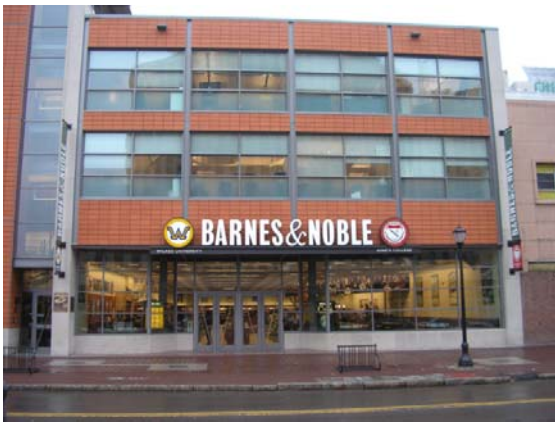


The **INSTITUTE** for
Public Policy & Economic Development



**AN ANALYSIS OF BIRTH & DEATH
RATES IN LACKAWANNA &
LUZERNE COUNTIES
1997-2007**

THE INSTITUTE
MARCH 2009

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Note

The views expressed here do not necessarily reflect those of the educational partners, their offices, trustees or board members, or private businesses that fund The Institute or the staff of The Institute.

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Executive Summary

The Institute for Public Policy & Economic Development (the “Institute”) has completed research on Lackawanna and Luzerne County birth and death rates. The purpose of this study is to evaluate the net result of such rates and determine whether the population is increasing or decreasing. The study reviews county records from 1990 through 2007. The report also identifies birth and death rates by race and gender through 2006 (the latest data available). The three race categories identified include: White (Caucasian), Black (African American) and Other (which incorporates all other races).

Data used in this study was derived from the U.S. Census Bureau and the Pennsylvania Department of Health’s Bureau of Health Statistics and Research.

In Lackawanna County, from 1990 through 2007, there were 9,013 more deaths than births; births totaled 41,489 and deaths totaled 50,502. The county’s birth rate ranged from 2,100 to 2,700 per year, while its death rate ranged from 2,600 to 2,900 per year. In no year did Lackawanna County’s births exceed its deaths.

During the same time span in Luzerne County, there were 19,037 more deaths than births; from 1990 through 2007, births totaled 58,589 births and deaths totaled 77,626. The county’s birth rate ranged from 3,000 to 3,800 per year, while its death rate ranged from 4,100 to 4,500 per year. In no year did Luzerne County’s births exceed its deaths. Given the region’s older population, neither county statistic is unusual. It is anticipated, however, that the in-migration now occurring brings with it a younger population and the possibility that the number of births will exceed the number of deaths in the near future.

The Institute intends to prepare a summary of this study and compare it with its other county migration studies. Such comparison will help identify whether the region experienced real population growth. Migration studies for both counties show that, since 2002, more people have been moving into the region than leaving it.

Lackawanna County Population

From 1990 through 2007, Lackawanna County reported more deaths than births, as detailed in the following table:

Population 1990-2007		Birth and Death Records 1990-2007		
Year	Population	Year	Births	Deaths
1990	219,018	1990	2,664	2,725
1991	218,591	1991	2,585	2,822
1992	217,577	1992	2,438	2,757
1993	216,696	1993	2,592	2,787
1994	215,753	1994	2,424	2,839
1995	214,698	1995	2,295	2,727
1996	212,660	1996	2,291	2,854
1997	210,288	1997	2,146	2,933
1998	208,390	1998	2,193	2,642
1999	206,520	1999	2,116	2,946
2000	213,295	2000	2,147	2,944
2001	212,917	2001	2,244	2,915
2002	210,803	2002	2,043	2,820
2003	209,888	2003	2,149	2,898
2004	209,411	2004	2,254	2,751
2005	209,192	2005	2,260	2,829
2006	209,146	2006	2,288	2,700
2007	209,330	2007	2,360	2,613

1

2

As shown, from 1996 through 1999, Lackawanna County experienced its greatest decline in birth rates, while at the same time it experienced its greatest death rate increase. Likewise, during those years, the county's population corresponded with such figures and consistently declined.

Census 2000 revealed that Lackawanna County's population spiked in 2000, after it was reconciled in accordance with the decennial census. The county's population jumped from 206,520 in 1999 to 213,295 in 2000 – showing an increase of 6,775 people. Also during this

¹ U.S Census Bureau, 2007 Population Estimates, March 20, 2008, http://factfinder.census.gov/servlet/GCTTable?_ds_name=PEP_2007_EST&-mt_name=PEP_2007_EST_GCTT1R_ST2S&-geo_id=04000US42&-format=ST-2&-tree_id=806&-context=gct

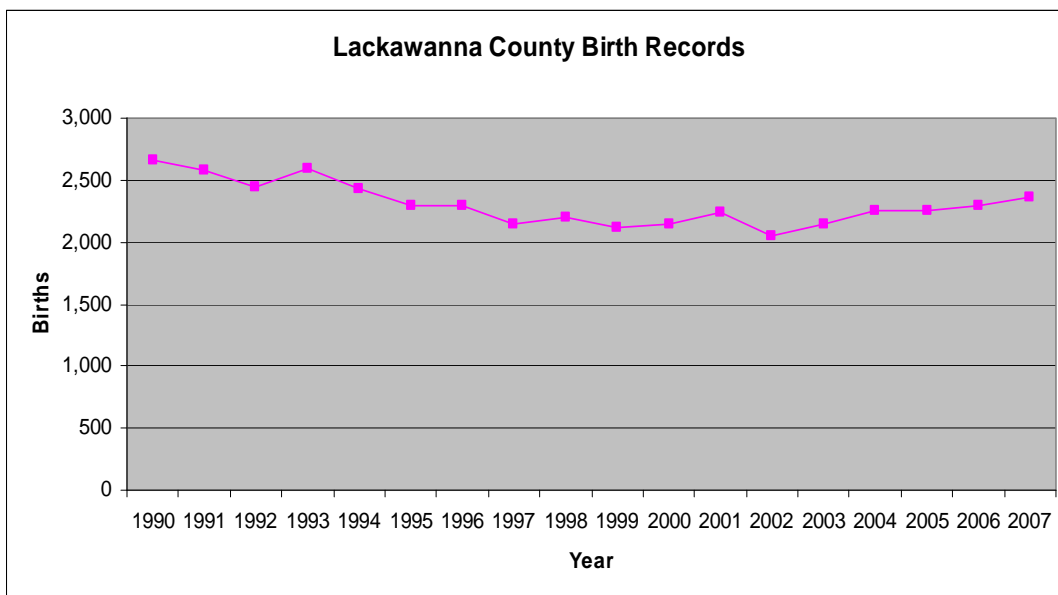
² Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

period, the county's birth rate rose by 31 and its death rate declined by two. While from 2001 through 2007, the county's birth rate increased slightly and its death rate experienced a small decline, total population still fell.

From 1990 through 2007, Lackawanna County experienced an overall population decline. In 1990, the county's population totaled 219,018; in 2007, its population was 209,330. Although its overall population declined, there was a slight population rebound from 2006 through 2007.

Lackawanna County Birth Rates

From 1990 through 2007, Lackawanna County reported a total of 41,489 births.



As illustrated on the above chart, after consistent decline between 1990 and 2002, Lackawanna County's birth rate is on the rise. In 2002, the county recorded 2,043 births, while in 2007 it recorded 2,360 births. From 2002, when the lowest number of births was recorded, to 2007, the county has recorded an increase of 317 births.

Over the seventeen year period from 1990-2007, Lackawanna County’s total number of births declined. In 1990, the county recorded 2,664 births, while in 2007 it recorded 2,360 births – showing a decline of 304 births. Even though its birth numbers declined and then rose, the county’s total number of births in 2007 never reached the number of births recorded in 1990.

Lackawanna County’s birth record appears to be one of peaks and troughs – although neither its increases nor its decreases were very drastic.

White (Caucasian) Male Birth Rates

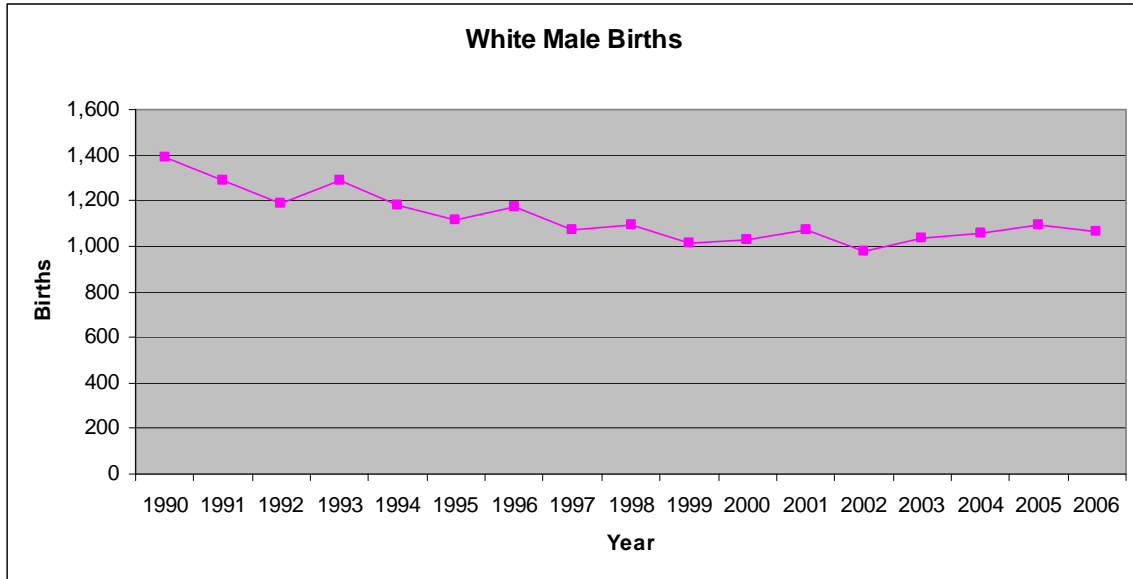
From 1990 to 2007, Lackawanna County recorded the birth of 19,163 white males, as detailed in the following table.

Year	Births	Year	Births
1990	1,390	1999	1,014
1991	1,286	2000	1,028
1992	1,188	2001	1,072
1993	1,288	2002	978
1994	1,178	2003	1,037
1995	1,115	2004	1,059
1996	1,170	2005	1,092
1997	1,071	2006	1,066
1998	1,095	2007	Unknown

3

An increase in births among this demographic followed a period of decline in the total number of births. During the four years after 2002, births of white males fluctuated, but still ended above the low reached in 2002.

³ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>



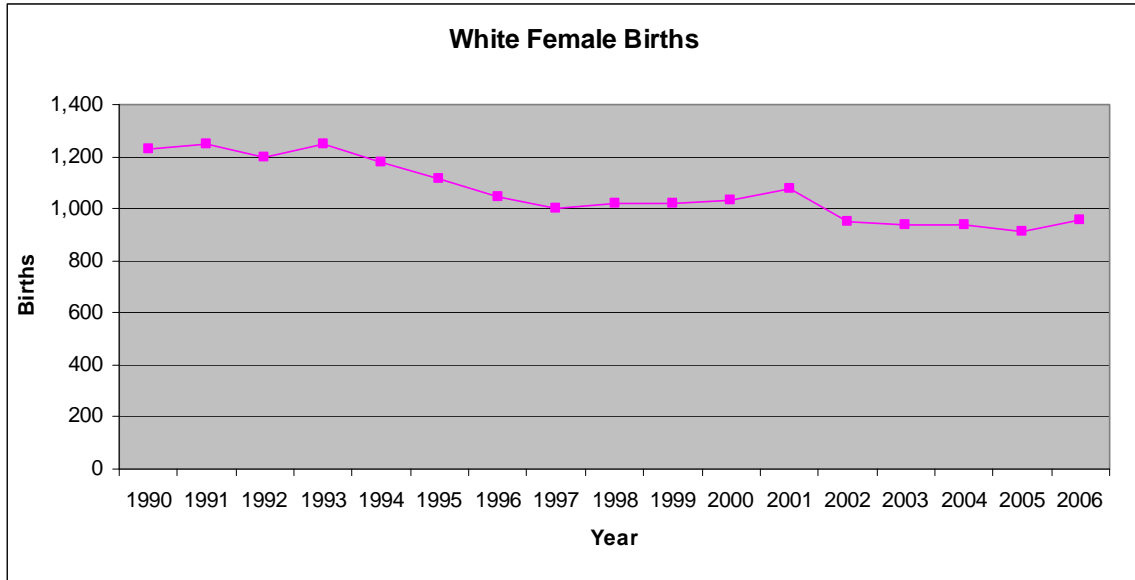
From 1990 through 2002, Lackawanna County experienced a drop in its number of white male births. As illustrated above, 2002 marked the low point of such decline, when the total number of white male births dropped to 978.

Birth rate trends for white males correspond with total birth rate trends. From 1990 through 2002, the number of white male births declined. In 1990, there were 1,390 white males born, and in 2002, there were 978 white males born – an overall decline of 412 births. From 2002 through 2006, there was a small rebound in the number of white male births.

White (Caucasian) Female Birth Rates

From 1990 to 2006, the total number of white female births in Lackawanna County was 18,102. Although the total number of white female births declined, there were rebound periods. Specifically, in 1993, the white female birth rate increased to 1,249, after dropping from 1,226 to 1,198 between 1990 and 1992. The white female birth rate also rebounded between 1998 and 2001. In 1998, a total of 1,021 white female births were recorded in Lackawanna County; in

2001, 1,074 were recorded. Finally, from 2002-2006, the total number of white female births increased by five.



From 1990 through 2006, the number of white females born in Lackawanna County dropped by 270. In 2002, the birth rate for this demographic dipped below 1,000; it has not rebounded to above 1,000 since. The drop in this demographic appears to have bottomed out in 2005, during which there were 915 white female births.

From 1990 through 2006, Lackawanna County's white female birth rate trend experienced an obvious decline. There was also a trend of small rebounds in births after several years of decline.

Black (African-American) Male Birth Rates

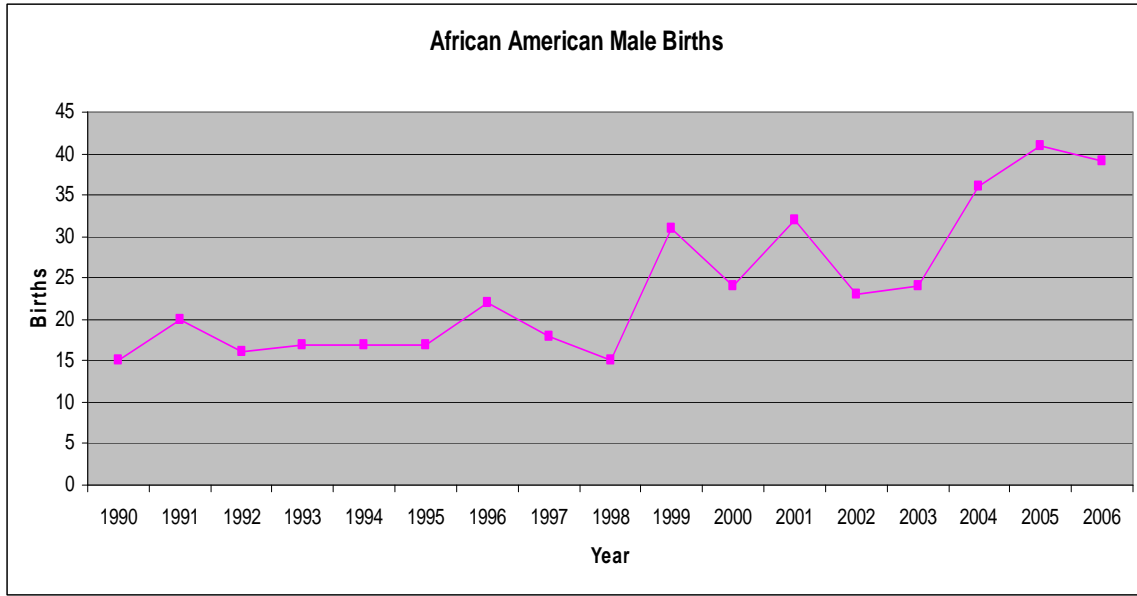
From 1990 to 2006, Lackawanna County recorded a total of 407 black male births. Over the time span, there has been a noticeable increase in the number of black males born. Specifically, in 1990, Lackawanna County recorded fifteen black males born; in 2006, it recorded 39. Black male births peaked at 41 in 2005. The most significant increase in the number of black male births occurred between 1998 and 2006, as detailed in the following table.

Year	Births	Year	Births
1990	15	1999	31
1991	20	2000	24
1992	16	2001	32
1993	17	2002	23
1994	17	2003	24
1995	17	2004	36
1996	22	2005	41
1997	18	2006	39
1998	15	2007	Unknown

4

Although the number of black male births increased, there were periods of recession. From 1999 to 2000, and from 2001 to 2002, black male births declined by nine.

⁴ Pennsylvania Department of Health, Birth and Death Statistics 1990-2006, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>



The trend displayed in the previous graph shows a slow and small growing demographic from 1990-1998. The number of black male births subsequently skyrocketed from 1998 through 2006.

Black (African-American) Female Birth Rates

From 1990 to 2006, Lackawanna County recorded 444 black female births, as detailed in the following table.

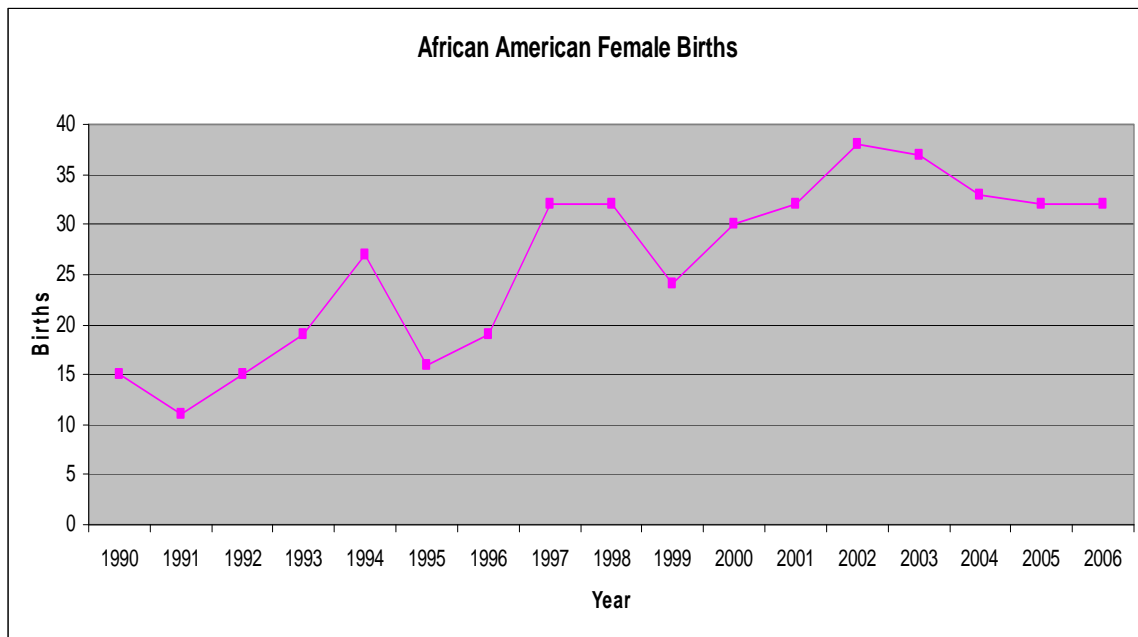
Year	Births	Year	Births
1990	15	1999	24
1991	11	2000	30
1992	15	2001	32
1993	19	2002	38
1994	27	2003	37
1995	16	2004	33
1996	19	2005	32
1997	32	2006	32
1998	32	2007	Unknown

5

⁵ Pennsylvania Department of Health, Birth and Death Statistics 1990-2006, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

The birth rate for this demographic grew at a quicker pace than for black males. Black female births peaked at 38 in 2002. In addition, there were three periods throughout the total time span when the black female birth rate increased. First, from 1991 through 1994, the black female birth rate increased by 26. Second, from 1996 through 1997, the black female birth rate increased by thirteen. Third, from 1999 through 2002, the black female birth rate increased by fourteen.

Accompanying such increases were also noticeable decreases. The number of black female births bottomed out in 1991, when Lackawanna County recorded just eleven births. From 1994 through 1995, black female births declined by nine. Finally, from 1998 through 1999, black female births declined by six.



Over the years examined, Lackawanna County's black female birth rate increased, but not steadily. As quick as the black female birth rate rose, it fell. The trend among this demographic shows that black females are beginning to outnumber black males. .

Other Male Birth Rates

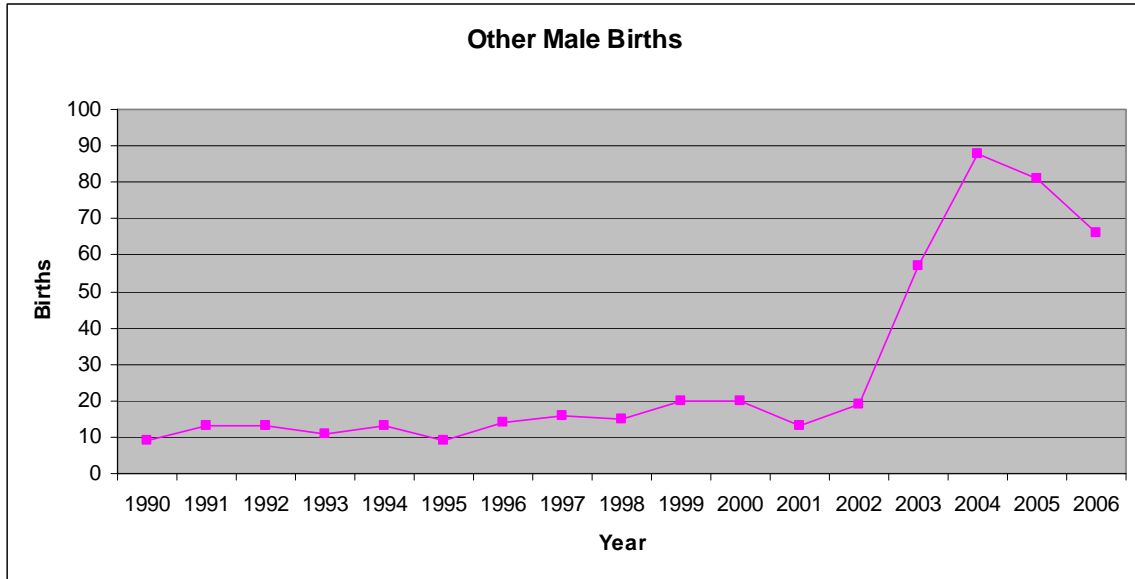
The “other” demographic includes all races that are not included in the white (Caucasian) or black (African-American) categories. From 1990 to 2007, Lackawanna County recorded 477 other male births, as detailed in the following table.

Year	Births	Year	Births
1990	9	1999	20
1991	13	2000	20
1992	13	2001	13
1993	11	2002	19
1994	13	2003	57
1995	9	2004	88
1996	14	2005	81
1997	16	2006	66
1998	15	2007	Unknown

6

In 2006, the number of other male births recorded was drastically higher than the number of other male births recorded in 1990. In 1990, the county recorded just nine other male births, while in 2006 it recorded 66. The number of other male births in Lackawanna County peaked in 2004, at which time there were 88 births. from the period from 2001 through 2004 points to an increase in Lackawanna County’s population of other (neither black nor white) residents. The birth rate of other males jumped from 13 in 2001 to 88 in 2004.

⁶ Pennsylvania Department of Health, Birth and death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>



Lackawanna County's other male birth rate reached lows in 1990 and 1995, when the county recorded just nine births.

Findings pertaining to the other male birth rates point to the fact that during the 1990's, few races, other than whites and blacks, lived in Lackawanna County. Trends marked after 2000 show different results.

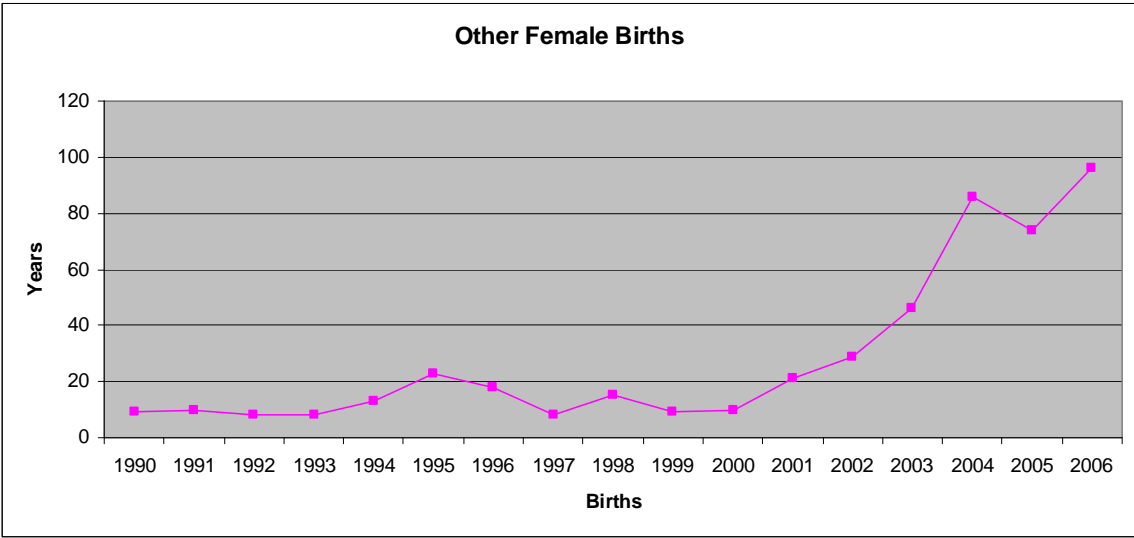
Other Female Birth Rates

From 1990 to 2006, Lackawanna County recorded 483 other female births, as detailed in the following table.

Year	Birth	Year	Birth
1990	9	1999	9
1991	10	2000	10
1992	8	2001	21
1993	8	2002	29
1994	13	2003	46
1995	23	2004	86
1996	18	2005	74
1997	8	2006	96
1998	15	2007	Unknown

7

In 2000, the county recorded just ten births among this demographic; in 2006, it recorded 96 births. The number of other female births peaked at 96 in 2006.



The other female birth rate suffered lows in 1992, 1993 and 1997, when just eight births were recorded.

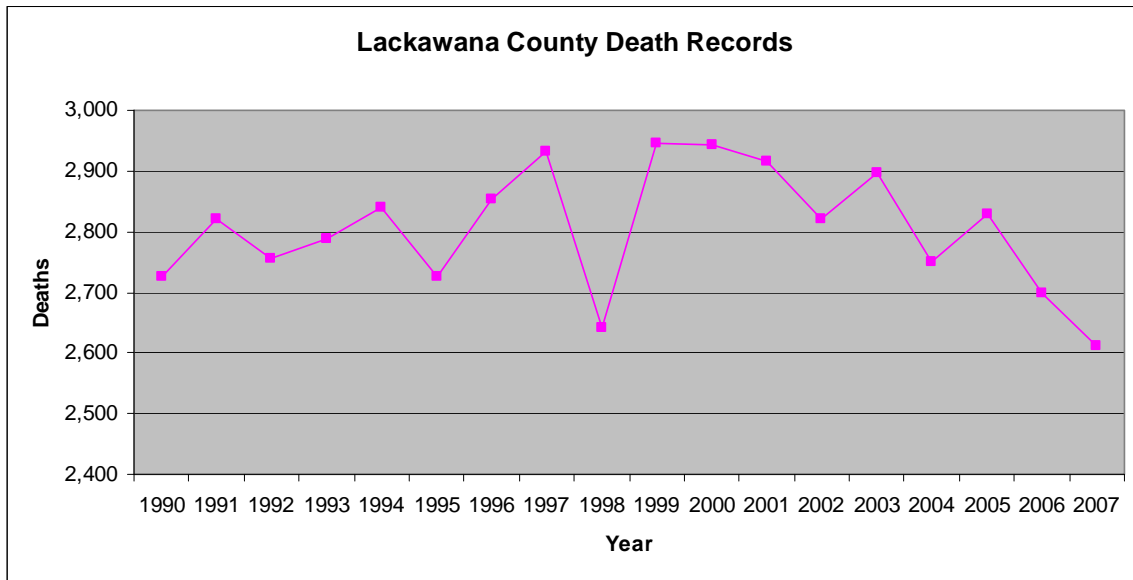
⁷ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

The other female birth rate grew at a much steadier pace than the other male birth rate. Lackawanna County's other female birth rate began to rise and kept growing – with the one exception of a slight drop in 2005. Looking at the graph, it appears possible that Lackawanna County's other female birth rate will continue to increase.

Lackawanna County Death Rates

From 1990 through 2007, Lackawanna County recorded 50,478 deaths. The county recorded a high of 2,944 deaths in 2000, and a low of 2,613 in 2007.

After a period of increase in its number of deaths, in 2007 the county's death rate ended in a decline. Although the county's death rate increased for a period from 1990 through 2007, the time frame included many periods of death rate declines.



As the graph above shows, for most years examined, the number of deaths was generally high. Most periods showing a declining death rate were both preceded and followed by periods of an increasing death rate.

Overall, Lackawanna County’s death rate trends show that the number of deaths is declining, as residents are living longer and its birth rate is increasing. Over time, this will reduce the median age. Further, overall people are living longer which is another reason the death rate is going down.

White (Caucasian) Male Death Rates

From 1990 to 2007, Lackawanna County recorded 22,068 white male deaths, as detailed in the following table. The county recorded a high of 1,365 white male deaths in 1996, and a low of 1,172 white male deaths in 1998.

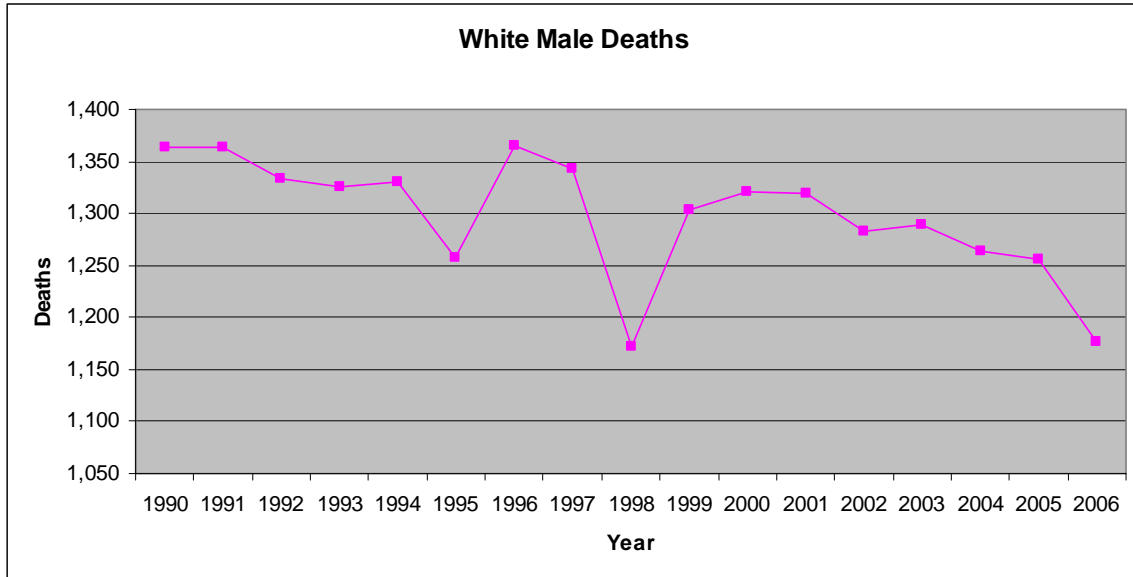
Year	Deaths	Year	Deaths
1990	1,363	1999	1,304
1991	1,364	2000	1,321
1992	1,334	2001	1,319
1993	1,326	2002	1,283
1994	1,331	2003	1,289
1995	1,258	2004	1,264
1996	1,365	2005	1,256
1997	1,343	2006	1,176
1998	1,172	2007	Unknown

8

From 1990 to 2007, the number of white male deaths moderately declined. As an example, in 1990, the county recorded 1,363 white male deaths, compared with 1,176 in 2006 – pointing to an overall decline of 187 deaths among this demographic.

After a significant drop in the number of white male deaths between 1997 and 1998, white male deaths jumped right back to its previous higher levels.

⁸ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>



The trend among this demographic in Lackawanna County is a positive one. After several years of fluctuations, in 2000 the death rate among white males began a steady decline – pointing to the fact that white males are living longer.

White (Caucasian) Female Death Rates

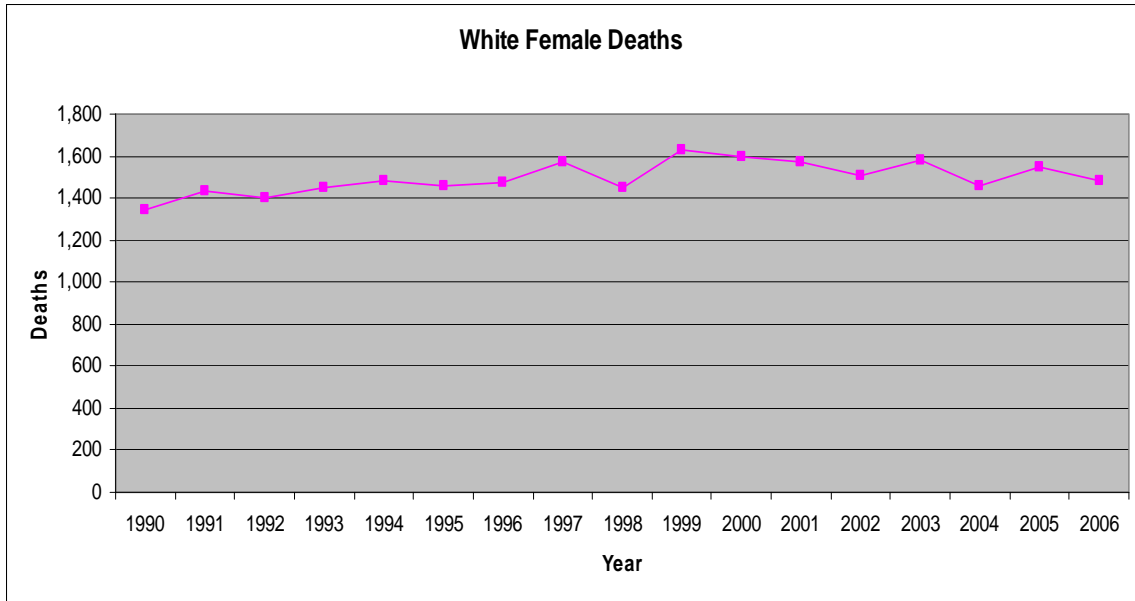
From 1990 through 2006, Lackawanna County recorded 25,431 white female deaths, as detailed in the following table. The highest number of deaths occurred in 1999, while the lowest occurred in 1990.

Year	Deaths	Year	Deaths
1990	1,345	1999	1,632
1991	1,432	2000	1,599
1992	1,402	2001	1,568
1993	1,447	2002	1,505
1994	1,485	2003	1,582
1995	1,461	2004	1,457
1996	1,474	2005	1,545
1997	1,568	2006	1,480
1998	1,449	2007	Unknown

9

⁹ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

Although Lackawanna County's white female death rate experienced an overall increase, there were periods of decline, as illustrated below.



The data appears to suggest that Lackawanna County's white females are not living as long as their male counterparts. The reasoning behind this trend may point to the fact that Lackawanna County historically included more white female residents than white male residents.

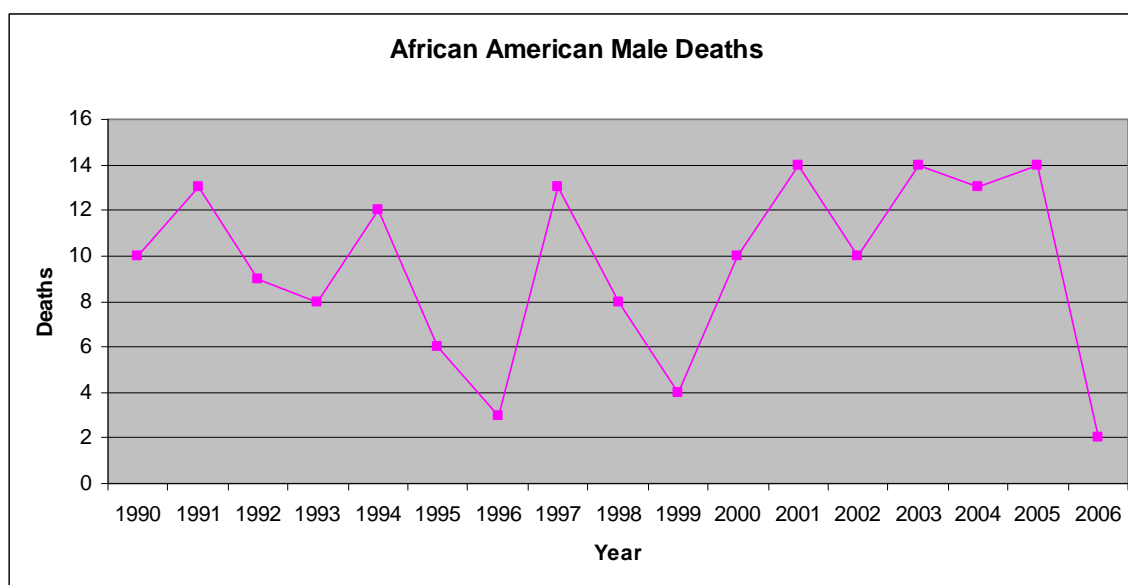
Black (African-American) Male Death Rates

From 1990 through 2006, Lackawanna County recorded a total of 163 black male deaths, as detailed in the following table. The highest death rates among black males occurred during 2001, 2003 and 2005, while the lowest occurred in 2006.

Year	Deaths	Year	Deaths
1990	10	1999	4
1991	13	2000	10
1992	9	2001	14
1993	8	2002	10
1994	12	2003	14
1995	6	2004	13
1996	3	2005	14
1997	13	2006	2
1998	8	2007	Unknown

¹⁰

For most of the years examined, Lackawanna County's black male death rate was relatively low. Years when the death rate climbed, it rose steeply. Over the entire period, the county's black male death rate never dipped below ten.



¹⁰ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

The county's black male death rate has been quite erratic. As illustrated above, some years the death rate is very high, while other years it is quite low.

Black (African-American) Female Death Rates

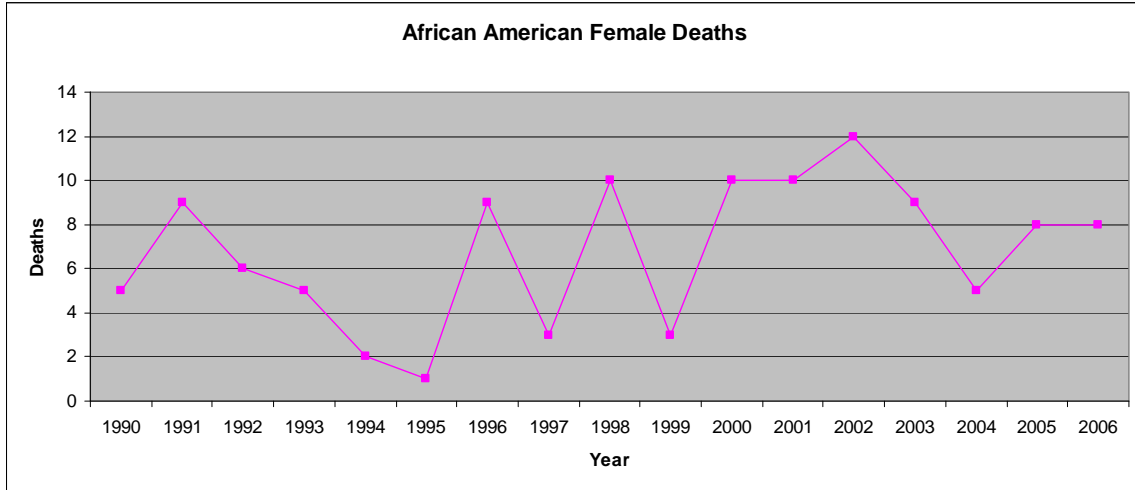
From 1990 through 2006, Lackawanna County recorded 115 black female deaths, as detailed in the following table. While 2002 marked the year of the greatest number of black female deaths, 1995 was the year with the least.

Year	Deaths	Year	Deaths
1990	5	1999	3
1991	9	2000	10
1992	6	2001	10
1993	5	2002	12
1994	2	2003	9
1995	1	2004	5
1996	9	2005	8
1997	3	2006	8
1998	10	2007	Unknown

¹¹

The greatest drop in the number of black female deaths occurred from 1992 to 1995. In 1991, the county recorded nine black female deaths; in 1995, the county recorded just one black female death.

¹¹ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>



Between 1995 and 2000, Lackawanna County’s black female death rate alternated between significant increases, followed by significant decreases.

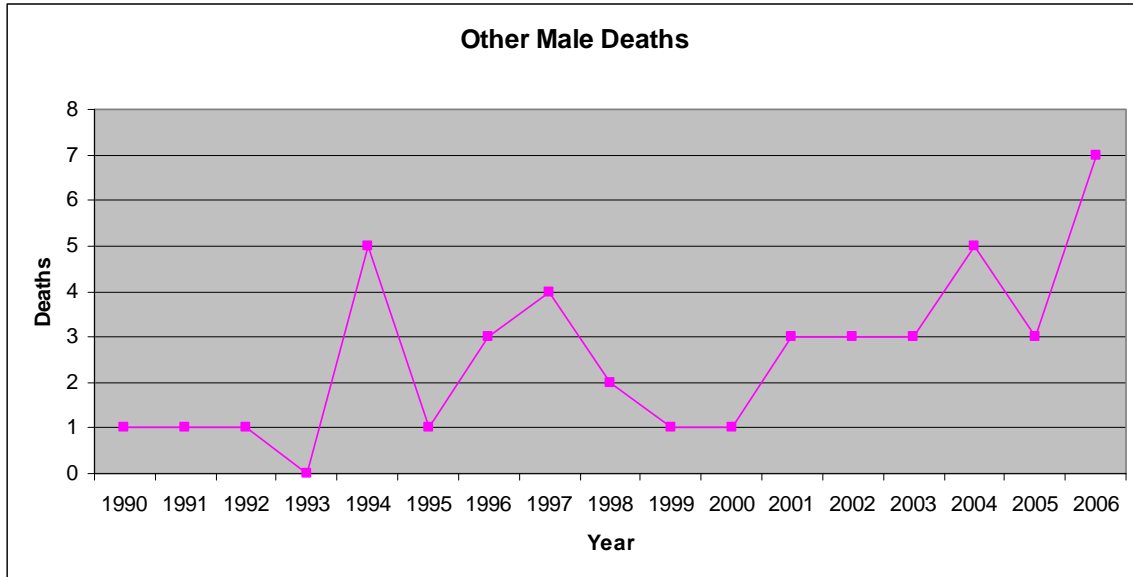
Other Male Death Rates

From 1990 to 2007, Lackawanna County recorded a total of 44 other male deaths, as detailed in the following table. The highest number of other male deaths occurred in 2006, while the lowest occurred in 1993.

Year	Deaths	Year	Deaths
1990	1	1999	1
1991	1	2000	1
1992	1	2001	3
1993	0	2002	3
1994	5	2003	3
1995	1	2004	5
1996	3	2005	3
1997	4	2006	7
1998	2	2007	Unknown

12

Overall, the county’s other male death rate was quite low; from 1993 to 1994, however, the other male death rate jumped from zero to five deaths. The chart below suggests that the county’s other male death rate is on an increasing trend.



The chart above illustrates that this demographic is experiencing a trend of increasing death rates. While the total number of other male deaths in Lackawanna County remains relatively low, the growing death rate points to a growing population.

Other Female Death Rates

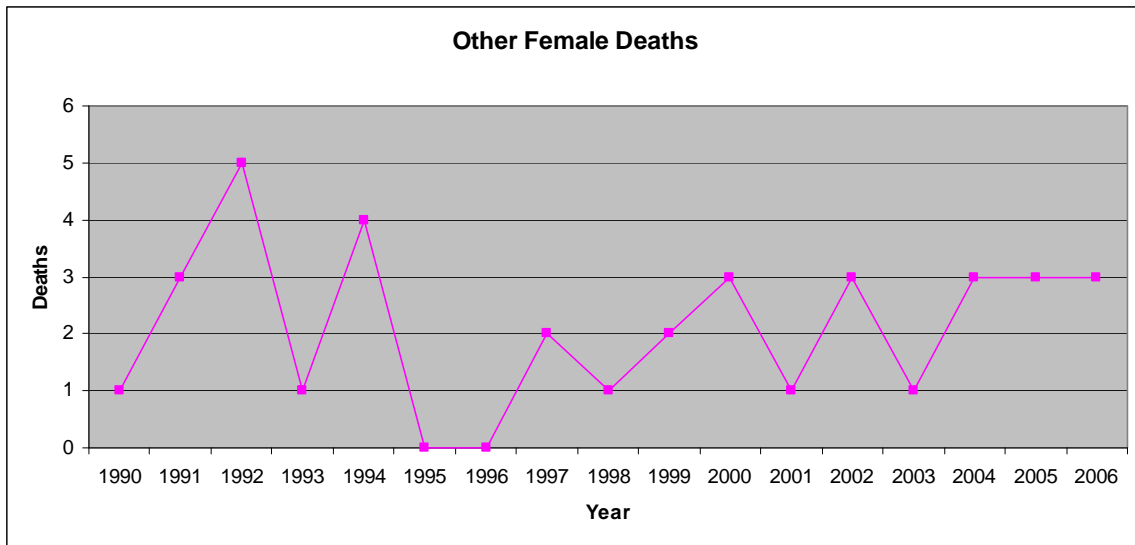
From 1990 to 2007, Lackawanna County recorded a total of 36 other female deaths, as detailed in the following table. The greatest number of other female deaths occurred in 1992, while the lowest occurred in 1995 and 1996.

Year	Deaths	Year	Deaths
1990	1	1999	2
1991	3	2000	3
1992	5	2001	1
1993	1	2002	3
1994	4	2003	1
1995	0	2004	3
1996	0	2005	3
1997	2	2006	3
1998	1	2007	Unknown

12

¹² Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008
<http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

While there has been an increase in the county's other female death rate, the overall increase is not significant; a leveling out that has occurred over the past three years is a positive indicator.



Lackawanna County's other female death rate points to the fact that its other females are living longer than its other males. This is a similar trend among the county's black demographic.

Luzerne County Population

Luzerne County's population trends are similar to those of Lackawanna County. From 1990 to 2007, Luzerne County recorded 19,037 more deaths than births, as detailed in the following table. From 1993 through 1999, the county's population showed signs of decline, as its birth rate was among the county's lowest recorded and its death rate was among the county's highest recorded.

Population 1990-2007		Birth and Death Rates 1990-2007		
Year	Population	Year	Birth	Death
1990	328,479	1990	3,793	4,211
1991	329,053	1991	3,708	4,207
1992	329,148	1992	3,650	4,135
1993	328,611	1993	3,488	4,245
1994	326,274	1994	3,503	4,406
1995	323,935	1995	3,351	4,446
1996	321,009	1996	3,143	4,435
1997	317,462	1997	3,057	4,399
1998	314,609	1998	3,119	4,373
1999	312,000	1999	3,028	4,424
2000	319,250	2000	3,010	4,482
2001	315,564	2001	2,936	4,461
2002	313,838	2002	2,995	4,322
2003	312,805	2003	3,061	4,522
2004	311,791	2004	3,125	4,193
2005	311,624	2005	3,136	4,205
2006	311,626	2006	3,188	4,058
2007	312,265	2007	3,298	4,102

13 14

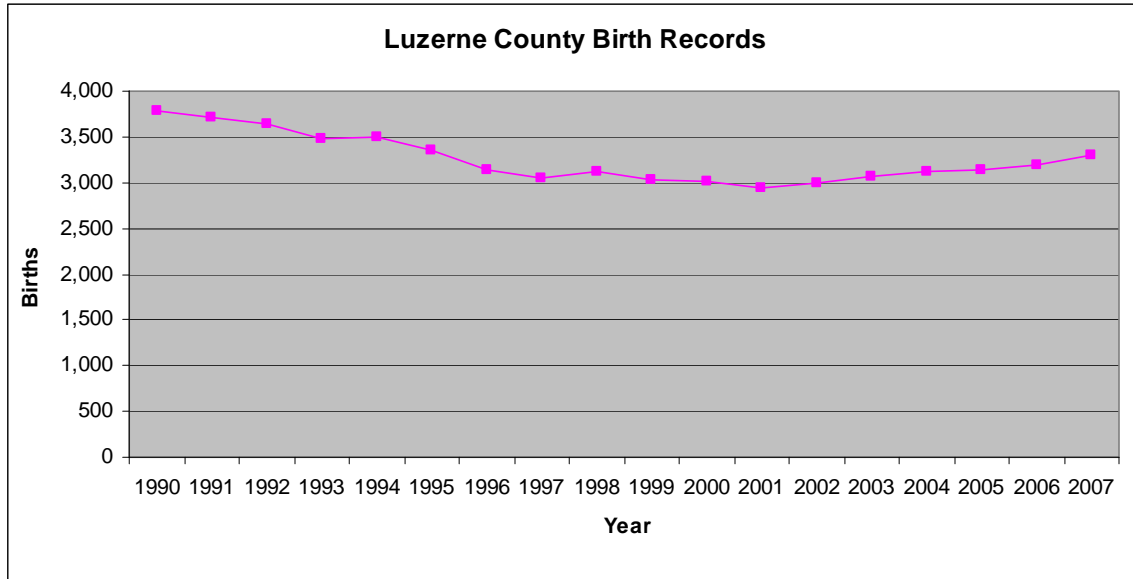
In 1990, Luzerne County’s population was 328,479, and in 2007, that figured dropped to 312,265.

Luzerne County Birth Rates

From 1990 to 2007, Luzerne County recorded 58,589 births. The county’s births peaked at 3,793 in 1990 and recessed to 2,936 in 2001.

¹³ U.S. Census Bureau, Population Estimates, March 20, 2008, http://factfinder.census.gov/servlet/GCTTable?-ds_name=PEP_2007_EST&-mt_name=PEP_2007_EST_GCTT1R_ST2S&-geo_id=04000US42&-format=ST-2&-tree_id=806&-context=gc

¹⁴ Pennsylvania Department of Health, Birth and Death Statistics, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>



After reaching a low in 2001, Luzerne County’s birth rate began to rebound. In 2001, the county recorded 2,936 births, and by 2007 it recorded 3,298 – an increase of 362. Overall, however, Luzerne County’s birth rate has declined. In 1990, the county recorded 3,793 births, compared with 3,298 births in 2007 – an overall decrease of 495 births.

White (Caucasian) Male Birth Rates

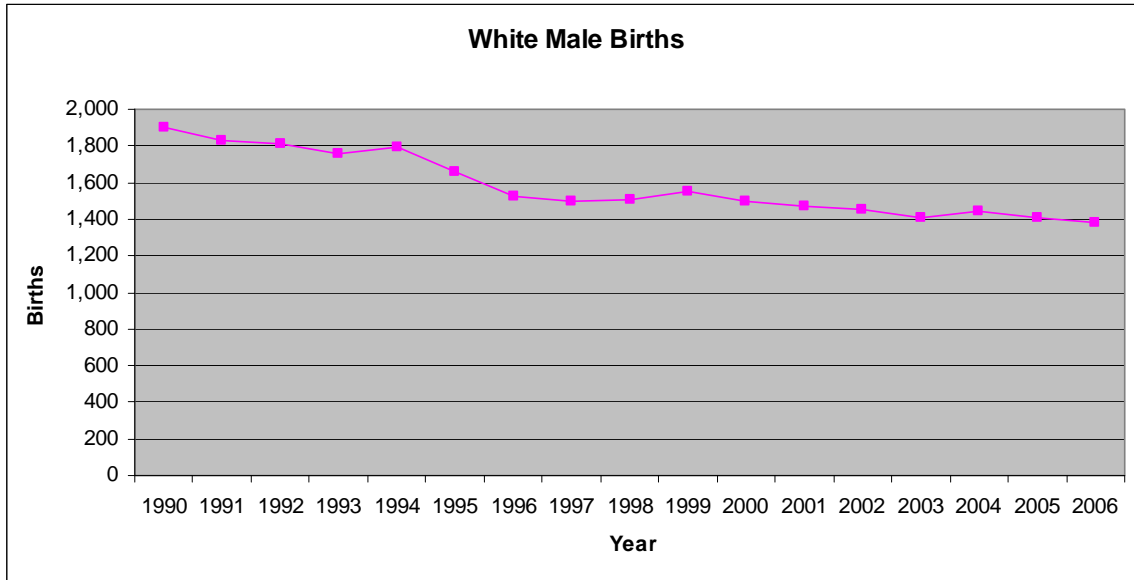
From 1990 to 2007, Luzerne County recorded 25,823 white male births, as detailed in the following table. White male births peaked in 1990 and hit a low point in 2006.

Year	Birth	Birth	Year
1990	1,904	1999	1,554
1991	1,827	2000	1,497
1992	1,812	2001	1,470
1993	1,755	2002	1,451
1994	1,790	2003	1,404
1995	1,662	2004	1,442
1996	1,529	2005	1,412
1997	1,499	2006	1,381
1998	1,510	2007	Unknown

15

¹⁵ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

The county's white male birth rate increased during just three years - 1994, 1999 and 2004, as illustrated on following graph. Overall, however, it has steadily decreased since 1990.



Luzerne County's white male birth rate mirrors the county's total birth rate – showing slight, but steady decline.

White Female Birth Rates

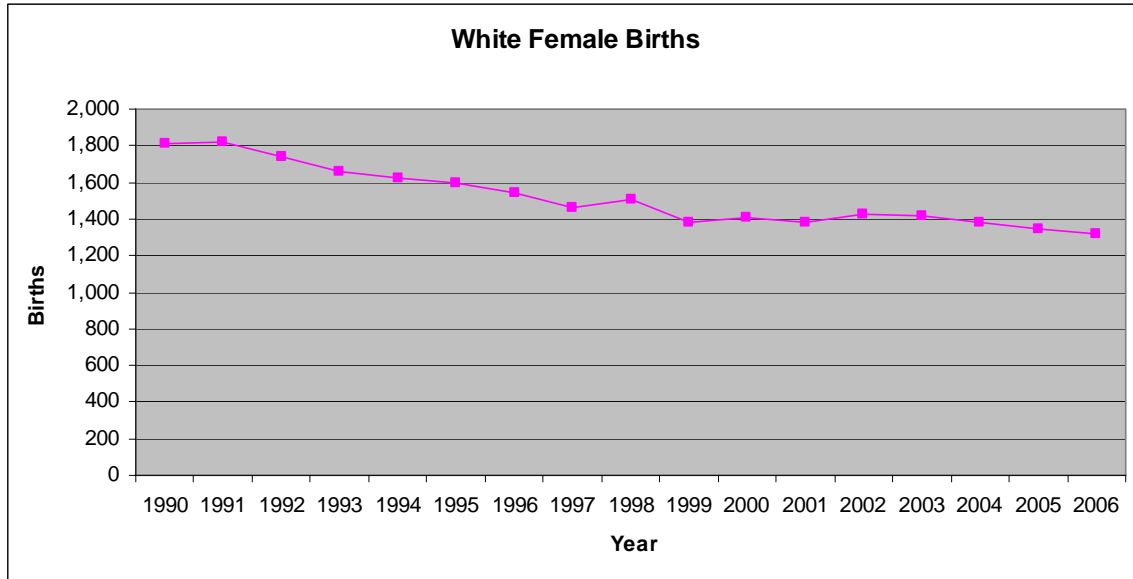
From 1990 to 2007, Luzerne County recorded 25,823 white female births, as detailed in the following table. The white female birth rate peaked in 1991 and hit a low point in 2006.

Year	Birth	Year	Birth
1990	1,811	1999	1,378
1991	1,823	2000	1,412
1992	1,743	2001	1,383
1993	1,659	2002	1,427
1994	1,622	2003	1,416
1995	15,92	2004	1,380
1996	1,542	2005	1,347
1997	1,465	2006	1,315
1998	1,508	2007	Unknown

¹⁶

Notably, the white female birth rate bottomed out the same year as did the white male birth rate; however, the white female birth rate fell to a lower level. From 1990 through 2007, Luzerne County experienced a steady decline in its number of white female births; over the time span, the white female birth rate dropped by 496.

¹⁶ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008 <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>



The graph illustrating white female births is nearly identical to the graph illustrating white male births.

Black (African-American) Male Birth Rates

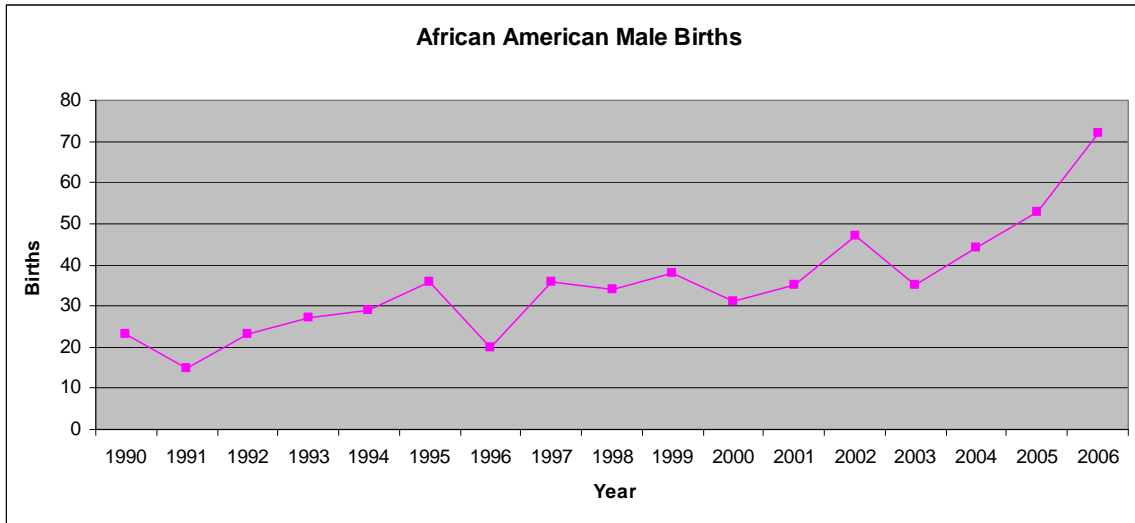
From 1990 to 2007, Luzerne County recorded 598 black male births, as detailed in the following table. The birth rate for this demographic peaked at 72 in 2006, and recessed to just fifteen in 1991.

Year	Birth	Year	Birth
1990	23	1999	38
1991	15	2000	31
1992	23	2001	35
1993	27	2002	47
1994	29	2003	35
1995	36	2004	44
1996	20	2005	53
1997	36	2006	72
1998	34	2007	Unknown

17

¹⁷ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008
<http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

Overall, Luzerne County experienced an increase in black male births. From 1994 through 2003, the county's total black male births fluctuated; after 2003, its black male birth rate experienced a sharp increase.



Luzerne County's trend for black male births is a complete contrast to the county's total birth trend. While the county is recording fewer and fewer white male births, it is also recording more black male births.

Black (African-American) Female Birth Rates

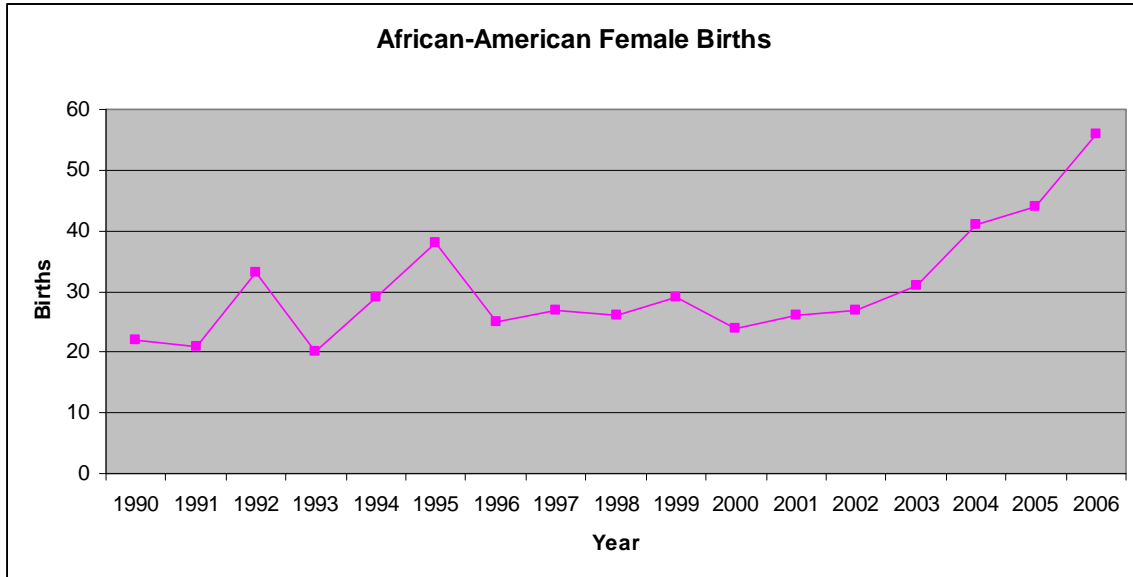
From 1990 to 2006, Luzerne County recorded 519 black female births, as detailed in the following table. Births among this demographic peaked at 56 in 2006 and hit a low of 20 in 1993.

Year	Birth	Year	Birth
1990	22	1999	29
1991	21	2000	24
1992	33	2001	26
1993	20	2002	27
1994	29	2003	31
1995	38	2004	41
1996	25	2005	44
1997	27	2006	56
1998	26	2007	Unknown

¹⁸

Although the county's black female birth rate fluctuated over the time span examined, overall it recorded an increase in the total number of black female births. In 1990, the county recorded 22 black female births, while in 2006 it recorded 56. Between 2000 and 2006 the black female birth rate climbed considerably.

¹⁸ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>



From 1991 through 1996 Luzerne County’s black female birth rate alternated between significant jumps and subsequent dips. For example, in 1991 the county recorded 21 black female births; in 1992, its black female birth rate jumped to 33. In 1993, the county’s black female birth rate dropped to 20 before rising again to 29 in 1994. In 1995, the county’s black female birth rate climbed even higher to 38, then dropped to 25 in 1996.

The county’s overall birth rate trend among black females is a positive one. From 1990 to 2007, the black female birth rate increased by 34. Compared with the county’s black male demographic, both genders experienced birth rate growth, however there were 79 more males than females born.

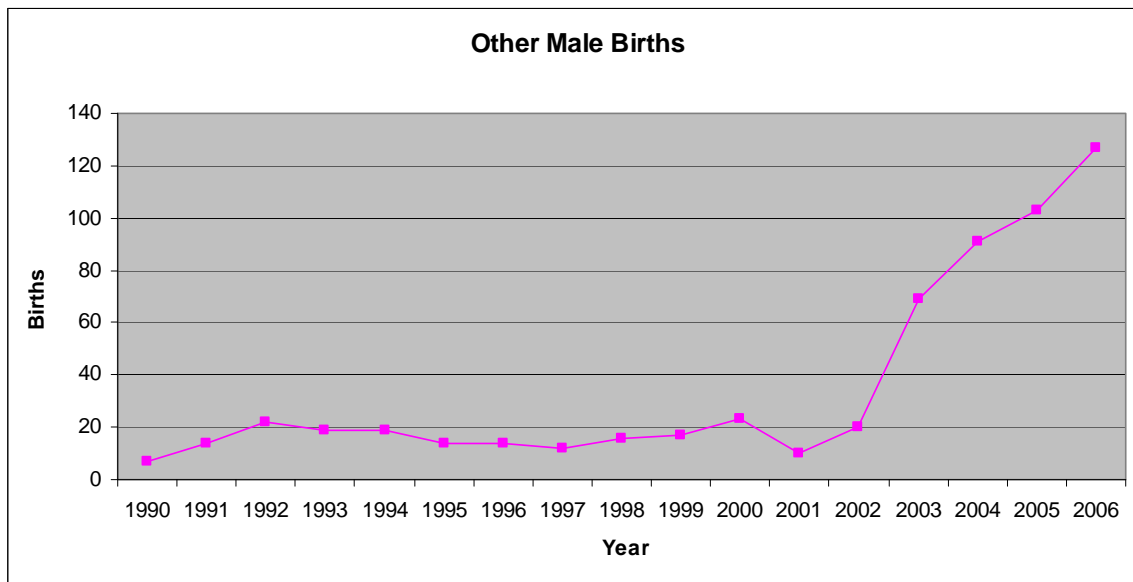
Other Male Birth Rates

From 1990 to 2006, Luzerne County recorded an Other male birth rate of 597, as detailed in the following table. Births among this demographic peaked at 127 in 2006 and hit a low of just seven births in 1990.

Year	Birth	Year	Birth
1990	7	1990	17
1991	14	2000	23
1992	22	2001	10
1993	19	2002	20
1994	19	2003	69
1995	14	2004	91
1996	14	2005	103
1997	12	2006	127
1998	16	2007	Unknown

19

From 2001 to 2007, Luzerne County experienced a steep increase in its other male birth rate. In 2001, it recorded just ten other male births; in 2006, other male births jumped to 127. This trend is indicative of the fact that, beginning in 2001, increasing numbers of people of races other than Caucasian and African-American began migrating to Luzerne County.



From 1990 through 2001, Luzerne County's other male birth rate remained at a constant low. Over those years, the county's other male birth rate dipped as low as seven and never rose above 22. The above graph illustrates overall growth in the county's other male birth rate.

¹⁹ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

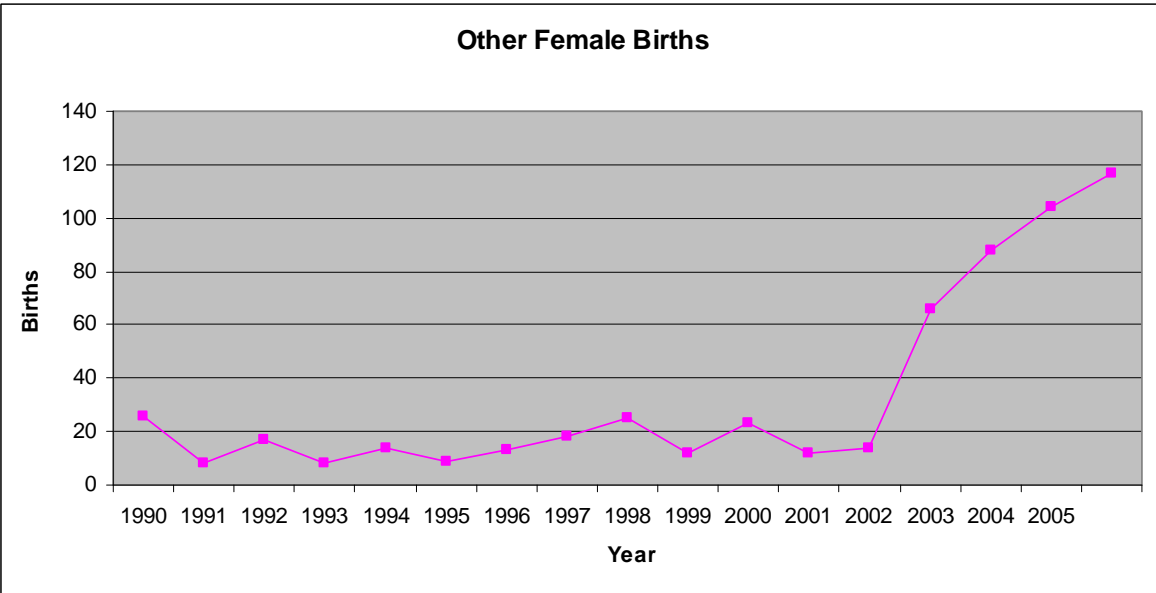
Other Female Birth Rates

From 1990 to 2006, Luzerne County recorded 574 other female births, as detailed in the following table. The county’s other female birth rate peaked at 117 in 2006 and hit a low of just eight in 1991 and 1993.

Year	Birth	Year	Birth
1990	26	1999	12
1991	8	2000	23
1992	17	2001	12
1993	8	2002	14
1994	14	2003	66
1995	9	2004	88
1996	13	2005	104
1997	18	2006	117
1998	25	2007	Unknown

20

Like its other male birth rate, Luzerne County’s other female birth rate remained relatively low from 1990 to 2002; however, the county’s other female birth rate fluctuated more than the other male birth rate.



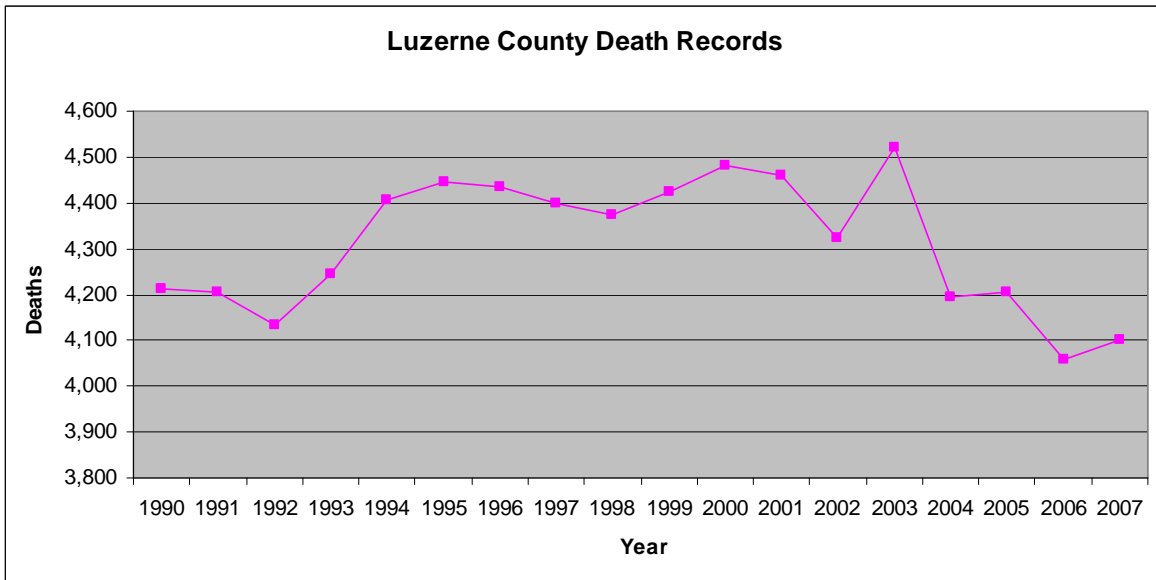
²⁰ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

The county's other female birth rate shows a positive trend. After several years of posting low numbers, the other female birth rate has risen sharply since 2003.

Luzerne County Death Rates

From 1990 to 2007, Luzerne County recorded 77,626 deaths. The county's death rate peaked at 4,552 in 2003 and hit a low of 4,058 in 2006.

After steadily high death rates from 1994 through 2003, the county recorded a significant decline. In 2003, the county's death rate peaked at 4,522 deaths; in 2007, it dropped to 4,102 – a decrease of 420 deaths.



The chart above reveals that during the first three years examined, Luzerne County's death rate dropped, but then began an eleven-year incline. During this period of incline, there were few years that saw a drop and such drops were very small and brief, after which the death rate continued its progressive incline.

Overall, Luzerne County’s death rate for the period examined is one of highs and lows. A higher number of deaths occurred between 1994 and 2003 and a significant decrease occurred between 2003 and 2007.

White Male Death Rates

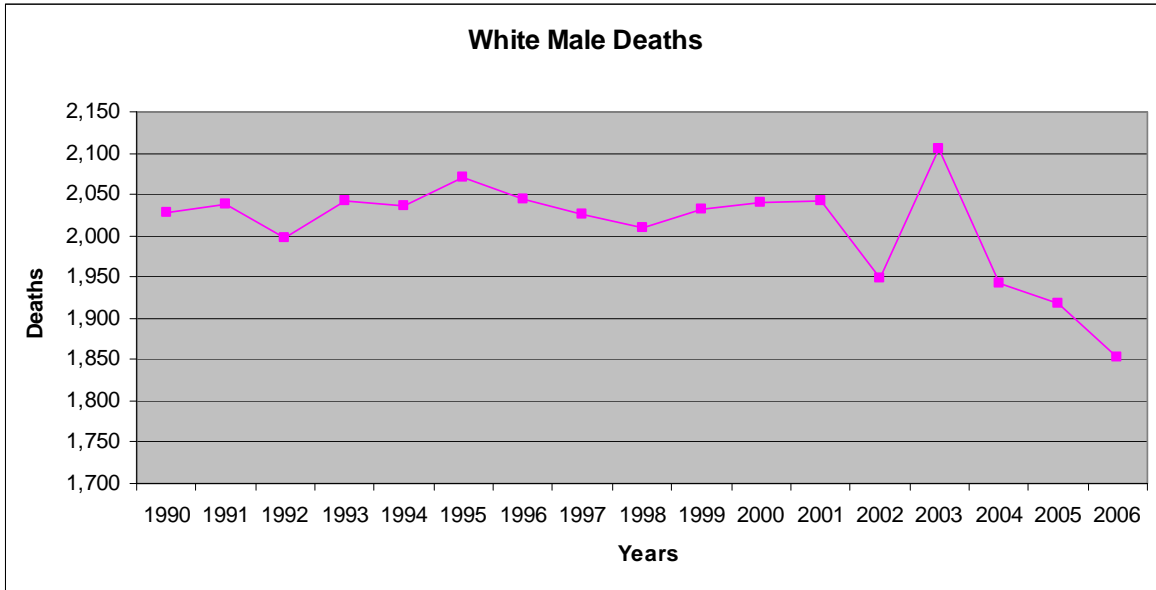
From 1990 to 2006, Luzerne County recorded a white male death rate of 34,173, as detailed in the following table. The county’s white male death rate peaked at 2,105 in 2003 and recessed to a low of 1,852 in 2006.

Year	Death	Year	Death
1990	2,028	1999	2,032
1991	2,039	2000	2,041
1992	1,998	2001	2,043
1993	2,043	2002	1,948
1994	2,035	2003	2,105
1995	2,070	2004	1,943
1996	2,045	2005	1,917
1997	2,025	2006	1,852
1998	2,009	2007	Unknown

21

Overall, from 1990 to 2006, Luzerne County’s white male death rate fell. In 1990, the county recorded 2,028 white male deaths, while in 2006 it recorded 1,852. The greatest number of white male deaths occurred in 2003, while the lowest occurred in 2006.

²¹ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008
<http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>



Until 2003, the total number of white male deaths remained at a steadily high, as illustrated above. In 2002, the county's white male death rate dropped, but jumped again the very next year.

The trend for this demographic shows high death rates early on, and lower recent death rates.

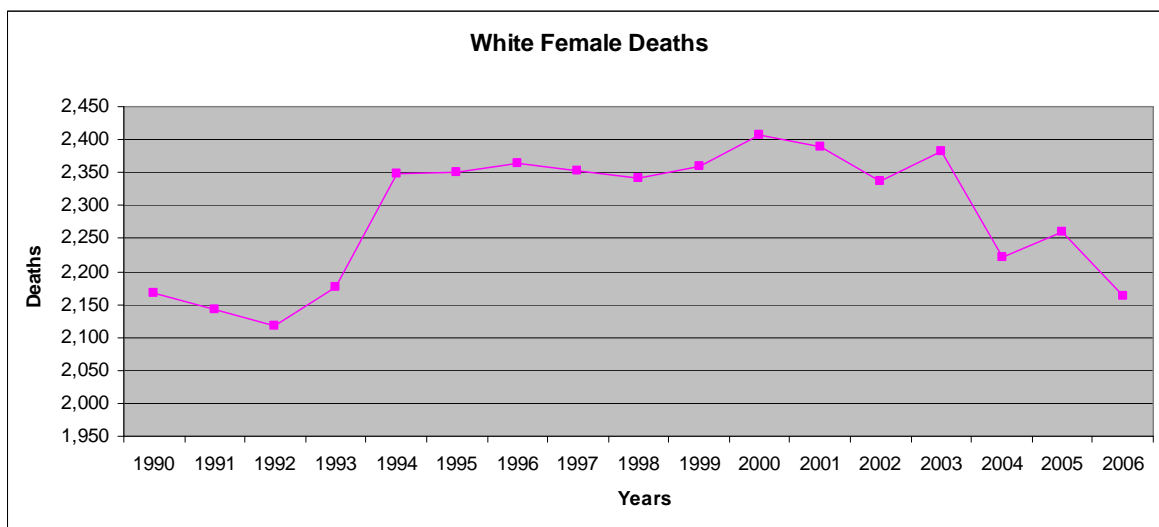
White Female Death Rates

From 1990 to 2006, Luzerne County recorded 38,878 white female deaths, as detailed in the following table. The county's white female death rate peaked at 2,408 in 2000 and hit a low of 2,118 in 1992.

Year	Death	Year	Death
1990	2,168	1999	2,359
1991	2,142	2000	2,408
1992	2,118	2001	2,388
1993	2,176	2002	2,337
1994	2,348	2003	2,381
1995	2,351	2004	2,221
1996	2,364	2005	2,261
1997	2,352	2006	2,162
1998	2,342	2007	Unknown

22

Like the white male death rate, after 2003 the white female death rate began a decline. Over the entire time period examined, Luzerne County recorded a slight decline in its white female death rate.



²² Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

For the majority of years between 1990 and 2007, the county’s white female death rate was high. As illustrated in the graph, there were periods of small declines. Over the time span, the county’s death rate peaked at 2,408 in 2000 and hit a low of 2,381 in 2003.

Overall, Luzerne County’s white female death rate shows a slightly positive trend. From 1990 to 2006, the white female death rate declined by six.

Black (African-American) Male Death Rates

From 1990 to 2006, Luzerne County recorded 246 black male deaths, as detailed in the following table. The county’s black male death rate peaked at 22 in 2002 and hit a low of nine in 1995.

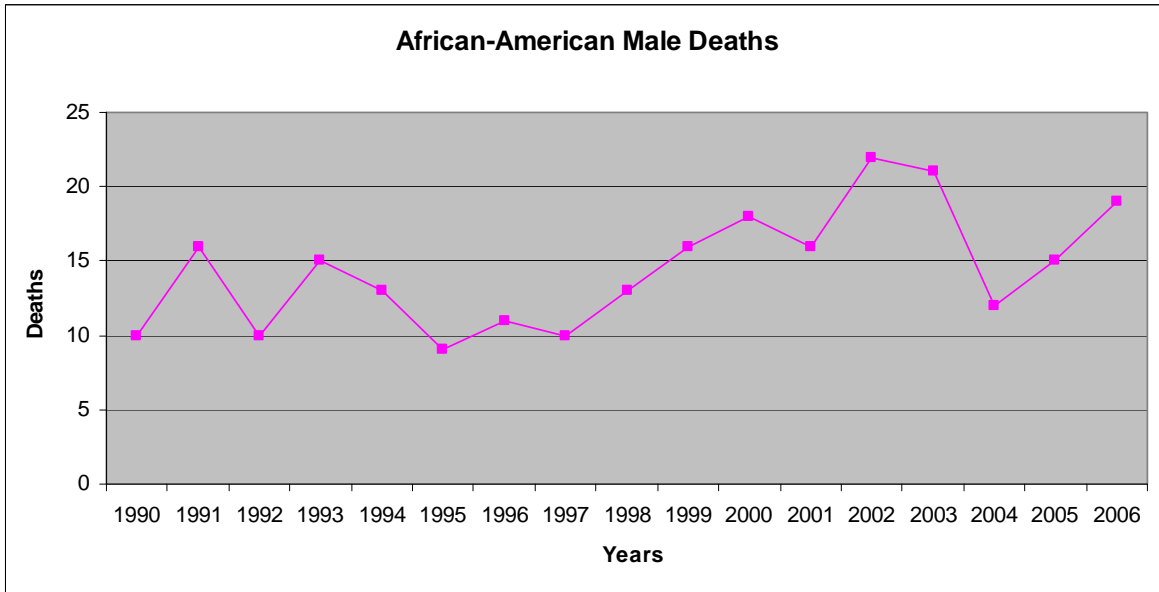
Year	Death	Year	Death
1990	10	1999	16
1991	16	2000	18
1992	10	2001	16
1993	15	2002	22
1994	13	2003	21
1995	9	2004	12
1996	11	2005	15
1997	10	2006	19
1998	13	2007	Unknown

²³

Although the county’s black male death rate experienced an overall increase between 1990 and 2007, there were periods of decline. .

From 1990 to 2006, the county recorded an increase of nine deaths among black males. A steady increase in the black male death rate began in 1997 and persisted through 2006, The highest was 22 in 2002. There was a valley in 2004 with only 12 deaths.

²³ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>



Over the entire timeframe, Luzerne County's black male death rate shows an overall increase, marked by periods of fluctuation.

Black (African-American) Female Death Rates

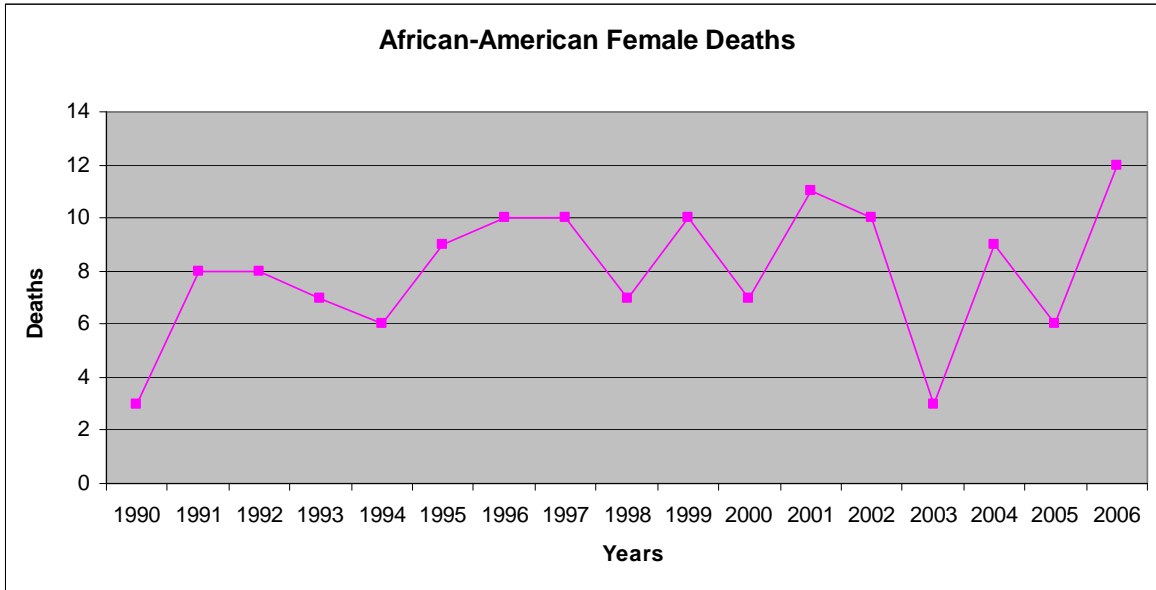
From 1990 to 2006, Luzerne County recorded 136 black female deaths, as detailed in the following table. The county recorded a high of twelve black female deaths in 2006, and a low of three in 1990 and 2003.

Year	Death	Year	Death
1990	3	1999	10
1991	8	2000	7
1992	8	2001	11
1993	7	2002	10
1994	6	2003	3
1995	9	2004	9
1996	10	2005	6
1997	10	2006	12
1998	7	2007	Unknown

24

Although Luzerne County's black female death rate has risen overall, there were years between 1990 and 2006 when it fluctuated downward; the greatest drop in the county's black female death rate occurred between 2002 and 2003.

²⁴ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>



Overall, however, from 1990 to 2007, Luzerne County’s black female death rate rose significantly. In 1990, there were just three black female deaths; in 2006, there were twelve. Black female deaths in Luzerne County rose steadily until 2003, at which point the death rate dropped to just three. After 2003, however, the black female death rate began a steady climb to twelve by 2006.

The above graph shows a negative trend for the county’s female death rate. Although there were fluctuations, by 2006 the death rate was nine deaths higher than it was in 1990.

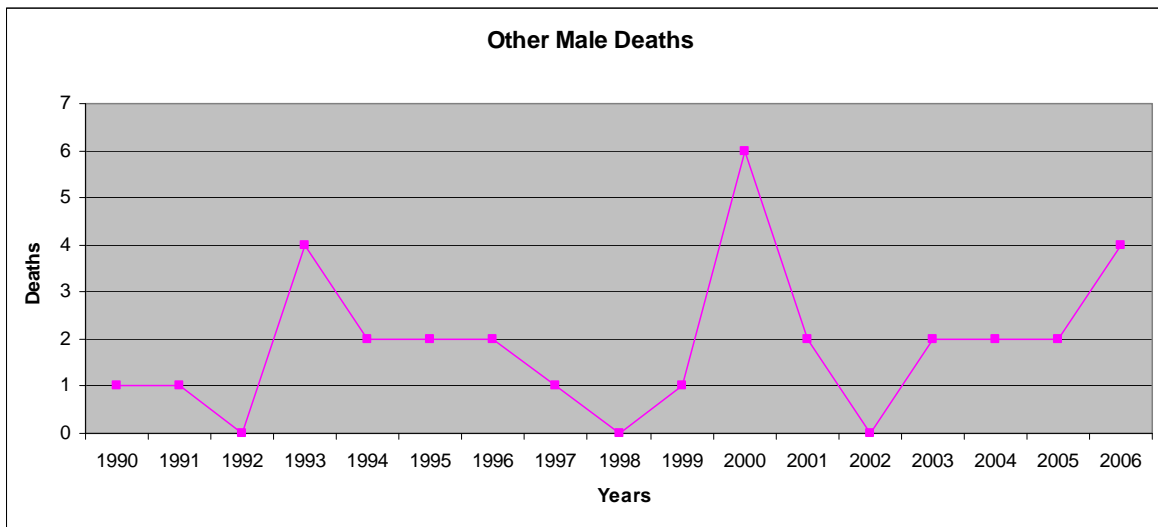
Other Male Death Rates

From 1990 to 2007, Luzerne County recorded 32 other male deaths, as detailed in the following table. Other male deaths peaked at six in 2000, and recessed to zero in 1992, 1998 and 2002.

Year	Death	Year	Death
1990	1	1999	1
1991	1	2000	6
1992	0	2001	2
1993	4	2002	0
1994	2	2003	2
1995	2	2004	2
1996	2	2005	2
1997	1	2006	4
1998	0	2007	Unknown

25

In addition to the years when the other male death rate dropped to zero, from 1990 to 1991, from 1994 to 1997 and from 2003 to 2005, there was no change at all.



Overall, from 1990 to 2007, the other male death rate rose by three. As previously stated, there were three time periods when there was no change in the other male death rate. While during those times, there were not increases in the death rate, it can also serve as a negative since there were not decreases in the death rate.

Luzerne County's other male death rate points to a negative trend. In total, the other male death rate increased by three from 1990 to 2007.

²⁵ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

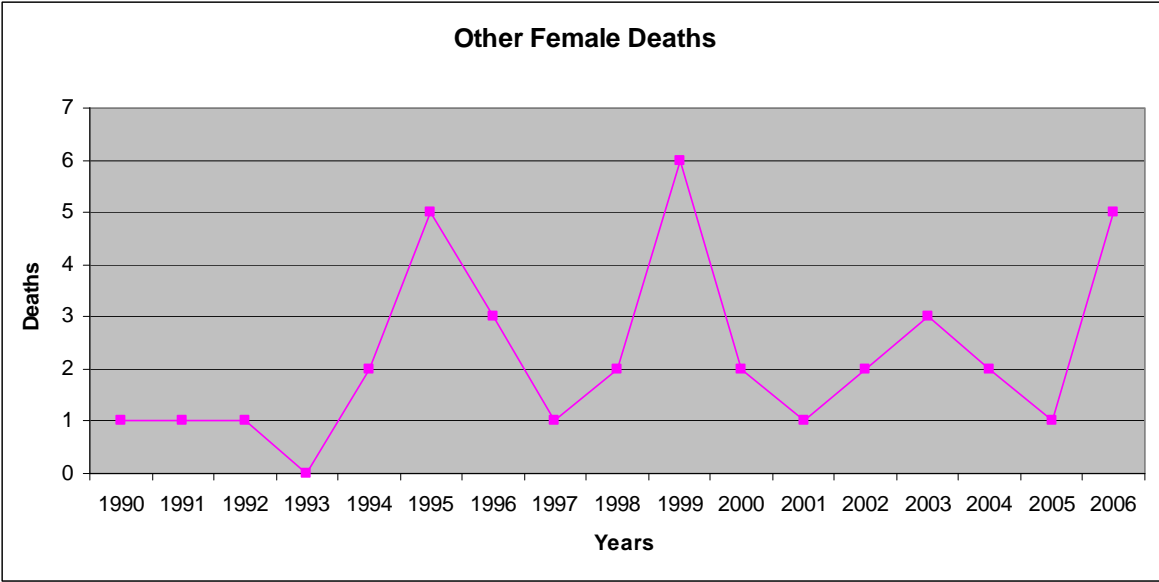
Other Female Death Rates

From 1990 to 2007, Luzerne County’s other female death rate increased by 38, as detailed in the following table. The other female death rate peaked at nine in 1999 and recessed to zero in 1993.

Year	Death	Year	Death
1990	1	1999	6
1991	1	2000	2
1992	1	2001	1
1993	0	2002	2
1994	2	2003	3
1995	5	2004	2
1996	3	2005	1
1997	1	2006	5
1998	2	2007	Unknown

26

The county’s other female death rate is marked by significant increases followed by significant decreases. Examples of this trend occurred between 1995 and 1997, and between 1999 and 2001.



²⁶ Pennsylvania Department of Health, Birth and Death Statistics 1990-2007, Dec 9, 2008, <http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=175&Q=201652>

Overall, Luzerne County's other female death rate increased from 1990 to 2007. In 1990, the county recorded just one other female death, while in 2006 it recorded five. Big decreases were always followed by significant increases.

Conclusion

Overall, this study proves that the populations of Luzerne and Lackawanna Counties have declined utilizing only birth and death records. However, a separate study on migration patterns shows that there are more people moving into both counties than moving out. Thus, the net migration is positive and demonstrating positive population growth. The Institute will prepare a white paper comparing the findings of both studies to ascertain whether population is growing and declining overall. Below is a summary of birth and death rates by gender and race for each county.

Summary of Lackawanna County

- More deaths than births from 1990 – 2007
- More deaths in each and every year from 1990 – 2007
- Overall deaths have been decreasing since 2005
- Overall births have been increasing since 2002
- No pattern in male and female births and deaths by race

Summary of Luzerne County

- More deaths than births from 1990 – 2007
- More deaths in each and every year
- Overall births have been increasing since 2001
- Caucasian male births declining since 2004

- Caucasian female births declining since 2002
- African American male births increasing since 2003
- African American female births increasing since 2000.
- 1,170 % increase in Other male births since 2001
- 875% increase in Other female births since 2001
- Caucasian male deaths declining since 2002
- No pattern in Caucasian female deaths
- No pattern in African American male and female deaths
- No pattern in Other male and female deaths

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