Emerging Issues in Grain Transportation and Logistics

Presented by:
Aaron Appel
Trading and Logistics, CGB - OVR Region
Established 1970 in St. Louis, MO

Primary business is grain origination, transportation, and logistics

Privately held by global companies

2,500 employees

Array of services for grain farmers and beyond including everything from financing and risk management, to buying, storing, selling and shipping of crops and more
Our Structure
Ownership

**ZEN-NOH**
- One of the world’s largest cooperative organizations
- Owned by millions of Japanese farmers

**ITOCHU**
- Japanese trading company
- Over 150 year history
- Publicly traded corporation
Grain Division

- Originate and market grain and oilseeds for the export and domestic channels.
- Over 100 facilities - 38 river terminals, and 12 shuttle sites.
- 200 million bushels of grain storage
- Providing innovative, customized solutions for producers
- We differentiate through our commitment to service which provides value to our customers.
- Employees dedicated to exceeding customer expectations
Consolidated Terminals and Logistics Co.

- Transportation and handling services for bulk and break bulk commodities using both CGB assets and outside vendors
- Transportation via Ocean, Barge, Truck, Rail
- Handling via Stevedoring, Terminaling, Warehousing, Heavy lift cargo
- Largest independent buyer of barge freight
- Operating, sales and marketing agreement with Cooper/T. Smith Stevedoring
  » Cooper/Consolidated, the joint operating, sales, and marketing division of Cooper T. Smith Stevedoring Co, Inc. and CTLC, is the largest operating asset-backed stevedoring and logistics company in the Port of New Orleans / lower Mississippi River
Economic Importance

• Mississippi River barge port system represents 500 Million tons of shipped goods per year

• 60% of all grain exported from the U.S. is shipped on the MS River through the Port of New Orleans and Port of South Louisiana

• Safest and most efficient mode of surface transportation
Economic Importance

Where the Jobs Are!

Today, Over a Half-Million Jobs Depend on Our Waterways

- 68,000
- 59,000
- 82,000
- 153,000
- 5,000

Rest of U.S.

173,000
Economic Importance to Ohio

ESSENTIAL COMMODITIES ARE SHIPPED TO AND FROM OHIO THROUGH WATERWAYS AND PORTS:

- **$39.9 Billion** of manufactured goods including computers and electronic products, appliances, machinery, electrical equipment and clothing
- **$11.5 Billion** of basic chemicals used in hundreds of consumer products from appliances to toys, from soap to cosmetics
- **$7.6 Billion** of non-metallic minerals including construction materials and coal used to power our homes, businesses and factories

COMMODITIES TRAVEL TO AND FROM OHIO ON MANY VITAL TRANSPORTATION LINKS, INCLUDING:

- **WATERWAYS:** Ohio River, Mississippi River, Great Lakes, Tennessee River
- **PORTS:** Port of New Orleans, Port of Los Angeles, Port of Tampa, Port of New York/New Jersey

WATERWAYS AND PORTS CONTRIBUTE DIRECTLY TO OHIO'S ECONOMY:

<table>
<thead>
<tr>
<th>Total Revenue Impact:</th>
<th>Direct Business Revenue:</th>
<th>Personal Income:</th>
<th>Local Purchases:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>$3.1 Billion</strong></td>
<td><strong>$1.3 Billion</strong></td>
<td><strong>$1.4 Billion</strong></td>
<td><strong>$471 Million</strong></td>
</tr>
</tbody>
</table>

TOGETHER, WATERWAYS AND PORTS SUPPORT

**21,000 Ohio Jobs**

*Sources: Waterways Council, Inc.*
Flood of 2019

• Notable 2019 River closures
  • Ohio River Flooding - closed 2/21/2019 to 3/9/2019
  • Mid Miss Flooding closed 3/16/2019 to 5/16/2019
    • Periodic openings
  • St. Louis Harbor closed 5/24/2019 to 6/25/2019
Barge Movements on the Mississippi River\(^1\) (Locks 27 - Granite City, IL)

For the week ending August 3: 15 percent lower than last year, and 31 percent lower than the 3-yr avg.

\(^{1}\) The 3-year average is a 4-week moving average.

Source: U.S. Army Corps of Engineers
## STL Historic Crests

1. 49.58 ft on 08/01/1993
2. **45.93 ft on 06/08/2019 (P)**
3. 43.23 ft on 04/28/1973
4. 42.52 ft on 01/01/2016
5. 42.00 ft on 04/01/1785
6. 41.89 ft on 05/22/1995
7. 41.70 ft on 05/06/2017
8. 41.32 ft on 06/27/1844
9. 40.52 ft on 06/04/2013
10. 40.30 ft on 07/02/1947

## Lock 20 (UM 343) - Historic Crests

1. 27.88 ft on 07/09/1993
2. 27.73 ft on 06/18/2008
3. **27.11 ft on 06/02/2019**
4. 24.50 ft on 04/24/1973
5. 23.43 ft on 07/07/2014
6. 23.20 ft on 05/15/2001
7. 23.19 ft on 04/21/2013
8. 21.42 ft on 05/01/1965
9. 21.21 ft on 10/12/2018
10. 20.92 ft on 10/04/1986

## Smithland Lock & Dam (OR 919) - Historic Crests

1. 54.89 ft on 05/06/2011
2. **51.83 ft on 02/25/2019**
3. 51.44 ft on 03/12/1997
4. 50.14 ft on 03/02/2018
5. 49.80 ft on 01/08/1991
Impacts of Spring Floods

- Barge lines still playing catch-up
- Filling current contracts and working backwards to fill old obligations
- Southbound barge values remain firm

### Weekly Barge Freight Rates: Southbound Only

<table>
<thead>
<tr>
<th></th>
<th>Twin Cities</th>
<th>Mid-Mississippi</th>
<th>Lower Illinois River</th>
<th>St. Louis</th>
<th>Cincinnati</th>
<th>Lower Ohio</th>
<th>Cairo-Memphis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate¹ 8/6/2019</td>
<td>543</td>
<td>601</td>
<td>538</td>
<td>470</td>
<td>293</td>
<td>293</td>
<td>397</td>
</tr>
<tr>
<td>7/30/2019</td>
<td>507</td>
<td>610</td>
<td>516</td>
<td>469</td>
<td>278</td>
<td>278</td>
<td>400</td>
</tr>
<tr>
<td>$/ton 8/6/2019</td>
<td>33.61</td>
<td>31.97</td>
<td>24.96</td>
<td>18.75</td>
<td>13.74</td>
<td>11.84</td>
<td>12.47</td>
</tr>
<tr>
<td>7/30/2019</td>
<td>31.38</td>
<td>32.45</td>
<td>23.94</td>
<td>18.71</td>
<td>13.04</td>
<td>11.23</td>
<td>12.56</td>
</tr>
</tbody>
</table>

Current week % change from the same week:

- Rate¹
  - Last year: -16, 1, -10, 18, -34, -34, 13
  - 3-year avg.²: 17, 47, 36, 65, -9, -9, 60

- Rate¹
  - September: 433, 427, 423, 380, 356, 356, 365
  - Oct/Nov: 440, 418, 396, 304, 339, 339, 281

¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average; ton = 2,000 pounds; "-" n/a due to closure

- Current weekly rate is a nominal value, reflecting the anticipation of improved navigation conditions

Source: Transportation & Marketing Programs/AMS/USDA
Impacts of Spring Floods

Figure 8

Illinois River Barge Freight Rate$^1,2$

For the week ending August 6: 4 percent higher than last week, 10 percent lower than last year, and 36 percent higher than the 3-year average.

$^1$Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); $^2$4-week moving average of the 3-year average.

Source: Transportation & Marketing Program/AMS/USDA
Longer Term Impacts

• Increased towing rates

• Northbound barge prices have increased
  • 2019-2020 prices are up about 25% for annual contracts
  • Spot NB rates are about 60% higher

• Shoaling

• Lock Repairs
Aging River Locks

• 78% of locks will exceed their projected lifespan by 2020

• Average age of locks: 59.1 years

• 700% increase in unscheduled work stoppages for repairs over the last decade
Olmsted Lock and Dam

• Started Construction in December of 1995
• Completed in October of 2018
• Cost: just over $3 billion
• Largest & most expensive inland waterway project ever done in the United States
• Located at Ohio River mile 964.4
  • Replaced Lock 52 & Lock 53
• The Corps estimates $640 million economic benefits per year
2019 Restrictions/Closures

- Starved Rock Lock & Marseilles Lock and Dam
  - Upper bulkhead recess installation at both sites
  - Navigation restriction period: June 1, 2019 to August 31, 2019 extended through October 5.
  - Partial Closure (barge traffic at night – 6:00pm to 6:00am), with 70-foot width restriction & no ability to pull unpowered barges on upper end of locks
  - Full Closure from 1:00am September 21, 2019 to midnight October 5, 2019.

<table>
<thead>
<tr>
<th>Lock</th>
<th>Milepoint</th>
<th>Queue</th>
<th>Avg. Delay Past 24 Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willow Island</td>
<td>OR 162</td>
<td>5</td>
<td>14.93</td>
</tr>
<tr>
<td>Starved Rock</td>
<td>IR 231</td>
<td>18</td>
<td>124.92</td>
</tr>
<tr>
<td>Marseilles</td>
<td>IR 245</td>
<td>25</td>
<td>62.14</td>
</tr>
<tr>
<td>Algiers</td>
<td>LM 88</td>
<td>18</td>
<td>52.74</td>
</tr>
<tr>
<td>Industrial</td>
<td>LM 92</td>
<td>32</td>
<td>48.36</td>
</tr>
</tbody>
</table>

Sources: U.S. Army Corps of Engineers, Waterways Council, Inc.
2020 Planned Closures

- Starved Rock Lock and Dam – Upper & Lower Miter Gate Installation
  - 120 day full closure expected July 1 – October

- Marseilles Lock and Dam – Upper Miter Gate Installation
  - 90+ day full closure expected July 1 – September 30

- Dresden Island Lock and Dam – Upper Bulkhead Recess Installation
  - 90+ day restriction period with 14 day full closure

- Brandon Rd Lock and Dam – Upper Bulkhead Recess Installation
  - 90+ day restriction period with 14 day full closure

Sources: U.S. Army Corps of Engineers, Waterways Council, Inc.
Map of the Closures
Covered Hopper Fleet

- 30 years: average covered barge life
- Mid to late 1990s saw a surge in covered hopper builds
Creating Partnerships in Agriculture®