Jeffrey Heredia
ENGR 115
Friday 2pm to 5pm
9/9/2016

Initial Population	42393
Growth Rate	0.0181
Starting Year	2010
Time increment	5

Time (Actul year)	Time (Model Year)	Model Population
2010	0	42393
2015	5	46409
2020	10	50804
2025	15	55617
2030	20	60885
2035	25	66652
2040	30	72965
2045	35	79877
2050	40	87443

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	38.29542434	84786

Doubling time
38.29542434

Questions Answer

1)

The charts were moved here to show how I used the model to find the doubling time. The doubling time from the model was 38 years, as well as for the hand calculations.

2)

I picked a carrying capacity of 100,000, in order to do this the growth rate would have to drop from about 0.018 down to 0.016. This will keep them at 100,000 for about 50 years

3)

It is reasonable but there are far too many factors to be accurate. The growth rate will follow this trend as long as resources are plentiful, however dispersion is a hard factor to account for.

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42622

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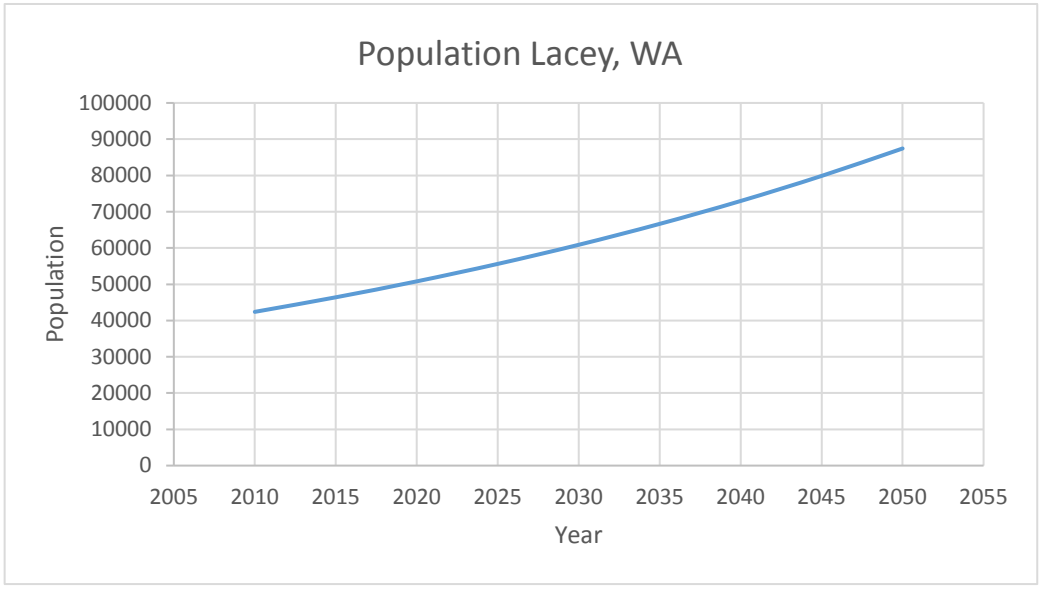
Time (Actul year)	Time (Model Year)
=B10	0
=A15+$B$11	=B15+$B$11
=A16+$B$11	=B16+$B$11
=A17+$B$11	=B17+$B$11
=A18+$B$11	=B18+$B$11
=A19+$B$11	=B19+$B$11
=A20+$B$11	=B20+$B$11
=A21+$B$11	=B21+$B$11
=A22+$B$11	=B22+$B$11

Model Population
=$B$8*EXP($B$9*B15)
=$B$8*EXP($B$9*B16)
=$B$8*EXP($B$9*B17)
=$B$8*EXP($B$9*B18)
=$B$8*EXP($B$9*B19)
=$B$8*EXP($B$9*B20)
=$B$8*EXP($B$9*B21)
=$B$8*EXP($B$9*B22)
=$B$8*EXP($B$9*B23)


Population Lacey, WA
Population
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Year