



Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
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March 8, 2018

WEEKLY HIGHLIGHTS

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High Water Continues to Disrupt Barge Traffic

Beginning in late February, heavy rainfall in the Mississippi and Ohio River Basins has resulted in significant flooding at locations near important inland waterway infrastructure vital to the movement of U.S. grains by barge, including: Paducah, KY, Cairo, IL, Memphis, TN, Greenville, Vicksburg and Natchez, MS, and Baton Rouge, LA. As of March 8, the U.S. Army Corps of Engineers (Corps) reports that Smithland Lock and Dam on the lower Ohio River, near Smithland, KY, is currently closed. Barge traffic is also restricted to daylight passage at Vicksburg and Memphis and barge tow sizes have been reduced from 40 to 30 barges on the lower Mississippi River. Navigation restrictions are set by the Waterway Action Plan, a joint effort of the U.S. Coast Guard, Corps, and senior leaders of the towing industry. For the week ending March 6, barge rates for export grain at major originating locations had a weekly increase of 22 to 34 percent due to the disruptions.

Agricultural Exceptions and Exemptions to the Federal Motor Carrier Safety Administration Rules

On February 28, 2018, the Federal Motor Carrier Safety Administration (FMCSA) updated their "Agricultural Exceptions and Exemptions to the Federal Motor Carrier Safety Administration Hours of Service (HOS) and Commercial Driver's License (CDL) Rules" webpage. The updated site provides clarification on when farm, ranch, and agriculture haulers are subject to FMCSA's rules and regulations, including electronic logging devices (ELD). Interested parties can sign up for updates and alerts, regarding agricultural operations information [here](#), and ask additional questions by email at agricultural@dot.gov.

Total Grain Inspections Remains Unchanged

For the week ending March 1, **total inspections of grain** (corn, wheat, and soybeans) for export from all major U.S. export regions reached 2.40 million metric tons (mmt); unchanged from the previous week, down 10 percent from last year, and 14 percent below the 3-year average. Inspections of wheat and soybeans jumped 69 and 20 percent, respectively, from the previous week. Shipments of wheat increased to Asia and Latin America, and soybean exports increased to Asia and Europe. Corn inspections decreased 28 percent from the past week, after increasing for the last two weeks. Pacific Northwest (PNW) grain inspections decreased 49 percent from the prior week, but Mississippi Gulf inspections increased 15 percent. Outstanding (unshipped) export sales of corn continued to increase, as wheat and soybean sales decreased.

Snapshots by Sector

Export Sales

For the week ending February 22, **unshipped balances** of wheat, corn, and soybeans totaled 34 mmt, down 1 percent from the same time last year. Net weekly **wheat export sales** were .191 mmt, down 42 percent from the previous week. Net **corn export sales** were 1.75 mmt, up 13 percent from the previous week. Net **soybean export sales** reached .858 mmt, up significantly for the same period.

Rail

U.S. Class I railroads originated 20,143 **grain carloads** for the week ending February 24; down 6 percent from the previous week, down 5 percent from last year, and down 8 percent from the 3-year average.

Average March shuttle **secondary railcar** bids/offers per car were \$717 above tariff for the week ending March 1; down \$352 from last week, and \$1,542 lower than last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending March 3, **barge grain movements** totaled 386,530 tons, 8 percent lower than the previous week and down 53 percent from the same period last year.

For the week ending March 3, 252 grain barges **moved down river**, down 5 percent from last week. There were 751 grain barges **unloaded in New Orleans**, 6 percent lower the previous week.

Ocean

For the week ending March 1, 41 **ocean-going grain vessels** were loaded in the Gulf, 13 percent less than the same period last year. Fifty-three vessels are expected to be loaded within the next 10 days, 17 percent less than the same period last year.

For the week ending March 1, the ocean freight rate for shipping bulk grain from the Gulf to Japan was \$44.50 per metric ton, up 1 percent from the previous week. The cost of shipping from the PNW to Japan was \$24.00 per metric ton, up 1 percent from the previous week.

Fuel

During the week ending March 5, average **diesel fuel prices** decreased 2 cents from the previous week at \$2.99 per gallon, 41 cents higher than the same week last year.

Profile of Short Line Railroads in High Grain Production States

Short line railroads play a critical role in the grain logistics system.* Providing rural America with rail service and access to the Class I rail network is particularly important. In the decade after the Staggers Rail Act of 1980, more than 250 short lines were formed, adding to the approximately 220 short lines that existed in 1980. Those numbers have continued to increase, and, by the end of 2016, there were 562 short lines operating.

Dr. Michael W. Babcock, a Kansas State University (KSU) researcher, recently conducted a study to assess the state of the short line rail industry and its role in the grain logistics system. He surveyed short line railroad managers and State Departments of Transportation (State DOT) railroad personnel from 17 high grain production States. Short line managers were asked a range of questions covering topics such as company size, investment expenditures, equipment, agricultural traffic commodity mix, competitiveness with trucks and Class I railroads, and their views on which characteristics make a short line railroad successful. Survey results from DOT personnel revealed characteristics of 14 State short line assistance programs, including eligibility requirements, benefits and costs of the programs, and the impacts of the program on short line profitability and rural economic development. The results were compiled into a resource guide of Federal and State short line assistance programs. The following is an overview of the study and its findings.

Study Results

The study provided details on 14 State-level, short line railroad assistance programs. Program details, such as eligibility requirements, funding limits, and funding instruments (i.e., loans or grants), varied significantly across the high grain production States, but general themes emerged. Survey responses from State DOT personnel suggested that State assistance had enabled short line railroads to upgrade and repair track and bridges, add to Class I track connections, improve safety, improve efficiency, and preserve service.

The study included a range of descriptive statistics for the sampled short lines. Almost all sampled short lines began operations after the Staggers Rail Act, with 42 percent starting in the 1990s. In addition, most of the sampled short lines had fewer than one hundred employees and less than three hundred miles of track. However, a few large short lines accounted for the majority of total employment and total track miles across the sample. About a quarter (23 percent) of the sample short lines connected to only one other railroad, with another 23 percent connected to two other railroads. The average number of connections was about three. The majority of the sampled short lines indicated they were “not dependent” on Class I railroads for locomotives, but half said they were “very dependent” on Class I’s for rail cars. Short lines dependent on Class I’s do not appear to have difficulty obtaining equipment during peak periods, such as during harvest. Sixty-six percent of the total short line track miles in the sample were capable of handling 286,000-pound rail cars.

The study also examined characteristics of agricultural carload data. Short line railroads can provide first-mile rail service, last-mile rail service, all the rail service, or service between two other railroads. First-mile service or originated traffic—carload shipments loaded on a respondent’s railroad which did not have previous rail transportation and terminate on another railroad—represented a majority (50 percent) of the short line respondents’ agricultural traffic,

* The Surface Transportation Board—the Federal regulatory agency charged with overseeing railroad rate and service disputes—defines railroads into three classes based on their operating revenue. These levels are adjusted annually for inflation. For 2016, Class I railroads have operating revenues of \$447.62 million or more, Class II railroads have \$35.81 million or more but less than the Class I threshold, and Class III railroads have less than the Class II minimum. The term “short line” refers to all Class II and III railroads.

followed by overhead traffic (33 percent), terminated traffic (10 percent), and local traffic (7 percent).^{*} Additionally, the majority of agricultural short line traffic was concentrated in a few commodities, mainly corn, soybeans, and wheat. The three crops accounted for 81 percent of originated agricultural carloads, 80 percent of overhead agricultural carloads, 67 percent of terminated agricultural carloads (fertilizer was 26 percent), and 98 percent of local carloads.

Lastly, the study assessed the effect of various factors on short line success. Short line managers frequently indicated fuel prices and increased truck size and weight were becoming an increasing challenge to short line success. In addition, managers were evenly split on whether the increased use of Class I shuttle trains was a threat or an opportunity for their business, mentioning Class I shuttle trains have resulted in increased trucking to shuttle-capable facilities instead of increased short line shipments. Collectively, managers chose “strong shipper support” as the single most important factor to short line success, followed by “adequate traffic levels” and “access to more than one connecting carrier.”

Conclusions

There have been few studies that seek to identify the determinants of a profitable short line railroad, especially ones that focus on the relationship between short line railroads and agriculture. This study provided an overview of the short line industry and its relationship to the grain logistics system. It concluded that short line railroads are economically significant to the agricultural industry and, from a public perspective, are underinvesting capital in infrastructure and equipment due to insufficient funds. In light of the benefits described by State DOT personnel, the study indicated assistance programs are valuable and States could benefit from them that do not currently have them. Future research is needed to conduct a deeper assessment of the competition between short lines and trucks, as well as research to better understand the role of multi-short line holding companies in grain transportation.

For more information, please refer to the [AMS Summary](#) of the study, or visit the [KSU website](#) to view the study in its entirety.

Jesse.Gastelle@ams.usda.gov, PeterA.Caffarelli@ams.usda.gov, Adam.Sparger@ams.usda.gov

^{*} Overhead traffic refers to carload shipments that both originate and terminate on other railroads but are carried by the respondent’s railroad in-between, terminated traffic refers to carload shipments originated on another railroad but are unloaded off the respondent’s railroad with no further rail transportation to follow, and local traffic refers to carload shipments that both originate and terminate on a respondent’s railroad.

Grain Transportation Indicators

Table 1
Grain Transport Cost Indicators¹

For the week ending	Truck	Rail		Barge	Ocean	
		Unit Train	Shuttle		Gulf	Pacific
03/07/18	201	275	245	263	199	170
02/28/18	202	273	259	217	197	168

¹Indicator: 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); and ocean = routes to Japan (\$/metric ton)

Source: Transportation & Marketing Programs/AMS/USDA

Table 2
Market Update: U.S. Origins to Export Position Price Spreads (\$/bushel)

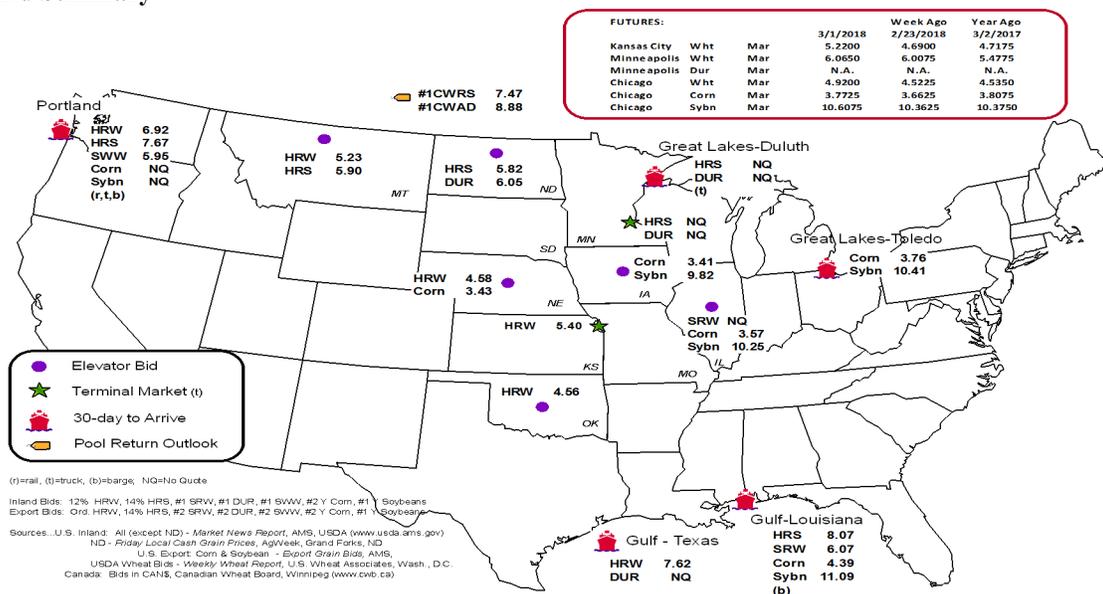
Commodity	Origin--Destination	3/1/2018	2/23/2018
Corn	IL--Gulf	-0.81	-0.73
Corn	NE--Gulf	-0.96	-0.86
Soybean	IA--Gulf	-1.27	-1.16
HRW	KS--Gulf	-2.22	-2.45
HRS	ND--Portland	-1.85	-1.76

Note: nq = no quote; n/a = not available

Source: Transportation & Marketing Programs/AMS/USDA

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
Rail Deliveries to Port (carloads)¹

For the Week Ending	Mississippi		Pacific	Atlantic &	Total	Week ending	Cross-Border Mexico ³
	Gulf	Texas Gulf	Northwest	East Gulf			
02/28/2018 ^p	344	1,668	5,213	267	7,492	2/24/2018	1,301
02/21/2018 ^r	212	1,142	6,487	258	8,099	2/17/2018	2,292
2018 YTD ^r	4,430	13,571	54,655	2,384	75,040	2018 YTD	15,663
2017 YTD ^r	7,476	17,420	55,932	6,535	87,363	2017 YTD	18,224
2018 YTD as % of 2017 YTD	59	78	98	36	86	% change YTD	86
Last 4 weeks as % of 2017 ²	43	73	93	50	82	Last 4wks % 2017	91
Last 4 weeks as % of 4-year avg. ²	45	93	101	42	90	Last 4wks % 4 yr	98
Total 2017	28,766	76,045	289,178	21,999	415,988	Total 2017	119,661
Total 2016	36,925	87,863	299,606	29,007	453,401	Total 2016	92,982

¹ Data is incomplete as it is voluntarily provided

² Compared with same 4-weeks in 2017 and prior 4-year average.

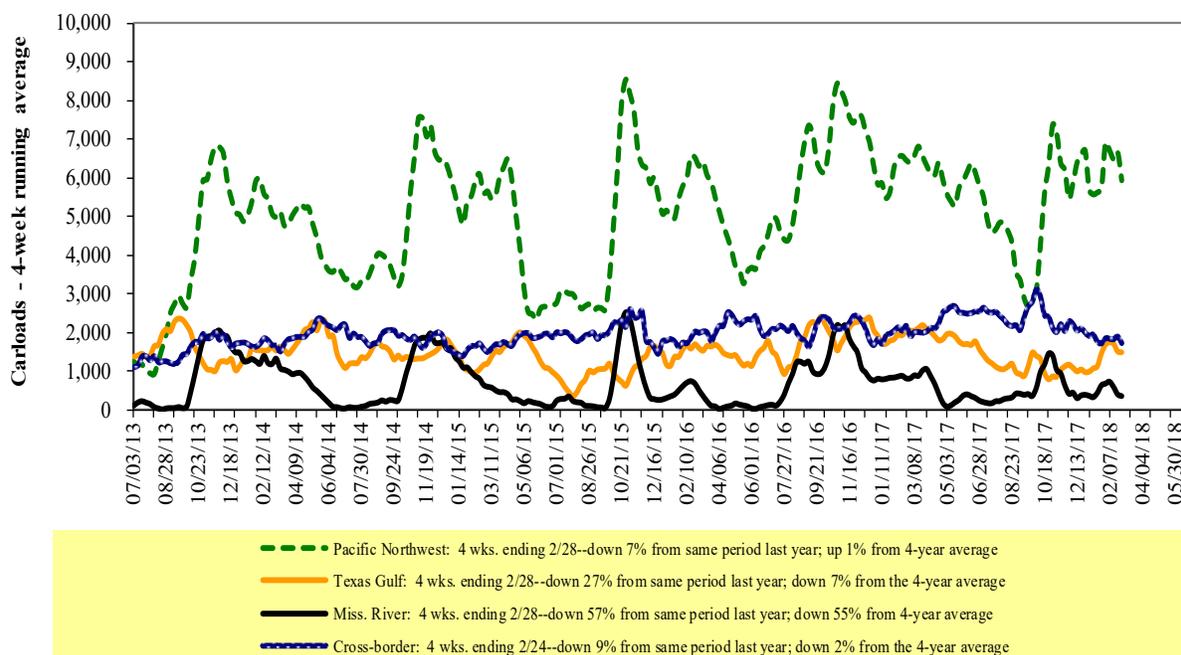
³ Cross-border weekly data is approximately 15 percent below the Association of American Railroads' reported weekly carloads received by Mexican railroads to reflect switching between KCSM and Grupo Mexico.

YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available

Source: Transportation & Marketing Programs/AMS/USDA

Railroads originate approximately 24 percent of U.S. grain shipments. Trends in these loadings are indicative of market conditions and expectations.

Figure 2
Rail Deliveries to Port



Source: Transportation & Marketing Programs/AMS/USDA

Table 4

Class I Rail Carrier Grain Car Bulletin (grain carloads originated)

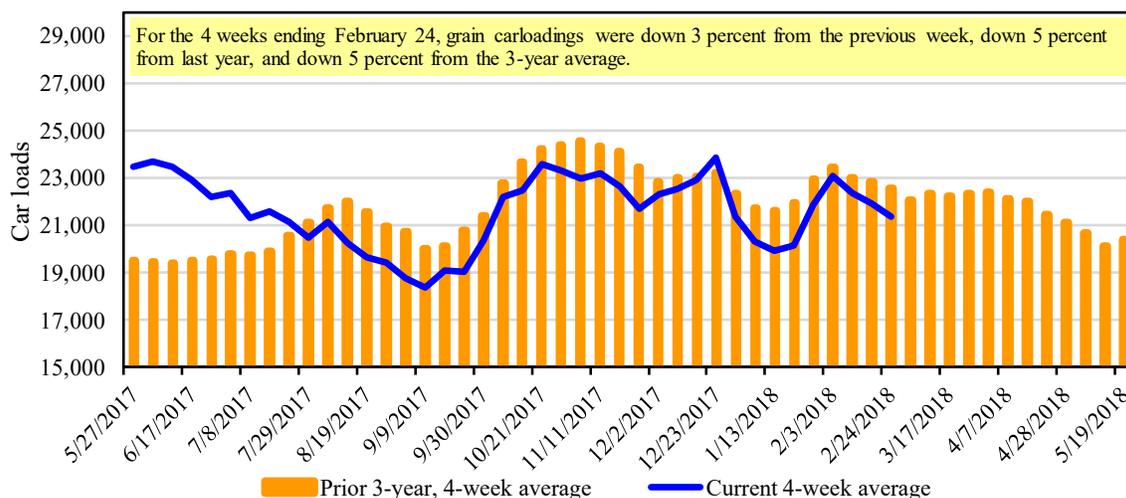
For the week ending: 2/24/2018	East		West			U.S. total	Canada	
	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,574	2,181	10,969	941	4,478	20,143	3,228	2,963
This week last year	2,115	2,353	9,719	709	6,404	21,300	3,909	3,567
2018 YTD	14,321	18,889	91,693	7,889	39,964	172,756	26,610	33,089
2017 YTD	16,406	22,523	88,111	8,095	48,453	183,588	30,139	33,166
2018 YTD as % of 2017 YTD	87	84	104	97	82	94	88	100
Last 4 weeks as % of 2017*	81	91	107	101	78	95	81	97
Last 4 weeks as % of 3-yr avg.**	83	83	105	109	83	95	82	97
Total 2017	89,465	142,820	578,964	50,223	289,574	1,151,046	198,758	244,766

*The past 4 weeks of this year as a percent of the same 4 weeks last year.

**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date.

Source: Association of American Railroads (www.aar.org)

Figure 3

Total Weekly U.S. Class I Railroad Grain Car Loadings

Source: Association of American Railroads

Table 5

Railcar Auction Offerings¹ (\$/car)²

For the week ending: 3/1/2018		Delivery period							
		Mar-18	Mar-17	Apr-18	Apr-17	May-18	May-17	Jun-18	Jun-17
BNSF ³	COT grain units	0	no bids	0	no bids				
	COT grain single-car ⁵	58	127	0	80	0	77	0	67
UP ⁴	GCAS/Region 1	no offer	no offer	no bids	no bids	no bids	no bids	n/a	n/a
	GCAS/Region 2	no offer	no offer	51	no bids	no bids	no bids	n/a	n/a

¹Auction offerings are for single-car and unit train shipments only.

²Average premium/discount to tariff, last auction

³BNSF - COT = Certificate of Transportation; north grain and south grain bids were combined effective the week ending 6/24/06.

⁴UP - GCAS = Grain Car Allocation System

Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

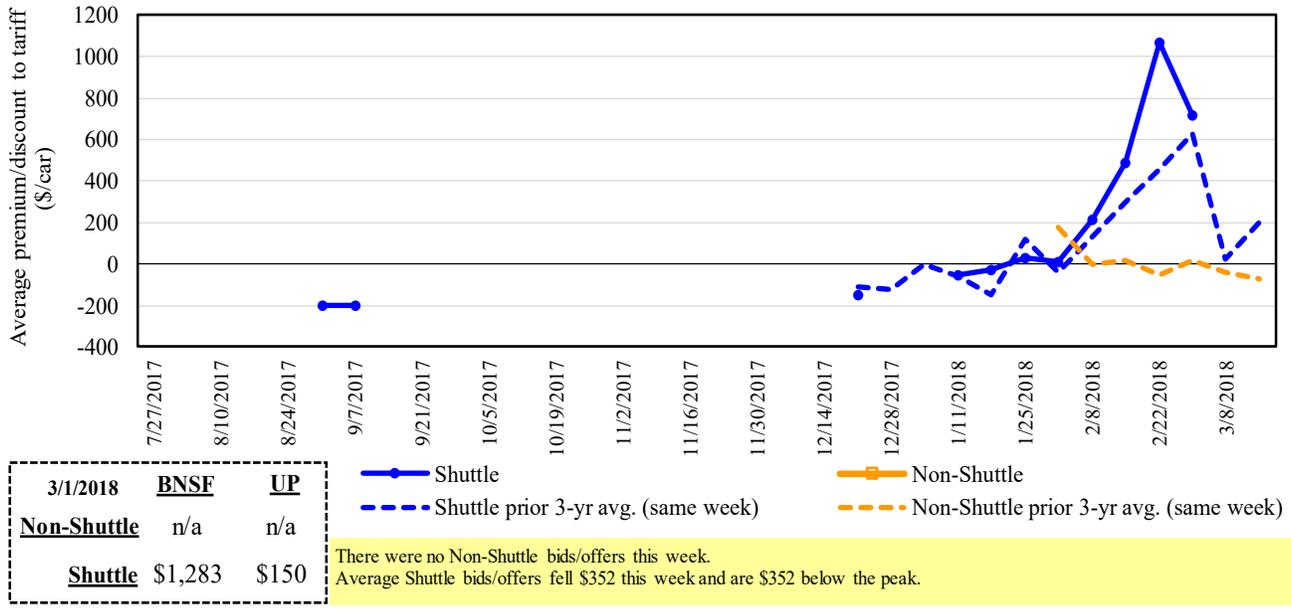
Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

⁵Range is shown because average is not available. Not available = n/a.

Source: Transportation & Marketing Programs/AMS/USDA.

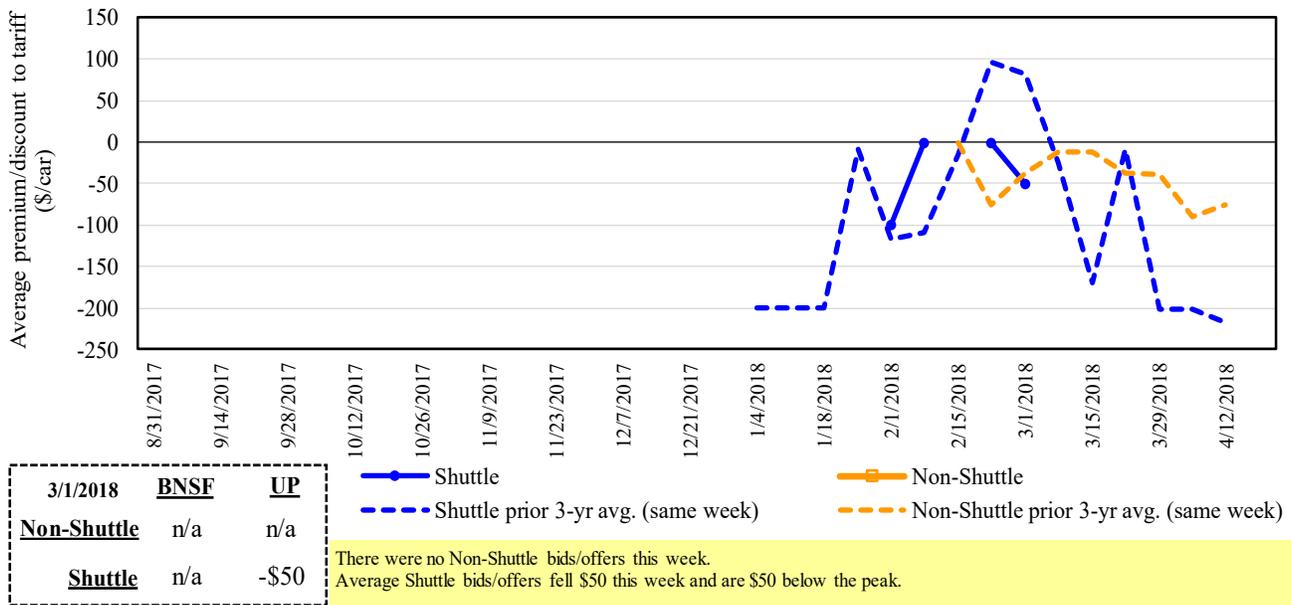
The **secondary rail market** information reflects trade values for service that was originally purchased from the railroad carrier as some form of guaranteed freight. The **auction and secondary rail** values are indicators of rail service quality and demand/supply.

Figure 4
Bids/Offers for Railcars to be Delivered in March 2018, Secondary Market



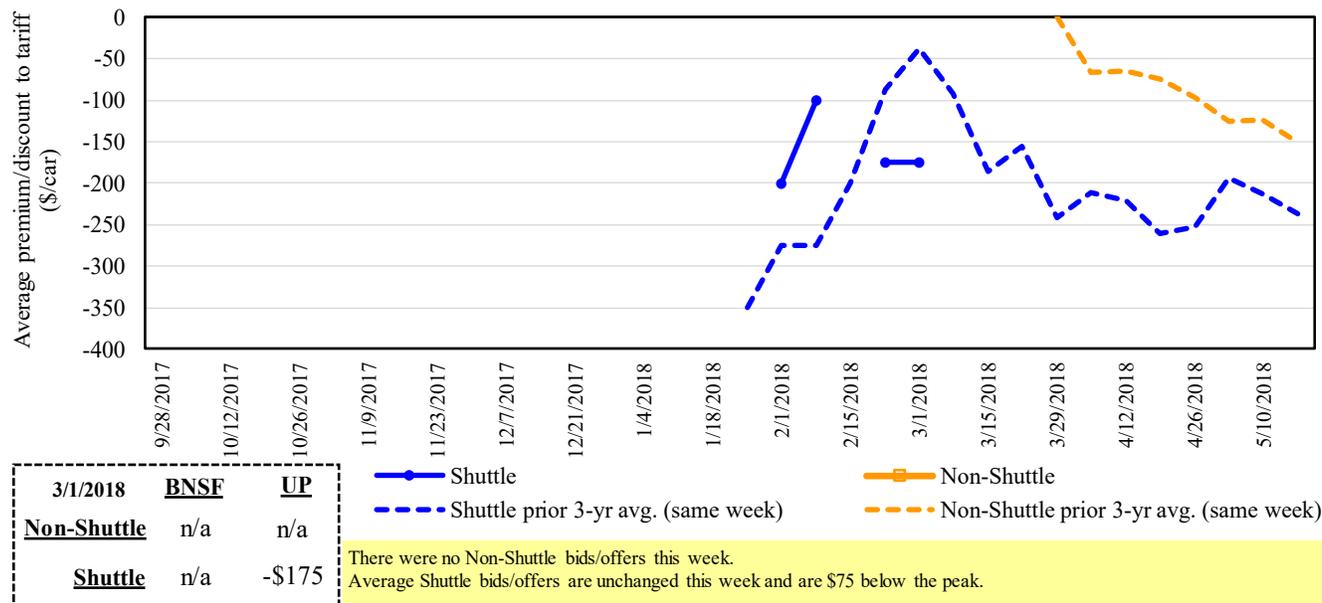
Non-shuttle bids include unit-train and single-car bids. n/a = not available.
 Source: Transportation & Marketing Programs/AMS/USDA

Figure 5
Bids/Offers for Railcars to be Delivered in April 2018, Secondary Market



Non-shuttle bids include unit-train and single-car bids. n/a = not available.
 Source: Transportation & Marketing Programs/AMS/USDA

Figure 6
Bids/Offers for Railcars to be Delivered in May 2018, Secondary Market



Non-shuttle bids include unit-train and single-car bids. n/a = not available.
 Source: Transportation & Marketing Programs/AMS/USDA

Table 6
Weekly Secondary Railcar Market (\$/car)¹

For the week ending:		Delivery period					
		Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18
Non-shuttle	BNSF-GF	n/a	n/a	n/a	n/a	n/a	n/a
	Change from last week	n/a	n/a	n/a	n/a	n/a	n/a
	Change from same week 2017	n/a	n/a	n/a	n/a	n/a	n/a
	UP-Pool	n/a	n/a	n/a	n/a	n/a	n/a
	Change from last week	n/a	n/a	n/a	n/a	n/a	n/a
	Change from same week 2017	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	BNSF-GF	1283	n/a	n/a	n/a	n/a	n/a
	Change from last week	(267)	n/a	n/a	n/a	n/a	n/a
	Change from same week 2017	(2217)	n/a	n/a	n/a	n/a	n/a
	UP-Pool	150	(50)	(175)	(200)	n/a	n/a
	Change from last week	(438)	(50)	0	n/a	n/a	n/a
	Change from same week 2017	(867)	(50)	(375)	n/a	n/a	n/a

¹Average premium/discount to tariff, \$/car-last week

Note: Bids listed are market INDICATORS only & are NOT guaranteed prices,

n/a = not available; GF = guaranteed freight; Pool = guaranteed pool

Sources: Transportation and Marketing Programs/AMS/USDA

Data from James B. Joiner Co., Tradewest Brokerage Co.

The **tariff rail rate** is the base price of freight rail service, and together with **fuel surcharges** and any **auction and secondary rail** values constitute the full cost of shipping by rail. Typically, auction and secondary rail values are a small fraction of the full cost of shipping by rail relative to the tariff rate. High auction and secondary rail values, during times of high rail demand or short supply, can exceed the cost of the tariff rate plus fuel surcharge.

Table 7

Tariff Rail Rates for Unit and Shuttle Train Shipments¹

March, 2018	Origin region ³	Destination region ³	Tariff rate/car	Fuel surcharge per car	Tariff plus surcharge per:		Percent change Y/Y ⁴
					metric ton	bushel ²	
Unit train							
Wheat	Wichita, KS	St. Louis, MO	\$3,883	\$96	\$39.51	\$1.08	4
	Grand Forks, ND	Duluth-Superior, MN	\$4,143	\$0	\$41.14	\$1.12	0
	Wichita, KS	Los Angeles, CA	\$7,050	\$0	\$70.01	\$1.91	1
	Wichita, KS	New Orleans, LA	\$4,540	\$169	\$46.76	\$1.27	5
	Sioux Falls, SD	Galveston-Houston, TX	\$6,786	\$0	\$67.39	\$1.83	1
	Northwest KS	Galveston-Houston, TX	\$4,816	\$185	\$49.66	\$1.35	5
	Amarillo, TX	Los Angeles, CA	\$5,021	\$258	\$52.42	\$1.43	5
Corn	Champaign-Urbana, IL	New Orleans, LA	\$3,931	\$191	\$40.93	\$1.04	9
	Toledo, OH	Raleigh, NC	\$6,344	\$0	\$63.00	\$1.60	5
	Des Moines, IA	Davenport, IA	\$2,258	\$40	\$22.82	\$0.58	1
	Indianapolis, IN	Atlanta, GA	\$5,446	\$0	\$54.08	\$1.37	5
	Indianapolis, IN	Knoxville, TN	\$4,540	\$0	\$45.08	\$1.15	5
	Des Moines, IA	Little Rock, AR	\$3,609	\$119	\$37.02	\$0.94	4
	Des Moines, IA	Los Angeles, CA	\$5,327	\$346	\$56.34	\$1.43	5
Soybeans	Minneapolis, MN	New Orleans, LA	\$4,131	\$179	\$42.80	\$1.16	16
	Toledo, OH	Huntsville, AL	\$5,287	\$0	\$52.50	\$1.43	5
	Indianapolis, IN	Raleigh, NC	\$6,460	\$0	\$64.15	\$1.75	5
	Indianapolis, IN	Huntsville, AL	\$4,764	\$0	\$47.31	\$1.29	5
	Champaign-Urbana, IL	New Orleans, LA	\$4,745	\$191	\$49.02	\$1.33	7
Shuttle Train							
Wheat	Great Falls, MT	Portland, OR	\$3,953	\$0	\$39.26	\$1.07	0
	Wichita, KS	Galveston-Houston, TX	\$4,171	\$0	\$41.42	\$1.13	2
	Chicago, IL	Albany, NY	\$5,663	\$0	\$56.24	\$1.53	3
	Grand Forks, ND	Portland, OR	\$5,611	\$0	\$55.72	\$1.52	0
	Grand Forks, ND	Galveston-Houston, TX	\$5,931	\$0	\$58.90	\$1.60	0
	Northwest KS	Portland, OR	\$5,812	\$304	\$60.73	\$1.65	5
Corn	Minneapolis, MN	Portland, OR	\$5,000	\$0	\$49.65	\$1.26	0
	Sioux Falls, SD	Tacoma, WA	\$4,960	\$0	\$49.26	\$1.25	0
	Champaign-Urbana, IL	New Orleans, LA	\$3,731	\$191	\$38.95	\$0.99	10
	Lincoln, NE	Galveston-Houston, TX	\$3,700	\$0	\$36.74	\$0.93	0
	Des Moines, IA	Amarillo, TX	\$3,970	\$150	\$40.91	\$1.04	4
	Minneapolis, MN	Tacoma, WA	\$5,000	\$0	\$49.65	\$1.26	0
	Council Bluffs, IA	Stockton, CA	\$4,820	\$0	\$47.86	\$1.22	2
Soybeans	Sioux Falls, SD	Tacoma, WA	\$5,600	\$0	\$55.61	\$1.51	0
	Minneapolis, MN	Portland, OR	\$5,650	\$0	\$56.11	\$1.53	0
	Fargo, ND	Tacoma, WA	\$5,500	\$0	\$54.62	\$1.49	0
	Council Bluffs, IA	New Orleans, LA	\$4,775	\$220	\$49.61	\$1.35	8
	Toledo, OH	Huntsville, AL	\$4,352	\$0	\$43.22	\$1.18	3
Grand Island, NE	Portland, OR	\$5,710	\$311	\$59.79	\$1.63	7	

¹A 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.

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

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

⁴Percentage change year over year calculated using tariff rate plus fuel surcharge

Table 8

Tariff Rail Rates for U.S. Bulk Grain Shipments to Mexico

Date: March, 2018			Fuel		Tariff plus surcharge per:		Percent
Commodity	Origin state	Destination region	Tariff rate/car ¹	surcharge per car ²	metric ton ³	bushel ³	change ⁴
							Y/Y
Wheat	MT	Chihuahua, CI	\$7,459	\$0	\$76.21	\$2.07	0
	OK	Cuautitlan, EM	\$6,631	\$132	\$69.10	\$1.88	1
	KS	Guadalajara, JA	\$7,309	\$311	\$77.85	\$2.12	2
	TX	Salinas Victoria, NL	\$4,292	\$80	\$44.67	\$1.21	2
Corn	IA	Guadalajara, JA	\$8,313	\$284	\$87.85	\$2.23	2
	SD	Celaya, GJ	\$7,700	\$0	\$78.68	\$2.00	2
	NE	Queretaro, QA	\$8,013	\$271	\$84.64	\$2.15	3
	SD	Salinas Victoria, NL	\$6,743	\$0	\$68.90	\$1.75	2
	MO	Tlalnepantla, EM	\$7,379	\$264	\$78.09	\$1.98	3
	SD	Torreon, CU	\$7,300	\$0	\$74.59	\$1.89	2
Soybeans	MO	Bojay (Tula), HG	\$8,134	\$265	\$85.81	\$2.33	-5
	NE	Guadalajara, JA	\$8,692	\$290	\$91.76	\$2.49	-2
	IA	El Castillo, JA	\$8,960	\$0	\$91.55	\$2.49	0
	KS	Torreon, CU	\$7,489	\$214	\$78.70	\$2.14	1
Sorghum	NE	Celaya, GJ	\$7,345	\$264	\$77.74	\$1.97	3
	KS	Queretaro, QA	\$7,819	\$165	\$81.58	\$2.07	4
	NE	Salinas Victoria, NL	\$6,452	\$133	\$67.28	\$1.71	5
	NE	Torreon, CU	\$6,790	\$207	\$71.48	\$1.81	4

¹Rates 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.

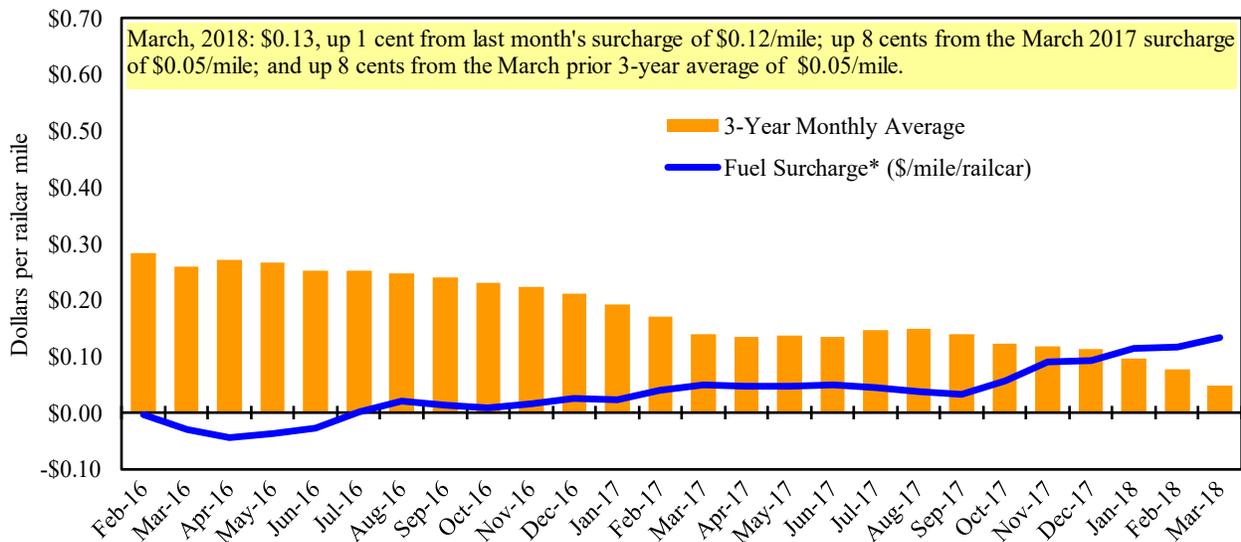
²Fuel surcharge adjusted to reflect the change in Ferrocarril Mexicano, S.A. de C.V. railroad fuel surcharge policy as of 10/01/2009

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

⁴Percentage change calculated using tariff rate plus fuel surcharge

Sources: www.bnsf.com, www.uprr.com, www.kcsouthern.com

Figure 7

Railroad Fuel Surcharges, North American Weighted Average¹

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

* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

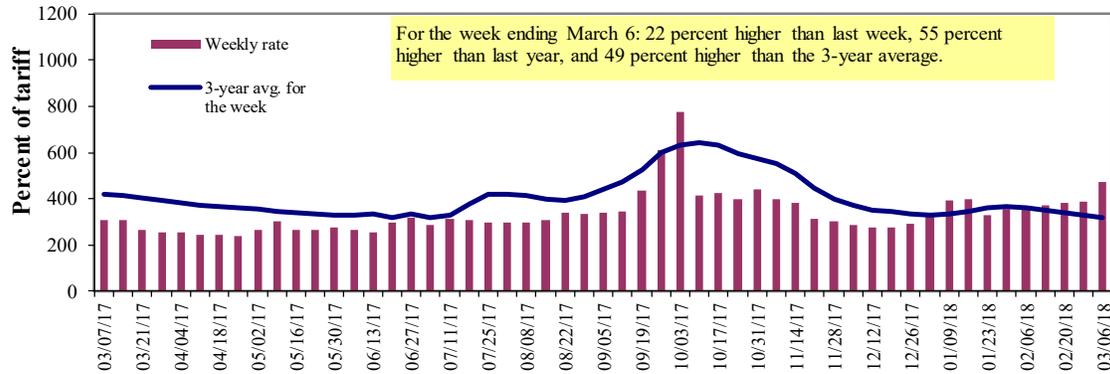
**CSX strike price changed from \$2.00/gal. to \$3.75/gal. starting January 1, 2015.

Sources: www.bnsf.com, www.cn.ca, www.cpr.ca, www.csx.com, www.kcsi.com, www.nscorp.com, www.uprr.com

Barge Transportation

Figure 8

Illinois River Barge Freight Rate^{1,2}



¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average of the 3-year average.

Source: Transportation & Marketing Programs/AMS/USDA

Table 9

Weekly Barge Freight Rates: Southbound Only

		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate ¹	3/6/2018	-	497	474	389	-	-	327
	2/27/2018	-	-	390	297	-	-	244
\$/ton	3/6/2018	-	-	21.99	15.52	-	-	10.27
	2/27/2018	-	-	18.10	11.85	-	-	7.66
Current week % change from the same week:								
	Last year	-	62	55	81	-	-	82
	3-year avg. ²	-	83	49	80	-	-	78
Rate ¹	April	475	445	445	348	400	400	300
	June	470	435	435	333	375	375	280

¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average; ton = 2,000 pounds; "-" = closed

Source: Transportation & Marketing Programs/AMS/USDA

Figure 9 Benchmark tariff rates

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

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

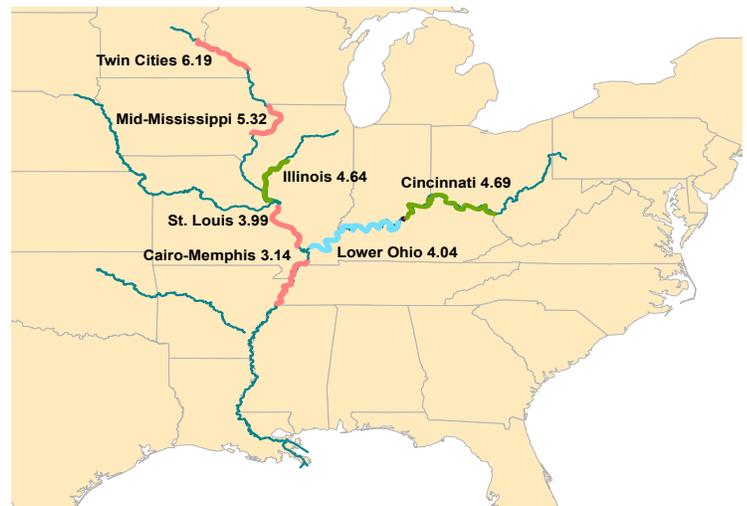
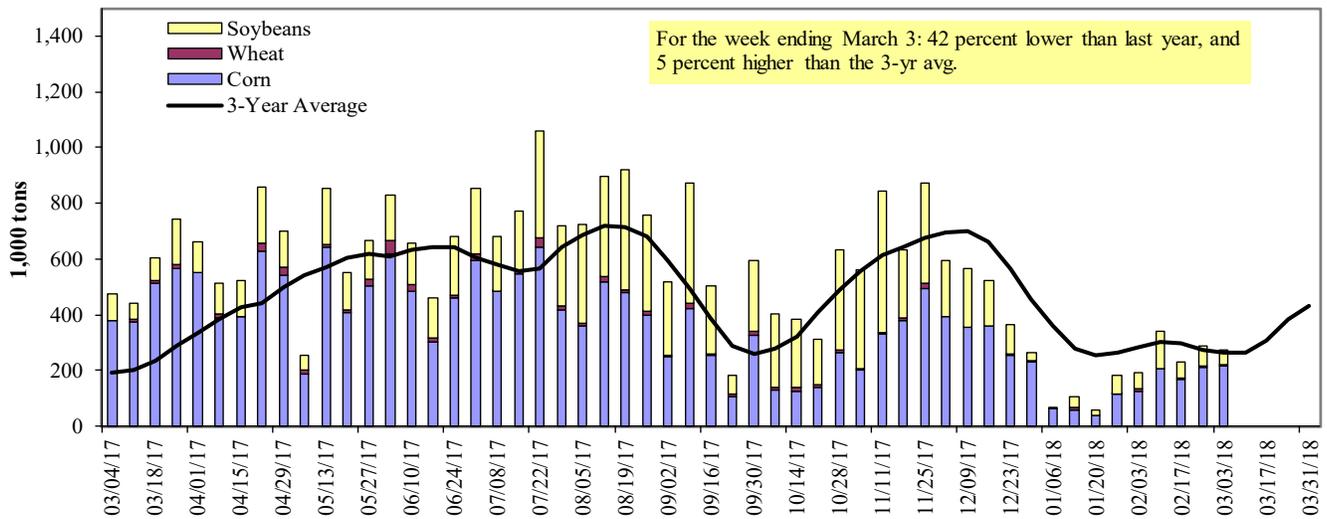


Figure 10

Barge Movements on the Mississippi River¹ (Locks 27 - Granite City, IL)



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

Source: U.S. Army Corps of Engineers

Table 10

Barge Grain Movements (1,000 tons)

For the week ending 03/03/2018	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	0	0	0
Winfield, MO (L25)	56	0	10	0	66
Alton, IL (L26)	228	3	55	0	286
Granite City, IL (L27)	218	3	54	0	275
Illinois River (L8)	93	0	6	0	99
Ohio River (L52)	52	3	49	0	105
Arkansas River (L1)	0	4	3	0	7
Weekly total - 2018	270	11	105	0	387
Weekly total - 2017	526	34	255	2	817
2018 YTD ¹	2,019	214	2,072	25	4,329
2017 YTD	3,279	303	2,624	118	6,324
2018 as % of 2017 YTD	62	71	79	21	68
Last 4 weeks as % of 2017 ²	72	78	89	38	77
Total 2017	22,242	2,210	16,123	360	40,936

¹ Weekly total, YTD (year-to-date) and calendar year total includes Miss/27, Ohio/52, and Ark/1; "Other" refers to oats, barley, sorghum, and rye.

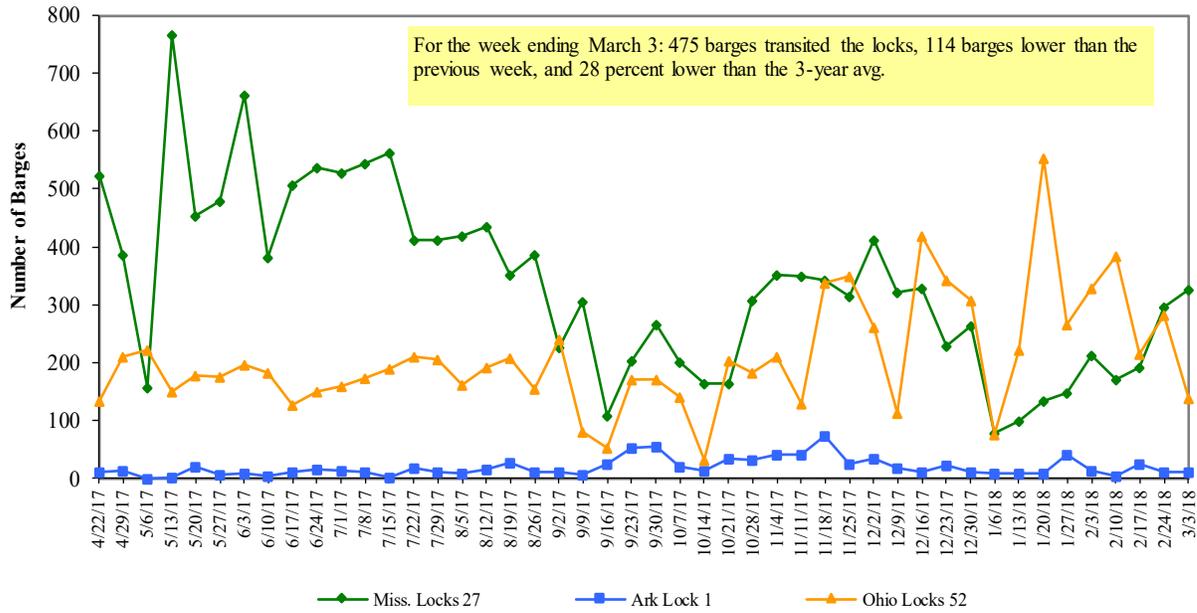
² As a percent of same period in 2017.

Note: Total may not add exactly, due to rounding.

Source: U.S. Army Corps of Engineers

Figure 11

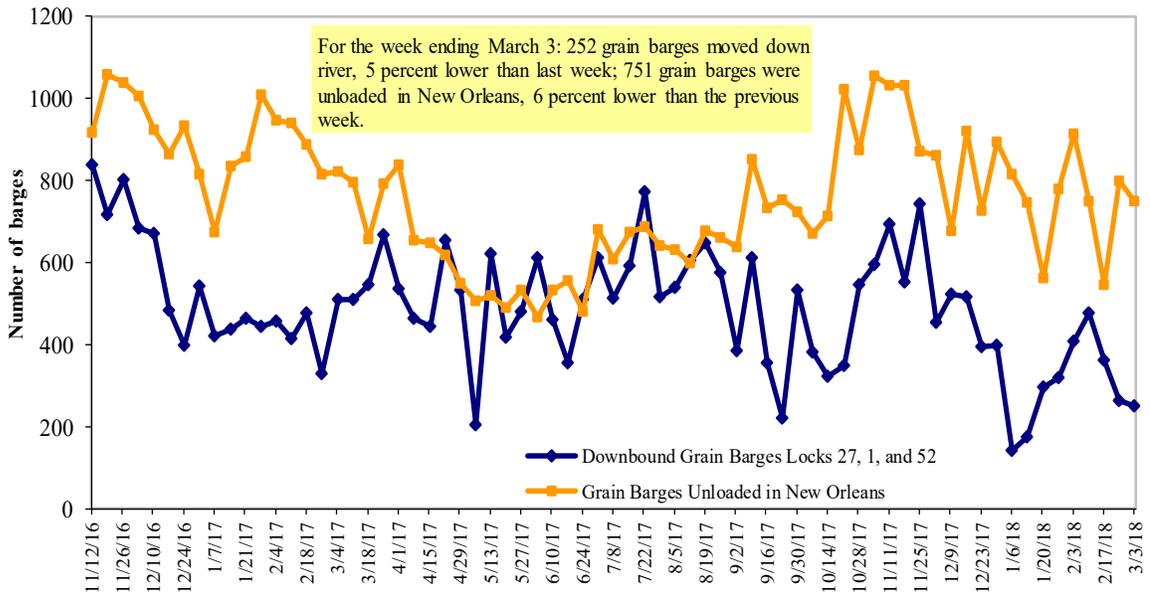
Upbound Empty Barges Transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Locks and Dam 52



Source: U.S. Army Corps of Engineers

Figure 12

Grain Barges for Export in New Orleans Region



Source: U.S. Army Corps of Engineers and GIPSA

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 11

Retail on-Highway Diesel Prices, Week Ending 3/5/2018 (US \$/gallon)

Region	Location	Price	Change from	
			Week ago	Year ago
I	East Coast	3.046	-0.011	0.413
	New England	3.126	-0.001	0.480
	Central Atlantic	3.240	-0.015	0.460
	Lower Atlantic	2.894	-0.012	0.369
II	Midwest ²	2.920	-0.027	0.418
III	Gulf Coast ³	2.793	-0.004	0.364
IV	Rocky Mountain	2.910	-0.026	0.285
V	West Coast	3.392	-0.005	0.515
	West Coast less California	3.064	0.000	0.285
	California	3.652	-0.008	0.696
Total	U.S.	2.992	-0.015	0.413

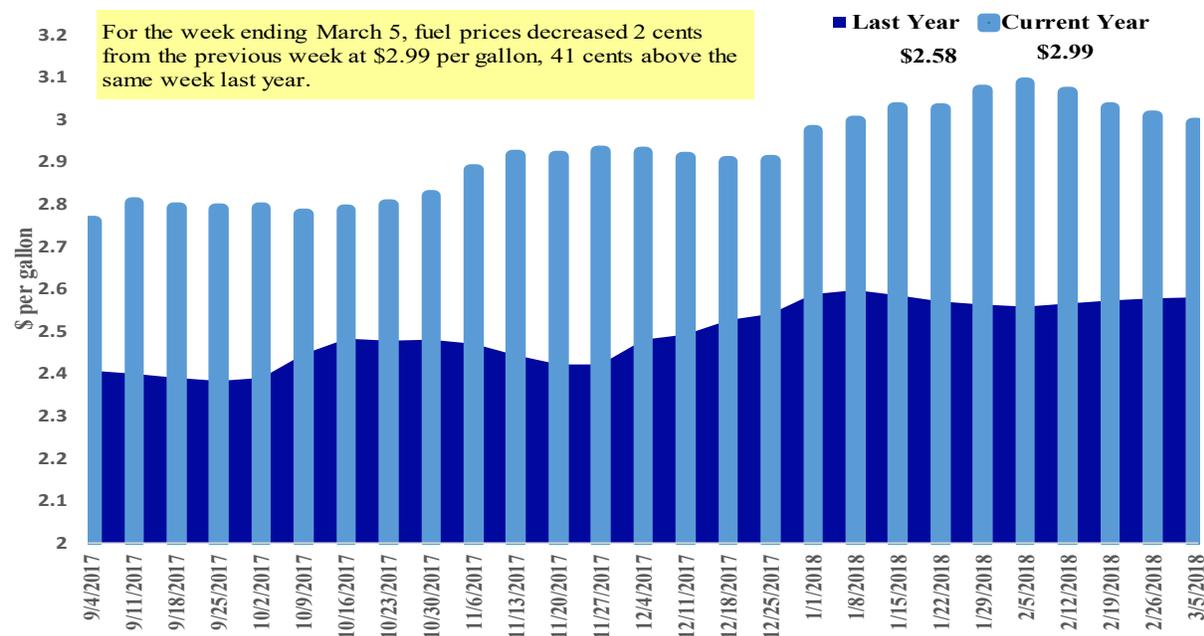
¹Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

²Same as North Central ³Same as South Central

Source: Energy Information Administration/U.S. Department of Energy (www.eia.doe.gov)

Figure 13

Weekly Diesel Fuel Prices, U.S. Average



Source: Retail On-Highway Diesel Prices, Energy Information Administration, Dept. of Energy

Grain Exports

Table 12

U.S. Export Balances and Cumulative Exports (1,000 metric tons)

For the week ending	Wheat						Corn	Soybeans	Total
	HRW	SRW	HRS	SWW	DUR	All wheat			
Export Balances¹									
2/22/2018	1,599	700	1,349	927	95	4,670	21,540	7,726	33,936
This week year ago	2,227	528	2,440	1,373	76	6,644	18,652	9,009	34,306
Cumulative exports-marketing year²									
2017/18 YTD	7,083	1,531	4,247	3,828	276	16,965	17,764	37,845	72,575
2016/17 YTD	7,836	1,622	5,331	2,938	340	18,066	24,756	43,493	86,316
YTD 2017/18 as % of 2016/17	90	94	80	130	81	94	72	87	84
Last 4 wks as % of same period 2016/17	78	130	59	68	95	73	110	94	99
2016/17 Total	11,096	2,285	7,923	4,254	484	26,042	41,864	51,156	119,062
2015/16 Total	5,538	3,057	6,285	3,551	670	19,101	45,564	49,821	114,486

¹ Current unshipped (outstanding) export sales to date

² Shipped export sales to date; new marketing year now in effect for wheat, corn, and soybeans

Note: YTD = year-to-date. Marketing Year: wheat = 6/01-5/31, corn & soybeans = 9/01-8/31

Source: Foreign Agricultural Service/USDA (www.fas.usda.gov)

Table 13

Top 5 Importers¹ of U.S. Corn

For the week ending 2/22/2018	Total Commitments ²		% change current MY from last MY	Exports ³ 3-year avg 2014-2016
	2017/18 Current MY	2016/17 Last MY		
Mexico	10,947	10,812	1	12,297
Japan	6,713	7,878	(15)	11,450
Korea	2,361	3,625	(35)	4,494
Colombia	2,800	3,010	(7)	4,179
Peru	2,070	2,114	(2)	2,693
Top 5 Importers	24,891	27,438	(9)	35,113
Total US corn export sales	39,304	43,408	(9)	49,308
% of Projected	75%	74%		
Change from prior week²	1,753	692		
Top 5 importers' share of U.S. corn export sales	63%	63%		71%
USDA forecast, February 2018	52,163	58,346	(11)	
Corn Use for Ethanol USDA forecast, February 2018	140,335	138,151	2	

¹ Based on FAS Marketing Year Ranking Reports for 2016/17 - www.fas.usda.gov; Marketing year (MY) = Sep 1 - Aug 31.

² Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--
<http://www.fas.usda.gov/esquery/>. 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 - <http://apps.fas.usda.gov/export-sales/myrkaug.htm>; 3-yr average

Table 14

Top 5 Importers¹ of U.S. Soybeans

For the week ending 2/22/2018	Total Commitments ²		% change current MY from last MY	Exports ³ 3-yr avg. 2014-2016
	2017/18	2016/17		
	Current MY	Last MY		
	- 1,000 mt -			- 1,000 mt -
China	26,416	34,258	(23)	31,881
Mexico	3,185	2,801	14	3,452
Indonesia	1,294	1,370	(6)	1,987
Japan	1,508	1,614	(7)	2,067
Netherlands	916	1,105	(17)	2,098
Top 5 importers	33,319	41,148	(19)	41,486
Total US soybean export sales	45,571	52,503	(13)	52,919
% of Projected	80%	89%		
Change from prior week ²	858	428		
Top 5 importers' share of U.S. soybean export sales	73%	78%		78%
USDA forecast, February 2018	57,221	59,237	97	

(n) indicates negative number.

¹Based on FAS Marketing Year Ranking Reports for 2016/17 - www.fas.usda.gov; Marketing year (MY) = Sep 1 - Aug 31.²Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--<http://www.fas.usda.gov/esrquery/>. The total commitments change (net sales) from prior week could include revisions from previous week's outstanding sales and/or accumulated sales³FAS Marketing Year Final Reports - www.fas.usda.gov/export-sales/myfi_rpt.htm. (Carryover plus Accumulated Exports)

Table 15

Top 10 Importers¹ of All U.S. Wheat

For the week ending 2/22/2018	Total Commitments ²		% change current MY from last MY	Exports ³ 3-yr avg 2014-2016
	2017/18	2016/17		
	Current MY	Last MY		
	- 1,000 mt -			- 1,000 mt -
Japan	2,565	2,322	10	2,620
Mexico	2,754	2,705	2	2,743
Philippines	2,380	2,328	2	2,395
Brazil	111	1,129	(90)	862
Nigeria	1,061	1,286	(17)	1,254
Korea	1,314	1,190	10	1,104
China	890	1,061	(16)	1,623
Taiwan	1,009	890	13	768
Indonesia	1,164	848	37	726
Colombia	559	725	(23)	635
Top 10 importers	13,807	14,482	(5)	14,729
Total US wheat export sales	21,635	24,710	(12)	22,804
% of Projected	84%	86%		
Change from prior week ²	191	324		
Top 10 importers' share of U.S. wheat export sales	64%	59%		65%
USDA forecast, February 2018	25,886	28,747	(10)	

(n) indicates negative number.

¹Based on FAS Marketing Year Ranking Reports for 2016/17 - www.fas.usda.gov; Marketing year = Jun 1 - May 31.²Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--<http://www.fas.usda.gov/esrquery/>. Total commitments change (net sales) from prior week could include revisions from the previous week's outstanding and/or accumulated sales³FAS Marketing Year Final Reports - www.fas.usda.gov/export-sales/myfi_rpt.htm.

Table 16

Grain Inspections for Export by U.S. Port Region (1,000 metric tons)

Port regions	For the Week Ending 03/01/18	Previous Week ¹	Current Week as % of Previous	2018 YTD ¹	2017 YTD ¹	2018 YTD as % of 2017 YTD	Last 4-weeks as % of		Total ¹ 2017
							2017	3-yr. avg.	
Pacific Northwest									
Wheat	35	197	18	1,779	1,050	169	70	68	14,782
Corn	193	444	43	2,275	917	248	102	132	10,927
Soybeans	209	209	100	2,709	1,713	158	91	85	13,246
Total	437	850	51	6,762	3,680	184	88	92	38,955
Mississippi Gulf									
Wheat	155	35	439	752	323	233	84	113	4,190
Corn	616	712	87	4,338	2,931	148	64	83	28,686
Soybeans	644	480	134	6,225	4,626	135	110	94	32,911
Total	1,415	1,227	115	11,316	7,879	144	83	90	65,787
Texas Gulf									
Wheat	167	55	302	878	423	207	83	138	6,338
Corn	36	0	n/a	98	144	68	100	0	733
Soybeans	0	0	n/a	0	0	n/a	n/a	0	292
Total	203	55	367	976	567	172	85	132	7,362
Interior									
Wheat	65	7	932	299	190	158	123	141	1,709
Corn	86	138	63	1,126	606	186	101	101	8,335
Soybeans	112	96	116	936	536	175	109	125	5,404
Total	263	241	109	2,361	1,332	177	107	115	15,448
Great Lakes									
Wheat	0	0	n/a	19	0	n/a	n/a	0	711
Corn	0	0	n/a	0	0	n/a	n/a	0	191
Soybeans	0	0	n/a	0	0	n/a	n/a	0	890
Total	0	0	n/a	19	0	n/a	#DIV/0!	0	1,792
Atlantic									
Wheat	77	0	n/a	77	35	217	23,475	242	46
Corn	0	0	n/a	0	0	n/a	n/a	0	33
Soybeans	0	21	0	367	381	96	116	95	1,996
Total	77	21	362	444	416	107	160	112	2,075
U.S. total from ports²									
Wheat	499	295	169	3,804	2,022	188	52	63	27,776
Corn	931	1,293	72	7,838	4,598	170	57	73	48,905
Soybeans	965	806	120	10,237	7,255	141	79	75	54,739
Total	2,395	2,394	100	21,879	13,875	158	63	72	131,420

¹ Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

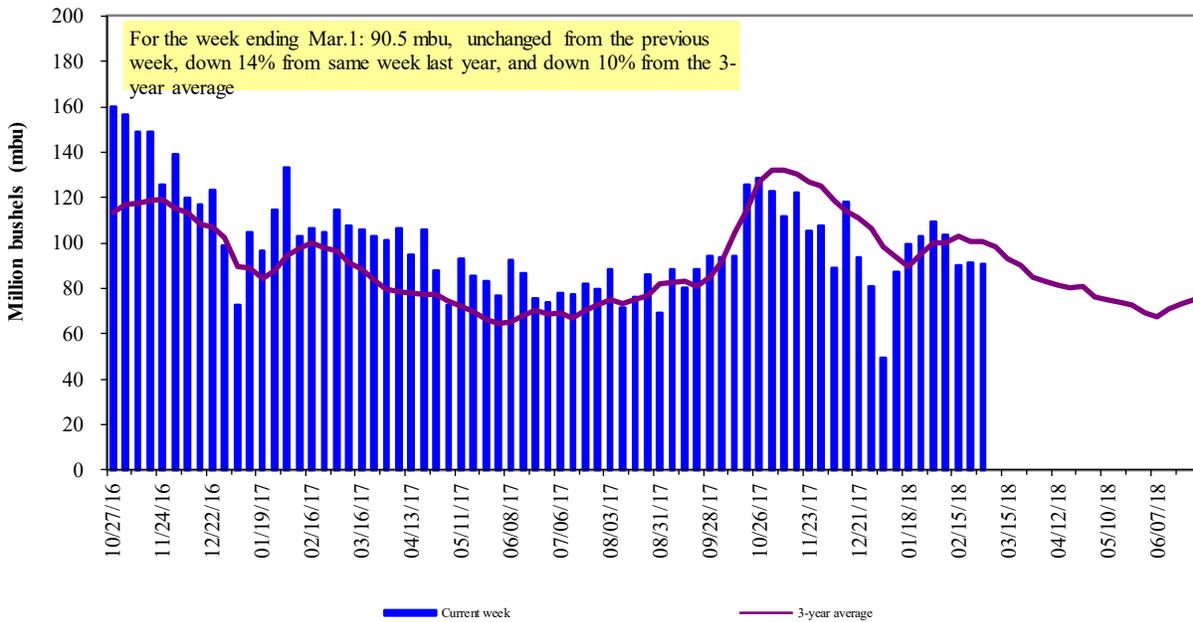
² Total only includes regions shown above

Source: Grain Inspection, Packers and Stockyards Administration/USDA (www.gipsa.usda.gov); YTD= year-to-date; n/a = not applicable

The United States exports approximately one-quarter of the grain it produces. On average, this includes nearly 45 percent of U.S.-grown wheat, 35 percent of U.S.-grown soybeans, and 20 percent of the U.S.-grown corn. Approximately 55 percent of the U.S. export grain shipments departed through the U.S. Gulf region in 2017.

Figure 14

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

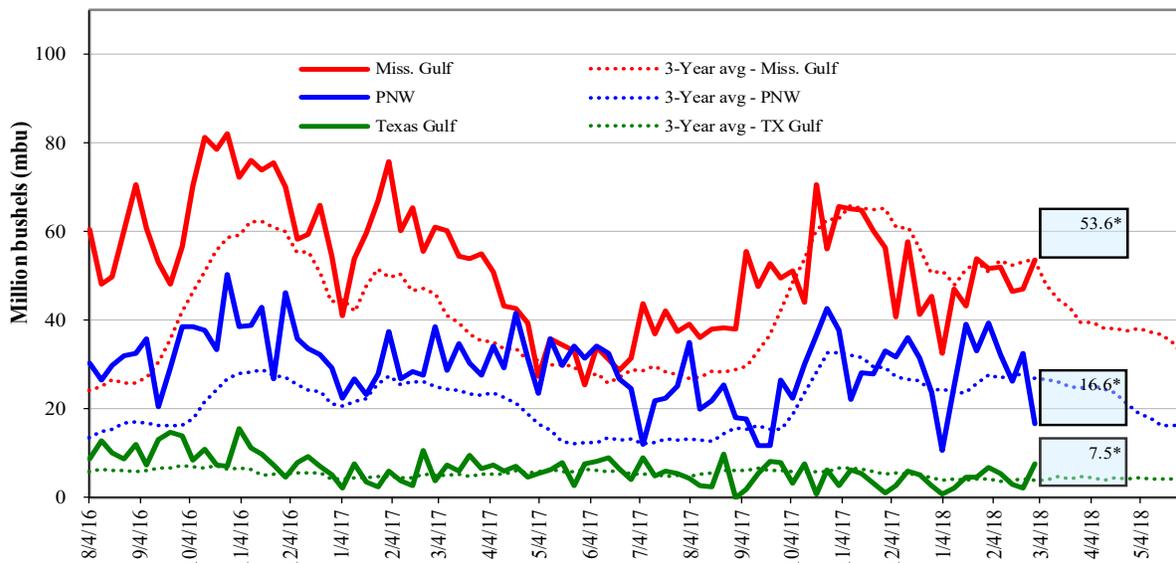


Source: Grain Inspection, Packers and Stockyards Administration/USDA (www.gipsa.usda.gov)

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

Figure 15

U.S. Grain Inspections: U.S. Gulf and PNW¹ (wheat, corn, and soybeans)



Source: Grain Inspection, Packers and Stockyards Administration/USDA (www.gipsa.usda.gov); *mbu, this week.

March 1: % change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last week	up 14	up 271	up 25	down 49
Last year (same week)	up 4	up 151	up 8	up 52
3-yr avg. (4-wk mov. avg.)	up 123	up 123	up 4	down 43

Ocean Transportation

Table 17

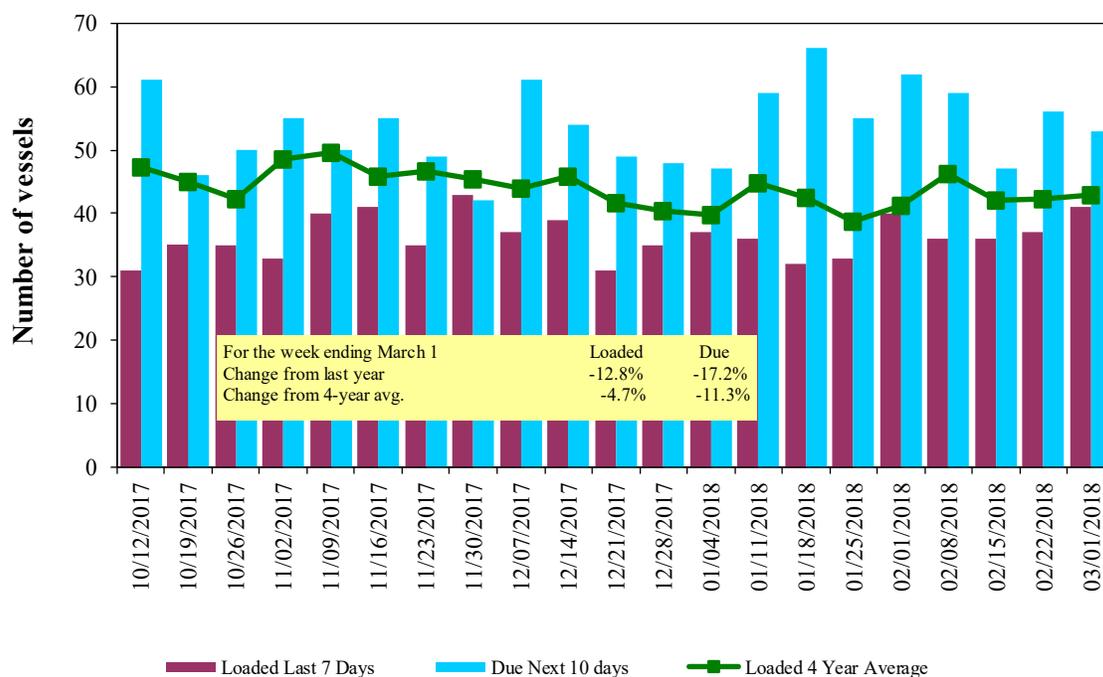
Weekly Port Region Grain Ocean Vessel Activity (number of vessels)

Date	Gulf			Pacific Northwest
	In port	Loaded 7-days	Due next 10-days	In port
3/1/2018	52	41	53	24
2/22/2018	68	37	56	19
2017 range	(25..66)	(28..54)	(37..87)	(5..44)
2017 avg.	46	38	56	20

Source: Transportation & Marketing Programs/AMS/USDA

Figure 16

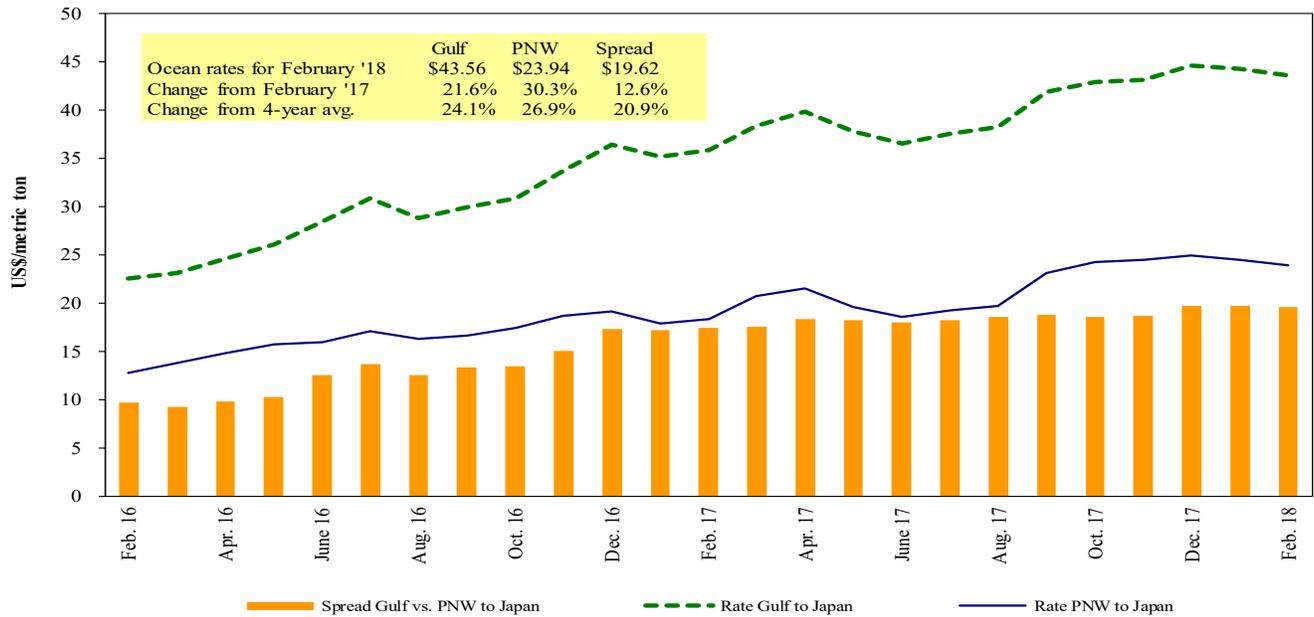
U.S. Gulf Vessel Loading Activity



Source: Transportation & Marketing Programs/AMS/USDA
¹U.S. Gulf includes Mississippi, Texas, and East Gulf.

Figure 17

Grain Vessel Rates, U.S. to Japan



Data Source: O'Neil Commodity Consulting

Table 18

Ocean Freight Rates For Selected Shipments, Week Ending 03/03/2018

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US\$/metric ton)
U.S. Gulf	China	Heavy Grain	Jan 1/10	60,000	45.50
U.S. Gulf	Djibouti	Sorghum	Apr 10/20	5,000	136.11*
U.S. Gulf	Djibouti	Wheat	Apr 10/20	34,000	136.11*
PNW	Bangladesh	Wheat	Apr 6/16	43,500	46.61*
PNW	South Korea	Heavy Grain	Mar 12/21	66,000	32.00
Brazil	China	Heavy Grain	Mar 1/10	66,000	30.00
EC S. America	China	Heavy Grain	Mar 15/24	60,000	33.50
France	Morocco	Heavy Grain	Jan 6/12	30,000	15.00
Portugal	China	Heavy Grain	Feb 10	65,000	38.00

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

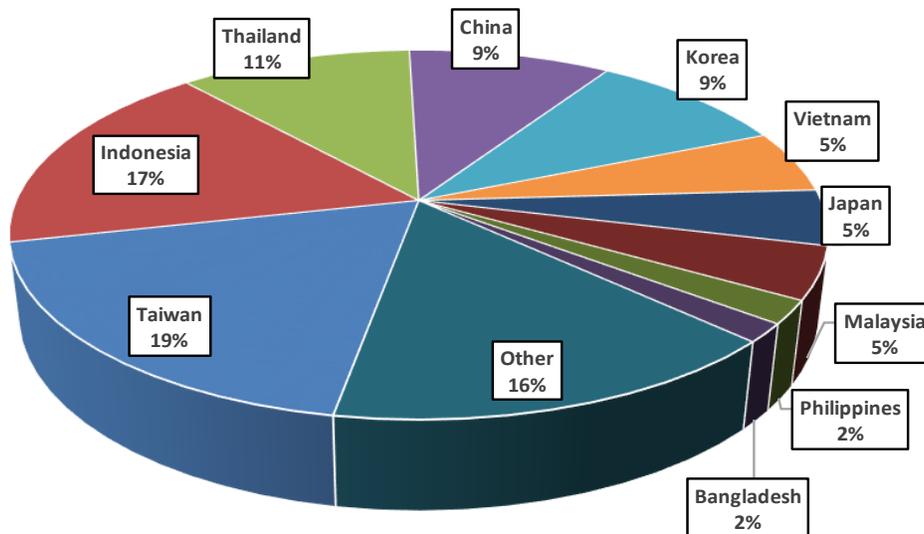
* 50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

Source: Maritime Research Inc. (www.maritime-research.com)

In 2017, containers were used to transport 7 percent of total U.S. waterborne grain exports. Approximately 62 percent of U.S. waterborne grain exports in 2017 went to Asia, of which 10 percent were moved in containers. Approximately 93 percent of U.S. waterborne containerized grain exports were destined for Asia.

Figure 18

Top 10 Destination Markets for U.S. Containerized Grain Exports, January-December 2017

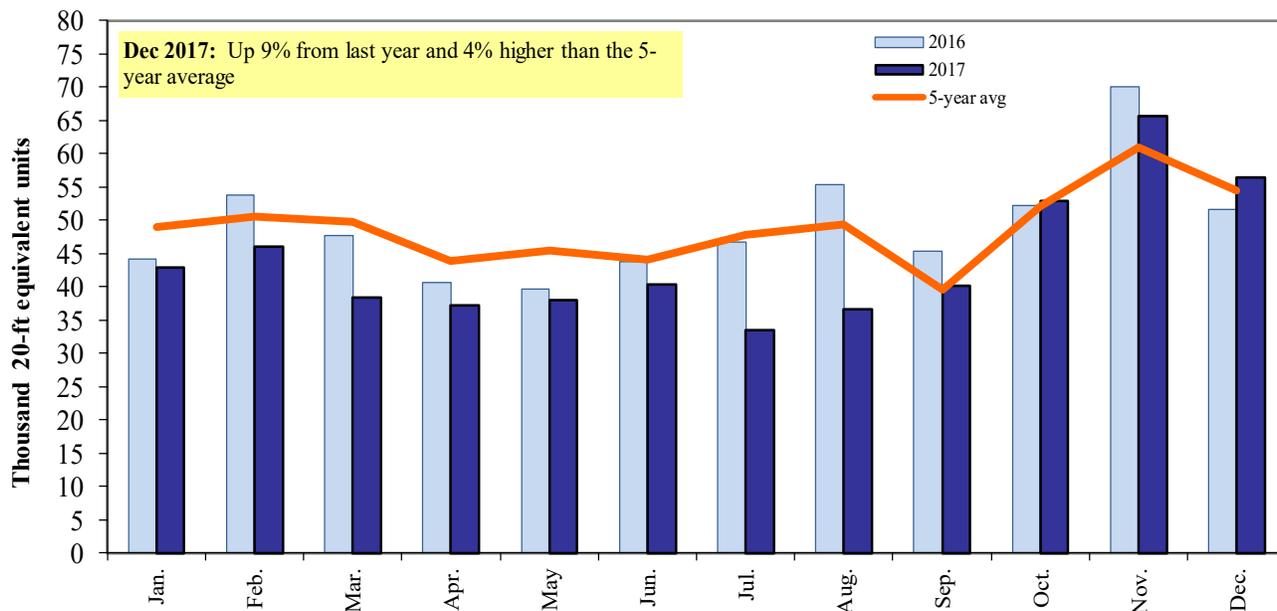


Source: USDA/Agricultural Marketing Service/Transportation Services Division analysis of Port Import Export Reporting Service (PIERS) data

Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: 100190, 100200, 100300, 100400, 100590, 100700, 110100, 230310, 110220, 110290, 120100, 230210, 230990, 230330, and 120810.

Figure 19

Monthly Shipments of Containerized Grain to Asia



Source: USDA/Agricultural Marketing Service/Transportation Services Division analysis of Port Import Export Reporting Service (PIERS) data.

Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: 100190, 100200, 100300, 100400, 100590, 100700, 110100, 110220, 110290, 120100, 120810, 230210, 230310, 230330, and 230990.

Contacts and Links

Coordinators

Surajudeen (Deen) Olowolayemo	surajudeen.olowolayemo@ams.usda.gov	(202) 720 - 0119
Pierre Bahizi	pierre.bahizi@ams.usda.gov	(202) 690 - 0992
Adam Sparger	adam.sparger@ams.usda.gov	(202) 205 - 8701

Weekly Highlight Editors

Surajudeen (Deen) Olowolayemo	surajudeen.olowolayemo@ams.usda.gov	(202) 720 - 0119
April Taylor	april.taylor@ams.usda.gov	(202) 720 - 7880
Nicholas Marathon	nick.marathon@ams.usda.gov	(202) 690 - 4430

Grain Transportation Indicators

Surajudeen (Deen) Olowolayemo	surajudeen.olowolayemo@ams.usda.gov	(202) 720 - 0119
-------------------------------	--	------------------

Rail Transportation

Adam Sparger	adam.sparger@ams.usda.gov	(202) 205 - 8701
Johnny Hill	johnny.hill@ams.usda.gov	(202) 690 - 3295
Jesse Gastelle	jesse.gastelle@ams.usda.gov	(202) 690 - 1144
Peter Caffarelli	petera.caffarelli@ams.usda.gov	(202) 690 - 3244

Barge Transportation

Nicholas Marathon	nick.marathon@ams.usda.gov	(202) 690 - 4430
April Taylor	april.taylor@ams.usda.gov	(202) 720 - 7880
Matt Chang	matt.chang@ams.usda.gov	(202) 720 - 0299

Truck Transportation

April Taylor	april.taylor@ams.usda.gov	(202) 720 - 7880
Sergio Sotelo	sergioa.sotelo@ams.usda.gov	(202) 756 - 2577

Grain Exports

Johnny Hill	johnny.hill@ams.usda.gov	(202) 690 - 3295
-------------	--	------------------

Ocean Transportation

Surajudeen (Deen) Olowolayemo (Freight rates and vessels)	surajudeen.olowolayemo@ams.usda.gov	(202) 720 - 0119
April Taylor (Container movements)	april.taylor@ams.usda.gov	(202) 720 - 7880

Subscription Information: Send relevant information to GTRContactUs@ams.usda.gov for an electronic copy (*printed copies are also available upon request*).

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