Moving Feed, Food & Fuel to Market: The Logistics and Dynamics of U.S. Barge Transportation

Ken Eriksen
Senior Vice President
@keriksen
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Charting the Course

- Current Inland Navigation Situation
- Covered Barge Supply and Demand
- Inland Navigation Infrastructure Requirements
- Wrap-Up
Current Inland Navigation Situation
Bigger Crops ... Something to Move

U.S. and Canada Crop Production

Crop Production (million metric tons)

Crop Year

Canada

United States
Someplace to Go

Top U.S. Corn & Soybean Export Destinations

Corn Exports (Past 5 Years)

- Japan: 15%
- Mexico: 30%
- South Korea: 2%
- China: 2%
- Egypt: 3%
- Colombia: 3%
- Venezuela: 5%
- Taiwan: 8%
- Saudi Arabia: 10%
- Other West Hemis.: 10%
- All Other: 20%

Soybean Exports (Past 5 Years)

- China: 67%
- EU-27: 1%
- Mexico: 3%
- Japan: 2%
- Indonesia: 1%
- Egypt: 1%
- Taiwan: 1%
- South Korea: 1%
- Canada: 1%
- Turkey: 1%
- All Other: 6%
Bigger Crops . . . Someplace to Go

A October November to Remember – Record Grain and Soybean Exports

U.S. Grain and Soybean Export Inspections

U.S. Grain and Soybean Export Inspections through Center Gulf

U.S. Grain and Soybean Export Inspections through Pacific Northwest
Strong Barge Freight Demand . . .

Southbound or Downriver

Weekly Grain Barge Movements through Key Locks and Dam

SOURCE: Army Corps of Engineers

Weekly Corn Barge Movements through Key Locks and Dam

SOURCE: Army Corps of Engineers

Weekly Soybean Barge Movements through Key Locks and Dam

SOURCE: Army Corps of Engineers

Weekly Wheat Barge Movements through Key Locks and Dam

SOURCE: Army Corps of Engineers
Very Strong Barge Freight Demand . . .
Northbound or Upriver

Weekly Upbound Loaded Barges
Mississippi River Lock 27

Weekly Upbound Loaded Barges
Ohio River Lock 52

Weekly Upbound Loaded Barges
Arkansas River Lock 1
Strong Freight Rates for Covered Barge Fleet

Annual Barge Freight Rate Outlook
(Average for Illinois River, Mid-Mississippi River, and St. Louis)

Source: USDA, Informa Economics, Inc. Outlook
Covered Barge Supply and Demand
Total Fleet Stagnant: Covered about Smallest Fleet Two Decades; Tank Record Large

Informa Economics, Inc., Barge Fleet Profile
Retirements Slowing
Newbuilds not Replacing, but Adding to Fleet

Covered Barge Fleet in 2013 by Age

Informa Economics, Inc., Barge Fleet Profile

5% of the Fleet
87% of the Fleet
Covered Barge Volumes Climbing out of Sunken Period

Inland Covered Barge Commodity Movements

- Farm
- Primary Metal
- Nonmetallic Minerals
- Chemicals & Allied
- Metallic Ores
- Lumber, Wood & Pulp
- Stone & Concrete
- Other

Million Tons

Year
Shifting Barge Loading Patterns North to South; Upper to Lower

Total Grain and Soybean Barge Movements by River Segment

- Upper Mississippi River (MSP to Missouri River)
- Illinois Waterway
- Mid-Mississippi River (Missouri River to Ohio River)
- Ohio River
- Lower Mississippi River (Ohio River to Baton Rouge)
- McClellan-Kerr Arkansas River
- Baton Rouge to New Orleans
- New Orleans to Mouth of Passes

Year

Share of Volume
0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%
Covered Barge Market
Grain Reigns

Covered Barge Utilization

Covered Barge Tonnage Composition

- Farm Prod. 53%
- Flour, Animal Feed & Gr. Prod. 4%
- Metallic Ores 6%
- Primary Metal Prod. 7%
- Nonmetallic Minerals, Except Fuel 8%
- Lumber, Wood, Pulp & Allied Prod. 0%
- Chemicals & Allied Prod. 10%
- Stone, Clay, Glass & Concrete Prod. 7%
- Other & Misc. 5%

Index (1998 = 100)
Tank Barge Fleet

Distance Matters!

Tank Barge Tonmile Composition

Tank Barge Utilization on Tonmile Basis

Domestic Barge Traffic Average Miles

Informa Economics, Inc., Barge Fleet Profile
Inland Navigation Infrastructure Requirements
Infrastructure Framework

- Infrastructure Problems = Inefficiencies

- Inefficiencies = Lower Effective Transport Capacity

- Lower Effective Transport Capacity = Higher Rates

- Higher Rates = Lower Farmer Returns
Funding Inland Navigation

- Inland river navigation represents 12,000 miles, 200 locks
- 566 million tons of freight annually, $152 billion in value
- Inland Waterways Trust Fund:
  - Generates about $85 million per year (20 cent fuel tax on barge operators)
  - Estimated total capital investment needs over next 20 years: $18 billion or $900 million per year
  - If Federal funding continues at existing levels, the 22 planned major construction and rehab projects won’t be completed until 2090
Long-Term Problem on the Rivers

Army Corps of Engineers Project Completion Schedule for Select Locks

Army Corps of Engineers Project Completion Schedule
Major Rehabilitation

- Mel Price Upper Miss
- ILL WW Thomas O’Brien L/D
- LaGrange
- L/D 25 Upper Miss Dam

Year: 2010, 2020, 2030, 2040, 2050, 2060, 2070, 2080, 2090, 2100

Army Corps of Engineers Project Completion Schedule
New Construction

- L/D 24 Upper Miss 1200’ Lock Addition
- L/D 22 Upper Miss 1200’ Lock Addition
- LaGrange 1200’ Lock Addition
- L/D 25 Upper Miss 1200’ Lock Addition
- Kentucky Lock Addition
- Olmsted L/D Construction

Year: 2010, 2020, 2030, 2040, 2050, 2060, 2070, 2080, 2090, 2100
Wrap-Up
Key Inland Barge Takeaways

- **Commodity Volumes Rising**
- **Covered Barge Fleet**
  - Fewest in decades
  - Relatively young
  - Facing pressure
  - Positioned for expansion
- **Challenges from Tank Fleet**
- **Infrastructure Quickly Aging**
- **Key Drivers to Require More of Inland Industry**
  - Strengthening exports
  - Panama Canal Expansion
  - Low ocean freight rates
  - Option origin Center Gulf or northern Brazil?
Multi-Client Study
North America’s Commodity Constraints

NORTH AMERICA’S COMMODITY CONSTRAINTS STUDY

THIS STUDY COVERS:
- Grains, oilseeds and products
- Fertilizer (N,P,K and S)
- Coal

THIS STUDY WILL ADDRESS:
The scope, scale and requirements of moving expected higher volumes of North American commodities and product

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