

- Opening - Description
- Authorization
- Types of Navigation Systems Pieces and Ports
- Why Is It Vital to USA
- What Do We Manage?
- What are Key Considerations to Management
- What Infrastructures
- Key Infrastructure Issues
- Future of Navigation
- Closing

## What Is Our Authorization?



## Types of Navigation Systems

Pieces and Ports

## Inland Navigation



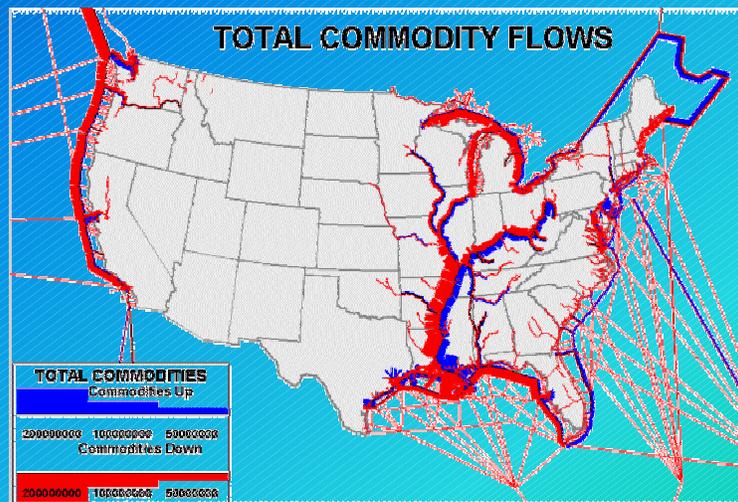
## Ports & Harbors



# Locks & Dams



# Why is it Vital to USA



# Compare

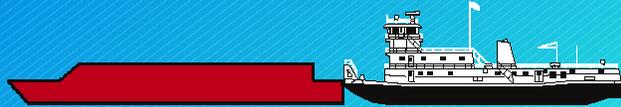
LARGE SEMI  
26 Tons  
910 Bushels  
7,865 Gallons



JUMBO HOPPER CAR  
100 Tons  
3,500 Bushels  
30,240 Gallons



BARGE  
1500 Tons  
52,500 Bushels  
53,000 Gallons



100-CAR TRAIN  
10,000 Tons  
350,000 Bushels  
3,024,000 Gallons



15 BARGE TOW  
22,500 Tons  
787,500 Bushels  
6,804,000 Gallons



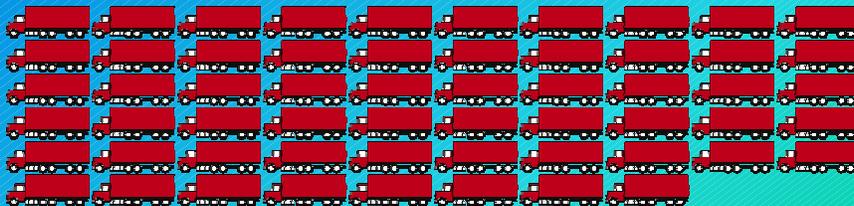
# Equivalent Unit



1 BARGE  
Equals



15 JUMBO HOPPERS  
Equals

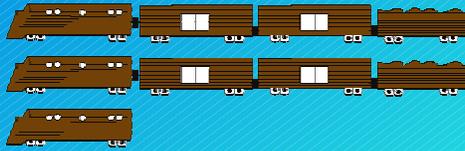


58 TRUCKS

# Equivalent Unit



15 BARGE TOW  
Equals

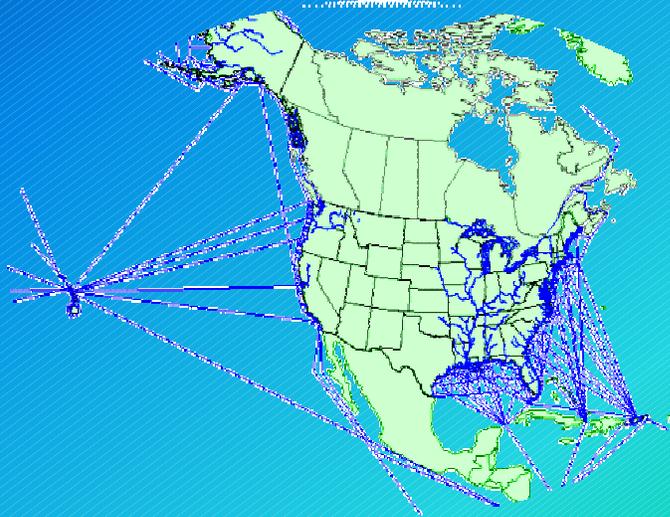


2 1/4 100-CAR TRAINS  
Equals



# 870 TRUCKS

What do we manage?



#### 4. Inland Waterways Navigation System



# *Key to Success*



## *1. Reliability*

***1. Reliability***

***2. Environment***

Dredge Material Disposal Areas



- 1. Reliability*
- 2. Environment*

### *3. Operation and Maintenance Cost*

- 1. Reliability*
- 2. Environment*
- 3. O & M Cost*

### *4. Balancing Needs*

*Navigation/Hydropower/  
Recreation/Natural  
Resources/Environment*

# Key Infrastructure Issues

What do we have  
and  
How do we maintain

## Infrastructure



Infrastructure

# Dam



Infrastructure



## Annual Inspections



## Periodic Inspections





## Ports



## Channels & Canals



## Dredging



## Dustpan



## Cranes



## Hopper



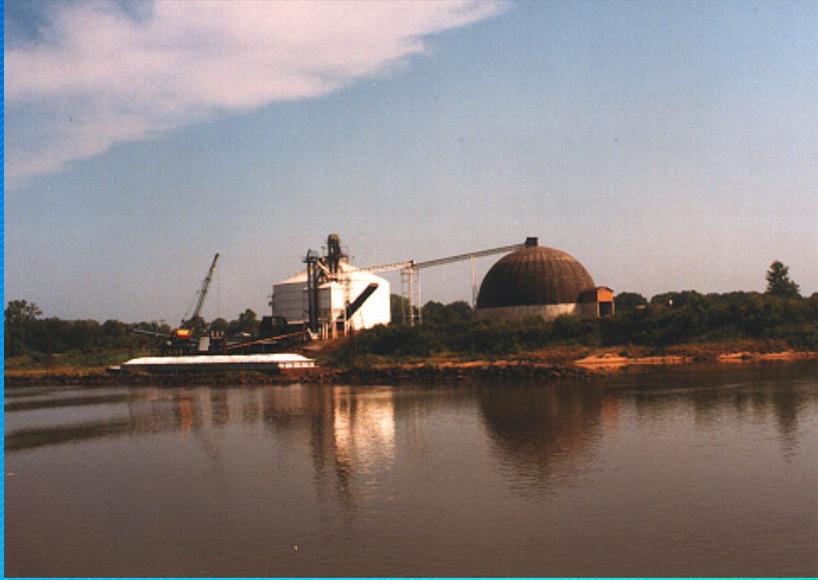
## Dredges with Side Casting Booms



Why we do it!

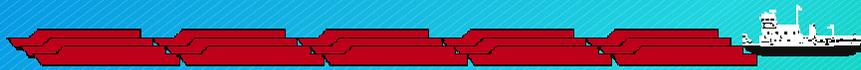






Future of Navigation

# Intermodal

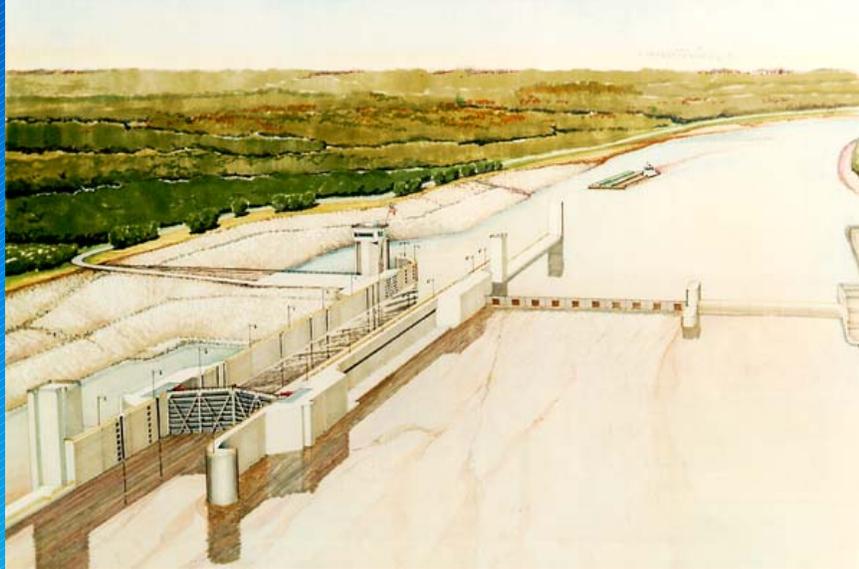


# Bulk Transport

In Closing, we make the difference!



Aerial View – 10 Jan 2002



Artist Rendering  
Fall 03