Modeling Summary

Big Mountain Resort currently sells tickets for $81. With the random forest model, the price is suggested at $95.87. With a mean absolute error of $10.39, this suggests Big Mountain Resort can raise prices to somewhere between $85.48 and $106.26. I would keep this range in mind when discussing final pricing decisions, but would not mention the range. The range does not take into consideration operating costs and visitor counts, which are two things I feel would be needed for final decisions.

Four scenarios were considered to reduce costs. For scenario 1. the assumption is made that each visitor buys the average of 5-day tickets. This affects the revenue chart, which shows effects of dropping least-used runs from the resort. The ticket price drops the most when 6 runs are dropped, but 8 runs is a sizeable drop as well. So, 6 or more runs is recommended if the company chooses scenario 1.

Scenario 2 supports a $1.99 increase in ticket price. With the assumption of 5-day tickets purchased by 350,000 customers, there could be a gross total increase of $3,474,638. Scenarios 3 and 4 create no change in revenue or ticket price support. I would recommend scenario 2, since the random forest model indicates a raise in ticket prices is justified. However, I would recommend scenario 1 for two seasons from now. I would suggest collecting survey data this year from customers asking them to select their favorite runs from a list (and offering a prize selected from participants at random). The X least selected runs from this process can be marked off with signs discouraging customers from using them. In addition, salt can be applied haphazardly to the discontinued runs to melt the snow.