



BIODIESEL PRICE DISPARITY REPORT

MINNESOTA STATUTE 239.77, Subd. 2. (4) (e)

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BIODIESEL PRICE DISPARITY REPORT

Statutory charge

MINNESOTA STATUTES 239.77, Subd. 2. (4) (e)

By February 1, 2012, and periodically thereafter,

~ The commissioner of commerce shall determine the wholesale diesel price at various pipeline and refinery terminals in the region, and

~ The biodiesel price determined after credits and incentives are subtracted at biodiesel plants in the region.

~ The commissioner shall report wholesale price differences to the governor who, after consultation with the commissioners of commerce and agriculture, may by executive order adjust the biodiesel mandate if a price disparity reported by the commissioner will cause economic hardship to retailers of diesel fuel in this state.

~ Any adjustment must be for a specified period of time, after which the percentage of biodiesel fuel to be blended into diesel fuel returns to the amount required in subdivision 2.

~ The biodiesel mandate must not be adjusted to less than five percent.

Data and Analysis

The statute specifies that wholesale diesel prices are determined at various pipeline and refinery terminals in the region. The Minnesota Department of Agriculture (MDA) subscribes to a transportation fuel price data service that provides wholesale diesel rack price at terminals across 12 regions. This data was used for the analysis.

The statute further specifies that the price of biodiesel is determined after credits and incentives are subtracted at biodiesel plants. Neither the Minnesota Department of Commerce (DOC) nor MDA has access to that data. Through its subscription, the MDA does have access to the wholesale price of B2 and B5 at the same terminals. This data was used for the analysis.

However, in a majority of cases the discount from the \$1 per gallon biodiesel blenders tax credit is not included in the wholesale price of B2 & B5 reported by the price data service. The prices shown during the years 2009 and 2011 — when the tax credit was in effect — only partially reflect impact of the tax credit on price. Consequently, the actual price paid by distributors for B2 and B5 is less than shown, but the actual amount is not available to either DOC or MDA.

Data for monthly average wholesale rack prices was used for terminals in these locations for the years 2009, 2010 and 2011:

Alexandria, MN	Mankato, MN	Sioux Falls, SD
Duluth, MN	Marshall, MN	Superior, WI
Fargo, ND	Minneapolis/St. Paul,	Omaha, NE
Grand Forks, ND	Rochester, MN	Denver, CO

Depending on season, all Minnesota stations are to sell the same biodiesel blend — B2 in the winter and B5 in the summer. Consequently, in-state purchasers primarily shop price rather than product. Due to product consistency, significant differences in prices among Minnesota retailers were assumed due to other market pricing factors.

A portion of the Minnesota market, however, resides in counties that border adjacent states which do not require biodiesel blends. If the price point at which it becomes cost effective for a Minnesota consumer to drive to an adjacent state for fuel is reached, Minnesota retailers competing for sales in the same state-border market area could be decreased. Similarly, if the same economics are in effect for interstate truckers, truck stops in Minnesota could lose sales to their counterparts in adjacent states.

Wholesale prices

To support analysis of cross-border purchasing concerns due to differences in wholesale rack prices, the terminals in these adjacent locations were grouped into the following three regions.

Minnesota Region	Terminal Locations
Northwest	Alexandria, MN compared to Grand Forks, ND and Fargo, ND
Southwest	Marshall, MN compared to Sioux Fall, SD
Northeast	Duluth, MN compared to Superior, WI

To support analysis of regional-scale market concerns due to differences in wholesale rack prices, a high population density area of Minnesota was compared with areas of similar density in nearby states.

Minnesota Region	Terminal Locations
Central	Minneapolis/St. Paul, MN; Rochester, MN; Mankato, MN compared to Omaha, NE and Denver, CO

Retail prices

The statute specified that data on *wholesale* diesel price and biodiesel price with tax incentive at biodiesel plants be used for the analysis. Limitations on the availability of this data was previously described. As attendees expressed during the January 29, 2012 meeting of the MDA Biodiesel Task Force meeting, however, the *retail* price at the pump is a primary factor when consumers make their decision where to purchase fuel.

The degree to which wholesale price corresponds to retail price is an important consideration when assessing potential economic hardship to Minnesota retailers due the state’s biodiesel content mandate. To explore efficacy of this additional data set, staff obtained retail price data for diesel as sold in ten communities: five in Minnesota required to market B2 diesel and five across state borders in nearby communities which market unblended #2 diesel.

Margin

Although retail price may be competitive, economic hardship could result if a Minnesota retailer must reduce their profit *margin* significantly below that of their across-border competitor in order to be competitive. Although calculation of net profit margin for a business is commonly

complex and includes trade secret information, calculating the simple margin between the average wholesale and the retail prices for retailers in a given community would provide pertinent information regarding the economic impact of the state's biodiesel content requirement on retailers. Although not available through MDA's current subscription, DOC and MDA have learned that such margin estimates are available for purchase through petroleum market data service companies.

Sales Volume

As with margin, sales *volume* would provide pertinent information regarding the economic impact of the state's biodiesel content requirement on retailers. Data showing the margin per gallon times the number of gallons sold would provide revenue. Comparison of estimated revenue is important for the analysis because a retailer selling with high margin at low volume may be more economically viable than a competitor selling with low margin at high volume. At this time, neither DOC nor MDA have access to volumetric sales data needed to perform a sales volume analysis.

Summary

The following charts and tables display results based on the data available. Each chart and table provides valuable insight. However, *data is insufficient to establish a causal relationship between the state's biodiesel content requirement and "economic hardship on retailers of diesel fuel in this state."*

1) It is important to note that Minn. Stat. §239.77, subd. 2. (4) (e) specifies that "the biodiesel mandate must not be adjusted to less than five percent." The current maximum blend of biodiesel blend required in Minnesota is five percent (B5). Consequently, even if data had been sufficient to determine that the state's biodiesel mandate was causing economic hardship to retailers of diesel fuel in the state — which was not the case — this statute does not authorize the governor to reduce the biodiesel blend below the current requirement. *Action available under this statute only authorizes adjustment of biodiesel blends that are above 5 percent.*

2) Causes of economic hardship for retailers are interrelated. Although MDA's subscription to a petroleum market data service provided wholesale diesel prices at various terminals in the region, this data set proved too limited to perform a statistically compelling analysis. In order to more adequately equate cause to effect, including the following data sets is recommended:

- The price of biodiesel after credits and incentives are subtracted at biodiesel plants or other reliable means as needed to determine impact of blender's tax credit on a retailer's wholesale price paid for B2 and B5.
- Retail price data as needed to determine the relationship between wholesale prices paid by retailers and the retail prices they charge.
- The margin between wholesale and retail prices as needed to determine economic differences between retailers of diesel and biodiesel fuels.
- The volume of sales as needed to determine affect that margin has on competitiveness.

- Other data as may be recommended by the Biodiesel Task Forces as needed to provide a high level of confidence in findings.

3) Should conditions as specified under Minn. Stat. §239.77 be satisfied such that blends greater than B5 appear imminent, staff recommend the following:

- A. DOC and MDA, in collaboration with the MDA Biodiesel Task Force, review the findings of this analysis and determine data gaps, data sources, range of error in data acceptable, and analysis to be run that will provide a high level of confidence in findings to determine:
 - price disparity between unblended diesel and the required biodiesel blend, and
 - economic hardship to retailers of diesel fuel in this state solely due to the requirement to sell biodiesel blends.
- B. Based on this and other expert input, a range cost to perform the analysis is determined and monies are appropriated.
- C. DOC and MDA develop and publish a Request for Quotation (RFQ) seeking bids from qualified experts in statistical analysis, data sets and modeling needed for the project such that an effective contract can be awarded and performed.

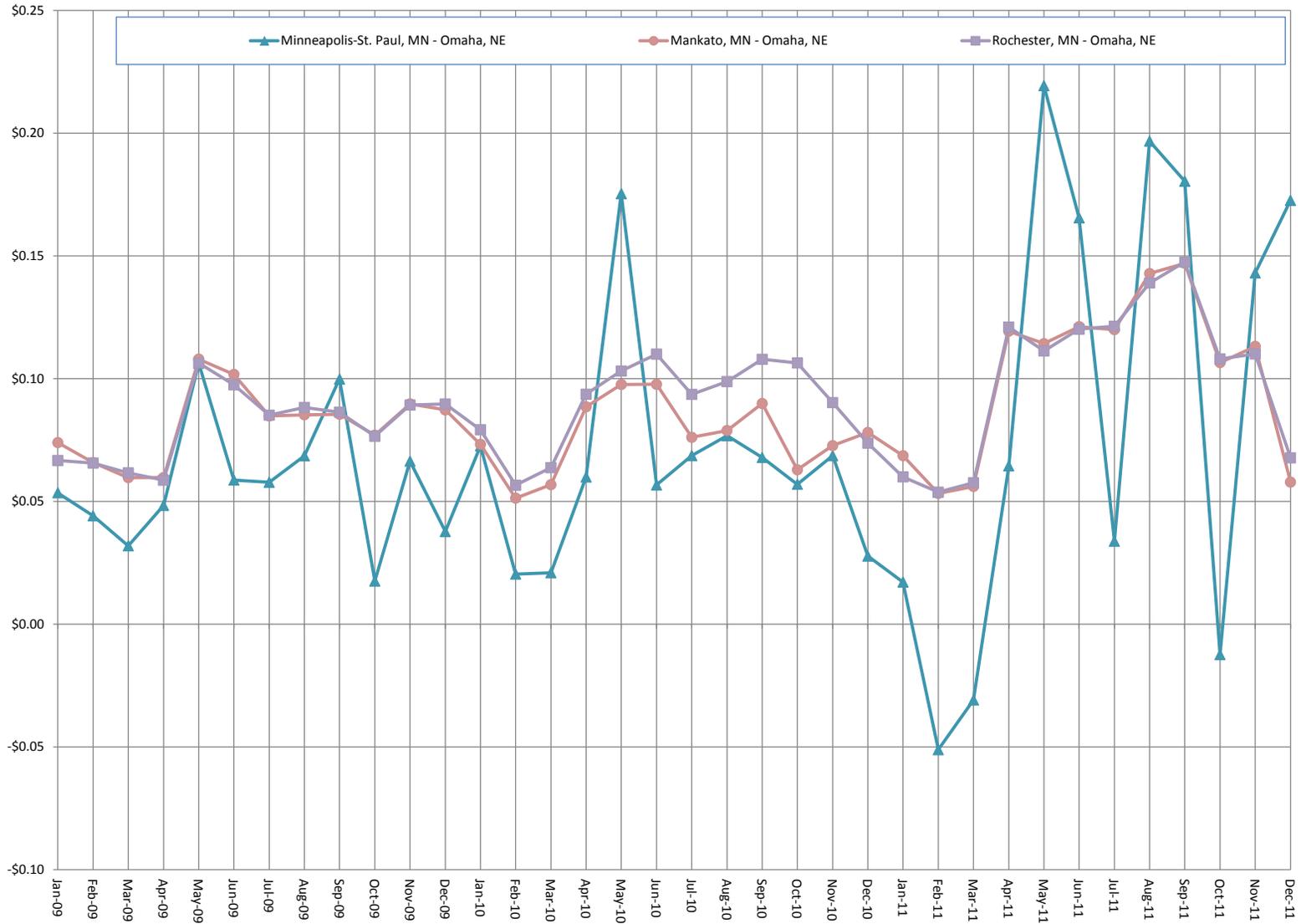
Please see the following charts, tables and notations resulting from the analysis.

HISTORICAL PRICES 2009, 2010, 2011																																							
This table shows the average difference in wholesale price between in-state B2/B5 and out-of state diesel terminals by region																																							
	B2			B5									B2			B5									B2														
	2009 (blenders tax credit in effect)												2010 (blenders tax credit not in effect)												2011 (blenders tax credit in effect)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
NORTHWEST																																							
Fargo, ND #2 diesel	1.53	1.35	1.37	1.50	1.58	1.91	1.81	2.03	1.91	2.08	2.13	2.08	2.14	2.06	2.27	2.42	2.25	2.20	2.16	2.24	2.28	2.42	2.50	2.60	2.72	2.91	3.26	3.43	3.22	3.17	3.25	3.13	3.13	3.16	3.30	3.01			
Grand Forks, ND #2 diesel	1.53	1.34	1.37	1.50	1.58	1.91	1.80	2.03	1.90	2.07	2.12	2.07	2.14	2.06	2.26	2.41	2.24	2.19	2.16	2.24	2.27	2.41	2.49	2.60	2.72	2.91	3.26	3.42	3.22	3.17	3.24	3.13	3.13	3.16	3.30	3.01			
Alexandria, MN B2/B5	1.56	1.37	1.40	1.53	1.66	1.99	1.87	2.10	1.97	2.13	2.19	2.14	2.19	2.09	2.29	2.48	2.31	2.26	2.22	2.30	2.34	2.46	2.54	2.64	2.76	2.94	3.29	3.51	3.31	3.28	3.35	3.24	3.24	3.21	3.37	3.04			
monthly difference	0.03	0.03	0.03	0.03	0.08	0.07	0.07	0.07	0.06	0.06	0.06	0.07	0.05	0.02	0.02	0.06	0.07	0.07	0.06	0.06	0.06	0.04	0.05	0.04	0.04	0.03	0.03	0.09	0.10	0.10	0.11	0.11	0.11	0.06	0.07	0.04			
Average wholesale price above diesel	0.03			0.07									0.03			0.06									0.04			0.10									0.06		
SOUTHWEST																																							
Sioux Falls, SD #2 diesel	1.51	1.32	1.35	1.47	1.55	1.88	1.78	2.00	1.87	2.05	2.09	2.05	2.12	2.04	2.23	2.39	2.21	2.17	2.14	2.21	2.24	2.37	2.46	2.57	2.70	2.89	3.22	3.38	3.18	3.15	3.22	3.09	3.08	3.10	3.25	2.97			
Marshall, MN B2/B5	1.56	1.37	1.40	1.52	1.64	1.97	1.86	2.08	1.95	2.12	2.17	2.13	2.19	2.08	2.28	2.47	2.31	2.27	2.22	2.30	2.34	2.47	2.53	2.63	2.75	2.93	3.27	3.49	3.29	3.27	3.33	3.22	3.22	3.19	3.34	3.03			
monthly difference	0.05	0.05	0.05	0.05	0.10	0.09	0.08	0.08	0.08	0.07	0.08	0.08	0.07	0.04	0.05	0.08	0.09	0.10	0.09	0.09	0.10	0.10	0.08	0.06	0.04	0.04	0.05	0.11	0.11	0.12	0.11	0.13	0.14	0.09	0.09	0.06			
Average difference per season	0.05			0.08									0.05			0.09									0.06			0.12									0.08		
NORTHEAST																																							
Superior, WI #2 diesel	1.51	1.32	1.36	1.49	1.58	1.93	1.81	2.04	1.92	2.08	2.12	2.06	2.14	2.05	2.26	2.42	2.27	2.21	2.17	2.25	2.29	2.46	2.57	2.63	2.74	2.91	3.28	3.44	3.23	3.24	3.29	3.14	3.13	3.20	3.39	3.07			
Duluth, MN B2/B5	1.54	1.35	1.39	1.51	∅	∅	∅	∅	∅	∅	∅	∅		2.07	2.28	∅	∅	∅	∅	∅	2.37	2.49	2.56	2.66	2.77	2.94	3.31	3.51	3.31	3.32	3.36	3.23	3.24	3.23	3.41	3.12			
monthly difference	0.04	0.03	0.03	0.02										0.02	0.02						0.09	0.03	-0.01	0.03	0.04	0.03	0.04	0.07	0.08	0.07	0.08	0.09	0.11	0.03	0.02	0.05			
Average difference per season	0.03			∅ = data not available									0.02			0.09									0.03			0.08									0.03		
CENTRAL																																							
Denver, CO #2 diesel	1.49	1.31	1.32	1.50	1.62	1.89	1.78	1.98	1.90	2.05	2.08	2.02	2.13	2.09	2.23	2.37	2.27	2.18	2.16	2.23	2.32	2.39	2.56	2.66	2.68	2.89	3.22	3.40	3.20	3.09	3.17	3.12	3.14	3.17	3.31	2.96			
Omaha, NE #2 diesel	1.49	1.30	1.33	1.46	1.54	1.88	1.77	1.99	1.87	2.04	2.08	2.04	2.11	2.02	2.22	2.38	2.20	2.16	2.13	2.20	2.24	2.36	2.44	2.56	2.69	2.88	3.21	3.37	3.18	3.15	3.21	3.08	3.08	3.09	3.23	2.96			
Mankato, MN B2/B5	1.56	1.37	1.39	1.52	1.65	1.98	1.86	2.08	1.95	2.12	2.17	2.13	2.18	2.08	2.27	2.47	2.30	2.25	2.21	2.28	2.33	2.43	2.52	2.64	2.75	2.93	3.27	3.49	3.29	3.27	3.33	3.23	3.22	3.19	3.35	3.02			
Rochester, MN B2/B5	1.51	1.32	1.35	1.47	1.55	1.89	1.79	2.01	1.89	2.05	2.10	2.05	2.12	2.03	2.23	2.40	2.23	2.18	2.14	2.22	2.26	2.40	2.48	2.58	2.69	2.88	3.23	3.40	3.20	3.16	3.22	3.10	3.09	3.13	3.28	2.98			
Mpls-STP, MN B2/B5	1.54	1.35	1.37	1.51	1.64	1.93	1.83	2.06	1.97	2.06	2.15	2.08	2.18	2.04	2.24	2.44	2.38	2.21	2.20	2.28	2.30	2.42	2.51	2.59	2.70	2.83	3.18	3.44	3.40	3.31	3.25	3.28	3.26	3.07	3.38	3.14			
monthly difference	0.05	0.04	0.04	0.02	0.04	0.05	0.05	0.07	0.05	0.03	0.06	0.06	0.04	0.00	0.02	0.06	0.06	0.05	0.04	0.00	0.02	0.04	0.00	0.04	0.03	0.00	0.01	0.06	0.11	0.13	0.08	0.10	0.08	0.00	0.06	0.09			
Average difference per season	0.04			0.05									0.02			0.04									0.02			0.09									0.05		

HISTORICAL PRICES 2009, 2010, 2011 - TABLE SUMMARY

- ~ 2009-2011 data shows that wholesale price of B2 is typically 3 to 5¢ above diesel.
- ~ 2009-2011 data shows that wholesale price of B5 is typically 5 to 9¢ above diesel however, prices ranged from 8 to 12¢ above diesel in 2011.
- ~ Although the price differential can be calculated, the degree to which it may or may not cause economic hardship for retailers of diesel fuel in the state cannot be determined with available data.
- ~ In general, economic distress for a retailer is due to either or both; less sales volume or less net profit per sale compared to competitors. DOC does not have access to volumetric diesel fuel sales data to assess changes in sales volume in counties or communities over time.
- ~ Depending on season, all Minnesota retail diesel fueling service stations sell the same biodiesel blend, either B2 or B5. Given that the product is the same, significant difference in retail prices charged are logically due to other factors. In-state purchasers may shop price, but not product.
- ~ A portion of the market, however, resides in counties that border adjacent states which do not require biodiesel blends. If the price point at which it becomes cost effective for a Minnesota consumer to drive to an adjacent state for fuel is reached, Minnesota retailers competing for sales in the same state-border market area could be decreased. Similarly, if the same economics are in effect for interstate truckers, truck stops in Minnesota could lose sales to their counterparts in adjacent states.
- ~ As the above table shows, the *wholesale prices* of B2/B5 are *higher* than charged for #2 diesel. However, preliminary investigation indicates that retail prices in border communities are *lower* in Minnesota compared to their counterparts in adjacent states. This indicates that retailers of diesel in Minnesota would not be losing sales due to retail price of B2/B5.
- ~ Based on the data available, it cannot be determined if Minnesota retailers experience less profit (margin) per gallon compared to their counterparts in adjacent states.

Historical Difference in Wholesale Prices Among MN Terminals Compared to Omaha Baseline



Historical **Difference in Wholesale Prices** Among MN Terminals Compared to Omaha Baseline - Full data table

Historical Difference in Wholesale **B2** **B5** Prices Among Terminals in Minnesota compared to Omaha, NE Diesel Baseline

	2009												2010												2011											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Alexandria	0.07	0.07	0.06	0.07	0.12	0.11	0.10	0.11	0.10	0.09	0.11	0.10	0.09	0.06	0.07	0.10	0.11	0.10	0.09	0.09	0.10	0.09	0.10	0.08	0.07	0.06	0.08	0.14	0.13	0.13	0.14	0.15	0.17	0.12	0.14	0.08
Duluth	0.05	0.04	0.05	0.05	∅	∅	∅	∅	∅	∅	∅	∅	∅	0.04	0.06	∅	∅	∅	∅	∅	0.14	0.12	0.12	0.10	0.09	0.06	0.10	0.14	0.13	0.17	0.15	0.15	0.16	0.14	0.18	0.15
MSP	0.05	0.04	0.03	0.05	0.11	0.06	0.06	0.07	0.10	0.02	0.07	0.04	0.07	0.02	0.02	0.06	0.18	0.06	0.07	0.08	0.07	0.06	0.07	0.03	0.02	-0.05	-0.03	0.06	0.22	0.17	0.03	0.20	0.18	-0.01	0.14	0.17
Mankato	0.07	0.07	0.06	0.06	0.11	0.10	0.08	0.09	0.09	0.08	0.09	0.09	0.07	0.05	0.06	0.09	0.10	0.10	0.08	0.08	0.09	0.06	0.07	0.08	0.07	0.05	0.06	0.12	0.11	0.12	0.12	0.14	0.15	0.11	0.11	0.06
Marshall	0.07	0.07	0.06	0.06	0.11	0.10	0.09	0.09	0.09	0.08	0.09	0.09	0.08	0.06	0.06	0.09	0.10	0.11	0.09	0.10	0.11	0.11	0.09	0.07	0.06	0.05	0.06	0.12	0.11	0.12	0.12	0.14	0.15	0.11	0.11	0.07
Rochester	0.07	0.07	0.06	0.06	0.11	0.10	0.09	0.09	0.09	0.08	0.09	0.09	0.08	0.06	0.06	0.09	0.10	0.11	0.09	0.10	0.11	0.11	0.09	0.07	0.06	0.05	0.06	0.12	0.11	0.12	0.12	0.14	0.15	0.11	0.11	0.07
Min	0.05	0.04	0.03	0.05	0.11	0.06	0.06	0.07	0.09	0.02	0.07	0.04	0.07	0.02	0.02	0.06	0.10	0.06	0.07	0.08	0.07	0.06	0.07	0.03	0.02	-0.05	-0.03	0.06	0.11	0.12	0.03	0.14	0.15	-0.01	0.11	0.06
Max	0.07	0.07	0.06	0.07	0.12	0.11	0.10	0.11	0.10	0.09	0.11	0.10	0.09	0.06	0.07	0.10	0.18	0.11	0.09	0.10	0.14	0.12	0.12	0.10	0.09	0.06	0.10	0.14	0.22	0.17	0.15	0.20	0.18	0.14	0.18	0.17
Spread	0.02	0.02	0.03	0.02	0.01	0.05	0.04	0.04	0.02	0.08	0.04	0.06	0.01	0.04	0.05	0.04	0.08	0.05	0.02	0.02	0.07	0.07	0.05	0.08	0.07	0.12	0.13	0.07	0.11	0.05	0.11	0.06	0.03	0.16	0.07	0.11
Spread Range	B2 range .02-.03				B5 range .01-.08								B2 range .01-.05				B5 range .02-.08				B2 range .05-.08				B5 range .03-.13								B2 range .07-.16			

Summary

∅= no data

~ This chart and associated table shows the **difference in wholesale prices** of B2 & B5 from Minnesota terminals compared to wholesale rack price for diesel from Omaha, NE for January 2009 through December 2011.

~ Comparing this data to that provided in the preceding table indicates that wholesale prices typically vary more widely among terminals for same fuel (B2 or B5) within the state than do prices between Minnesota B2 & B5 and diesel in Omaha, NE.

~ The reasons for this price difference among terminals with the state for the same fuel cannot be determined with available data.

Potential for loss of sales due to difference in retail price

Calculating the **difference in retail price** between B2/B5 sold in Minnesota and the retail price of #2 diesel sold in nearby cities of adjacent states would determine retail price differences for competing, local markets. If the difference is sufficient, it could motivate consumers to purchase their fuel in the more competitive city, potentially causing economic hardship on retailers marketing the fuel at higher price.

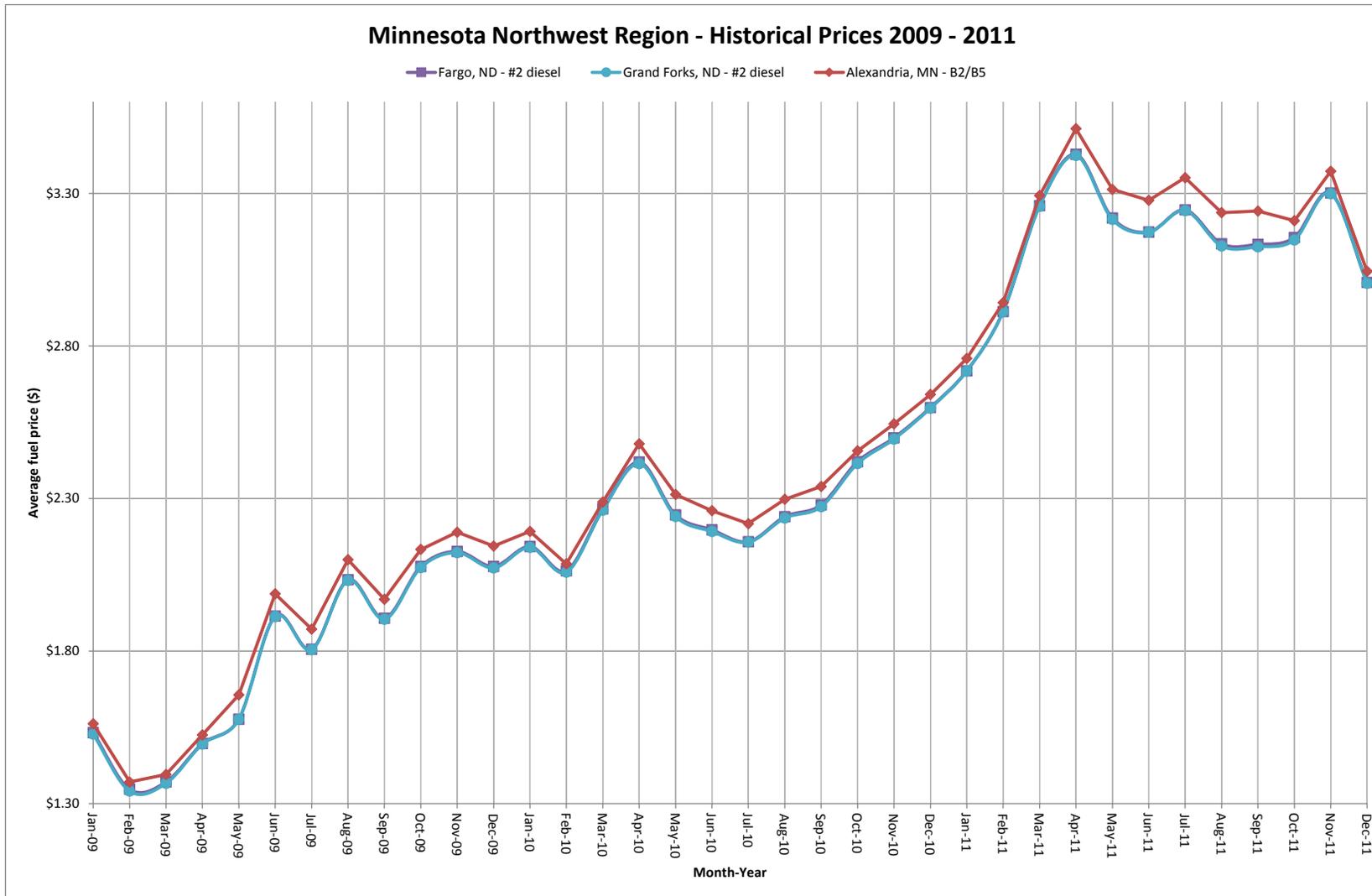
To examine efficacy of additional data sets, retail diesel prices for January 30, 2012 were collected from area "gas price grabber" services for five Minnesota communities, which due to their proximity to competitors in adjacent states, would be most likely to experience economic hardship should a disadvantageous price disparity exist.

Retail diesel prices January 30, 2012

Fuel	City	State	Highest Price	Lowest Price	Price Spread for Diesel in the Same City	Difference in Lowest Price for Adjacent Cities
diesel	Fargo (central)	ND	4.29	3.71	0.58	
B2	Moorhead	MN	3.29	3.19	0.10	\$0.52 price advantage for Moorhead
diesel	Grand Forks	ND	4.05	3.85	0.20	
B2	East Grand Forks	MN	4.06	3.80	0.26	\$0.05 price advantage for East Grand Forks
diesel	Sioux Falls	IA	3.79	3.68	0.11	
B2	Luverne	MN	3.89	3.73	0.16	-\$0.05 price disadvantage for Luverne
diesel	Clear Lake	IA	3.68	3.68	0.00	
B2	Albert Lee	MN	3.90	3.29	0.61	\$0.39 price advantage for Albert Lee
diesel	Superior	WI	3.92	3.82	0.10	
B2	Duluth	MN	3.89	3.79	0.10	\$0.03 price advantage for Duluth

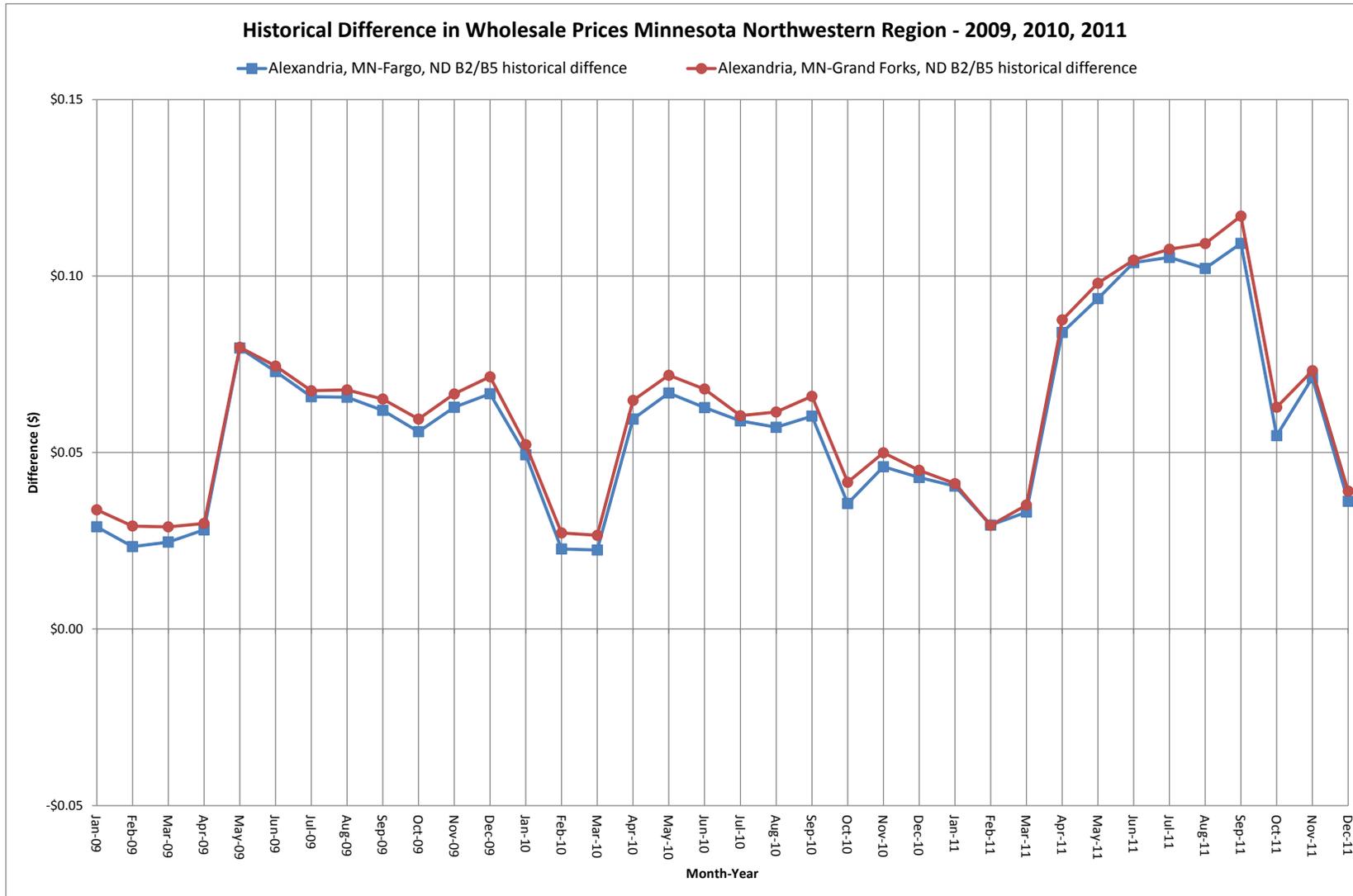
Preliminary Observations - Difference in retail price

- ~ Prices for competitors in the same city range from zero to more than \$0.60 per gallon for the same product.
- ~ Data from this limited sample indicates that retailers consider maximizing product pricing according to what their immediate market will bear as good business practice.
- ~ Prices for B2 from MN retailers are typically sold for less per gallon, sometimes at significantly less cost, compared to their competitors across state-lines.
- ~ Although drawn from cities that directly compete across state borders, the sample period was only one day in time. A sample period of three years is recommended.
- ~ This one-day sample indicates that retailers in these Minnesota cities would not be losing sales due to retail price.
- ~ Based on the above sampling, use of additional historical data showing retail diesel prices for communities competing across state-lines would be useful in an evaluation designed to evaluate economic hardship due to retail price disparity.
- ~ Although a comprehensive analysis of retail price would help determine the degree to which the price of B2 and B5 compared to diesel is advantageous or disadvantageous to Minnesota retailers, it would not determine margin.
- ~ Margin data is trade secret information. However, DOC and MDA have learned that estimates of margin is available through petroleum market data service companies.
- ~ Data showing the margin -- the difference in price between the wholesale rack price of B2 and B5 (including tax incentives and RINs) and the retail price as sold by Minnesota retailers; and the wholesale rack price of diesel compared to the retail price as sold by competitors across state-lines -- would be needed to assess potential impact on Minnesota retailers due to less or greater margin. Data showing estimated margin, including impact of tax incentives and estimated impact of RINs, is available on a one-time basis for approximately \$10,000 per year for 120 counties (those in Minnesota plus those counties adjacent to Minnesota in surrounding states), or \$30,000 for three years. Use of an expert in performing such modeling is recommended to determine if county-wide data and the method used to apportion in place of tax incentives and RINs will be sufficient to meaningfully evaluate impact of price difference of B2/B5 and diesel for adjacent cities.
- ~ Data showing the margin per gallon times the number of gallons sold would provide revenue. Comparison of estimated revenue is important for the analysis because a retailer selling with high margin at low volume may be more economically viable than a competitor selling with low margin at high volume. Neither DOC nor MDA have access to volumetric sales data needed to perform this analysis.



~ Values for Fargo and Grand Forks, ND diesel show as a single line due to similarity in their **wholesale diesel prices**.

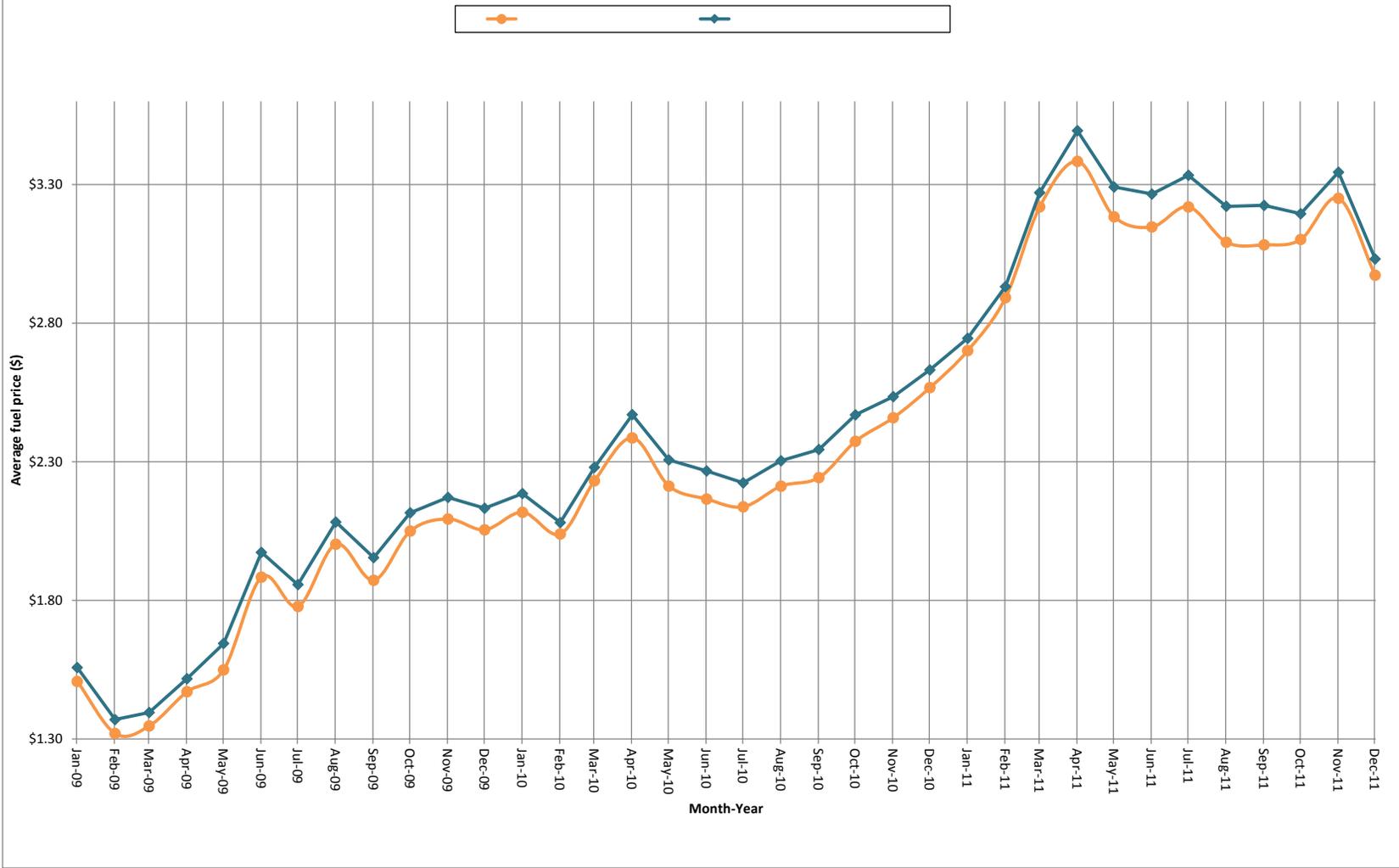
~ Values for B2/B5 prices from the Alexandria, MN terminal show very high correlation with price of diesel, although the reason it is consistently above the price of diesel cannot be determined from available data.



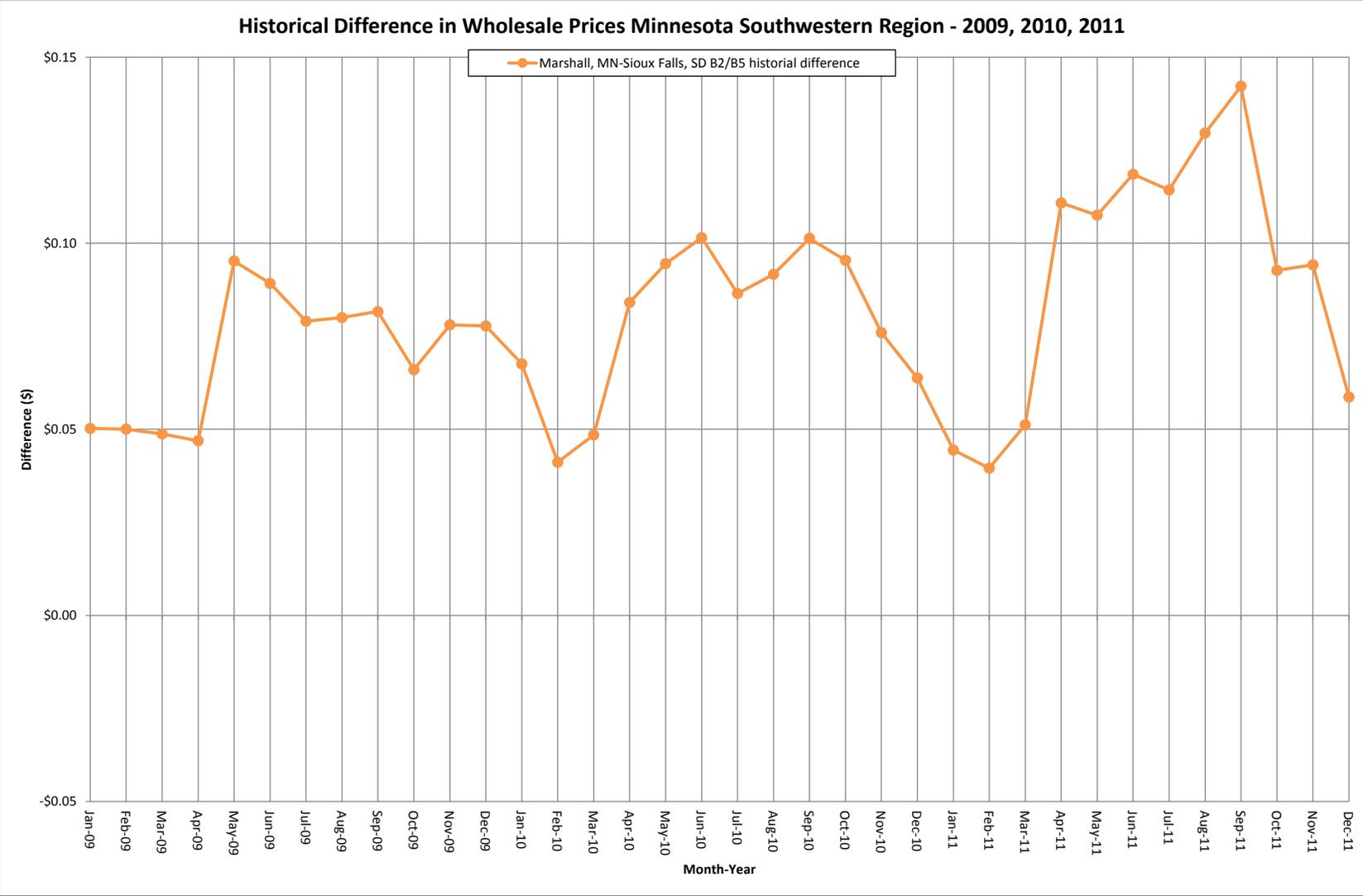
The historical **difference in cost per gallon** between B2/B5 from the Alexandria terminal and diesel from North Dakota terminals in Fargo and Grand Forks, ND are shown in this chart.

~ The differences show strong synchronicity, although there is a slightly greater price difference between B2/B5 and diesel from Grand Forks compared to Fargo.

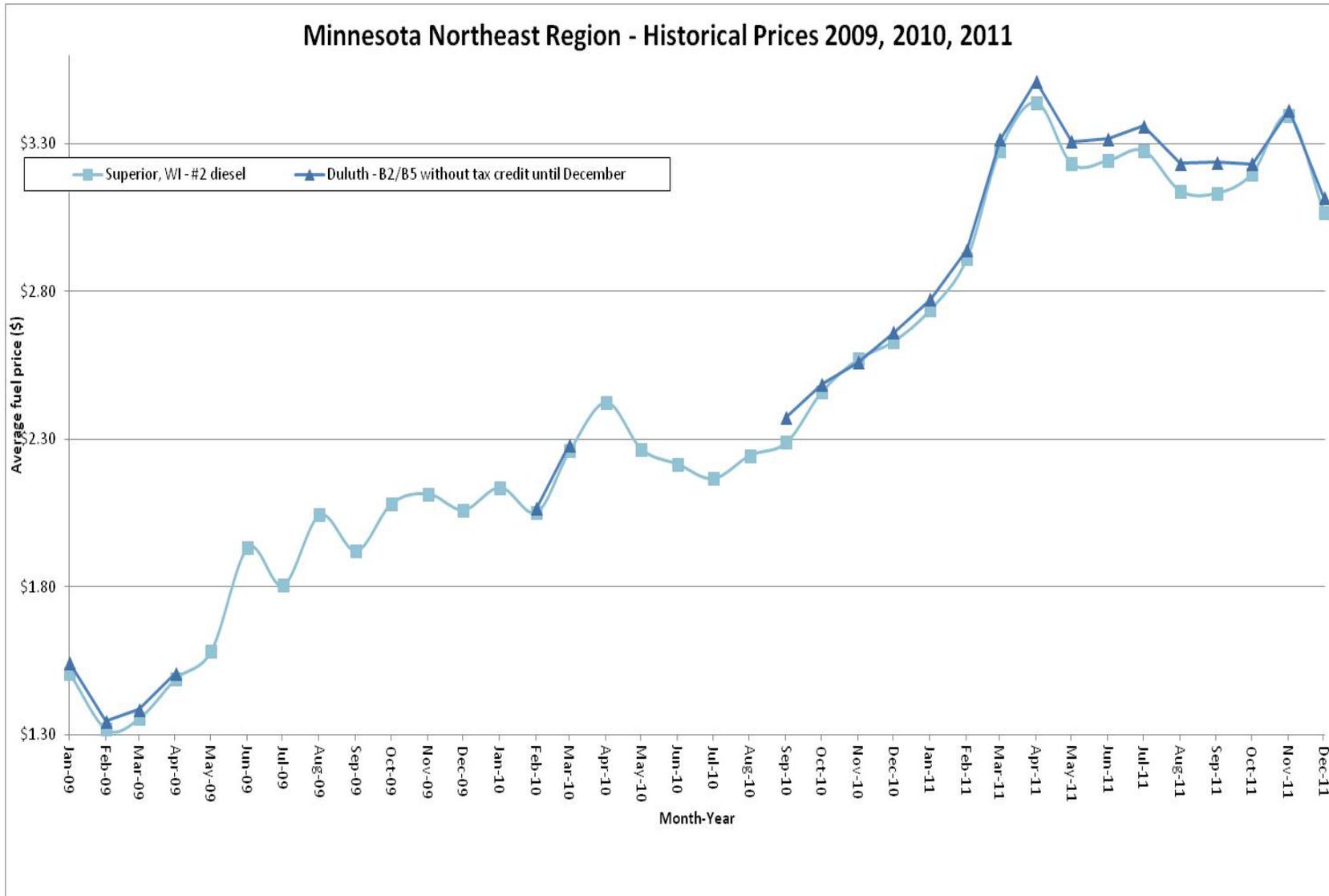
Minnesota Southwest Region - Historical Prices 2009 - 2011



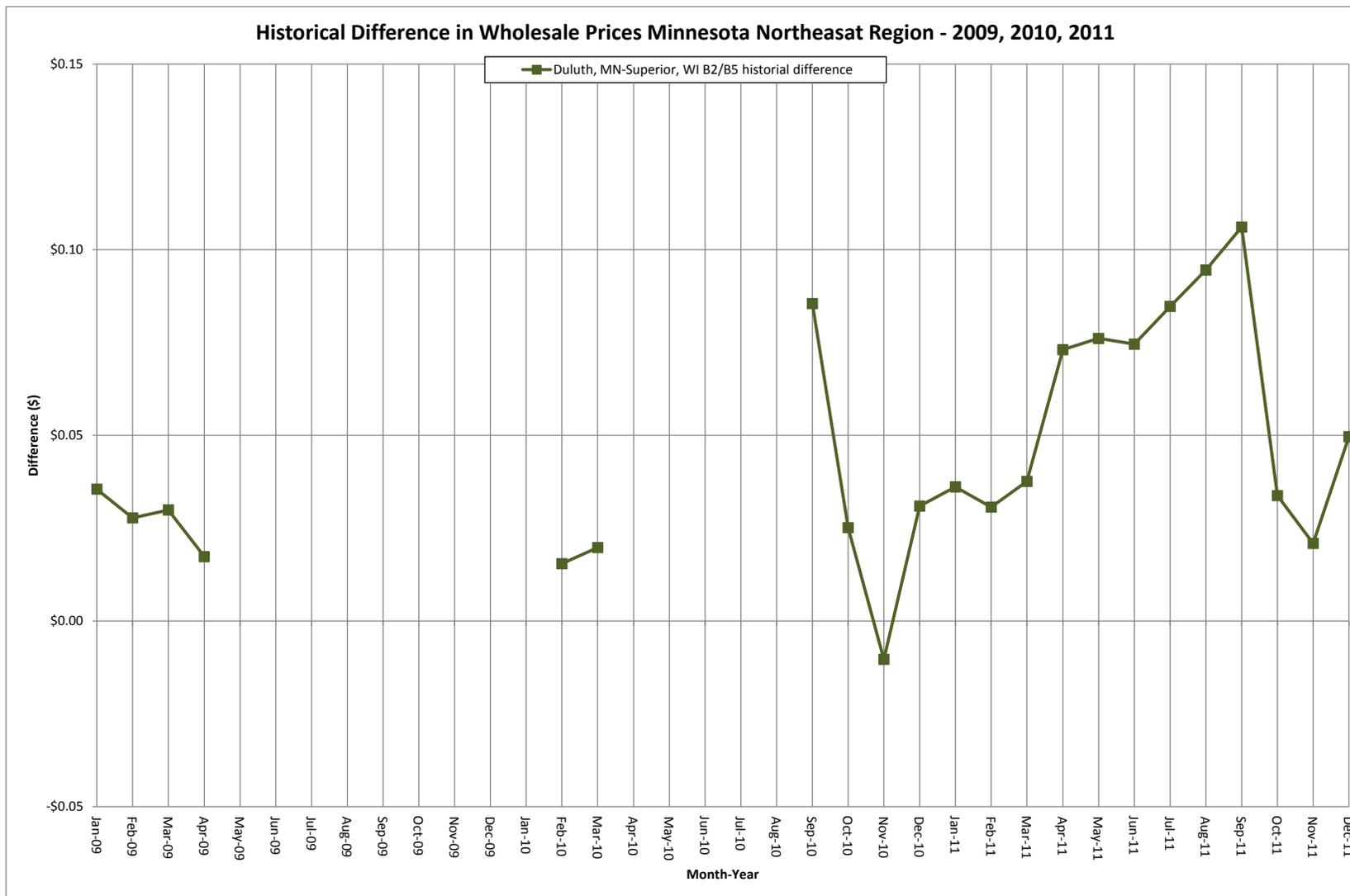
~ Values for B2/B5 **wholesale prices** from the Marshall, MN terminal show very high correlation with price of diesel from Sioux Fall, SD, although the reason it is consistently above the price of diesel cannot be determined from available data.



The historical **difference in cost per gallon** between B2/B5 from the Marshall and diesel from Sioux Falls terminals is shown in this chart.



~ Data was not available for the Duluth terminal for much of 2009 and some of 2010. However, from data that was available, the values for B2/B5 **wholesale prices** from the Duluth, MN terminal show very high correlation with price of diesel from Superior, WI terminal.



~ Data gaps are due to the fact that data was not available for the Duluth terminal for much of 2009 and some of 2010. Data available shows the **difference in cost per gallon** between B2/B5 from the Duluth, MN and diesel from Superior, WI terminals. As with the other regions, the reason it is consistently above the price of diesel cannot be determined from available data. Preliminary analysis does not indicate differences are strongly associated with changes in the price of soy oil.