Part 1 - Analysis

1. The estimates rise steeply, especially beginning in about 1950.
2. The variance in estimates is greater the farther the years get from teh past century or so–so the further away from the present time, teh greater teh variance. That said, to me, the estimates are fairly close.
3. In relative terms, the estimates vary most greatly at year 0, when the highest estimate is twice as great as the lowest. In absolute terms, the differences grow to nearly 500,000 in future years.
4. Yes. The uncertainty can be measured in variance between the estimates. One way of capturing the uncertainty is measuring the difference between the highest and lowest estimates. Thickness of line, for instance, could be used to represent the differences between estimates, with thicker lines showing greater uncertainty.
5. The interpolated data points will cause problems because they're not realy estimates. They're estimates of estimates. They introduce greater introduce greater uncertainty.
6. I think not because teh population growth estimates are not linear.

Justification

I thought that using a line chart was workable. I think my scheme, having color values indicate the certainty of estimates, is a good solution, even though my logic in determining the certainty is questionable. Presumably, I could let a statistician figure that out.