Annual Report

2012-2013 Crop Year

Monitoring the Canadian Grain Handling and Transportation System

Government of Canada
Gouvernement du Canada

Quorum Corporation

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Additional copies of this report may be downloaded from the Quorum Corporation website.

Foreword

The following report details the performance of Canada's Grain Handling and Transportation System (GHTS) for the crop year ended 31 July 2013, and focuses on the various events, issues and trends manifest in the movement of Western Canadian grain during the past year. This is the thirteenth annual report submitted by Quorum Corporation in its capacity as the Monitor appointed under the Government of Canada's Grain Monitoring Program (GMP).

As with the Monitor's previous quarterly and annual reports, the report that follows is structured around a number of measurement indicators. The close of the 2009-10 crop year saw the traditional five-group subdivision of these indicators changed, with their reorganization into a new six-group series, comprising:

Series 1 – Production and Supply
Series 2 – Traffic and Movement
Series 3 – Infrastructure
Series 4 – Commercial Relations
Series 5 – System Efficiency and Performance
Series 6 – Producer Impact

As in the past, each series builds on data collected by the Monitor from the industry's various stakeholders, and frames the discussion using year-over-year comparisons. To that end, activity in the 2012-13 crop year is largely gauged against that of the 2011-12 crop year. But the Grain Monitoring Program (GMP) was also intended to frame recent activity against the backdrop of a longer time series. Beginning with the 1999-2000 crop year – referred to as the GMP's "base" year – the Monitor has now assembled relatable quarterly data in a time series that extends through fourteen crop years. This data constitutes the backbone of the GMP, and is used widely to identify significant trends and changes in GHTS performance.

Although the data tables presented in Appendix 4 of this report can only depict a portion of this time series, the full series can be obtained as an .XLSX spreadsheet from the Monitor's website (www.quorumcorp.net). Additional .PDF copies of this report, as well as all past reports, can also be downloaded from the Monitor's website.

QUORUM CORPORATION

Edmonton, Alberta
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Executive Summary

With passage of the *Marketing Freedom for Grain Farmers Act* in December 2011, the Canadian Wheat Board (CWB) was slated to lose its long-held monopoly over the sale of western Canadian wheat and barley beginning with the 2012-13 crop year. This denoted one of the most significant changes to the functioning of the Grain Handling and Transportation System (GHTS) in three generations. Fortunately, this change was accompanied by favourable environmental conditions, characterized by good production, near-record grain prices and a fairly well performing logistics system.

PRODUCTION AND SUPPLY

Following two consecutive years of spring flooding, Western Canadian farmers, benefitting from generally favourable growing conditions, brought in the largest harvest since the 2009-10 crop year. Moreover, above-average yields and quality were reported across much of the prairies. As a result, overall grain production for the 2012-13 crop year increased by 6.2%, to 56.9 million tonnes from the previous crop year's 53.5 million tonnes. When combined with 5.7 million tonnes of carry-forward stocks, the grain supply reached 62.6 million tonnes. This embodied a 0.7% increase from the previous crop year's 62.2 million tonnes.

TRAFFIC AND MOVEMENT

Reflecting the marginal increase in the grain supply, the GHTS's total handlings rose slightly in the 2012-13 crop year. Even a steady decline in quarterly grain deliveries to country elevators did not detract from the setting of new record volumes under the Grain Monitoring Program (GMP).

- Country elevator throughput, as gauged by all road and rail shipments from the primary elevators situated across western Canada, decreased by 3.0%, to 34.3 million tonnes from 35.3 million tonnes a year earlier. Progressively weaker quarterly shipments effectively undermined the record-setting pace that had been set in the first three months of the crop year. This result was largely shaped by reduced shipments from Saskatchewan and Alberta, with their total shipments falling by 7.4% and 4.7% respectively. A 20.0% increase in shipments from Manitoba helped to partially offset these losses.

- The amount of grain moved by rail to western Canadian ports increased by 1.2%, to a GMP record of 29.6 million tonnes, from 29.3 million tonnes a year earlier. As in past years, the vast majority of this traffic, some 28.4 million tonnes, moved in covered hopper cars. The remaining 1.2 million tonnes moved in a combination of boxcars and containers for bulk and bagged grain shipments, as well as tankcars for export canola oil.

- The port of Vancouver remained the principal export destination for western Canadian grain, with covered-hopper-car shipments increasing by 2.8%, to 17.0 million tonnes, from 16.5 million tonnes. Complementing this was Prince Rupert, which posted an 8.3% increase, with volume climbing to a GMP record of 5.1 million tonnes from 4.7 million tonnes. In contrast, rail shipments to

Thunder Bay fell by 8.9%, with volume falling to 5.8 million tonnes from 6.4 million tonnes. Rail deliveries to Churchill also declined, albeit by a lesser 5.5%, to 498,900 tonnes from 528,000 tonnes.

- Port throughput, as measured by the volume of grain shipped from terminal elevator and bulk loading facilities located at Canada's four western ports, totalled 26.9 million tonnes in the 2012-13 crop year. Although this represented a marginal gain of just 0.1%, it resulted in the setting of a second consecutive volume record under the GMP. Vancouver accounted for 58.0% of this volume, with total marine shipments increasing by 2.0%, to 15.6 million tonnes from 15.3 million tonnes. This was supported by Prince Rupert with an 8.3% gain, with shipments rising to 5.1 million tonnes from 4.7 million tonnes a year earlier. Thunder Bay witnessed a 9.1% decrease in volume, with throughput falling to 5.7 million tonnes from 6.3 million tonnes. Churchill reported an 18.0% decrease in its handlings, which fell to 422,600 tonnes from 515,100 tonnes.

INFRASTRUCTURE

The infrastructure that defines the GHTS in western Canada has undergone significant change since the beginning of the GMP. Much of this reflects the rationalization of the country elevator network, which saw significant transformation in the first years of the Grain Monitoring Program (GMP). Even so, the evolution continues, with the following changes being noted in the 2012-13 crop year.

- The total number of country elevators increased by 1.3%, to 391 from 386 at the close of the previous crop year. This served to reduce the accumulated loss since the beginning of the GMP to 613 facilities, or 61.1%. Much the same was true of the network's grain delivery points, which increased by 1.1%, to 274 from 271. This was complemented by 112,200 tonnes of added storage capacity, with the overall total being raised to slightly under 6.9 million tonnes for the first time since the close of the 2000-01 crop year.

- With the loss of 230.1 route-miles of track in Saskatchewan and British Columbia, the western Canadian railway network shrank by 1.3% in the 2012-13 crop year, leaving 17,600.2 route-miles in place. Although this denotes a reduction of 9.6% from the 19,468.2 route-miles in place at the beginning of the GMP, the decline remains less than that of the elevator system it serves. There was also a shift in the balance between the Class 1 and non-Class-1 carriers as a result of the creation of two new shortline railways: the Lake Line Railroad; and the Long Creek Railroad. This served to reduce the infrastructure under Class 1 management to 14,907.3 route-miles, or 84.7%, and that under the non-Class-1 carriers to 2,692.9 route-miles, or 15.3%.

- The 2012-13 crop year brought the closure of one licensed terminal elevator at Thunder Bay, which reduced the remaining network to a collective of 15 facilities with 2.2 million tonnes of storage capacity. This resulted in Thunder Bay losing its long-held distinction in having the largest share of network assets, instead slipping to second place with six elevators and 43.3% of the associated storage capacity. Vancouver, which was lifted to the first-place ranking by its seven facilities, held a slightly lesser 41.0% share of the network's storage capacity. Prince Rupert and Churchill both followed with one terminal elevator each, and storage capacity shares of 9.5% and 6.3% respectively.

COMMERCIAL RELATIONS

Beyond the sweeping environmental changes brought on by the loss of the CWB's monopoly, there was little substantive change in the cost of many of the commercial services used to move grain through the GHTS, albeit railway freight rates moved substantially higher.

- Slumping oil prices did much to contain the commercial trucking rates associated with moving grain in the 2012-13 crop year. As a result, the composite price index for short-haul trucking remained unchanged at 162.2.

- Railway freight rates moved substantially higher in the 2012-13 crop year. Once again, these increases varied according to the corridor and carrier involved. Westbound movements saw the largest increases, with CN's single-car rates rising by about 21.0% while CP's rates posted a slightly greater 22.2% gain. Eastbound pricing showed a greater degree of contrast between the carriers, with CN's 4.0% increase paling against a 16.5% escalation posted by CP. The scope of these increases accentuated a 9.7% rise in the Volume-Related Composite Price Index.

- Only modest changes were noted in the per-tonne rates assessed by grain companies for a variety of primary elevator handling activities during the 2012-13 crop year. These ranged from a 0.1% increase in the rates they assessed for the removal of dockage to a 1.1% increase in those tied to the storage of grain.

- There was little real change to the rates assessed by the GHTS's terminal elevators for the receiving, elevating and loading out of grain in the 2012-13 crop year, with generally modest tariff adjustments leading the way to a 2.0% increase in the composite price index. The escalation applied to wheat and durum handled through Churchill proved to be the principal exception, with a third-quarter hike of 17.1% helping to raise rates by 48.5% over the last two crop years. Modest adjustments were also true of storage charges, which showed a 0.4% gain.

Commercial Developments

There were a number of significant developments in the commercial activities surrounding the movement of grain in the 2012-13 crop year. Moreover, a number of these would have a significant bearing on the workings of the GHTS in the years ahead.

- Following passage of the *Marketing Freedom for Grain Farmers Act* in December 2011, the Canadian Wheat Board (CWB) lost its long-held monopoly over the sale of western Canadian wheat and barley with the commencement of the 2012-13 crop year. This meant that producers were no longer obligated to sell wheat and barley intended for domestic human consumption or export solely to the CWB. Many in the grain industry had long argued for this change and had been preparing for open-market operations since the federal government announced its plans to introduce the enabling legislation. By most standards, this transition to open-market operations appeared largely problem free. The new marketing environment also brought increased

competition between grain companies, with price often being the key consideration in the producers' delivery choice. The new environment also appeared to have given farmers better flexibility in terms of grades, delivery options and predictable cash flow. In comparison to the grain companies, the revamped CWB appeared to face a number of transitional challenges. Since it possessed no grain-handling assets of its own, the CWB signed a variety of agreements with individual grain companies that would see these firms handling grain on its behalf. Even so, there were reported instances where elevator managers were reluctant to accept farmer deliveries on behalf of the CWB without a clear plan for outward shipping. Concerns that Canada's grain pipeline would struggle in the wake of the ending of the CWB's monopoly subsided fairly quickly in the opening months of the crop year as the GHTS moved record or near-record volumes.

- In March 2012 it was revealed that Viterra Inc. (Viterra), Canada's largest grain company, had agreed to be acquired by Glencore International PLC (Glencore), a conglomerate with significant grain-handling assets outside of North America, in an all-cash transaction valued at approximately $6.1 billion. Formed through the takeover of Agricore United by Saskatchewan Wheat Pool in 2007, Regina-based Viterra controlled a domestic network encompassing 96 licensed primary and process elevators, along with seven port terminals. These assets were employed in handling about 45% of all the grain delivered by producers in western Canada. The acquisition would allow Glencore to develop its physical reach while further leveraging its growing international network. But Glencore was not proposing to simply absorb Viterra, as it had also entered into separate agreements with Agrium Inc. (Agrium) and Richardson International Limited (Richardson International) for the sale of specific Viterra assets. Moreover, the proposed divestiture of assets to Richardson International would alter the competitive balance that had existed between the two largest grain handlers in western Canada. Although subject to various court, shareholder and regulatory approvals, by the close of the 2011-12 crop year, only the endorsement of China's Ministry of Commerce remained outstanding. Ultimately, China's approval came five months later. And when it did, Glencore moved quickly to finalize its acquisition of Viterra, completing the transaction on 18 December 2012. Concurrent with this, the Competition Bureau gave its approval to the sale of over $800 million in Viterra's existing grain-handling assets to Richardson International, with the transfer ultimately concluded on 1 May 2013. This was not, however, the case for those assets slated for sale to Agrium, which at the close of the crop year had yet to receive the approval of the Competition Bureau.

- Following on the heels of the terminal-elevator network's first significant expansion in several years, the 2012-13 crop year saw the closure of yet another terminal elevator in Thunder Bay. Within a larger context, however, these seemingly disparate swings denoted facets in a broader redistribution of network capacity. The most visible aspect of this was seen in Richardson International's decision to add an 80,000-tonne concrete annex to its facility in North Vancouver. The $120-million investment, which received a project permit from Port Metro Vancouver in mid April 2013, would increase the facility's storage capacity by 64.8%, to 178,000 tonnes from its current 108,000 tonnes. Already handling some 3 million tonnes of grain and oilseeds annually, this expansion would enable the company to boost its yearly throughput to over 5 million tonnes. This expansion came atop another equally major change to the makeup of the company's terminal-elevator network, that stemmed from Glencore's takeover of Viterra, and which provided for the sale of certain commercial interests and assets to Richardson International. The sale, finalized on 1 May 2013, included takeover of the Viterra C terminal in Thunder Bay, which was de-

licensed immediately afterwards. Despite this closure, Richardson International gained outright ownership of three terminal elevators along with a commercial interest in two others. This expanded presence was widely expected to enhance the company's grain-handling abilities in both the Canadian and international marketplace.

- In December 2012 the federal government enacted a number of amendments to the *Canada Grain Act*. These amendments, which marked the first substantive changes to the Act in more than forty years, were aimed at modernizing and streamlining the operations of the Canadian Grain Commission (CGC), eliminating any unnecessary or redundant services, and reducing the regulatory burden on the grain industry. Among the more noteworthy provisions of the legislation was the transfer of responsibility for inward weighing and inspection at terminal elevators from the CGC to the private sector. Similarly, the responsibility for the weighing and inspecting of domestic laker shipments was also to be transferred to the private sector. Other changes included: the elimination of the Grain Appeal Tribunal, along with the registration and cancellation of receipts, and weighovers at local elevators; the combination of existing terminal and transfer elevator licenses into a single terminal elevator class; and the planned replacement of the current Payment Protection Program with an insurance-based producer payment protection mechanism.

- In response to the concerns that had been raised by a majority of rail shippers regarding the state of railway service in Canada, the federal government committed itself in early 2008 to a review of railway service. In response to three-member review panel's final report to the Minister of State (Transport) in late December 2010, the federal government adopted a four-point course of action that would ultimately lead to legislation giving shippers the right to railway service agreements. These efforts culminated in the passage of Bill C-52, the *Fair Rail Freight Service Act*, which received Royal Assent on 26 June 2013. The Act's primary thrust is directly aimed at incentivizing shippers and railways alike to commercially negotiate their own service agreements. However, it also contains provisions for arbitration should such negotiations prove unsuccessful, and monetary penalties of up to $100,000 for each violation of an arbitrated service level agreement.

SYSTEM EFFICIENCY AND PERFORMANCE

Despite a minor increase in the grain supply, which rose to 62.6 million tonnes from 62.2 million tonnes a year earlier, the amount of grain shipped in the 2012-13 crop year reached a GMP record of 29.6 million tonnes. This meant that the demand pressures brought to bear on the GHTS proved to be the greatest yet observed under the GMP.

- The overall amount of time involved in moving grain through the supply chain fell to a new low in the 2012-13 crop year, to an average of 46.2 days from the previous crop year's overall 47.1-day average. This was largely shaped by a 1.1-day reduction in the amount of time spent by grain in storage at a country elevator, which fell to an average of 26.5 days from 27.6 days. An additional 0.2 days was derived from a decrease in the railways' loaded transit time, which fell to an average of 5.4 days from 5.6 days. These improvements were partially offset by a 0.4-day increase in the amount of time grain spent in inventory at a terminal elevator.

- While the measures gathered under the GMP suggest that the GHTS bore these pressures reasonably well, there were signs that the system might also have begun to bend under the stress. These indications, which largely began to manifest themselves towards the end of October 2012, centred on some emergent problems with railcar supply in the country. In the second quarter, this shifted to a sharp rise in the number of ships waiting to load, particularly at the port of Vancouver. By the third quarter a hard winter was beginning to undermine railway operations, producing longer car cycles that only aggravated these earlier problems. Ultimately, the fourth quarter brought some relief from these demand pressures, with the fluidity of the GHTS improving measurably. Even so, these operational problems suggested that the demands placed on the supply chain might well have exceeded what the GHTS was capable of meeting on a consistent basis.

PRODUCER IMPACT

All of the data assembled since the beginning of the GMP has consistently shown that the financial returns arising to producers have been heavily influenced by the prevailing price of grain. While the export basis has unquestionably risen over time, it is the prevailing price of the commodity that continues to have the most sway over these returns. This was equally true of the 2012-13 crop year, which saw higher prices for wheat and canola but lower ones for durum and yellow peas.

- After moving steadily higher in the first quarter, wheat and durum prices began to slip in the face of softening markets, with the decline continuing on into the fourth quarter. To a large extent these declines reflected the growing prospect of an increase in the global wheat supply, with better-than-expected production estimates leading to still lower prices at the close of the crop year. After deduction of the export basis, this left producers with estimated financial returns of $275.27 per tonne on 1CWRS wheat, and of $280.25 per tonne on 1CWA durum. Although the move to an open marketing environment necessitated a change in the approach taken to determine these values, the results are largely consistent with those derived for the previous crop year employing the GMP's original methodology.
- Canola saw the sharpest overall appreciation in price, with the Vancouver cash price for 1 Canada canola increasing by 10.6%. This helped to lift the producer's netback by 11.2%, to a GMP record of $595.10 per tonne from $535.05 per tonne a year earlier. Although stronger year-end prices were witnessed for yellow peas, the upturn came too late to overcome earlier weakness. As a result, its average price slipped by 4.5%, spearheading a decline in the producer's netback. Although a 12.5% reduction in the export basis helped blunt much of this, producers were left with an estimated financial return of $311.43 per tonne, down 2.2% from the previous crop year's $318.28-per-tonne average.

Producer-car loading has increased substantially since the beginning of the GMP. This has come about as a result of many factors, not the least of which has been the formation of producer-car loading groups. Some of the more significant changes observed in the 2012-13 crop year are noted below.

- The number of producer-car loading sites situated throughout western Canada has been reduced by almost half since the beginning of the GMP, with only 366 of the original 709 left in service at the close of the 2011-12 crop year. The 2012-13 crop year saw the closure of four sites, which reduced the remainder to 362. In the process, the count for Class 1 carriers diminished by six sites while that of the Class 2 and 3 carriers rose by two. As a result, the number of sites operated by the major railways fell to 228 while those tied to the shortlines increased to 134.

- Despite a strong showing in the first quarter, producer-car shipments fell sharply through the remaining three quarters. As a result, total producer-car shipments for the 2012-13 crop year decreased by 35.4%, to 9,259 carloads from 14,341 carloads a year earlier. This represented 2.9% of all covered hopper car movements; a substantive reduction from the 4.6% share garnered twelve months before. While the share accorded to producer-car shipments of wheat, durum and barley fell dramatically, there was a sharp rise in the movement of oilseeds and other commodities. Moreover, these shipments encompassed a much greater share of total producer-car movements, rising to 15.8% from 6.1% in the previous crop year. Much of this latter gain was attributable to the CWB's newly-acquired ability to handle these commodities, and which provided producers with a much needed marketer for these shipments.

Section 1: Production and Supply

Indicator Description	Table	1999-00	2010-11	2011-12	2012-13 Q1	Q2	Q3	Q4	YTD	% VAR
Production and Supply										
Crop Production (000 tonnes)	1A-1	55,141.7	50,071.2	53,543.9	56,882.1				56,882.1	6.2%
Carry Forward Stock (000 tonnes)	1A-2	7,418.2	11,200.1	8,627.9	5,733.5				5,733.5	-33.5%
Grain Supply (000 tonnes)		62,559.9	61,271.3	62,171.8	62,615.6				62,615.6	0.7%
Crop Production (000 tonnes) – Special Crops	1A-3	3,936.7	5,617.4	4,474.6	5,551.8				5,551.8	24.1%

PRODUCTION AND SUPPLY

Following two consecutive years of spring flooding, Western Canadian farmers, benefitting from generally favourable growing conditions, brought in the largest harvest since the 2009-10 crop year. Moreover, above-average yields and quality were reported across much of the prairies. As a result, overall grain production for the 2012-13 crop year increased by 6.2%, to 56.9 million tonnes from the previous crop year's 53.5 million tonnes.[1] [Table 1A-1]

Despite the increase in domestic production, global grain supplies were tightening. Production problems in the Black Sea as well as the American Midwest were the primary factors in this but were also enlarged by smaller harvests in South America as well as Australia. All of this served to bolster commodity prices.

Provincial Distribution

The overall increase in prairie grain production was driven by Manitoba's heightened output, which rose by 63.0%, to 9.3 million tonnes from 5.7 million tonnes a year earlier. This gain marked not only the province's return to full production following two years of severe flooding, but a better-than-average harvest as well.[2] Saskatchewan followed with a more moderate 2.4% increase, with total output rising by 629,100 tonnes, to 27.4 million tonnes from 26.7 million tonnes. These gains were partially offset by declines in other grain-producing provinces.

Figure 1: Precipitation Compared to Historical Distribution (1 April to 27 August 2012)

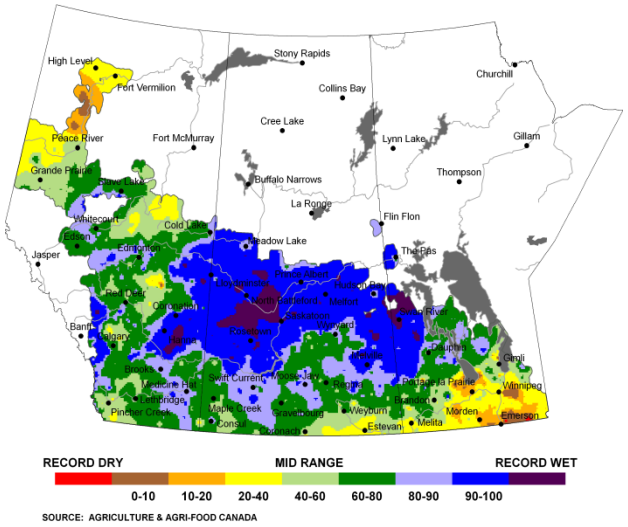
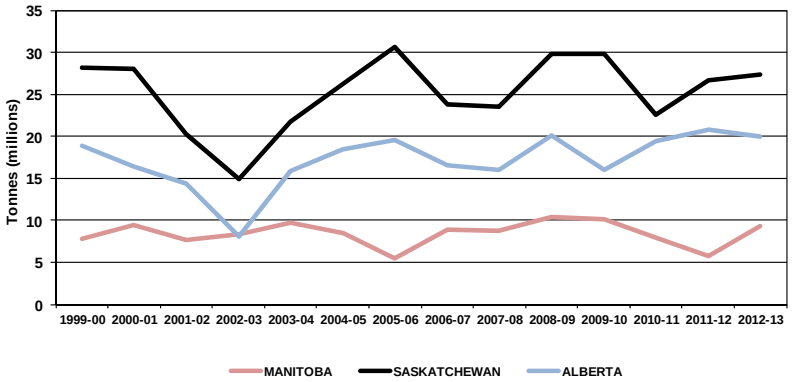


Figure 2: Provincial Grain Production



1 Total crop production was reported in the Monitor's preceding quarterly reports as 55.6 million tones. Owing to subsequent revisions, this value was later raised by Statistics Canada to 56.9 million tonnes.

2 Although Manitoba has often experienced flooding of the Red and Assiniboine Rivers in the spring, an unusually heavy snowfall led to a severe flooding of the Assiniboine River in 2011. Described as a once-in-300-year event, the flood significantly affected crop production in the western part of the province. This was aggravated by flooding of the Souris River, which also flows into the Assiniboine River.

The most pertinent loss was reported by Alberta, where total output fell by 832,600 tonnes, or 4.0%, to 20.0 million tonnes from the previous crop year's 20.8-million-tonne record. Adding to this was a 45,000-tonne decrease for British Columbia, where production fell by 13.7%, to 283,200 tonnes from 328,200 tonnes.

Commodity Distribution

The 2012 growing season saw increased production for a number of crops. The most significant gain was made by wheat, durum and barley, which collectively rose by 8.1% against a 3.8% increase in the output of oilseeds and other commodities. With total wheat, durum and barley production rising to 32.6 million tonnes from 30.1 million tonnes a year earlier, this sector accounted for 57.3% of total grain production. Oilseeds and other commodities rose to 24.3 million tonnes from 23.4 million tonnes, and represented 42.7% of the total output.

The 2.5-million-tonne increase in wheat, durum and barley production was led by a 10.5% increase in the amount of wheat harvested, which rose to 20.5 million tonnes from 18.5 million tonnes a year earlier. This was augmented by the effects of a 10.9% increase in durum production, which saw output rise to 4.6 million tonnes from 4.2 million tonnes the previous year. A 0.8% increase for barley saw production rise to 7.5 million tonnes from 7.4 million tonnes.

With almost 13.8 million tonnes of production, canola accounted for 56.7% of the 24.3 million tonnes of oilseeds and other commodities harvested in the 2012-13 crop year. Nonetheless, this represented a 731,900-tonne decrease from the 14.5 million tonnes of canola produced a year earlier, owing in large measure to the adverse effects of a poorer yield. This reduction was broadened by a 344,600-tonne decrease in oat production, which fell to 2.5 million tonnes from 2.8 million a year earlier. Even so, these losses were more than offset by a 2.0-million-tonne increase in the output of other commodities, chiefly dry peas and soybeans.

Figure 3: Grain Production – Major Commodity Groupings

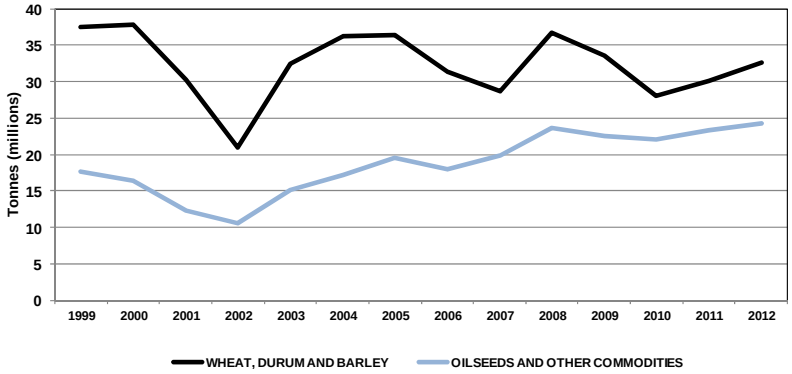
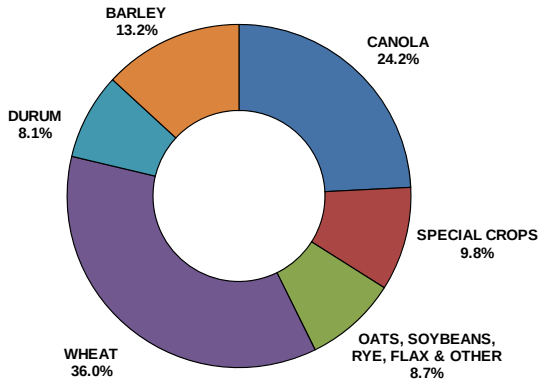


Figure 4: Major Grain Production – 2012-13 Crop Year



Special Crops

Coinciding with the gain in production of oilseeds and other commodities was an increase in the output of special crops. Total production for the sector amounted to almost 5.6 million tonnes, up 24.1% from the 4.5 million tonnes reported a year earlier.[3] This 1.1-million-tonne gain reflected a 33.5% increase in dry pea production – the sector's largest single crop – which rose to 3.3 million tonnes from 2.5 million tonnes a year earlier. This gain was augmented by a rise in the output of lentils, chickpeas, dry beans, sunflower seed, canary seed and lentils. Detracting marginally from these gains was a modest reduction in the production of mustard seed. [Table 1A-3]

Carry-Forward Stock and Western Canadian Grain Supply

While grain production has the most immediate impact on the grain supply, it is also affected by the amount of grain held over in inventory from the previous crop year. In fact, carry-forward stocks typically account for about one-sixth of the overall grain supply.[4] These stocks tend to move in conjunction with changes in grain production, albeit on a lagging basis.

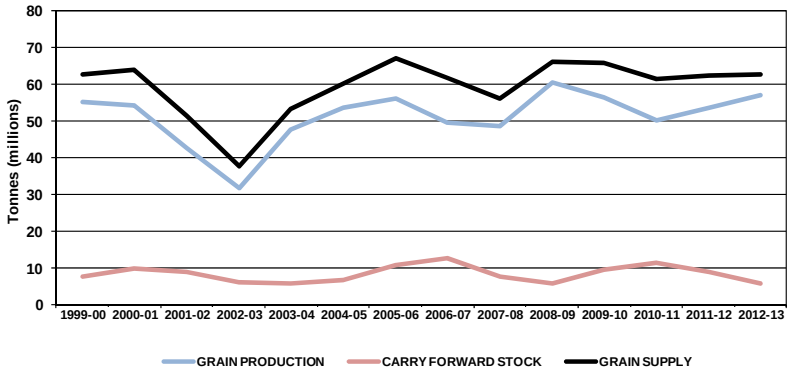
Totalling some 5.7 million tonnes, these stocks proved to be 33.5% less than the 8.6 million tonnes that had been carried forward a year earlier.[5]

3 For the purposes of the GMP, special crops are defined as including the following: dry peas; lentils; mustard seed; canary seed; chickpeas; dry beans; sunflower seed; safflower seed; buckwheat; and fababeans. An often referenced subset of special crops, known as pulse crops, encompasses dry peas, lentils, chickpeas, dry beans and fababeans.

4 Carry-forward stocks are defined as inventories on hand, be it on farms or at primary elevators, at the close of any given crop year (i.e., 31 July). As such, they are also deemed to be the stocks on hand as the new crop year begins (i.e., 1 August). The carry-forward stocks cited here are derived from data provided by Statistics Canada and the Canadian Grain Commission.

5 Total carry-forward stocks were reported in the Monitor's first three quarterly reports as 6.1 million tones. Owing to a subsequent revision by Statistics Canada, this value was later lowered to 5.7 million tonnes.

Figure 5: Western Canadian Grain Supply



Much of the impetus for this 2.9-million-tonne reduction came from the continuing strong demand for Canadian export grain in the previous crop year, which drew down year-end stock levels. When combined with 56.9 million tonnes of new production, the grain supply reached 62.6 million tonnes. This embodied a 0.7% increase over the previous crop year's 62.2 million tonnes. [Table 1A-2]

With a 1.3-million-tonne reduction in carry-forward stocks, Saskatchewan posted the most substantive decline. This was followed closely by Alberta, with a 1.2-million-tonne drop, and Manitoba, with a 422,000-tonne decrease. Only British Columbia, which reported an increase of 38,200 tonnes, provided an offset to these reductions. With the exception of oats, the carry-over for all major grain stocks moved sharply lower.

Section 2: Traffic and Movement

Indicator Description	Table	1999-00	2010-11	2011-12	2012-13 Q1	Q2	Q3	Q4	YTD	% VAR
Country Elevator Throughput										
Grain Throughput (000 tonnes) – Primary Elevators	2A-1	32,493.9	32,270.4	35,338.7	9,874.0	8,868.9	8,278.1	7,257.7	34,278.7	-3.0%
Railway Traffic										
Railway Shipments (000 tonnes) – All Grains	2B-1	26,439.2	28,007.8	29,261.9	8,755.4	7,802.5	7,353.4	5,690.3	29,601.5	1.2%
Railway Shipments (000 tonnes) – Hopper Cars	2B-1	25,664.6	27,096.7	28,152.9	8,460.1	7,507.5	6,991.5	5,458.2	28,417.2	0.9%
Railway Shipments (000 tonnes) – Non-Hopper Cars	2B-1	774.7	911.1	1,109.0	295.3	295.0	361.9	232.1	1,184.2	6.8%
Special Crop Shipments (000 tonnes) – All Grains	2B-2	2,102.9	3,524.7	2,623.4	1,165.4	627.5	1,124.5	828.3	3,745.7	42.8%
Special Crop Shipments (000 tonnes) – Hopper Cars	2B-2	1,844.1	3,480.6	2,476.5	1,128.7	585.1	1,067.4	768.0	3,549.2	43.3%
Special Crop Shipments (000 tonnes) – Non-Hopper Cars	2B-2	258.7	44.2	147.0	36.8	42.4	57.1	60.3	196.5	33.7%
Hopper Car Shipments (000 tonnes) – Origin Province	2B-3									
Hopper Car Shipments (000 tonnes) – Primary Commodities	2B-4	25,664.6	27,096.7	28,152.9	8,460.1	7,507.5	6,991.5	5,458.2	28,417.2	0.9%
Hopper Car Shipments (000 tonnes) – Detailed Breakdown	2B-5									
Hopper Car Shipments (000 tonnes) – Grain-Dependent Network	2B-6	8,685.9	7,672.8	8,490.9	2,559.4	2,122.2	1,958.5	1,581.7	8,221.7	-3.2%
Hopper Car Shipments (000 tonnes) – Non-Grain-Dependent Network	2B-6	16,978.7	19,423.8	19,662.0	5,900.7	5,385.4	5,033.0	3,876.5	20,195.5	2.7%
Hopper Car Shipments (000 tonnes) – Class 1 Carriers	2B-7	23,573.5	26,145.6	27,029.3	8,150.6	7,235.8	6,738.0	5,201.6	27,326.0	1.1%
Hopper Car Shipments (000 tonnes) – Non-Class-1 Carriers	2B-7	2,091.0	951.0	1,123.6	309.5	271.7	253.5	256.6	1,091.3	-2.9%
Terminal Elevator Throughput										
Grain Throughput (000 tonnes) – All Commodities	2C-1	23,555.5	25,428.1	26,896.9	7,570.3	7,376.6	6,098.1	5,877.6	26,922.6	0.1%
Hopper Cars Unloaded (number) – All Carriers	2C-2	278,255	283,101	295,397	92,740	81,978	65,609	60,096	300,423	1.7%
Hopper Cars Unloaded (number) – CN	2C-2	144,800	151,554	151,790	47,923	43,140	33,982	28,706	153,751	1.3%
Hopper Cars Unloaded (number) – CP	2C-2	133,455	131,547	143,607	44,817	38,838	31,627	31,390	146,672	2.1%

COUNTRY ELEVATOR THROUGHPUT

Country elevator throughput, as gauged by all road and rail shipments from the primary elevators situated across western Canada, decreased by 3.0% in the 2012-13 crop year. Despite the best first-quarter showing under the GMP, shipments throughout the remainder of the crop year declined steadily. As a result, total shipments for the crop year fell by slightly more than 1.0 million tonnes, to 34.3 million tonnes from 35.3 million tonnes a year earlier.

This result was largely shaped by reduced shipments from Saskatchewan and Alberta. Primary-elevator shipments from Saskatchewan accounted for much of the decline, falling by 7.4%, to 15.9 million tonnes from 17.2 million tonnes a year earlier. Alberta followed with a 4.7% decrease in shipments, which fell to 13.0 million tonnes from 13.6 million tonnes. Partially offsetting these losses were heightened shipments from Manitoba and British Columbia. Manitoba provided the largest offset, with throughput rising by 20.0%, to 5.0 million tonnes from 4.2 million tonnes a year earlier. [Table 2A-1]

RAILWAY TRAFFIC

The amount of regulated grain moved by rail to western Canadian ports in the 2012-13 crop year reached a new GMP record of 29.6 million tonnes, up 1.2% from the previous crop year's 29.3-million-tonne record. As in past years, the vast majority of this traffic, some 28.4 million tonnes, moved in covered hopper cars. The remaining 1.2 million tonnes moved in a combination of boxcars and containers for bulk and bagged grain shipments, as well as tankcars for export canola oil. These latter movements represented a comparatively small fraction of total railway shipments, although their share rose to 4.0% from 3.8% a year earlier. [Table 2B-1]

Compared to the grain movement in general, special-crop shipments in the 2012-13 crop year proved particularly strong, increasing by 42.8%. This led to the setting of a new GMP record: 3.7 million tonnes against 2.6

Figure 6: Primary Elevator Throughput

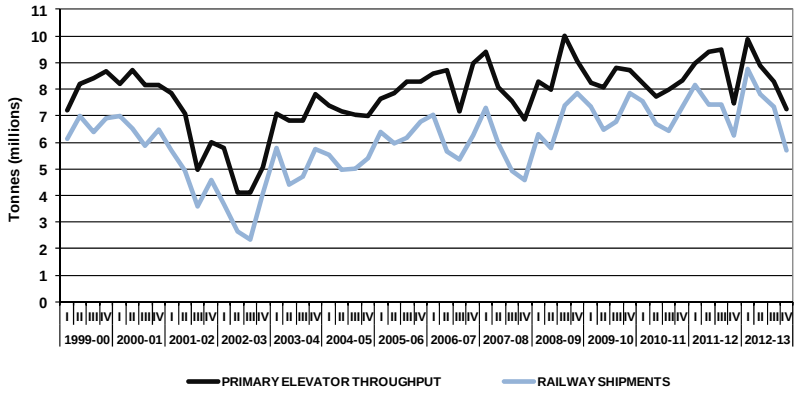
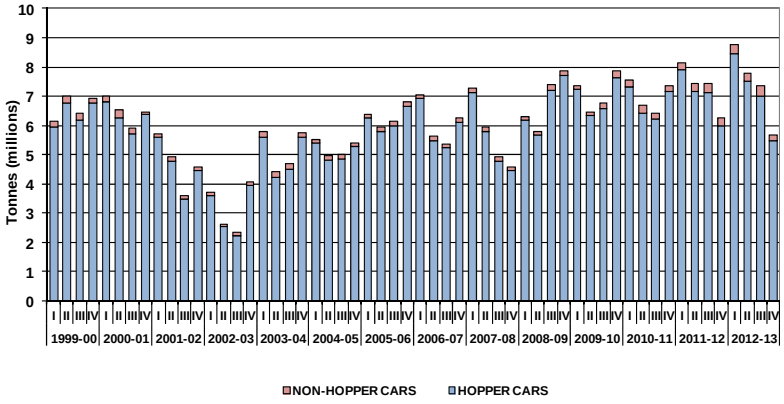


Figure 7: Railway Shipments – Hopper and Non-Hopper Cars



million tonnes a year earlier. Hopper-car shipments accounted for 94.8% of this volume, increasing by 43.3%, to 3.5 million tonnes from 2.5 million tonnes. A lesser 33.7% rise in non-hopper-car shipments (boxcars, containers and tankcars) resulted in their share of the overall movement falling to 5.2% from 5.6% a year earlier. [Table 2B-2]

Hopper Car Movements

Western Canadian hopper-car shipments reached a GMP record of 28.4 million tonnes in the 2012-13 crop year, increasing by a marginal 0.9% over the 28.2 million tonnes handled a year earlier. Although this proved somewhat less than the 6.2% increase in grain production, it was consistent with the 0.7% rise in the overall grain supply.

This result was primarily shaped by an increase in traffic from Manitoba and Saskatchewan. Manitoba made the most substantive contribution, with total shipments rising by 29.5%, to 2.7 million tonnes from 2.0 million tonnes a year earlier. This was followed by Saskatchewan, which posted a 4.4% increase, with shipments rising to 13.5 million tonnes from 12.9 million tonnes. Complementing these increases was an 8.0% gain in traffic from British Columbia, which rose to 251,800 tonnes from 233,100 tonnes. Partially countering these gains was a 7.1% reduction in the amount of grain shipped from Alberta, which fell to 12.0 million tonnes from 13.0 million tonnes. [Tables 2B-3 through 2B-5]

While the volume of grain directed into the GHTS is largely based on grain supply, its movement is constrained by the railways' available carrying capacity. This encompasses more than just the number of hopper cars allocated to moving grain, and ultimately reflects several other resource constraints, including the availability of motive power and crews. Equally important is the efficiency with which these resources are employed. A large portion of the volume gains witnessed since the beginning of the GMP stems from a 30% reduction in the average car cycle. A moderate contribution has also come from a 3.5% increase in payload weights, much of which has been tied to the railway industry's

Figure 8: Railway Hopper Car Shipments – Destination Port

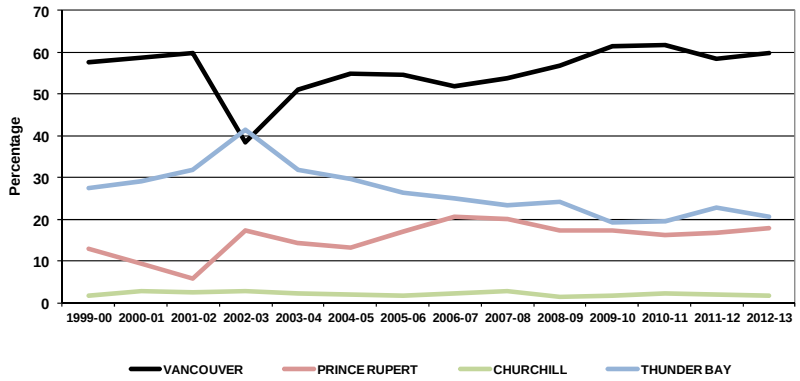
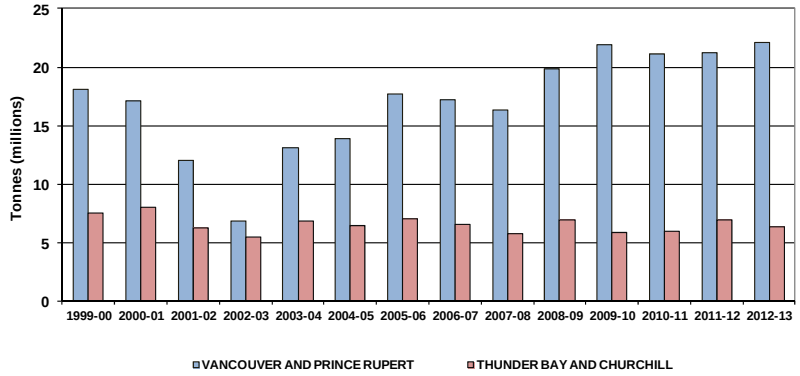


Figure 9: Railway Hopper Car Shipments – West-Coast Orientation



use of larger hopper cars and an upgrading of the government-owned fleet.[6]

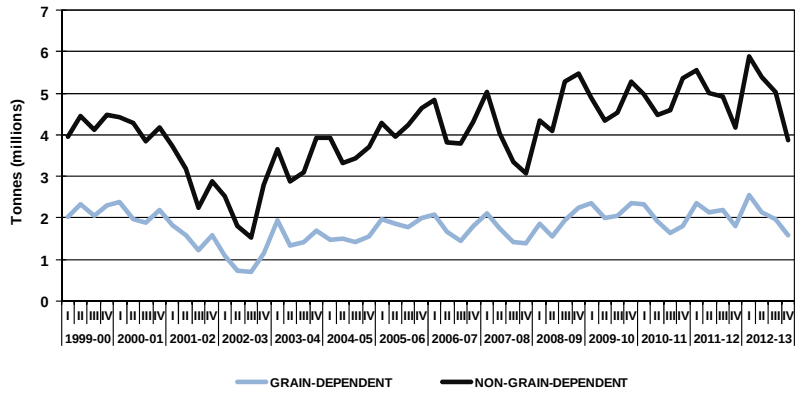
Destination Ports

The port of Vancouver remained the principal export destination for western Canadian grain in the 2012-13 crop year. Traffic to Vancouver increased by 2.8%, to 17.0 million tonnes from the 16.5 million tonnes directed there a year earlier. The port's share of railway shipments also increased, rising to 59.7% from 58.6%. In comparison, Prince Rupert posted an 8.3% increase in railway shipments, with volume climbing to a GMP record of 5.1 million tonnes from 4.7 million tonnes. The port also took a slightly greater share of the overall movement, which rose to 18.0% from 16.8%. On a combined basis, these two west-coast ports handled 77.7% of the grain directed to export positions, earning them a moderately greater proportion of the total grain movement than the 75.4% share they secured a year earlier.

This shift towards westbound grain shipments became more pronounced in the second half, with eastbound movements slumping noticeably as a result. In fact, total shipments into Thunder Bay and Churchill declined by 597,100 tonnes, or 8.6%, in the 2012-13 crop year. Rail deliveries into Thunder Bay fell by 8.9%, to 5.8 million tonnes from 6.4 million tonnes a year earlier. Consequently, the port's share of total railway hopper-car shipments also fell, to 20.5% from 22.7%. Adding to this erosion was the decline in railway shipments into Churchill, which fell to 498,900 tonnes from 528,000 tonnes a year earlier. This too resulted in a traffic-share reduction, which decreased to 1.8% from 1.9%.

The dominance of the west-coast ports is deeply rooted in Canada's Asia-Pacific grain trade. And while there can be little doubt that freight rates and the allocation of railcars have had some influence over the comparative use of both Vancouver and Prince Rupert at various points in time, the amount of grain exported through these west-coast ports continues to reflect the strong demand for Canadian grain in markets such as China and Japan. Nor does it appear that the role accorded to the west-coast ports will soon diminish, given that about half of Canada's grain exports are directed to markets in the Asia-Pacific region.

Figure 10: Hopper Car Shipments – Grain-Dependent Originations



Grain-Dependent and Non-Grain-Dependent Originations

The effect of both elevator and railway rationalization continues to manifest itself in changes to the railways' traffic mix. In the 2012-13 crop year, the tonnage originated by the non-grain-dependent network increased by 2.7%, to 20.2 million tonnes from 19.7 million tonnes a year earlier. At the same time, traffic originating at points on the grain-dependent network fell by 3.2%, to 8.2 million tonnes from 8.5 million tonnes.

6 In 2007 the Government of Canada concluded new agreements with CN and CP for the operation of its government-owned fleet of covered hopper cars. A key provision in these agreements was the requirement that both carriers physically refurbish the cars, and raise the maximum load limit to 286,000 pounds from 263,000 pounds. Over the span of the GMP, this has helped to raise the average payload for a carload of grain by some three tones, to about 89 tonnes from the 86 tonnes benchmarked in the base year.

As these results suggest, the non-grain-dependent network continues to garner a larger share of the overall traffic volume. With the close of the 2012-13 crop year, 71.1% of all the grain originated in western Canada was forwarded from points on the non-grain-dependent network. This value stands noticeably above the 66.2% share garnered in the GMP's base year. The reverse is of course true of the traffic originated by the grain-dependent network, whose relative share fell to 28.9% from 33.8% over the same span of time. [Table 2B-6]

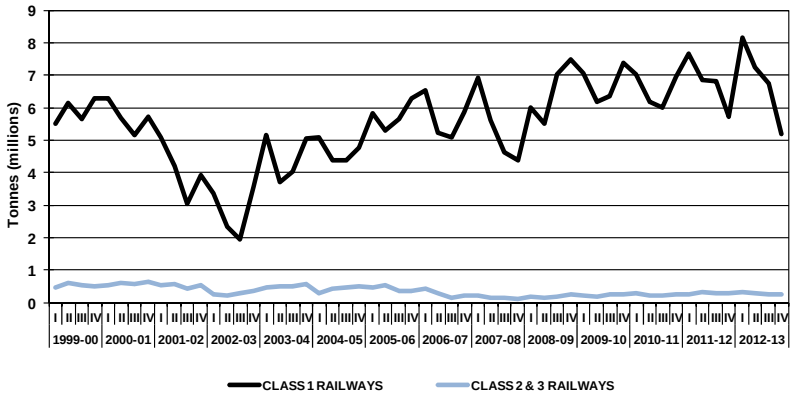
Class 1 and Non-Class-1 Originations

The same structural influences are also apparent in the volumes of grain originated by the Class 1 and non-Class-1 railways. Nominally, the tonnage originated by the Class 1 carriers increased by 1.1% in the 2012-13 crop year, to 27.3 million tonnes from 27.0 million tonnes. At the same time, the tonnage originated by the non-Class-1 carriers fell by 32,300 tonnes, or 2.9%, but left total originations effectively unchanged at 1.1 million tonnes. It should be noted that although the 2012-13 crop year saw the establishment of two new shortline railways, the Lake Line Railway and the Long Creek Railroad, a sharp decrease in producer-car loadings served to more than offset the additional volumes attributed to these carriers.

Furthermore, despite the recent emergence of several new shortline-railways, the traffic originated by non-Class 1 carriers has declined fairly significantly over the course of the GMP. In the 2012-13 crop year their share of total originations amounted to just 3.8%, less than half of the 8.1% share benchmarked in the GMP's base year. [Table 2B-7]

Even so, the traffic originated by shortline railways has not fallen as sharply as the number of licensed elevators served by them, which were reduced by 69.5% in the same period. This is because increased producer-car loading helped to replace a significant portion of the traffic that had been lost following the closure of these elevators. In fact, producer-car loading has accounted for approximately two-thirds of the grain originated by these carriers in recent years. This proportion, which

Figure 11: Hopper Car Shipments – Carrier Originations



is about four times greater than the share producer cars garnered in the first year of the GMP, underscores that dependence. Moreover, with the 2012-13 crop year's 35.4% decline in producer-car loading, many of these carriers had begun to wonder if their competitive position had been weakened in the face of an evolving open-market environment.

TERMINAL ELEVATOR THROUGHPUT

Port throughput, as measured by the volume of grain shipped from the terminal elevator and bulk loading facilities located at Canada's four western ports, increased by a marginal 0.1% in the 2012-13 crop year, remaining effectively unchanged at 26.9 million tonnes. Even so, this constituted the setting of a second consecutive volume record under the GMP. [Table 2C-1]

Although the overall increase in volume proved marginal, there was a pronounced shift in favour of grain moving through the west coast ports of Vancouver and Prince Rupert. For the largest of these, Vancouver, total marine shipments increased by 2.0%, to 15.6 million tonnes from 15.3 million tonnes a year earlier. This represented 58.0% of the system's total throughput. Prince Rupert posted a greater gain, with shipments rising by 8.3%, to 5.1 million tonnes from 4.7 million tonnes. When combined, the tonnage passing through these two west coast ports represented 77.1% of the overall total, a noticeable gain over the 74.6% share they garnered a year earlier.

Of course, the increase posted by the west coast ports was reflected in a reduction for the GHTS's other two ports. The combined share secured by the ports of Thunder Bay and Churchill in the 2012-13 crop year fell to 22.9% from 25.4% a year earlier. Much of this loss was driven by a sharp downturn in shipments through Thunder Bay, which fell by 9.1%, to 5.7 million tonnes from 6.3 million tonnes. Churchill, traditionally the port handling the smallest volume, saw its throughput decrease by a more substantive 18.0%, to 422,600 tonnes from 515,100 tonnes.

Terminal Elevator Unloads

Despite reduced handlings in the third and fourth quarters, the number of covered hopper cars unloaded at terminal elevators in the 2012-13 crop year increased by 1.7%, rising to 300,423 cars from 295,397 cars a year earlier. With a strong showing in the first half, the number of cars unloaded by the Canadian National Railway (CN) rose by 1.3%, to 153,751 cars from 151,790 cars a year earlier. In comparison, the Canadian Pacific Railway's (CP) handlings increased by somewhat greater 2.1%, rising to 146,672 cars from 143,607 cars. As a result, CN retained its standing as the largest grain handling railway in western Canada for a fourth consecutive year, with a share of 51.2% against 48.8% for CP. [Table 2C-2]

Much of the overall increase in volume was centred on the west coast ports of Vancouver and Prince Rupert. Traffic destined to Vancouver rose

Figure 12: Terminal Elevator Throughput

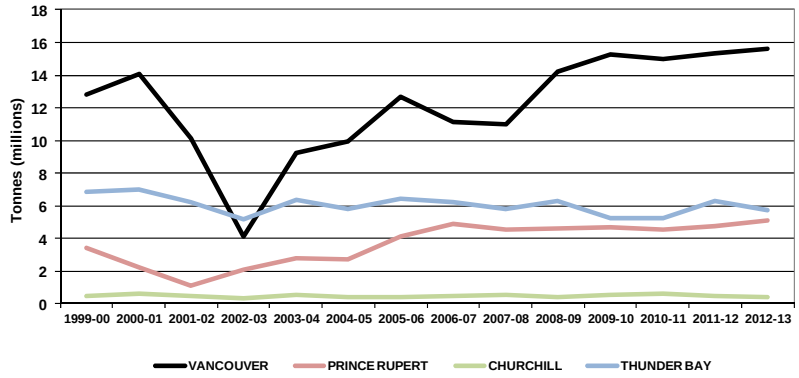
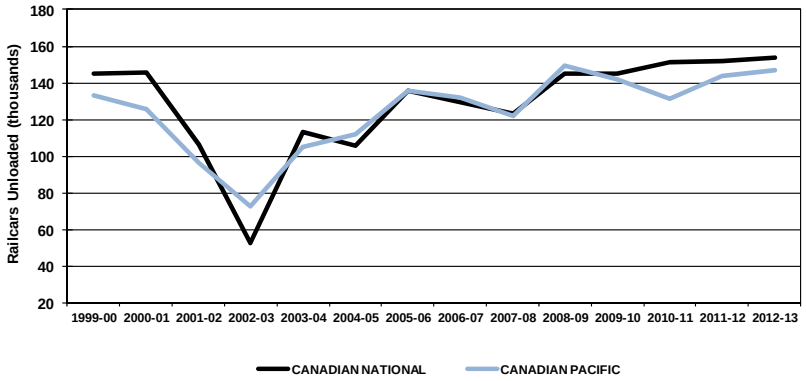


Figure 13: Terminal Elevator Unloads – Delivering Carrier



by a scant 0.2%, with 173,795 cars unloaded versus 173,381 cars a year earlier. Of particular interest was the relative division between CN and CP, with the former carrier's handlings into the port falling by 1.4% against a 1.4% gain for CP. Prince Rupert's handlings grew by a more substantial 8.4%, rising to 56,618 cars from 52,233 cars a year earlier.

Notwithstanding increased volumes into Thunder Bay throughout much of the 2012-13 crop year, a comparatively weak third-quarter effectively tempered earlier gains, holding the overall increase to just 0.4%, with total handlings rising to 64,352 cars from 64,067 cars a year earlier. CN saw its handlings into the port fall by 11.8%, unloading 20,419 cars against 23,139 cars the year previous. For its part, CP posted a 7.3% increase, with total shipments rising to 43,933 cars from 40,928 cars. Eastbound shipments into Churchill did not fare as well, declining by 1.0%, to 5,658 cars from 5,716 cars a year earlier.

Section 3: Infrastructure

Indicator Description	Table	1999-00	2010 -11	2011-12	2012-13 Q1	Q2	Q3	Q4	YTD	% VAR
Country Elevator Infrastructure										
Delivery Points (number)	3A-1	626	273	271	272	272	272	274	274	1.1%
Elevator Capacity (000 tonnes)	3A-1	7,443.9	6,369.4	6,739.7	6,772.7	6,772.7	6,772.7	6,851.9	6,851.9	1.7%
Elevators (number) – Province	3A-1									
Elevators (number) – Railway Class	3A-2	917	366	386	387	387	387	391	391	1.3%
Elevators (number) – Grain Company	3A-3									
Elevators Capable of MCB Loading (number) – Province	3A-4									
Elevators Capable of MCB Loading (number) – Railway Class	3A-5	317	241	246	246	246	246	245	245	-0.4%
Elevators Capable of MCB Loading (number) – Railway Line Class	3A-6									
Elevator Closures (number)	3A-7	130	13	39	1	1	1	29	29	-25.6%
Elevator Openings (number)	3A-8	43	13	59	2	2	2	34	34	-42.4%
Delivery Points (number) – Accounting for 80% of Deliveries	3A-9	217	85	82	n/a	n/a	n/a	n/a	n/a	n/a
Railway Infrastructure										
Railway Infrastructure (route-miles) – Total Network	3B-1	19,390.1	17,830.3	17,830.3	17,616.3	17,600.2	17,600.2	17,600.2	17,600.2	-1.3%
Railway Infrastructure (route-miles) – Class 1 Network	3B-1	14,503.0	15,249.5	15,029.0	14,923.4	14,907.3	14,907.3	14,907.3	14,907.3	-0.8%
Railway Infrastructure (route-miles) – Non-Class-1 Network	3B-1	4,887.1	2,580.8	2,801.3	2,692.9	2,692.9	2,692.9	2,692.9	2,692.9	-3.9%
Railway Infrastructure (route-miles) – Non-Grain-Dependent Network	3B-1	14,513.5	14,245.1	14,245.1	14,151.7	14,135.6	14,135.6	14,135.6	14,135.6	-0.8%
Railway Infrastructure (route-miles) – Grain-Dependent Network	3B-1	4,876.6	3,585.2	3,585.2	3,464.6	3,464.6	3,464.6	3,464.6	3,464.6	-3.4%
Served Elevators (number)	3B-3	884	349	358	358	358	358	365	365	2.0%
Served Elevators (number) – Class 1 Carriers	3B-3	797	320	334	334	334	334	340	340	1.8%
Served Elevators (number) – Non-Class-1 Carriers	3B-3	87	29	24	24	24	24	25	25	4.2%
Served Elevators (number) – Grain-Dependent Network	3B-3	371	117	115	114	114	114	114	114	-0.9%
Served Elevators (number) – Non-Grain-Dependent Network	3B-3	513	232	243	244	244	244	251	251	3.3%
Served Elevator Capacity (000 tonnes)	3B-3	7,323.0	6,290.7	6,602.4	6,625.3	6,625.3	6,625.3	6,714.2	6,714.2	1.7%
Served Elevator Capacity (000 tonnes) – Class 1 Carriers	3B-3	6,823.2	6,119.0	6,428.0	6,443.8	6,443.8	6,443.8	6,528.1	6,528.1	1.6%
Served Elevator Capacity (000 tonnes) – Non-Class-1 Carriers	3B-3	499.7	171.7	174.4	181.6	181.6	181.6	186.2	186.2	6.8%
Served Elevator Capacity (000 tonnes) – Grain-Dependent Network	3B-3	2,475.4	1,755.6	1,868.2	1,863.3	1,863.3	1,863.3	1,848.7	1,848.7	-1.0%
Served Elevator Capacity (000 tonnes) – Non-Grain-Dependent Network	3B-3	4,847.6	4,535.1	4,734.2	4,762.0	4,762.0	4,762.0	4,865.5	4,865.5	2.8%
Terminal Elevator Infrastructure										
Terminal Elevators (number)	3C-1	15	15	16	16	16	16	15	15	-6.3%
Terminal Elevator Storage Capacity (000 tonnes)	3C-1	2,678.6	2,475.6	2,213.8	2,213.8	2,213.8	2,213.8	2,213.0	2,213.0	-0.0%

COUNTRY ELEVATOR INFRASTRUCTURE

At the outset of the 1999-2000 crop year, there were 1,004 licensed primary and process elevators on the prairies. By the end of the 2011-12 crop year, that number had fallen by 61.6%, to 386, making this decline one of the most visible facets of the changes brought to the GHTS since the beginning of the GMP.[7] [Table 3A-1]

The 2012-13 crop year saw little meaningful change, with the elevator network increasing by five. This raised the total number of elevators in western Canada to 391, and reduced the accumulated loss since the beginning of the GMP to 613 facilities, or 61.1%. The marginal scope of the changes witnessed over the course of the past several years continues to suggest that grain-elevator rationalization has largely concluded, and that the network's overall size has effectively stabilized.

Much the same is true of the decline in grain delivery points, which have largely fallen in conjunction with the reduction in licensed elevators. By the close of the 2011-12 crop year the scope of this network had been reduced by 60.4%, to 271 delivery points from the 685 that had been in place at the beginning of the GMP. This count increased marginally in the 2012-13 crop year, with the overall number rising by three to 274. This served to trim the net reduction in delivery points during the GMP to 60.0%.

Provincial Distribution

At the close of the 2012-13 crop year, 198 of western Canada's licensed elevators were situated in Saskatchewan. These facilities constituted 50.6% of the system's active total; a proportion similar to that held by the province at the beginning of the GMP. This was followed by Manitoba and Alberta, whose corresponding 99 and 88 elevators accounted for shares

7 The reduction in licensed elevators cited here reflects the net change arising from various elevator openings and closures.

Figure 14: Licensed Grain Elevators and Delivery Points

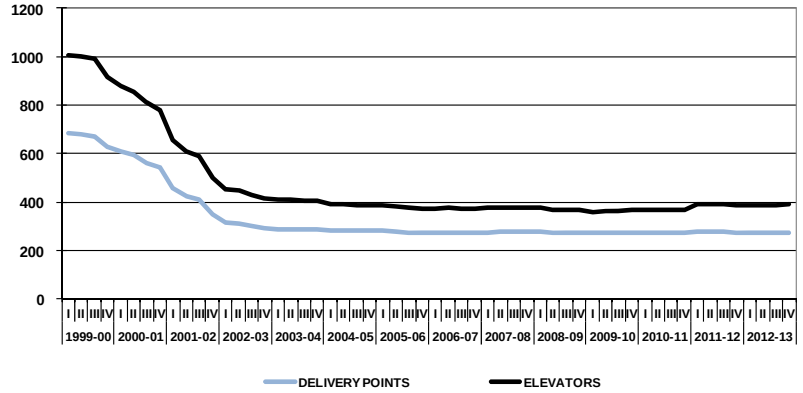
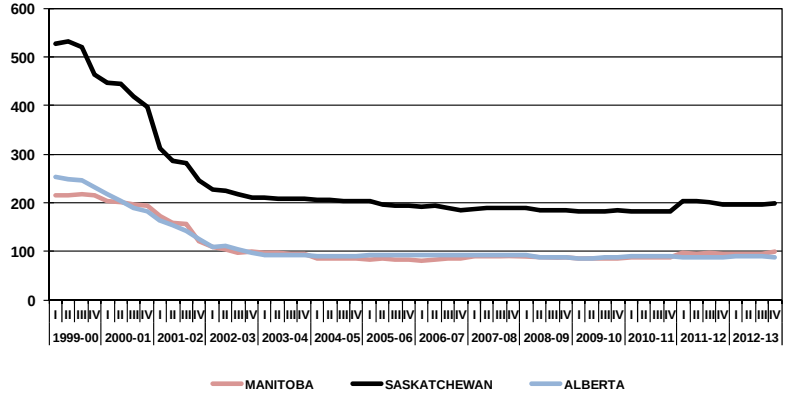


Figure 15: Licensed Grain Elevators – Provincial Distribution



of 25.3% and 22.5% respectively. The GHTS's remaining six facilities were divided between British Columbia, with five, and Ontario, with one.

Over the term of the GMP, Saskatchewan posted the greatest reduction in licensed elevation facilities, closing 329, or 62.4%, of its elevators. In comparative terms, the 164-elevator reduction in Alberta represented a slightly greater 65.1%. Manitoba followed with a 54.2%, or 117-elevator, reduction in its facilities. The comparable nature of these reductions indicates that elevator rationalization has been broadly based, and that the facilities of any single province have not been unduly targeted.

Elevator Storage Capacity

Despite a 60.4% decline in the overall number of elevators, the network's storage capacity stands only 2.5% below the 7.0 million tonnes recorded at the outset of the GMP. This differential reflects the character of the tactical transformation that had taken place: that the grain companies were substituting the handling capacity inherent in their existing wood-crib elevators with that provided by a lesser number of more efficient high-throughput facilities. In fact, the capacity added through their investment in these larger facilities temporarily outpaced that removed by the closure of older elevators early in the GMP, raising the system's total storage capacity to a level of almost 7.6 million tonnes. But soon the reverse became true, and by the close of the 2003-04 crop year total GHTS storage capacity had fallen by 19.0%, to reach a low of 5.7 million tonnes.

As elevator closures began to moderate, this trend was again reversed. Marked by a 157,000-tonne expansion in the 2004-05 crop year, the system's total storage capacity began to increase steadily. By the close of the 2011-12 crop year, it had risen to slightly more than 6.7 million tonnes. The licensing of several smaller facilities combined with the expansion of others resulted in another 112,200 tonnes of storage capacity added to the system during the 2012-13 crop year. This 1.7% gain effectively raised total storage capacity close to 6.9 million tonnes, a value not seen since the close of the 2000-01 crop year.

Figure 16: Change in Licensed Elevators and Storage Capacity

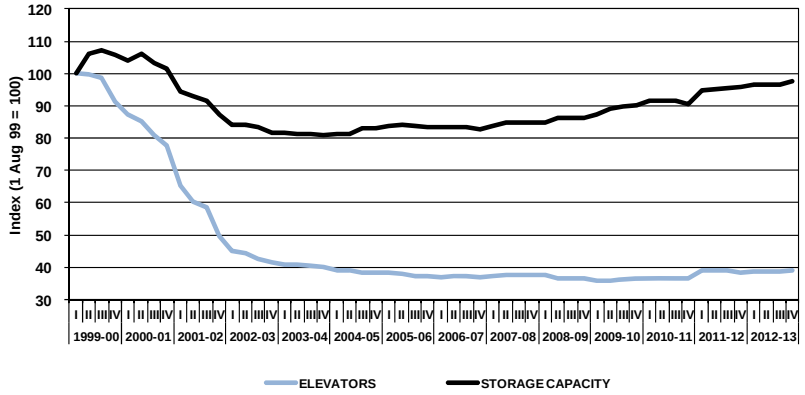
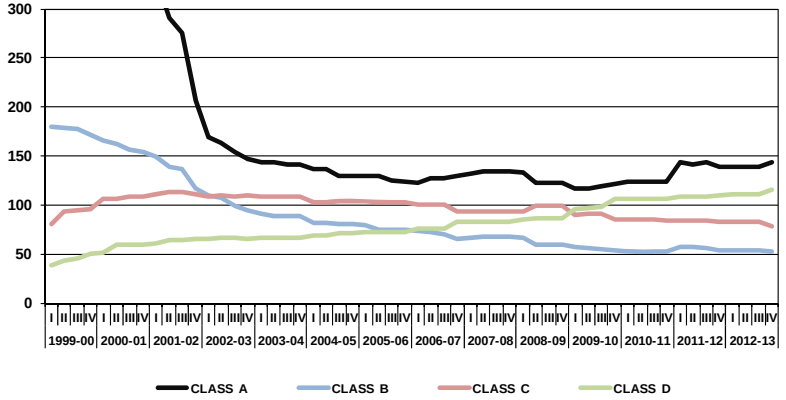


Figure 17: Licensed Elevators – Facility Class



Facility Class

For comparative purposes, the GMP groups elevators into four classes. These classes are based on the loading capability of each facility, which is in turn defined by the number of railcar spots each possesses. Those with less than 25 car spots are deemed to be Class A facilities; those with 25-49, Class B; those with 50-99, Class C; and those with 100 or more, Class D.[8] In addition, the GMP deems Class C and D facilities to be high-throughput elevators given their ability to load railcars in larger numbers.

Within this framework, the composition of the elevator network can be seen to have changed significantly since the beginning of the GMP. The most striking aspect of this has been the decline in the number of smaller elevators. Over the course of the last 14 years the number of licensed Class A elevators has been reduced by 79.6%, to 144 from 705. This was complemented by a 70.6% reduction in the number of licensed Class B elevators, which fell to 53 from 180.

Juxtaposed against this has been a fairly steady rise in the number of licensed high-throughput facilities. In the initial years of the GMP this was manifest in numerical increases for Class C as well as Class D elevators. But the physical expansion of Class C facilities has resulted in many being converted into Class D facilities. As a result, the 2012-13 crop year became the first in which the number of Class C facilities actually fell below its base-year level, with a net decline of 3.7%, to 78 from 81. In comparison, the number of Class D elevators has effectively tripled, rising to 116 from 38.

These statistics illustrate that the prime target in elevator rationalization has been the conventional wood-crib facility. Of the 979 elevators closed since the beginning of the GMP, 732 related to the shutdown of Class A facilities.[9] To a large extent, this was because the economic efficiency of the high-throughput elevator had rendered these facilities obsolete. They had also been undermined by the financial incentives that the railways used to encourage grain to move in blocks of 25 or more railcars at a time. [Table 3A-7]

These same forces also disfavoured the Class B facilities, albeit not to the same degree. More particularly, even though grain movements from these facilities were eligible to receive discounted freight rates, they were not as generous as those accorded shipments from high-throughput elevators. These small-block discounts were later reduced and ultimately eliminated.[10] As a result, over the course of the GMP, a total of 158 Class B facilities also closed. Together, Class A and B facilities account for 90.9% of all recorded elevator closures.

The opportunity cost associated with being unable to ship grain in 100-car blocks also roused some grain companies into expanding the physical capacity of several Class C elevators. Since the beginning of the GMP, such expansion has resulted in the upgrading of 35 facilities, along with their ensuing reclassification as Class D facilities. This evolution has served to raise the total number of Class-C-elevator closures during this period to 58. Likewise, Class D facilities posted the smallest number of closures, with just 31 recorded.

While the emergence of independent grain operations also provided Class A and B facilities with a majority of elevators openings during this same period, 226 out of 366, the proportion accorded to them was a noticeably lower 61.7%. This comparative decline from the 90.9% share taken in elevator closures again reflected the shift towards the use of high-

8 The facility classes employed here mirror the thresholds delineated by Canada's major railways at the beginning of the GMP for the receipt of discounts on grain shipped in multiple-car blocks. At that time, these thresholds involved shipments of 25, 50 or 100 railcars. First introduced in 1987, these incentives were aimed at drawing significantly greater grain volumes into facilities that could provide for movement in either partial, or full, trainload lots.

9 Statistics associated with elevator closures and openings are gross measures and do not distinguish between licensed facilities that may have been closed by one operator but, as a result of its subsequent sale, later reopened by another.

10 With the commencement of the 2003-04 crop year, CN eliminated the $1.00-per-tonne discount that had been given to movements from Class B facilities since the beginning of the GMP, while CP reduced it to $0.50 per tonne. By the close of the 2005-06 crop year, CP had also eliminated its discount on movements in blocks of 25-49 cars.

throughput facilities, which accounted for 140, or 38.3% of the overall elevator openings. [Table 3A-8]

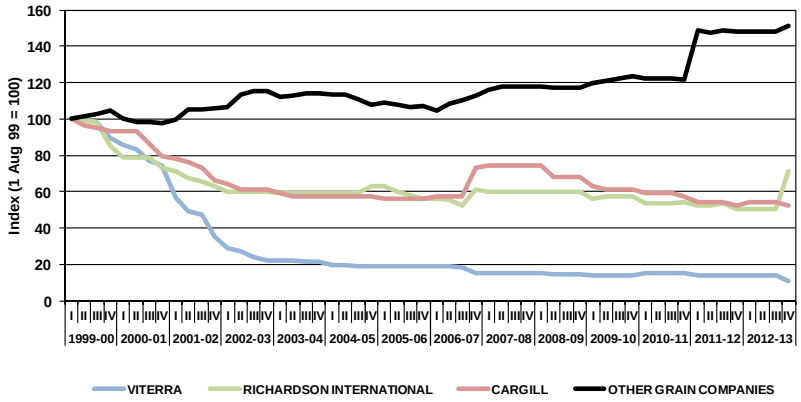
Since the close of the 2008-09 crop year, approximately half of the GTHS's elevators have been comprised of high-throughput facilities. More importantly, these facilities have claimed the lion's share of the system's storage capacity since the second year of the GMP. Although the proportions for high-throughput facilities declined marginally in the 2012-13 crop year, to 49.6% of system elevators and 78.2% of its storage capacity, both remained significantly above their respective base-year values of 11.9% and 39.4%.

Grain Companies

For a number of grain companies, the key to improving the economic efficiency of their grain-gathering networks has been to rationalize their elevator assets. With the cornerstone of this strategy being the replacement of smaller elevators by larger high-throughput facilities, it follows that this would better lend itself to those grain companies having large physical networks. In fact, the largest grain companies proved to be the primary practitioners of elevator rationalization.

The predecessors of today's Viterra Inc. posted what amounts to the deepest overall reduction, with a net decrease of 627 facilities, or 89.6%, through the close of the 2012-13 crop year.[11] Cargill and Paterson Grain posted the next deepest cuts, with elevator reductions of 47.5% and 30.0% respectively. In a reflection of its recent acquisition of 19 elevators from Viterra, Richardson International slipped from a second to a fourth place

Figure 18: Change in Licensed Elevators – Grain Company



showing, with a reduction of 29.6%.[12] Rounding out the field was Parrish and Heimbecker, which posted a 19.2% decrease. [Table 3A-3]

Elevator closures have abated significantly since the creation of Viterra in 2007. Moreover, the total number of facilities actually began to rise after reaching a GMP low of 360 elevators in the first quarter of the 2009-10 crop year. However, much of the subsequent increase is misleading, since it largely reflects changes in the licensing requirements of the CGC rather than in the actual addition of new elevators. A number of companies, including Alliance Pulse Processors Inc., Simpson Seeds Inc. and Legumex-Walker Inc., figure prominently in this expansion since most – if not all – of their facilities had previously been unlicensed.

11 Viterra Inc. was formed in 2007 following Saskatchewan Wheat Pool's purchase of Agricore United, which was itself the product of a merger between Agricore Cooperative Ltd. and United Grain Growers Limited in 2001. Given this heritage, Viterra Inc. is the corporate successor to the three largest grain companies in existence at the beginning of the GMP. The 627 closures cited here represent the net reduction posted by Viterra and its predecessor companies, which had a combined total of 700 elevators at the outset of the GMP.

12 In advancing its acquisition of Viterra Inc in December 2012., Glencore International PLC had agreed to a sale of Viterra's interest in 19 country and two terminal elevators to Richardson International. This asset transfer, which was finalized on 1 May 2013, effectively reduced the size differential between the two largest grain companies in western Canada. Up until Richardson International assumed control of these assets, the company had reduced the scope of its elevator network by 49.5%.

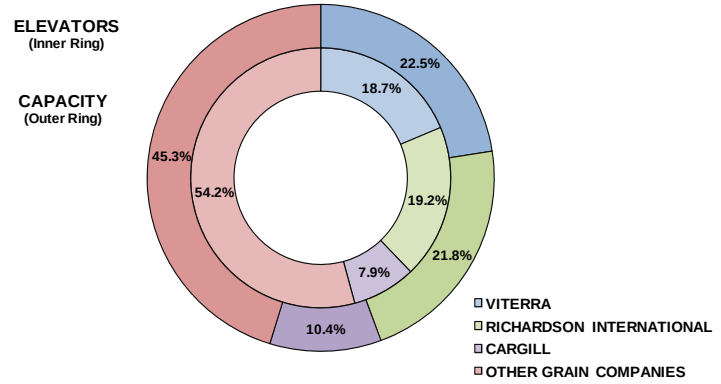
Nevertheless, there has been a 158.9% increase in the number of elevators operated by smaller grain companies, which has climbed to 145 from 56.

Despite this numerical shift, Viterra, Richardson International and Cargill remain the dominant handlers of grain in western Canada, accounting for approximately 75% of the annual export grain movement. This concentration is also reflected in the way grain is gathered into the system, with the vast majority of the tonnage collected at fewer than half of the GHTS's delivery points. In the 2011-12 crop year – the last for which statistics are available – 82 of the GHTS's 222 active delivery points took in 80% of the grain delivered. Although this 36.9% share is greater than the 33.5% recorded in the GMP's base year, it still suggests that deliveries remain highly concentrated within a smaller grain-gathering network. [Table 3A-9]

RAILWAY INFRASTRUCTURE

At the outset of the 1999-2000 crop year, the railway network in western Canada encompassed 19,468.2 route-miles of track. Of this, Class 1 carriers operated 76.2%, or 14,827.9 route-miles, while the smaller Class 2 and 3 carriers operated the remaining 23.8%, or 4,640.3 route-miles.[13] Although the railway network has contracted, the reduction has proven substantially less than that of the elevator system it serves. By the end of the 2011-12 crop year, the net reduction in western Canadian railway infrastructure amounted to just 8.4%, with the network's total mileage having been reduced to 17,830.3 route-miles overall. The largest share of this 1,637.9-route-mile reduction came from the abandonment of 1,369.5 route-miles of light-density, grain-dependent branch lines.[14] [Table 3B-1]

Figure 19: Licensed Elevators and Capacity – 2012-13 Crop Year



Notwithstanding its physical reduction, the railway network had changed in other ways as well. Much of this related to the transfer by CN and CP of various branch line operations to a host of new shortline railways. This practice, which began in the mid 1990s, was one of the cornerstones in a wider industry restructuring that resulted in slightly more than one-quarter of the railway network in western Canada being operated by smaller regional and shortline carriers.

The first important variation in this restructuring strategy came in 2004 when CN acquired the operations of what was then western Canada's only Class 2 carrier, BC Rail Ltd. In addition, the waning financial health of most shortline carriers led many to either rationalize or sell their own operations. Ultimately, this resulted in a number of shortlines being reabsorbed into the operations of the Class 1 carrier that had originally

13 The classes used here to group railways are based on industry convention: Class 1 denotes major carriers such as the Canadian National Railway or the Canadian Pacific Railway; Class 2, regional railways such as the former BC Rail; and Class 3, shortline entities such as the Great Western Railway.

14 The term "grain-dependent branch line", while largely self-explanatory, denotes a legal designation under the Canada Transportation Act. Since the Act has application to federally regulated railways only, grain-dependent branch lines transferred to provincially regulated carriers lose their federal designation. This can lead to substantive differences between what might be considered the physical, and the legally-designated, grain-dependent branch line networks. For comparison purposes only, the term has been affixed to those railway lines so designated under Schedule I of the Canada Transportation Act (1996) regardless of any subsequent change in ownership or legal designation.

spun them off.[15] By the close of the 2011-12 crop year, the network operated by the Class 1 carriers had actually increased 1.4%, to 15,029.0 route-miles, whereas that of the Class 2 and 3 carriers had declined by 39.6%, to 2,801.3 route miles.

Still, many of these shortlines had been established with an eye towards preserving railway service on what the Class 1 carriers had come to regard as uneconomic branch lines. While many of these branch lines were grain dependent, most shortlines proved incapable of reshaping the economics that had given rise to the grain industry's broader elevator-rationalization programs. Although these carriers could point to some success in attracting new business – much of which has been tied to increased producer-car loading – they ultimately could not prevent the grain companies from closing the smaller elevators that underpinned their commercial activity. In the face of several resultant business failures, the physical span of the prairie shortline network had contracted to less than half of the 2,011.0 route-miles that it had been at the outset of the GMP, ultimately falling to a low of 1,002.5 route-miles midway through the 2007-08 crop year.[16]

Notwithstanding this decline, the shortline industry was beginning to show signs of resurgence. Much of this could be traced back to the successful takeover of the Great Western Railway by a consortium of local municipal and business interests in 2004. Their model, which essentially integrated the railway's operations with local producer-car loading activity, fostered imitation. By the close of the 2011-12 crop year, another seven shortline railways had been established across the

15 The most significant of these reacquisitions came in January 2006 when RailAmerica Inc. sold most of its holdings in western Canada back to CN. Over the course of the next two years, CN also reacquired the operations of what had devolved into the Savage Alberta Railway as well as the Athabasca Northern Railway.

16 Prairie shortlines represent a geographic subset of the broader Class 2 and 3 railway classification cited previously. As at 31 January 2008 there were just eight shortline railways originating traffic on the prairies: Carlton Trail Railway; Central Manitoba Railway; Fife Lake Railway; Great Western Railway Ltd.; Red Coat Road and Rail Ltd.; Southern Rails Cooperative Ltd.; Thunder Rail Ltd.; and Wheatland Railway Inc.

Figure 20: Change in Route-Miles – Railway Class

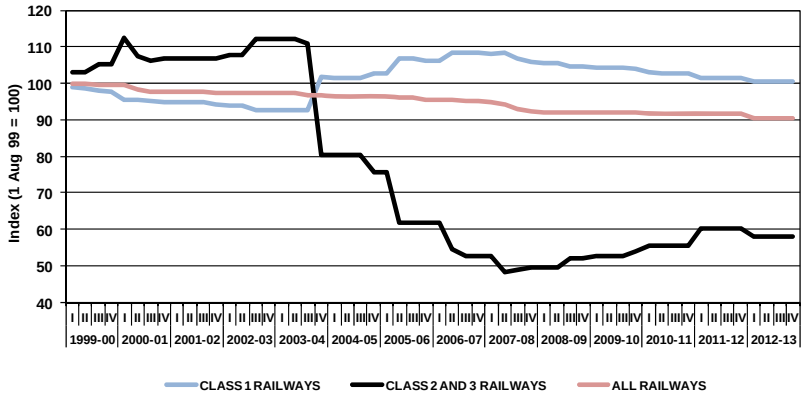
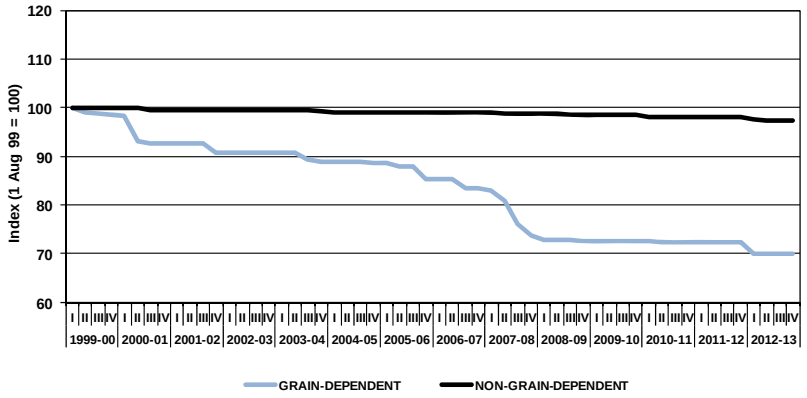


Figure 21: Change in Route-Miles – Railway Network



prairies.[17] Five of these were based in Saskatchewan, where the provincial government proved more receptive to providing financial assistance.[18]

Although the creation of these new entities had a comparatively modest impact on the division between Class 1 and non-Class-1 infrastructure, the prairie shortline system was again expanding. At the close of the 2011-12 crop year, the shortline network had increased by a factor of 60%, to encompass 1,606.1 route-miles of track under the management of 15 separate carriers.

The 2012-13 crop year brought still other examples of this expansion with the formation of two new shortlines in the first quarter: the Lake Line Railroad (LLR) and the Long Creek Railroad (LCR). The LLR assumed operation of 41.0-route-miles of former CP track in Manitoba.[19] The LCR also took over the operation of a long-dormant section of CP track situated in southern Saskatchewan at about the same time.[20] As with many of the shortlines created before it, the establishment of these railways represented yet other steps in the broader effort to preserve local railway service.

Even so, the 2012-13 crop year saw the discontinuance of another 230.1 route-miles of railway infrastructure. The vast majority of this, encompassing some 191.4 route-miles, was situated in northwestern Saskatchewan and had been sold by CN to the Carlton Trail Railway (CTR) in 1997.[21] Declining traffic volumes in the face of mounting maintenance costs had led the CTR to suspend service on these lines in 2009. Following their being named as discontinuance candidates, local interests tried to put forward a purchase offer but ultimately were unable to come to terms with the carrier. With the collapse of a negotiated sale, the CTR moved to finalize the abandonment of these lines altogether. This action was coupled with CN's decision to abandon its connecting 22.6-route-mile section of the Blaine Lake Subdivision at the same time, which produced a first-quarter reduction of 214.0 route-miles.

The second quarter brought the discontinuance of 16.1 route-miles of CP infrastructure in British Columbia. This section constituted about one-third of the carrier's 46.3-route-mile Okanagan Subdivision, which CP had leased to the Okanagan Valley Railway (OVR) in late 1998.[22] However, erosion of the OVR's traffic base led to cessation of operations in 2009, with the line subsequently returned to CP control. With the northern section between Sicamous and Armstrong rendered dormant, CP moved to discontinue operations, ultimately abandoning the northernmost section between Sicamous and Grindrod in November 2012.

17 The seven shortline railways created during this period were: Torch River Rail Inc.; Boundary Trail Railway Co.; Great Sandhills Railway; Last Mountain Railway; Battle River Railway; Stewart Southern Railway; and Big Sky Rail.

18 The Government of Saskatchewan lent financial support to several shortline initiatives, most often through the extension of interest-free loans. Additional financial support has also come through the province's Shortline Railway Sustainability Program.

19 The Lake Line Railroad initially assumed operation of CP's Winnipeg Beach Subdivision, a 31.9-route-mile section of track extending from Selkirk to Gimli. Another 9.1 route-miles was added when the carrier assumed operation of CP's Lac du Bonnet Subdivision, which extends from Beausejour to Molson.

20 The Long Creek Railroad assumed operation of CP's Bromhead Subdivision, a 42.0-route-mile section of track extending from Estevan to Tribune, and which had been lying dormant since about 2005.

21 The infrastructure cited here as having been operated by the Carlton Trail Railway included a 93.4-route-mile section of CN's former Meadow Lake Subdivision; a 31.5-route-mile section of its Big River Subdivision; and a 66.5-route-mile section of its Blaine Lake Subdivision. Traffic originating and terminating on this western branch of the CTR's operations was exchanged with CN, which still retained ownership of the last 22.6-route-mile section of the Blaine Lake Subdivision, at Speers Junction.

22 CP's Okanagan Subdivision encompassed 46.3 route-miles of track between Sicamous and Vernon. The northern section, with 31.6 route-miles between Sicamous and Armstrong, was operated solely by the Okanagan Valley Railway (OVR). While the southern section, with 14.7 route-miles between Armstrong and Vernon, was operated jointly by the OVR and the Kelowna Pacific Railway.

The prospect of further abandonments in the Okanagan was heightened substantially towards the end of the crop year when the Kelowna Pacific Railway (KPR) ceased operating on 5 July 2013 and went into receivership. The KPR, which operated over 104.2 route-miles of track leased from CN, had also been suffering from the effects of a steadily eroding traffic base for several years.[23] With no grain traffic having been originated by the KPR since the inception of the GMP, its cessation of operations had no direct impact on the workings of the GHTS.

Nevertheless, these discontinuances effectively reduced the span of the railway network in western Canada by another 1.3%, to 17,600.2 route-miles from 17,830.3 route-miles. Combined with transferences to new shortline carriers, this resulted in the Class 1 railway network being reduced by a further 0.8%, to 14,907.3 route-miles from 15,029.0 route-miles. Similarly, the infrastructure tied to non-Class-1-carrier operations decreased by 3.9%, to 2,692.9 route-miles from 2,801.3 route-miles.

Local Elevators

As previously outlined, the GHTS's elevator infrastructure has been transformed more substantively over the course of the last 14 years than has the railway network that services it. In broad terms, these facilities have decreased by 62.7% in number, to 365 from 979, and by 3.2% in terms of associated storage capacity, to 6.7 million tonnes from 6.9 million tonnes.[24]

These reductions, however, manifested themselves in noticeably different ways for the Class 1 and non-Class 1 railways. Through to the end of the 2012-13 crop year the decline in the number of elevators tied to each

23 The Kelowna Pacific Railway commenced operations in January 2000, providing rail service to customers located along two sections of track leased from CN: the 89.8-route-mile Okanagan Subdivision, which extended from Kamloops to Kelowna; and a 14.4-route-mile offshoot known as the Lumby Subdivision. Service over the KPR also employed a 14.7 route-mile section of connecting track between Armstrong and Vernon, which it jointly operated with the Okanagan Valley Railway until that carrier's suspension of operations in 2009.

24 The reductions cited here relate only to the facilities directly served by rail.

Figure 22: Change in Local Elevators – Railway Class

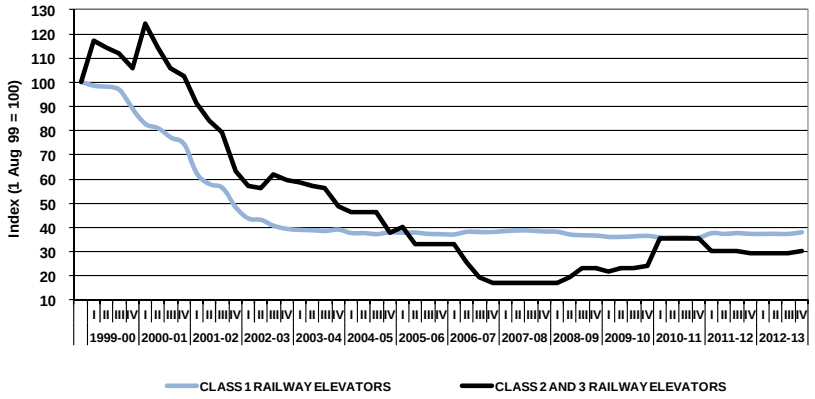
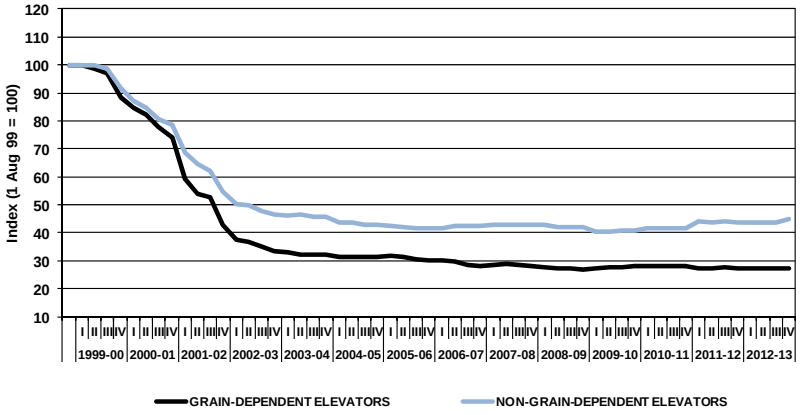


Figure 23: Change in Local Elevators – Branch Line Class



group proved roughly analogous, 62.1% against 69.5% respectively. Yet the change in associated storage capacities was noticeably different, with a marginal increase of 1.1% for elevators local to Class 1 carriers set against a 61.0% decline for elevators local to the non-Class-1 carriers. [Table 3B-3]

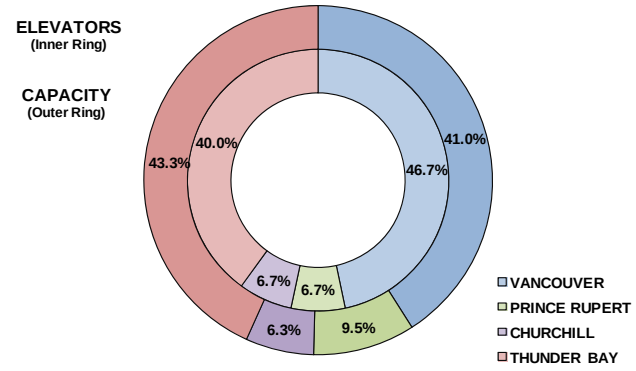
These latter changes underscore the fact that the grain companies have been investing in facilities served by the major railways rather than the shortlines, situating virtually all of their high-throughput elevators on the networks belonging to CN and CP.[25]

A more telling portrayal comes from examining the change in facilities local to both the grain-dependent, and non-grain-dependent, railway networks. Elevators situated along the grain-dependent network have fallen by 72.9% since the beginning of the GMP, to 114 from 420. For those situated along the non-grain-dependent network, the decline was 55.1%, with the number of elevators having fallen to 251 from 559. The change in associated storage capacity shows an even greater contrast, with that of the grain-dependent network falling by 25.7%, to 1.8 million tonnes, while that of the non-grain-dependent network actually increased by 9.4%, to almost 4.9 million tonnes. On the whole, these patterns clearly indicate that the elevators tied to the grain-dependent railway network have diminished at a noticeably faster pace.

TERMINAL ELEVATOR INFRASTRUCTURE

The 2012-13 crop year brought the closure of one licensed terminal elevator, which effectively reduced the remaining network to 15 facilities with 2.2 million tonnes of storage capacity. Although this denoted a loss of one facility over those in place a year earlier, the decline in associated storage capacity amounted to just 800 tonnes. These values also differ somewhat from those benchmarked in the GMP's base year, which

Figure 24: Terminal Elevators – 2012-13 Crop Year



encompassed 14 elevators with 2.6 million tonnes of storage capacity.[26] [Table 3C-1]

From the outset of the GMP, Thunder Bay has been home to the majority of the GHTS's terminal-elevator assets. But the compound effects of a decade's worth of incremental change had steadily eroded its position. As the 2012-13 crop year neared its close, that position was weakened still further with the de-licensing of the Viterra C facility. This terminal elevator, which had largely sat idle since 2001, was transferred along with other Viterra assets to Richardson International under the terms of an agreement made with Glencore International PLC in advance of the

25 As at 31 July 2013 there were 193 high-throughput elevators served by rail. Of these, 185 were served by CN and CP.

26 Beyond the change in its physical scope, the network was affected by a number of changes in terminal ownership. Much of this was tied to the various corporate mergers and acquisitions made since the beginning of the GMP. Those having the most bearing on terminal ownership came from the merger of Agricore Cooperative Ltd. and United Grain Growers Limited, which combined to form Agricore United in 2001. This entity was itself bought out by Saskatchewan Wheat Pool in 2007, which subsequently rebranded itself as Viterra Inc.

latter company's takeover of Viterra in December 2012.[27] Its de-licensing as of 1 May 2013 reduced the port's active terminal elevators to six from seven, and its licensed storage capacity to 957,200 tonnes from 958,000 tonnes.[28] By the close of the crop year, Thunder Bay claimed 40.0% of the system's elevators and 43.3% of its licensed storage capacity; both down from the 50.0% shares benchmarked fourteen years earlier.

The expansion of terminal operations in the greater Vancouver area also contributed to the decline in Thunder Bay's relative position. Since the beginning of the GMP, the number of terminal elevators in Vancouver has increased by 40.0%, to seven from five. As a result, Vancouver now accounts for 46.7% of the system's terminal elevators and 41.0% of its licensed storage capacity. These values denote substantial gains over their corresponding base-year values of 35.7% and 36.3%.

While neither Prince Rupert nor Churchill saw changes to their terminal assets during this same period, both gained relatively higher standing as a result of the evolution at Thunder Bay and Vancouver. Both still registered one terminal elevator apiece, and storage capacity shares of 9.5% and 6.3% respectively.

27 At the beginning of the GMP this 231,000-tonne terminal elevator was operated by United Grain Growers Limited, but has remained largely inactive since the company was merged with Agricore Cooperative to form Agricore United (AU) in 2001. Ownership of the facility passed to Saskatchewan Wheat Pool following that company's acquisition of AU in 2007, with its subsequent rebranding as Viterra Inc. Concurrent with its planned takeover of Viterra, Glencore International PLC announced in March 2012 that it had entered into an agreement with Richardson International for the sale of certain Viterra assets, including the Viterra C terminal elevator. The finalization of this sale on 1 May 2013 gave Richardson International full ownership of the facility, which was de-licensed that same day.

28 The Viterra C terminal's licensed storage capacity had been cut to a mere 800 tonnes from 231,000 tonnes as of 1 April 2012.

Section 4: Commercial Relations

Indicator Description	Table	1999-00	2010-11	2011-12	2012-13 Q1	Q2	Q3	Q4	YTD	% VAR
Trucking Rates										
Composite Freight Rate Index – Short-haul Trucking	4A-1	100.0	162.2	162.2	162.2	162.2	162.2	162.2	162.2	0.0%
Country Elevators Handling Charges										
Composite Rate Index – Receiving, Elevating and Loading Out	4B-1	100.0	122.8	122.9	123.1	123.3	123.5	123.5	123.5	0.4%
Composite Rate Index – Dockage	4B-1	100.0	151.7	154.1	154.1	154.1	154.2	154.2	154.2	0.1%
Composite Rate Index – Storage	4B-1	100.0	184.8	187.8	187.8	189.9	189.9	189.9	189.9	1.1%
Railway Freight Rates										
Composite Freight Rate Index – CN Vancouver	4C-1	100.0	104.8	112.4	124.7	128.4	129.9	135.1	135.1	20.2%
Composite Freight Rate Index – CP Vancouver	4C-1	100.0	112.8	114.8	129.8	132.5	134.9	140.3	140.3	22.2%
Composite Freight Rate Index – CN Thunder Bay	4C-1	100.0	120.2	136.0	134.5	129.4	138.6	141.4	141.4	4.0%
Composite Freight Rate Index – CP Thunder Bay	4C-1	100.0	117.4	123.5	135.2	135.3	137.1	143.9	143.9	16.5%
Effective Freight Rates ($ per tonne) – CTA Revenue Cap	4C-3	n/a	$30.59	$31.37	n/a	n/a	n/a	-	n/a	n/a
Terminal Elevator Handling Charges										
Composite Rate Index – Receiving, Elevating and Loading Out	4D-1	100.0	135.2	146.5	145.9	145.9	146.6	149.4	149.4	2.0%
Composite Rate Index – Storage	4D-1	100.0	146.9	178.7	178.9	179.4	179.4	179.4	179.4	0.4%

TRUCKING RATES

Short-haul trucking rates rose substantially between the 2004-05 and 2008-09 crop years, increasing by a factor of one-third from what they had been at the beginning of the GMP. Although this escalation was largely derived from rising fuel and labour costs, it was also supported by a heightened demand for carrying capacity, which allowed service providers a greater degree of latitude in passing these costs onto grain producers. Even with a subsequent collapse in crude oil prices, these rates remained unchanged through the close of the 2009-10 crop year.[29]

But the 2010-11 crop year saw oil prices regain a lot of lost ground, reaching as much as $110 US per barrel by April 2011. This ultimately raised fuel prices and brought new pressure to bear on the cost of moving grain by truck. As a result, the composite price index for short-haul trucking rose to a GMP high of 162.2 by the close of the 2010-11 crop year. Although fuel prices remained volatile throughout the ensuing 2011-12 crop year, trucking rates did not waver. Much the same was observed in the 2012-13 crop year, with trucking rates holding fast in the face of undulating fuel and crude oil prices. As a result, the composite price index stood unchanged at 162.2. [Table 4A-1]

COUNTRY ELEVATOR HANDLING CHARGES

The per-tonne rates assessed by grain companies for a variety of primary elevator handling activities are the primary drivers of corporate revenues. Comparatively, those assessed for the receiving, elevating and loading out of grain are the most costly for producers. These are in turn followed by the charges levied for the removal of dockage (cleaning) and storage. These rates vary widely according to the activity, grain and province involved.

29 The market price for West-Texas-Intermediate crude fell from a high of $133 US per barrel in June 2008 to a low of just $40 US per barrel by February 2009.

Figure 25: Change in Composite Freight Rates – Short-Haul Trucking

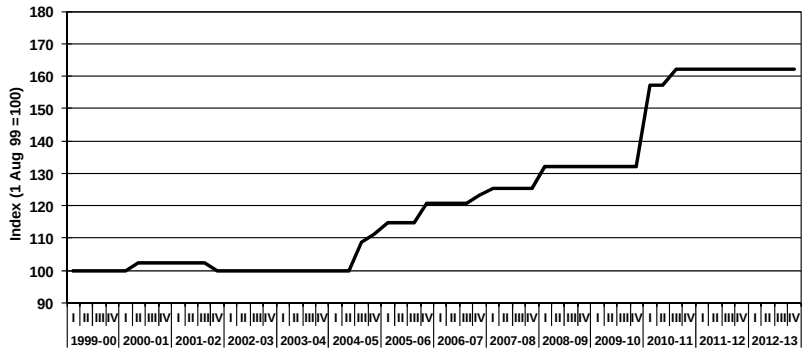
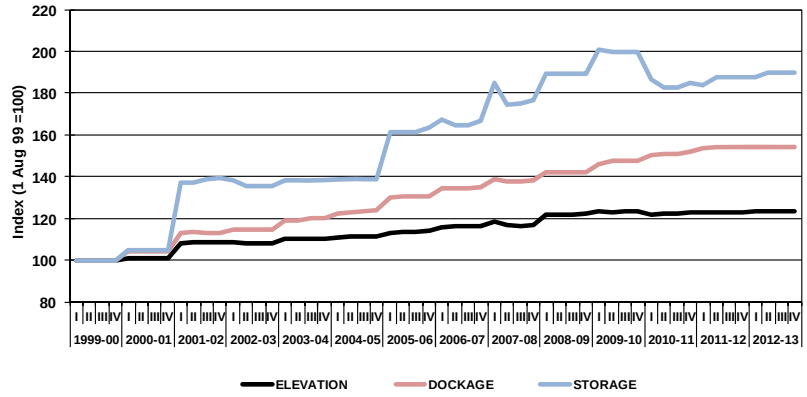


Figure 26: Change in Primary Elevator Handling Charges



Given the wide variety of tariff rates, the GMP necessarily uses a composite price index to track changes in them. Since the beginning of the GMP, the rates for all of these services have risen considerably. The smallest increases have been in those tied to the receiving, elevating and loading out of grain. Through to the end of the 2011-12 crop year, these costs had risen by 22.9%. The 2012-13 crop year brought little change to these rates, with the overall composite price index rising by just 0.4%, to 123.5.

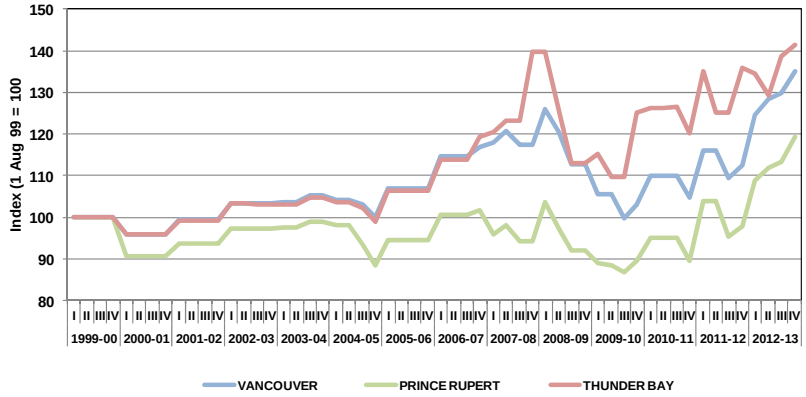
The rates associated with the removal of dockage have increased at a somewhat faster pace. Through to the end of the 2011-12 crop year, these rates had already increased by 54.1%. With only minor variations in the latter half of the 2012-13 crop year, the composite price index rose by a marginal 0.1%, to 154.2.

The most substantive rate escalations observed thus far have related to elevator storage. Much of the initial price shock came towards the end of the 2000-01 crop year, when these rates were raised by a factor of almost one-third. Since then they have continued to climb, rising by 87.8% through to the end of the 2011-12 crop year.[30] Modest rate escalations in the 2012-13 crop year served to raise the composite price index a further 1.1%, to 189.9. [Table 4B-1]

RAILWAY FREIGHT RATES

The single-car freight rates charged by CN and CP for the movement of regulated grain have changed substantially since the beginning of the GMP, evolving from what were largely mileage-based tariffs into a less rigidly structured set of more market-responsive rates. This became evident in the rate differentials that arose between specific grains and the ports to which they were destined. Much of this began to take shape at the beginning of the 2006-07 crop year when CN initiated a partial changeover to commodity-specific, per-car charges. With CP following suit, a wholesale conversion in the rate structures of both carriers was completed by the close of the 2007-08 crop year. [Table 4C-1]

Figure 27: CN Single-Car Freight Rates – Primary Corridors



This restructuring also resulted in more substantive rate increases being applied against shipments to Thunder Bay and Churchill rather than those to the west coast. Even within this broader initiative, CN widened the financial advantage it had begun giving single-car shipments to Prince Rupert. Not to be overlooked was an initial move towards seasonal pricing, which attempted to link freight rates to the rhythmic demand change for railway carrying capacity. This structure was complicated even further as both carriers began to adjust rates with greater geographic selectivity in response to evolving competitive pressures.

In the wake of the Canadian Transportation Agency's decision to raise the Volume-Related Composite Price Index by 9.5%, both CN and CP moved to increase their single-car freight rates rather substantially during the

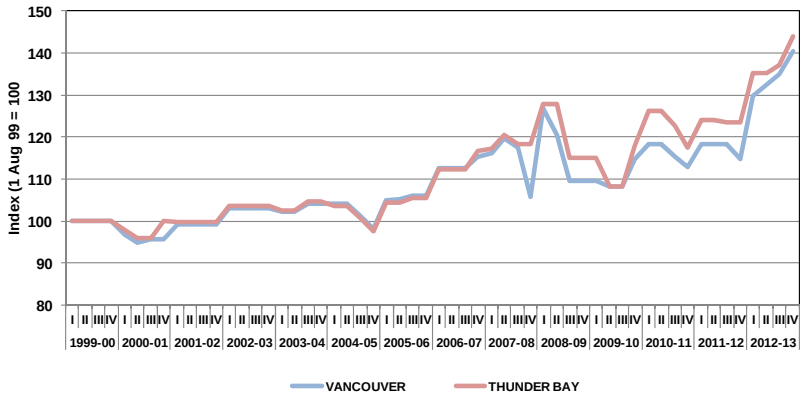
30 It should be noted that all tariff rates constitute a legal maximum, and that the rates actually paid by any customer for storage may well fall below these limits.

2012-13 crop year.[31] The initial pricing actions taken by CN came rather late in the first quarter, with escalations on its westbound rates into Vancouver and Prince Rupert averaging 10.9% and 11.1% respectively. This was coupled with selective decreases on the carrier's single-car rates into Thunder Bay and Churchill, which produced average reductions of 1.1% and 1.5% respectively.[32] In comparison, CP increased its single-car rates at the beginning of the crop year, with the average escalation on movements into Vancouver and Thunder Bay amounting to 13.1% and 9.5% respectively.

The second quarter saw CN bring increases of about 3.0% on movements into both Vancouver and Prince Rupert along with a further 3.8% cut on its rates into Thunder Bay. These actions stood in contrast to the broader escalations brought forward by the carrier in the third and fourth quarters. On westbound movements into Vancouver, these rate increases amounted to 1.2% and 4.0% respectively. The corresponding escalations on movements into Prince Rupert during this period were somewhat greater, amounting to 1.2% and 5.5%. The single-car rates on eastbound movements into Thunder Bay were raised even higher; by 7.1% in the third quarter and by another 2.0% in the fourth. The rates applicable on movements into Churchill were also increased during this period, rising by an average of 3.0% in the third quarter. The compound effect of these actions was to raise westbound rates by about 21.0% as compared to a much lesser 4.0% increase for eastbound shipments.

For the most part, CP followed suit with successive increases in the second, third and fourth quarters. In the Vancouver corridor, these escalations amounted to averages of 2.1%, 1.8% and 4.0% respectively. In comparison, CP largely held its single-car rates into Thunder Bay unchanged into the third quarter, when these too were increased by an average of 1.3%. This was followed by a further 5.0% increase in the fourth quarter. The compound effect of these pricing actions saw CP's westbound rates raised by 22.2% and its eastbound rates by a somewhat lesser 16.5%.

Figure 28: CP Single-Car Freight Rates – Primary Corridors



An examination of the pricing changes enacted since the beginning of the GMP provides some insight into the evolution of today's single-car freight rates. With the close of the 2012-13 crop year, the single-car rates applicable on the movement of grain to the jointly served ports of Vancouver and Thunder Bay have increased by moderately different amounts: 37.7% and 42.7% respectively. The overall gain for Churchill was consistent with these values, rising by 38.6%. However, Prince Rupert, which benefited from a change to the rate structure more than a decade ago, posted an overall increase of just 19.4%.

Taken altogether, these increases reflect the 29.2% escalation in revenues allowed by the Canadian Transportation Agency since the Revenue Cap came into effect thirteen years earlier. Moreover, they also suggest that the railways are more favourably disposed towards the handling of

31 See Canadian Transportation Decision Number 149-R-2012 dated 30 April 2012.

32 CN's single-car rates to Churchill are published in accordance with the port's shipping season. The 1.5% reduction cited here relates to the rates that were in place at the close of the 2011-12 crop year.

westbound grain, and continue to use price in an effort to influence that movement.

Multiple-Car-Block Discounts

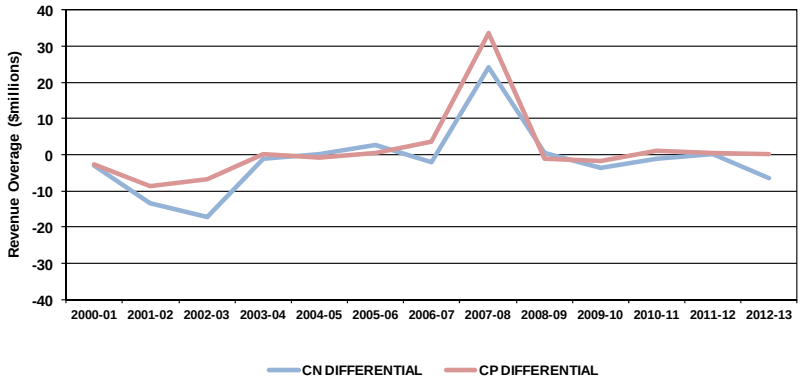
There have been equally significant changes to the structure of the freight discounts both carriers use to promote the movement of grain in multiple car blocks. The most noteworthy aspect of this evolution was the gradual elimination of the discounts applicable on movements in blocks of less than 50 cars, along with a progressive escalation in the discounts tied to blocks of 50 or more cars. Over the course of the GMP, the discount applicable on the largest of these has risen by a factor of 60%, to $8.00 per tonne from $5.00 per tonne. More importantly, there can be little doubt that this has been a central force in the rationalization of the western Canadian elevator system and in the expansion of high-throughput facilities.

These freight discounts remained unchanged in the 2012-13 crop year. CN continued to offer discounts on movements in blocks of 50-99 cars that equated to $4.00 per tonne, and to $8.00 per tonne on movements of 100 or more cars. The corresponding discounts for CP remained at $4.00 per tonne for shipments in blocks of 56-111 cars, and at $8.00 per tonne for shipments in blocks of 112 cars. [Table 4C-2]

The Revenue Cap

Under the federal government's revenue cap, the revenues that CN and CP are entitled to earn in any given crop year from the movement of regulated grain cannot exceed a legislated maximum of $348.0 million and $362.9 million respectively.[33] But these limits are not static. Rather, they are adjusted annually to reflect changes in volume, average length of haul, and inflation. With the exception of the inflationary component, these adjustments are determined by the Canadian Transportation Agency following a detailed analysis of the traffic data submitted to it by CN and CP at the end of any given crop year.[34] For the 2012-13 crop year, the revenue caps for CN and CP were set at $562.9 million and $544.0 million respectively, or $1,107.0 million on a combined basis.[35] This marked the second consecutive instance since the introduction of the revenue cap where the carriers' revenue entitlement actually reached above the $1.0-billion threshold. [Table 4C-3]

Figure 29: Revenue Cap Compliance



33 The maximums cited here are expressed in constant 2000 dollars, and were developed using an estimated annual movement of 12.4 million tonnes for CN and 13.9 million tonnes for CP, with average haulage distances of 1,045 miles and 897 miles respectively.

34 The Volume-Related Composite Price Index (VRCPI), which provides for an inflationary adjustment to carrier revenues, is determined by the Canadian Transportation Agency in advance of each crop year. For the 2012-13 crop year, the Agency determined the value of the VRCPI to be 1.2919, which represented a year-over-year increase of 9.7%. See Canadian Transportation Agency Decision Numbers 149-R-2012, dated 27 April 2012, and 8-R-2013, dated 10 January 2013.

35 See Canadian Transportation Agency Decision Number 461-R-2013 dated 13 December 2013.

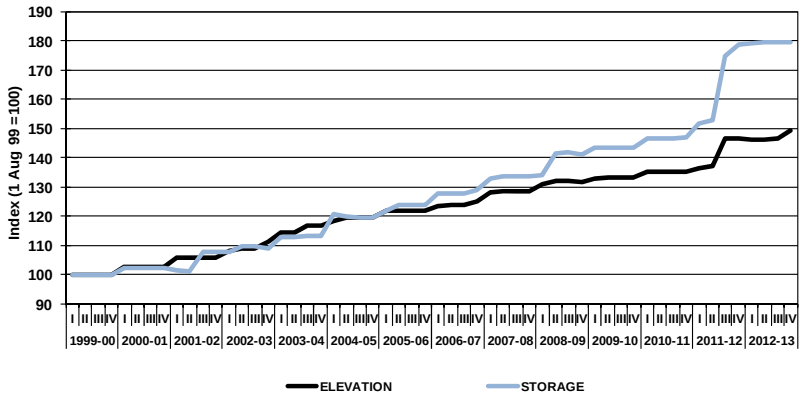
At the same time, the Agency determined that the statutory revenues derived from the movement of regulated grain by CN and CP amounted to $556.6 million and $544.2 million respectively, or $1,100.8 million on a combined basis. These determinations produced dissimilar results for the carriers: $6.3 million less than allowed in the case of CN against $178,000 more than allowed for CP. Even so, total carrier revenues stood less than 0.6% below the legally prescribed limit. The narrowness of this differential, while somewhat larger than those of recent years, continues to point to the railways' proficiency in maximizing their revenues within the current regulatory framework.

TERMINAL ELEVATOR HANDLING CHARGES

The rates posted for the receiving, elevating and loading out of grain nominally represent the most substantive assessed by the terminal elevator operators. As with other measures, an examination of price movement is best performed using a composite index, given the myriad of different tariff rates. At the end of the 2011-12 crop year these ranged from a low of about $9.77 per tonne on wheat delivered at Vancouver, to a high of $16.50 per tonne on oats shipped to Churchill.

The 2012-13 crop year saw a variety of adjustments made to these rates. Increases were the norm for Vancouver, which posted rate escalations of as little as 2.8% on wheat and durum to as much as 15.6% on rye. Although Prince Rupert increased its handling charges on wheat and durum by about 4.0%, it also provided for a 13.3% reduction on canola. In contrast, Thunder Bay brought forward a narrower mix of rate changes, ranging from a 1.1% increase for oats to a 2.7% cut for barley. Churchill reported the most significant escalation in its tariff rates, raising those applicable on wheat and durum by 17.1%. Given the previous shipping season's 26.9% escalation, this meant that Churchill's tariff rate had risen by a factor of 48.5% - from $8.08 per tonne to $12.00 per tonne – in less than two years. Despite such extremes, these pricing actions served to raise the composite price index by only 2.0%, to 149.4 from 146.5. [Table 4D-1]

Figure 30: Change in Terminal Elevator Handling Charges



As with the cost of elevation, the daily charge for storage also varied widely, ranging from a common low of about $0.08 per tonne on most wheat held at port to a high of $0.16 per tonne on oats maintained in inventory at Churchill. Once again, rate adjustments in the 2012-13 crop year proved comparatively modest. Prince Rupert posted the largest increase, with the overall average rising by 3.1%. This was followed by Vancouver with an average increase of 1.6%, while Churchill posted no changes at all. Running counter to all of this was Thunder Bay, which owing to reductions in the rates for wheat, barley and oats saw its overall average decline by 1.0%. Together, these actions served to raise the composite price index on storage by just 0.4%, to 179.4 from 178.7.

COMMERCIAL DEVELOPMENTS

Repeal of CWB Monopoly Heralds New Era of Marketing Freedom

Following passage of *The Marketing Freedom for Grain Farmers Act* in December 2011, the Canadian Wheat Board (CWB) lost its long-held monopoly over the sale of western Canadian wheat and barley with the commencement of the 2012-13 crop year. This meant that producers were no longer obligated to sell wheat and barley intended for export or domestic human consumption solely to the CWB. In fact, the right to forward contract for the delivery of their grain, on or after 1 August 2012, to any grain company a producer chose had already been in place since the Act received Royal Assent.

Repeal of the CWB's monopoly marked one of the most significant changes to the functioning of the GHTS in three generations. Although the Act provided for the transformation of the CWB into a voluntary marketing entity, with interim support from the federal government while the organization transitioned to full private ownership, pockets of opposition still remained within the producer community.[36] Nevertheless, many in the grain industry had long argued for this change and had been preparing for open-market operations since the federal government announced its plans to introduce the enabling legislation.

By most standards, this transition to open-market operations appeared largely problem free. The new marketing environment also brought increased competition between grain companies, with price often being the key consideration in the producers' delivery choice. Much of this was visible in their response to the merchandizing efforts of the grain companies themselves, which were actively pursuing farmer deliveries. The new environment appeared to have given farmers better flexibility in terms of grades, delivery options and predictable cash flow.

In comparison to the grain companies, the revamped CWB appeared to face a number of transitional challenges. Since it possessed no grain-handling assets of its own, the CWB signed a variety of agreements with individual grain companies that would see these firms handling grain on its behalf.[37] Although the details surrounding these agreements remain confidential, producers who contract with the CWB are not locked into delivering their grain to a specific location or grain company.[38] Rather, they retain the right to seek the best options open to them for trucking, elevator handling and freight. In addition, the CWB no longer issues delivery calls, with the grain companies now obligated to provide producers with practical delivery opportunities in accordance with their handling agreements. Even so, there were reported instances where elevator managers were reluctant to accept farmer deliveries on behalf of the CWB without a clear plan for outward shipping.

Concerns that Canada's grain pipeline would struggle in the wake of the ending of the CWB's monopoly subsided fairly quickly in the opening months of the 2012-13 crop year as the GHTS moved record or near-record volumes. There can be no doubt that this was, in part, due to almost ideal conditions surrounding a change of this magnitude: an early, dry harvest; good grain yields and consistent quality; higher grain prices in the face of tighter global supplies; and ocean freight rates at near record low levels. Still, the arrival of winter brought its share of operational challenges, including the typical tightening of railway carrying capacity. But delays in fulfilling empty railcar orders at country

36 Opposition to the government's actions was not only manifest in producer sentiment, but in the launching of various legal challenges as well. Although a class action suit against the federal government remained, by the close of the crop year all other challenges had failed.

37 The first grain-handling agreements were signed in March 2012 with Cargill Limited and South West Terminal Ltd. Six additional agreements were struck in June 2012 with Viterra Inc., Mission Terminal Inc., West Central Road and Rail Ltd., Delmar Commodities Ltd., Linear Grain Inc. and Agro Source Ltd. A further eleven were finalized at the close of the 2011-12 crop year with Richardson International Limited, Louis Dreyfus Canada Ltd., Parrish and Heimbecker Limited, Paterson Grain, Weyburn Inland Terminal Ltd., Prairie West Terminal Ltd., Providence Grain Group Inc., Great Sandhills Terminal Ltd., North West Terminal Ltd., Lethbridge Inland Terminal Ltd., Westlock Terminals (NGC) Ltd., Great Northern Grain Terminals Ltd. and Alliance Grain Terminal Ltd.

38 In accordance with the Act, the CWB is now able to market canola and other commodities, with deliveries accepted at selected locations across the prairies.

elevators were symptomatic of other issues as well. Not the least of which may have been the heightened competitive environment that shaped the future sales expectations of some grain companies during this period. This may well have led to the speculative chartering of vessels along the west coast, and a resultant buildup in vessels waiting to load.

Such operational shortcomings underscored concerns about the system's ability to accept grain according to pricing signals alone. The early surge in volume again served to highlight the need to balance the influx of grain with the system's available capacity. This was initially reflected in strained storage capacity at country elevators, with farmers unable to deliver all of the grain they may have wanted. But this later devolved into problems with moving all the grain on hand as a result of a reduction in railway car supply, and the amassing number of ships waiting for loads at west coast ports.

Acquisition of Viterra Inc. Finalized

In March 2012 it was revealed that Viterra Inc. (Viterra), Canada's largest grain company, had agreed to be acquired by Glencore International PLC (Glencore) in an all-cash transaction valued at approximately $6.1 billion.[39] This marked the first major acquisition within the grain industry since the federal government announced its plan to change the mandate of the Canadian Wheat Board commencing with the start of the 2012-13 crop year.

Formed through the takeover of Agricore United by Saskatchewan Wheat Pool in 2007, Regina-based Viterra controlled a domestic network encompassing 96 licensed primary and process elevators, along with seven port terminals. These assets were employed in handling about 45% of all the grain delivered by producers in western Canada. In addition to grain handling, Viterra also had an extensive retail network, with 258 outlets across western Canada selling a variety of crop inputs.

Viterra had grown significantly beyond its Canadian roots, becoming a vertically integrated agri-business with almost $12 billion in annual revenues. Much of this growth was occasioned by the company's $1.4 billion acquisition of Australia's largest agri-business, ABB Grain Ltd., in 2009. This resulted in Viterra becoming a major grain marketer with sourcing resources in two hemispheres. In addition to its extensive holdings in Canada and Australia, Viterra also owned facilities in the United States, New Zealand and China.

With revenues of $186.2 billion US in 2011, Glencore is one of the largest mining and commodity-trading companies in the world. Headquartered in Baar, Switzerland, the company has extensive interests in producing, processing, and marketing a wide variety of metals and minerals, energy and agricultural products. Although the $17.1 billion in revenues generated by Glencore's extensive agricultural holdings outdistanced that produced by Viterra's, its assets were geographically based in Europe, Asia and South America. Having already stated that the company wanted to strengthen its position in the world grain and oilseed markets, the acquisition of Viterra clearly presented Glencore with an opportunity to add appreciably to its existing grain handling infrastructure. However, there was a greater synergistic dimension to the proposed combination given the complementary geographic character of the two operations. This would allow Glencore to develop its physical reach within North America while further leveraging the sway of its growing international network.

Glencore did not propose to simply absorb Viterra. Concurrent with the disclosure of its planned acquisition of Viterra, Glencore announced that it had also entered into separate agreements with Agrium Inc. (Agrium) and Richardson International Limited (Richardson International) for the sale of specific Viterra assets. Under these agreements, Agrium was to acquire approximately 90% of Viterra's Canadian retail crop input facilities, all of its Australian retail facilities, and its minority position in

39 Glencore agreed to pay $16.25 per share for all issued and outstanding shares of Viterra. This represented the payment of a 50% premium over the closing price for Viterra's stock on 8 March 2012, the day immediately prior to the formal revelation by Viterra that it had received expressions of interest in its possible acquisition.

Canadian Fertilizer Limited's (CFL) production facility in Medicine Hat, Alberta.[40] Similarly, Richardson International was to acquire 23% of Viterra's Canadian grain handling assets, including 19 grain elevators and the crop input centers co-located with those elevators, a 25% ownership interest in Vancouver's Cascadia Terminal, a Viterra export terminal in Thunder Bay, along with its Can-Oat Milling and 21st Century grain processing subsidiaries.

There was little doubt that these subsequent divestitures would change the competitive landscape by narrowing the commercial differences that had existed between the two largest grain handlers in western Canada. Each of these transactions would be subject to the receipt of the prerequisite court, shareholder and regulatory approvals; both foreign and domestic. The first of these hurdles was passed in early May 2012 when Glencore received a "No Action" letter from the Competition Bureau of Canada and the statutory waiting period for an American antitrust review expired. This was followed on 29 May 2012 by a special meeting of Viterra shareholders, who voted 99.8% in favour of the Glencore acquisition, and just two days later, by a final order approving the takeover under the *Canada Business Corporations Act* from the Ontario Superior Court of Justice. Australian authorities soon gave their consent as well.

By the close of the 2011-12 crop year, however, China's Ministry of Commerce had still not weighed in with its regulatory approval. In the absence of this last regulatory requirement, the transaction could not be closed in advance of the 2012-13 crop year as initially hoped. Ultimately, China's approval did not come for another five months. When it did, Glencore moved quickly to complete the transaction, finalizing its acquisition of Viterra on 18 December 2012.[41]

Concurrent with this, the Competition Bureau gave its approval to the planned sale of over $800 million in Viterra's existing grain-handling assets to Richardson International, with the transfer ultimately concluded on 1 May 2013. This was not, however, the case for those assets slated for sale to Agrium, which had yet to receive approval for its pending transaction from the Competition Bureau.

Richardson International Begins Expansion of Vancouver Terminal

Following on the heels of the terminal-elevator network's first significant expansion in several years, the 2012-13 crop year saw the closure of yet another terminal elevator in Thunder Bay. Within a larger context, however, these seemingly disparate swings denoted facets in a broader redistribution of network capacity. The most visible aspect of this was tied to Richardson International's decision to add an 80,000-tonne concrete annex to its facility in North Vancouver.

The $120-million investment, which received a project permit from Port Metro Vancouver in mid April 2013, would increase the facility's storage capacity by 64.8%, to 178,000 tonnes from its current 108,000 tonnes.[42] Already handling some 3 million tonnes of grain and oilseeds annually, this expansion would enable the company to boost its yearly throughput to over 5 million tonnes. This expansion comes on the heels of the $20-million investment Richardson International already made in the facility's railcar-receiving abilities, which coupled with other improvements, were aimed at doubling its unloading capacity, from 150 cars per day to 300 cars per day.

40 Canadian Fertilizer Limited's (CFL) Medicine Hat facility was the largest producer of nitrogen fertilizers in Canada, and jointly owned by Illinois-based CF Industries Holdings Inc. (CF Industries), which held a majority interest, and Viterra Inc., which held a minority interest. The scope of the original asset-sale agreement between Glencore and Agrium was revised in August 2012 when Agrium concurred to a proposed buyout of Viterra's minority interest in CFL by the company's majority shareholder, CF industries. This transaction, valued at $915 million, was finalized on 30 April 2013 and made CF Industries the sole owner of CFL.

41 Although the acquisition resulted in Viterra becoming a wholly-owned subsidiary of Glencore, the company continued to operate under the Viterra name.

42 Although its plans call for the construction of an 80,000-tonne annex, the net increase in storage capacity will be a somewhat lesser 70,000 tonnes owing to the elimination of 10,000 tonnes in existing steel-bin storage.

Moreover, the Vancouver expansion came atop another equally major change to the makeup of the company's terminal-elevator network. This stemmed from Glencore's takeover of Viterra, which provided for the sale of certain commercial interests and assets to Richardson International. Beyond some 19 primary Viterra elevators situated across the prairies, this included a 25% ownership interest in Viterra's Cascadia Terminal, situated almost directly across the Burrard Inlet from the Richardson International facility, on Vancouver's south shore. The arrangement also entailed the takeover of the Viterra C terminal in Thunder Bay, which was de-licensed immediately thereafter.

Richardson International took formal title of these assets on 1 May 2013, giving it outright ownership of three terminal elevators along with a commercial interest in two others. This expanded presence was widely expected to enhance the company's grain-handling abilities in both the Canadian and international marketplace.

Federal Government Amends the Canada Grain Act

In October 2012 the federal government moved to implement a number of its budgetary measures with the introduction of Bill C-45, the *Jobs and Growth Act, 2012*, in the House of Commons. The bill, which received Royal Assent on 14 December 2012, also included revisions to the *Canada Grain Act*. These amendments marked the first substantive changes to the Act in more than forty years, and were aimed at modernizing and streamlining the operations of the Canadian Grain Commission (CGC), eliminating any unnecessary or redundant services, and reducing the regulatory burden on the grain industry.

Among the more noteworthy provisions of the legislation was the transfer of responsibility for inward weighing and inspection at terminal elevators from the CGC to the private sector. Even so, shippers, including those farmers choosing to load producer cars, would still have access to CGC-authorized third-party inspectors. At the same time the legislation also affirmed the oversight role of the CGC in the collection of inward weighing and inspection data. Moreover, in the event of a disagreement, shippers would also have the right to appeal the grading and dockage decisions of third-party inspectors to the CGC, which would then render a binding determination.

Similarly, the responsibility for the weighing and inspecting of domestic laker shipments was also to be transferred to the private sector. Other changes included: the elimination of the Grain Appeal Tribunal, along with the registration and cancellation of receipts, and weighovers at local elevators; the combination of existing terminal and transfer elevator licenses into a single terminal elevator class; and the planned replacement of the current Payment Protection Program with an insurance-based producer payment protection mechanism.

Federal Government Passes the Fair Rail Freight Service Act

In response to the concerns that had been raised by the majority of rail shippers regarding the state of railway service in Canada, the federal government committed itself in early 2008 to a review of railway service. A three-member panel subsequently empowered with conducting this review formally submitted its final report to the Minister of State (Transport) in late December 2010. In broad terms, the panel found that there was an imbalance in the commercial relationship between the railways and other stakeholders, but believed that a commercial – rather than a regulatory – approach provided the best means of rectifying this imbalance.

In response to the panel's report, the federal government adopted a four-point course of action that would ultimately lead to legislation giving shippers the right to railway service agreements. These efforts culminated in the passage of Bill C-52, the *Fair Rail Freight Service Act*, which received Royal Assent on 26 June 2013. While broadly aimed at enhancing the effectiveness, efficiency and reliability of railway service, the Act sought to strike a balance between the service needs of shippers and the latitude required by carriers in operating their networks efficiently.

The Act also carried through on a key recommendation made by the Rail Freight Service Review Panel in 2011, which encouraged the use of bilateral service agreements between shippers and railways as an effective mechanism in bringing more clarity, predictability and reliability to rail service. Although most shippers acknowledge that there has been an improvement in rail service since the Review was undertaken, many believed that the Act's legislative provisions did not offer sufficient protections. Notwithstanding these concerns, the Act's primary thrust was directly aimed at incentivizing shippers and railways alike to commercially negotiate their own service agreements.

However, in the event that these negotiations should prove unsuccessful, shippers would have the ability to trigger a fast and efficient arbitration process under the auspices of the Canadian Transportation Agency, which would have the power to define the conditions of service that would apply. Strong enforcement mechanisms could also be employed to hold the railways to account for obligations imposed by an arbitrator, including a monetary penalty of up to $100,000 for each violation of an arbitrated service level agreement.

Section 5: System Efficiency and Performance

Indicator Description	Table	1999-00	2010-11	2011-12	2012-13 Q1	Q2	Q3	Q4	YTD	% VAR
Country Elevator Operations										
Average Elevator Capacity Turnover Ratio	5A-1	4.8	5.7	6.0	1.7	1.5	1.4	1.2	5.8	-3.3%
Average Weekly Elevator Stock Level (000 tonnes)	5A-2	3,699.3	2,722.9	2,660.8	2,678.3	2,598.0	3,017.8	1,713.4	2,489.6	-6.4%
Average Days-in-Store (days)	5A-3	41.7	30.8	27.6	26.0	26.7	30.6	22.2	26.5	-4.0%
Average Weekly Stock-to-Shipment Ratio – Grain	5A-4	6.2	4.5	4.1	3.6	3.8	4.7	3.3	3.9	-4.9%
Railway Operations										
Railway Car Cycle (days) – Empty Movement	5B-1	10.7	7.2	7.2	7.5	6.8	7.6	8.5	7.5	4.4%
Railway Car Cycle (days) – Loaded Movement	5B-1	9.2	7.1	6.7	5.9	7.1	6.8	6.2	6.5	-2.8%
Railway Car Cycle (days) – Total Movement	5B-1	19.9	14.3	13.9	13.4	13.9	14.4	14.8	14.0	0.9%
Railway Car Cycle (days) – Non-Special Crops	5B-2	19.3	14.2	13.8	13.2	13.7	14.3	14.6	13.9	0.7%
Railway Car Cycle (days) – Special Crops	5B-3	25.8	15.3	16.3	15.4	17.0	15.0	16.2	15.8	-2.9%
Railway Transit Times (days)	5B-4	7.8	6.0	5.6	4.8	6.0	5.8	5.2	5.4	-2.5%
Hopper Car Grain Volumes (000 tonnes) – Non-Incentive	5B-5	12,718.7	5,500.2	5,427.9	2,118.5	1,471.9	1,460.9	1,432.2	6,483.6	19.4%
Hopper Car Grain Volumes (000 tonnes) – Incentive	5B-5	12,945.9	21,596.5	22,725.0	6,341.5	6,035.6	5,530.6	4,026.0	21,933.7	-3.5%
Hopper Car Grain Volumes ($ millions) – Incentive Discount Value	5B-6	$31.1	$145.5	$154.6	$45.1	$42.9	$40.2	$27.4	$155.5	0.6%
Traffic Density (tonnes per route mile) – Grain-Dependent Network	5B-7	442.5	534.8	592.1	738.7	612.5	565.3	456.5	593.3	0.2%
Traffic Density (tonnes per route mile) – Non-Grain-Dependent Network	5B-7	292.5	340.9	345.1	417.0	381.0	356.1	274.2	357.1	3.5%
Traffic Density (tonnes per route mile) – Total Network	5B-7	330.4	379.9	394.7	480.2	426.6	397.2	310.1	403.6	2.2%
Terminal Elevator Operations										
Average Terminal Elevator Capacity Turnover Ratio	5C-1	9.1	9.9	11.1	n/a	n/a	n/a	n/a	11.1	0.0%
Average Weekly Terminal Elevator Stock Level (000 tonnes)	5C-2	1,216.2	1,197.8	1,091.6	1,106.5	1,216.9	1,302.6	950.6	1,139.6	4.4%
Average Days-in-Store – Operating Season (days)	5C-3	18.6	15.5	13.9	14.3	13.3	15.4	14.5	14.3	2.9%
Port Operations										
Average Vessel Time in Port (days)	5D-1	4.3	9.9	6.6	6.2	11.3	14.3	7.6	9.7	47.0%
Annual Demurrage Costs ($millions)	5D-4	$7.6	$50.1	$14.9	n/a	n/a	n/a	n/a	$22.6	51.1%
Annual Dispatch Earnings ($millions)	5D-4	$14.5	$9.4	$9.0	n/a	n/a	n/a	n/a	$5.5	-39.2
Avg. Weekly Stock-to-Shipment Ratio – VCR – Wheat, Durum and Barley	5D-7	3.5	3.7	3.5	3.5	3.2	4.1	4.2	3.8	8.9%
Avg. Weekly Stock-to-Shipment Ratio – VCR – Other Grains	5D-7	3.6	1.0	1.7	1.7	2.5	3.4	3.2	2.7	56.9%
Avg. Weekly Stock-to-Shipment Ratio – TBY – Wheat, Durum and Barley	5D-7	4.6	4.6	3.1	4.9	6.1	4.3	3.8	4.8	57.4%
Avg. Weekly Stock-to-Shipment Ratio – TBY – Other Grains	5D-7	3.3	5.1	4.5	1.7	4.6	2.3	1.8	2.9	-36.2%
Terminal Handling Revenue ($millions)	5D-8	$274.8	$416.2	$458.6	n/a	n/a	n/a	n/a	$436.2	-4.9%
System Performance										
Total Time in Supply Chain (days)	5E-1	68.1	52.3	47.1	45.1	46.0	51.8	41.9	46.2	-1.9%

COUNTRY ELEVATOR OPERATIONS

The net effect of changes in primary elevator throughput and storage capacity is reflected in the system's capacity-turnover ratio. Echoing a 3.0% decrease in primary-elevator throughput, the turnover ratio for the 2012-13 crop year fell by 3.3%, to 5.8 turns from 6.0 turns a year earlier. [Table 5A-1]

This reduction in the turnover ratio was primarily shaped by the diminished throughputs of Saskatchewan and Alberta. Saskatchewan reported the most substantive decline, with its ratio falling by 9.1%, to 5.0 turns from 5.5 turns. This was followed by Alberta, which posted a decrease of 6.9%, with its ratio slipping to 8.1 turns from 8.7 turns a year earlier. Providing some counterweight to this was Manitoba, which saw its ratio rise by 16.2%, to 4.3 from 3.7. Additional support came from British Columbia, which posted a more modest gain of 1.3%, with its ratio increasing to 8.0 turns from 7.9 turns.

While the turnover ratio is sensitive to changes in volume, much of the real improvement witnessed since the beginning of the GMP has come from a net reduction in storage capacity. Although the primary elevator system's storage capacity has been rising since the 2003-04 crop year, the net loss of 416,800 tonnes since the beginning of the GMP has bolstered the annual turnover ratio by 12.4%. Had storage capacity not been reduced to this degree, the turnover ratio for the 2012-13 crop year would have been 5.1 turns instead of 5.8 turns.

Elevator Inventories

In assessing the operational efficiency of the primary elevator system, the GMP also considers the amount of grain maintained in inventory. Beyond measuring stock levels, this examination takes into account the amount of time grain spent in inventory, along with its ability to satisfy immediate market needs.

Notwithstanding periodic fluctuations, approximately half of the GHTS's primary elevator storage capacity is actively employed in maintaining its

Figure 31: Primary Elevator Capacity Turnover Ratio

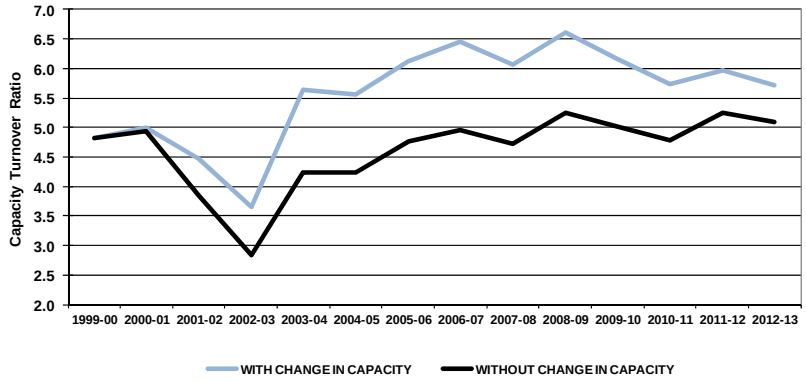
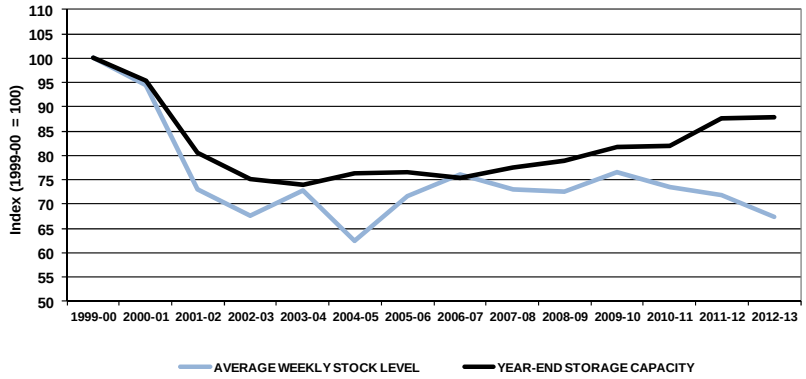


Figure 32: Change in Average Weekly Stock Levels



grain inventories. What is more, with the system's associated storage capacity having contracted by some 6.5%, today's stocks typically stand well below the 3.7-million-tonne average benchmarked at the beginning of the GMP. Even with the gradual expansion in storage capacity since the 2003-04 crop year average inventories have seldom exceeded 3.0 million tonnes. This was again the case in the 2012-13 crop year when average primary elevator inventories fell by 6.4%, to 2.5 million tonnes from 2.7 million tonnes. Much of the overall reduction was attributable to a sharp decline in the fourth quarter, with primary elevator stocks reaching a record GMP low of 1.7 million tonnes. [Table 5A-2]

Just as the average stock level has moved generally lower, so too has the average amount of time spent by grain in inventory. While seasonality remains a factor, the quarterly average has continued to fluctuate around the 30-day mark for several years. Still, these values stand about ten days below the GMP's base-year average of 41.7 days, contributing significantly to the improved speed with which grain moves through the GHTS. The 26.5-day average posted for the 2012-13 crop year marked the setting of a second consecutive low under the GMP, bettering the previous crop year's 27.6-day record by 4.0%. This result was largely shaped by reduced storage times for wheat and durum. [Table 5A-3]

Stock-to-Shipment Ratios

The adequacy of country elevator inventories can be gauged by comparing their level at the end of any given shipping week, with the truck and railway shipments actually made in the next seven days. In recent years the quarterly average stock-to-shipment ratio has generally fluctuated around a value of 4.0. As such, the inventory on hand at the close of any given week typically exceeded that required for shipment in the next by a factor of at least four.[43] These ratios are, however, heavily

43 In the event that the ratio of these two values amounts to 1.0, it would mean that country elevator stocks exactly equalled shipments made in the following week. A ratio above this value would denote a surplus supply in the face of short-term needs.

Figure 33: Change in Average Weekly Stocks and Average Days in Store

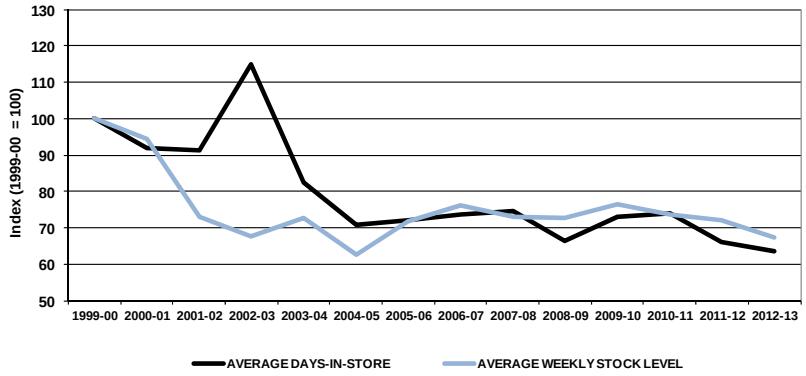


Figure 34: Country Elevator Days-in-Store

Province	Days-in-Store	Change	Grain	Days-in-Store	Change
Manitoba	30.8 days	Down 16.8%	Durum	27.5 days	Down 23.8%
Alberta	21.3 days	Down 3.6%	Wheat	30.0 days	Down 11.2%
Saskatchewan	29.2 days	Down 1.4%	Peas	26.6 days	Down 7.3%
British Columbia	33.6 days	Up 16.3%	Flaxseed	28.7 days	Down 0.3%
			Barley	19.8 days	Up 11.9%
			Canola	19.4 days	Up 14.1%
			Oats	39.5 days	Up 28.2%

influenced by the amount of time that grain spends in inventory, and mimic their movement rather closely. [Table 5A-4]

As the average amount of time spent in inventory has fallen, so too has the stock-to-shipment ratio, which reached an annualized low under the GMP of 3.9 in the 2008-09 crop year. Although this was followed by higher values in each of the next three crop years, the 2012-13 crop year's ratio fell by 4.9%, to tie with this record. As with other measures, this annualized result obscures the fluctuations in the quarterly values, which ranged from a high of 4.7 in the third quarter to a low of 3.3 in the fourth. This in turn reflected the depletion of grain inventories that were, at least in part, being drawn down by a strong sustained demand.

RAILWAY OPERATIONS

In the context of the GHTS, the car cycle measures the average amount of time taken by the railways in delivering a load of grain to a designated port in western Canada, and then returning the empty railcar back to the prairies for reloading. During the 2012-13 crop year this task required an average of 14.0 days to complete, a 0.9% increase over the 13.9-day average recorded a year earlier.

Much of this increase was attributable to an elongation in the car cycles associated with grain moving to the west coast. The Prince Rupert corridor saw the most substantive escalation, with sharply higher third- and fourth quarter averages fueling a 9.4% increase in the overall average for the crop year, which rose to 13.3 days from 12.2 days a year earlier. A lesser increase of 2.0% was noted for movements in the Vancouver corridor, where the average car cycle rose to 14.6 days from 14.3 days. The only reduction came in the Thunder Bay corridor, where a 5.6% decrease resulted in the average car cycle falling to 13.6 days from 14.5 days. [Table 5B-1]

The overall increase in the average car cycle was heavily influenced by an elongation in the empty portion of the movement, which rose by 4.4%, to an average of 7.5 days from 7.2 days a year earlier. This was partially

Figure 35: Primary Elevators – Stock-to-Shipment Ratio

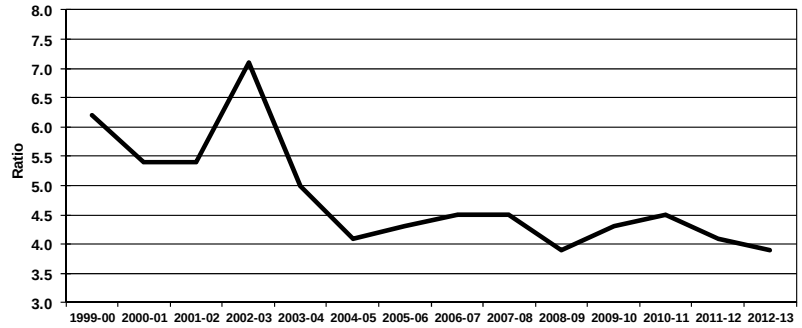
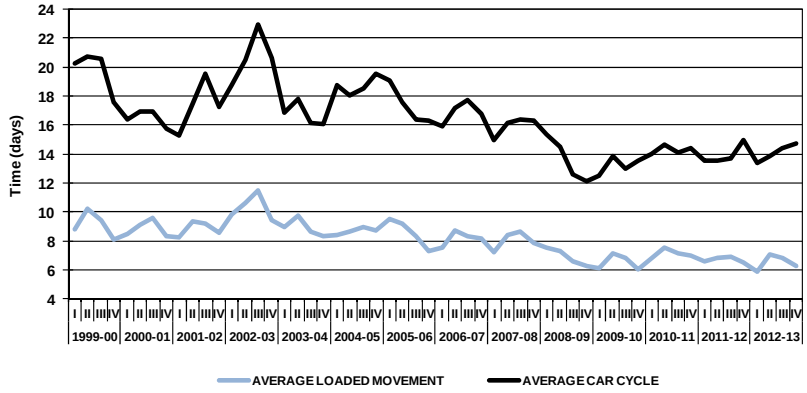


Figure 36: Average Railway Car Cycle



offset by a 2.8% reduction for the loaded portion of the movement, with the average falling to 6.5 days from 6.7 days.

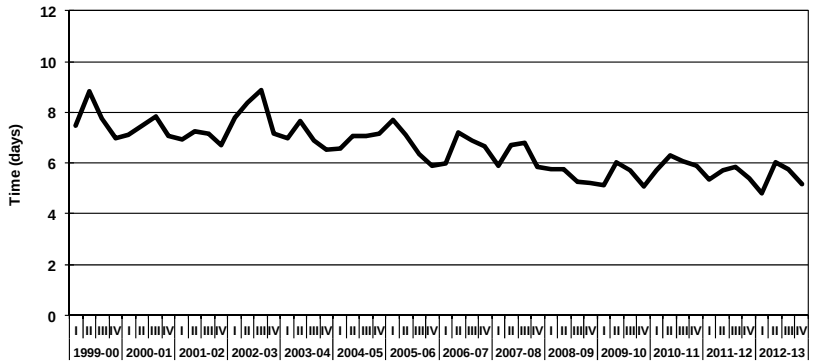
These contrasts were also evident in the results posted by CN and CP, where CN reported a 6.0% increase in its average cycle against a 3.6% decrease for CP. Much of the improvement noted for CP came from a 6.3% reduction in the loaded portion of its car cycle. This was supported by a 1.6% decrease in the empty portion of the carrier's car cycle as well. It should be noted, however, that a portion of this improvement was attributable to comparisons with averages shaped by a ten-day strike the year previous.[44] In comparison, CN's heightened average was driven entirely by a 13.5% elongation in the empty portion of its movements, the loaded portion having remained unchanged.

A marginal increase in the car cycle for the movement of non-special crops was also observed, with the average rising 0.7%, to 13.9 days from 13.8 days a year earlier. Special crops saw the opposite, with its average falling by 2.9%, to 15.8 days from 16.3 days. Comparatively, the average for special crops proved to be 13.7% greater than that of non-special crops. On the whole, these results continued to point to a structural disadvantage being given to the movement of special crops. In large measure, this appears to be linked to the character of special-crop shipments, which generally move as small-block shipments in regular freight service rather than in the unit-train lots typical of non-special crops. [Tables 5B-2 and 5B-3]

Loaded Transit Time

More important than the railways' average car cycle, is the average loaded transit time. This measure focuses on the amount of time taken in moving grain from a country elevator to a port terminal for unloading. As with the overall car cycle, the average loaded transit time has drifted gradually lower since the beginning of the GMP. With the close of the 2011-12 crop year, 2.2 days had been shed from the 7.8-day average benchmarked in the base year. Notwithstanding the aforementioned increase in the overall car cycle, the railways' average loaded transit time declined moderately in the 2012-13 crop year, falling by 2.5%, to 5.4 days from 5.6 days a year earlier. Moreover, the variability in the underlying distribution, as measured by the coefficient of variation, remained unchanged at 30.9%.[45] Despite this, it continued to indicate that the time taken in moving a loaded hopper car between any two points remained highly erratic. [Table 5B-4]

Figure 37: Average Loaded Transit Time



44 A strike by the Teamsters Canada Rail Conference against CP led to a ten-day suspension of railway service in late May 2012. This disruption resulted in the inflation of the carrier's average car cycle in the fourth-quarter of the 2011-12 crop year. This had an adverse, albeit limited, impact on the carrier's annualized car-cycle average as well.

45 The coefficient of variation effectively removes the distortions that arise from measuring the transit times tied to individual movements in a diverse population set by focusing on the underlying variability in the distributions tied to each origin-destination pair. As a ratio, smaller values depict tighter distributions than larger ones. To this end, a lower ratio can be deemed indicative of better consistency around the average loaded transit time presented.

Multiple-Car Blocks

In the 2012-13 crop year, 21.9 million tonnes of grain moved in the multiple-car blocks that offered discounted freight rates. Although this denoting a 3.5% decrease from the 22.7 million tonnes handled a year earlier, it also represented the fifth consecutive crop year in which MCB shipments exceeded 20 million tonnes.

From the beginning of the GMP, it has been clear that the largest block sizes were the most popular with grain shippers. This stems simply from the fact that they provide the deepest monetary discounts, allowing the grain companies to realize the greatest financial returns. Moreover, both railways promoted these larger block sizes by systematically increasing the discounts on shipments in blocks of 50 or more cars. At the same time, they also moved to reduce, and ultimately eliminate, the discounts on movements in blocks of 25-49 cars.[46] [Table 5B-5]

As a result, the proportion of railway traffic moving in multiple-car blocks climbed quite rapidly. By the close of the 2011-12 crop year, 80.7% of the regulated grain moving to the four ports in western Canada was earning a discount, against 50.4% in the GMP's base year. By extension, the proportion of grain moving in smaller, non-discounted car blocks declined steadily, to 19.3% from 49.6%. At the same time, the annual value of the discounts realized by grain shippers – estimated as a gross reduction in railway freight charges – increased fivefold, climbing to an estimated $154.6 million from $31.1 million. However, this expansion was largely the product of a more substantive increase in the per-tonne discounts than it was of the traffic base.

Despite a 3.5% decrease in the tonnage moving under discounted freight rates in the 2012-13 crop year, the earned value of these discounts rose by 0.6%, to an estimated $155.5 million from $154.6 million a year

46 CN eliminated its $1.00-per-tonne discount on shipments in blocks of 25-49 railcars at the beginning of the 2003-04 crop year. Although CP reduced its discount to $0.50 per tonne at that time, the carrier only did away with them at the commencement of the 2006-07 crop year.

Figure 38: Railway Traffic Moving Under Incentive

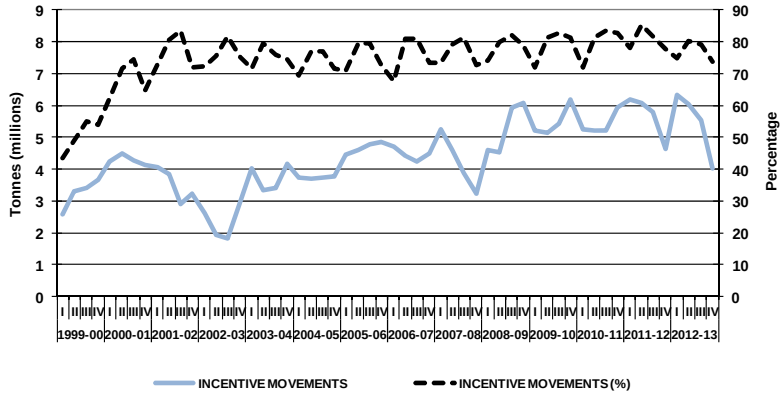
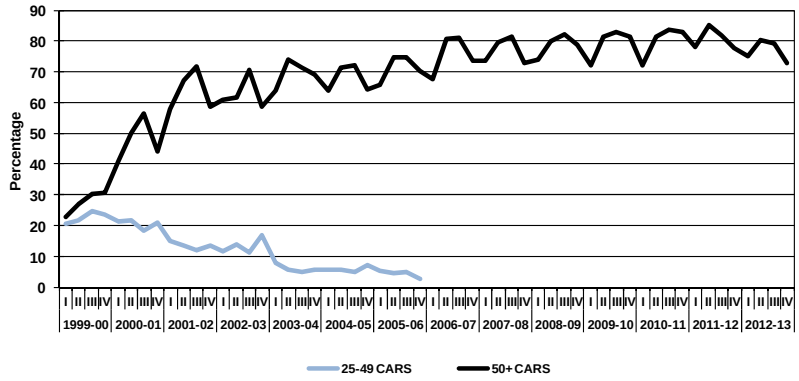


Figure 39: Composition of Multiple-Car-Block Movements



earlier. For the most part, this increase was indicative of the continuing shift towards movements in blocks of 100 or more cars, much of this being derived from the physical expansion of the loading abilities of many Class C elevators. This has also been reflected in a steadily rising average earned discount, which reached an estimated $7.09 per tonne against $6.80 per tonne a year earlier. [Table 5B-6]

Traffic Density

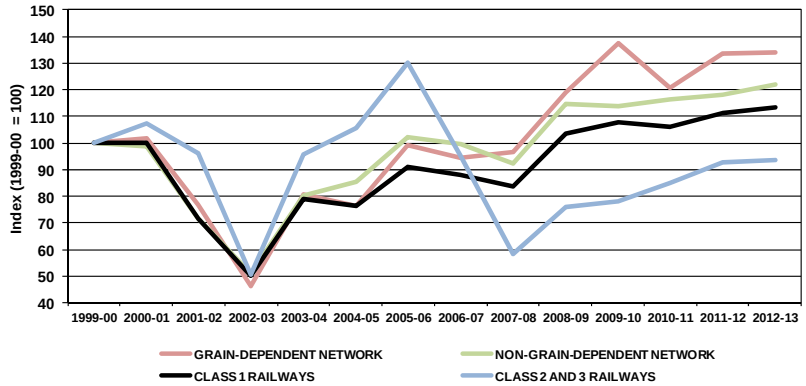
Another indicator of railway efficiency is traffic density. With a quarterly average of 403.6 originated tonnes per route-mile, overall density in the 2012-13 crop year was 2.2% greater than the 394.7 tonnes per route-mile observed a year earlier.[47] It is worth noting that this average ranked as the highest yet recorded under the GMP. Although much of the gain exhibited over the last 14 years stems from the diminishing span of the GHTS's railway infrastructure, it has also been sustained by generally larger grain volumes.

Moreover, this indicator can be highly sensitive to variations in either the railway network or the traffic it supports. For example, despite a 3.4% reduction in grain-dependent network mileage and a 3.2% decline in originated tonnage, traffic density rose by a marginal 0.2%, reaching an average of 593.3 tonnes per route-mile from 592.1 tonnes per route-mile a year earlier. Similarly, a 2.7% increase in the amount of grain shipped from a 0.7% smaller non-grain-dependent network yielded a 3.5% gain in traffic density, which rose to an average of 357.1 tonnes per route-mile from 345.1 tonnes per route-mile. [Table 5B-7]

Comparable volatility can be seen when comparing the change in density for Class 1 and non-Class-1 carriers, with the latter being far more sensitive to changes in both volume and infrastructure. By way of example, a 1.1% increase in volume coupled with a 0.8% reduction in infrastructure resulted in the traffic density for the Class 1 carriers rising by 1.9%, to an average of 458.1 tonnes per route-mile from 449.6 tonnes per route-mile a year earlier. Owing to the combined effects of a 2.9% decline in volume and a 3.9% reduction in infrastructure, the traffic density associated with non-Class-1 carriers rose by 1.0%, to an average of 101.3 tonnes per route-mile from 100.3 tonnes per route-mile.

47 Traffic density is determined by relating grain volumes for a specific period of time to the number of route-miles comprised within the western Canadian railway network at the end of that same period. Although year-over-year measurements are comparable, they cannot be directly gauged against quarterly measurements. For this reason, an average of the year's quarterly values is used as a substitute.

Figure 40: Change in Railway Traffic Density



TERMINAL ELEVATOR OPERATIONS

Owing to a marginal 0.1% increase in throughput in the 2012-13 crop year, the terminal elevator system's capacity-turnover ratio remained effectively unchanged from the record-setting 11.1 turns recorded a year earlier.[48] Prince Rupert reported the only gain among the four ports in

48 The capacity turnover ratio of the terminal elevator network is a simple average based on each facility's individual handlings. As such, the measures for Vancouver and Thunder Bay, as well as the GHTS at large, can be skewed by outlying values. The magnitude of the year-over-year change cited here is not tied to a change in throughput alone.

western Canada, with its ratio rising by 8.4%, to a GMP record of 24.5 turns from 22.6 turns the year before. In comparison, Vancouver saw a marginal reduction of 0.6%, with its turns being shaved to 15.6 from 15.7. Reductions were also noted for Thunder Bay and Churchill. In the case of Thunder Bay, the capacity-turnover ratio fell by 10.7%, to 5.0 turns from 5.6 turns. Churchill reported a somewhat greater reduction in its ratio, which fell by 18.9%, to 3.0 turns from 3.7 turns. [Table 5C-1]

Terminal Elevator Inventories

Over the course of the GMP, the amount of grain held in inventory at terminal elevators has had a fairly consistent relationship with the system's overall handlings, generally encompassing from 20% to 25% of the quarterly throughput. Reflecting the nominal 0.1% increase in terminal throughput, the average weekly stock level rose by 4.4% in the 2012-13 crop year, but remained effectively unchanged from the 1.1-million-tonne average posted a year earlier. [Table 5C-2]

This modest gain was generally consistent with the increases posted by the principal ports in western Canada. Vancouver, which accounted for 44.4% of total terminal stocks, saw its inventories increase by 5.0%, to an average of 506,000 tonnes from 481,800 tonnes the year previous. Prince Rupert's gain amounted to a lesser 3.4%, with average stocks rising to 159,800 tonnes from 154,600 tonnes. Thunder Bay, which claimed 37.8% of total terminal stocks, reported a 2.1% increase, with average stocks increasing to 430,600 tonnes from 421,600 tonnes. Churchill posted the most substantive increase, with its average stocks climbing by 28.6%, to 43,200 tonnes from 33,600 tonnes a year earlier.

As in past years, wheat again constituted the largest single commodity held in inventory. Wheat inventories increased by 19.0% in the 2012-13 crop year, to an average of 521,400 tonnes from 438,300 tonnes a year earlier. This was complemented by rather substantive increases in both durum and barley stocks, which rose by 14.3% and 3.1% respectively. However, these increases were contained by a drawdown in the inventory

Figure 41: Average Terminal Elevator Capacity Turnover

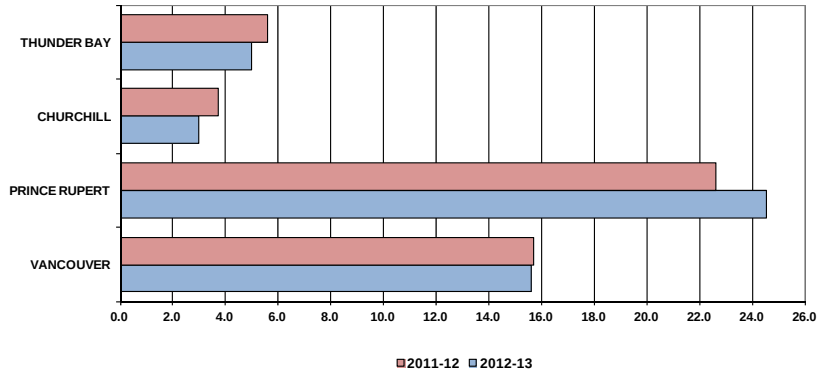
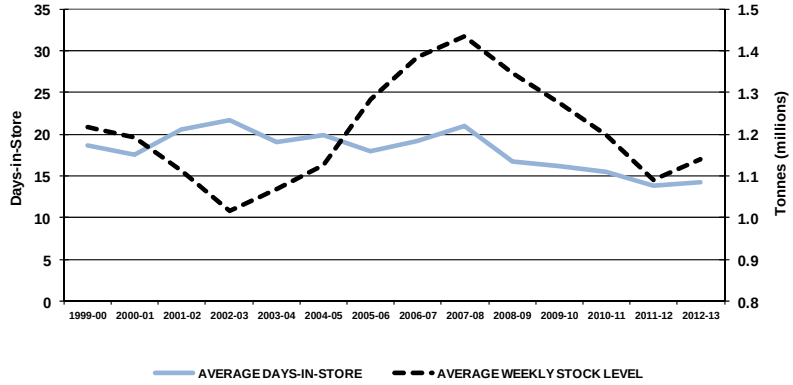


Figure 42: Terminal Elevators – Weekly Stock Level and Days-in-Store



of oilseeds and other commodities. Canola accounted for much of this, with stocks falling by an average of 73,600 tonnes, or 28.7%. [Table 5C-2]

Days in Store

Along with the rise in terminal stocks, the amount of time grain spent in inventory also increased, with the overall number of days-in-store rising by 2.9%, to an average of 14.3 days from 13.9 days a year earlier. Moreover, this marked the first reversal in a downward trend extending back to the 2008-09 crop year. Much of the impetus for this came from an 8.5% increase at Thunder Bay, which saw its average rise to 20.5 days from 18.9 days. This was supported by a 6.0% increase at Vancouver, where the average rose to 12.4 days from 11.7. Partially blunting these increases were a 5.0% reduction at Prince Rupert, which saw its average fall to 11.4 days from 12.0 days, and a 9.6% decline at Churchill, where the average fell to 13.2 days from 14.6 days. [Table 5C-3]

Although the overall average increased, the storage times associated with the majority of commodities declined noticeably. However, this was not enough to combat the more powerful sway tied to wheat and durum, which saw storage-time increases of 8.7% and 13.2% respectively, along with resultant averages of 13.8 days and 21.4 days. With the largest relative reduction in terminal stocks, canola's 14.4% decline in average storage time, which fell to 8.9 days from 10.4 days, provided the most counteractive pressure. This was supported by decreases of 32.6% for rye, 22.8% for peas, and 11.4% for barley.

Stock-to-Shipment Ratios

Whether sufficient stocks were on hand to meet demand can best be gauged by the average weekly stock-to-shipment ratios. This measure provides an indication of how terminal stock levels related to the volume of grain loaded onto ships during the course of any particular week.[49]

Figure 43: Terminal Elevator Days-in-Store

	Days in Store	Change	Remarks
Terminal Ports			
Churchill	13.2 days	Down 9.6%	
Prince Rupert	11.4 days	Down 5.0%	Lowest average number of days-in-store
Vancouver	12.4 days	Up 6.0%	
Thunder Bay	20.5 days.	Up 8.5%	Highest average number of days-in-store
Notable Grains			
Peas	7.1 days	Down 22.8%	Lowest average number of days-in-store
Canola	8.9 days	Down 14.4%	
Barley	31.9 days	Down 11.4%	
Oats	77.6 days	Down 8.6%	Highest average number of days-in-store
Flaxseed	23.3 days	Up 5.0%	
Wheat	13.8 days	Up 8.7%	
Durum	21.4 days	Up 13.2%	

For Vancouver, the average ratio on most grains stood comfortably above a value of 2.0. The exceptions to this proved to be wheat, canola and peas, which posted average ratios of 1.7, 1.5 and 1.6 respectively. Even so, a majority of commodities saw their ratios increase. This included wheat as well as canola, the two largest-volume commodities handled through the port. The ratios associated with durum, barley and peas all moved lower. Although Prince Rupert reported generally lower ratio values than did Vancouver, the majority also increased. Wheat saw the largest gain, increasing by 37.4% to 2.4. [Table 5C-4]

For the most part, the ratios posted by Thunder Bay also stood well above a value of 2.0. The lowest ratio was tied to canola, which fell by 49.6% to 1.9. Still, the majority of grains posted increased ratios. This included wheat and durum, which rose by 82.5% and 25.3% respectively.

49 As a multiple of the volume of grain ultimately shipped in a given week, the stock-to-shipment ratio provides an objective measurement of whether or not sufficient terminal stocks were on hand to meet short-term demand. Ratio values of one or more denote a sufficient amount of stock on hand. By way of example, a ratio of 2.5 would indicate that two-and-a-half times the volume of grain ultimately shipped in a given week had been held in inventory at the beginning of that same week.

Churchill reported lower ratio values than did Thunder Bay, with its ratios for wheat and durum falling by 8.5% and 25.5% respectively.

On the whole, these measures suggest that terminal stocks were largely adequate to meet the prevailing demand, although they also continued to point to periodic stock shortages. While grade-based stock-to-shipment ratios show a greater degree of variability, they suggest much the same. [Table 5C-5]

When examining the frequency with which weekly stock-to-shipment ratios fell below a value of 1.0, the ports of Vancouver and Thunder Bay can both be seen to have had higher instances of such occurrences in the 2012-13 crop year.[50] In the case of Vancouver this happened about 26.1% of the time, up from the 23.8% occurrence rate posted a year earlier. Although Thunder Bay posted fewer such incidences, the occurrence rate rose to 9.8% from 2.4% a year earlier.

PORT OPERATIONS

A total of 784 vessels called for grain at western Canadian ports during the 2012-13 crop year. This represented a 1.1% reduction from the 793 ships that arrived for loading a year earlier. With the exception of Prince Rupert, which boasted a gain of 17 ships, all ports saw fewer vessel arrivals. Most of the decline was tied to Thunder Bay, where 278 vessels called compared to 300 a year earlier. Contributing to the broader loss were two-ship reductions at both Vancouver and Churchill.

Average Vessel Time in Port

The amount of time spent by vessels in port increased by 47.0% in the 2012-13 crop year, climbing to an average of 9.7 days from the 6.6-day average reported a year earlier. A 60.0% increase in the amount of time

50 A stock-to-shipment ratio of less than 1.0 does not mean that the port's terminal elevators were unable to meet vessel demand. Rather, it implies that existing grain inventories were insufficient, and that the shortfall would have to be covered using future railway deliveries.

Figure 44: Distribution of Weekly Stock-to-Shipment Ratios

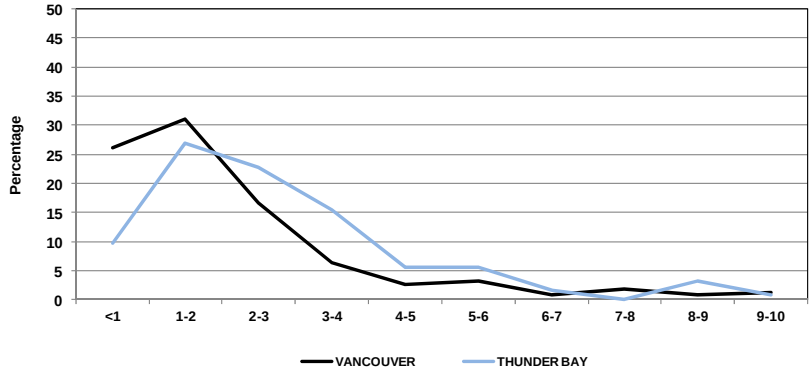
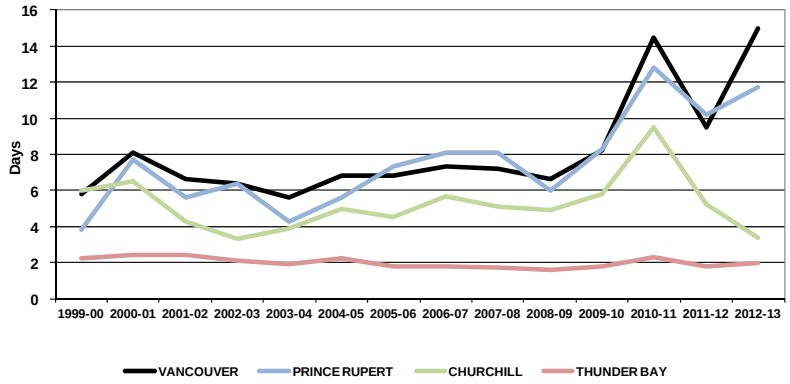


Figure 44: Average Vessel Time in Port



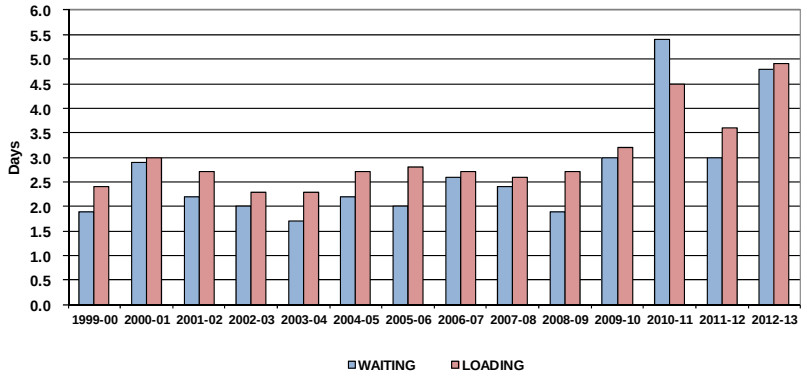
vessels spent waiting to load, which rose to an average of 4.8 days from 3.0 days a year earlier, was the chief driver in the overall escalation.[51] This was supported by a 36.1% increase in the amount of time vessels spent loading, which rose to an average of 4.9 days from 3.6 days.

While the ports of Vancouver, Prince Rupert and Thunder Bay all reported year-over-year increases, much of the underlying force in the overall rise came from the longer amounts of time spent by vessels while in west coast ports during the second and third quarters. In the case of Vancouver, which posted a record-setting 19.3-day average for the second quarter, its annual average rose by 57.9%, to 15.0 days from 9.5 days a year earlier. Prince Rupert, which saw its third-quarter average rise to a near-record high of 17.2 days, posted a lesser 14.7% increase, with its annual average rising to 11.7 days from 10.2 days. Adding to this upward pressure was Thunder Bay, where the average rose by 11.1%, to 2.0 days from 1.8 days.[52] Some counterweight to these increases was provided by Churchill, with a 34.6% reduction leading to an average of 3.4 days against 5.2 days a year earlier. [Table 5D-1]

Distribution of Vessel Time in Port

In keeping with the added time taken by ships in port, the proportion of ships spending more than five days in port also rose, to 54.4% from 45.6% a year earlier. Moreover, there was a significant rise in the number of ships that remained in port for an uncommonly lengthy period of time, with the proportion of vessels spending 16 or more days in port more than doubling to 24.6% from 9.6% a year earlier. All of these delays were associated with ships calling at Vancouver and Prince Rupert.

Figure 46: Average Vessel Waiting and Loading Times



These statistics suggest that, while the GHTS was moving a substantial volume of grain through much of the 2012-13 crop year, this flow was not keeping pace with the demand embodied by the vessels arriving at port. This was especially evident at Vancouver, where the proportion of time that ships spent waiting grew from an average of 42.0% in August 2012 to 60.6% in January 2013. An even greater spiking was observed at Prince Rupert in March 2013, with 80.8% of the average time spent by ships in port being tied to waiting. [Table 5D-2]

Distribution of Berths per Vessel

There were some noteworthy shifts in the number of vessels needing to berth at more than one terminal during the 2012-13 crop year. At Vancouver, the proportion of vessels needing to berth two or more times decreased to 44.0% from 63.1% a year earlier. This proved to be the lowest proportion yet observed under the GMP. Evidence suggests that this may be due to the total logistical control now exercised by the grain companies in getting grain from the country to export position. More specifically, there are indications that, in assuming a role that had largely

51 The number of days a vessel spent waiting is determined using the difference between the time the vessel passed the inspection of the Port Warden and Canadian Food Inspection Agency, and the time at which actual loading was commenced.

52 Despite the increase noted here, Thunder Bay generally posts the lowest average for time spent by vessels in port. This lower average stems chiefly from the greater regularity with which vessels move through the St. Lawrence Seaway, the port's ample storage capacity, and the limited delays incurred by vessels waiting to berth.

been the domain of the Canadian Wheat Board, they then attempted to leverage the efficiencies inherent in making larger bulk shipments. This in turn entailed a greater reliance on just-in-time inventory management practices and a larger proportion of vessels loading in a single berthing. Needless to say, this also placed a heavier burden on the railways if the fluidity of this system was to be maintained. The proportion of vessels needing more than one berthing at Thunder Bay also fell sharply, to 31.3% from 52.0% a year earlier. In equal measure, these values rank well below the 79.2% benchmarked in the first year of the GMP. [Table 5D-3]

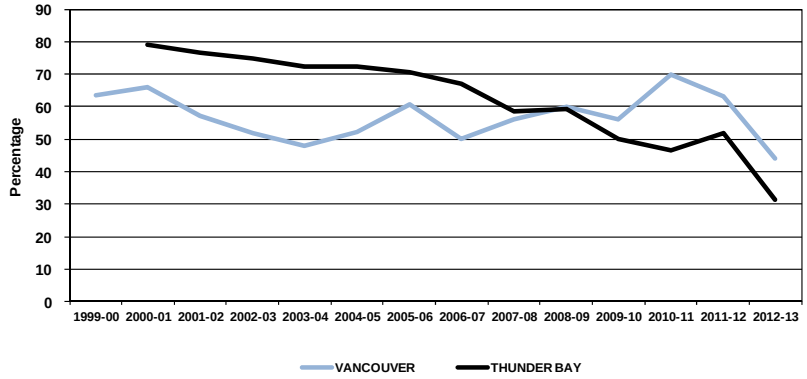
Demurrage and Dispatch

Members of the WGEA reported total vessel demurrage costs and dispatch earnings to the Monitor.[53] This is intended to provide some indication of the effectiveness with which grain flowed through western Canadian ports. For the third consecutive year, these two elements combined to produce a negative value and a loss of $17.1 million versus a loss of $5.9 million a year earlier. [Table 5D-4]

This worsening was primarily shaped by a sharp rise in demurrage costs, which rose to $22.6 million from $14.9 million the year previous. The most significant monetary contributor to this was a 62.4% increase in the demurrage costs incurred along the Pacific Seaboard, which rose to $19.9 million from $12.3 million a year earlier. This was offset marginally by a 1.5% decrease in the demurrage for Churchill, Thunder Bay and points along the St. Lawrence Seaway, which fell to $2.6 million from $2.7 million a year earlier. On the whole, the net increase observed here reflects the substantive rise in vessel delays on the west coast.

53 Note should be made of the fact that data relating to vessel demurrage and dispatch is both un-audited and aggregated. In addition, they pertain to shipments made during the crop year and, as such, may vary from the figures presented in the financial statements of the organizations that provided the data.

Figure 47: Multiple Berthing Vessels



Terminal Revenues

The GMP includes a provision for an annual reporting of terminal elevator revenues. The WGEA and its members developed a method of reporting total terminal revenues using a number of key financial measures, and provided data for their terminals at Thunder Bay and Vancouver.[54] [Table 5D-8]

Total reported terminal revenues for the 2012-13 crop year decreased by 4.9%, falling to $436.2 million from $458.6 million a year earlier. This result was shaped by two inputs: a 6.0% decrease at Vancouver, which saw revenues decline to $352.8 million from $375.3 million; and a 0.1% increase at Thunder Bay, where terminal revenues rose to $83.4 million from $83.3 million.

54 It should be noted that the terminal revenue data used here is un-audited.

SYSTEM PERFORMANCE

The supply chain model provides a useful framework by which to examine the speed with which grain moves through the GHTS. For the 2011-12 crop year, it was observed that this process required an average of 47.1 days; the lowest annualized value yet observed under the GMP. Reductions in the supply chain's principal components – time in storage at a country elevator, time in transit as a railway shipment, and time in inventory at a terminal elevator – were all instrumental in shaping this 21.0-day improvement over the base-year average of 68.1 days.

This record fell yet again, reaching a new low of 46.2 days in the 2012-13 crop year. The result was largely shaped by a 1.1-day reduction in the amount of time spent by grain in storage at a country elevator, which fell to 26.5 days from 27.6 days. An additional 0.2 days was derived from a decrease in the railways' loaded transit time, which fell to an average of 5.4 days from 5.6 days. These improvements were partially offset by a 0.4-day increase in the amount of time grain spent in inventory at a terminal elevator. [Table 5E-1]

Much of this improvement came as a result of a substantive decrease in the fourth-quarter average, which reached a record low of 41.9 days. A few observations relating to the system's overall performance during the 2012-13 crop year follows:

- First, despite a minor increase in the grain supply, which rose to 62.6 million tonnes from the previous crop year's 62.2 million tonnes, railway shipments in both of the crop year's first two quarters broke previous GMP records by a noticeable margin. Even with slumping volumes in the second half, total grain shipments for the 2012-13 crop year reached a new GMP record of 29.6 million tonnes. This meant that the demand pressures brought to bear on the GHTS proved to be the greatest yet observed under the GMP.

- Second, while the measures gathered under the GMP suggest that the GHTS bore these pressures reasonably well, there were signs that the

Figure 48: Days Spent Moving Through the GHTS Supply Chain

FARM OPERATIONS

COUNTRY ELEVATOR STORAGE TIME

RAILWAY LOADED TRANSIT TIME

TERMINAL ELEVATOR STORAGE TIME

MARINE OPERATIONS

				TOTAL	NET CHANGE
1999-00	41.7	7.8	18.6	68.1	
2009-10	30.5	5.5	16.2	52.2	
2010-11	30.8	6.0	15.5	52.3	
2011-12	27.6	5.6	13.9	47.1	
2012-13	26.5	5.4	14.3	46.2	-32.2%

system might also have begun to bend under the stress. These indications, which largely began to manifest themselves towards the end of October 2012, centred on some emergent problems with railcar supply in the country. In the second quarter, this shifted to a sharp rise in the number of ships waiting to load, particularly at the port of Vancouver. By the third quarter a hard winter was beginning to undermine railway operations, producing longer car cycles that only aggravated these earlier problems.

- Finally, the fourth quarter brought some relief from these demand pressures with the fluidity of the GHTS improving measurably. Although the grain industry could take pride in having moved record-setting volumes during its transition to an open-market environment, it could not ignore the vulnerabilities that still endangered the supply chain's ability to efficiently gather grain in the country, move it to port by rail, or load it onto ships. The operational problems that began to appear in the second and third quarters suggest that the demands placed on the supply chain might well have exceeded what the GHTS was capable of meeting on a consistent basis.

Section 6: Producer Impact

Indicator Description	Table	1999-00	2010-11	2011-12	2012-13 Q1	Q2	Q3	Q4	YTD	% VAR
Export Basis										
1CWRS Wheat ($ per tonne) – Original Methodology	6A-10A	$54.58	$73.35	$74.75						
1CWRS Wheat ($ per tonne) – Revised Methodology (1)	6A-10A	n/a	n/a	n/a					$53.49	n/a
1CWA Durum ($ per tonne) – Original Methodology	6A-10B	$67.63	$89.36	$97.24						
1CWA Durum ($ per tonne) – Revised Methodology (1)	6A-10B	n/a	n/a	n/a					$108.47	n/a
1 Canada Canola ($ per tonne)	6A-10C	$52.51	$53.14	$54.16					$56.50	4.3%
Canadian Large Yellow Peas – No. 2 or Better ($ per tonne)	6A-10D	$54.76	$84.86	$92.64					$81.07	-12.5%
Producer Cars										
Producer-Car-Loading Sites (number) – Class 1 Carriers	6B-1	415	250	234	231	231	228	228	228	-2.6%
Producer-Car-Loading Sites (number) – Class 2 and 3 Carriers	6B-1	122	115	132	134	134	134	134	134	1.5%
Producer-Car-Loading Sites (number) – All Carriers	6B-1	537	365	366	365	365	362	362	362	-1.1%
Producer-Car Shipments (number) – Covered Hopper Cars	6B-2	3,441	13,041	14,341	2,053	2,670	2,353	2,183	9,259	-35.4%

(1) The methodology used to calculate the export basis in the 2012-13 crop year does not allow for direct comparison with those of previous crop years.

CALCULATION OF THE EXPORT BASIS

One of the GMP's principal objectives involves gauging the logistics cost associated with moving prairie grain to market – commonly referred to as the "export basis" – along with the resultant "netback" earned by producers after subtracting these costs from a grain's sale price. By definition, both the export basis and the producer netback are location-specific calculations, and include considerations for the elevation, elevator cleaning and storage, and transportation (be it road, rail or marine) of grain, along with any discounts that may be applicable.

There are well over 1,000 distinct origin-destination pairs that arise from tying together the hundreds of grain-delivery points scattered across the prairies with the four principal export gateways in western Canada. Moreover, given the number of differing grains, grain grades, grain company service charges, and freight rates, the permutations inherent in calculating the export basis and netback of individual producers takes on extraordinary dimensions. Such calculations can easily swell into thousands of separate estimates.

The only practical means by which to manage this undertaking rests in standardizing the estimates around a representative sample of grains, and grain stations. As a result, the GMP consciously limits its estimations to four specific grains: wheat; durum; canola; and peas.[55] Sampling techniques were used to select 43 separate grain stations as a representative sample in the calculation of the export basis and producer netback. These grain stations are grouped into nine geographic areas, comprised of four to six grain stations each, namely: Manitoba East; Manitoba West; Saskatchewan Northeast; Saskatchewan Northwest; Saskatchewan Southeast; Saskatchewan Southwest; Alberta North; Alberta South; and Peace River.

55 In addition to the grains themselves, the GMP also specified the grades to be used, namely: 1 CWRS Wheat; 1 CWA Durum; 1 Canada Canola; and Canadian Large Yellow Peas (No. 2 or Better).

Components of the Calculation

It is important to remember that every individual producer's cost structure differs. As a result, no general calculation can be expected to precisely depict the export basis and netback that is specific to each farmer. The methodology employed here is intended to typify the general case within each of the nine geographic areas identified.[56] Caution, therefore, must be exercised in any comparison between the general values presented, and those arising to individual producers within each of these areas.

Prior to 1 August 2012 special consideration was given to the distinct merchandising activities tied to CWB and non-CWB commodities, which compelled the use of discrete methodologies in calculating the export basis and producer netback for both. With the removal of the Canadian Wheat Board's monopoly, the methodology for determining the export basis and producer netback for wheat and durum had to be amended. This calculation now employs a methodology that parallels the one used for both canola and yellow peas since the beginning of the GMP. The specifics differentiating these two methodologies are delineated in the table that follows. The reader is encouraged to become familiar with this material before attempting to draw any specific conclusions from the ensuing discussion.

56 Owing to competitive pressures, many of the stakeholders in the GHTS use some form of financial incentive to draw grain volumes into their facilities (i.e., country elevators) or over their systems (i.e., railways). Many of these incentives are of a highly sensitive commercial nature. In order to safeguard all such information, estimates of the export basis and producer netback are calculated at a higher-than-grain-station level of aggregation.

ELEMENT	WHEAT AND DURUM	CANOLA AND YELLOW PEAS
Grain Price	The price for 1 Canada Western Red Spring Wheat and 1 Canada Western Amber Durum are tonnage-based weighted averages of the West Coast export quotation from Canadian Grain Exporters and the St. Lawrence export quotation from the International Grains Council (ICG), as reported by AAFC.	The price for 1 Canada Canola is the weighted average Vancouver cash price.[1] The weights used reflect monthly exports as recorded by the Canadian Grain Commission (CGC). The price for Canadian Large Yellow Peas is based on the average weekly dealer closing price, track Vancouver, reported by Stat Publishing for the months of October and November.[2]
Trucking Costs	The trucking costs are based on the commercial short-haul trucking rates for an average haul of 40 miles as presented in Table 4A-1.	The trucking costs are based on the commercial short-haul trucking rates for an average haul of 40 miles as presented in Table 4A-1.
Price Differential	For 1 Canada Western Red Spring and 1 Canada Western Amber Durum, a price differential – or spread – is calculated between the weighted average of the West Coast and St. Lawrence export quotations and the average Saskatchewan producer spot price (as reported by AAFC).	For 1 Canada Canola, a price differential – or spread – is calculated between the weighted Vancouver cash price and the weighted average spot price in each of the nine regions. For yellow peas, a price differential is calculated using the average weekly dealer closing price, track Vancouver, and the average weekly grower bid closing price for the months of October and November. These differentials effectively represent the incorporated per-tonne cost of freight, elevation, storage and any other ancillary elements. As such, it encompasses a large portion of the Export Basis.
Grower Association Deductions	All elevator deliveries of wheat and durum are subject to a $0.48 per tonne "check-off" in order to fund variety research, market development and technical support to the industry. The current Western Canada Deduction is administered by the Alberta Barley Commission. The Alberta Wheat Commission implemented a refundable service charge (for research, market development, policy and advocacy initiatives and education) of $0.70 per tonne on all commercial wheat and durum in Alberta on 1 August 2012.	All elevator deliveries of canola in Saskatchewan are subject to a $0.75 per tonne "check-off" for provincial canola association dues. The applicable "check-off" on deliveries made in Manitoba and Alberta are somewhat higher, amounting to $1.00 per tonne in both provinces. Similarly, a levy of 0.5% is deducted for the Manitoba Pulse Growers Association on the delivery of yellow peas, while 1.0% is deducted for the Pulse Growers Associations in Saskatchewan and Alberta.
Trucking Premiums	Grain companies report on the trucking premiums they pay to producers at each of the facilities identified in the sampling methodology.[3] The amounts depicted reflects the average per-tonne value of all premiums paid for the designated grade of wheat or durum within the reporting area. In the post-monopoly environment, grain companies have increased the use of their basis (the spread between their cash and the nearby futures price) as the mechanism to attract producer deliveries. This has been accompanied by a significant decline in the use of trucking premiums.	Grain companies use their basis (the spread between their cash and the nearby futures price) as the mechanism to attract producer deliveries. Narrowing their basis, resulting in higher return to producers, is the signal that a company needs a commodity. Conversely a wide basis signals a lack of demand for the product. Some companies, however, offer premiums over and above their basis in order to attract delivery of some commodities. These premiums are presented as a producer benefit when factored into the export basis. Owing to the limited use of this mechanism, they assume relatively small values when weighted by the applicable tonnage at a regional level.
Other Deductions	Other deductions, such as drying charges, GST on services, etc., may also be applied to, and appear as an itemized entry on the cash ticket of, any grain delivery. No attempt is made to capture these deductions within the framework employed here.	Other deductions, such as drying charges, GST on services, etc., may also be applied to, and appear as an itemized entry on the cash ticket of, any grain delivery. No attempt is made to capture these deductions within the framework employed here.

1) – ICE Futures Canada (formerly the Winnipeg Commodity Exchange) collects Vancouver cash prices and spot prices at selected country elevator locations daily.
2) – Data provided by Stat Publishing. Using a "snapshot" period of two months during the fall, when pricing of the new crop is relatively heavy, was deemed to be an appropriate representation of producer prices, thereby avoiding the need to incorporate a weighting factor.
3) – Various terms are used by grain companies to describe the premiums they offer to producers in an effort to attract deliveries to their facilities – i.e., trucking premiums, marketing premiums, and location premiums. The most common term, however, remains "trucking premium," and it is utilized generically in the calculation of the Export Basis.

WHEAT AND DURUM

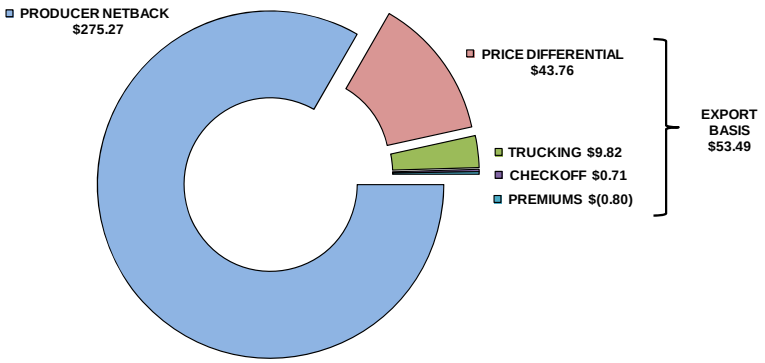
In its earlier reports, the Monitor described how increased commodity prices had largely been responsible for the improvement in the per-tonne returns accruing to producers of wheat, durum, canola, and yellow peas. Even in those years when the export basis fell, the financial gain derived from the reduction proved far less than that gained from better grain prices. But the escalation in grain prices has been highly erratic.

In the first four years of the GMP, grain prices moved steadily higher. This, however, was followed by a three-year decline beginning in the 2003-04 crop year. But prices began to rally yet again in the 2006-07 crop year, with the ensuing appreciation lifting producer returns to their highest levels the following year. This age-old rise and fall in prices would be repeated yet again over the course of the next four years, although with greater severity owing to the financial crisis that gripped the world. Nevertheless, by the close of the 2011-12 crop year, grain prices had rebounded substantially.

With the repeal of the Canadian Wheat Board's monopoly over the sale of wheat and barley, the 2012-13 crop year ushered in one of the most significant change to the functioning of the GHTS in three generations. One of the consequences of this is that the approach originally used by the Monitor in calculating the producers' netback for wheat and durum can no longer be employed. This is largely because the forces shaping the competitive environment today no longer provide for the identification of the specific elements that were integral to its calculation.

In general terms, wheat and durum are now sold in a manner that mimics what had been characteristic of canola and yellow peas. This move to open-market operations has compelled the GMP to adapt its processes correspondingly. And although this brings a common approach to the calculation of the producer netback for all commodities, it also ends a relatable time series extending back to the beginning of the GMP. This constraint is reflected in the discussion that follows.

Figure 49: Producer Netback – 1CWRS Wheat



1CWRS WHEAT

The financial return to farmers of 1CWRS wheat amounted to an estimated $275.27 per tonne in the 2012-13 crop year. Although this is consistent with $268.43 reported in the Monitor's annual report for the 2011-12 crop year, the two values are not directly comparable owing to the different methodology now used in its determination. At best, it can be said that these values suggest little meaningful change has taken place over the course of the past twelve months. [Table 6A-10A]

Export Quotation

The GMP now uses a tonnage-based weighted average export quotation as the principal barometer of the price for 1CWRS wheat (13.5% protein).[57]

57 Prior to the change in its mandate, the GMP used the Canadian Wheat Board's Final Price in calculating the netback to producers of 1CWRS wheat. It also monitored the Pool Return Outlook throughout the crop year in order to gauge price movement. In the face of the mandate change that became effective 1 August 2012, the GMP initially adopted the CWB's Harvest Pool Return Outlook as a substitute data source for information on price movement in

During the opening months of the 2012-13 crop year a variety of indicators showed prices to be strengthening. However, the second quarter saw prices slip in the face of softening markets, with the decline continuing through the fourth quarter. By the close of the 2012-13 crop year, the average had settled at $328.76 per tonne. This proved similar to the CWB's final realized price of $326.04 per tonne for the previous crop year.

The early price gain reflected a tightening of international supplies, with global wheat production then anticipated to decline by about 6%. Much of this was tied to weather-related production problems in the Black Sea region but was also fuelled by the broader impact on commodity prices arising from a severe drought in the American Midwest. Dryness in parts of Australia, coupled with a smaller seeded area in Argentina, also proved supportive of prices. But futures prices began to slip in the latter weeks of 2012 on word of better-than-expected supplies. As these projections began to firm, prices continued to slide.

Export Basis

As in past years, the methodology used to determine the export basis focuses on two structural components. The first of these relates to the direct costs incurred by producers in delivering grain to market. Traditionally, this has centred on railway freight, but it also included the costs associated with trucking, elevation, dockage, CGC weighing and inspection, as well as those of the Canadian Wheat Board. However, the advent of open-market operations effectively camouflaged many of these costs. Instead, a price differential – or spread – between the export quotation and the spot price given to the producer at the elevator is calculated as a substitute. This differential effectively includes the cost of freight, handling, cleaning, storage, weighing and inspection, as well as an opportunity cost or risk premium. Beyond this are the stand-alone costs of trucking and other ancillary items, primarily industry check-offs.

The second component encompasses all of the financial benefits accruing to producers from the receipt of any offset to these expenses. For the most part, this now relates only to the trucking premiums farmers receive from the grain companies for choosing to deliver grain to them. As a result of the move to open-market operations, the transportation-savings benefit that had been passed back to producers through the CWB's pool accounts is no longer applicable.

Export Basis – Direct Costs

Owing to the change in methodology already cited, the GMP cannot place the direct costs associated with 1CWRS wheat within a relatable historical context. Even so, these costs were estimated to have averaged $54.29 per tonne in the 2012-13 crop year. The largest cost element within this framework is represented by the price differential, which accounted for an average of $43.76 per tonne, or 80.6% of the total.

This was followed by the costs associated with trucking wheat from the farm gate to a local elevator. This cost, which is estimated to have averaged $9.82 per tonne in the 2012-13 crop year, comprised about 18.1% of total direct costs. As opposed to the price differential, the cost of trucking can still be traced back over the last 14 years, and has increased by a factor of 65.3% over the $5.94 per tonne benchmarked at the beginning of the GMP. The residual element within this framework is the cost derived from new industry check-offs, which amounted to an average of just $0.71 per tonne, and accounted for just 1.3% of the overall total.

Export Basis – Financial Benefits

In past years, the direct costs cited above were typically offset by two financial benefits that accrued to producers. These came in the form of

the 2012-13 crop year. While not perfectly aligned with the measure that preceded it, the Harvest PRO still provided a reasonable bridge for the comparison of wheat prices in an open market environment. However, this was superseded in the fourth quarter by the tonnage-based weighted average export quotation, which is derived from data obtained through the Canadian Grain Exporters for West-Coast exports, and the International Grains Council for St. Lawrence exports. This is used in calculating the netback to producers of 1CWRS wheat.

any trucking premium that may have been received directly from a grain company, as well as their indirect share in the transportation savings realized by the CWB. In the 2011-12 crop year the combined value of these financial benefits averaged $10.24 per tonne. Within the open-market environment of the 2012-13 crop year, however, this dropped to a mere $0.80 per tonne, and an offset of just 1.5% to the producer's direct costs.

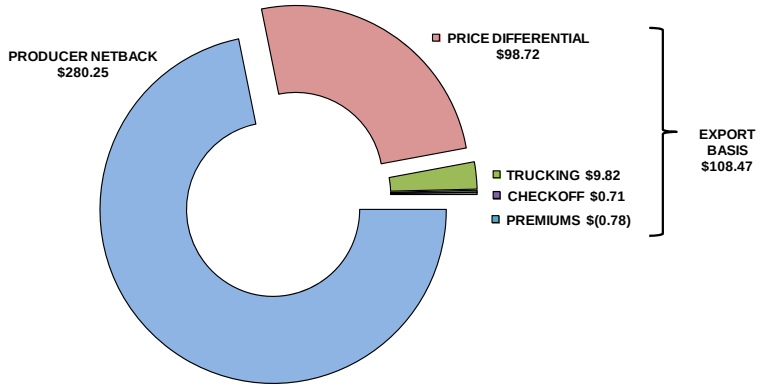
Under the old regime, trucking premiums were widely used by the grain companies as the primary instrument with which to draw grain into their facilities.[58] Moreover, they were of significant value, reaching an average of $8.17 per tonne in the 2011-12 crop year against $2.32 per tonne in the 1999-2000 crop year. But the move to open-market operations diminished the role to be played by this incentive. In keeping with the trade's custom of using a spread between cash and nearby futures prices as the primary signalling mechanism in attracting deliveries, trucking premiums fell dramatically in the 2012-13 crop year, to an average of just $0.80. Coinciding with this was the elimination of the CWB's transportation savings, which had stood at $2.07 per tonne a year earlier.

1CWA DURUM

The financial return to farmers of 1CWA durum amounted to an estimated $280.25 per tonne in the 2012-13 crop year. Although this is reduced from the $293.43 reported in the Monitor's annual report for the 2011-12 crop year, it must be reiterated that the two values are not directly comparable owing to a change in the methodology now used in making this determination. Once again, the best that can be said is that that these values suggest a moderate reduction in the financial returns to producers over the course of the past twelve months. [Table 6A-10B]

58 There are a number of other enticements that a grain company can use in getting farmers to deliver their grain to its elevators; what the grain company refers to as its toolbox. In addition to trucking premiums, grade promotions, discounts on farm supplies, favourable credit terms, or even the absorption of trucking costs are also employed. The GMP does not attempt to evaluate these other benefits.

Figure 50: Producer Netback – 1CWA Durum



Export Quotation

As outlined with respect to 1CWRS wheat, the GMP now uses a tonnage-based weighted average export quotation as the principal barometer of the price for 1CWA durum (13.5% protein).[59] This indicator saw prices moving generally higher over the course of the last twelve months. By the close of the 2012-13 crop year, the average had risen to $388.72 per tonne. This proved somewhat greater than the CWB's final realized price of $351.89 per tonne a year earlier.

59 Prior to the change in its mandate, the GMP used the Canadian Wheat Board's Final Price in calculating the netback to producers of 1CWA durum. It also monitored the Pool Return Outlook throughout the crop year in an effort to gauge price movement. Owing to the change in the mandate of the CWB that became effective 1 August 2012, the GMP adopted a tonnage-based weighted average export quotation, which is derived from data obtained through the Canadian Grain Exporters for West-Coast exports, and the International Grains Council for St. Lawrence exports, as the principal barometer of the change in market prices. This is used in calculating the netback to producers of 1CWA durum.

Durum prices were influenced by the same forces that had initially pushed wheat prices higher: a reduction in global grain production occasioned in part by a significant drought in the US Midwest. This came despite an increase in both the Canadian and American durum harvests. While the fundamentals of durum supply and demand remained largely unaltered, durum prices moved lower in reaction to weaker milling wheat markets. To a degree, this was contained by reduced spring seeding in the US and a weakening of the Canadian dollar.

Export Basis

As outlined with respect to 1CWRS wheat, the methodology used to determine the export basis for 1CWA durum also focuses on two structural components: the direct costs incurred by producers in delivering grain to market; and the financial benefits accruing from the receipt of any offset to these costs.

Export Basis – Direct Costs

Owing to the change in methodology already cited, the GMP cannot place the direct costs associated with 1CWA durum within a relatable historical context. Nevertheless, these costs were estimated to have averaged $109.25 per tonne in the 2012-13 crop year. The largest cost element within this framework is represented by the price differential, which accounted for an average of $98.72 per tonne, or 90.4% of the total.

This was followed by the costs associated with trucking wheat from the farm gate to a local elevator. This cost, which is estimated to have averaged $9.82 per tonne in the 2012-13 crop year, comprised about 9.0% of total direct costs. As opposed to the price differential, the cost of trucking can still be traced back over the last 14 years, and has increased by a factor of 65.3% over the $5.94 per tonne benchmarked at the beginning of the GMP. The residual element within this framework is the cost derived from new industry check-offs, which amounted to an average of just $0.71 per tonne, and accounted for just 0.6% of the overall total.

Export Basis – Financial Benefits

In past years, the direct costs cited above were typically offset by two financial benefits that accrued to producers. These came in the form of any trucking premium that may have been received directly from a grain company, as well as their indirect share in the transportation savings realized by the CWB. In the 2011-12 crop year the combined value of these financial benefits averaged $11.15 per tonne. Within the open-market environment of the 2012-13 crop year, however, this dropped to a mere $0.78 per tonne, and an offset of just 0.7% to the producer's direct costs.

Under the old regime, trucking premiums were widely used by the grain companies as the primary instrument with which to draw grain into their facilities. Moreover, they were of significant value, reaching an average of $9.08 per tonne in the 2011-12 crop year against $3.14 per tonne in the 1999-2000 crop year. But the move to open-market operations diminished the role to be played by this incentive. In keeping with the trade's custom of using a spread between cash and nearby futures prices as the primary signalling mechanism in attracting deliveries, trucking premiums fell dramatically in the 2012-13 crop year, to an average of just $0.78. As was the case with wheat, the methodology adopted in the face of open-market operations no longer provides for the inclusion of what had been the CWB's transportation savings, which had amounted to $2.07 per tonne a year earlier.

CANOLA AND YELLOW PEAS

Unlike those for wheat and durum, the methodology surrounding the calculation of the netback to producers of canola and large yellow peas was unaffected by the loss of the CWB's monopoly. As a result, the monitor has been able to carry forward with the time series begun 14 years earlier. This data has consistently shown that the financial returns arising to producers of canola and yellow peas have been heavily influenced by the prevailing price for these commodities. While the

export basis has also risen over this timeframe, it remains the prevailing price that has had the most sway over these returns.

1 Canada Canola

The visible netback to producers from the delivery of 1 Canada canola has fluctuated rather significantly over the course of the GMP. Once again, much of this was due to dramatic swings in market prices. These forces propelled the farmer's return from a base-year value of $239.10 per tonne to as much as $503.29 per tonne in the 2007-08 crop year. Although a subsequent decline in canola prices undercut these initial gains, reducing the farmer's netback to $374.46 per tonne in the 2009-10 crop year, they were short lived. A resurgence in canola prices pushed the producer's netback beyond its previous highs, ultimately yielding a GMP record of $595.10 per tonne in the 2012-13 crop year.

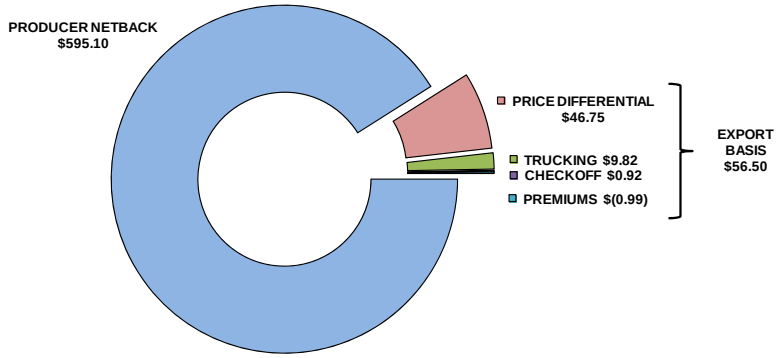
Vancouver Cash Price

As with other grains, higher market prices have proven to be instrumental in improving the netback to producers of 1 Canada canola. To be sure, the price of canola has fluctuated significantly since the beginning of the GMP. From its base-year benchmark of $291.61 per tonne, the Vancouver cash price has moved considerably higher, ultimately attaining a GMP record of $589.21 per tonne in the 2011-12 crop year. Much of this was tied to a growing export demand as well as the advent of new crushing capacity in western Canada. Strong domestic and foreign demand lifted prices still further in the 2012-13 crop year, with the average Vancouver cash price setting yet another GMP record of $651.60 per tonne.

Export Basis

Over the course of the last 14 years, the export basis for 1 Canada canola has increased by just 7.6%, rising to an average of $56.50 in the 2012-13 crop year from $52.51 per tonne in the GMP's base year. However, this net change tends to obscure some of the fluctuations that have occurred during this same period. To be sure, the export basis for canola stood marginally below its base-year value for the majority of this period.

Figure 51: Producer Netback – 1 Canada Canola



The export basis for 1 Canada Canola shares the same structural characteristics of wheat and durum: the direct costs incurred in delivering grain to market; and any financial benefits that serve to offset them. Here too, a price differential – or spread – between the Vancouver cash price and the producers' realized price at the elevator or processing plant stands in for a number of specific costs, including the cost of freight, handling, cleaning, storage, weighing and inspection, as well as an opportunity cost or risk premium.

Export Basis – Direct Costs

The direct costs tied to 1 Canada canola moved generally lower in the initial years of the GMP, ultimately reaching a low of $41.31 per tonne in the 2004-05 crop year before then beginning to rise. Even so, by the 2011-12 crop year, total direct costs still stood marginally below the

$54.99-per-tonne value benchmarked in the base year. The 2012-13 crop year, however, saw these direct costs rise by 4.7%, to $57.49 per tonne.

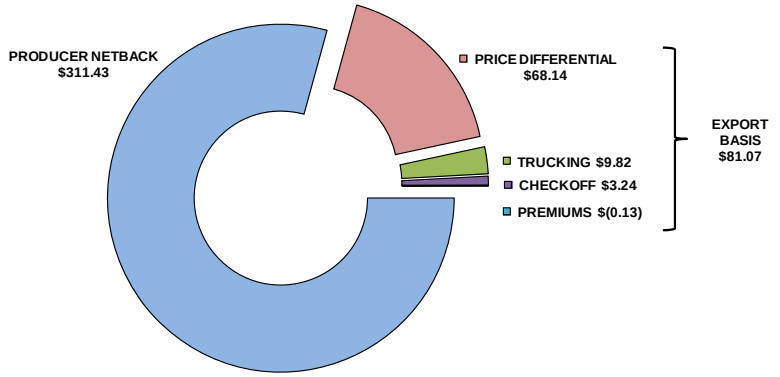
Much of the force behind this comes from an increase in the price differential, which itself largely reflects the better availability of canola supplies in the face of prevailing demand. The 2012-13 crop year saw the price differential rise by 5.8%, to an average of $46.75 per tonne from $44.18 per tonne a year earlier. This represented 81.3% of the direct costs, against a benchmark share of 88.3% in the base year.

The next largest component in canola's direct costs was that of trucking. As with wheat and durum, these costs are estimated to have climbed by 65.3% in the last 14 years, increasing to an average of $9.82 per tonne from $5.94 per tonne at the beginning of the GMP. Owing to the magnitude of the this gain, trucking accounted for a greater proportion of direct costs in the 2012-13 crop year than it did in the base year, 17.1% versus 10.8% respectively. The remaining direct costs, which accounted for just 1.6% of the overall total, were derived from a provincial check-off that is applied as a means of funding the Canola Growers Association.

Export Basis – Financial Benefits

In comparison to wheat and durum, trucking premiums were never used aggressively to entice the delivery of canola. In fact, over the course of the last 14 years, the average trucking premium paid on canola has fallen to $0.99 per tonne from $2.48 per tonne. Moreover, the value of these premiums as an offset to the direct costs has also declined, falling to just 1.7% from 4.5%. It is worth noting that these premiums have largely shrunk in conjunction with the narrowing of the price differential. This is consistent with the trade's preference to use the spread between the spot price and the futures price as the primary signalling mechanism to attract deliveries. Although prevailing market conditions can produce significant fluctuations in these premiums, its role remains very limited.

Figure 52: Producer Netback – Large Yellow Peas



Large Yellow Peas

The visible netback arising to producers of large yellow peas has proven to be the most volatile of the four commodities monitored under the GMP. As with other commodities, this volatility was occasioned primarily by the rise and fall in market prices. But it has also been affected by pronounced shifts in the export basis. Over the course of the GMP these forces effectively whipsawed the producer's netback for large yellow peas from a low of $118.75 per tonne in the 2005-06 crop year to a high of $318.28 per tonne in the 2011-12 crop year. A modest price reduction was largely responsible for its decline in the 2012-13 crop year, which saw the producer's netback fall by 2.2%, to $311.43 per tonne. This better than doubled the $147.78-per-tonne value benchmarked in the base year.

Dealer's Closing Price

Although the supply of Canadian large yellow peas exercises significant sway in the marketplace, its price is sensitive to wider international

influences. This sensitivity to changes in international supply and demand saw the dealer's closing price rise and fall rather dramatically over the course of the GMP's first 13 years, from a low of 171.69 per tonne in the 2005-06 crop year to a high of $410.92 per tonne in the 2011-12 crop year.

Although the average price declined for the 2012-13 crop year, the fall proved modest. Much of this was attributable to weaker prices in the first quarter, which subsequently strengthened in the face of tighter supplies and sustained demand. While the overarching effects of a drought in the US Midwest proved most influential in this regard, production problems in India coupled with a heightening of demand from China did much to sustain prices in the latter half of the crop year. The net effect was a 4.5% decrease in the dealer's closing price, which fell to an average of $392.50 per tonne.

Export Basis

The export basis for large yellow peas has risen over the course of the GMP, from a base-year value of $54.76 to as much $101.57 per tonne in the 2008-09 crop year. Even so, this rise has been somewhat erratic, with lower values having been posted in each of the three ensuing crop years. The 2012-13 proved little different in this regard with the export basis having fallen by 12.5%, to an average of $81.07 per tonne from $92.64 per tonne a year earlier.

Owing to the structure of the export basis, changes in the direct costs attributable to large yellow peas are virtually indistinguishable from the larger measure to which it belongs. As with the commodities already discussed, over 80% of the direct cost associated with yellow peas cannot be examined directly. Instead, a price differential between the dealer's closing price and the grower's bid closing price is calculated as an approximation for the cost of freight as well as other handling, cleaning, and storage activities.

Export Basis – Direct Costs

Over the course of the last 14 years the direct costs associated with large yellow peas has risen by 47.8%, to $81.20 per tonne in the 2012-13 crop year from $54.94 in the base year. The majority of this increase was derived from a 41.3% increase in the price differential, which climbed to $68.14 per tonne from $48.23 per tonne over the same period. But this escalation was also characterized by significant fluctuations as a result of prevailing market conditions, taking values that ranged from as little as $44.56 per tonne in the 2005-06 crop year to as much as $91.46 per tonne in the 2008-09 crop year. These same forces were responsible for lower values in each of the next four crop years. Even so, these gyrations did little to alter the relationship with direct costs, with the price differential falling only marginally, to an 83.9% share of direct costs from 87.8% share in the base year.

The second largest component in the direct costs of large yellow peas is trucking. As elsewhere, these costs are estimated using an average haul distance of 40 miles, and are deemed to have amounted to $9.82 per tonne in the 2012-13 crop year. On a comparative basis, this element accounted for 12.1% of the direct costs, against a somewhat lesser 10.8% in the base year. The remaining 4.0% was derived from a levy assessed by the provincial Pulse Growers Association at the time of delivery, which proved sharply higher than the 1.4% share it represented at the outset of the GMP.

Export Basis – Financial Benefits

Trucking premiums are even less commonly used to encourage the delivery of large yellow peas than they are for other commodities. From the outset of the GMP these premiums amounted to an average of just $0.18 per tonne, and provided an offset value of just 0.3% to total direct costs. Although premium payments spiked periodically, reaching as much as $0.64 per tonne in the 2001-02 crop year, its use remains very much restricted. In the 2012-13 crop year, these premiums averaged

$0.13 per tonne, and shielded less than 0.2% of the producer's direct costs.

PRODUCER CARS

Producer-car loading has increased substantially since the beginning of the GMP. This has come about as a result of many factors, not the least of which has been the formation of producer-car loading groups. These range from small groups loading cars with mobile augers on a designated siding, to more sophisticated organizations with significant investments in fixed trackside storage and carloading facilities.[60] Some have gone so far as to purchase the branch lines being abandoned by CN or CP, establishing shortline railways that then became an integral element in their broader grain-handling operations. Although the majority of these producer groups are situated in Saskatchewan, a number can also be found in Manitoba and Alberta.

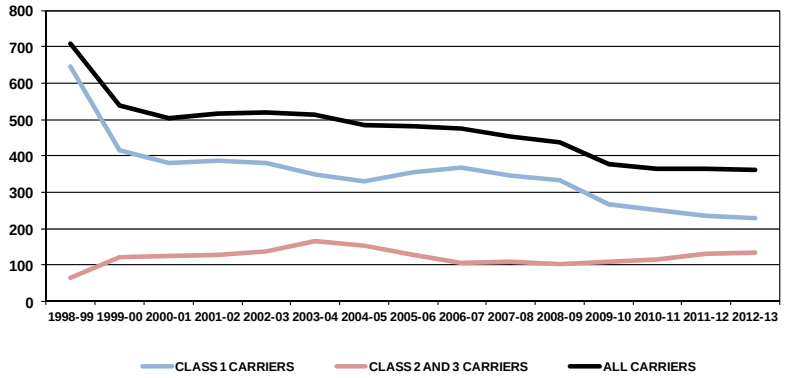
Loading Sites

The number of producer-car loading sites situated throughout western Canada has been reduced by almost a half since the beginning of the GMP. With the close of the 2012-13 crop year, only 362 out of the original 709 remained. Much of the overall decline can be traced back to the closures made by the larger Class 1 carriers, which reduced its serviced sites by 64.6%, to 228 from 644. Conversely, those operated by the smaller Class 2 and 3 carriers increased by 106.2%, to 134 from 65. [Table 6B-1]

Regionally, Manitoba and Alberta posted the largest attrition rates, with the number of producer loading sites declining by 68.0% and 61.8% respectively. The rate of decline in Saskatchewan was substantially less, with the number of sites having fallen by only 29.0% during the same interval. And while the overall number of producer loading sites has declined sharply, the reduction has also been somewhat irregular, with the largest cuts having come in the first few years of the GMP. A significant secondary reduction came in the 2009-10 crop year after CN closed 53 sites, with another six being closed by other carriers. This was followed in the next two crop years with a net reduction of twelve more.

The 2012-13 crop year saw a further shift in this balance, with the Class 1 carriers' count diminishing by six sites while that of the Class 2 and 3 carriers rose by two. The reduction in the former was tied to the closure of various CP sites in Manitoba and Saskatchewan, while the latter's gain arose from the creation of the Lake Line Railroad, which assumed operation of the former CP sites at Gimli and Beausejour, Manitoba. By the close of the crop year, the number of sites operated by the major railways had fallen to 228 while those tied to the shortlines had increased to 134.

Figure 53: Producer-Car Loading Sites



60 Regardless of the approach employed, the economic rationale for producer-car loading remains rooted in the farmer's ability to avoid the comparatively higher cost of turning his grain over to a commercial grain company for movement.

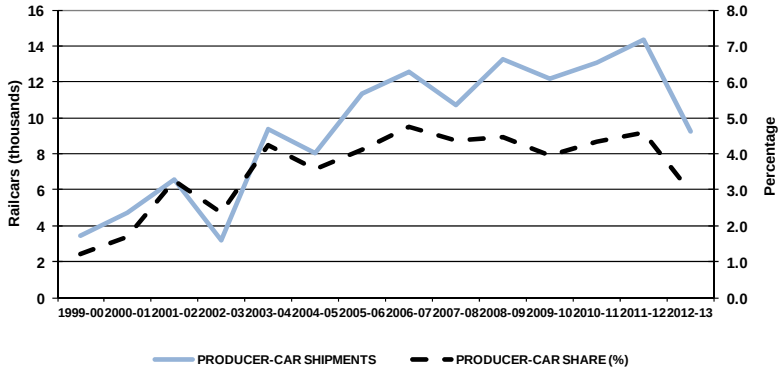
Producer Car Shipments

Despite the general reduction in loading sites, producer-car shipments have risen significantly. Over the course of the GMP's first 13 years these shipments more than quadrupled, increasing to a high of 14,341 carloads in the 2011-12 crop year from 3,441 carloads in the base year. However, this growth proved somewhat sluggish in the face of periodic downturns in volume. The 2012-13 crop year saw such a decline once again, with shipments falling by 35.4%, to 9,259 carloads.

With the loss of the CWB's monopoly over the marketing of wheat and barley, many in the grain industry had begun to wonder what would become of producer-car loading. Even so, shipments in the first quarter proved strong, increasing by 14.2%. However, a 35.6% reduction during the second quarter undercut these early gains. This was followed by even deeper reductions of 47.0% and 44.8% in the third and fourth quarters respectively. As a result, total producer-car shipments fell to their lowest level in eight years. These represented 2.9% of all covered hopper car movements; a substantive reduction from the 4.6% share garnered twelve months before. The share accorded to producer-car shipments of wheat, durum and barley fell even more, to 4.3% from 7.8% a year earlier. [Table 6B-2]

Even within this broader decline, there was a dramatic rise in producer-car shipments of oilseeds and other commodities, which reached a GMP record of 1,464 carloads against 877 a year earlier. Moreover, these shipments encompassed a much greater share of total producer-car movements, rising to 15.8% from 6.1% in the previous crop year. This gain was almost entirely attributable to the CWB's newly-acquired authority in handling these commodities, and which provided producers with a much needed marketer for their shipments.

Figure 54: Producer-Car Shipments



Appendix 1: Program Background

The Government of Canada selected Quorum Corporation to serve as the Monitor of Canada's Grain Handling and Transportation System (GHTS) in June 2001. Under this mandate, Quorum Corporation provides the government with a series of regular reports relating to the system's overall performance, as well as the effects of the various policy reforms enacted by the government since 2000.

In a larger sense, these reforms were expected to alter the commercial relations that have traditionally existed between the primary participants in the GHTS: producers; the Canadian Wheat Board; grain companies; railway companies; and port terminal operators. Using a broad series of indicators, the government's Grain Monitoring Program (GMP) was designed to measure the performance of the GHTS as this evolution unfolded. Moreover, these indicators are intended to reveal whether grain is moving through the supply chain with greater efficiency and reliability.

To this end, the GMP provides for a number of specific performance indicators grouped under six broad series, namely:

- Series 1 – Production and Supply: Measurements relating to grain production in western Canada. In addition to the major cereal grains, this also includes oilseeds and special crops.

- Series 2 – Traffic and Movement: Measurements focusing on the amount of grain moved by the western Canadian GHTS. This includes shipments from country elevators; by rail to the four western ports; and by vessel from terminal elevators at the ports.

- Series 3 – Infrastructure: Measurements illustrating the makeup of the GHTS. These statistics include both the number and capacity of the country as well as terminal elevator systems, and the composition of the western Canadian railway network.

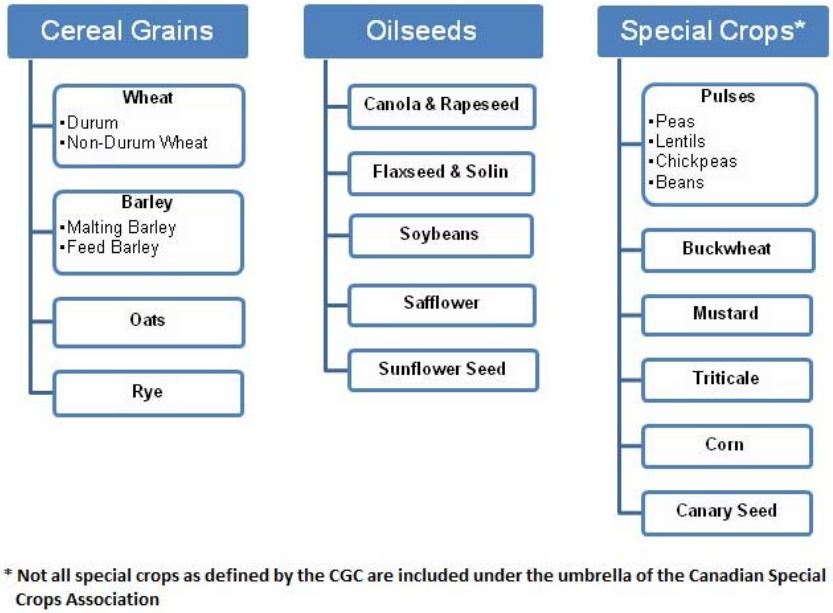
- Series 4 – Commercial Relations: Measurements relating to the rates applicable on various grain-handling and transportation services, as well as the activities of the Canadian Wheat Board in the adoption of more commercially oriented policies and practices.

- Series 5 – System Efficiency and Performance: Measurements aimed at gauging the operational efficiency with which grain moves through the logistics chain.

- Series 6 – Producer Impact: Measurements designed to capture the value to producers from changes in the GHTS, and which are focused largely on the calculation of the "producers' netback."

Appendix 2: Commodity Guide

The following provides a high-level overview of the various commodities discussed in this report. The delineations made here are drawn from the Canadian Grain Commission's Official Grain Grading Guide Glossary.



* Not all special crops as defined by the CGC are included under the umbrella of the Canadian Special Crops Association

Cereal Grains: Cereal grains are any grain or edible seed of the grass family which may be used as food.

Oilseeds: Oilseeds include flaxseed and solin, canola and rapeseed, soybeans, safflower and sunflower seed.

Canola: The term "canola" was trademarked in 1978 by the Western Canadian Oilseed Crushers' Association to differentiate the new superior low-erucic acid and low-glucosinolate varieties and their products from older rapeseed varieties.

Special Crops: Special crops are considered to be beans, buckwheat, chick peas, corn, fababeans, lentils, mustard, peas, safflower, soybeans, sunflower, and triticale.

Pulses: Pulses are crops grown for their edible seeds, such as peas, lentils, chick peas or beans.

Screenings: Screenings is dockage material that has been removed by cleaning from a parcel of grain.

Appendix 3: Acknowledgements

The scope of this review is far-reaching and could not have been completed without the assistance of the various stakeholders that submitted views on the detailed monitoring design and provided the data in support of the GMP. Quorum Corporation would like to thank the following organizations, and more particularly the individuals within them, for the cooperation they have extended in our efforts to implement the Grain Monitoring Program. We have come to appreciate not only their cooperation as suppliers of data under the program, but to value their assistance in helping to improve the quality of the program as a whole. We look forward to their continued input and cooperation throughout the duration of the Monitoring Program.

Agricultural Producers Association of Saskatchewan
Agriculture and Agri-Food Canada
Alberta Agriculture, Food and Rural Development
Alberta Federation of Agriculture
Alberta Transportation
Alliance Grain Terminal Ltd.
Alliance Pulse Processors Inc.
Battle River Railway
BC Maritime Employers Association
Big Sky Rail Corp.
Boundary Trail Railway Company Inc.
Canadian Canola Growers Association
Canadian Grain Commission
Canadian Maritime Chamber of Commerce
Canadian National Railway
Canadian Pacific Railway
Canadian Ship Owners Association
Canadian Special Crops Association
Canadian Transportation Agency
Cando Contracting Ltd.
Canola Council of Canada
Cargill Limited
Chamber of Shipping of British Columbia
CMI Terminal
CWB
Fife Lake Railway Ltd.
Gardiner Dam Terminal
Government of British Columbia
Grain Growers of Canada
Great Sandhills Terminal
Great Western Railway Ltd.
ICE Futures Canada, Inc.
Inland Terminal Association of Canada
Keystone Agricultural Producers
Kinder Morgan Canada
Lake Line Railroad Inc.
Lethbridge Inland Terminal Ltd.
Long Creek Railroad
Louis Dreyfus Canada Ltd.
Manitoba Agriculture, Food and Rural Development
Manitoba Infrastructure and Transportation
Mission Terminal Inc.
Mobile Grain Ltd.
National Farmers Union
North West Terminal Ltd.
OmniTRAX Canada, Inc.
Parrish & Heimbecker Ltd.
Paterson Grain
Port Metro Vancouver
Port of Churchill
Port of Thunder Bay
Prairie West Terminal
Prince Rupert Grain Ltd.
Prince Rupert Port Authority
Red Coat Road and Rail Ltd.
Richardson Pioneer Ltd.
Saskatchewan Agriculture
Saskatchewan Highways and Infrastructure
Saskatchewan Association of Rural Municipalities
South West Terminal
Statistics Canada
Stewart Southern Railway
Transport Canada
Viterra Inc.
West Central Road and Rail Ltd.
Western Barley Growers Association
Western Canadian Wheat Growers Association
Western Grain By-Products Storage Ltd.
Western Grain Elevator Association
Weyburn Inland Terminal Ltd.