United States Department of Agriculture

Grain Transportation Report

A weekly publication of the Agricultural Marketing Service

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Contents

The next release is August 3, 2023

WEEKLY HIGHLIGHTS

Port of Milwaukee Opens Grain Export Facility

On July 18, a new grain export facility opened at the Port of Milwaukee. The new intermodal transload facility, operated by The DeLong Co., is expected mainly to move distillers' dried grains with solubles (DDGS), but it will also ship soybeans, corn, and other grains. The facility will move DDGS and grain received by truck or rail (on either the Union Pacific or Canadian Pacific Kansas City Railroads) to handysize bulk vessels for international export through the Great Lakes-St. Lawrence Seaway system. The new facility has a storage capacity of 45,000 metric tons (1,700,000 bushels) and a load rate of 6,000 metric tons per day, with a rail track capacity of 100 hopper cars. Up to now, a significant portion of DDGS produced by Wisconsin's nine ethanol plants have been trucked to Chicago for container shipment. By providing a new DDGS export opportunity in Wisconsin, the Port of Milwaukee estimates that the new facility will eliminate 1,600 truck trips annually. The new facility also has the potential to serve ethanol plants in Iowa and Minnesota.

Diesel Price Surges by 9.9 Cents

After no change in the diesel price last week, for the week ending July 24, the U.S. average **diesel fuel price** rose 9.9 cents per gallon to $3.905 per gallon. This is the largest week-to-week increase since October 2022. The rise in diesel price was responding to the crude oil price's recent rise to $83.64 per gallon (the highest since April 19), as oil exports from Russia have declined over the past month and, from Saudi Arabia, for the last few months (according to the data, which is available only through May). The average diesel price is still 136.3 cents below the same week last year. The largest increases were in the Gulf Coast (13.4 cents) and the Lower Atlantic region (11.4 cents).

Panama Canal Limits Vessel Transits Amid Persistent Low Water

Effective July 30, the Panama Canal will allow transits of only 32 vessels per day—10 vessels through the Neopanamax locks and 22 vessels through the Panamax locks (according to the Panama Canal Authority). Although below the long-term daily average of 35-36 transits, the reduced number will resemble the Canal's average of the last 2 months. Last month, the Canal had announced new draft restrictions affecting both the Neopanamax and Panamax locks (*Grain Transportation Report*, June 22, 2023, first highlight). However, after the region received much-needed rain, the new draft restrictions were postponed indefinitely. Because of the rain, the current restriction of 44 feet for the Neopanamax locks stayed in place, and the Panamax locks continued their normal draft level of 39.5 feet. There is no word yet from the Panama Canal Authority on what the next change to draft restrictions will be or when the Neopanamax locks' normal draft level of 50 feet may be resumed. Water levels in Gatún Lake—the water source for the Canal—are currently at 79.3 feet, which is 7 percent below the prior 5-year average and near record lows.

Grain Inspections Increase From Previous Week

For the week ending July 20, **total inspections of grain** (corn, wheat, and soybeans) for export from all major U.S. export regions were 0.980 million metric tons (mmt)—up 14 percent from the previous week, down 41 percent from last year, and down 48 percent from the 3-year average. From the previous week, inspections for soybeans rose 77 percent and, for wheat, rose 31 percent. Despite increasing 540 percent in the Pacific Northwest (PNW) and 29 percent in the Atlantic, inspections were down in the Mississippi Gulf, Great Lakes, and Interior port regions. Week-to-week inspections of grain for the Texas Gulf, however, remained unchanged. Inspections of grain during the last 4 weeks were significantly down from last year and the 3-year average.

Snapshots by Sector

Export Sales

For the week ending July 13, **unshipped balances** of wheat, corn, and soybeans for marketing year (MY) 2022/23 totaled 10.20 million metric tons (mmt), down 3 percent from last week and down 44 percent from the same time last year. Net **corn export sales** for MY 2022/23 were 0.237, down 49 percent from last week. Net **soybean export sales** were 0.127 mmt, up 58 percent from last week. Net weekly **wheat export sales** for MY 2023/24, were 0.171 mmt, down 57 percent from last week.

Rail

U.S. Class I railroads originated 16,032 **grain carloads** during the week ending July 15. This was a 27-percent increase from the previous week, 11 percent fewer than last year, and 19 percent fewer than the 3-year average.

Average August **shuttle secondary railcar bids/offers** (per car) were $78 below tariff for the week ending July 20. This was $166 more than last week and $189 lower than this week last year. Average non-shuttle secondary railcar bids/offers per car were $63 above tariff. This was $38 more than last week and $113 lower than this week last year.

Barge

For the week ending July 22, **barged grain movements** totaled 402,972 tons. This was 3 percent less than the previous week and 29 percent less than the same period last year.

For the week ending July 22, 268 grain barges **moved down river**—1 more than last week. There were 470 grain barges **unloaded** in the New Orleans region, 37 percent more than last week.

Ocean

For the week ending July 20, 22 **oceangoing grain vessels** were loaded in the Gulf—15 percent fewer than the same period last year. Within the next 10 days (starting July 21), 30 vessels were expected to be loaded—44 percent fewer than the same period last year.

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Feature Article/Calendar

Second Quarter 2023 Ocean Freight Rates Down From Last Year

Ocean freight rates for shipping bulk commodities, including grain were fairly stable during the second quarter, but down from both second quarter 2022 (year to year) and the 4-year average. This article examines monthly changes in rates during second quarter 2023, as well as current rates and possible future trends.

In second quarter 2023, ocean freight rates for shipping bulk grain (wheat, corn, and soybeans) from the U.S. Gulf to Japan averaged $51.56 per metric ton (mt). Although this rate rose 1 percent from first quarter 2023 to second quarter 2023 (quarter to quarter), it was down 35 percent year to year and down 8 percent from the 4-year average (see table and figure). Averaging $28.35 per mt in second quarter 2023, rates from the Pacific Northwest (PNW) to Japan reflected changes similar to those of the Gulf-to-Japan rates: rates from PNW to Japan were unchanged from quarter to quarter, down 37 percent year to year, and down 10 percent from the 4-year average (see table and figure below).

The spread (or difference) between the U.S. Gulf-to-Japan and PNW-to-Japan rates was down 33 percent from last year and down 6 percent from the 4-year average. The narrowing spread (as is typical) favored shipments out of the U.S. Gulf. From the U.S. Gulf to Europe, rates averaged $27.98 per mt—up 7 percent quarter to quarter, down 16 percent year to year, and up 30 percent from the 4-year average. The steep rise in the U.S. Gulf-to-Europe rate from the 4-year average reflects the growth of trade between United States and Europe over the past couple of years (*Grain Transportation Report,* January 26, 2023).

Ocean freight rates for grain routes during second quarter 2023

Route	Apr.	May	Jun.	2nd quarter 2023	Change from		
					1st qtr. '23	2nd qtr. '22	4-yr. avg.
	--$/mt--			--$/mt--	Percent		
U.S. Gulf to Japan	55.19	51.38	48.10	51.56	1	-35	-8
PNW to Japan	30.00	28.56	26.50	28.35	0	-37	-10
Spread*	25.19	22.82	21.60	23.20	2	-33	-6
U.S. Gulf to Europe	28.63	29.00	26.30	27.98	7	-16	30

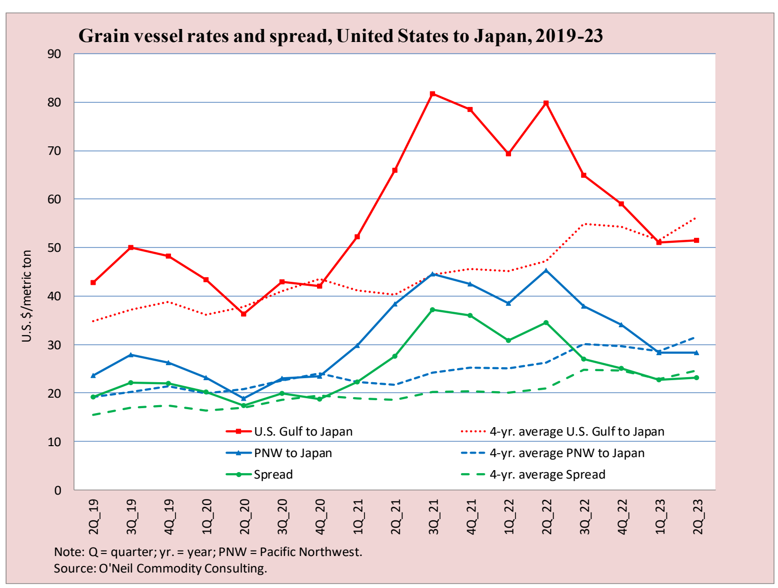
*Spread is the difference between ocean freight rates for shipping grain from the U.S. Gulf to Japan and PNW to Japan.

Note: qtr. = quarter; avg. = average; mt = metric ton; yr. = year; PNW = Pacific Northwest.

Source: O'Neil Commodity Consulting.

Monthly Changes in Rates

April. China's robust iron ore demand and reinstated coal trade with Australia improved bulk shipments and kept ocean freight rates high in April. Plus, China's coal imports from Russia rose from April 2022, with a larger volume shipped in Panamax vessels (*Shipping Insight*, Drewry Maritime Research (Drewry), May 4, 2023). Likewise pushing up ocean freight rates, Russia's fertilizer exports increased 40 percent in April over the previous month.



Note: Q = quarter; yr. = year; PNW = Pacific Northwest.
Source: O'Neil Commodity Consulting.

May. Ocean freight rates started high in May (compared to May 2022), as China increased its iron ore imports and continued, from April, its higher-than-average coal imports from Russia. Additionally, the Brazil-China soybean trade entered its peak season. However, to meet the rising demand generated by the strong bulk trade, about 9.5 million deadweight tons of vessel capacity were moved from inactivity and added to market. Also, seven very large ore carriers (VLOCs) re-entered the market to meet the rise in demand for iron ore.

The added supply pushed down rates (Drewry, June 6, 2023). According to Drewry, the April-to-May supply boost was the largest monthly change in the last year. The added capacity mostly reduced the inactivity of the Panamax vessel segment, because of the accelerating Brazil-China soybean trade, which used mainly Panamax vessels. Ukrainian grain exports declined in May, when Russia refused to register new vessels as a part of the Black Sea Grain Initiative (Drewry, June 6, 2023).

June. Ocean freight rates fell as the demand for major commodities plateaued in June. In particular, the coal trade weakened, as China and India had sufficiently built up their inventories amid deflated prices. The European Union (EU) was not importing coal either, because EU coal stocks were still full after last winter's milder-than-expected temperatures in Europe. By the end of May, China's coal inventory had increased 27 percent over April and risen 25 percent over the previous year (Drewry, June 6, 2023). Additionally, in June, falling prices of liquefied natural gas reduced the demand for coal in Asia. Although still high, Asia's total imports of seaborne thermal coal were estimated at 76.49 million metric tons (mmt) in June, down from 80.01 mmt in May (Reuters).

Current Market Analysis and Outlook

As of July 20, 2023, the rate for shipping 1 mt of grain from the U.S. Gulf to Japan was $46.50—14 percent less than the first available rate at the beginning of the year and 33 percent less than the same 2022 period. Also, on July 20, the rate from PNW to Japan was $25.50 per mt—16 percent less than the first available rate at the beginning of the year and 37 percent less than the same 2022 period. The rate from the U.S. Gulf to Europe was $24.50 per mt—14 percent less than the first available rate in the beginning of the year and 30 percent less than the same 2022 period.

At least in the short term, the current low ocean freight rates show signs of persisting. The weak industrial activity in China and the European Union and uncertainty generated by Russia's withdrawal from the Black Sea Grain Initiative are expected to keep rates low in the bulk shipping market (Drewry, July 6, 2023).

Further downward pressure on ocean freight rates may stem from weak grain exports out of Argentina and diminished mineral exports from Indonesia. Severe drought and mounting inflation both threaten to hinder Argentinian corn and soybean exports. The Rosario Exchange has forecast Argentina's soybean and corn production in 2023 to be down 49 percent from 2022 (Drewry, July 6, 2023, and the *Buenos Aires Herald*). Exports of bauxite, copper, and tin will fall, because of Indonesia's ban on exporting these critical minerals, which started in June 2023.

However, the expected drop in vessel demand triggered by Indonesia's ban may be delayed: the Indonesian Government has extended, until May 2024, export permits for copper concentrates produced by two major exporters. In addition, Russia has lowered its permanent export tax on wheat, which could boost the demand for bulk vessels and put upward pressure on ocean freight rates (Drewry).

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Grain Transportation Indicators

Table 1
Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Non-Shuttle	Shuttle		Gulf	Pacific
07/26/23	262	324	245	212	208	181
07/19/23	255	325	246	204	209	183

[1]Indicator: Base year 2000 = 100. Weekly updates include truck = diesel ($/gallon); rail = near-month secondary rail market bid and monthly tariff rate with fuel surcharge ($/car); barge = Illinois River barge rate (index = percent of tariff rate); ocean = routes to Japan ($/metric ton); n/a = not available due to holiday.
Source: USDA, Agricultural Marketing Service.

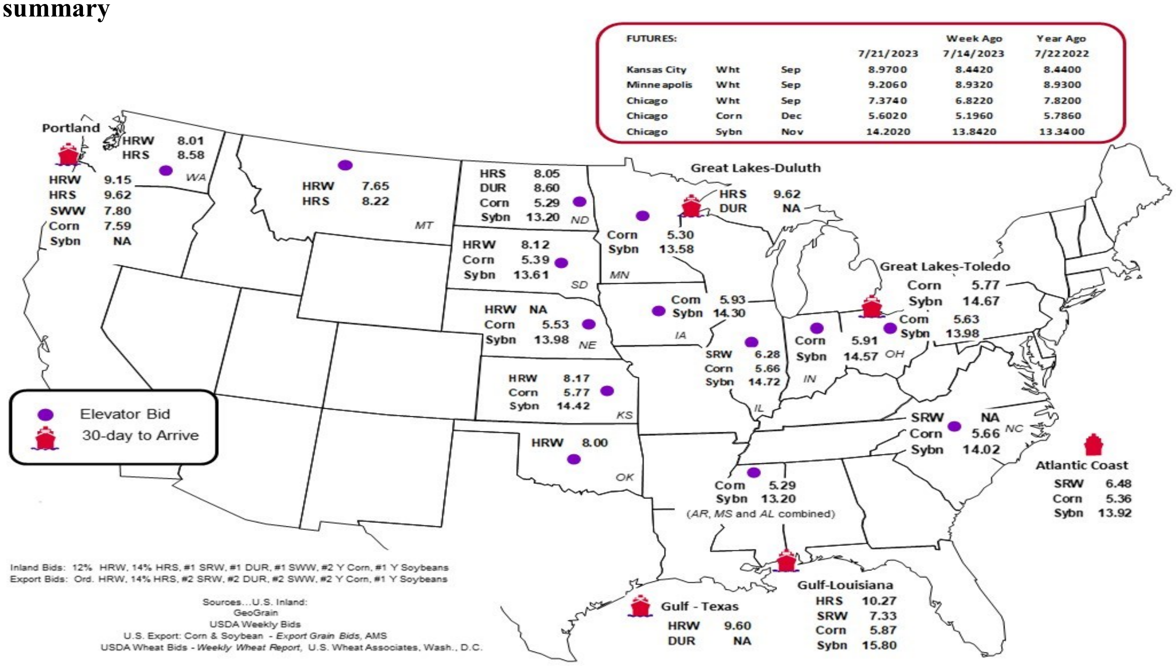
Table 2
Market Update: U.S. origins to export position price spreads ($/bushel)

Commodity	Origin–destination	7/21/2023	7/14/2023
Corn	IL–Gulf	-0.21	-1.08
Corn	NE–Gulf	-0.34	-1.14
Soybean	IA–Gulf	-1.50	-1.28
HRW	KS–Gulf	-1.43	-1.41
HRS	ND–Portland	-1.57	-1.40

Note: nq = no quote; n/a = not available; HRW = hard red winter wheat; HRS = hard red spring wheat.
Source: USDA, Agricultural Marketing Service.

The **grain bid summary** illustrates the market relationships for commodities. Positive and negative adjustments in differential between terminal and futures markets, and the relationship to inland market points, are indicators of changes in fundamental market supply and demand. The map may be used to monitor market and time differentials.

Figure 1
Grain bid summary



Rail Transportation

Table 3

Class I rail carrier grain car bulletin (grain carloads originated)

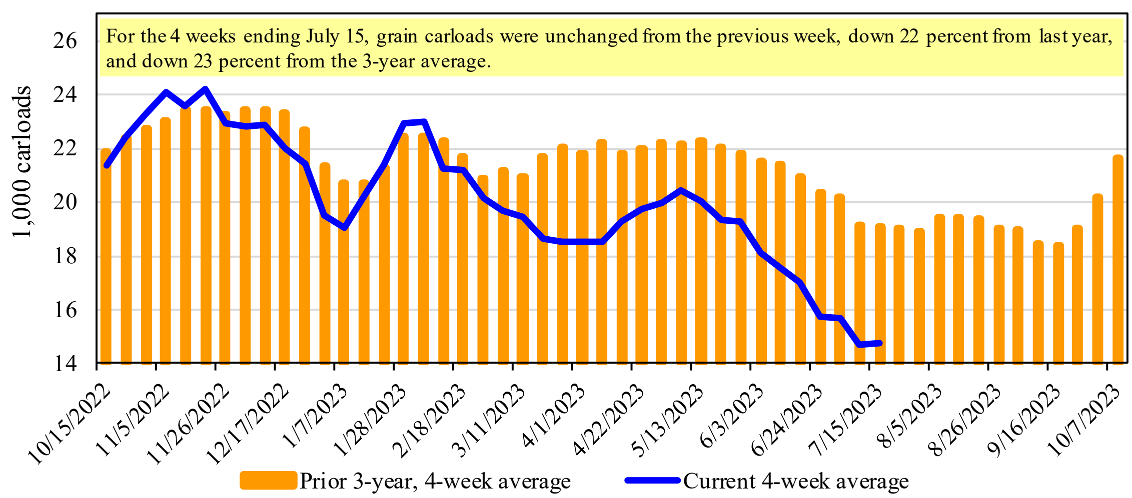
For the week ending: 7/15/2023	East		West		U.S. total	Central U.S./Canada	
	CSXT	NS	BNSF	UP		CPKC	CN
This week	1,291	2,595	7,581	4,565	16,032	5,110	3,811
This week last year	1,191	2,742	8,564	5,461	17,958	6,980	4,663
2023 YTD	52,327	76,038	251,357	149,913	529,635	266,176	126,260
2022 YTD	50,387	68,504	313,632	160,813	593,336	250,986	97,978
2023 YTD as % of 2022 YTD	104	111	80	93	89	106	129
Last 4 weeks as % of 2022	88	99	71	75	78	124	90
Last 4 weeks as % of 3-yr. avg.	90	108	67	77	77	105	94
Total 2022	93,428	130,621	570,232	296,945	1,091,226	538,276	214,053

Note: The last 4-week percentages compare the last 4 weeks of this year to the closest 4 weeks last year, and to the average across the prior 3 years. The U.S. total column excludes CPKC. NS = Norfolk Southern; UP = Union Pacific; CN = Canadian National; CPKC = Canadian Pacific Kansas City; YTD = year-to-date; avg. = average; yr. = year.

Source: Association of American Railroads.

Figure 2

Total weekly U.S. Class I railroad grain carloads



Note: U.S. total excludes Canadian Pacific Kansas City
Source: Association of American Railroads.

Table 4

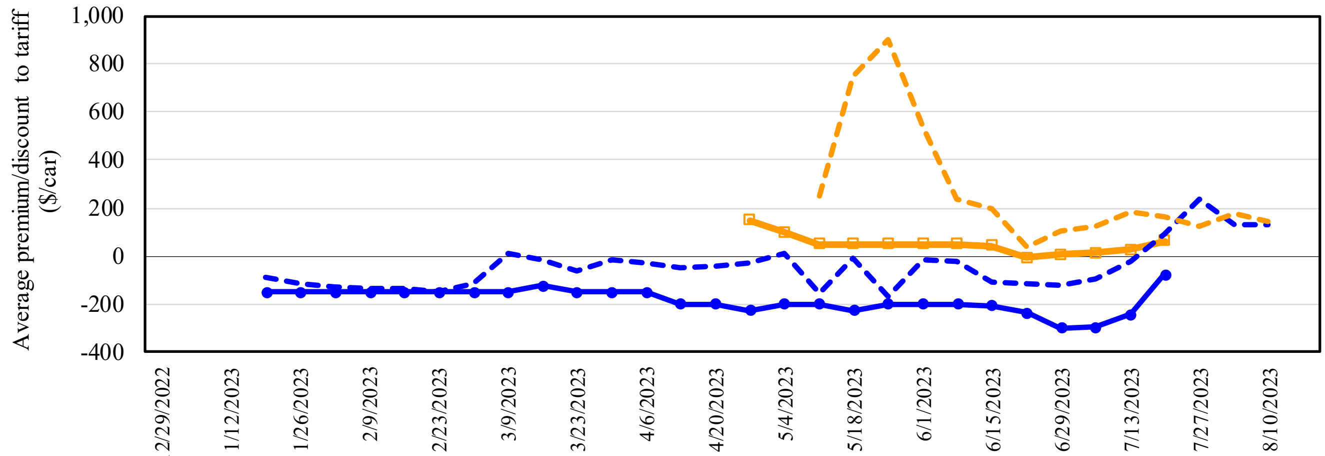
Railcar auction offerings[1] ($/car)[2]

For the week ending: 7/20/2023		Delivery period Aug-23	Aug-22	Sep-23	Sep-22	Oct-23	Oct-22	Nov-23	Nov-22
BNSF	COT grain units	0	no bids	0	0	no offer	168	no offer	168
	COT grain single-car	0	0	23	324	21	359	17	345
UP	GCAS/vouchers	10	n/a	11	n/a	no offer	n/a	n/a	n/a

[1]Auction offerings are for single-car and unit train shipments only.
[2]Average premium/discount to tariff, last auction. n/a = not available.
Note: BNSF = BNSF Railway; COT = Certificate of Transportation; UP = Union Pacific Railroad; and GCAS = Grain Car Allocation System.
Minimum bids for UP GCAS/vouchers are $10.
Source: USDA, Agricultural Marketing Service.

The **secondary rail market** information reflects trade values for service that was originally purchased from the railroad carrier as some form of guaranteed freight. The **auction and secondary rail** values are indicators of rail service quality and demand/ supply.

Figure 3
Secondary market bids/offers for railcars to be delivered in August 2023

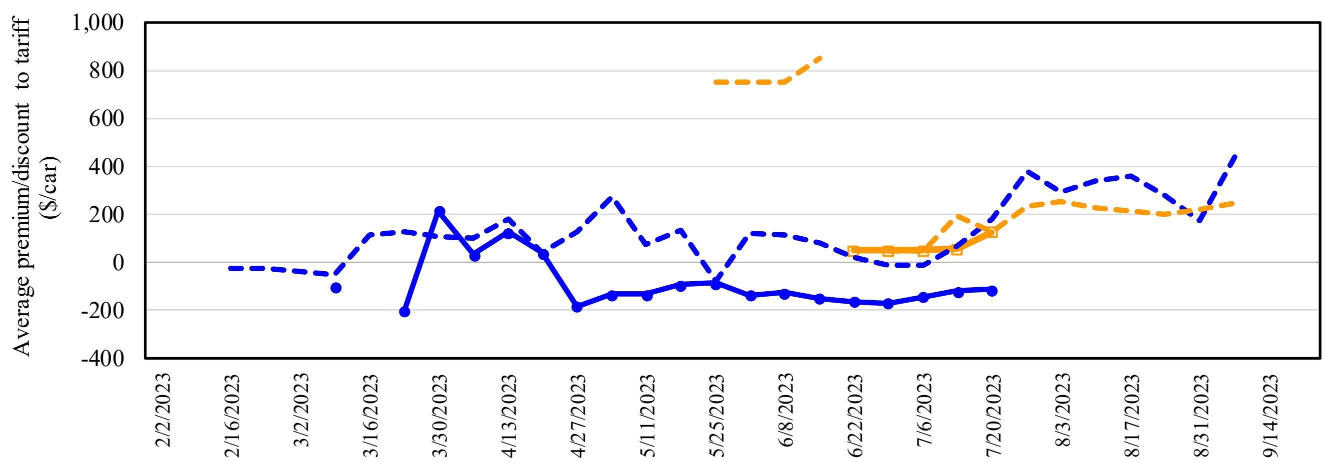


7/20/2023	BNSF	UP
Non-shuttle	$100	$25
Shuttle	-$81	-$75

Average non-shuttle bids/offers rose $38 this week, and are $88 below the peak.
Average shuttle bids/offers rose $166 this week and are at the peak.

Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year; BNSF = BNSF Railway; UP = Union Pacific Railroad.
Source: USDA, Agricultural Marketing Service.

Figure 4
Secondary market bids/offers for railcars to be delivered in September 2023

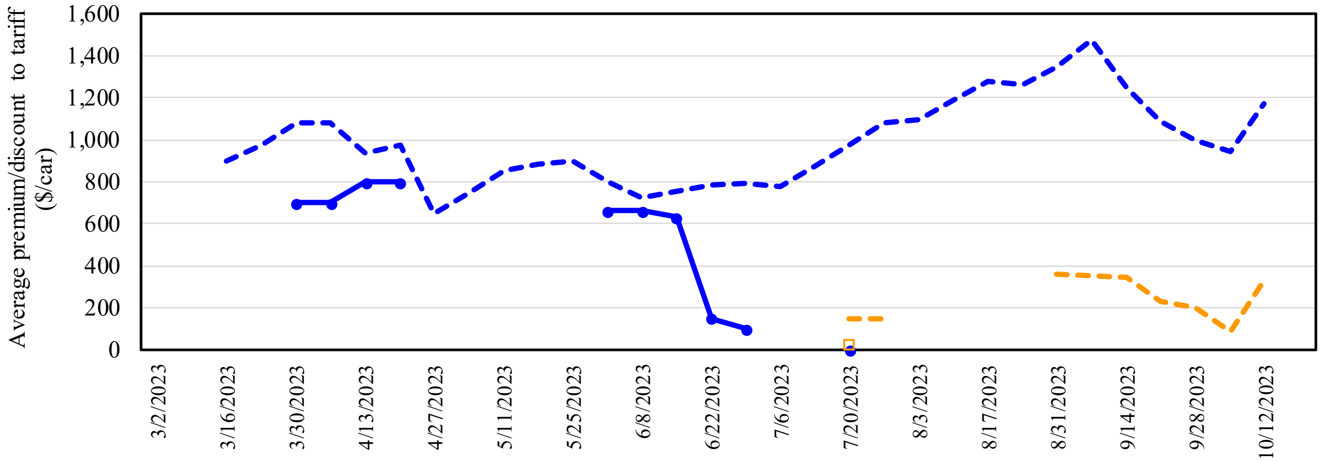


7/20/2023	BNSF	UP
Non-shuttle	$200	$50
Shuttle	-$28	-$200

Average non-shuttle bids/offers rose $69 this week, and are at the peak.
Average shuttle bids/offers rose $7 this week and are $331 below the peak.

Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year; BNSF = BNSF Railway; UP = Union Pacific Railroad.
Source: USDA, Agricultural Marketing Service.

Figure 5
Secondary market bids/offers for railcars to be delivered in October 2023



7/20/2023	BNSF	UP
Non-shuttle	$25	n/a
Shuttle	-$75	$75

There were no non-shuttle bids/offers last week. Average non-shuttle bids/offers this week are at the peak.
There were no shuttle bids/offers last week. Average shuttle bids/offers this week are $800 below the peak.

Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year; BNSF = BNSF Railway; UP = Union Pacific Railroad.
Source: USDA, Agricultural Marketing Service.

Table 5
Weekly secondary railcar market ($/car)[1]

	For the week ending: 7/20/2023	Delivery period					
		Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24
Non-shuttle	**BNSF-GF**	**100**	**200**	**25**	**n/a**	**n/a**	**n/a**
	Change from last week	50	137	n/a	n/a	n/a	n/a
	Change from same week 2022	75	100	n/a	n/a	n/a	n/a
	UP-Pool	**25**	**50**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	25	0	n/a	n/a	n/a	n/a
	Change from same week 2022	-300	n/a	n/a	n/a	n/a	n/a
Shuttle	**BNSF-GF**	**-81**	**-28**	**-75**	**n/a**	**n/a**	**n/a**
	Change from last week	169	114	n/a	n/a	n/a	n/a
	Change from same week 2022	125	-307	-1,775	n/a	n/a	n/a
	UP-Pool	**-75**	**-200**	**75**	**n/a**	**n/a**	**n/a**
	Change from last week	163	-100	n/a	n/a	n/a	n/a
	Change from same week 2022	-503	-833	-1,475	n/a	n/a	n/a
	CP-GF	**-100**	**-100**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	0	n/a	n/a	n/a	n/a	n/a
	Change from same week 2022	0	-150	n/a	n/a	n/a	n/a

[1]Average premium/discount to tariff, $/car-last week.

Note: Bids listed are market indicators only and are not guaranteed prices. n/a = not available;

GF = guaranteed freight; Pool = guaranteed pool; BNSF = BNSF Railway; UP = Union Pacific Railroad; CP = Canadian Pacific Railway.

Data from The Malsam Co., Tradewest Brokerage Co.

Source: USDA, Agricultural Marketing Service.

Table 6

Tariff rail rates for unit and shuttle train shipments[1]

July 2023	Origin region[3]	Destination region[3]	Tariff rate/car	Fuel surcharge per car	Tariff plus surcharge per: metric ton	Tariff plus surcharge per: bushel[2]	Percent change Y/Y[4]
Unit train							
Wheat	Wichita, KS	St. Louis, MO	$4,095	$187	$42.52	$1.16	1
	Grand Forks, ND	Duluth-Superior, MN	$3,858	$51	$38.81	$1.06	2
	Wichita, KS	Los Angeles, CA	$7,640	$260	$78.45	$2.14	-6
	Wichita, KS	New Orleans, LA	$4,825	$329	$51.18	$1.39	-1
	Sioux Falls, SD	Galveston-Houston, TX	$7,376	$214	$75.37	$2.05	-5
	Colby, KS	Galveston-Houston, TX	$5,075	$361	$53.98	$1.47	-2
	Amarillo, TX	Los Angeles, CA	$5,121	$502	$55.84	$1.52	-7
Corn	Champaign-Urbana, IL	New Orleans, LA	$4,000	$372	$43.42	$1.10	-7
	Toledo, OH	Raleigh, NC	$8,551	$413	$89.01	$2.26	1
	Des Moines, IA	Davenport, IA	$2,655	$79	$27.15	$0.69	3
	Indianapolis, IN	Atlanta, GA	$6,593	$310	$68.55	$1.74	1
	Indianapolis, IN	Knoxville, TN	$5,564	$201	$57.25	$1.45	3
	Des Moines, IA	Little Rock, AR	$4,250	$232	$44.50	$1.13	1
	Des Moines, IA	Los Angeles, CA	$6,130	$675	$67.57	$1.72	-5
Soybeans	Minneapolis, MN	New Orleans, LA	$3,472	$546	$39.91	$1.09	-27
	Toledo, OH	Huntsville, AL	$7,037	$294	$72.80	$1.98	1
	Indianapolis, IN	Raleigh, NC	$7,843	$419	$82.04	$2.23	1
	Indianapolis, IN	Huntsville, AL	$5,689	$199	$58.47	$1.59	3
	Champaign-Urbana, IL	New Orleans, LA	$4,865	$372	$52.01	$1.42	-2
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	$4,393	$150	$45.11	$1.23	-4
	Wichita, KS	Galveston-Houston, TX	$4,611	$116	$46.95	$1.28	-6
	Chicago, IL	Albany, NY	$7,090	$390	$74.28	$2.02	1
	Grand Forks, ND	Portland, OR	$6,051	$258	$62.66	$1.71	-6
	Grand Forks, ND	Galveston-Houston, TX	$5,399	$269	$56.29	$1.53	-8
	Colby, KS	Portland, OR	$5,923	$592	$64.69	$1.76	-7
Corn	Minneapolis, MN	Portland, OR	$5,660	$315	$59.33	$1.51	-8
	Sioux Falls, SD	Tacoma, WA	$5,620	$288	$58.67	$1.49	-7
	Champaign-Urbana, IL	New Orleans, LA	$4,170	$372	$45.11	$1.15	-2
	Lincoln, NE	Galveston-Houston, TX	$4,360	$168	$44.96	$1.14	-3
	Des Moines, IA	Amarillo, TX	$4,670	$291	$49.27	$1.25	0
	Minneapolis, MN	Tacoma, WA	$5,660	$312	$59.31	$1.51	-8
	Council Bluffs, IA	Stockton, CA	$5,580	$323	$58.62	$1.49	-8
Soybeans	Sioux Falls, SD	Tacoma, WA	$6,350	$288	$65.92	$1.79	-6
	Minneapolis, MN	Portland, OR	$6,400	$315	$66.68	$1.81	-7
	Fargo, ND	Tacoma, WA	$6,250	$256	$64.61	$1.76	-5
	Council Bluffs, IA	New Orleans, LA	$5,095	$429	$54.86	$1.49	-3
	Toledo, OH	Huntsville, AL	$5,277	$294	$55.33	$1.51	1
	Grand Island, NE	Portland, OR	$5,730	$606	$62.92	$1.71	-1

[1]A unit train refers to shipments of at least 25 cars. Shuttle train rates are generally available for qualified shipments of 75-120 cars that meet railroad efficiency requirements.

[2]Approximate load per car = 111 short tons (100.7 metric tons): corn 56 pounds per bushel (lbs/bu), wheat and soybeans 60 lbs/bu.

[3]Regional economic areas are defined by the Bureau of Economic Analysis (BEA).

[4]Percentage change year over year (Y/Y) calculated using tariff rate plus fuel surcharge.

Source: BNSF Railway, Canadian National Railway, CSX Transportation, and Union Pacific Railroad.

Table 7

Tariff rail rates for U.S. bulk grain shipments to Mexico

Date: December 2021				Fuel	Tariff rate plus fuel surcharge per:		Percent change[4]
Commodity	Origin state	Destination region	Tariff rate per car[1]	surcharge per car[2]	metric ton[3]	bushel[3]	Y/Y
Wheat	MT	Chihuahua, CI	$7,699	$0	$78.67	$2.14	4
	OK	Cuautitlan, EM	$6,900	$230	$72.85	$1.98	6
	KS	Guadalajara, JA	$7,619	$719	$85.19	$2.32	7
	TX	Salinas Victoria, NL	$4,420	$138	$46.57	$1.27	4
Corn	IA	Guadalajara, JA	$9,102	$663	$99.77	$2.53	6
	SD	Celaya, GJ	$8,300	$0	$84.81	$2.15	2
	NE	Queretaro, QA	$8,322	$462	$89.75	$2.28	5
	SD	Salinas Victoria, NL	$6,905	$0	$70.55	$1.79	0
	MO	Tlalnepantla, EM	$7,687	$450	$83.14	$2.11	5
	SD	Torreon, CU	$7,825	$0	$79.95	$2.03	2
Soybeans	MO	Bojay (Tula), HG	$8,647	$614	$94.63	$2.57	5
	NE	Guadalajara, JA	$9,207	$646	$100.67	$2.74	5
	IA	El Castillo, JA	$9,510	$0	$97.17	$2.64	1
	KS	Torreon, CU	$8,109	$466	$87.61	$2.38	5
Sorghum	NE	Celaya, GJ	$7,932	$597	$87.15	$2.21	6
	KS	Queretaro, QA	$8,108	$287	$85.77	$2.18	3
	NE	Salinas Victoria, NL	$6,713	$231	$70.94	$1.80	3
	NE	Torreon, CU	$7,225	$438	$78.29	$1.99	6

[1]Rates are based upon published tariff rates for high-capacity shuttle trains. Shuttle trains are available for qualified shipments of 75-110 cars that meet railroad efficiency requirements.

[2]Fuel surcharge adjusted to reflect the change in Ferrocarril Mexicano, S.A. de C.V railroad fuel surcharge policy as of 10/01/2009.

[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu.

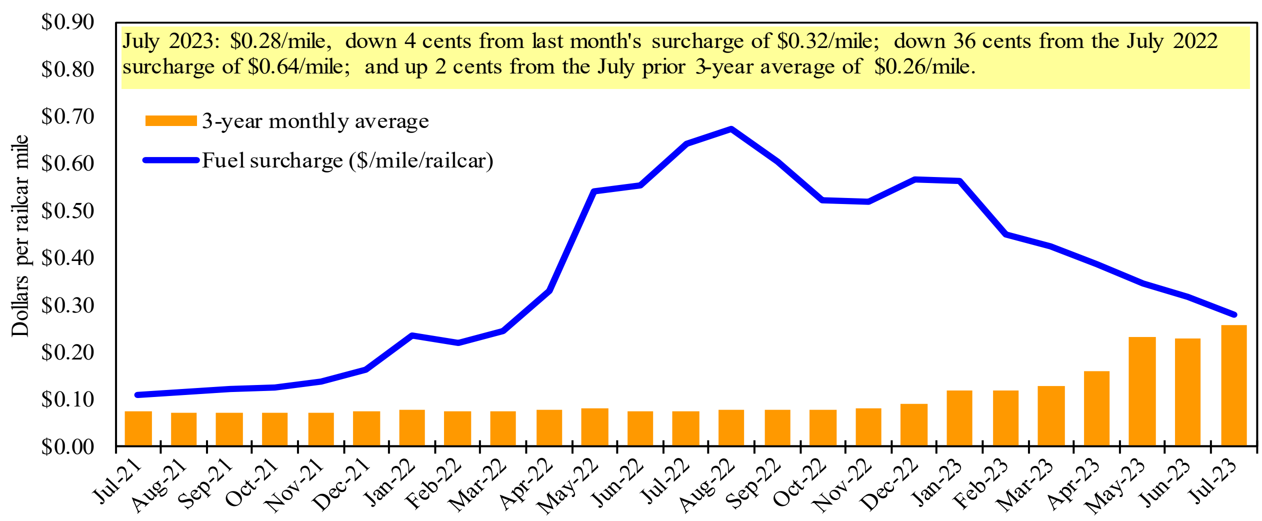
[4]Percentage change calculated using tariff rate plus fuel surchage; Y/Y = year over year.

[5] As of January 1, 2022, both BNSF and Union Pacific changed their billing and reporting of rates to Mexico. As we incorporate the change, Table 7 updates will be delayed.

Sources: BNSF Railway, Union Pacific Railroad, Kansas City Southern.

Figure 6

Railroad fuel surcharges, North American weighted average[1]

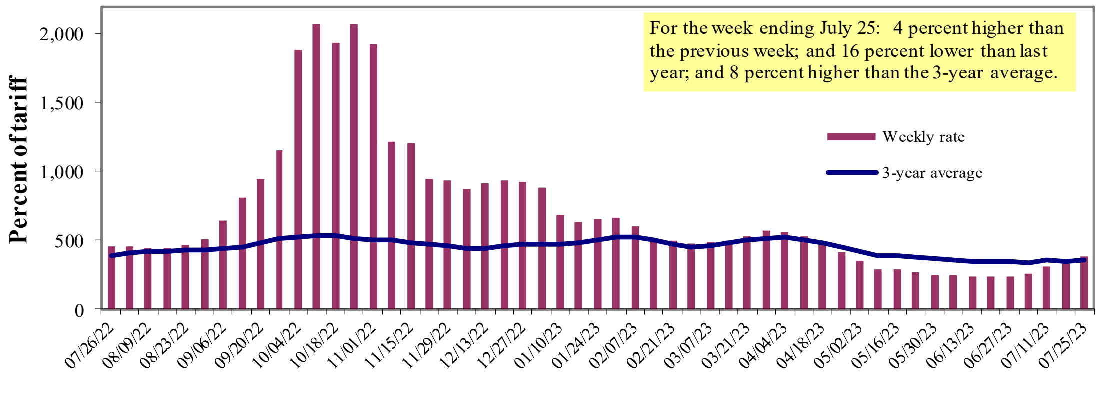


[1] Weighted by each Class I railroad's proportion of grain traffic for the prior year.

Sources: BNSF Railway, Canadian National Railway, CSX Transportation, Canadian Pacific Railway, Union Pacific Railroad, Kansas City Southern Railway, Norfolk Southern Corporation.

Figure 7

Illinois River barge freight rate[1,2]



[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average of the 3-year average.
Source: USDA, Agricultural Marketing Service.

Table 8

Weekly barge freight rates: Southbound only

		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	7/25/2023	422	397	381	340	317	317	317
	7/18/2023	391	384	368	314	296	296	292
$/ton	7/25/2023	26.12	21.12	17.68	13.57	14.87	12.81	9.95
	7/18/2023	24.20	20.43	17.08	12.53	13.88	11.96	9.17
Current week % change from the same week:								
	Last year	-28	-22	-16	-15	-32	-32	-18
	3-year avg. [2]	-4	9	-	32	7	7	28
Rate[1]	August	488	425	402	385	397	397	413
	October	691	678	669	631	672	672	678

[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average; ton = 2,000 pounds; "-" data not available.
Source: USDA, Agricultural Marketing Service.

Figure 8
Benchmark tariff rates

Calculating barge rate per ton:
(Rate * 1976 tariff benchmark rate per ton)/100

Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.

Map Credit: USDA, Agricultural Marketing Service

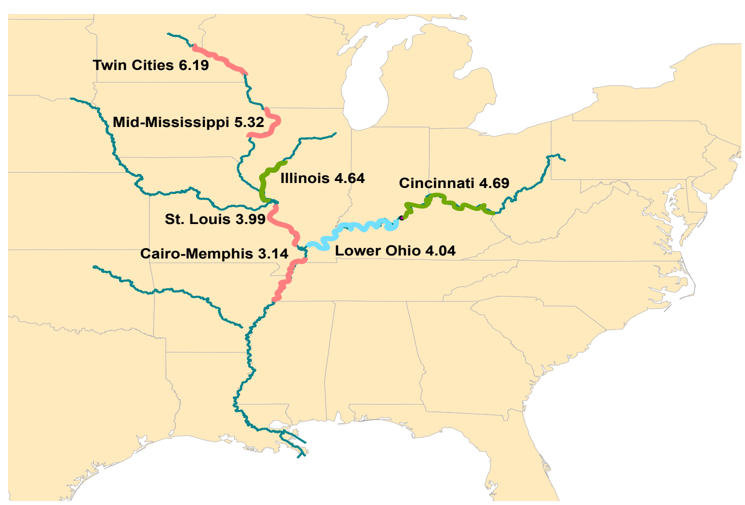
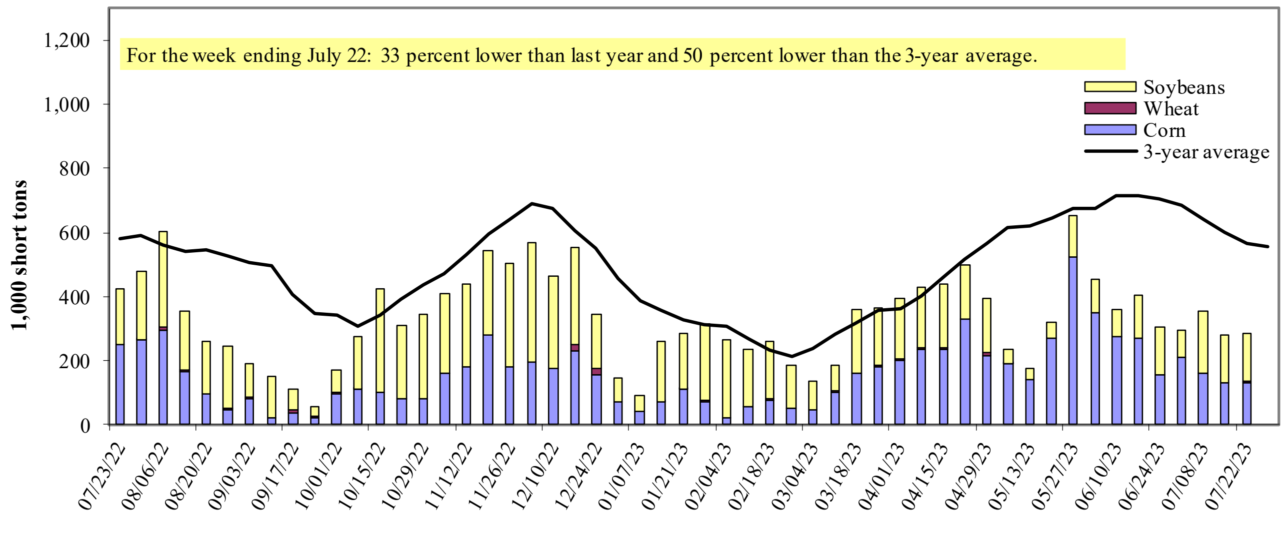


Figure 9

Barge movements on the Mississippi River[1] (Locks 27 - Granite City, IL)



[1] The 3-year average is a 4-week moving average.

Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers.

Table 9

Barged grain movements (1,000 tons)

For the week ending 07/22/2023	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	70	2	79	0	151
Winfield, MO (L25)	91	0	90	0	181
Alton, IL (L26)	125	2	118	0	244
Granite City, IL (L27)	132	2	151	2	286
Illinois River (La Grange)	60	2	41	0	102
Ohio River (Olmsted)	38	24	21	18	101
Arkansas River (L1)	0	17	0	0	17
Weekly total - 2023	169	43	172	19	403
Weekly total - 2022	323	41	190	10	565
2023 YTD[1]	8,201	775	6,382	178	15,536
2022 YTD[1]	11,809	1,068	7,142	171	20,190
2023 as % of 2022 YTD	69	73	89	104	77
Last 4 weeks as % of 2022[2]	54	75	61	83	59
Total 2022	16,437	1,594	14,464	232	32,727

[1] Weekly total, YTD (year-to-date), and calendar year total include MI/27, OH/Olmsted, and AR/1; Other refers to oats, barley, sorghum, and rye. Total may not add exactly due to rounding.

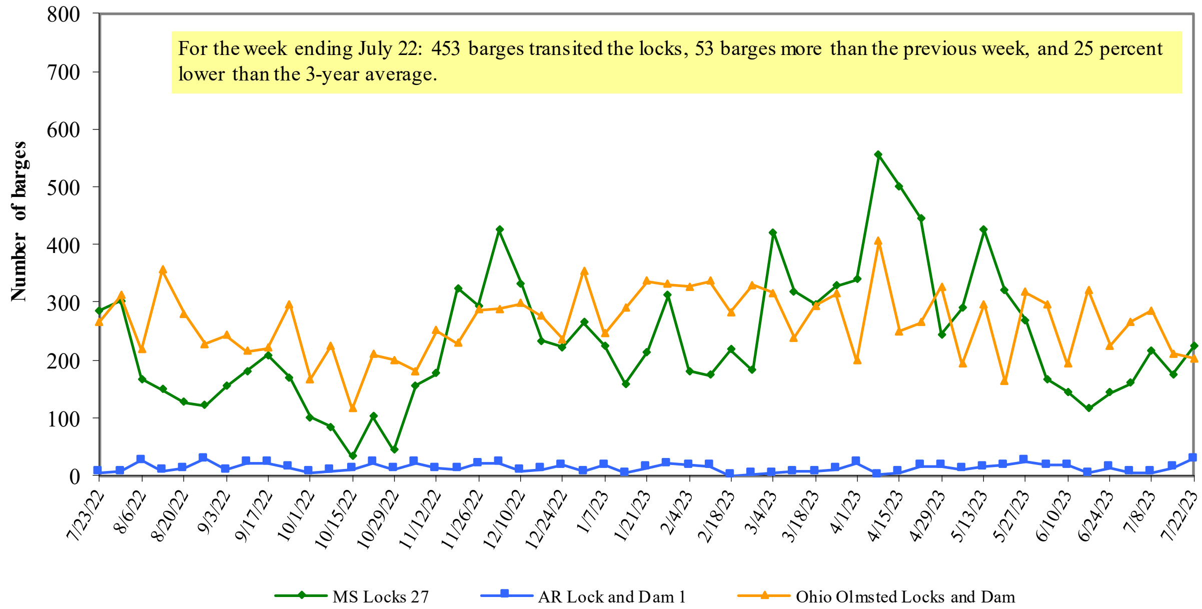
[2] As a percent of same period in 2022.

Note: L (as in "L15") refers to a lock, locks, or locks and dam facility. The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers.

Figure 10

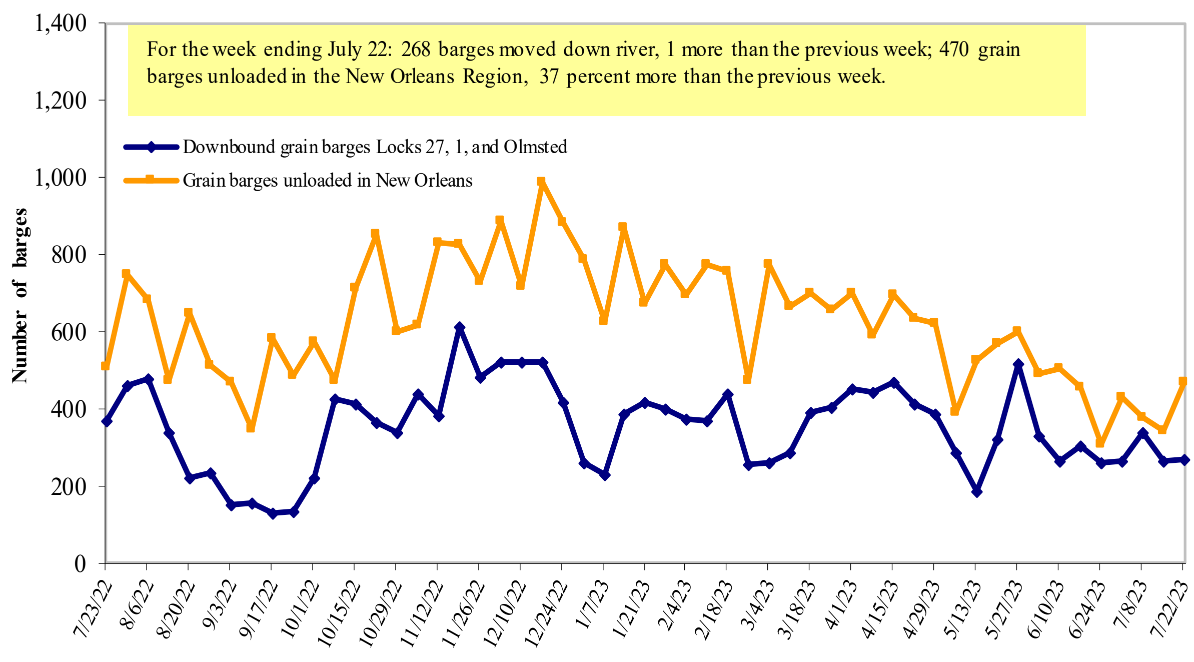
Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam



Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.
Source: U.S. Army Corps of Engineers.

Figure 11

Grain barges for export in New Orleans region



Note: Olmsted = Olmsted Locks and Dam. The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers and USDA, Agricultural Marketing Service.

Truck Transportation

The **weekly diesel price** provides a proxy for trends in U.S. truck rates as diesel fuel is a significant expense for truck grain movements.

Table 10

Retail on-highway diesel prices, week ending 7/24/2023 (U.S. $/gallon)

Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	3.971	0.092	-1.328
	New England	4.100	0.019	-1.439
	Central Atlantic	4.148	0.056	-1.472
	Lower Atlantic	3.893	0.114	-1.261
II	Midwest	3.814	0.088	-1.427
III	Gulf Coast	3.640	0.134	-1.271
IV	Rocky Mountain	3.974	0.047	-1.415
V	West Coast	4.555	0.090	-1.427
	West Coast less California	4.217	0.086	-1.398
	California	4.944	0.096	-1.445
Total	United States	3.905	0.099	-1.363

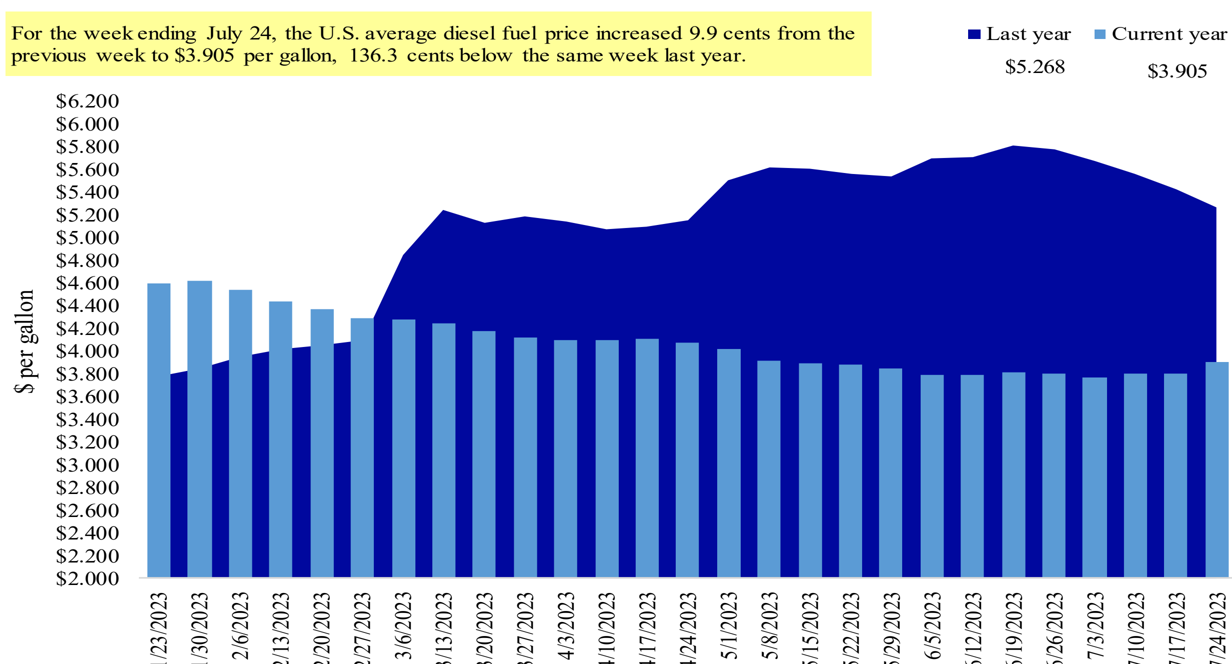
[1]Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

Note: On June 13, 2022, the Energy Information Administration implemented a new methodology to estimate weekly on-highway diesel fuel prices.

Source: U.S. Department of Energy, Energy Information Administration.

Figure 12

Weekly diesel fuel prices, U.S. average



Note: On June 13, 2022 the Energy Information Administration implemented a new methodology to estimate weekly on-highway diesel fuel prices.

Source: U.S. Department of Energy, Energy Information Administration, Retail On-Highway Diesel Prices.

Grain Exports

Table 11

U.S. export balances and cumulative exports (1,000 metric tons)

	Wheat						Corn	Soybeans	Total
For the week ending	HRW	SRW	HRS	SWW	DUR	All wheat			
Export balances[1]									
7/13/2023	639	949	1,222	635	63	3,508	3,910	2,787	10,204
This week year ago	1,562	1,227	1,571	1,242	124	5,726	5,927	6,624	18,277
Cumulative exports-marketing year[2]									
2022/23 YTD	402	456	475	330	17	1,681	35,836	49,886	87,402
2021/22 YTD	616	272	624	329	18	1,859	54,524	52,973	109,356
YTD 2022/23 as % of 2021/22	65	168	76	100	97	90	66	94	80
Last 4 wks. as % of same period 2021/22	43	86	73	46	57	62	70	46	59
Total 2021/22	7,172	2,786	5,254	3,261	196	18,669	59,764	57,189	135,622
Total 2020/21	8,422	1,790	7,500	6,438	656	24,807	66,958	60,571	152,335

[1] Current unshipped (outstanding) export sales to date.

[2] Shipped export sales to date.

Note: marketing year: wheat = 6/01-5/31, corn and soybeans = 9/01-8/31. YTD = year-to-date; wks. = weeks; HRW= hard red winter; SRW = soft red winter; HRS= hard red spring; SWW= soft white wheat; DUR= durum.

Source: USDA, Foreign Agricultural Service.

Table 12

Top 5 importers[1] of U.S. corn

For the week ending 7/13/2023	Total commitments[2] 2023/24 next MY	2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
		1,000 mt -			-1,000 mt -
Mexico	2,820	15,053	16,631	(9)	15,227
China	272	7,581	14,712	(48)	12,616
Japan	746	6,578	9,961	(34)	10,273
Columbia	0	2,305	4,359	(47)	4,398
Korea	0	821	1,476	(44)	2,563
Top 5 importers	**3,838**	**32,339**	**47,137**	(31)	**45,077**
Total U.S. corn export sales	**4,531**	**39,745**	**60,450**	(34)	**56,665**
% of YTD current month's export projection	8%	95%	96%		
Change from prior week[2]	**492**	**237**	**34**		
Top 5 importers' share of U.S. corn export sales	85%	81%	78%		80%
USDA forecast July 2023	**53,435**	**41,985**	**62,901**	(33)	
Corn use for ethanol USDA forecast, July 2023	**134,620**	**132,715**	**135,281**	(2)	

[1]Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2021/22; marketing year (MY) = Sep 1 - Aug 31.

[2]Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. Total commitments change (net sales) from prior week could include revisions from previous week's outstanding sales or accumulated sales.

[3]FAS marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average; YTD = year to date.

Note: A red number in parentheses indicates a negative number; mt = metric ton.

Source: USDA, Foreign Agricultural Service.

Table 13

Top 5 importers[1] of U.S. soybeans

For the week ending 7/13/2023	Total commitments[2] 2023/24 next MY	2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
	1,000 mt -				-1,000 mt -
China	1,865	31,172	30,507	2	27,283
Mexico	884	4,728	5,397	(12)	4,929
Egypt	0	1,208	4,086	(70)	3,553
Japan	178	2,377	2,477	(4)	2,266
Indonesia	37	1,635	1,728	(5)	2,116
Top 5 importers	**2,964**	**41,119**	**44,194**	(7)	**40,147**
Total U.S. soybean export sales	**4,914**	**52,673**	**59,598**	(12)	**54,231**
% of projected exports	10%	98%	102%		
change from prior week[2]	**760**	**127**	**204**		
Top 5 importers' share of U.S. soybean export sales	60%	78%	74%		**74%**
USDA forecast, July 2023	**50,409**	**53,951**	**58,638**	(8)	

[1]Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2021/22; marketing year (MY) = Sep 1 - Aug 31.

[2]Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. Total commitments change (net sales) from prior week could include revisions from previous week's outstanding sales or accumulated sales.

[3]FAS marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average; YTD = year to date.

Note: A red number in parentheses indicates a negative number; mt = metric ton.

Source: USDA, Foreign Agricultural Service.

Table 14

Top 10 importers[1] of all U.S. wheat

For the week ending 7/13/2023	Total commitments[2] 2023/24 current MY	2022/23 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2020-22
	1,000 mt -			-1,000 mt -
Mexico	1,015	1,254	(19)	3,397
Philippines	647	1,076	(40)	2,615
Japan	656	707	(7)	2,281
China	17	273	(94)	1,740
Korea	394	539	(27)	1,426
Nigeria	100	393	(75)	1,276
Taiwan	339	216	57	944
Thailand	105	125	(16)	643
Colombia	79	272	(71)	537
Indonesia	73	11	567	469
Top 10 importers	**3,427**	**4,866**	(30)	**15,327**
Total U.S. wheat export sales	**5,188**	**7,585**	(32)	**20,411**
% of projected exports	26%	37%		
change from prior week[2]	**171**	**511**		
Top 10 importers' share of U.S. wheat export sales	66%	64%		75%
USDA forecast, June 2023	**19,755**	**20,681**	(4)	

[1] Based on USDA, Foreign Agricultural Service(FAS) marketing year ranking reports for 2022/23; Marketing year (MY) = Jun 1 - May 31.

[2] Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. The total commitments change (net sales) from prior week could include revisions from the previous week's outstanding and/or accumulated sales.

[3] FAS marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average.

Note: A red number in parentheses indicates a negative number.

Source: USDA, Foreign Agricultural Service.

Table 15

Grain inspections for export by U.S. port region (1,000 metric tons)

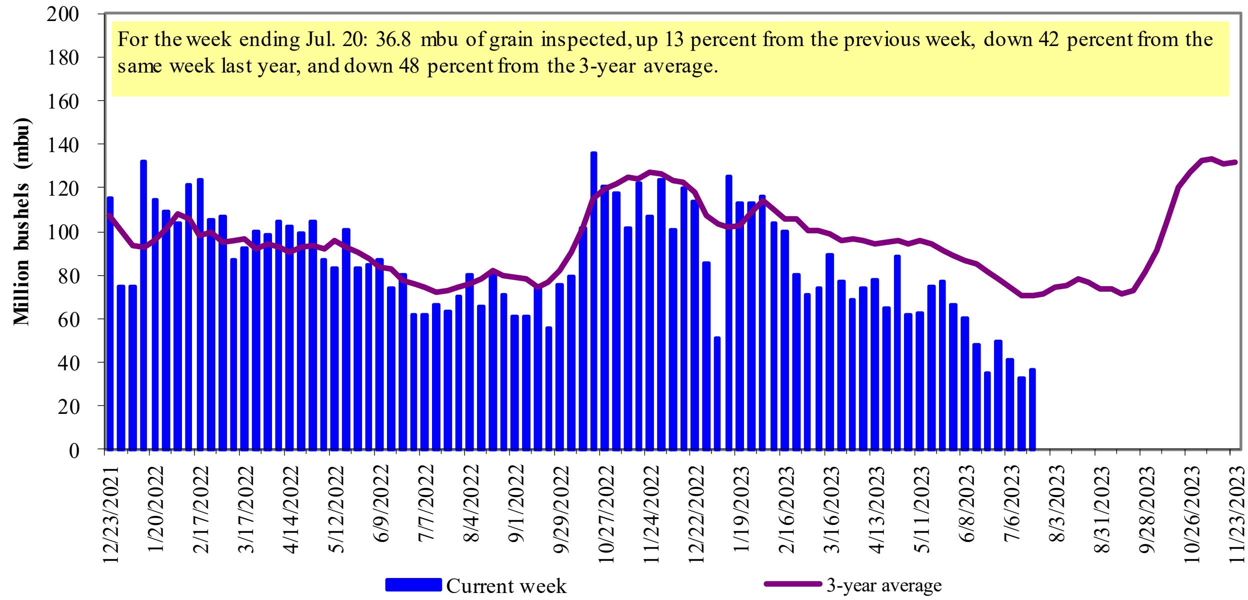
Port regions	For the week ending 07/20/23	Previous week*	Current week as % of previous	2023 YTD*	2022 YTD*	2023 YTD as % of 2022 YTD	Last 4-weeks as % of: Last year	Last 4-weeks as % of: Prior 3-yr. avg.	2022 total*
Pacific Northwest									
Wheat	232	38	610	5,707	4,981	115	135	91	9,836
Corn	0	0	n/a	3,923	8,322	47	5	4	9,615
Soybeans	12	0	n/a	3,533	4,495	79	16	39	14,178
Total	**244**	**38**	**640**	**13,163**	**17,799**	**74**	**58**	**42**	**33,629**
Mississippi Gulf									
Wheat	106	187	57	1,880	2,389	79	139	124	4,053
Corn	201	228	88	14,766	22,810	65	51	47	30,781
Soybeans	188	89	212	13,643	12,709	107	68	70	31,283
Total	**495**	**503**	**98**	**30,289**	**37,907**	**80**	**65**	**62**	**66,116**
Texas Gulf									
Wheat	0	0	n/a	1,291	1,830	71	52	23	3,421
Corn	0	0	n/a	144	463	31	38	53	648
Soybeans	0	0	n/a	52	2	n/a	n/a	n/a	685
Total	**0**	**0**	**n/a**	**1,487**	**2,294**	**65**	**48**	**27**	**4,754**
Interior									
Wheat	33	46	72	1,353	1,617	84	70	67	2,912
Corn	104	177	59	5,143	5,253	98	88	82	8,961
Soybeans	93	76	122	3,342	4,025	83	63	71	7,109
Total	**230**	**299**	**77**	**9,837**	**10,895**	**90**	**76**	**76**	**18,982**
Great Lakes									
Wheat	0	11	0	171	132	130	110	50	395
Corn	0	0	n/a	23	125	18	0	0	158
Soybeans	0	0	n/a	31	239	13	0	0	760
Total	**0**	**11**	**0**	**224**	**496**	**45**	**29**	**29**	**1,312**
Atlantic									
Wheat	6	5	108	70	72	98	36	80	169
Corn	0	0	n/a	78	210	37	8	25	309
Soybeans	6	4	159	1,216	1,554	78	22	45	2,867
Total	**11**	**9**	**129**	**1,364**	**1,835**	**74**	**22**	**50**	**3,345**
U.S. total from ports*									
Wheat	378	287	131	10,471	11,020	95	111	80	20,786
Corn	304	404	75	24,076	37,182	65	48	43	50,471
Soybeans	298	169	177	21,817	23,024	95	61	68	56,882
Total	**980**	**860**	**114**	**56,364**	**71,226**	**79**	**64**	**57**	**128,139**

*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

Source: USDA, Federal Grain Inspection Service; YTD= year-to-date; n/a = not applicable or no change.

Figure 13

U.S. grain inspected for export (wheat, corn, and soybeans)

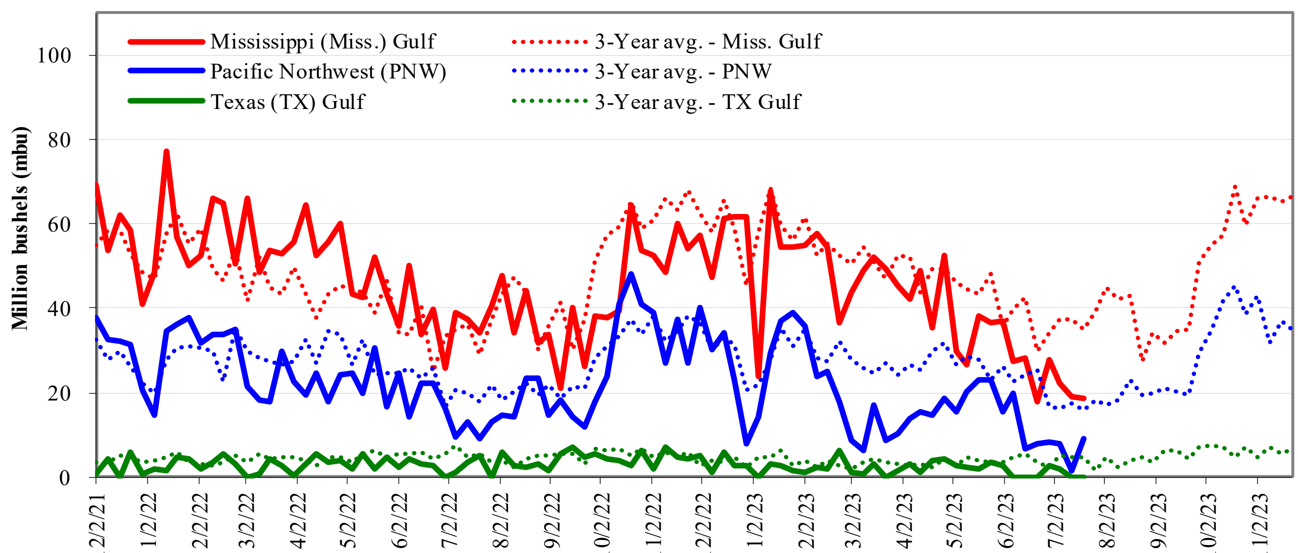


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 14

U.S. Grain inspections: U.S. Gulf and PNW[1] (wheat, corn, and soybeans)



Week ending 07/20/23 inspections (mbu):		Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
MS Gulf:	18.7	Last wk:	down 2	n/a	down 2	up 540
PNW:	9.0	Last Year (same wk):	down 45	down 100	down 52	unchanged
TX Gulf:	0.0	3-yr avg. (4-wk. mov. Avg):	down 48	down 100	down 53	down 46

Source: USDA, Federal Grain Inspection Service.

Ocean Transportation

Table 16

Weekly port region grain ocean vessel activity (number of vessels)

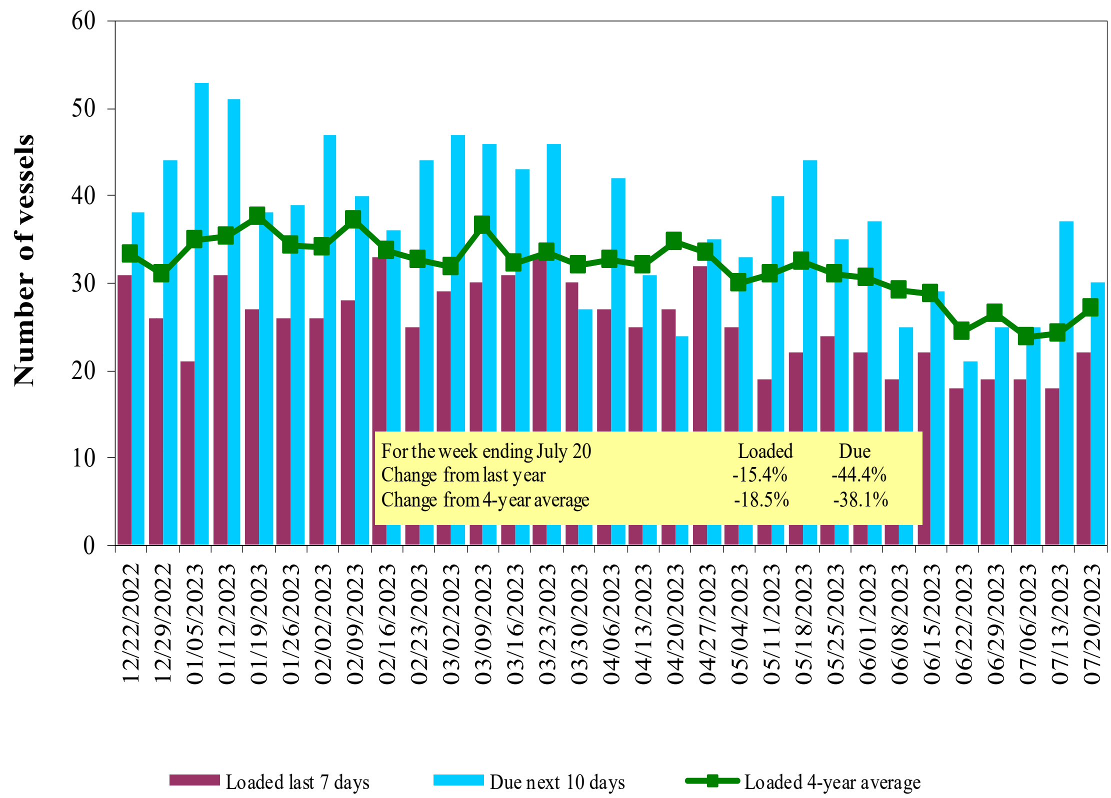
	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
7/20/2023	29	22	30	5
7/13/2023	20	18	37	5
2022 range	(14…61)	(18…39)	(28...62)	(5…23)
2022 average	30	28	44	13

Note: The data is voluntarily collected and may not be complete.

Source: USDA, Agricultural Marketing Service.

Figure 15

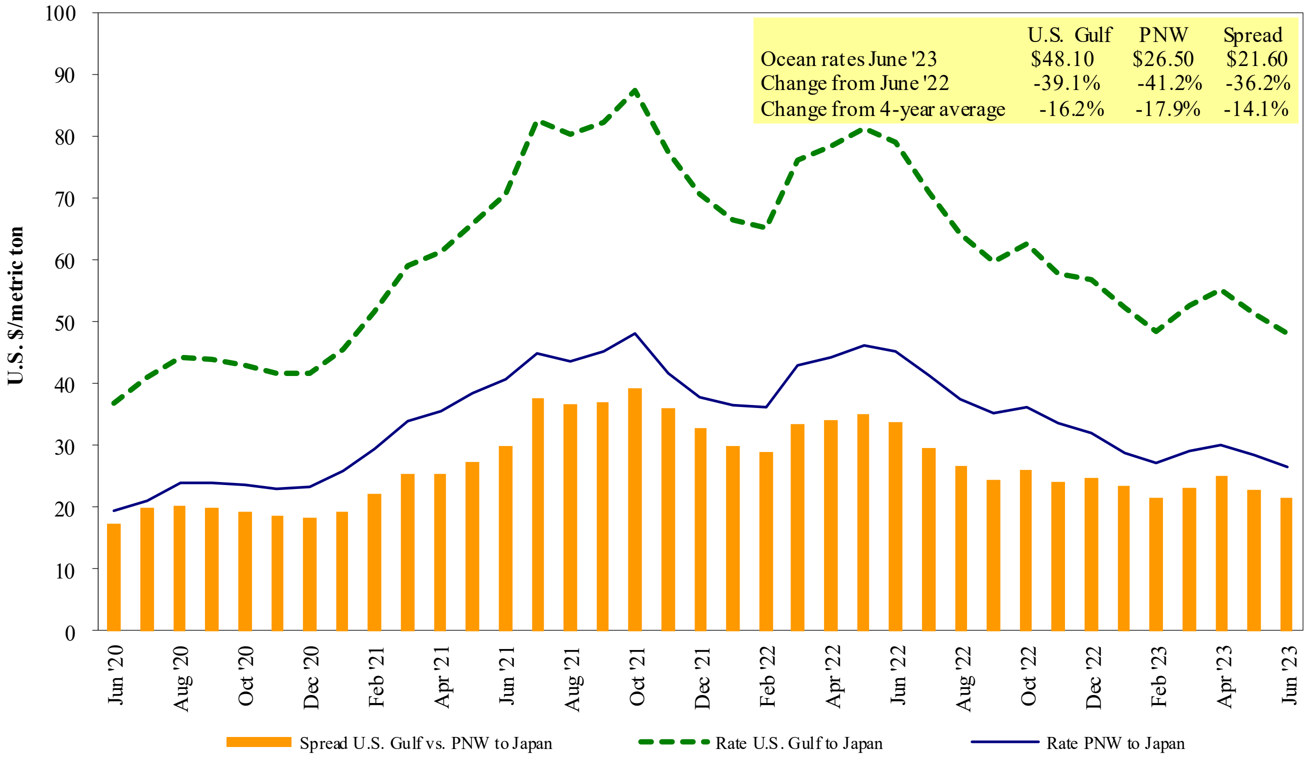
U.S. Gulf[1] vessel loading activity



[1]U.S. Gulf includes Mississippi, Texas, and East Gulf.
Source: USDA, Agricultural Marketing Service.

Figure 16

Grain vessel rates, U.S. to Japan



Note: PNW = Pacific Northwest.

Source: O'Neil Commodity Consulting.

Table 17

Ocean freight rates for selected shipments, week ending 07/22/2023

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US$/metric ton)
U.S. Gulf	Japan	Heavy grain	May 2, 2023	50,000	56.70
U.S. Gulf	Japan	Heavy grain	May 1, 2023	50,000	54.80
U.S. Gulf	Japan	Heavy grain	Nov 1/10, 2022	50,000	79.25
U.S. Gulf	S. China	Corn	Aug 1/10, 2022	68,000	71.00
U.S. Gulf	Kenya	Sorghum	Feb 15/25, 2023	22,820	63.30*
U.S. Gulf	Jamaica	Wheat	Jun 20/30, 2023	4,400	63.00 op 66.00
PNW	Indonesia	Soybean Meal	Jul 21/31, 2023	35,000	106.00*
PNW	N. China	Heavy grain	Apr 21/27, 2023	63,000	28.00
PNW	N. China	Heavy grain	May 1/4, 2023	66,000	29.00
Brazil	S. Korea	Heavy grain	Jun 15/Jul 15, 2023	68,000	45.15
Brazil	S. Korea	Soybean Meal	Jun 1, 2023	60,000	53.75
Brazil	China	Heavy grain	Jul 1/31, 2023	63,000	41.50
Brazil	China	Heavy grain	May 5/10, 2023	65,000	36.50
Brazil	N. China	Heavy grain	Apr 21/30, 2023	66,000	40.60
Brazil	Vietnam	Heavy grain	Apr 11/29, 2023	66,000	37.00
Australia	Vietnam	Heavy grain	Feb 24/Apr 9, 2023	60,000	20.80

*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

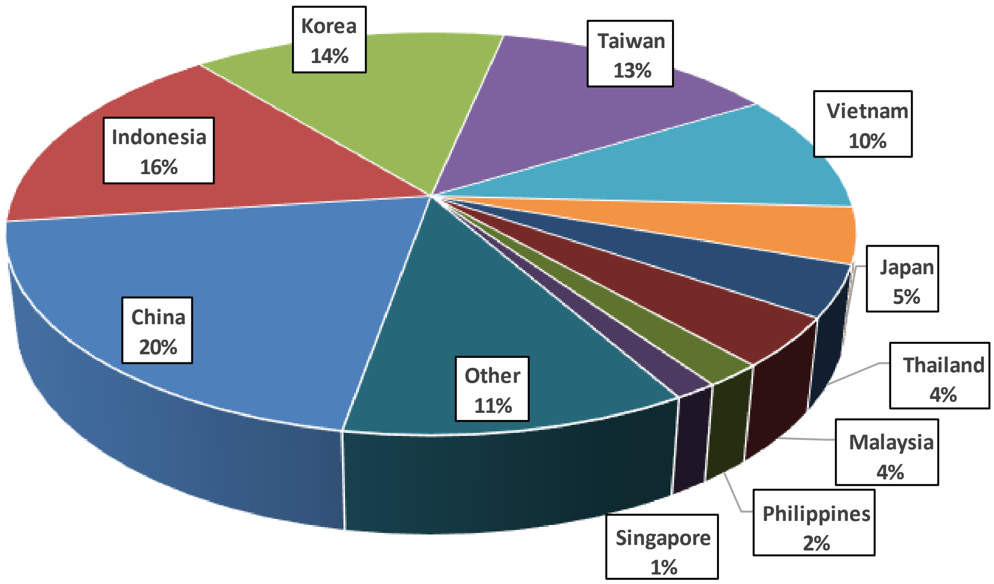
Note: Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), free on board (F.O.B), except where otherwise indicated; op = option.

Source: Maritime Research, Inc.

In 2020, containers were used to transport 10 percent of total U.S. waterborne grain exports. Approximately 66 percent of U.S. waterborne grain exports in 2020 went to Asia, of which 14 percent were moved in containers. Approximately 95 percent of U.S. waterborne containerized grain exports were destined for Asia.

Figure 17

Top 10 destination markets for U.S. containerized grain exports, Jan-Apr 2023

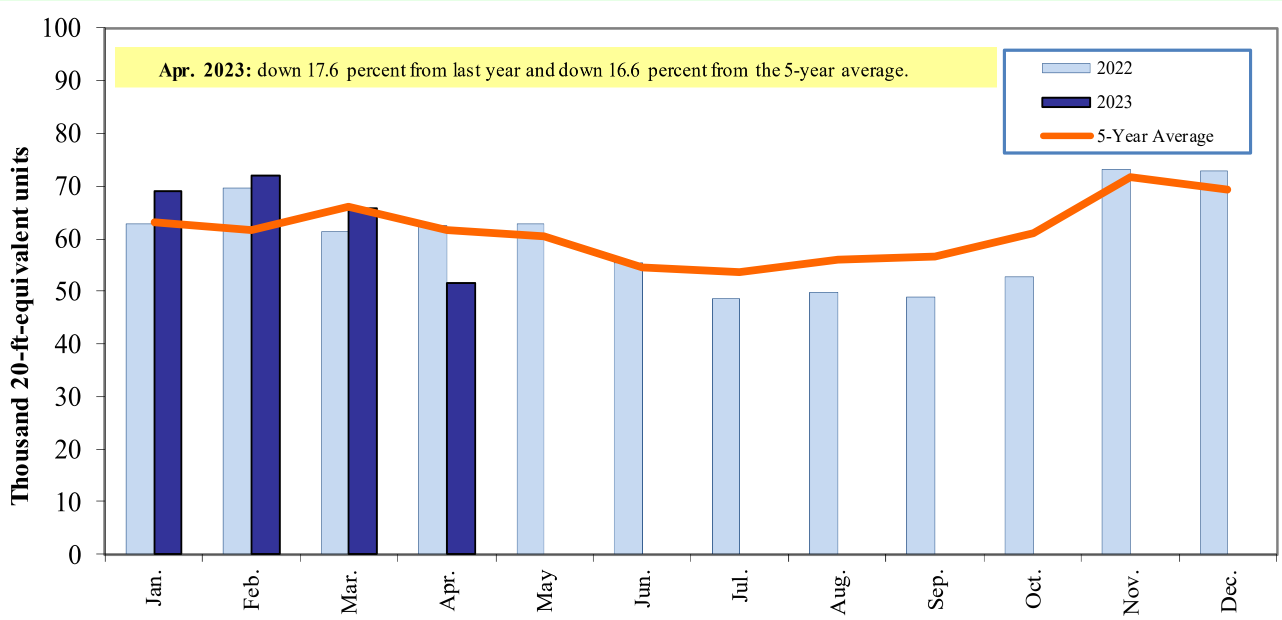


Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: '1001', '100190', '1002', '100200', '1003', '100300', '1004', '100400', '1005', '100590', '1007', '100700', '110100', '1102', '110220', '110290', '1201', '120100', '120190', '120810', '230210', '230310', '230330', '2304', and '230990'.

Source: USDA, Agricultural Marketing Service, Transportation Services Division analysis of PIERS data.

Figure 18

Monthly shipments of U.S. containerized grain exports



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: '1001', '100190', '1002', '100200', '1003', '100300', '1004', '100400', '1005', '100590', '1007', '100700', '110100', '1102', '110220', '110290', '1201', '120100', '120190', '120810', '230210', '230310', '230330', '2304', and '230990'.

Source: USDA, Agricultural Marketing Service, Transportation Services Division analysis of PIERS data.

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