

# Inner Harbor Navigation Canal (IHNC) Dredging Project



**US Army Corps  
of Engineers**



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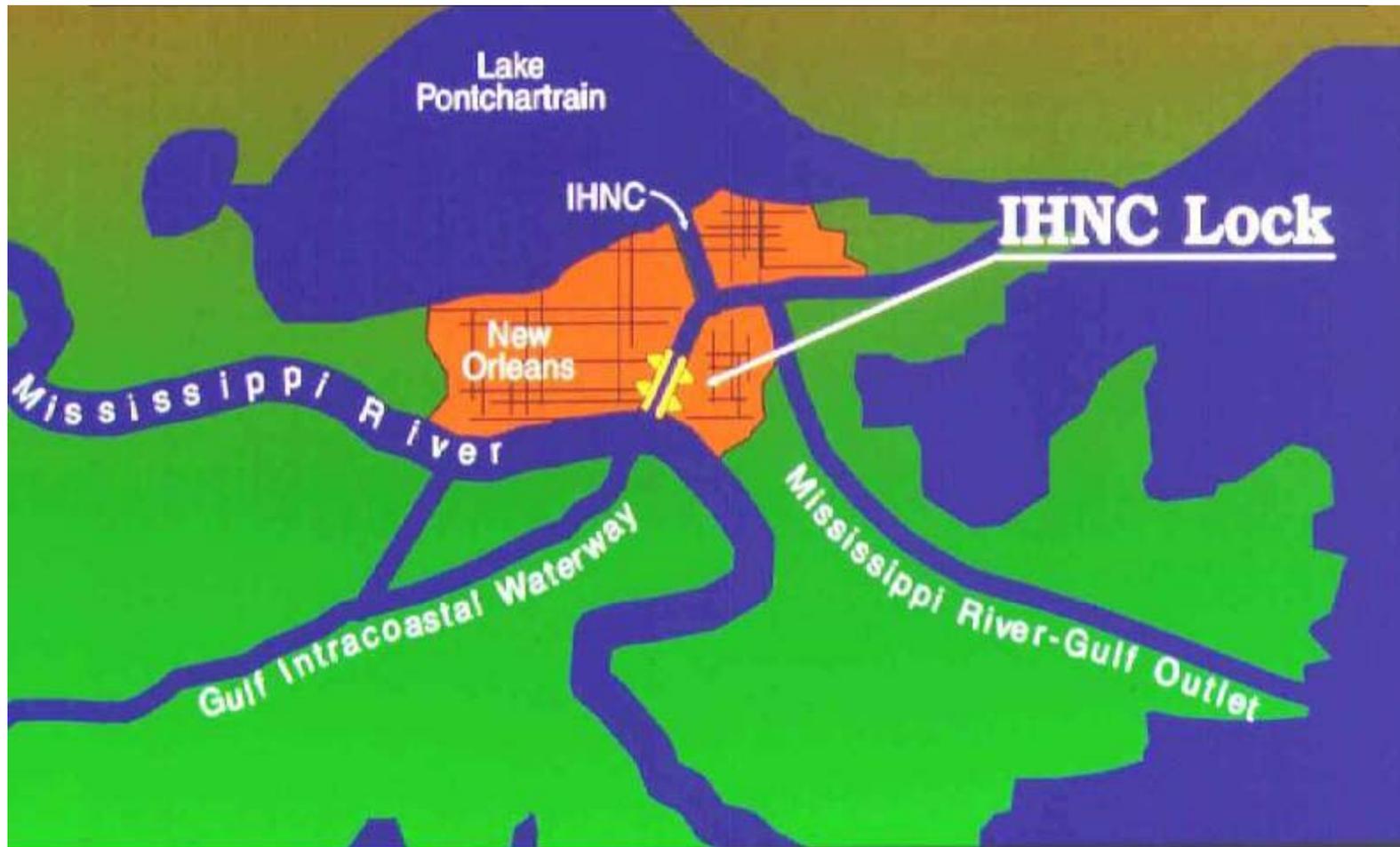


# Mississippi River Navigation System

- **IHNC Lock is a vital link between the Gulf Intracoastal Waterway and the Mississippi River**

 Mississippi River Systems  
 Other Navigable Waterways

# Inner Harbor Navigation Canal (IHNC) Gulf Intracoastal Waterway (GIWW)



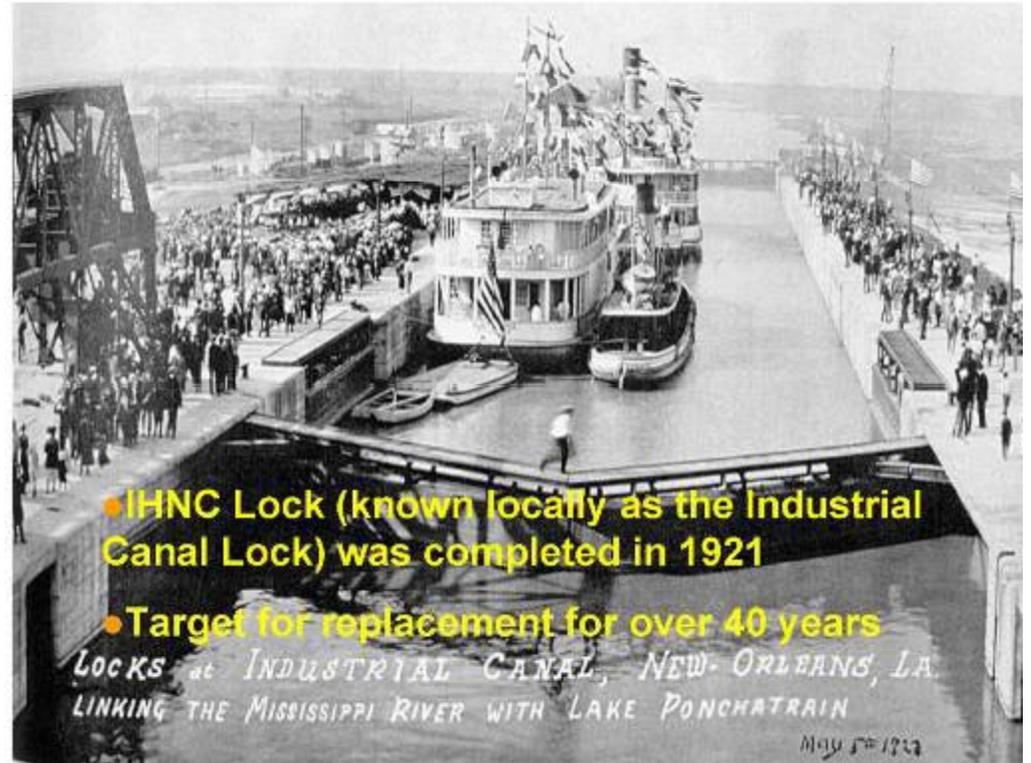
# Inner Harbor Navigation Canal (IHNC) Gulf Intracoastal Waterway (GIWW)





# IHNC Background

- Lock & channel constructed in 1921
- 25 m wide by 200 m long and 10 m deep
- Low deposition rate and little need for maintenance dredging
- Authorized to study lock replacement in 1956
- Lock replacement environmental impact statement completed in 1997.
- One of the most congested locks in the Inland System



# IHNC Issues

- Current lock is too small to accommodate existing traffic
- Approximately 20 states depend on the IHNC Lock to move over 16 million tons of cargo annually
- Low deposition rate and little need for maintenance dredging
- Construction of the new IHNC lock will require dredging of 3 million cy (2.3 million m<sup>3</sup>) of sediment
- Sediment contamination due to industrial activity
- Sediment proposed for dredging requires contaminant evaluation under Clean Water Act
- Limitations of existing CDF
- Total cost: \$ 800 million
- Currently under litigation; unfavorable public perception



# IHNC Dredged Material Evaluation

- **Sampling plan development**
- **Aquatic and terrestrial toxicity bioaccumulation assessment**
- **Fate and transport modeling**
- **Material that categorized as posing no unacceptable adverse impacts on humans and ecological systems will be used for marsh/coastal reconstruction or backfill or placed at Mississippi River disposal site**
- **Unsuitable material will placed in CDF to be constructed nearby**



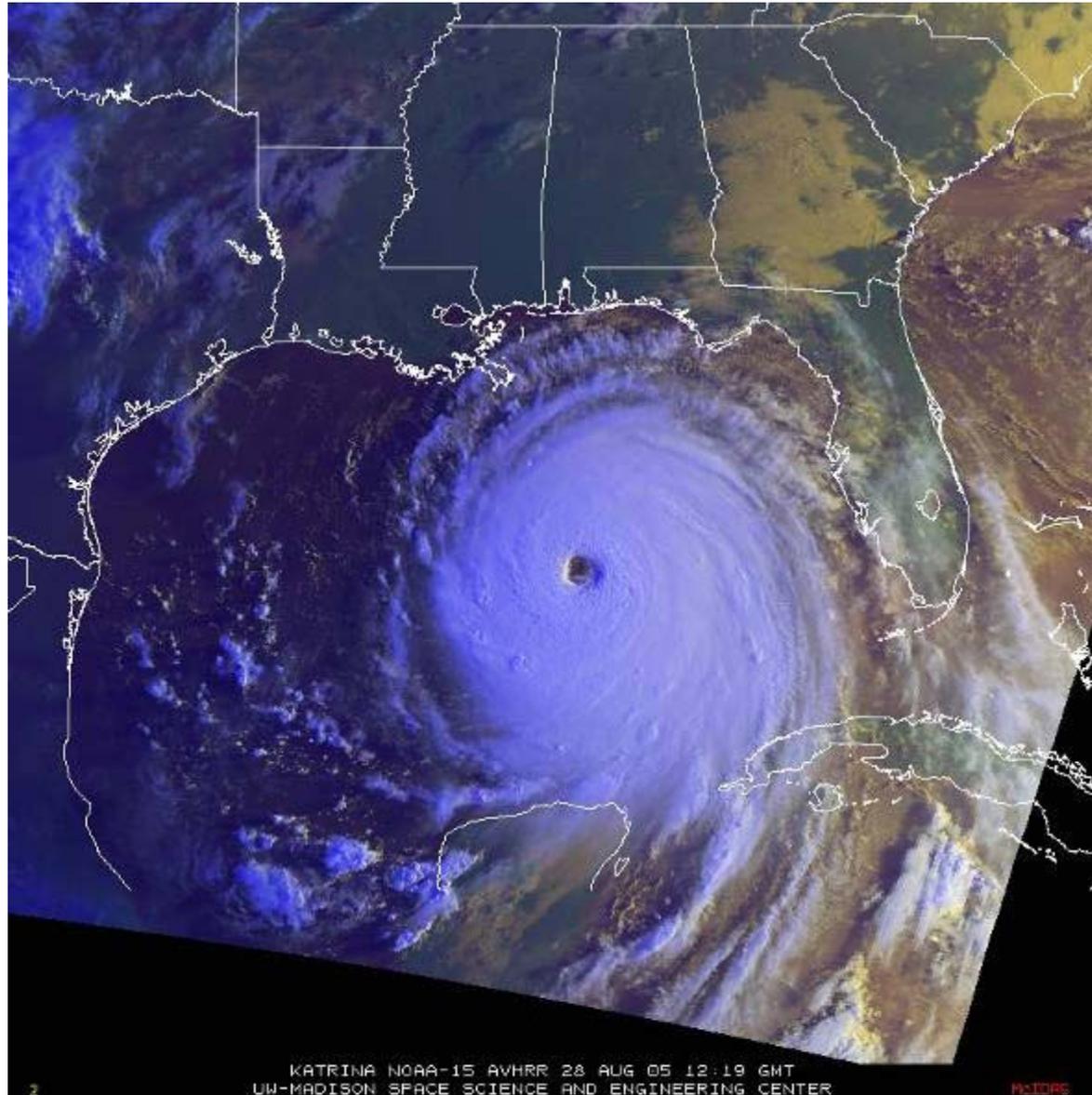
Area Proposed for Marsh Reconstruction

# IHNC Sampling Sites/Area for 2005 Effort



# **Sampling on IHNC 25 August 2005**

# 28 August 2005



**30 August 05**



# 30 August 05



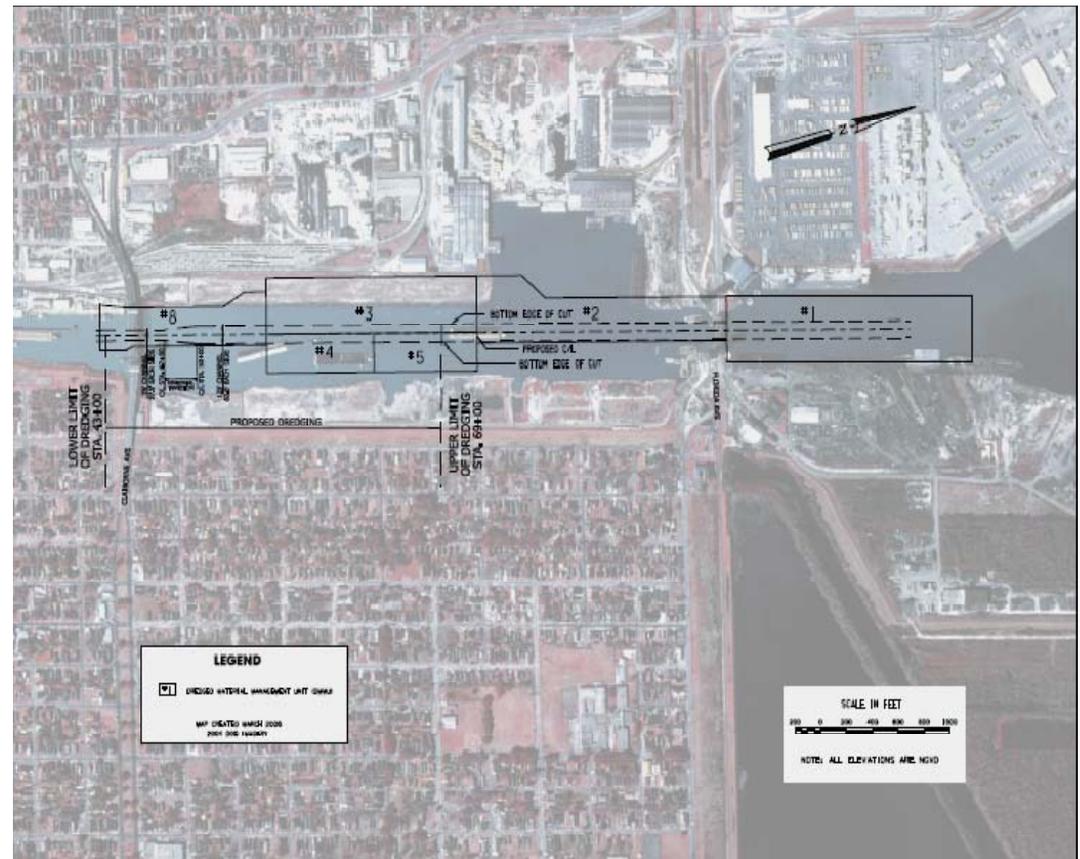
# IHNC Neighbors Not Happy...



# Maintenance Dredging Sampling and Analysis Plan

## Data Collection:

- 20,000 – 30,000 cy to be dredged
- Solid waste screening
- Physical, chemical, and biological analyses
- 6 DMMUs
- 10 in-channel sample sites



# Alternatives for Placement of Dredged Material

<u>Placement Option</u>	<u>Feasibility</u>
Mississippi River	<input type="checkbox"/>
CDF	<input type="checkbox"/>
Type I Landfill	<input checked="" type="checkbox"/>

# **Sediment Chemistry Pre-Katrina vs Post-Katrina**

- Not part of maintenance dredged material evaluation**
- PAHs no significant differences**
- PCB, no overall significant differences**
- Statistically significant increase in some pesticides and metals**
- Pesticides increases in DMMU 1**
- Metals:**
  - ↑ copper, mercury, and nickel**
  - ↓ arsenic**

# **IHNC Lock Replacement**

- **Sampling efforts ceased 27 August 2005**
- **Data from 2005 compiled**
- **In October 2006 the project was enjoined by order of Federal Court**
- **No work is to be done on the project until a Supplemental Environment Impact Statement (SEIS) is completed**
- **Project is on-going and now a priority because use of Mississippi River Gulf Outlet is limited**
- **Sampling and evaluation resumed in 2007**
- **Planned new lock is 33 m wide by 365 m long by 311 m of draft**

# 2007 Sampling and Analysis





# Biological Testing



# Physical Analysis



# 2007 Sampling and Analysis

- Use sediment and elutriate chemistry, sediment toxicity, sediment bioaccumulation and elutriate toxicity to determine suitability for open water and beneficial use
- Complete Supplemental Environmental Impact Statement
- Settle all litigation
- Dredge and replace lock

DMMU	Sample I.D.	Suitability for Estuarine Disposal			Suitability for Freshwater Disposal		
		Marine SP ( <i>Leptocheirus plumulosus</i> )	Marine SPP ( <i>Cyprinodon variegatus</i> )	Marine BP ( <i>Macoma nasuta</i> )	Fresh Water SP ( <i>Hyalella azteca</i> )	Fresh Water SPP ( <i>Pimephales promelas</i> )	Fresh Water BP ( <i>Corbicula fluminea</i> )
1	01-00C1 6-W-O-SD	Red	Green	Green	Green	Yellow	Blue
2	02-00C1 6-W-O-SD	Red	Green	Green	Green	Yellow	Blue
3	03-00C1 3-L-T-FI	Green	Green	Blue	Green	Yellow	Blue
	03-00C4 6-W-T-SD	Red	Green	Blue	Green	Yellow	Blue
	03-0C1 6N-B-N-SS	Red	Green	Blue	Green	Yellow	Blue
4	04-00C1 8-W-T-SD	Red	Green	Blue	Green	Yellow	Blue
5	05-00C1 8-W-T-SD	Red	Green	Blue	Red	Yellow	Blue
4/5	45-C1 16N-W-N-SS	Green	Green	Blue	Green	Yellow	Blue
6	06-00C1&2-W-T-SD	Green	Green	Blue	Green	Yellow	Blue
	06-00C3 6-L-T-FI	Green	Green	Blue	Green	Yellow	Blue
	06-0C1 6N-B-N-SS	Green	Green	Blue	Green	Yellow	Blue
7	07-00C1 4-W-T-SD	Green	Green	Blue	Red	Yellow	Blue
	07-00C5 9-L-T-FI	Green	Green	Blue	Green	Yellow	Blue
	07-0C1 9N-B-N-SS	Green	Green	Blue	Green	Yellow	Blue
8	08-00C1 4-W-O-SD	Red	Green	Blue	Green	Yellow	Blue
9	09-000001-W-O-SD	Red	Green	Blue	Green	Yellow	Blue
	09-00C2&4-W-O-SD	Green	Green	Blue	Green	Yellow	Blue
10	10-000001-W-T-SD	Green	Green	Blue	Green	Yellow	Blue
	10-00C3&4-L-T-FI	Green	Green	Blue	Green	Yellow	Blue
	10-0C3&4N-L-N-SS	Green	Green	Blue	Green	Yellow	Blue

suitable for selected management option on basis of test results.  
 unsuitable for selected management option on basis of test results.  
 pending STFATE model results  
 tests in progress  
 test not applicable for selected material

# Questions?



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