

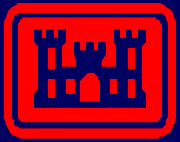
U.S. Army Corps  
of Engineers

# Business Lines Supported by NDC

## Navigation

- Waterborne Commerce
- Infrastructure
- Locks
- Dredging

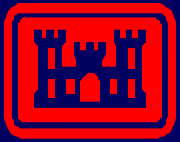
- **Hydropower**
- **Recreation**
- **Environment**
  - Stewardship
  - Compliance
- **Regulatory**
- **Water Supply**



U.S. Army Corps  
of Engineers

# Navigation Data Center Serves the Nation

- **Corps** - Supports Corps Missions of Navigation, Hydropower, Recreation, Environment, Regulatory, Flood Damage Reduction and Water Supply
- **Federal** – Federally Authorized Collection Agent with the Responsibility to Supply Data/Statistics to the Nation
- **International** - Represents U.S. in Statistics and Data Standards, Protocols, and Exchanges

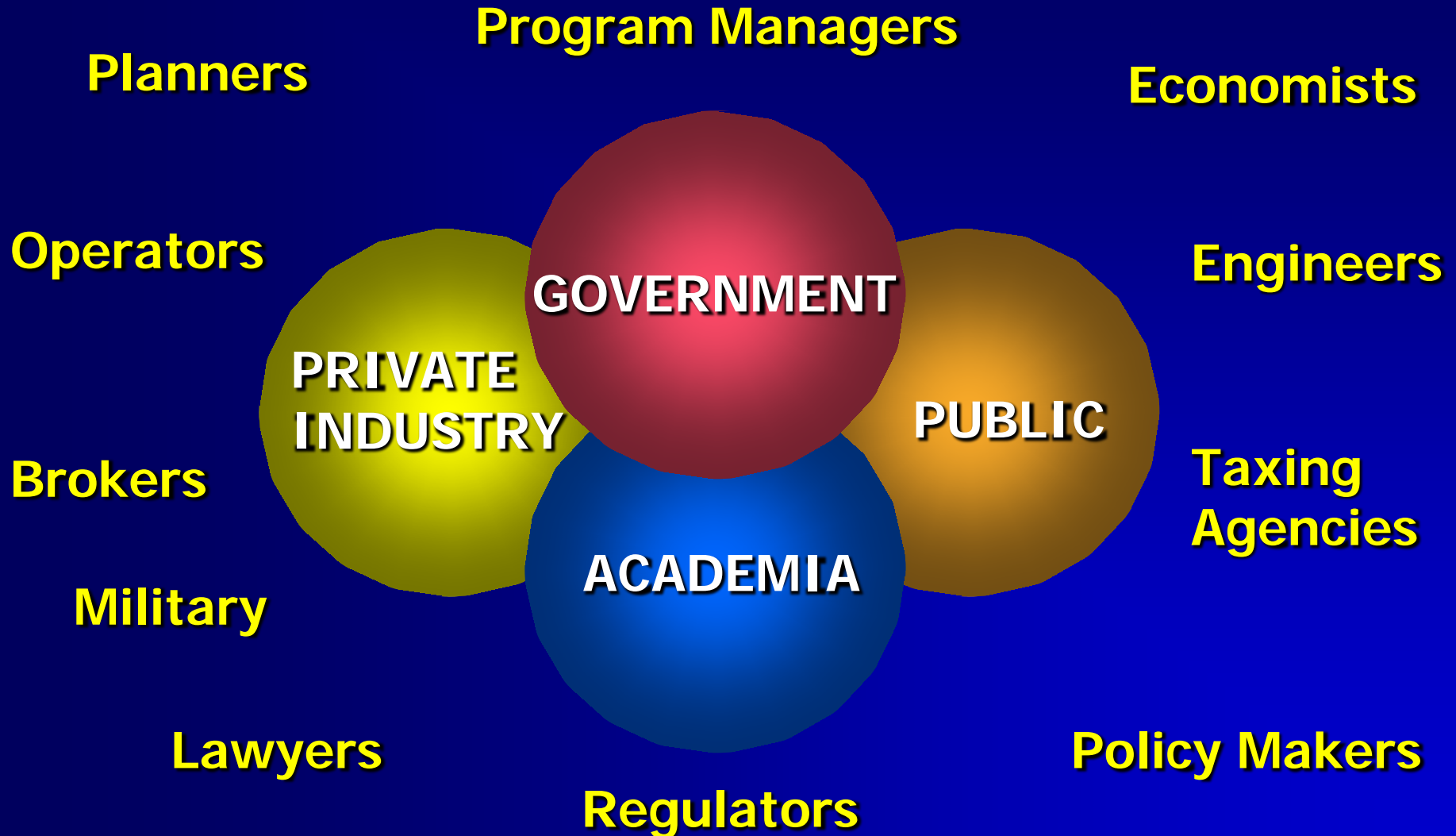


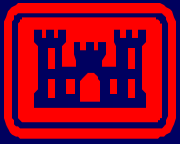
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# Navigation Data Center

## Customers

---



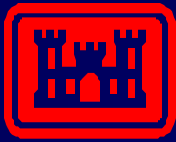


U.S. Army Corps  
of Engineers

# Institute for Water Resources Navigation Data Center

## ■ **Mission: Provide Information Across Business Lines**

- **Decision Support – Operations, R&D, Planning & Investments**
- **Performance Measures**
- **Performance Based Budgeting**
- **Competitive Sourcing - Management**
- **Expenditures, Activities & Reviews**
- **Inventories & Characteristics (locks, dams, rec. sites, docks, etc.)**
- **Outputs/Utilization (tons, trips, ton-miles, megawatts, etc.)**
- **Performance (vessel delay time, availability, campsite visits, etc.)**



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# Navigation Data Center

## Corps Management Views

---

### **Real Time/Monthly** **OPERATORS**

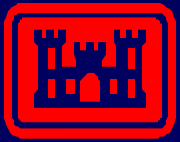
Dredge Management  
Lock Management  
Vessel Operations  
Permit Applications  
Harbor Operations  
Emergency Operations  
Hydropower Management  
Recreation Management  
Environmental Compli.  
Homeland Security

### **ANNUAL** **EXECUTIVES**

Budget Priorities  
Systems Management  
Users Board Advice  
Tax Policy  
Regulatory Policy  
Legislative Support  
O&M Policy And  
Procedures  
Energy Policy

### **DECADE** **PLANNERS**

Investment Planning  
Infrastructure Analysis  
Mobilization Planning  
Project Evaluation, Design  
and Engineering  
Recovery Fee Analysis  
Intelligence Analysis



U.S. Army Corps  
of Engineers

# Navigation Data Center

## Work Flow

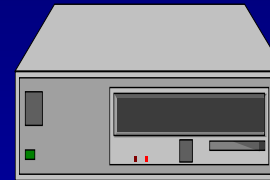
### Collection



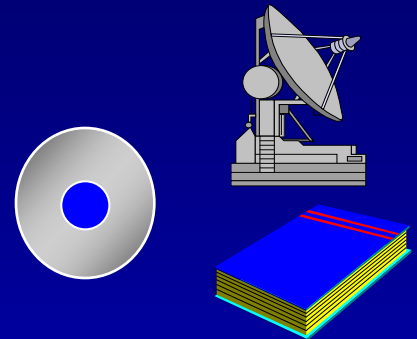
### Input



### Data Processing



### Distribution



#### Partnership with:

- Customs
- Carriers
- Port & Terminal Operators
- Canada
- Corps Operations
- Corps Regulatory
- NDC Staff

#### Supported by:

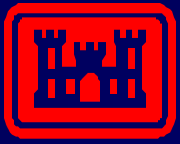
- Contractors
- Customs/Marad
- Corps Offices
- NDC Staff

#### Internal Activities:

- Enforcement
- Editing
- Routing
- Information Generation
- Publishing
- Data Integration

#### Distribution:

- Internet
- CD ROM
- Fact Card
- WCUS
- OMBIL
- Infrastructure
- Business Lines
- Performance

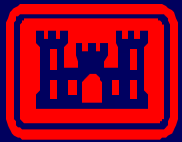


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# Constraints

**Collection** → **Input/Processing** → **Distribution**





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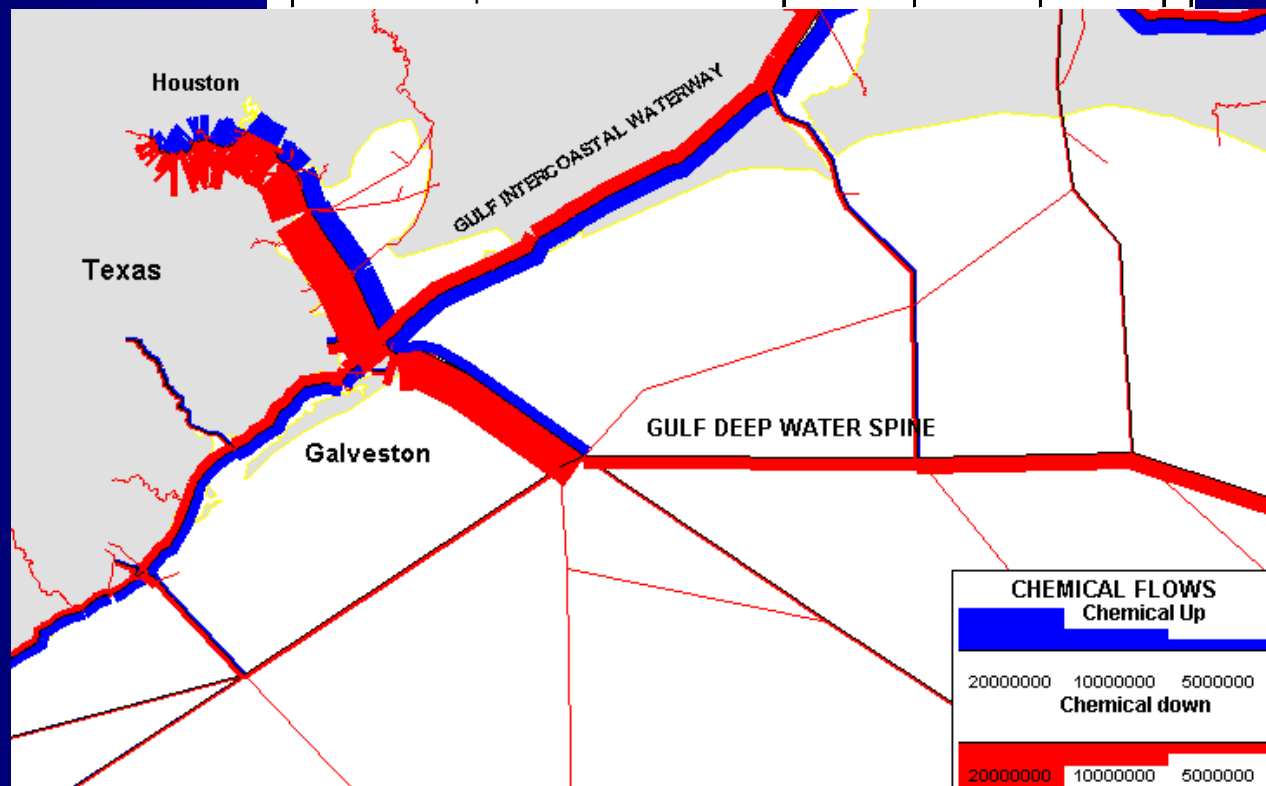
# Waterborne Commerce Statistics

- Collect vessel movements - tonnages by commodity; trips by draft; origin-dest.
- Provide information for decision-making (e.g. trip, ton-miles)
- Produce statistical reports (e.g. WCUS)
- Train providers and users

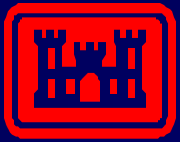
## HOUSTON SHIP CHANNEL, TX

Freight Traffic, 1999 - Continued  
(thousand short tons)

Commodity	Total	Foreign	
		Imports	Exports
Total chemicals and related products	13,227	3,722	9,161
Subtotal fertilizers	1,011	65	931
3110 nitrogenous fert.	68	40	28
3120 phosphatic fert.	1	0	1
3130 potassic fert.	695	0	686





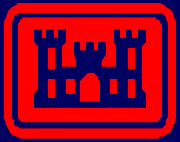


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# DOMESTIC DATA

**All Domestic Waterborne Commercial  
Vessel Moves: Ships, Barges ,  
Towboats, Tugboats, Crew Boats, Newly  
Constructed Vessels, Supply Boats ,  
Ferries**

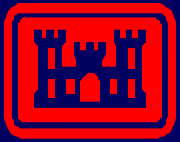
**Exceptions: Recreational, Fishing, Fire,  
Police, Patrol, Dredges,  
Construction Vessels (Pile drivers, Crane  
Barges)**



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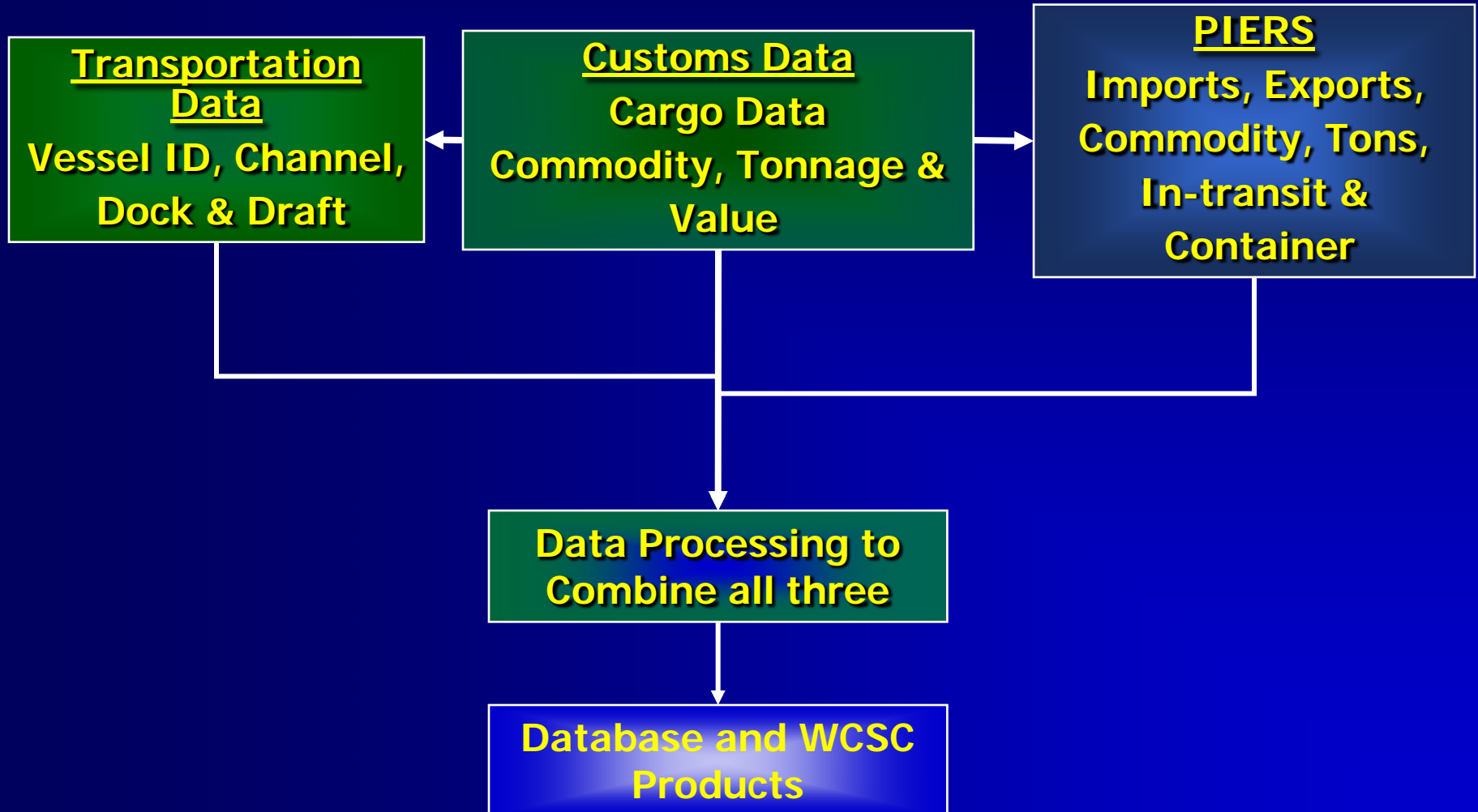
# FOREIGN DATA

- 
- Country of origin
  - Foreign port of lading
  - U.S. port of unloading
  - Commodity
  - Weight
  - Inland U.S. Destination
  - Consignee / Importer
  - Country of destination
  - U.S. port of lading
  - Foreign port of unloading
  - Inland U.S. origin
  - Shipper / Exporter
  - Foreign port of lading / unloading for in-transits
  - Vessel



U.S. Army Corps  
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# WCSC's U.S. Foreign Waterborne Manifest-based & Transportation Statistics





**Navigation - FY 2007 Budget All Performance Measures by District/CWIS (Table)**  
**Financial & Dredging Data through Apr. 2006, Output and Performance Data through Dec. 2005. Five Year Averages for FY1999-FY2002 are invalid**

**MEASURES**

**Size:** ☐ 800 x 600 ☒ 1024 x 768 ☐ 1280 x 1024

**View:** ☒ Single View ☐ Multi-View

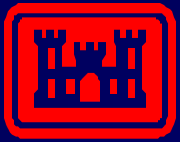
1. [Financial](#)
2. Inventory
3. [Output](#)
4. [Performance](#)

[Exit](#)

USACE & State & CWS								Commodity		Draft		Appropriation	
SAVANNAH HARBOR-075085								All Commodities		All Drafts		Operations	
	FY2005	FY2004	FY2003	FY2002	FY2001	FY2000	FY1999						
Tons (#)	29,231,741	27,227,250	22,950,093	19,641,045	19,661,940	18,186,733	18,581,036						
Ton Miles (#)	0	0	0	0	0	0	0						
Trips (#)	7,696	7,247	7,099	10,846	11,209	9,735	9,887						
Actual Cubic Yards ...	4,482,972.00	7,608,898.00	529,921.00	2,873,262.00		12,422,069.00	8,606,387.00						
Exp (\$): Nav	\$13,118,817.64	\$11,248,444.31	\$13,825,257.98	\$7,351,525.10	\$10,845,099.62	\$14,440,956.22	\$13,607,039.08						
Trip Ton Miles (#)	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Cost per Ton (\$)	\$.45	\$.41	\$.60	\$.37	\$.55	\$.79	\$.73						
Cost per Ton Mile (\$)													
Cost per Trip (\$)	\$1,704.63	\$1,552.15	\$1,947.49	\$677.81	\$967.53	\$1,483.41	\$1,376.26						
Tons 5 yr avg (#)	23,742,414	21,533,412	19,804,169	15,214,151	11,285,942	7,353,554	3,716,207						
Ton Miles 5 yr avg (#)	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
Trips 5 yr avg (#)	8,819.40	9,227.20	9,755.20	8,335.40	6,166.20	3,924.40	1,977.40						
Actual Cubic Yards ...	3,099,010.60	4,686,830.00	4,886,327.80	4,780,343.60	4,205,691.20	4,205,691.20	1,721,277.40						
Exp 5 yr avg (\$)	\$11,277,828.93	\$11,542,256.65	\$12,013,975.60	\$9,248,924.00	\$7,778,618.98	\$5,609,599.06	\$2,721,407.82						

[Define a Temporary Custom Measure](#)





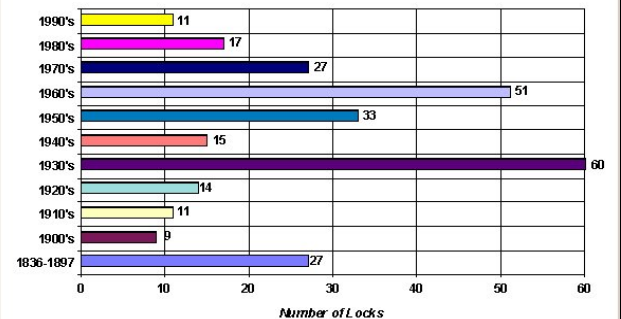
U.S. Army Corps  
of Engineers

# Navigation Locks

- **Status:** Operational Since FY 1992
- **New Capabilities:** Integrated with Waterborne and CEFMS data. Improved Unavailability Codes.
- **FY 2008 Budget Support:** All Measures Available at the Project and National Level
- **Future Activities:** Improve Data Collection Methods and Correlation with WCSC.



Age of Locks - Number of Corps Locks Opened for Operation by Decade

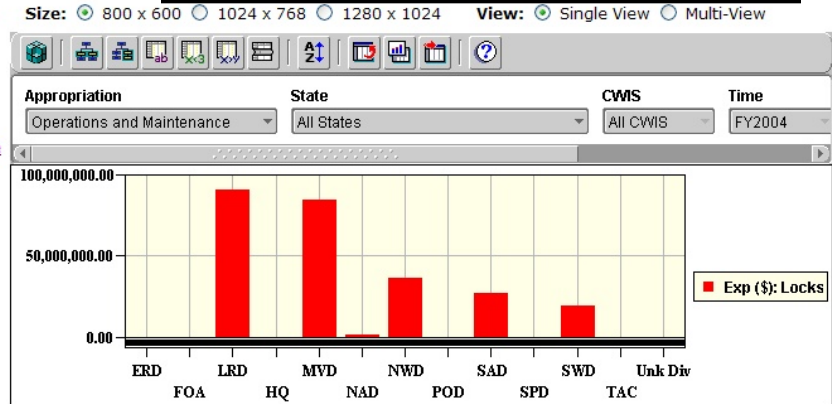


Navigation - Locks - Exp (\$)  
Financial and Inventory Data thro

## MEASURES

1. [Financial](#)
2. [Inventory](#)
3. [Output](#)
4. [Performance](#)

[Exit](#)



## Navigation - Locks - Lock Sites (#)

Financial and Inventory Data through Apr. 2006, Output and Performance Data through Dec. 1999

### MEASURES

Size: ☐ 800 x 600 ☒ 1024 x 768 ☐ 1280 x 1024

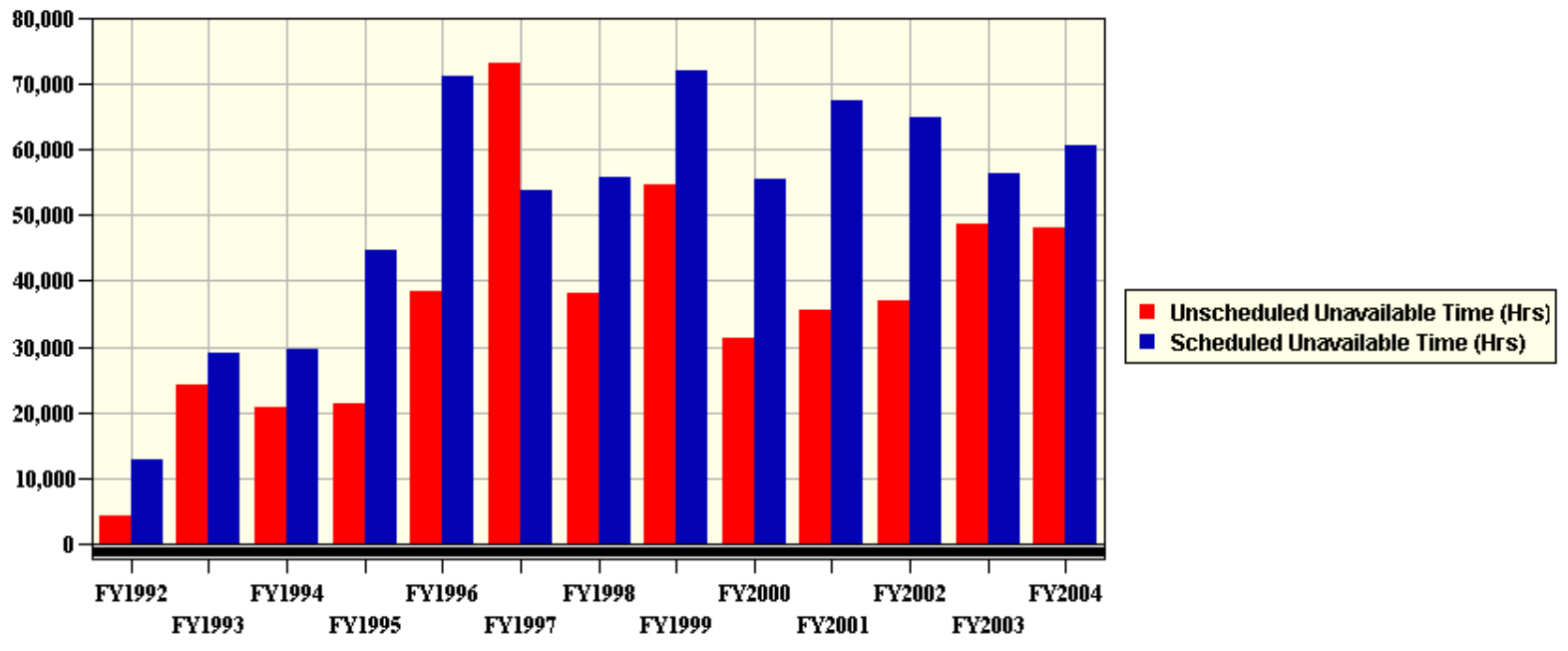
View: ☒ Single View ☐ Multi-View

1. [Financial](#)
2. [Inventory](#)
3. [Output](#)
4. [Performance](#)



Unavailability Code	CWS	State	USACE & State	Direction	Commodity
All Unavailability Codes	All CWS	All States	All USACE	All Direction	All Commod

[Exit](#)



[Define a Temporary Custom Measure](#)

# Navigation - Locks - Lock Sites (#)

Financial and Inventory Data through Apr. 2006, Output and Performance Data through Dec. 1999

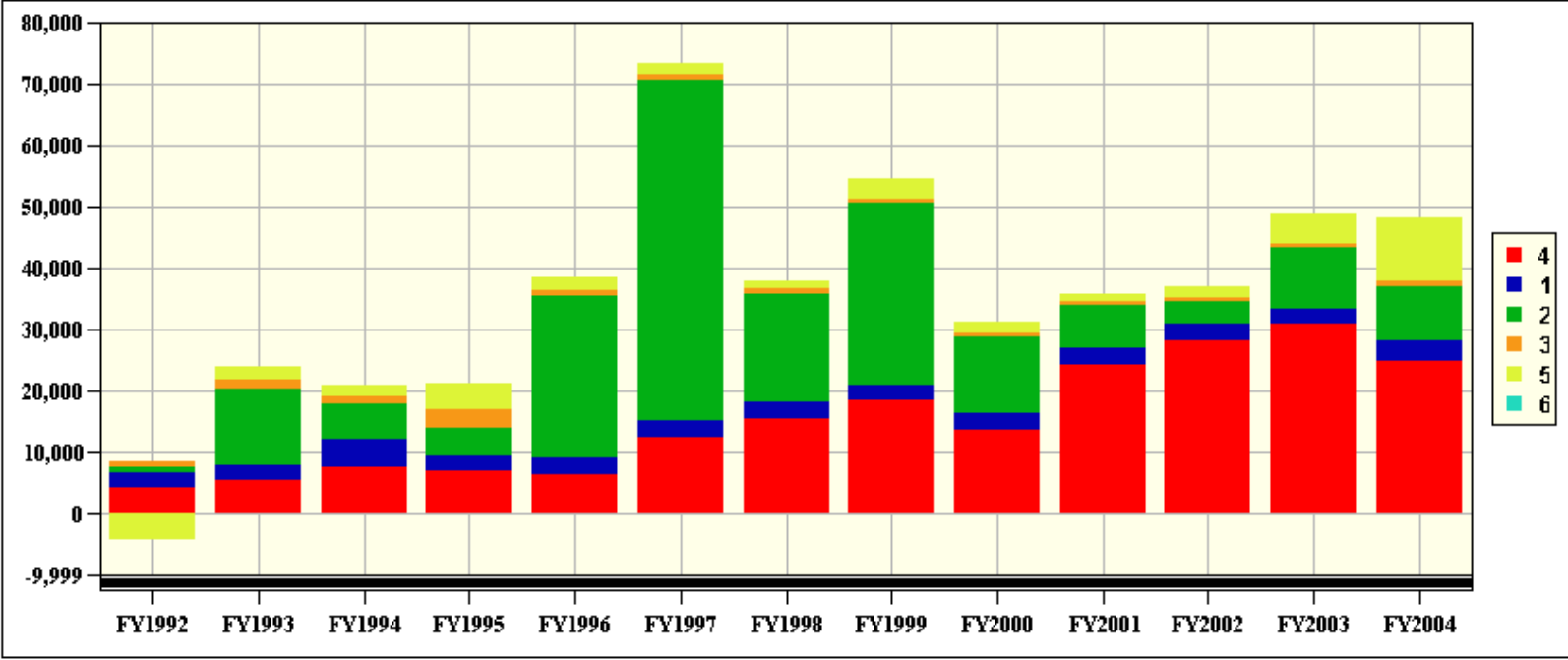
## MEASURES

- 1. [Financial](#)
- 2. [Inventory](#)
- 3. [Output](#)
- 4. [Performance](#)

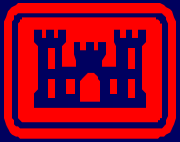
Size: ☐ 800 x 600 ☒ 1024 x 768 ☐ 1280 x 1024 View: ☒ Single View ☐ Multi-View

Navigation icons: Home, Back, Forward, Stop, Search, Favorites, Refresh, Mail, Print, Word, Excel, PowerPoint, People, Help.

Measure	CWIS	State	USACE & State	Direction
Unscheduled Unavailable Time (Hrs)	All CWIS	All States	All USACE	All Direction



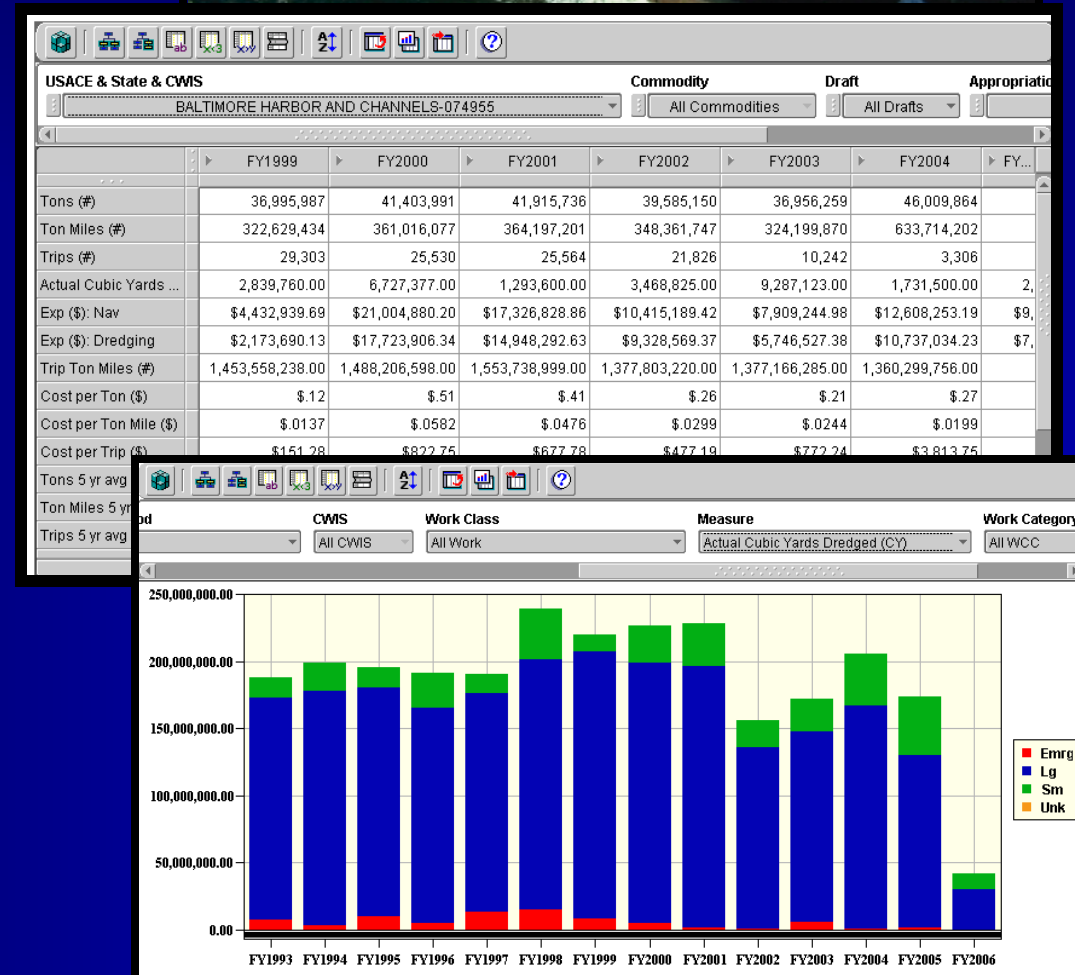
[Define a Temporary Custom Measure](#)



U.S. Army Corps  
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# Navigation Dredging

- **Status:** Operational Since FY 1992
- **New Capabilities:** Integrated with Waterborne and CEFMS data.
- **FY 2008 Budget Support:** All Measures Available at the Project and National Level
- **Future Activities:** Refine geographic detail.



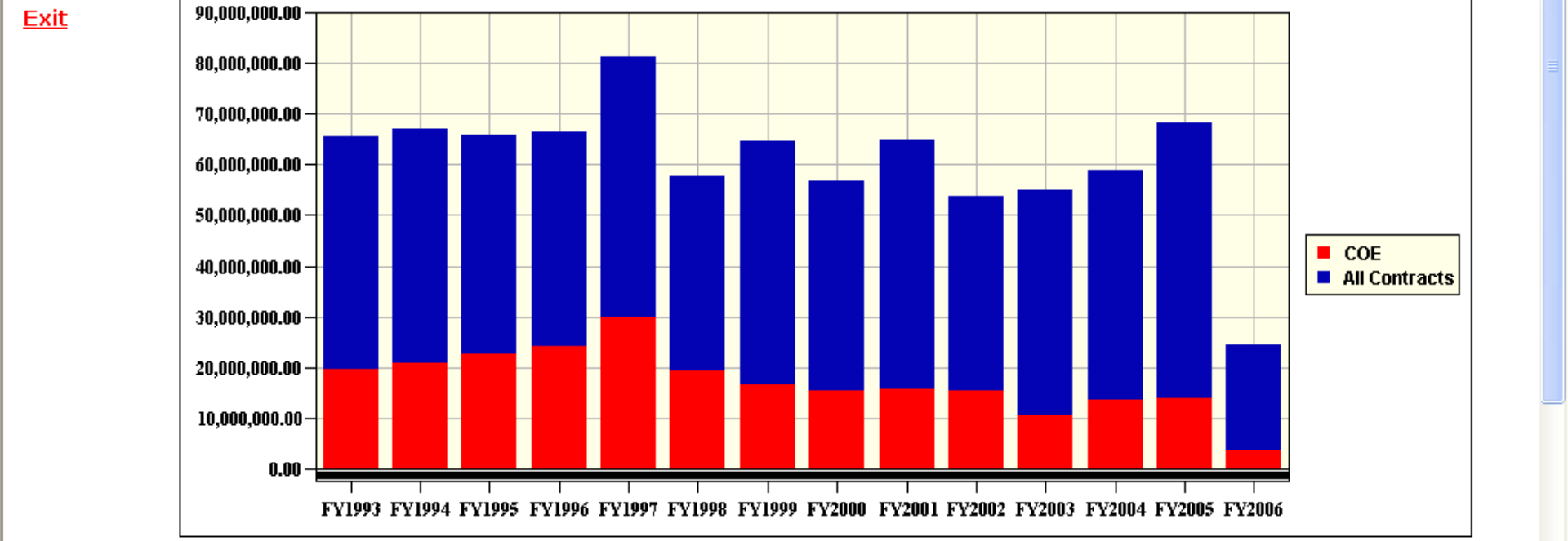


# Navigation - Dredging - Number of Jobs by Dredging Equipment (Historical) Data through Apr. 2006

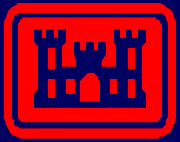
**MEASURES** Size: ☐ 800 x 600 ☒ 1024 x 768 ☐ 1280 x 1024 View: ☒ Single View ☐ Multi View

- 1. [Financial](#)
- 2. [Inventory](#)
- 3. [Output](#)
- 4. [Performance](#)

**USACE**  **State**  **Disposal Method**  **CV**



[Define a Temporary Custom Measure](#)



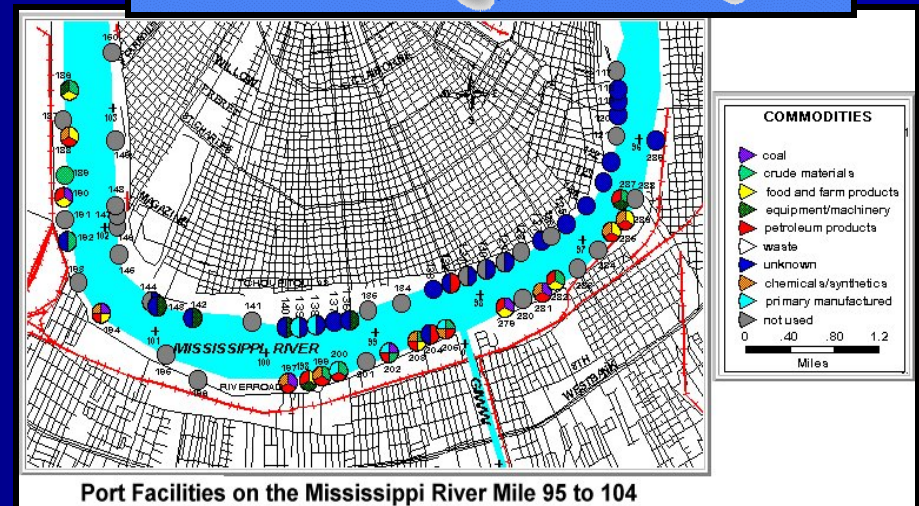
U.S. Army Corps  
of Engineers

# Navigation Infrastructure Inventory

■ **Inventory:** 1,600 Corps projects, 200 Commercial Ports, 9,000+ Waterway Facilities, 195 Corps Locks

■ **Outputs:** Corps project profile, Waterway Facility Characteristics related to our Customers

■ **Supports:** Quality Assurance of Waterborne Commerce Data, Permits, Budget and Homeland Security



### Identification

Project Site

SAVANNAH HARBOR

CVMS / PVM

075085

Local Indicator

S1248

### Categories

Project Type

FLOATS BOATS

Project Subtype

DEEP DRAFT HARBORS & CHANNELS

Project Purpose

AUTHORIZED SINGLE PURPOSE

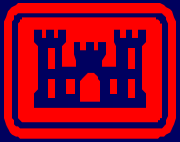
Project Phase

O&M - ACTIVE

Region

NOT APPLICABLE

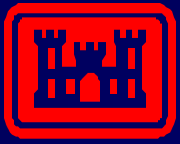
☒ Subject to Harbor Maintenance Tax



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# Issues/Concerns

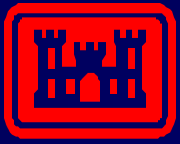
- Flat Budget = Reduced Services
- Significance of Cargo Value
- Lock Unavailable Quality & Completeness
- Redundant Lock Input Systems
- Dredging Data Completeness & Quality
- Infrastructure Data Reflects Needs
- Asset Management
- Establish Navigation Data User Group



U.S. Army Corps  
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# Cost-Saving Measures in FY06

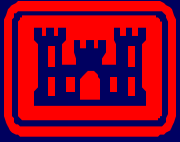
- **Eliminate printing but Available on the Web**
- **Eliminate coding and keying of towboat reports and empty barge moves**
- **Increase automation**
- **Not purchase in-transit identification nor shipper/consignee data from PIERS**
- **Reduce staff 20%**



U.S. Army Corps  
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# Cost-Saving Measures in FY07

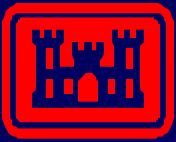
- Reduce staff
- Produce only one Foreign data product
- Increase automation



U.S. Army Corps  
of Engineers

# Impacts of Cost-Saving Measures

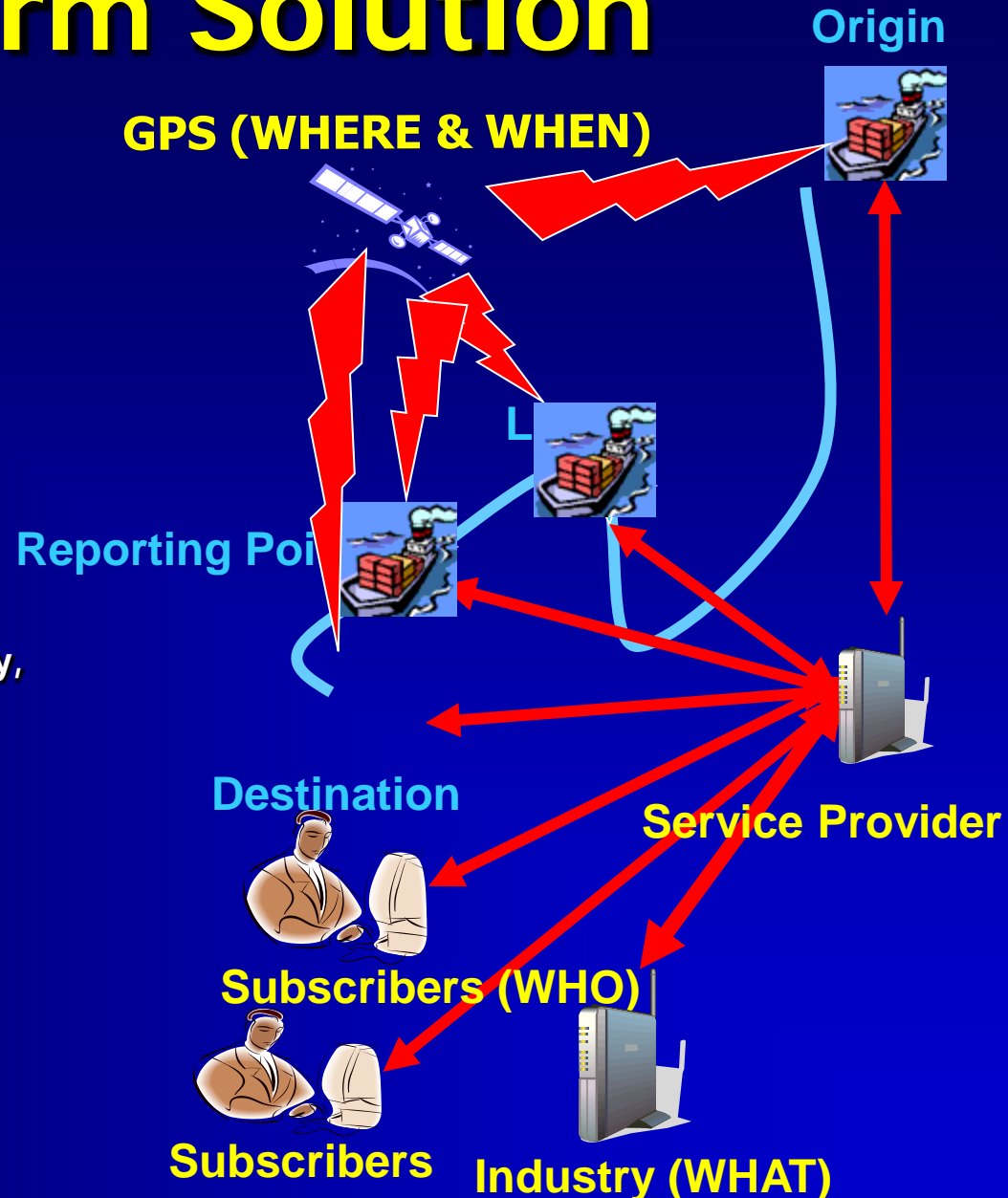
- Reduced data sets
- Less service to public, state, local, and other federal agencies
- Reduced quality control by staff



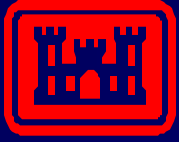
U.S. Army Corps  
of Engineers

# Long Term Solution

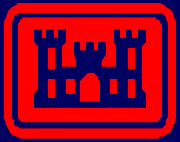
- **Technology**
  - GPS
  - Standardized Electronic Data
  - Data Provided by Industry Databases
- **Partnerships**
  - Federal Government
  - Associations
  - Industry
  - Service Provider
- **Result**
  - Geographically accurate, timely, consistent and complete data .
- **Industry Incentive**
  - Fleet Management Tool
  - First In Line
  - Reduced IWFT & HMF
  - Free Equipment
  - Elimination of manual data submission







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of Engineers



U.S. Army Corps  
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# WCSC Detail Record

**Vessel Operating Company ID**

**Vessel ID and Type**

**Origin**

**Tons**

**Destination**

**Trips**

**Draft**

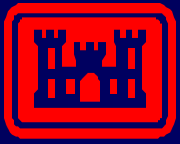
**Links Traversed**

**Commodity**

**Miles From Origin**

**Traffic**

**to Destination**



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# PIERS "Only Source" Data Elements

Foreign Clearing Port

U.S. City

In-transit Foreign Country

Foreign City

Loaded Container Size

TEUS Loaded

Number Loaded Containers

FEUS

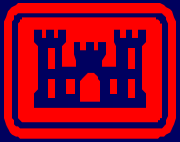
Loaded

Shipping Line

Reefer Cargo

Hazardous Cargo

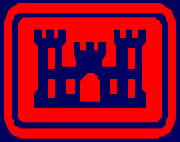
RoRo Cargo



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# PIERS as Primary Data Source

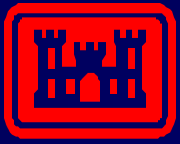
- Better geographic accuracy
- Better coverage
- Better foreign clearing port
- Includes in-transit movements
- Reefer cargo identification
- RoRo cargo identification



U.S. Army Corps  
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# Major Historical Products

- **Waterborne Commerce of the U. S. Parts 1-5 (WCUS)**
  - **Archive back to 1915**
- **Waterborne Transportation Lines of the U. S. (WTLUS)**
  - **Archive copies back to 1940**
- **Summary of U. S. Flag Vessels**
  - **Historical copies back to 1949**
- **Fact Card**



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of Engineers

# Other WSCS Available Data

## ■ Dock File

- Facilities, Waterways, Mile Points, Ports, Docks, States, Links (Latitude/Longitude)

## ■ Vessel File

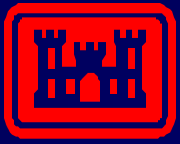
- Vessel Characteristics, Reporting Company, Coast Guard Number

## ■ Vessel Operator File

- Name, Address

## ■ Port / Waterway File

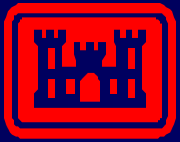
- Name, Depth



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# Other WCSC Products

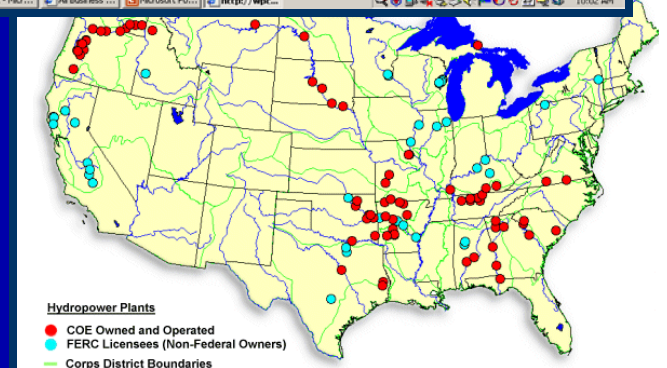
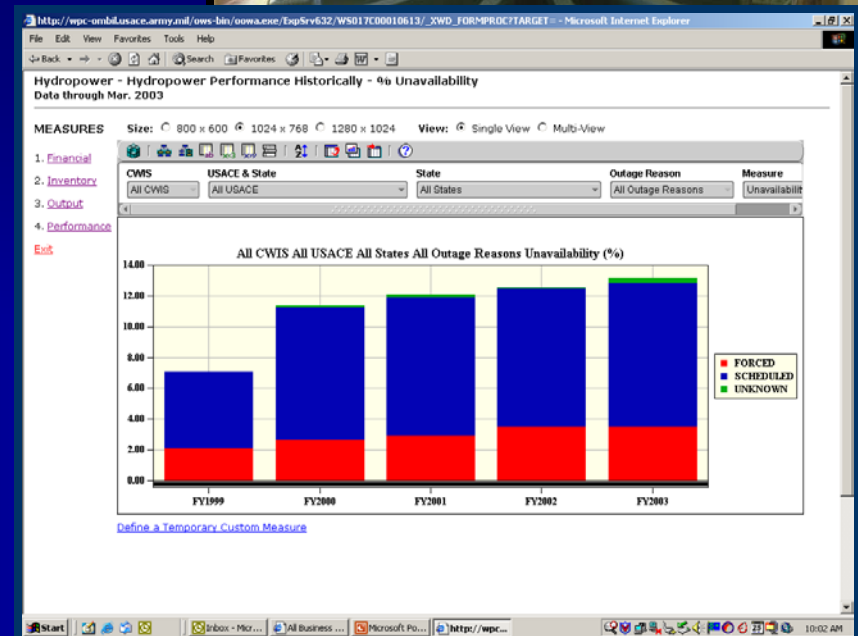
- **Manuscript Data File (WCUS on diskette)**
- **Selected Ports of the U. S.**
- **Public Domain Databases**
  - **Region to Region**
  - **State to State**
- **Estimated Waterborne Commerce**
  - **National Totals**
  - **Major Inland Waterways**
- **Waterborne Tonnage by States**



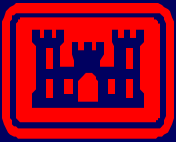
# Hydropower

U.S. Army Corps  
of Engineers

- **Status:** Operational Since FY 1999
- **New Capabilities:** Plant Control Systems (GDAC) in 5 Plants in NWD Automatically Upload Event Logs to OMBIL; Hydropower Equipment Exchange “eBay” of Hydropower Equipment
- **FY 2008 Budget Support:** All Five Measures Available at the Project and National Level
- **Future Activities:** Refine Standard Reports for Budget, Include PMA “4045” Revenues & Continue GDAC Integration.







# Recreation

U.S. Army Corps  
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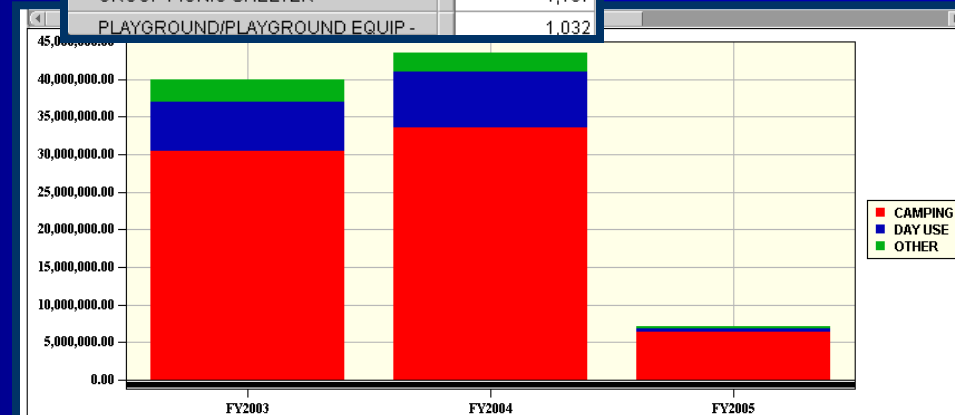
- **Status:** Operational Since FY 2000

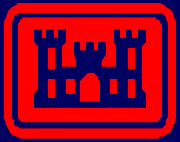
- **New Capabilities:** Includes Revenue Data from NRRS, CEFMS & Provides Data for NRM Gateway and Inventory and Visitation Data for RecBest

- **FY 2008 Budget Support:** Provided Base Data for RecBest and Other Measures.

- **Future Activities:** Improve Data Completeness and Accuracy; Enhance Support to VERS, Rec.gov and NRRS; & Incorporate Modifications in Support of the Budget Process

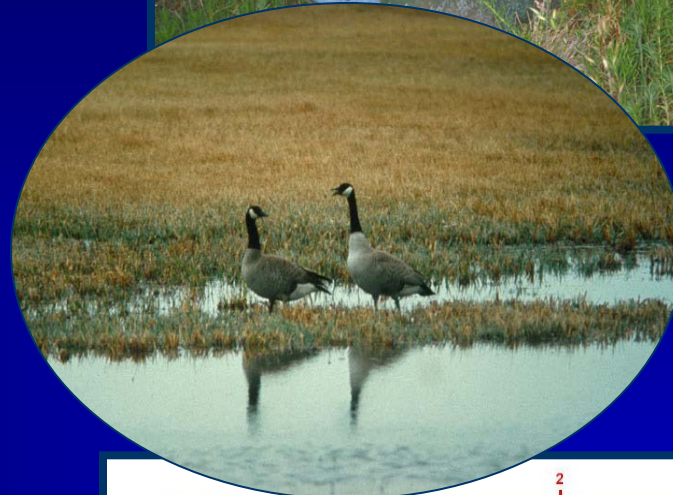
CAMPSITE	49,414
CAMPSITE - OUTGRANTED	36,876
PICNIC SITE - OUTGRANTED	18,081
PICNIC SITE	10,686
DRY STORAGE - OUTGRANTED	9,449
PARKING LOT - OUTGRANTED	6,628
PARKING LOT	6,421
BOAT MOORING - OUTGRANTED	3,686
CABIN - OUTGRANTED	3,499
RESTROOM	3,455
RESTROOM - OUTGRANTED	1,857
BOAT RAMP	1,837
ROAD	1,713
BOAT RAMP - OUTGRANTED	1,463
GROUP PICNIC SHELTER	1,137
PLAYGROUND/PLAYGROUND EQUIP -	1,032





U.S. Army Corps  
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# Environment Stewardship



**PROJECT SITE VEGETATION CLASSIFICATION**

Project Site: CENTER HILL LAKE Fiscal Year: 2008

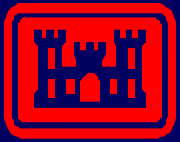
Project Fee-Owned Area: 38551

**THE FOLLOWING CLASSIFICATION INFORMATION (EXCLUDING CONDITIONS) IS DERIVED FROM THE NATIONAL VEGETATION CLASSIFICATION SYSTEM \*\***

Division	Order	Class	Sub-Class	Sub-Class Acreage	Condition
VEGETATED	Nonvascular Dominated	Nonvascular Vegetation	Algae vegetation	7321	Condition
NON-VEGETATED	Non-Vegetated	Non-Vegetated	Non-Vegetated	16310	Condition
VEGETATED	Herb Dominated	Herbaceous Vegetation	Shrub/grassland or forb vegetation	501	Condition
					Condition
					Condition
					Condition
Total Classified Acreage				24132	
Total Unclassified Acreage				14419	

More Info

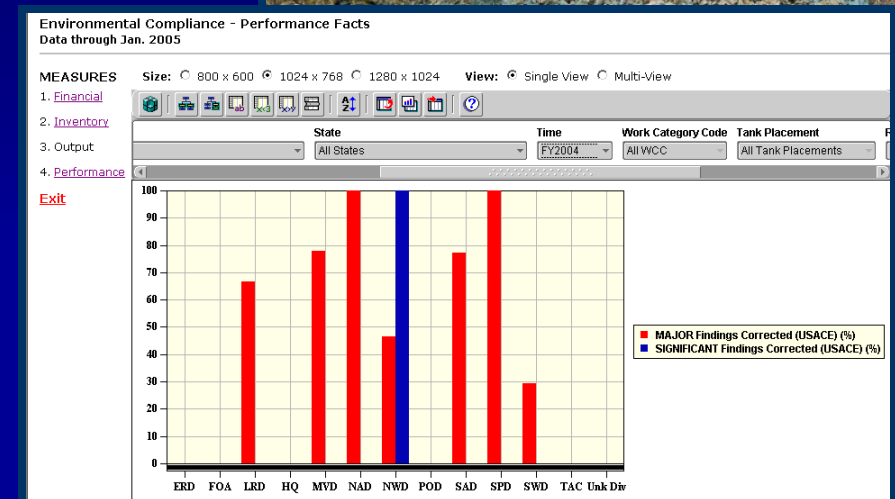
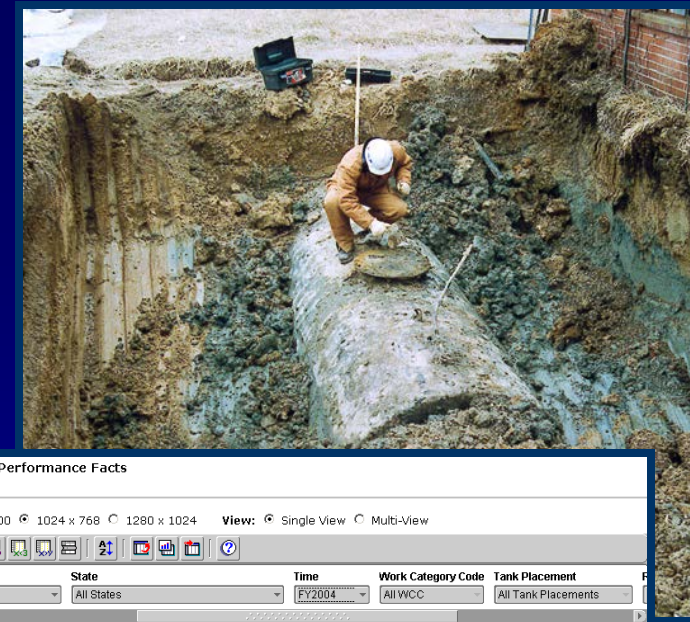
12 5 6 7 8 9 10 11



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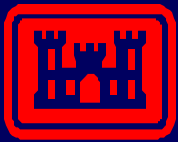
# Environment Compliance

- **Status:** Operational Since FY 1999
- **New Capabilities:** Updated Manuals and Minor Enhancements
- **FY 2008 Budget Support:** All Measures Have Been Available and Used Since FY 2000
- **Future Activities:** Enhance Standard Reports for Budget or New Requirements as Requested



	Storage Tanks Installed (Compliant) (#)	Storage Tanks Installed (Non-Compliant) (#)
AST-COMPLETE SECONDARY CONTAINMENT	136	7
AST-NO SECONDARY CONTAINMENT	243	23
AST-PARTIAL SECONDARY CONTAINMENT	44	9
AST-STRUCTURE ACTING AS CONTAINMENT	408	72
OTHER	77	25
UNKNOWN	17	
UST-NOT REGULATED	48	
UST-REGULATED	100	15





U.S. Army Corps  
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# Regulatory



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Instructions Use the Form Print Form Submit Open Existing Form

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APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT (On-Line Version of Form 33 CFR 325)	OMB APPROVAL NO. 0710 - 0003 Expires December 31, 2004
<p>The public burden for this collection of information is estimated to average 10 hours per response, although the majority of applications should require 5 hours or less. This includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003), Washington, DC 20503. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.</p>	
<p>PRIVACY ACT STATEMENT</p> <p>Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research and Sanctuaries Act, 33 USC 1413, Section 103. Principal Purpose: These laws require authorizing activities in, or affecting navigable waters of the United States, the discharge or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Routine Uses: Information provided on this form will be used in evaluating the application for a permit. Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.</p>	
<p>(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS) * Required Field</p>	
1. APPLICATION NO.	2. FIELD OFFICE CODE
3. DATE RECEIVED	4. DATE APPLICATION COMPLETED

Site

Site Name: bob's car

General / UTM Watershed / State USPLS / Section Map

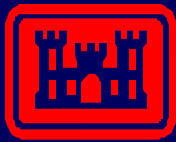
Latitude: 38.7421074, Longitude: -77.1360961  
(Latitude: 38.44.31.5866, Longitude: -77.08.09.9458)

All Sites

- ☐ Base Maps
- ☐ Aerial Photos (Pixures)
- ☐ USGS Quad Maps
- ☒ Aerial Photos (Cubed)
- ☒ eDOQQ 1meter
- ☒ eDOQQ 8meter
- ☒ eSAT 15meter

Reset Save Close

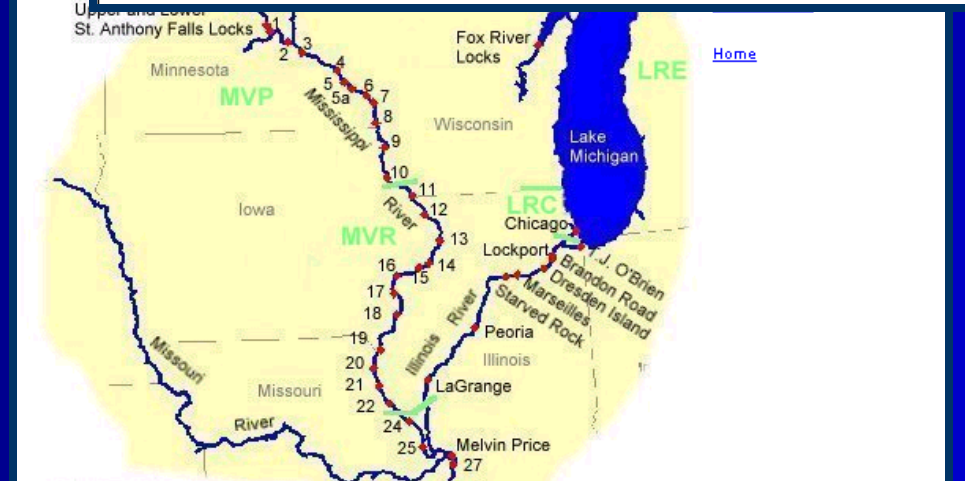
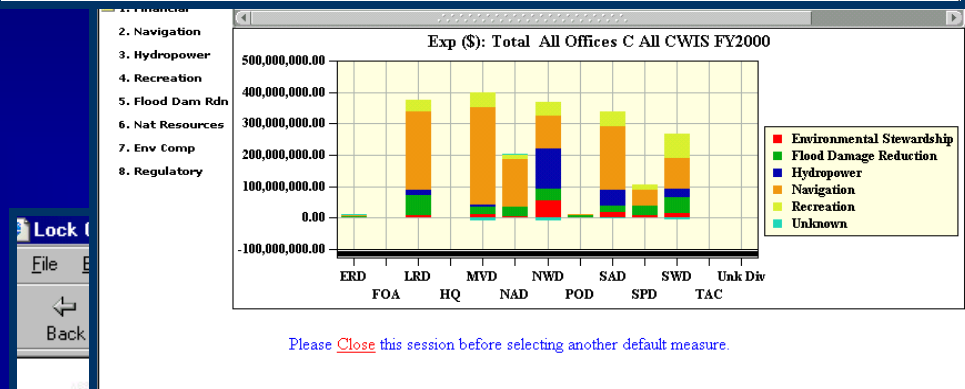
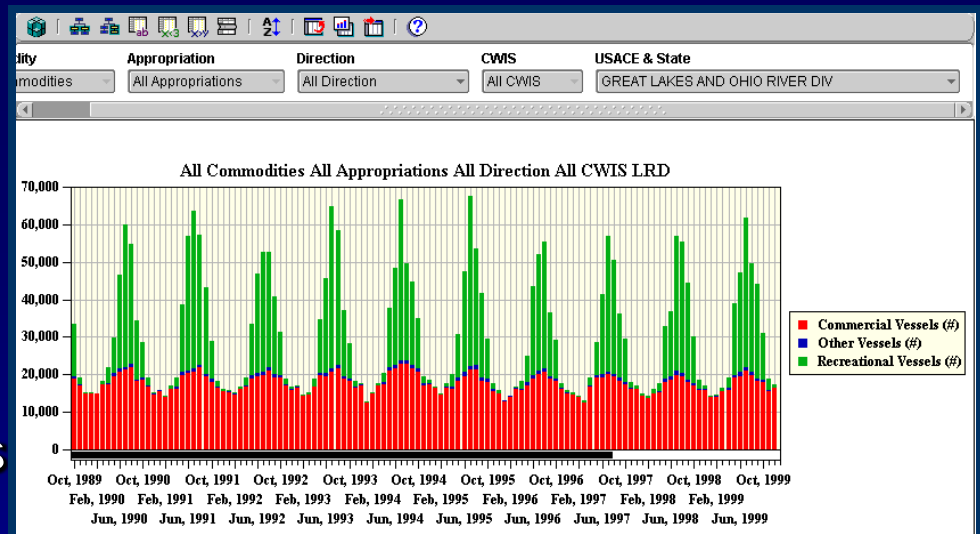
- **Status:** Being Deployed; 13 Districts Completed Balance Scheduled for FY 2006
- **New Capabilities:** User Steering Committee Formed; GIS interface eApp for Public to Enter Application and Check Status. Completed Joint E-Permit Initiative with Virginia.
- **FY 2008 Budget Support:** Limit to Deployed Districts
- **Future Activities:** Continue Deployment; Enhance Budget Support; & Continue Interagency Initiative for the Development of Next Generation Decision Support GIS Interface.

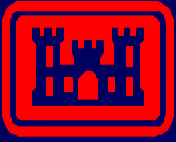


# SUMMARY

U.S. Army Corps  
of Engineers

- Provides Corps Business Lines Expenditures, Activities, Inventories, Outputs and Performance Information
- Provides Single Gateway for Data Input and Access
- Integrates Legacy Information Systems
- Eliminates Duplication of Data Entry
- Provides Corps-wide Access to Business Information and Knowledge





U.S. Army Corps  
of Engineers

# Web Site Address

[www.iwr.usace.army.mil/ndc](http://www.iwr.usace.army.mil/ndc)

**Institute for Water Resources**  
➤ **Navigation Data Center**