



GMP Dashboard

Table M-1	JUN 2022	JUL 2022	2021-22 YTD	Var. from Last YTD
Western Canadian GHTS Performance (Days)				
Total Time in System	64.1	45.4	61.6	46.0%
Average Days In Store – Country	35.3	24.6	38.3	50.7%
Loaded Transit Time	5.4	5.5	6.8	-2.3%
Average Days In Store – Terminal	23.4	15.3	16.5	68.4%
Total Traffic ('000 tonnes)				
Primary Elevator Shipments	2,736.5	2,508.1	34,442.1	-36.1%
Railway Shipments (all Western Canada traffic)	2,606.9	2,748.0	36,369.6	-41.0%
Western Port Terminal Shipments	1,621.6	1,841.4	24,262.2	-45.7%
Railway Performance				
Avg. Loads on Wheels (Cars)	5,654	5,591	7,043	-38.4%
Total Western Port Car Cycle (days)	19.0	19.2	17.7	15.5%
Port Performance				
Western Port Unloads (Number of Cars)	16,833	15,363	250,301	-45.3%
Vessel Time in Port (days)	5.3	5.4	9.1	-14.3%

Periodic revisions and corrections to the data received by the Monitor may result in the restatement of previously calculated measurement values. Where such differences arise, the values presented here should be considered to supersede those found in previous reports.

Overview

Railway grain shipments from Western Canada rose by 5.4% in July 2022, to 2.7 MMT from June's 2.6 MMT. This increase was largely due to an upturn in Vancouver volumes. Owing to a significantly smaller crop, total railway shipments for the year fell by 41.0%, to 36.4 MMT. Port shipments for July totaled 1.8 MMT, a 13.6% increase from June volumes, but a 25.1 decline from those in July 2021. The year-to-date decline in shipments registered 45.7% at the end of July. A month-over-month increase was seen in the average amount of time vessels spent in port, which grew to 5.4 days in July from 5.3 in June. The overall crop-year-average vessel time in port measures 9.1 days.

Highlights for July 2022 and Fourth Quarter 2021-22 CY

Traffic and Movement (page 2)

- Primary-elevator shipments were 34.4 MMT in the 2021-22 crop year, 36.1% less than the previous year.
- Total Western Canadian rail shipments (from all primary/process elevators and producer-car sites) totaled 36.4 MMT in the 2021-22 crop year, 41.0% below the previous crop year's 61.6-MMT record.
- Bulk shipments from Western Canadian ports totaled 24.3 MMT in the 2021-22 crop year, down 45.7% from last crop year.

System Efficiency and Performance (page 4)

- Average weekly primary-elevator stocks declined by 7.8% from last year-to-date. The average days-in-store was up 50.7%.
- Average weekly port-terminal stocks decreased 11.6% from the same period last year, while average days-in-store grew 68.4%.
- Railcar cycle times rose modestly in July, with the preliminary average for Western Canadian movements increasing by 1.1%, to 19.2 days from 19.0 days in June. The preliminary year-to-date average rose by 15.5%, to 17.7 days from 15.3 days a year earlier.
- The average vessel time in port for the 2021-22 crop year is 9.1 days, a 14.3% decline from that observed in the previous crop year.
- Port-terminal out-of-car time grew to 11.8% at Vancouver in July from 4.0% in June and fell to 0.2% at Prince Rupert from 8.8% the previous month. At Thunder Bay, the out-of-car time climbed to 14.8% in July, up from June's 5.1%.

Commercial Relations (page 6)

- Average primary-elevation charges declined 0.4% in the 2021-22 crop year.
- Neither CN nor CP made any pricing adjustments to their single-car freight rates in the fourth quarter. Earlier adjustments by CN had effectively lifted its year-end rates on movements into Vancouver and Prince Rupert by 9.4%, and into Thunder Bay by 5.1%. Similarly, prior CP pricing action had raised its year-end rates into Vancouver by 5.8% while those into Thunder Bay had been reduced by 10.3%.
- Average terminal-elevation charges increased 1.9% in the 2021-22 crop year.

Infrastructure (page 6)

- At the close of the fourth quarter the country-elevator network stood at 413 facilities with 9.4 MMT of storage. This included 39 loop-track facilities.
- Railway infrastructure remained unchanged at 17,265.7 route-miles.
- The terminal elevator network stood at 17 facilities with 2.8 MMT of storage.
- Owing to reduced traffic volumes, the overall hopper-car fleet declined, falling to a fourth-quarter average of 20,631 cars from 24,880 cars a year earlier. Proportionally, more of the fleet was held in storage, 47.6% against 33.9% the previous year.



Production and Supply

Statistics Canada's November survey for 2021 field-crop production in Western Canada stands at 47.0 MMT, a 40.2% decrease from 2020's record 78.5 MMT harvest. This dramatic decline reflects the impact of the prairie-wide drought during the 2021 growing season. The survey of producers' harvested acreage and yield was conducted between 8 October and 12 November 2021. It resulted in a decrease in the overall production estimate of 0.6 MMT from the model-based estimate published in September.

When coupled with July's 7.2 MMT of carry-forward stocks, some 14.7% less than in 2020, the overall grain supply is estimated at 54.1 MMT. This stands 37.7% below the 2020-21 crop year's 86.9-MMT record, ranking as the smallest grain supply since the drought-reduced shortfalls of 2001 to 2003.

Table M-2:	2021	2020	Var. from Last Yr.
Production & Carry Over (000's tonnes)			
Western Canada Total Production	46,967.2	78,527.7	-40.2%
Western Canada On Farm & Primary Elevator Carry Forward Stock	7,150.1	8,383.6	-14.7%
Total Grain Supply	54,117.3	86,911.3	-37.7%

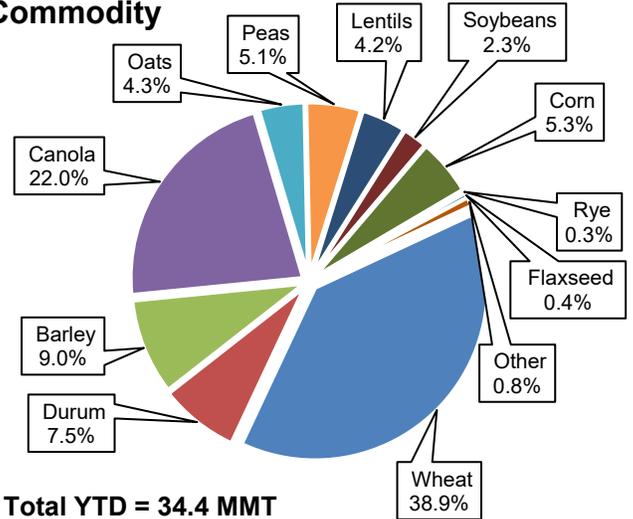
Traffic and Movement

As the crop year drew to a close, July deliveries fell to average just over 0.4 MMT per week. Weekly primary-elevator stock levels declined to average 2.2 MMT, with good space available in elevator facilities across the prairies.

Table M-3	JUL 2022	2021-22 YTD	Var. from Last YTD
Primary Elevator Shipments (000's tonnes)			
Manitoba	415.1	6,702.4	-29.6%
Saskatchewan	1,332.1	16,062.5	-44.7%
Alberta	751.1	11,419.7	-24.3%
British Columbia	9.4	257.5	13.6%
Total	2,508.1	34,442.1	-36.1%
Western Canada Railway Traffic (000's tonnes)			
Shipments to Western Ports	1,951.2	26,509.3	-46.7%
Shipments to Eastern Canada	149.6	2,270.8	-44.1%
Shipments to US & Mexico	560.1	6,627.7	-4.6%
Shipments Western Domestic	87.1	961.8	12.2%
Total	2,748.0	36,369.6	-41.0%
Western Port Unloads (Number of Cars)			
Vancouver	9,907	166,519	-47.6%
Prince Rupert	1,781	25,532	-50.4%
Churchill	0	0	-100.0%
Thunder Bay	3,675	58,250	-33.0%
Total	15,363	250,301	-45.3%

Table M-3	JUL 2022	2021-22 YTD	Var. from Last YTD
Terminal Elevator Shipments (000's tonnes)			
Vancouver	1,235.5	15,963.8	-49.0%
Prince Rupert	197.8	2,373.3	-52.4%
Churchill	0.0	0.0	-100.0%
Thunder Bay	408.1	5,925.1	-28.5%
Total	1,841.4	24,262.2	-45.7%

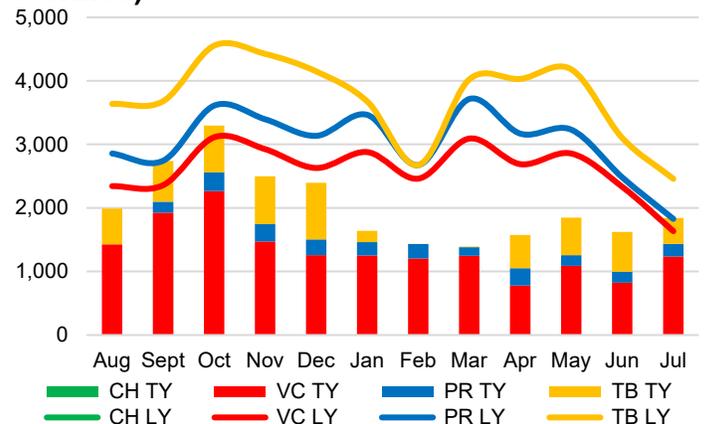
Primary Elevator Shipments by Commodity



GMP Data Table 2A-1

Grain shipments from primary elevators fell throughout the 2021-22 crop year, registering 36.1% less than in the previous year. Wheat, including durum, and canola continue to constitute the largest proportion of the movement at 68.4%. Movement of peas and lentils contributed 9.3% of the balance.

Terminal Elevator Shipments (000's tonnes)

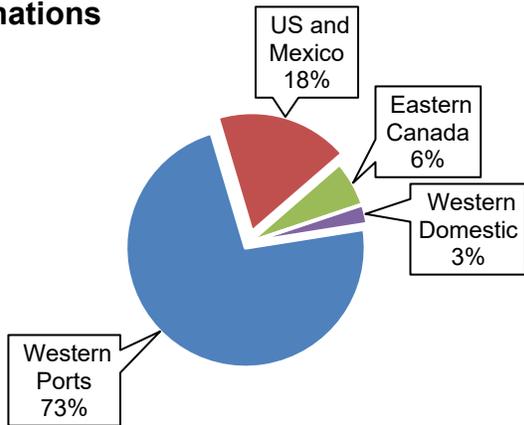


GMP Data Table 2C-1

Bulk shipments from western ports fell dramatically in the 2021-22 crop year, registering a 45.7% decline on a year-over-year basis. Shipments were off at all ports. Prince Rupert recorded

the largest decrease at 52.4%, while Vancouver and Thunder Bay were down 49.0% and 28.5% respectively.

Western Canadian Grain Destinations

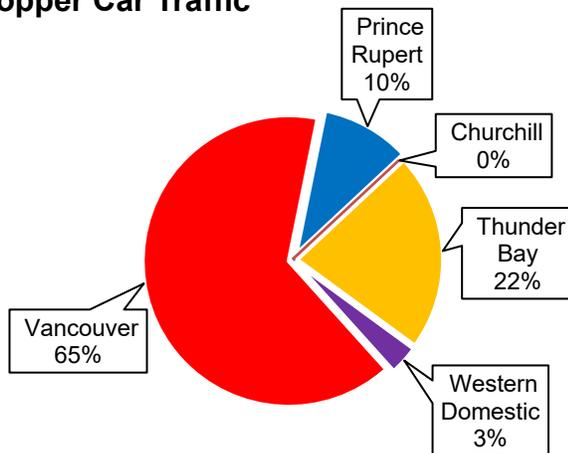


Total YTD = 36.4 MMT

GMP Data Tables 2B-1, 2B-8 & 2B-15

Railway grain shipments from Western Canada totaled 36.4 MMT in the 2021-22 crop year, 41.0% less than the 61.6 MMT handled a year earlier. The majority, about 26.5 MMT, or 73%, was directed to Western Canadian ports in support of offshore sales; 46.7% less than what had been handled a year earlier. This decline was broadened by a 44.1% decrease in shipments to Eastern Canada as well as a 4.6% reduction for shipments into the US and Mexico. Running counter to these losses was a 12.2% gain in movements to Western Domestic destinations.

Western Canadian Destined Hopper Car Traffic



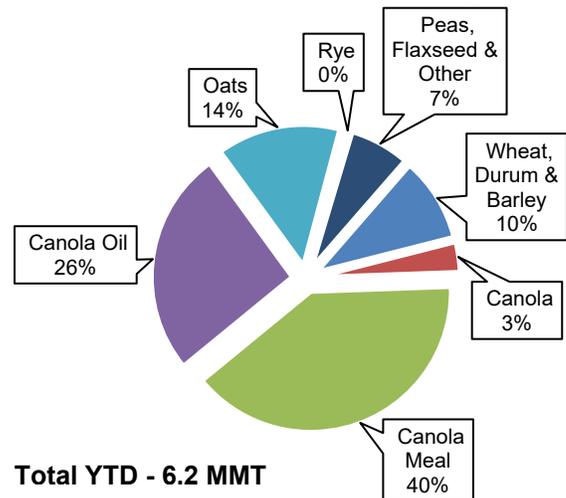
Total YTD - 26.6 MMT

GMP Data Tables 2B-3 to 2B-7

Over 95% of the tonnage directed to destinations within Western Canada moves in covered hopper cars. During the 2021-22 crop year this amounted to nearly 26.6 MMT, down 45.2% from a year earlier. Sixty-five percent of these hopper cars were destined to Vancouver, which remains the port of choice for exporting grain,

given its ready access to Asia-Pacific markets and the concentration of export terminal facilities. A 49.0% decline in hopper-car shipments to Vancouver was largely responsible for shaping the broader traffic reduction. This was supported by equally substantive decreases in shipments to Prince Rupert, Thunder Bay, and Churchill, which fell by 50.3%, 31.6%, and 100.0% respectively. Running counter to these decreases, however, was a gain in shipments to Western Domestic destinations, which rose by 11.6%.

US Destined Grain by Commodity

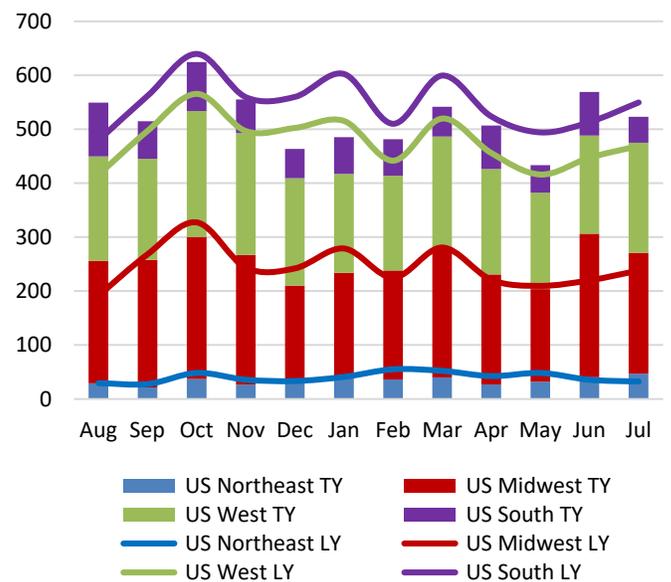


Total YTD - 6.2 MMT

GMP Data Table 2B-18

Total railway shipments into the US reached over 6.2 MMT in the 2021-22 crop year, down 5.2% from that handled a year earlier. About 80% of these shipments are directed into the Midwestern and Western US, with canola and canola products dominating.

US Destined Grain by Destination Territory (000's tonnes)



GMP Data Table 2B-18

System Efficiency and Performance

As the crop-year-end approached, primary-elevator stocks shrank to the lowest level registered all year, falling to 2.2 MMT in July. The overall crop-year average is 3.5 MMT. Country space was good throughout the year. Country stocks utilized just 40% of the working capacity of the network in July. Stocks ranged from 36% and 38% in Manitoba and Alberta respectively to 43% and 46% in Saskatchewan and British Columbia respectively.

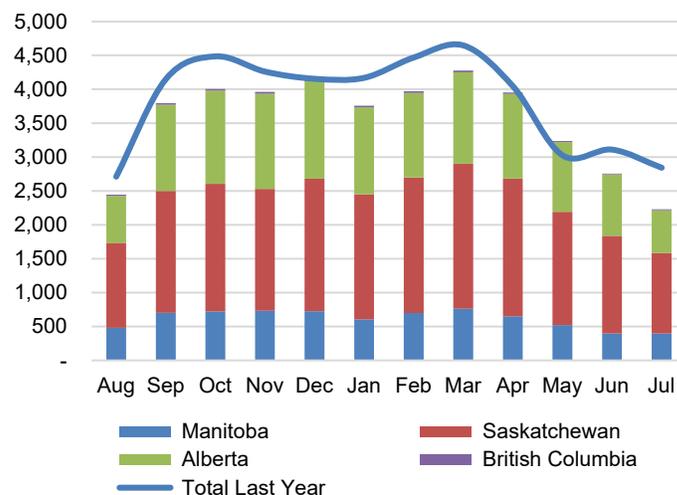
The average days-in-store in the primary-elevator system for the year to date increased from last year, rising 50.7% to 38.3 days.

Table M-4	JUL 2022	2021-22 YTD	Var. from Last YTD
Primary Elevator			
Average Weekly Stocks (000's tonnes)	2,228.2	3,548.6	-7.8%
Average Days in Store	24.6	38.3	50.7%
Railway Operations (days)			
Cycle Time to Western Ports	19.2	17.7	15.5%
Cycle Time to Eastern Canada	29.3	29.7	35.9%
Cycle Time to US	24.1	27.6	5.5%
Loaded Transit to Western Ports	5.5	6.8	-2.3%
Loaded Transit to Eastern Canada	13.6	13.5	25.4%
Loaded Transit to US	9.7	11.4	6.9%
Rail Fleet in Grain Service	11,024	14,166	-34.3%
Western Canada Terminal Elevator			
Average Weekly Stocks (000's tonnes)	1,031.8	1,118.4	-11.6%
Average Days in Store	15.3	16.5	68.4%
Port Unloads (hopper cars)	15,363	250,301	-45.3%
Terminal Out-of-Car Time	11.4%	15.3%	1.3%
Western Canada Port Operations			
Average Vessel Time in Port (days)	5.4	9.1	-14.3%

Car order and order fulfillment data is not complete from both railways and will not be reported until further notice.



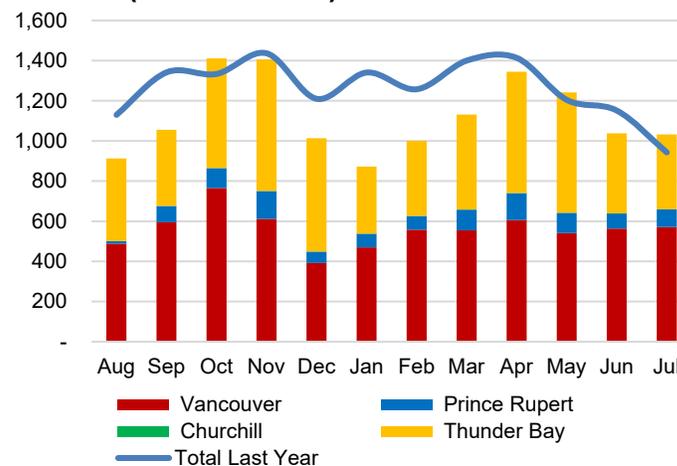
Average Weekly Primary Elevator Stocks (000's tonnes)



GMP Data Table 5A-2

Primary elevator stocks ended the last crop year averaging 2.8 MMT in store. In August, they pulled back further to average 2.4 MMT before reversing direction and rising to average 4.3 MMT in March. By July they had once again retreated to just 2.2 MMT. Wheat, including durum, and canola, comprise 65% of the total stock. At 18% of the stock, barley, oats and peas made up much of the balance.

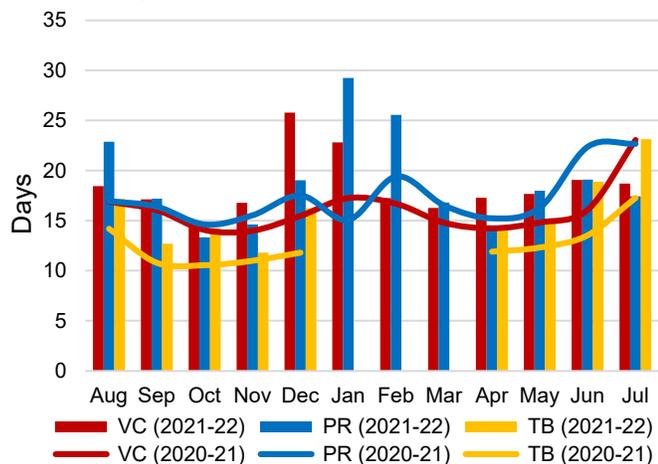
Average Weekly Terminal Elevator Stocks (000's tonnes)



GMP Data Table 5C-2

Overall terminal-elevator stocks averaged 1.1 MMT in the 2021-22 crop year, 11.6% less than the previous year. While holding relatively constant with the June levels, July stocks have retreated to just over 1.0 MMT from a springtime high of 1.35 MMT in April. Wheat, including durum, and canola, comprise nearly 88% of the total stock. In July, western ports utilized just 54% of their overall working capacity.

Railway Cycle Times to Western Ports (days)

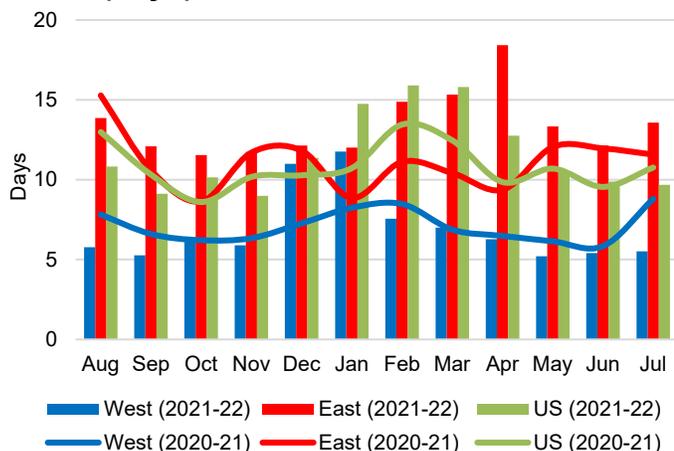


GMP Data Table 5B-1

The preliminary railway car cycle to Western Canadian ports averaged 17.7 days in the 2021-22 crop year, up 15.5% from the 15.3-day average posted in the previous crop year. This result reflected increases in all three corridors: with Vancouver up by 15.2%; Prince Rupert, 9.9%; and Thunder Bay, 25.4%.

The average car cycle on movements into Eastern Canada also rose, increasing 35.9%, to 29.7 days from 21.9 days a year earlier. The car cycle for movements into the United States rose by a much lesser 5.5%, to an average of 27.6 days from the 26.2-day average posted in the previous crop year.

Average Loaded Transit Times (days)

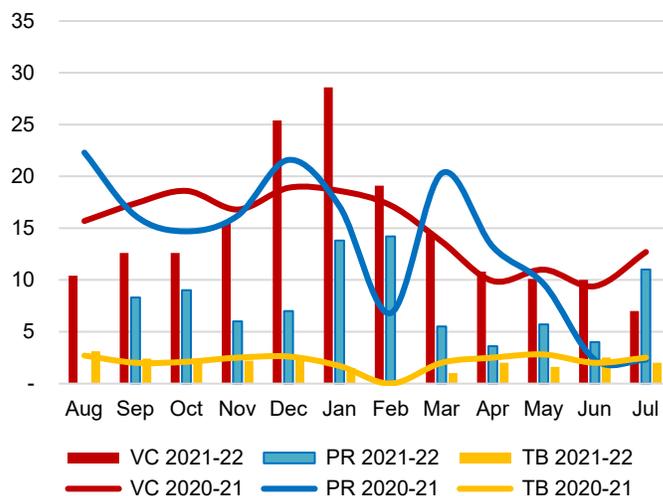


GMP Data Tables 5B-4, 5B-8, 5B-12

The loaded transit time for traffic destined to Western Canadian ports averaged 6.8 days in the 2021-22 crop year, down 2.3% from the 7.0-day average posted a year earlier. This was largely the product of decreases in the Vancouver and Prince Rupert averages, which fell by 2.3% and 10.5% respectively, while the Thunder Bay average rose 9.5%. A 25.4% increase was

observed on movements into Eastern Canada, with the average loaded transit time rising to 13.5 days from 10.7 days twelve months before. The average on movements into the United States increased by 6.9%, to 11.4 days from 10.7 days.

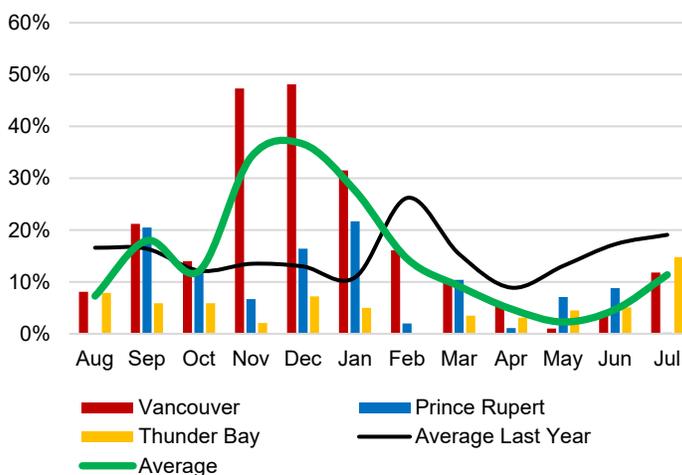
Average Days in Port per Vessel



GMP Data Table 5D-1

In July, the overall average time vessels were in port waiting and loading grain rose to 5.4 days from 5.3 days the month before. The crop-year-to-date average stands at 9.1 days, 14.3% lower than that registered in the previous crop year. While Vancouver and Thunder Bay experienced month-over-month decreases, Prince Rupert saw an increase from June levels. For the month of July, days in port stood at 7.0 for Vancouver, 11.0 for Prince Rupert and 2.0 for Thunder Bay.

Port Terminal Out-of-Car Time (% of total operating hours)



GMP Data Table 5C-5

The port terminal out-of-car time measure represents the total number of hours terminal elevator facilities are open and staffed (including overtime hours) and the corresponding number of hours that terminals have no rail cars available to unload. The

measure is expressed as a percentage (hours without cars to the total number of hours working).

The aggregate measure for all ports grew to 11.4% in July, with a crop-year-to-date average of 15.3%. Terminal out-of-car time at Vancouver grew to 11.8% in July and to 14.8% at Thunder Bay, while at Prince Rupert it fell to just 0.2%.

Commercial Relations

<i>Table M-5</i> Rates: \$CDN per tonne	Q4 2021-22	Index (1999=100)	% Change YTD
Avg. Primary Elevation	16.51	137.7	-0.4%
Rail to Vancouver			
CN	56.03	152.7	9.4%
CP	65.13	176.7	5.8%
Rail to Pr. Rupert			
CN	56.03	134.9	9.4%
Rail to Thunder Bay			
CN	49.71	153.8	5.1%
CP	47.48	158.1	-10.3%
Average Terminal Elevation	15.40	168.9	1.9%

Note: Commercial rates are measured on a quarterly basis, the above table refers to rates at the close of the fourth quarter of the 2021-22 crop year (as at 31 July 2022). Railway freight rates reflect average published single-car rates, and do not include multi-car incentives (\$8/tonne for 100+ car blocks).

Both CN and CP increased their single-car freight rates in the first quarter of the 2021-22 crop year. In the case of the former, this amounted to an initial across-the-board increase of 10.0% in August, followed by consecutive increases of 5.0% in both September and October. These rates remained unaltered until March 2022 when CN reduced its westbound rates by 7.0% and its rates into Thunder Bay by 13.0%. A further 2.9% reduction was applied against its westbound rates in April. With no ensuing changes in the fourth quarter, these actions produced net rate increases of 9.4% on movements into Vancouver and Prince Rupert, and 5.1% into Thunder Bay. In comparison, CP left its year-end rates to Vancouver unchanged until September, when it applied a 4.0% increase, followed by another 6.0% increase in October. Conversely, the carrier reduced its rates to Thunder Bay by 4.0% at the beginning of August before then applying increases of 4.0% in September and 5.0% in October. These remained unchanged until March 2022 when CP cut its Thunder Bay rates by 10.0%. This was followed in April by reductions of 3.9% for movements into Vancouver, and 5.0% into Thunder Bay. CP maintained these rates through the fourth quarter, effectively posting a net increase in its Vancouver rates of 5.8% while lowering its Thunder Bay rates by 10.3%.

Commercial Developments

Shippers again decry rail service: Although CN and CP were able to rebuild their heavily damaged routes through the Fraser River Valley within weeks of November 2021's disastrous rainfalls, the attendant service outage severed supply chains and

backlogged the flow of rail traffic well into the opening months of 2022. Despite the extraordinary causes, many within the grain industry came to believe that the normalization of rail service was being undermined by longstanding operational weaknesses, including the carriers' chronic failure to deploy the resources required to safeguard adequate carrying capacity. Moreover, they pointed to the increasing shortfalls in railway-supplied equipment at country elevators as being symptomatic of the deteriorating service being provided. This led the Western Grain Elevator Association (WGEA) to ask the Canadian Transportation Agency (Agency) to initiate an own-motion inquiry into the railway service issues. The Agency declined the request. While grain rail service has improved over the summer given the lower demand that is typical in this time of the year, shippers remain concerned about railway's capacity to transport 2022-23 crop year volumes, which are expected to be in line with historical averages.

Rule change may expand canola market: On 12 April 2022 the United States Environmental Protection Agency (EPA) advanced a proposed rule that could pave the way for canola oil being used in the making of renewable diesel, jet fuel and other products. The proposal, which came following the EPA's determination that the greenhouse gas emissions from canola-oil-based fuels were more than 50% below petroleum-based fuels, signaled that Canadian canola growers could be poised to gain access to a substantially expanding market. The Canola Council of Canada estimates that 5 to 8% of Canada's annual canola production – or about 1.8 MMT of seed – is currently directed into the North American biofuel sector. Preliminary estimates suggest that the rule change could open the market for a further 5.0 MMT in Canadian canola sales by 2030. Comparatively, this is more than twice the volume being sold into Canada's top export markets. It also indicated a bigger role for value-added processing in Western Canada, which is in the throes of completing several large investments in new canola-crushing and renewable diesel facilities. (Notwithstanding these positive overtones, Ceres Global Ag Corp announced that it was cancelling its plans for a new canola-crushing facility at Northgate, Saskatchewan, owing to higher-than-anticipated costs and changing economic conditions.) The proposed rule change was open to commentary until mid May, with the final rule expected to be issued by August 2022.

CN weathers 17-day strike: On 18 June 2022, following several months of unproductive bargaining over higher wages, about 750 signals and communications employees of the Canadian National Railway (CN), represented by the International Brotherhood of Electrical Workers (IBEW), went out on strike. CN management and contract personnel filled in for the striking unionized employees, who largely maintain the signals and trackside equipment, including the warning systems at railroad-highway crossings, along the railway's right-of-way. Following the IBEW's agreement to binding arbitration, the strike was lifted, with all member employees returning to work on 6 July 2022.

Additional funding for shortlines: In late July 2022 Transport Canada announced that it was allocating another \$18.3 million in investment for Saskatchewan shortline railways under the National

Trade Corridors Fund. The new funding is aimed at improving the efficiency of rail operations through four separate infrastructure upgrades being advanced by Big Sky Rail, the Last Mountain Railway, the Great Western Railway, and the Stewart Southern Railway.

Infrastructure

Apart from the railways' car fleet, GMP measures relating to infrastructure are reported on a quarterly basis. The 2021-22 crop year produced several modest, although noteworthy, changes in the GHTS's physical infrastructure.

The licensing and delicensing of several country elevators lifted the total network to 413 facilities from 411, with storage capacity reaching 9.4 MMT. The total number of loop-track facilities rose to 39 from 34.

There were no changes recorded against the railway network in the 2021-22 crop year. Total mileage remained unaltered at 17,265.7 route-miles, with 84.5% of this being operated by CN and CP.

The delicensing of the former Parrish & Heimbecker facility in Surrey BC reduced the terminal elevator network to 17 facilities with 2.8 MMT of storage capacity.

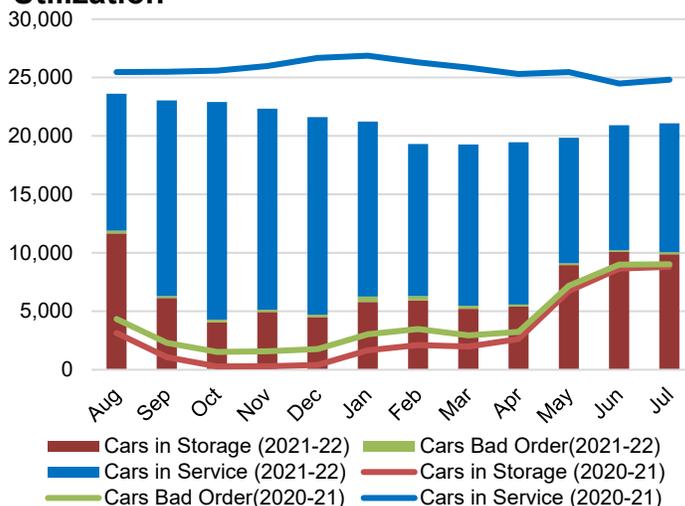
Table M-6	Q4 2021-22	Index (1999=100)	% Change YTD
Country Elevator			
Primary and Process Elevators (Count)	413	41.1	0.5%
Storage Capacity (000's tonnes)	9,406.4	133.9	1.5%
Railway			
Route Miles - Major Carriers	14,596.1	98.4	0.0%
Route Miles - Shortline Carriers	2,669.6	57.5	0.0%
Route Miles - Total	17,265.7	88.7	0.0%
Average Weekly Total Hopper Car Fleet Size*	20,631	n/a	-17.3%
Terminal Elevator			
Terminal Facilities (Count)	17	121.4	-5.6%
Storage Capacity (000's tonnes)	2,752.5	107.6	-5.4%

* Hopper Car Fleet Size represents all cars in all statuses for the 2021-22 crop year.

During times of heavy demand, nearly the entire hopper-car fleet is placed into service. It is normal practice for railways to move cars into storage as traffic volumes decrease in the latter months of the crop year. This was again the case in the 2021-22 crop year as the weekly number of cars in service initially ramped up to an average of 18,617 in October 2021 before then

progressively declining to a low of 10,693 in June 2022, with roughly half the fleet then having been placed in storage. It is worth noting that there were significant differences in the serviceable fleets of CN and CP at this point, with the former storing 57% of its fleet while CP stored a lesser 39%. July saw a modest increase in the average serviceable-car count with the combined fleet falling to a fourth-quarter average of 20,631 cars from 24,880 a year earlier.

Railway Grain Fleet Size and Utilization



GMP Data Table 3B-2

Producer Cars

No change was registered in the number of producer-car loading sites throughout the 2021-22 crop year. The total number of available producer-car loading locations at the end of July stands at 272.

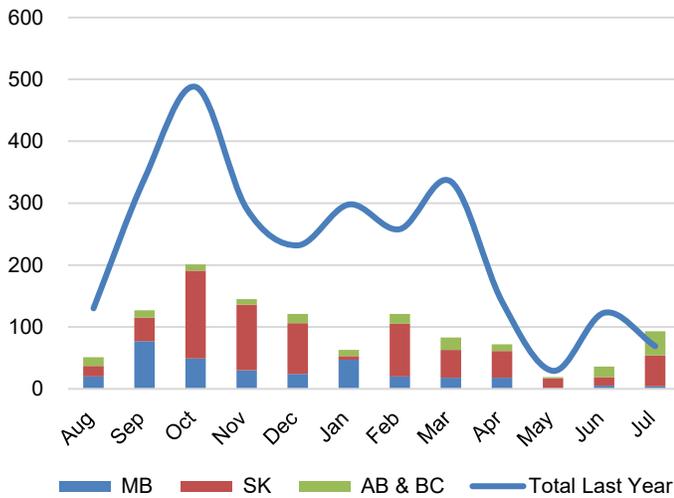
Table M-7	Q4 2021-22	Index (1999=100)	% Change YTD
Producer Car Loading Sites			
Class 1 Carriers	142	22.2	0.0%
Shortline Carriers	130	200.0	0.0%
All Carriers	272	38.3	0.0%

Table M-8	Q4 2021-22	2021-22 YTD	Var. from Last YTD
Producer Cars Scheduled			
Manitoba	9	312	-33.3%
Saskatchewan	81	645	-67.4%
Alberta & B.C.	39	156	-46.2%
Total	129	1,113	-59.3%

Producer cars scheduled for July 2022 were 7.2% more than in July 2021. Despite this one-month uptick, the overall crop year saw a downturn of 59.3% from the previous year. The 2021-22 crop year reverses the trend of improved producer-car numbers seen in the previous two crop years. The drought-reduced production of 2021 negatively impacted producer cars scheduled throughout the entire year.



Producer Cars Scheduled by Province

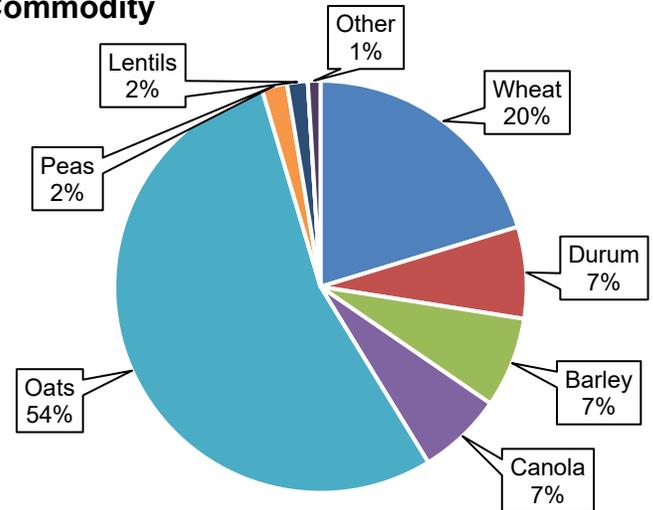


GMP Data Table 6B-2

Recent years has seen the proportion of producer-car shipments devoted to oats grow while a decrease has been registered in the number of cars carrying other cereal grains. Shipments throughout the 2021-22 crop year continue to reflect this trend, with oats

comprising 54% of the total, while wheat, durum and barley combined comprise only 34%. Canola contributed 7%, while special crops and other rounded out the final 5% of the total volume.

Producer Cars Scheduled by Commodity



GMP Data Table 6B-2



Quorum Corporation
 Suite 701, 9707 – 110 Street
 Edmonton, AB T5K 2L9
 Email: info@quorumcorp.net
 Web: www.grainmonitor.ca
 Phone: (780) 447-2111

This report provides a summary of the data developed under the Grain Monitoring Program. Detailed monthly Data Tables can be found in Excel format on Quorum's website at: www.grainmonitor.ca

Quorum welcomes questions and comments on the reports and data. Please contact us at our address by either phone or email