



***Mississippi River
Gulf Outlet, LA
(MRGO)***

***Presented to
Civil Works Review Board***

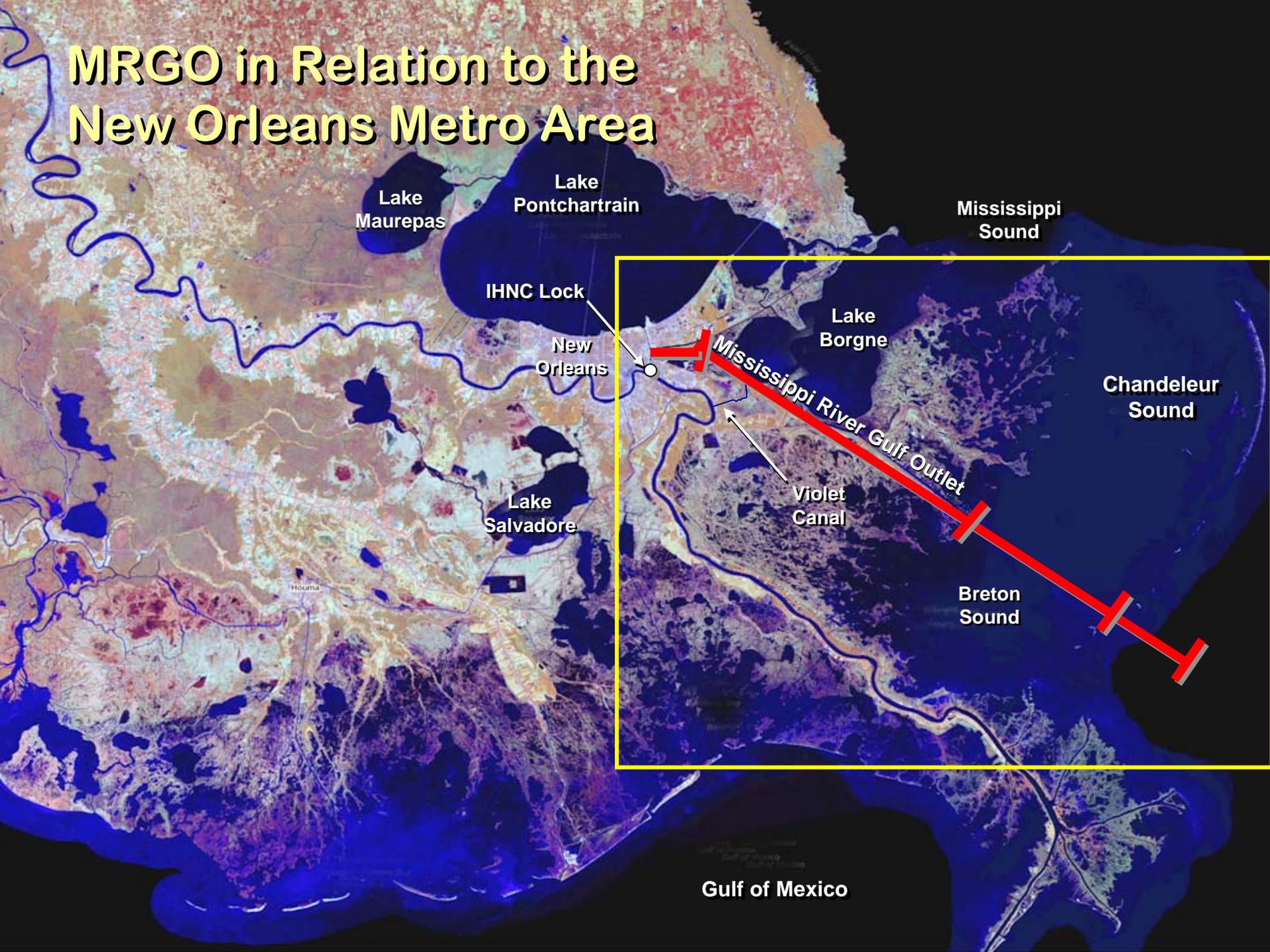
***Deep Draft De-Authorization Plan
19 October 2007***

***COL Alvin B. Lee
District Commander,
New Orleans District
U.S. Army Corps of Engineers***

Agenda

- Orientation and Background of study area
- Present Findings of the Investigation
- District Compliance with the PGM
- OWPR Comments and Resolution
- ITR Highlights and Resolution
- Public Involvement Process
- Public Involvement and Response on NEPA
- Environmental Operating Principles
- The Project Delivery Process

MRGO in Relation to the New Orleans Metro Area



Lake Maurepas

Lake Pontchartrain

Mississippi Sound

IHNC Lock

New Orleans

Lake Borgne

Chandeleur Sound

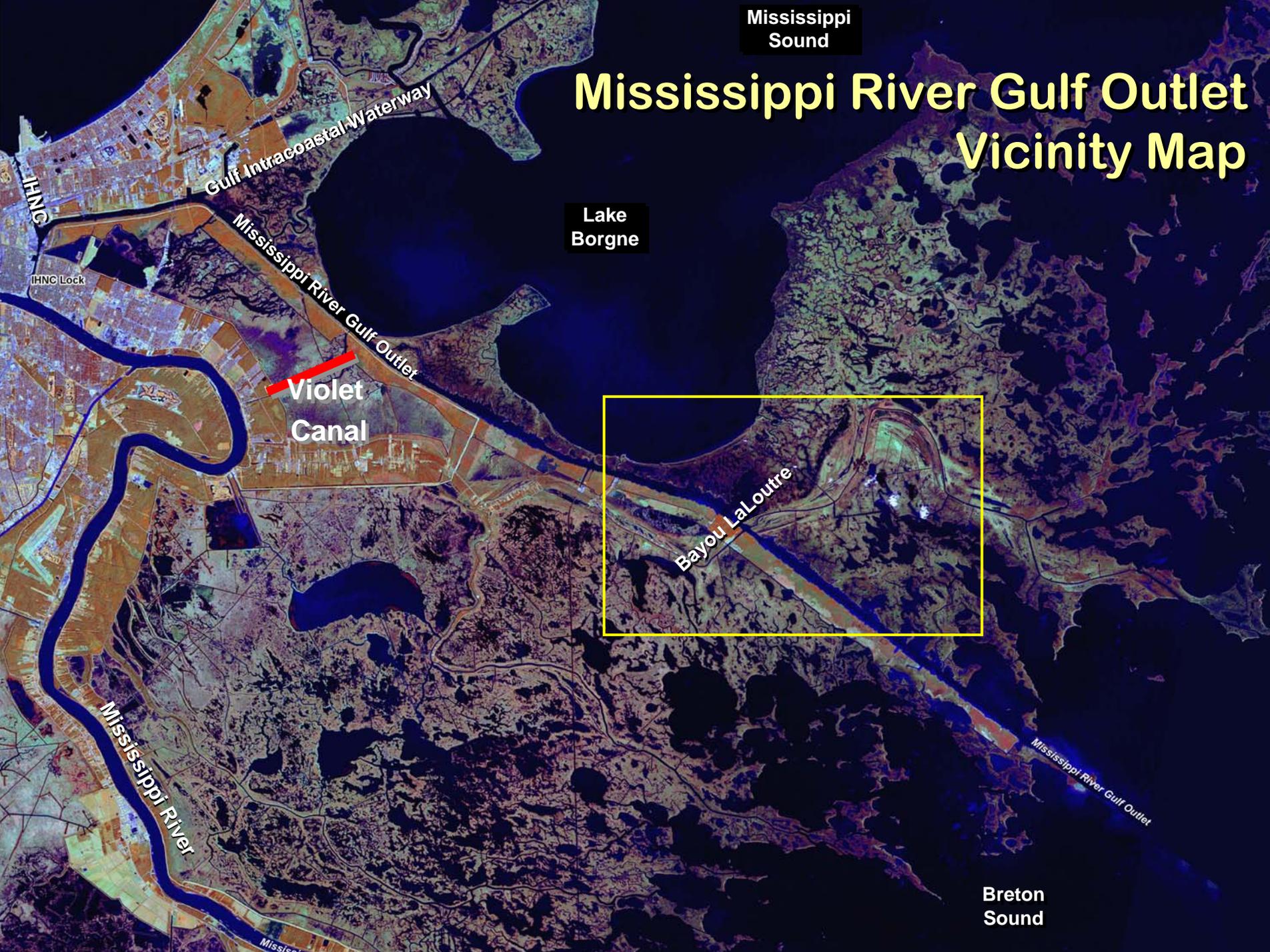
Lake Salvador

Mississippi River Gulf Outlet

Violet Canal

Breton Sound

Gulf of Mexico



Mississippi Sound

Mississippi River Gulf Outlet Vicinity Map

Lake Borgne

GIW

Gulf Intracoastal Waterway

Mississippi River Gulf Outlet

Violet Canal

IHNC Lock

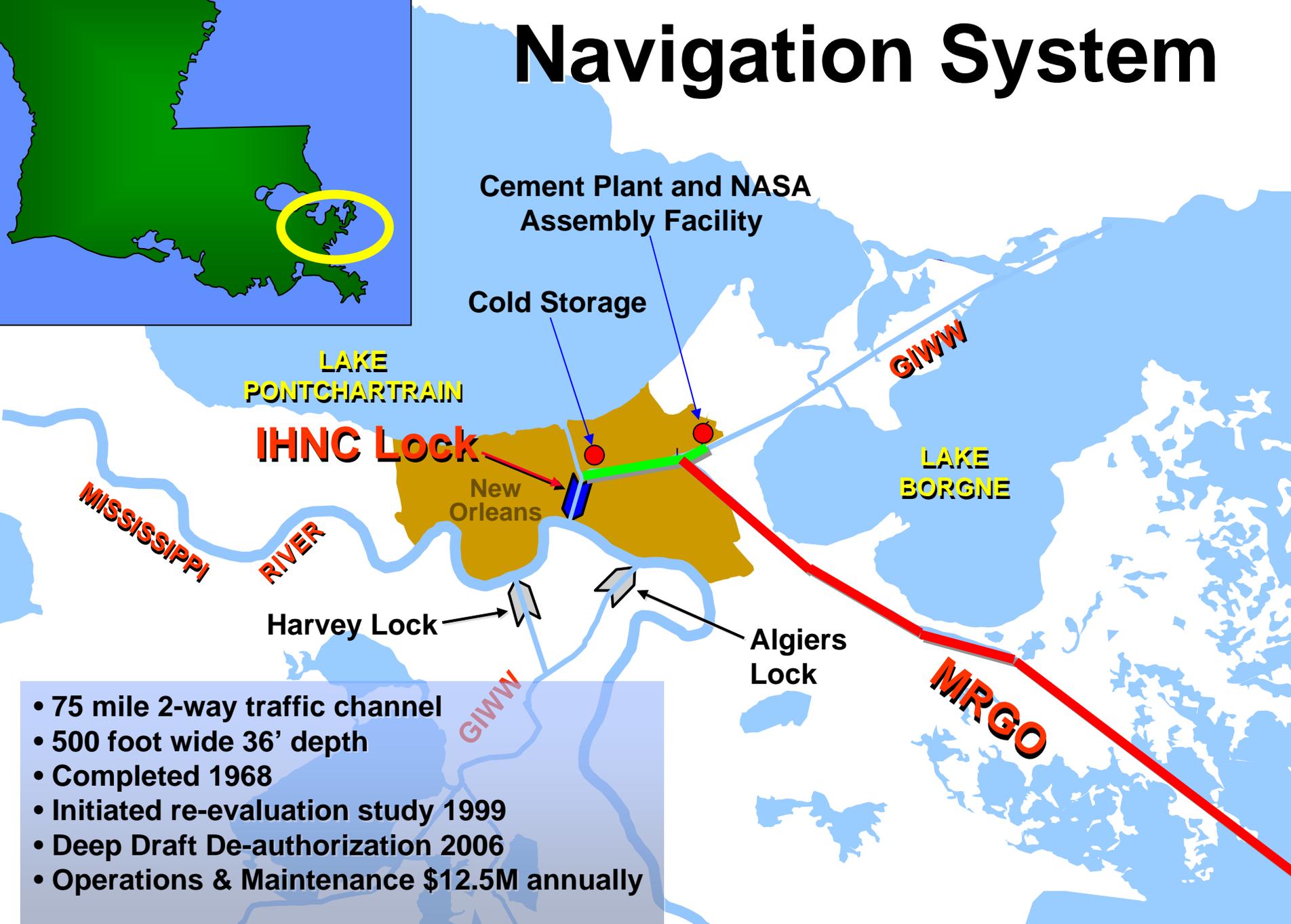
Bayou Laoutre

Mississippi River

Mississippi River Gulf Outlet

Breton Sound

Navigation System



- 75 mile 2-way traffic channel
- 500 foot wide 36' depth
- Completed 1968
- Initiated re-evaluation study 1999
- Deep Draft De-authorization 2006
- Operations & Maintenance \$12.5M annually

Purpose

- Present findings of the report and the Legislative EIS
- Obtain approval of the CWRB to release the report for state and agency review

BLUF

Recommended Plan:

- De-Authorization MRGO for Deep Draft (no Shallow Draft) from mile 60 to -9.4
 - Total channel closure structure at Bayou La Loutre Ridge
 - Remove relic aids to navigation
 - Jetties and bank protection de-authorized
 - Incorporate MRGO Plan into LACPR

- GIWW reach (mile 60 to mile 66) and Michoud Canal of project remain authorized for deep draft navigation

MRGO Channel History

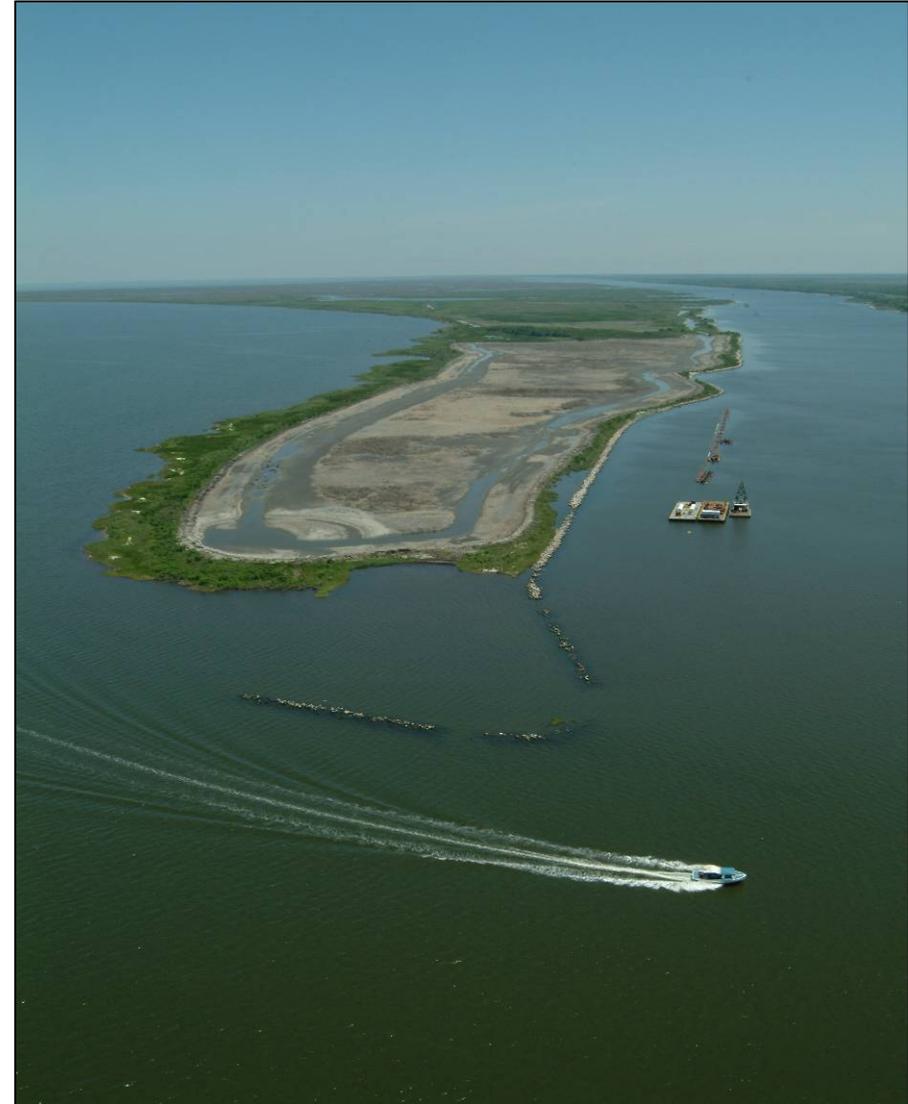


- **Authorized in 1956**
- **Shortcut to Port of New Orleans**
- **75.4-mile canal from the Gulf of Mexico to the Port**
- **Dredging began in 1958**
- **Channel dimensions 500 ft wide x 36 ft deep**
- **Full channel dimensions finished in 1968**

MRGO Initial Channel Construction Progress Circa 1959

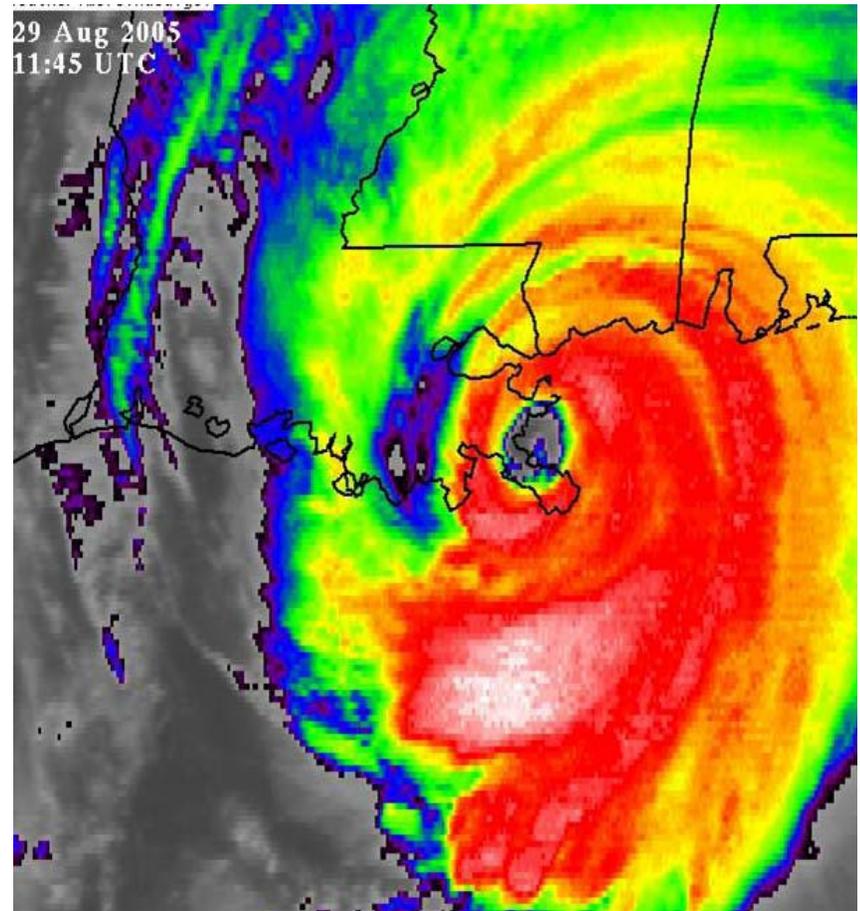
Facts Regarding MRGO Environmental Impacts

- Dredging of the channel converted wetlands to open water
- Spoil disposal converted wetland habitat to spoil bank
- Shoreline erosion significant problem (LCA top priority)
- Ship waves range from 4-6 ft in height
- Bank erosion ranges from 15-65 ft per year



Storm Surge Concerns

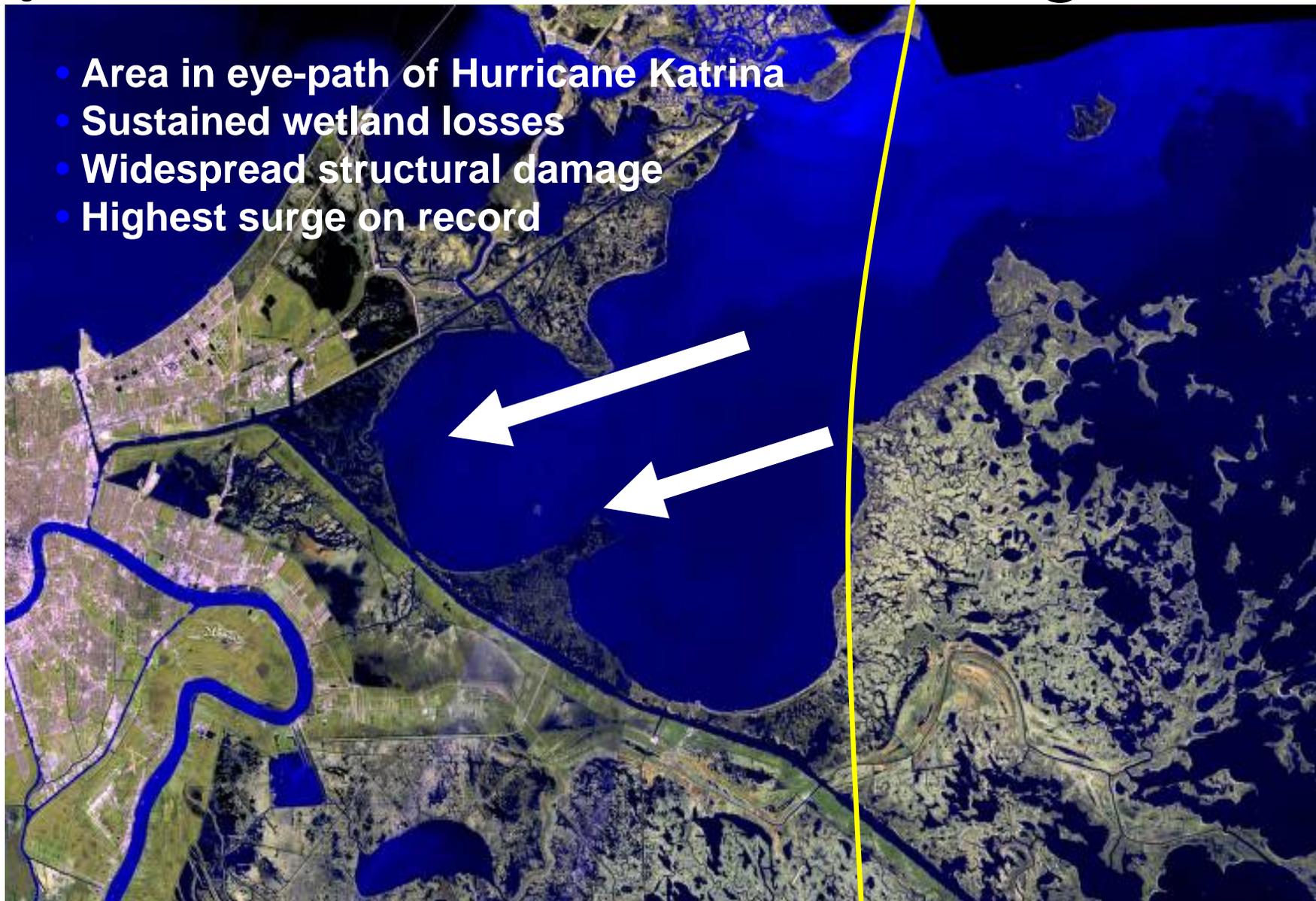
Public believes
the MRGO is a
conduit for
storm surge into
New Orleans





Hurricane Katrina Surge

- Area in eye-path of Hurricane Katrina
- Sustained wetland losses
- Widespread structural damage
- Highest surge on record



MRGO De-authorization Study Authority

Public Law 109-234:

- Chief of Engineers to develop a comprehensive plan to de-authorize deep draft navigation on the MRGO
- Submit interim report to Congress no later than 15 December 2006
- Refine the plan if necessary to be fully consistent with the Final Technical Report for the LACPR Plan – due in December 2007

Conference Report:

- Include recommended modifications to the existing authorized navigation uses of the MRGO and any navigation uses that should be maintained
- Identify measures for hurricane and storm protection
- Develop the plan in consultation with St. Bernard Parish, State of Louisiana, and affected Federal agencies

Study Goals and Objectives

- Develop a comprehensive plan to de-authorize deep draft navigation on the MRGO from the GIWW to the Gulf of Mexico
- Evaluate any navigation that should be maintained on the MRGO
- Identify measures for hurricane and storm protection
- Integrate plan into LACPR final report

Plan Formulation

Alternatives were formulated considering four criteria:

- Completeness
- Effectiveness
- Efficiency
- Acceptability

Future Without De-authorization

No Action Alternative

Deep draft channel authorized

- Continue maintenance dredging
- Shoreline erosion rate 15-65 ft per year

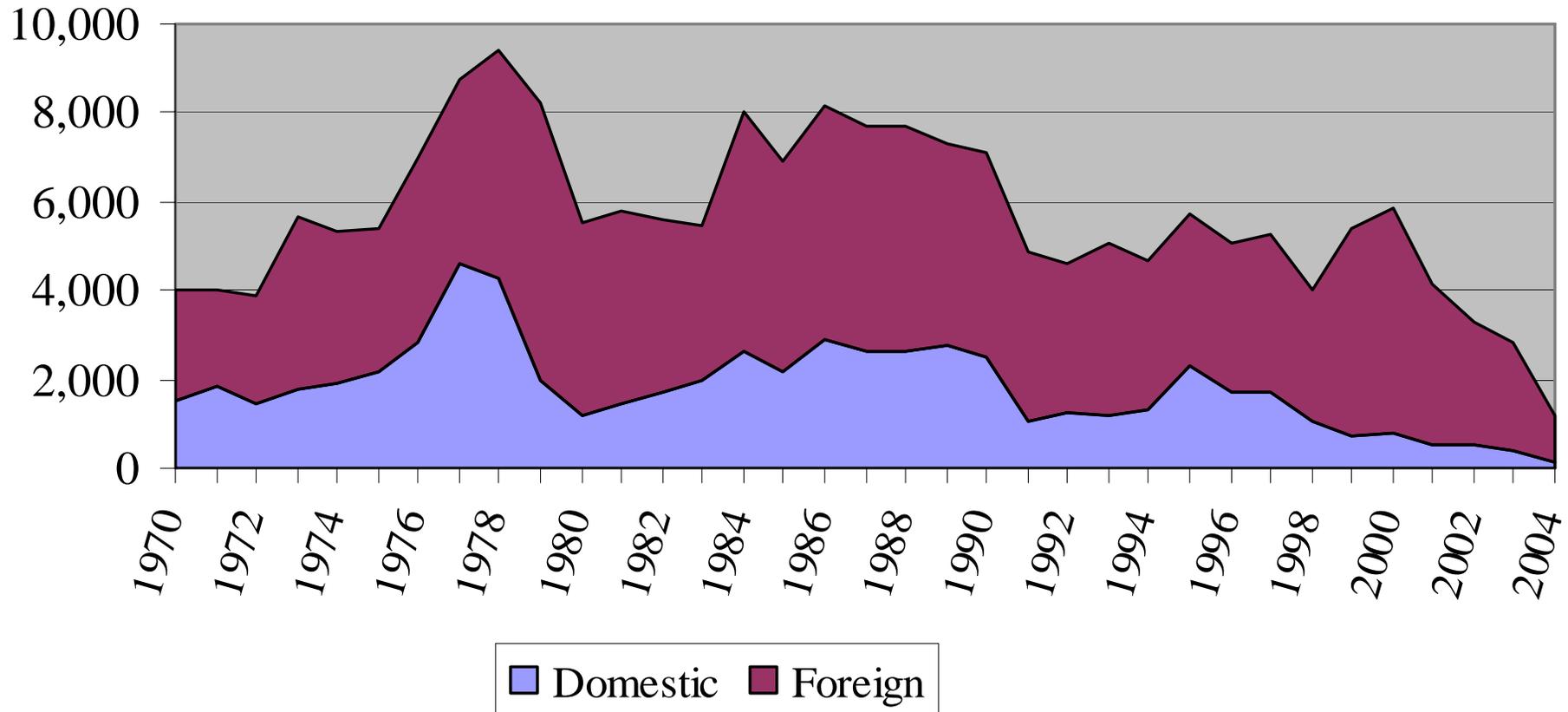
Alternative Formulation

- Initial array covered full range of options from no action to refilling the channel
- Initial screening eliminated costly and impractical alternatives
- Economic assessment of navigation use eliminated deep draft and shallow draft channel configuration alternatives



Waterborne Commerce

GRAPH 1
Mississippi River Gulf Outlet
Total Tonnage by Year (1000's)

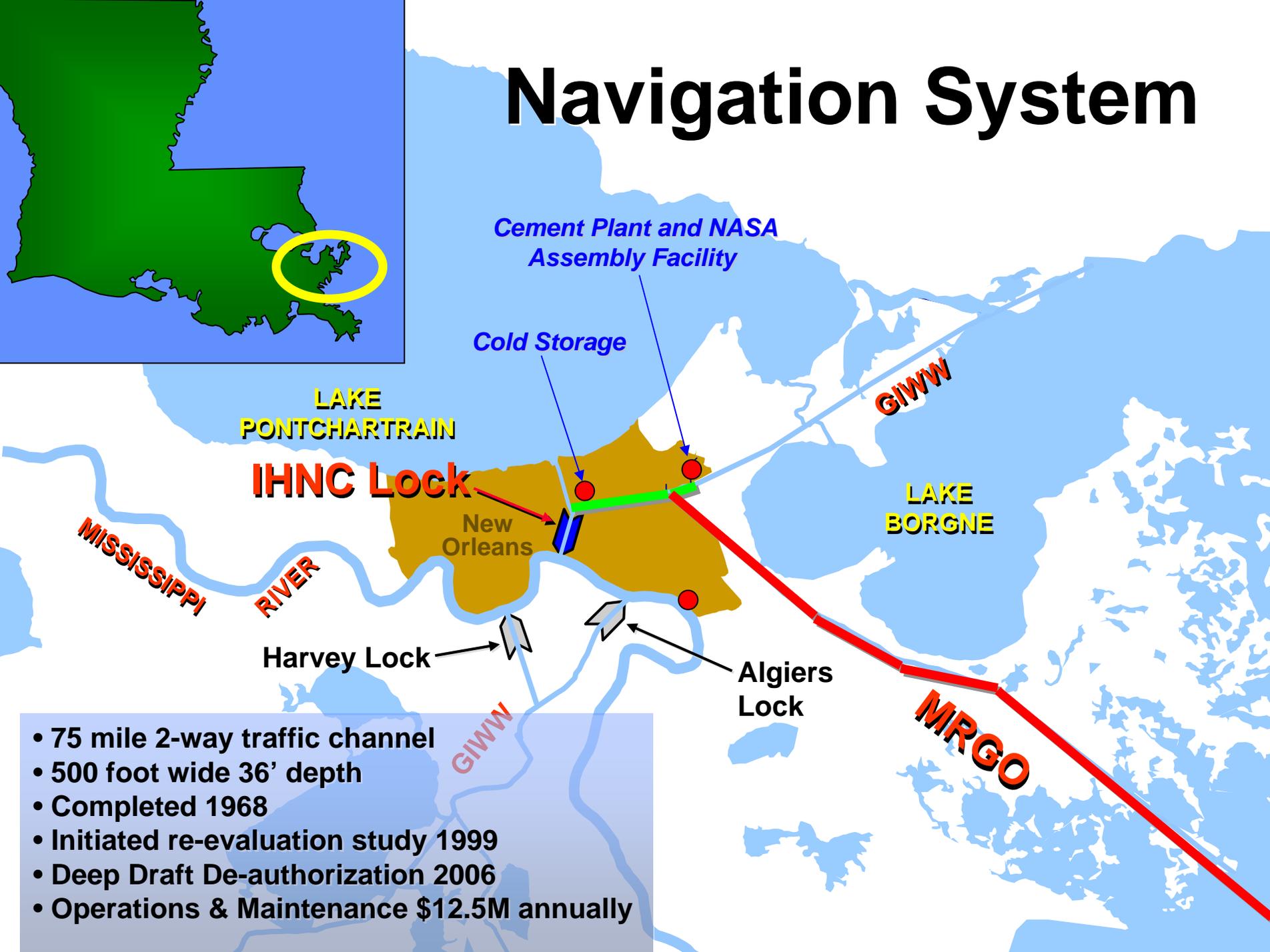


Final Alternatives Evaluated

All De-Authorize the Channel

- Alternative 1 – Total closure of MRGO
- Alternative 2 – Phased construction of total closure structure
- Alternative 3 – Cease all maintenance and abandon channel

Navigation System



- 75 mile 2-way traffic channel
- 500 foot wide 36' depth
- Completed 1968
- Initiated re-evaluation study 1999
- Deep Draft De-authorization 2006
- Operations & Maintenance \$12.5M annually

System Impacts

- Evaluated MRGO closure & IHNC Lock impacts
 - Approximately three events per year where shallow draft vessels use MRGO to by-pass IHNC Lock
 - Approximately 100 vessels per year by-pass IHNC compared to 8,100 vessels per year on GIWW
 - recent unexpected two day closure for maintenance
 - next scheduled maintenance is 2008
- Use of MRGO alternative route is rare
- Prolonged closure of IHNC is very rare
 - IHNC lock maintenance can be sequenced to reduce delays
 - IHNC lock replacement will reduce the probability of unscheduled closures

IHNC-MRGO Alternative Routes



- MS River to Ohio River to Tenn-Tom
+ 1223 miles
+ industry reports 17 day
added trip time each way
- There are no other viable emergency
alternate routes
- Industry is not satisfied with any
options
- USCG has navigation safety
concerns on all routes other than # 2.

Navigation Benefits and Costs

- Costs = O&M expenditures
- Benefits = transportation efficiencies
- Deep draft annual cost is \$12.5M and annual benefits are \$3.7M
- Shallow draft annual cost is \$6M and annual benefits are \$1.2M

Equivalent Annual Benefits & Costs

Average Annual Benefits and Costs by Alternative
(October 2006 Price Level, 50-Year Period of Analysis, 4.875 Percent Discount Rate)

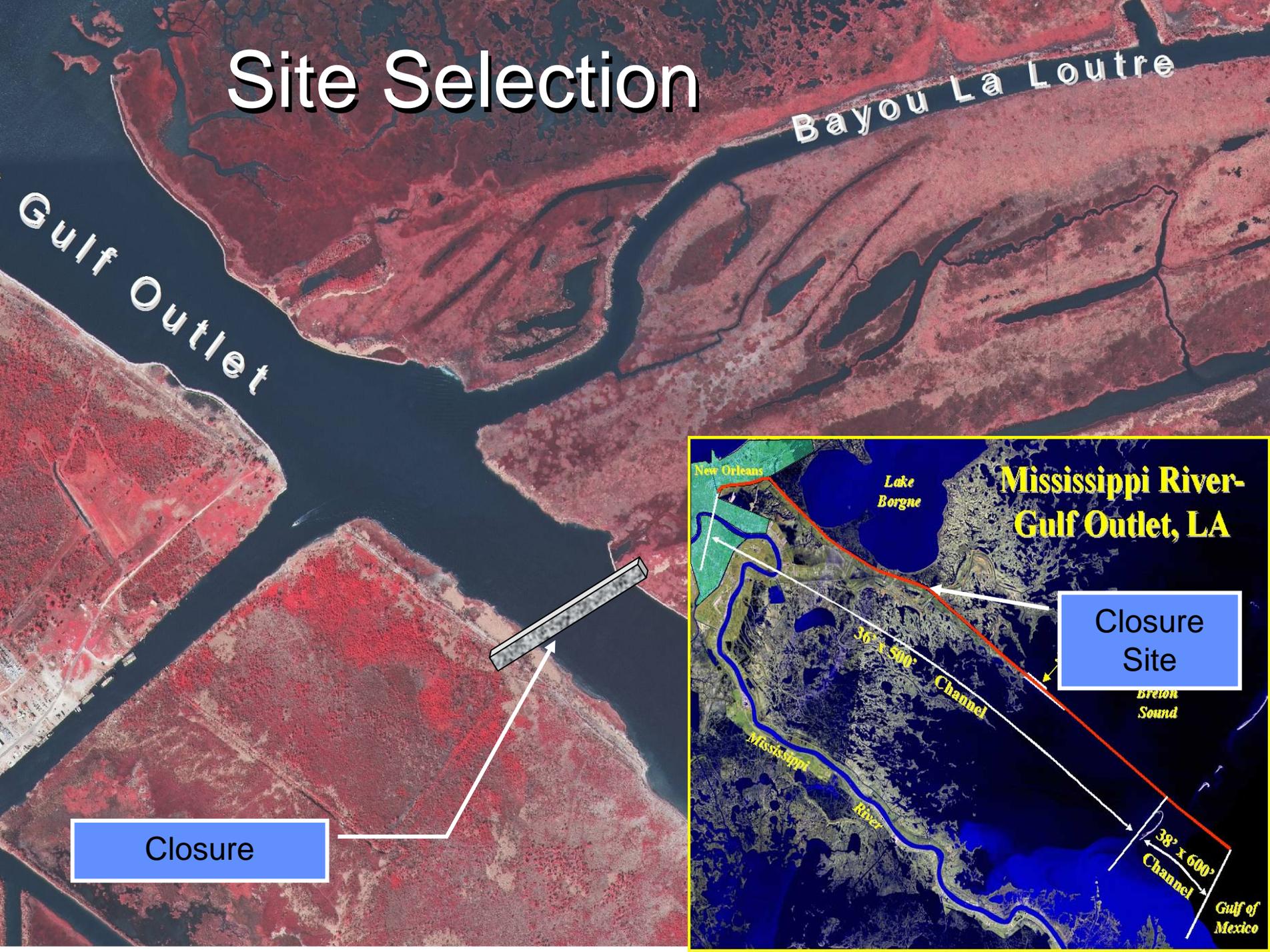
	Alternative 1 Cost (\$)	Alternative 2 Cost (\$)	Alternative 3 Cost (\$)
<u>Investment Costs</u>			
Total Project Construction Costs	17,451,000	17,715,600	825,000
Interest During Construction	307,000	290,000	18,700
Total Investment Cost	17,758,000	18,005,600	843,700
<u>Average Annual Costs</u>			
Interest and Amortization	894,200	893,900	42,300
Deep-Draft Transportation Cost	2,500,000	2,500,000	2,500,000
Shallow-Draft Transportation Cost	1,200,000	871,500	871,400
OMRR&R	136,000	133,800	0
Total Average Annual Costs	4,730,200	4,399,200	3,413,700
Average Annual Benefits	\$12,500,000	\$12,500,000	\$12,500,000
Net Annual Benefits	\$7,769,800	\$8,100,800	\$9,086,300
Benefit-Cost Ratio	2.6 to 1	2.8 to 1	3.7 to 1
Benefit-Cost Ratio (computed at 7%)*	2.5 to 1	2.7 to 1	3.7 to 1

*Per Executive Order 12893

Plan Selection Rationale

- Reasonably maximizes economic benefits to the Nation while protecting the environment to a greater extent than other alternatives in final array
- Reduce adverse environmental impacts
- Closure eliminates attempted navigation
- Compatible with coastal restoration & storm protection goals of other Federal\non-Fed plans
- Consistency with multiple lines of defense strategy

Site Selection

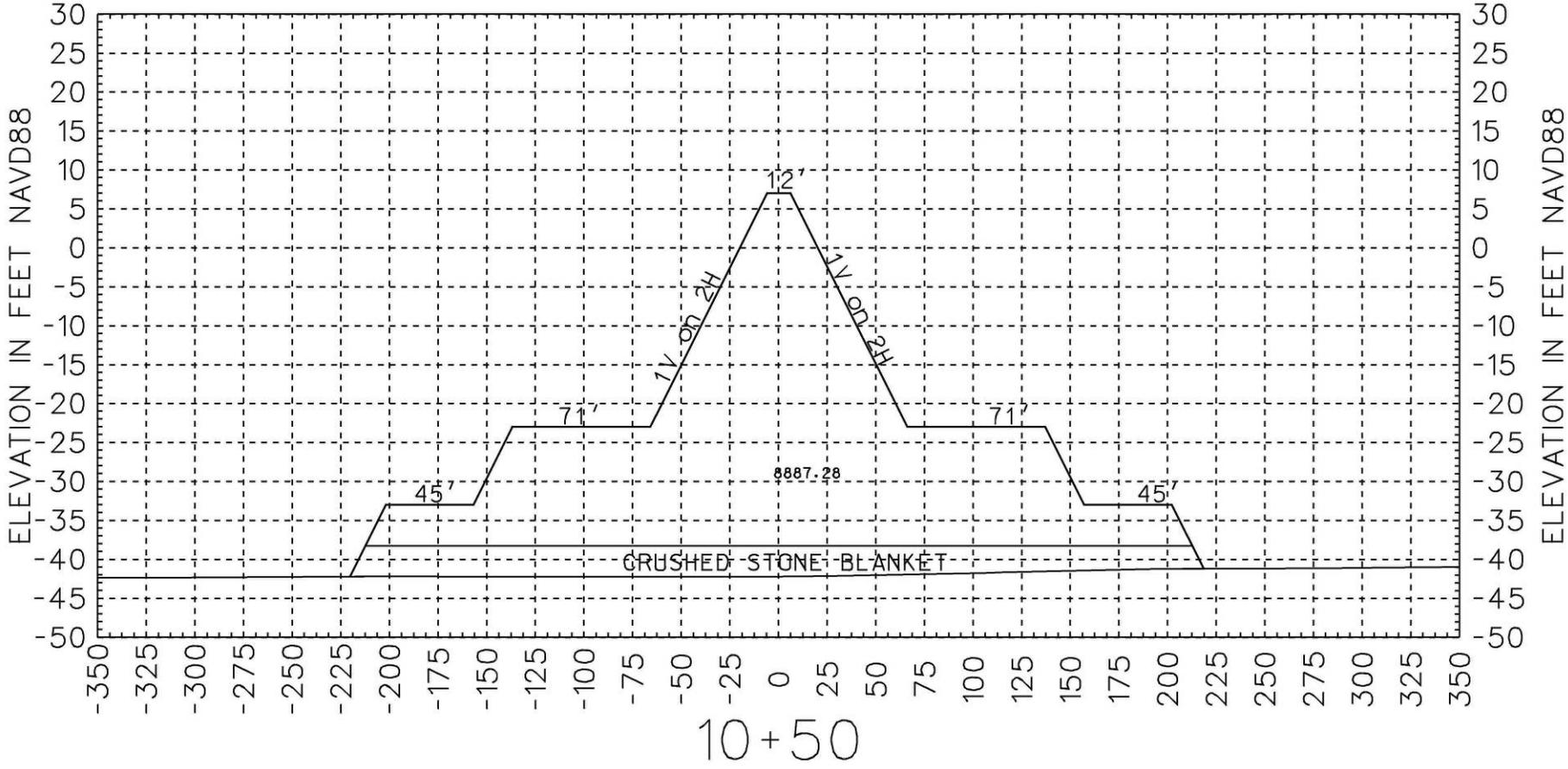




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Channel Closure

Design Drawing



Feasibility Design Details

Recommended Plan

- Site surveys collected
- Soil borings drilled and analyzed
- H&H evaluation of required height
- Settlement curves prepared
- Stability analysis
- Material quantities determined
- Costs estimated
- Used Katrina lessons learned
- In-house review & external ITR on recommended design/costs
- Value Engineering Study

First Costs of Recommended Plan

Project First Costs MRGO Deep-Draft De-authorization Study Closure Structure (October 2006 Price Levels)	
Construction Items	Cost (\$)
Mobilization and Demobilization	85,000
Stone Placement – Channel Proper	11,773,000
Stone Placement – Overbank Tie-Ins	403,650
Crushed Stone Blanket	3,400,000
Geotextile Separator Fabric	31,500
Clearing and Grubbing (Overbank)	11,000
Engineering and Design	1,094,300
Construction Management	1,591,800
Real Estate	1,401,000
Removal of Aids to Navigation	700,000
Contingencies	4,193,000
Total Project Construction Costs	24,684,250

Equivalent Annual Benefits & Costs of Recommended Plan

Equivalent Annual Benefits and Costs MRGO Deep-Draft De-authorization Study Closure Structure (October 2006 Price Levels, 50-yr Period of Analysis, 4.875% Discount Rate)	
Investment Cost	Cost (\$)
Total Project Construction Cost	24,684,250
Interest During Construction	452,000
Total Investment Cost	25,136,250
Average Annual Cost	
Interest and Amortization of Initial Investment	1,264,500
Deep-Draft Transportation Cost	2,500,000
Shallow-Draft Transportation Cost	1,200,000
OMRR&R	172,000
Total Average Annual Cost	5,136,500
Average Annual Benefits	12,500,000
Net Annual Benefits	7,363,500
Benefit-Cost Ratio	2.4 to 1
Benefit-Cost Ratio (computed at 7%)*	2.3 to 1

*Per Executive Order 12893

Recommendation

De-Authorize the MRGO from Mile 60 to Mile
- 9.4 with these features:

- A full channel closure structure at the Bayou La Loutre Ridge
- Removal of relic aids to navigation
- Incorporation of the MRGO plan into the LACPR plan
- De-authorization of jetties and bank protection features

GIWW reach (mile 60 to mile 66) and Michoud
Canal of project remain authorized for deep
draft navigation

Compliance with PGM

- Conduct quantitative analysis of navigation impacts
- Update economics to reflect post-Katrina conditions
- ID economic dislocations caused by closure
- Describe existing Fed and non-Federal plans
- Use a watershed qualitative assessment
- Include NED, NER, RED, and OSE discussions
- Engage the Vertical Team for study coordination
- Follow MVD-OC Guidance on MRGO planning with State of LA and Savoy lawsuit

Civil Works Strategic Plan

- Comprehensive Systems approach
- Widespread collaboration
- Balances uses across the watershed
- Reduces adverse environmental impacts

Compliance with OWPR Comments

- Plan formulation
- Recommendation
 - Economic and cost allocation tables
 - Need for Non-Federal sponsor
 - Value Engineering
- Cost
 - E&D and Construction Management
 - Cost assumptions

ITR Comments

- Review team led by deep draft PCX included tech experts from SAM, LRN, NAE, SAJ; Cost engineering PCX engaged
- Total of 75 ITR comments received
- Six remaining issues identified in ITR certification
 - Recommended Plan not NED Plan
 - Lack of non-Federal sponsor
 - Proposed cost sharing
 - Report level of detail
 - Public safety measures
 - Environmental compliance

Recommended Plan not NED Plan

ITR Comment:

- Recommended Plan is not NED Plan
- Report does not explain or justify the need to close off the waterway to through navigation
- No incremental benefits are quantified to support the need for the closure structure

Commander's Recommendation:

- Recommended Plan maximizes net economic benefits consistent with protecting the Nation's environment
- I consider this issue resolved

Lack of Non-Federal Sponsor

ITR Comment:

- Non-Federal Sponsor letter of intent does not express firm commitment

Commander's Recommendation:

- State of LA self certified their financial capability and commitment to serve as the non-federal sponsor
- I consider this issue resolved

Proposed Cost Share

ITR Comment:

- Cost share is inconsistent with current practices
- Environmental/ecosystem restoration benefits of the closure structure could impact cost share
- There is no cost share guidance for de-authorization actions
- Thorough explanation of rationale for proposed cost share needed

Commander's recommendation:

- Study authority is de-authorization of deep-draft navigation & does not include ecosystem restoration
- Environmental benefits are incidental
- Consistent with USACE precedent in project de-authorization
- I consider this issue resolved

Report Level of Detail

ITR Comment:

- Report is not feasibility level
- ITR Team not sure of level of analysis required for de-authorization study because guidance is limited
- Plan formulation, economic analysis, ecosystem restoration analysis, engineering and cost estimating not feasibility standard
- At minimum, cost estimate and engineering conducted for Recommended Plan should be feasibility level
- Risk and uncertainty with respect to benefits, costs, or environmental impacts are not addressed

Commander's recommendation:

- Our analysis is to the level of detail necessary to make a decision
- We have feasibility level of detail on the recommended plan
- We are confident in our recommendation
- I considered this issue resolved

Public Safety Measures

ITR Comment:

- The report does not explain what public safety measures will be implemented in conjunction with the closure structure

Commander's Recommendation:

- Removal of aids to navigation will be coordinated with USCG
- Vessel operators will be made aware of de-authorization and location of existing abandoned features through local notice to mariners publications
- I consider this issue resolved

Environmental Compliance

ITR Comment:

- Section 404(b)(1) Evaluation short form used rather than full format

Commander's recommendation:

- The proposed action does not pose a potential for significant degradation of the aquatic environment; therefore, the use of a short form 404(b)(1) analysis is deemed appropriate.
- A 404(b)(1) short form analysis has been completed along with a public notice review period and the receipt of a CWA Section 401 State of Louisiana water quality certificate.
- I consider this issue resolved

Extensive Stakeholder Involvement

- Web page with study information and instant comment button
- Nearly 100 stakeholder groups actively involved
- More than one dozen meetings held since August 2006
- Two official public comment meetings

NEPA & Public Comments

- NEPA public comment period open 45 days
- Approximately 2,500 comments received
 - 96% form letters from NGO campaign
 - **Nearly all from outside of Louisiana**
- Comments fall into four categories
 - Environmental restoration needs
 - Storm surge protection
 - Navigation economics
 - Loss of IHNC bypass route
- Public Comment and USACE Response Appendix developed for final report package
- USACE response to comments will be published in Final Report/LEIS

Environmental Operating Principles

1. Environmental sustainability
2. Interdependence life and physical environment
- 3. Seek balance and synergy**
4. Accept corporate responsibility
5. Mitigate cumulative impacts
6. Integrate scientific, economic and social
7. Seek/respect views academics, private sector, public and feds

Actions for Change

- Systems Approach
- Risk-Informed Decision
- Public Risk Communication
- Professional and Technical Expertise

Report Completion Schedule

Civil Works Review Board 19 Oct 2007

State and Agency Review 31 Oct 2007

Transmittal of Chief's Report Dec 2007



Mississippi River Gulf Outlet, LA

Questions?

***Deep Draft De-Authorization Plan
19 October 2007***



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*Presentation
to the*



CIVIL WORKS REVIEW BOARD

Mississippi River Gulf Outlet (MRGO) Deep Draft De-authorization with Legislative Environmental Impact Statement

by

BG Robert Crear

Commander

Mississippi Valley Division

October 19, 2007

One Team: Relevant, Ready, Responsive and Reliable



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Project Setting



- **Post-Katrina Environment**
- **MRGO: An Urban Legend**
- **Solution needed to restore credibility**
- **Congressional direction to complete report
NLT Dec 07**
- **Expedited study with intense
public/stakeholder engagement**



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MVD Quality

Assurance Activities



- MVN engaged PCX-DDN to perform ITR
- MVD reviewed ITR comments/responses to ensure appropriate resolution
- Active participation by vertical team to resolve comments
- MVN certified that project is technically, legally, and policy compliant
- MVD concurred that project is technically, legally, and policy compliant



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MVD Command Endorsement



- **Concur with MVN Commander's findings and recommendations**
- **Plan complies with Congressional direction to be fully consistent with LACPR and is consistent with LCA, CWPPRA, and MSCIP**
- **Anticipate a favorable response to the draft Chief's Report and is supported by sponsor and Congressional delegation**
- **Extensive public/stakeholder engagement occurred during the course of the study**
- **Selected Plan is consistent with the Environmental Operating Procedures, Civil Works Strategic Plan, and 12 Actions for Change**



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MVD

Recommendation



- **Total Confidence in Selected Plan**
- **Approve Final Report**
- **Release report for State and Agency Review**
- **Complete Chief's Report NLT 31 Dec 07**



US
of



HOOAH!



HOOAH (Who-a) adj. [slang used by soldiers] referring to or meaning anything and everything except "no."

- 1.** what to say when at a loss for words.
- 2.** good copy, solid copy, roger, good, great, message received, understood.
- 3.** glad to meet you, welcome.
- 4.** I don't have the answer -- but will check on it; I haven't the vaguest idea.
- 5.** I am not listening.
- 6.** that's enough of your drivel -- sit down.
- 7.** stop sniveling.
- 8.** oh no way! you've got to be kidding!
- 9.** yes.
- 10.** thank you.
- 11.** go to the next slide.
- 12.** you've taken the correct action.
- 13.** I don't know what that means, but I am too embarrassed to ask for clarification.
- 14.** Amen.

Mississippi River Gulf Outlet Deep Draft Deauthorization

Significant Policy Review Concerns

Thomas Hughes
Office of Water Project Review
Planning and Policy Compliance Division

Washington, DC – October 19, 2007

Mississippi River Gulf Outlet Deep Draft Deauthorization

Policy issues identified during review

Description of existing conditions

Monitoring Costs

Cost sharing

Future without project conditions

Operation and Maintenance costs and responsibility

Description of the tentatively selected plan

Justification of the selected plan

Cumulative Impacts

Non-Federal Sponsor

Feasibility Level Cost Estimate

Mississippi River Gulf Outlet Deep Draft Deauthorization

There are five key issues:

- Feasibility Level Cost Estimate.
- Justification of the selected plan.
- Cost sharing.
- Non-Federal Sponsor.
- Independent Technical Review.

Mississippi River Gulf Outlet Deep Draft Deauthorization

Feasibility Level Cost Estimate

Concern: The level of detail of the cost estimate is not sufficient.

Reason: The level of detail of the cost estimate is not sufficient to request Congressional authorization of the project as per ER 1110-2-1150 paragraph C-19.

Resolution: The district is currently resolving ITR issues on the cost estimate. Conditional resolution of these comments have been received.

Resolution Impact: Issue is resolved contingent upon meeting requirements of ITR

Mississippi River Gulf Outlet Deep Draft Deauthorization

Justification of Selected Plan

Concern: The justification of the tentatively selected plan was not sufficient to determine that the proper plan had been selected.

Reason: More justification needs to be provided to justify the incremental cost of the closure structure as compared to the alternative of just walking away. P&G evaluation criteria includes acceptability, completeness, effectiveness and efficiency.

Resolution: Modifications to the report present a sufficient justification of the selected plan.

Resolution Impact: Resolved

Mississippi River Gulf Outlet Deep Draft Deauthorization

Cost Sharing

Concern: The appropriate level of cost sharing.

Reason: The appropriate level of cost sharing of the project was discussed as there is no cost sharing requirements prescribed in law. Construction costs should be 100% Federal with OMRR&R and LERRDs being 100% non-Federal sponsor cost.

Resolution: The report and items of local cooperation were modified to reflect the appropriate cost sharing.

Resolution Impact: Resolved

Mississippi River Gulf Outlet Deep Draft Deauthorization

Non-Federal Sponsor

Concern: The report does not demonstrate a strong commitment for the project by the Non-Federal Sponsor.

Reason: A strong commitment from the non-Federal Sponsor indicating that they are willing to take on all the responsibilities and costs is required.

Resolution: A letter of self certification of financial capability dated October 16, 2007 has been received. However, a letter from the sponsor indicating their firm commitment is required

Resolution Impact: Resolved contingent upon receipt of a letter from the sponsor demonstrating their firm commitment.

Mississippi River Gulf Outlet Deep Draft Deauthorization

Independent Technical Review

Concern: Certified ITR was not submitted with the document for review.

Reason: ER 1105-2-100 requires submittal of certified ITR with the submittal of the Final report for review.

Resolution: A certified ITR was received October 17, 2007 with conditions.

Resolution Impact: Resolved pending provision of final document reflecting resolution of ITR issues.

Mississippi River Gulf Outlet Deep Draft Deauthorization

HQUSACE Policy Compliance Review Team RECOMMENDATION

Release the report and LEIS for S&A Review pending

- 1) Conclusion of ITR process.
- 2) Revised sponsor letter of commitment(during S&A).
- 3) Provision of complete final document to HQ and ITR team for “quick check”.