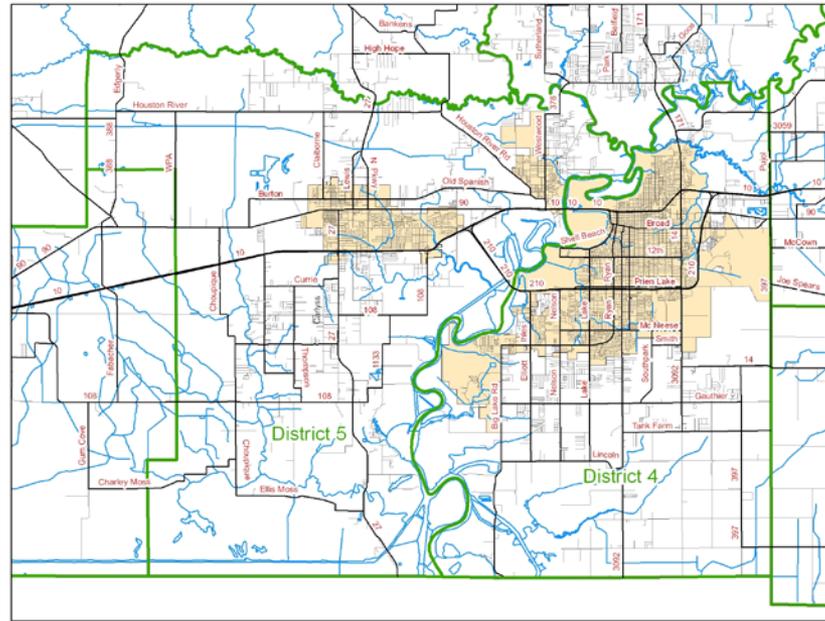
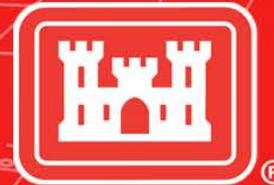




*U.S. Army Corps of Engineers  
New Orleans District*

*Calcasieu River Basin  
General Investigations Feasibility Study*





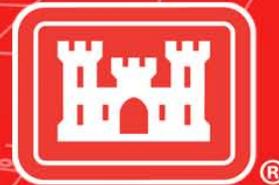
## *General Investigations Program*

- The traditional and most common way for the United States Corps of Engineers to help a community solve a water resource problem is through individually authorized studies and projects, known as the General Investigations (GI) Program.
- These types of studies are undertaken in response to a Congressional Resolution from the House Committee on Public Works and Transportation, The Senate Committee on the Environment and Public Works, or a Public Law.
- In this program, the Corps jointly conducts a study with a non-federal sponsor and, if shown by the study to be feasible, constructs the project.



## *General Investigations Program*

- The GI Program requires that Congress provide the Corps with authority and funds to first accomplish a feasibility study and secondly, to construct the project.
- Local sponsors share the study and construction costs with the Corps, and usually pay for all operation and maintenance costs.
- The GI Program may be used to address any one of a variety of water resource problems. The primary mission areas include navigation, flood risk management, and ecosystem restoration.
- Each project goes through the following four phase process
  - Reconnaissance
  - Feasibility
  - Pre-construction Engineering and Design
  - Construction



## *General Investigations 4-Phase Process*

### **Step 1 – Reconnaissance Study defines the problems and opportunities and determines whether further study is warranted**

- 100% Federally Funded
- Based upon existing information
- Must produce a plan with a benefit/cost ratio greater than or equal 1.0
- Ends with the signing of a Feasibility Cost Share Agreement with the local Sponsor

### **Step 2 – Feasibility Study evaluates alternative solutions to water resource problems and makes recommendations for congressional authorization through a Chief of Engineers Report**

- Cost Shared 50/50
- Study must produce both an economically and environmentally justified plan to proceed to Step 3
- Typical duration of 4-years to complete



## *General Investigations 4-Phase Process*

**Step 3 – Pre-construction Engineering and Design is the planning and design of alternatives recommended in the feasibility phase**

- 75% Federal / 25% non-Federal cost shared
- Finalize Engineering Design
- Develop Plans and Specifications for Construction

**Step 4 – Project goes into Construction**

- 65% Federal / 35% non-Federal cost shared
- Upon completion project is turned over to Local Sponsor for 100% Operation and Maintenance



## *Calcasieu River Basin Background*

- **Corps completed a favorable reconnaissance study in 2001 demonstrating a Federal interest in flood risk management for the Calcasieu River Basin**
  - Certified by HQUSACE May 14, 2001
  - 100% Federally Funded
  - Allowed project to proceed to “Phase 2”
- **Further study was authorized and the Corps and Calcasieu Parish Police Jury executed a Feasibility Cost Share Agreement on May 3, 2005**

*WHEREAS, the U.S. Army Corps of Engineers has conducted a reconnaissance study of flooding problems and opportunities in the Calcasieu River basin within Calcasieu Parish using funds appropriated through the Energy and Water Development Appropriations Act, 2000 (Public Law 106-60) pursuant to this authority, and has determined that further study in the nature of a “Feasibility Phase Study” (hereinafter the “Study”) is required to fulfill the intent of the study authority and to assess the extent of the Federal interest in participating in a solution to the identified problem*

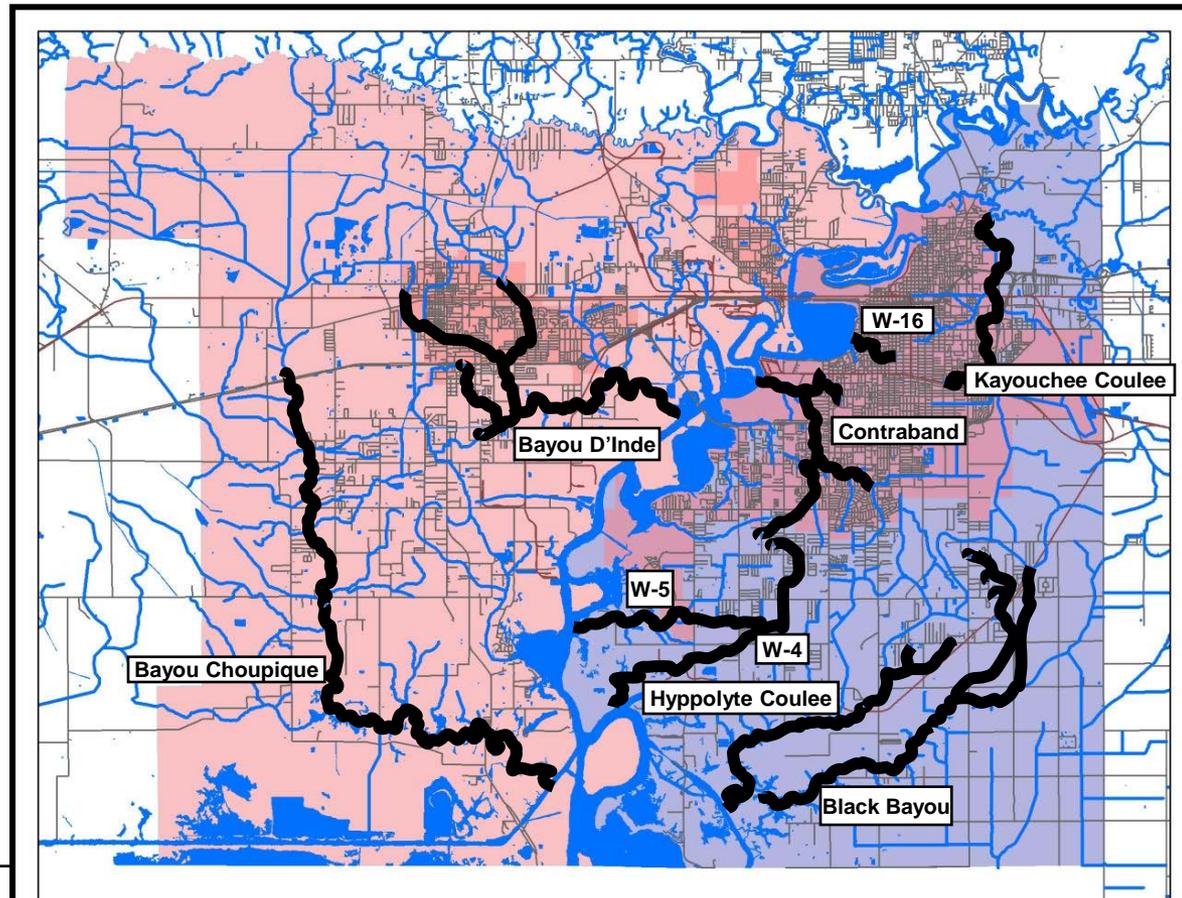
- Initiated “Phase 2”
- Local Sponsors: Calcasieu Parish, City of Lake Charles, and Gravity Drainage Districts 4 and 5
- All study costs 50/50 cost shared

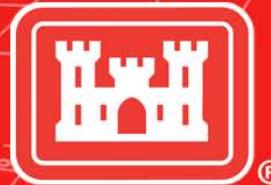


## *Project Scope*

The feasibility study is addressing flood risk management measures in southwest Lake Charles, Gravity Drainage District 4, and Gravity Drainage District 5. Specific channels being investigated include:

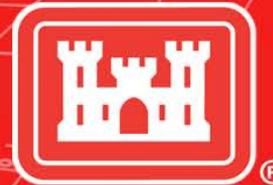
- W-5
- W-4
- Hyppolyte Coulee
- Black Bayou
- Contraband
- Bayou Choupique
- Bayou D'Inde
- W-16
- Kayouchee Coulee





## *Possible reduction measures (alternatives)*

- **A number of improvements/alternatives have been evaluated to lower flood stages in the study area. These alternatives include structural and non-structural improvements.**
  - Structural
    - Channel deepening/widening
    - Bench cuts
    - Retention/detention ponds
    - Dredging
  - Non-structural
    - Mitigation
    - Structure Raising



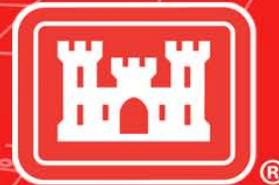
## *Current Status*

- **Survey data has been completed and turned over to Calcasieu Parish for all channels in the study area**
- **Hydraulic and Hydrologic modeling has been completed for all channels in the study area**
  - Black Bayou, Hyppolyte Coulee, W16, W4 and W5 HEC-HMS and HEC-RAS models have been turned over to Calcasieu Parish
  - Kayouchee Coulee, Contraband, Bayou D'Inde, and Bayou Choupique are currently under technical review by Corps of Engineers Staff
    - Estimated to be turned over to Calcasieu Parish by the end of June 09



## *Current Status*

- **Hydraulic analysis has revealed a general decrease in the flood stages of W16, Hyppolyte Coulee, Black Bayou, W4, W5, Contraband, and Choupique resulting from dredging, detention ponds, channel improvements, culvert replacements, and pump stations.**
- **Alternative design costs and an economic analysis are currently under way for the above channels to determine if a favorable benefit to cost ratio exists**
  - Estimated to be completed in Sep 09
- **Channel alternatives with a benefit to cost ratio greater than 1 will move into feasibility level engineering design and the environmental analysis stage of the feasibility phase**



## *Path Forward*

- **The Calcasieu River Basin Feasibility Study is currently in step 2 of a 4 step process**
- **Once final designs and environmental compliance are completed, a feasibility report with recommendations for potential projects will be submitted to Headquarters for approval**
- **Once approved, a Chiefs Report will be submitted to Congress seeking congressional authorization for construction**
  - Project Authorization is contingent upon passage of the Water Resources Development Act (WRDA)
    - Previous WRDA's (1999, 2000, 2007)



## *Path Forward*

- **Alternative Design Cost and Tentatively Selected Plan**
- **Environmental Compliance**
- **Draft Feasibility Report**
- **PED Phase**
- **Chief's Report**
- **Construction**