricane Gustav (1-5 Sept.)

- Gates closed for 108 hrs.
- Peak pump flow 750 cfs
- Duration of pumping 30 hrs.

Hurricane Ike (12-13 Sept.)

- Gates closed for 112 hrs.
- Peak pump flow 600 cfs
- Duration of pumping 32 hrs.

**Company Canal**



Hurricane Gustav

- Gate closed for 114 hrs.

Hurricane Ike

- Gate closed for 136 hrs.

For more information on the HSDRRS, go to this web site:

<http://www.mvn.usace.army.mil/hps2/>

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The *Status Report Newsletter* supports the information program for Task Force Hope and its stakeholders.

It also serves as the primary tool for accurately transmitting the Corps' hurricane recovery work to stakeholders.

*This is an online publication that is open to public distribution.*

This issue and past issues can be found at:

<http://www.mvn.usace.army.mil/hps>

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### FACTOID

Dutch vs. New Orleans

A North Sea storm surge devastated the Netherlands in 1953. That disaster led to the famous Dutch Works, a protection system that offered the tiny country 10,000-year flood protection

and took 40 years to build. That 1953 storm surge reached an elevation of 11 feet or 3.36 meters.

The surge elevation of Hurricane Gustav at the Inner Harbor Navigation Canal wall seen recently on CNN was 12.1 feet tall or 3.68 meters. *Ach du liebe zeit!*