Diesel Fuel Price Outlook - 2/17/23

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Purpose

This is the first of a series of newsletters discussing the outlook for diesel fuel over the next 12 months. Diesel costs are a major expense item for nearly every farm so estimating diesel prices over the next year could help farmers with planning and fuel purchase decisions. These articles will briefly analyze the current fuel environment and then discuss factors that could drive prices upward or downward over the next year.

Current situation

Diesel prices seemed to have peaked in the spring of 2022 and for the most part, have been drifting lower (Figure 1). Although the Russian/Ukraine war drove prices higher for a time, the biggest increase in diesel prices from the fall of 2021 until spring of 2022 was strong economic growth. In late spring of 2022, the U.S. economy cooled off which lead to lower fuel consumption. So far, the Russian/Ukraine war has not impacted oil production very much so oil prices have retreated to levels lower than before the war started.

The fuel price factor that farmers probably notice the most is the wide price spread between diesel and gasoline prices (Figure 2). Figure 2 shows the range of diesel premiums for the five years prior to 2022 in the gray shaded area. The price premiums for 2022 and 2023 are shown with the the two lines. The price spread at one point reached $1.50 per gallon but has started to decline.

The price premium for diesel can largely be traced to the low stock of diesel fuel (Figure 3). Diesel supplies are well below the five-year range from 2017 to 2021 as shown in the gray shaded area. As discussed in previous AgManager.info articles, refinery capacity and utilization is largely responsible for the low fuel stocks.

Outlook

Diesel prices are tied very closely to the price of oil so estimating oil prices provides good guidance on diesel prices. However, most models to predict oil prices have large error terms. Still, there are future prices for oil and these were used the predictions shown in Figure 4. The two main factors that could change this forecast is the war in Ukraine and the strength of the U.S. economy. If Russia curtails oil exports or is unable to export oil, then prices will almost certainly rise. If the U.S. economy grows like it did in the first half of 2022, the prices will likely rise as well.

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The other factor influencing diesel prices is the stock of diesel fuel. With the current state of the refinery system in the U.S., catching up diesel stocks to historical norms is a long term process. A slowing economy would help the supply increase quicker than a strongly growing economy. It could take a year or more before the stock of diesel fuel gets back to where it typically has been.

The prediction for diesel prices includes this supply consideration in the model. The current price premium of $1.00 per gallon is estimated to decrease to $0.70 in 12 months. This is the main reason the forecast diesel price declines over the next year. The gray shaded area in Figure 4 is the confidence interval for the price prediction. This confidence interval grows large very quickly indicating the difficulty of predicting both oil and diesel prices.

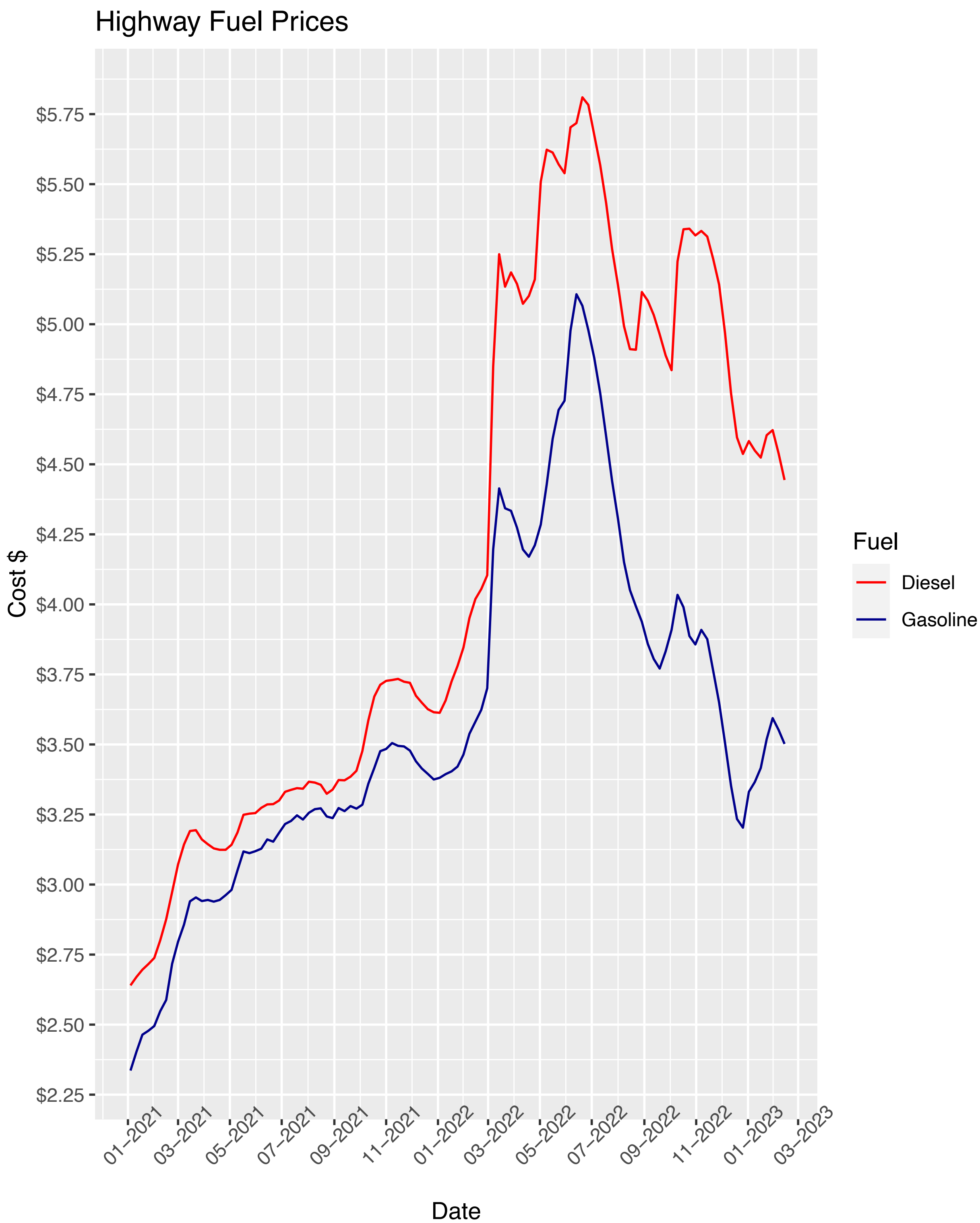

Figure 1. U.S. Highway Gasoline and Diesel Prices Since 2021

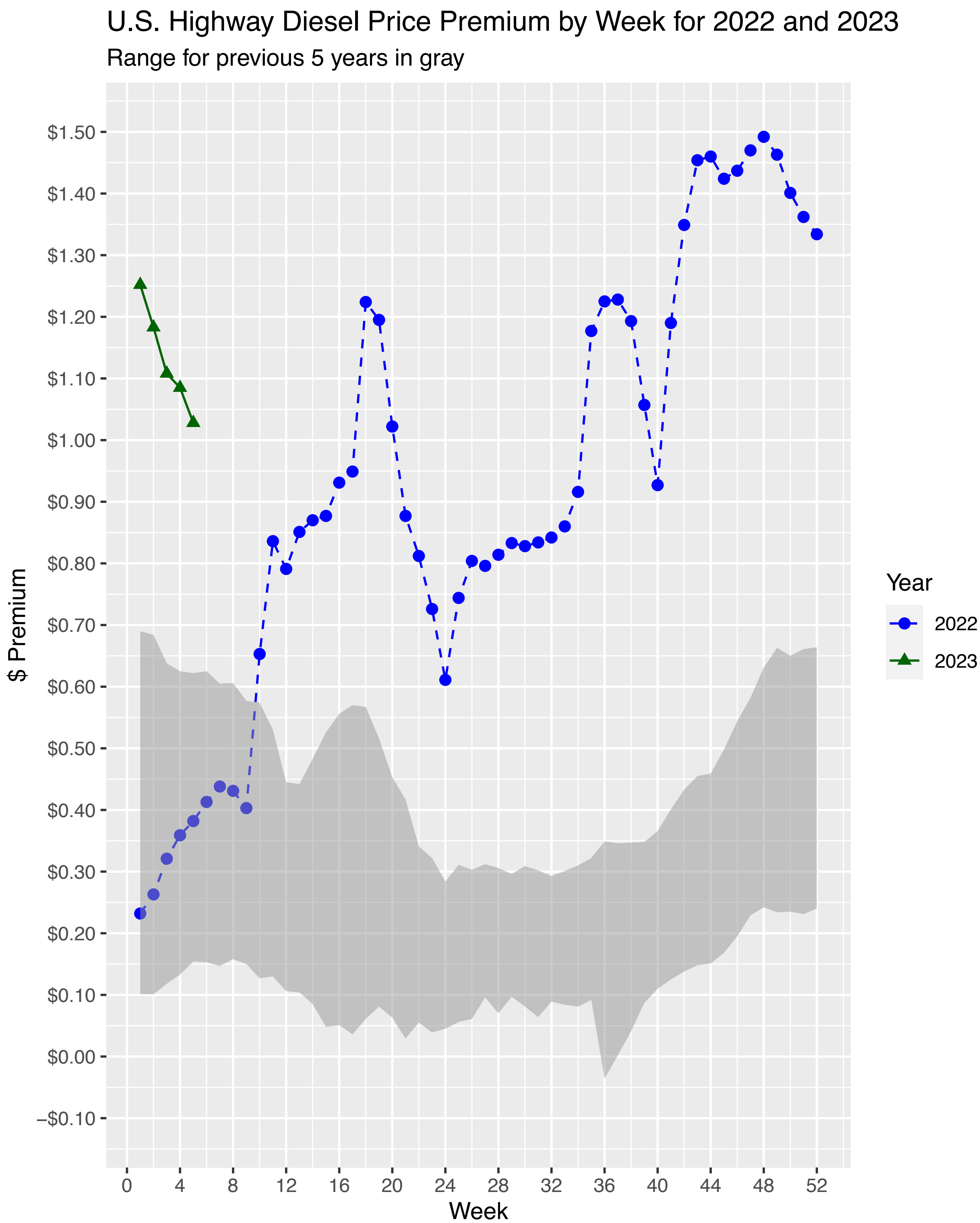

Figure 2. Diesel Price Premium Above Gasoline for Last Two Years

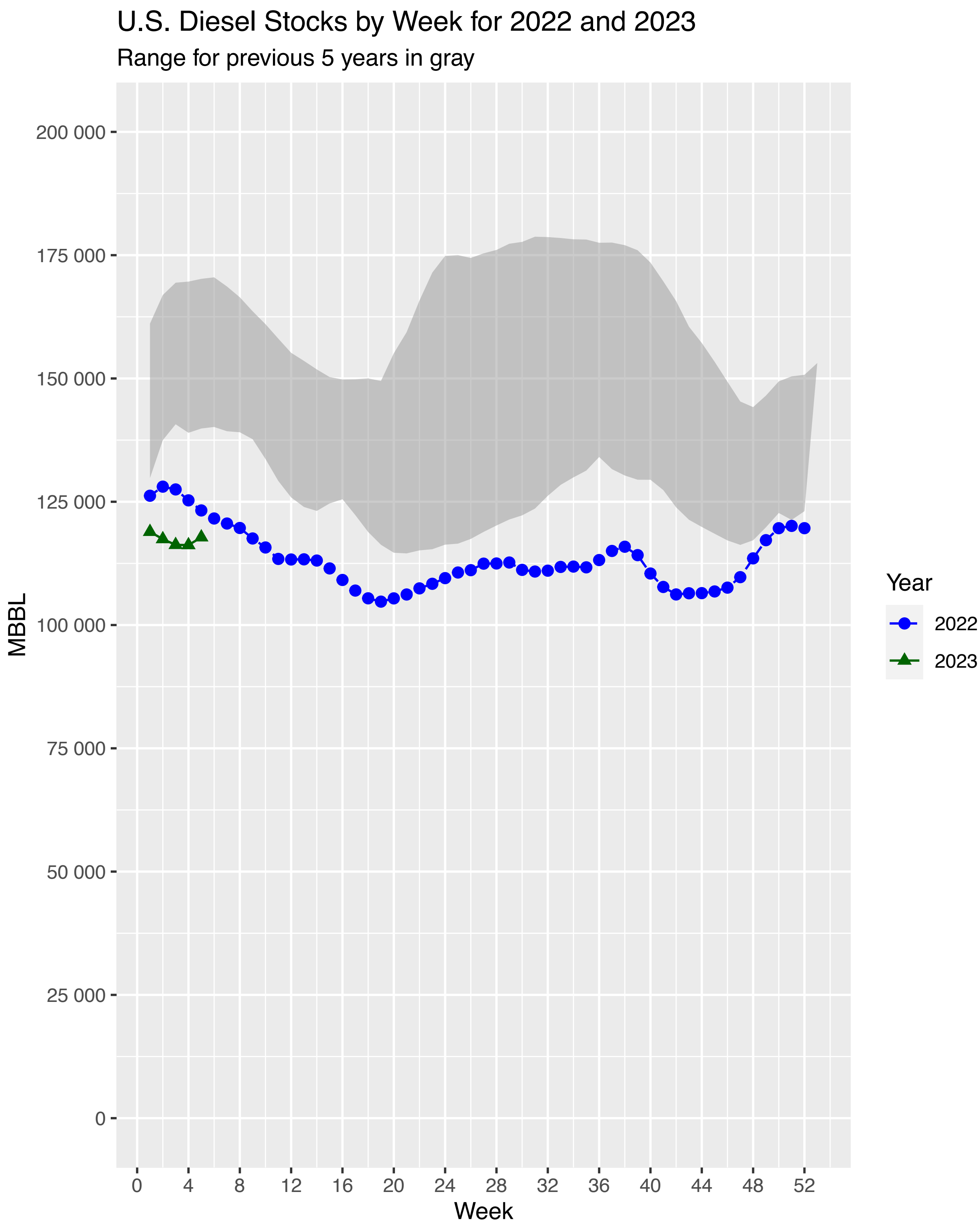

Figure 3. U.S. Diesel Stocks For Last Two Years

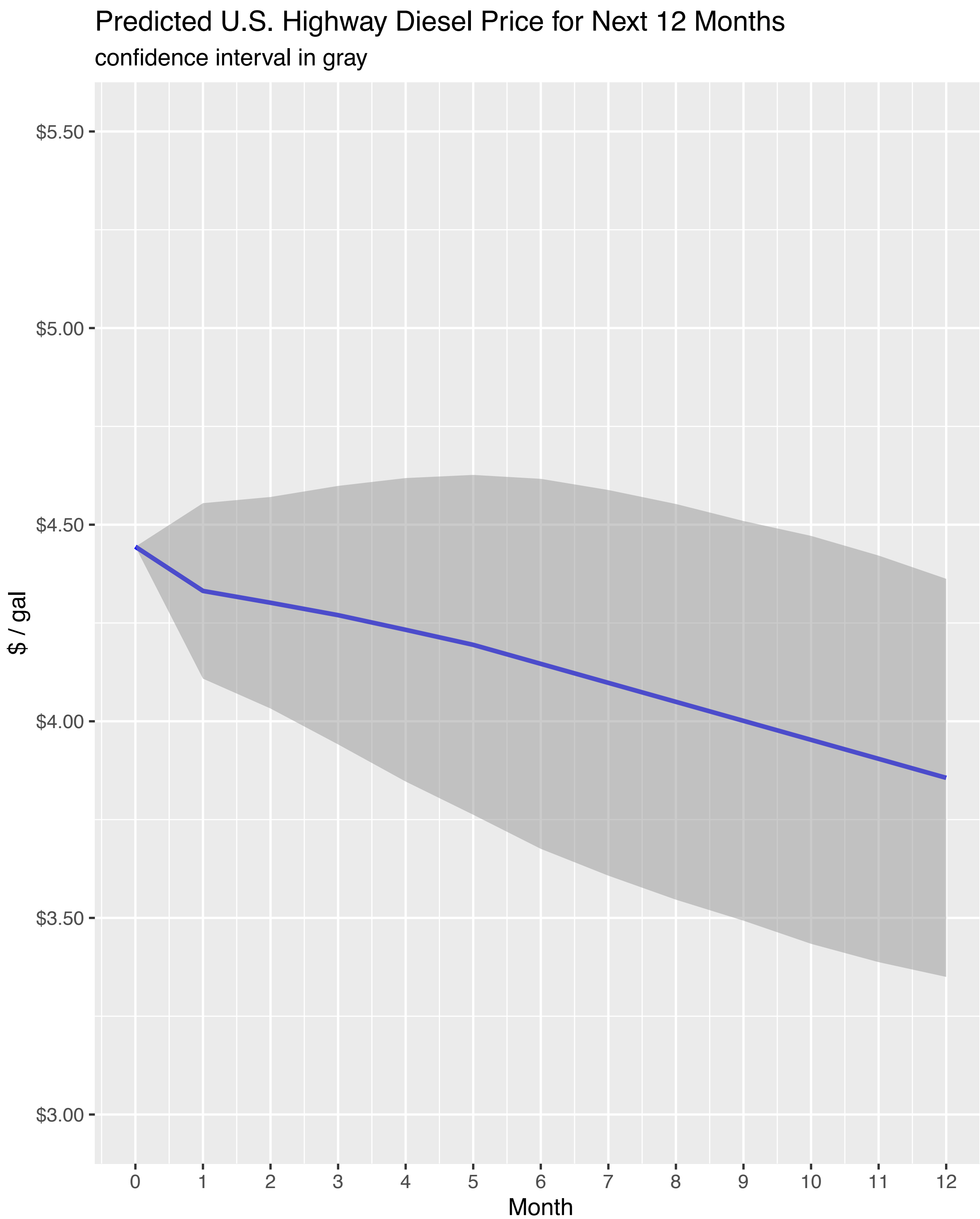

Figure 4. 12 Month Price Prediction for Diesel Fuel