

**SATURATION POPULATION ANALYSIS
EASTERN SUFFOLK COUNTY**

Suffolk County Department of Planning

June 2001

**SATURATION POPULATION ANALYSIS
EASTERN SUFFOLK COUNTY**

Prepared by

Suffolk County Department of Planning

H. Lee Dennison Building - 4th Floor

100 Veterans Memorial Highway

P. O. Box 6100

Hauppauge, New York 11788-0099

Thomas A. Isles,
Director

Environmental Analysis & Research Divisions

DeWitt Davies

Lauretta Fischer

Peter Lambert

Ron Verbarg

June 2001

TABLE OF CONTENTS

INTRODUCTION 1
 Study Objectives 2
METHODOLOGY 3
 Data Sources 3
 Procedure 3
SATURATION POPULATION ANALYSIS, EASTERN SUFFOLK COUNTY 4
 Total Housing Units at Saturation 4
 Seasonal Housing Units at Saturation 5
 Saturation Population 7
 Seasonal Population Increase at Saturation 8
 Summary 10
REFERENCES 13
APPENDIX 14

LIST OF TABLES AND CHARTS

TABLES

Table 1. Percentage of Housing Units That Are Seasonal, Eastern Suffolk County 2
Table 2. Housing Units in 1990, 2000, and at Saturation, Eastern Suffolk County 4
Table 3. Seasonal Housing Units in 1990, 2000, and at Saturation, Eastern Suffolk County 6
Table 4. Year-Round Population in 1990, 2000, and at Saturation, Eastern Suffolk County 7
Table 5. Year-Round Plus Seasonal Population in 1990, 2000, and at Saturation, Eastern Suffolk
County 8

CHARTS

Chart 1. Housing Units in 2000 and Potential Additional Housing Units, Eastern Suffolk
County 5
Chart 2. Seasonal Housing Units, and Potential Additional Seasonal Housing Units, Eastern
Suffolk County 6
Chart 3. Existing Population, and Potential Additional Population, Eastern Suffolk County 7
Chart 4. Year-Round Plus Seasonal Population, 2000 and at Saturation, Eastern Suffolk
County 9
Chart 5. Potential Year-Round Population Increase, 2000 to Saturation, Eastern Suffolk
County 10
Chart 6. Percentage Year-Round Population Increase, 2000 to Saturation, Eastern Suffolk
County 10
Chart 7. Potential Year-Round Plus Seasonal Population Increase 2000 to Saturation, Eastern
Suffolk County 11
Chart 8. Percentage Year-Round Plus Seasonal Population Increase 2000 to Saturation, Eastern
Suffolk County 12

APPENDIX TABLES

Table A1. Additional Housing Units at Saturation, Eastern Suffolk County 15
Table A2. Calculation of Seasonal Housing Units at Saturation, Eastern Suffolk County 15
Table A3. Calculation of Additional Year-Round Population at Saturation, Eastern Suffolk
County 16
Table A4. Calculation of Additional Seasonal Population, Eastern Suffolk County 16

INTRODUCTION

The Suffolk County Department of Planning has characterized eastern Suffolk County with respect to existing land use in 1999 and land available for development in 1999. As available land is developed or otherwise used, activities associated with land use will also change as the population increases. Understanding this changing human dimension of Eastern Suffolk is necessary for prudent decision-making. Hence, the remaining component of the Department of Planning's land use and demographic characterization of eastern Suffolk County - saturation population analysis - is the subject of this report. **Saturation population is the future potential population that would exist when all available land is developed in accord with existing zoning.**

It should be noted that any saturation development calculations are projections based on present-day information. This information can change. In the future, some of the land available for development in eastern Suffolk County may be re-zoned. These zoning changes can increase or decrease residential housing unit densities on the affected lands. Similarly, redevelopment can take place which may change the existing housing stock by either increasing or decreasing the housing unit densities on those properties. Further, future land acquisition and farmland development rights purchases by all levels of government will reduce the amount of land available for development. This is especially likely in view of the current open space and farmland preservation programs including the County sales tax program and the local Community Preservation Fund. Each of these factors can alter the magnitude of future growth in population and the number of housing units.

Study Objectives

- The objectives of this saturation population analysis are as follows:
- # Calculate the year-round population and total number of dwelling units for each town in eastern Suffolk County under saturation development conditions.
 - # Calculate the number of year-round versus seasonal housing units for each town in eastern Suffolk County at saturation.
 - # Calculate the year-round plus seasonal population for each town in eastern Suffolk at saturation.

METHODOLOGY

Data Sources

Several data sources were used in producing the information contained in this report. Information concerning potential building lots and housing units¹ was derived from *Existing Land Use Inventory - Eastern Suffolk County* (Suffolk County Dept. of Planning 2000) and published in the report *1999 Land Available for Development - Eastern Suffolk County* (Suffolk County Dept. of Planning 2000). The saturation population analysis of eastern Suffolk County required the use of population and housing data obtained from the 2000 U. S. census.

Procedure

In calculating saturation population, the number of housing units at saturation must first be determined. Using data on land available for development and existing zoning in eastern Suffolk County, the number of potential additional housing units in each eastern Suffolk town and incorporated village was determined in the report *1999 Land Available for Development - Eastern Suffolk County*. This figure, when added to the number of housing units obtained from the 2000 U. S. census, yielded the total number of housing units in the study area at saturation development conditions.

Next, the portion of housing units at saturation that are used for seasonal purposes was calculated. It was assumed that the percentage of housing units that are seasonal in each town would remain the same at saturation as in 2000. As Table 1 shows, the percentage of housing units that are seasonal has remained fairly stable between the years 1970 and 2000. In some of the eastern Suffolk towns the percentage did change noticeably from decade to decade, but no overall trend is evident and the percentage of housing units that are seasonal in eastern Suffolk overall has remained stable at between 34% and 37%.

Table 1. Percentage of Housing Units That Are Seasonal, Eastern Suffolk County

Town	1970	1980	1990	2000
East Hampton	47%	50%	52%	54%
Riverhead	20%	12%	12%	9%
Shelter Island	52%	33%	47%	55%
Southampton	31%	36%	38%	35%
Southold	31%	29%	32%	34%
Eastern Suffolk Total	36%	34%	37%	36%

Source: U. S. Census Bureau - U. S. censuses of 1970, 1980, 1990, and 2000.

¹In the report *1999 Land Available for Development - Eastern Suffolk County* (Suffolk County Dept. of Planning 2000), the term dwelling unit is used. The terms dwelling unit and housing unit can be used interchangeably.

Saturation Population Analysis - Eastern Suffolk County

The percentage of housing units that were seasonal in each town in 2000 was applied to the total housing units at saturation for each town in eastern Suffolk County. This calculation yielded the number of seasonal housing units at saturation.

Next, the year-round population at saturation was calculated. The total potential additional housing units had previously been calculated in the report *1999 Land Available for Development - Eastern Suffolk County*. The number of additional *year-round* housing units at saturation was then calculated by subtracting the potential additional seasonal housing units (obtained by subtracting the number of seasonal housing units in 2000 from the number of seasonal housing units at saturation) from the total potential additional housing units.

The additional year-round housing units at saturation were then multiplied by the 2000 persons per household figure to obtain the additional year-round population at saturation. It was assumed that the persons per household figure would be the same at saturation as it was in 2000.² When this additional year-round population at saturation was added to the 2000 population, the year-round saturation population was obtained.

Finally, an estimate of seasonal population at saturation was obtained. The number of additional seasonal housing units at saturation (previously calculated) was multiplied by an estimated four persons per household³ to yield the additional seasonal population at saturation. When added to the year-round population at saturation, an estimate of seasonal plus year-round population at saturation was then obtained.

²While household size has generally been declining in eastern Suffolk County since the 1960s, the decline in household size in the 1990s slowed considerably. Household sizes are expected to continue to decline very slightly in the next several years and then slowly begin to increase. For these reasons, the household size reported in the 2000 census is an accurate estimate of future household size.

³The year-round household size in eastern Suffolk County was 2.44 in 2000. This figure includes many small senior citizen households and single person households. Seasonal homes, when occupied in the summer, generally contain families and children. For these reasons, the household size in seasonal housing units is expected to be higher, an estimated four persons per household.

SATURATION POPULATION ANALYSIS, EASTERN SUFFOLK COUNTY

Total Housing Units at Saturation

The total number of potential additional housing units under saturation development conditions was calculated in *1999 Land Available for Development - Eastern Suffolk County* for each town in eastern Suffolk County, and are shown in Appendix Table A1. The number of housing units in eastern Suffolk was 84,288 in 2000 and is expected to rise to 132,430 at saturation. This is an increase of 48,142 units, or 57% above the 2000 U. S. census figure. Table 2 is a summary of the number of housing units in eastern Suffolk County by town in 1990, 2000, and under saturation development conditions.

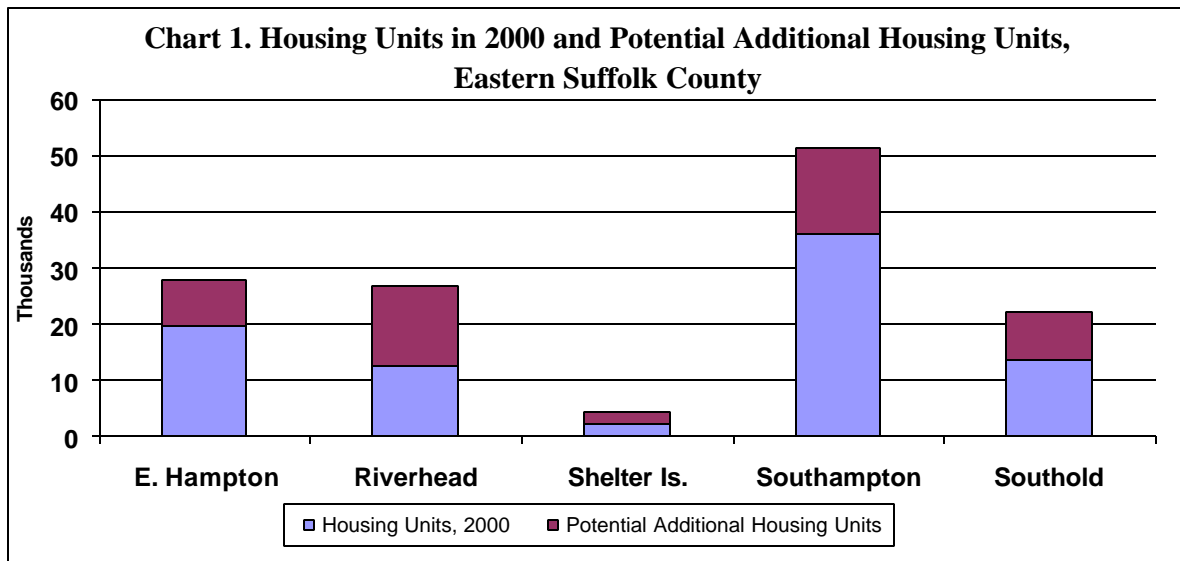
Table 2. Housing Units in 1990, 2000, and at Saturation, Eastern Suffolk County

Town	1990	2000	At Saturation	% Change - 2000 To Saturation
East Hampton	17,068	19,640	27,954	42%
Riverhead	10,801	12,479	26,618	113%
Shelter Island	2,148	2,370	4,232	79%
Southampton	33,795	36,030	51,419	43%
Southold	12,979	13,769	22,207	61%
Eastern Suffolk Total	76,791	84,288	132,430	57%

Source: 1990 & 2000 U. S. Census, Suffolk County Planning Department

Saturation Population Analysis - Eastern Suffolk County

Chart 1 shows the increase in housing units in eastern Suffolk County for each town between 2000 and saturation development conditions. The largest number of potential new housing units in eastern Suffolk exists in Southampton Town, with a potential increase of more than 15,000 housing units, and in Riverhead Town, with a potential increase of more than 14,000 units. The number of housing units would increase by more than 8,000 units in each of the Towns of Southold and East Hampton at saturation. Shelter Island's potential increase is more than 1,800 housing units. All towns in eastern Suffolk show potential increases in the number of housing units of more than 40% from 2000 to saturation. The largest potential *percentage* increases in housing units would occur in the towns of Riverhead (with a potential 113% increase in housing units) and Shelter Island (with a potential 79% increase in housing units).



Seasonal Housing Units at Saturation

Seasonal housing units are defined as vacant housing units that are for seasonal, recreational, or occasional use. Seasonal homes have historically played an important role in eastern Suffolk demographics during the summer months. In 2000, 36% of the housing units in eastern Suffolk were used for seasonal purposes, a figure that has remained fairly steady since 1970. It is therefore expected that in the future approximately one-third of all housing units in eastern Suffolk will continue to be used for seasonal purposes. For each town, the proportion of housing units that are seasonal in nature in 2000 was applied to the total number of housing units at saturation. Appendix Table A2 shows this calculation of seasonal housing units at saturation. Table 3 summarizes the number of seasonal housing units in eastern Suffolk County by town in 1990, 2000 and at saturation.

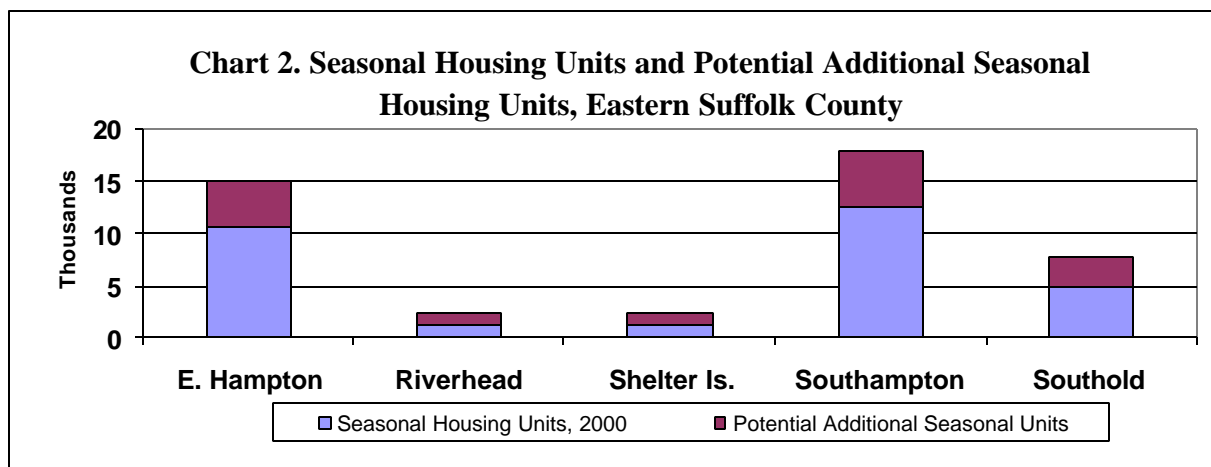
Saturation Population Analysis - Eastern Suffolk County

Table 3. Seasonal Housing Units in 1990, 2000 and at Saturation, Eastern Suffolk County

Town	1990	2000	At Saturation	% Change - 2000 To Saturation
East Hampton	8,886	10,693	15,095	41%
Riverhead	1,334	1,165	2,396	106%
Shelter Island	1,018	1,307	2,328	78%
Southampton	12,971	12,615	17,997	43%
Southold	4,152	4,689	7,550	61%
Eastern Suffolk Total	28,361	30,469	45,366	49%

Source: 1990 & 2000 U. S. census, Suffolk County Planning Department

The total number of seasonal housing units in eastern Suffolk at saturation is expected to be 45,366, an increase of 14,897 or 49% over the 2000 figure. The largest number of potential new seasonal housing units in eastern Suffolk exists in Southampton, with nearly 5,400 additional seasonal units at saturation, followed by East Hampton with a potential 4,400 additional seasonal units at saturation. The Town of Southold shows a potential increase of more than 2,800 seasonal housing units. In percentage terms, the Town of Riverhead exceeds the other towns in the potential increase in seasonal housing units (106%), primarily because of its larger than average potential increase in total additional housing units overall. The other east end towns show potential increases in seasonal housing units of between 40% and 80%. Chart 2 shows the increase in seasonal housing units in eastern Suffolk for each town between 2000 and saturation development conditions.



Saturation Population

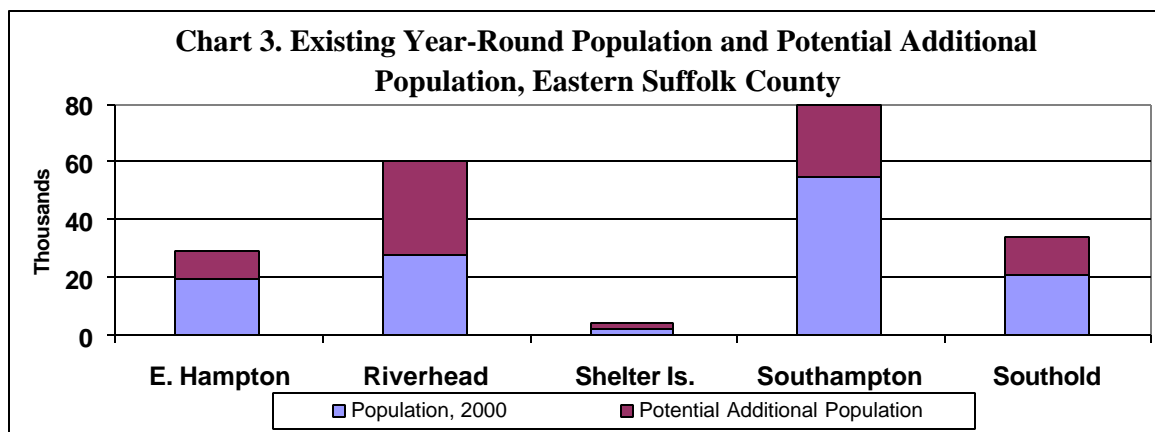
Total year-round population under saturation development conditions in each town in eastern Suffolk County was then calculated. **In eastern Suffolk, the year-round population is expected to increase to 206,965 at saturation. This figure represents an increase of 81,523 persons or 65% over the 2000 census figure.** Appendix Table A3 shows the calculation of additional year-round population between 2000 and saturation. Table 4 is a summary of the population in eastern Suffolk by town in 1990, 2000, and under saturation development conditions.

Table 4. Year-Round Population in 1990, 2000 and at Saturation, Eastern Suffolk County

Town	1990	2000	At Saturation	% Change To Saturation
East Hampton	16,132	19,719	29,186	48%
Riverhead	23,011	27,680	59,950	117%
Shelter Island	2,263	2,228	4,112	85%
Southampton	45,351	55,216	79,733	44%
Southold	19,836	20,599	33,984	65%
Eastern Suffolk Total	106,593	125,442	206,965	65%

Source: Suffolk County Planning Department

Chart 3 shows the increase in year-round population in each eastern Suffolk County town between 2000 and saturation. The largest increase in potential population in eastern Suffolk exists in the Town of Riverhead, with a potential increase in year-round population of more than



Saturation Population Analysis - Eastern Suffolk County

32,000 persons, followed by Southampton with a potential increase of more than 24,000, and Southold, with an increase to saturation of over 13,000 persons. In percentage terms, all five eastern Suffolk towns show potential population increases of more than 40% from 2000 to saturation. Riverhead's potential percentage increase in population is the largest at 117%, followed by Shelter Island with a potential increase of 85%. The other three towns have potential population increases of between 44% and 65%.

The reason why the Towns of Southampton and East Hampton have relatively lower year-round potential population increases is the seasonal nature of their housing stock. Since a higher proportion of future housing units will be used for seasonal purposes in Southampton and East Hampton than in the other east end towns, the potential increase in *year-round* population is slightly lower in those two towns.

Seasonal Population Increase at Saturation

The population of eastern Suffolk County increases substantially during the summer months because of tourism and the presence of seasonal homes. With an estimated four persons per household in seasonal housing units, seasonal residents are expected to increase the population in eastern Suffolk by 181,464 persons at saturation over the year-round population figure at saturation. Appendix Table A4 shows the calculation of additional seasonal population. For the purposes of this report this additional seasonal population consists of persons occupying seasonal housing units only, and not tourists in motels, camping facilities, nor guests in year round housing units.

The total year-round plus seasonal population of eastern Suffolk County is expected to be 388,429 under saturation development conditions. This figure represents an increase of 57% over the 2000 year-round plus seasonal population of 247,318. Table 5 is a summary of the total year-round plus seasonal population in eastern Suffolk County by town in 1990, 2000, and at saturation.

Table 5. Year-Round Plus Seasonal Population in 1990, 2000, and at Saturation, Eastern Suffolk County

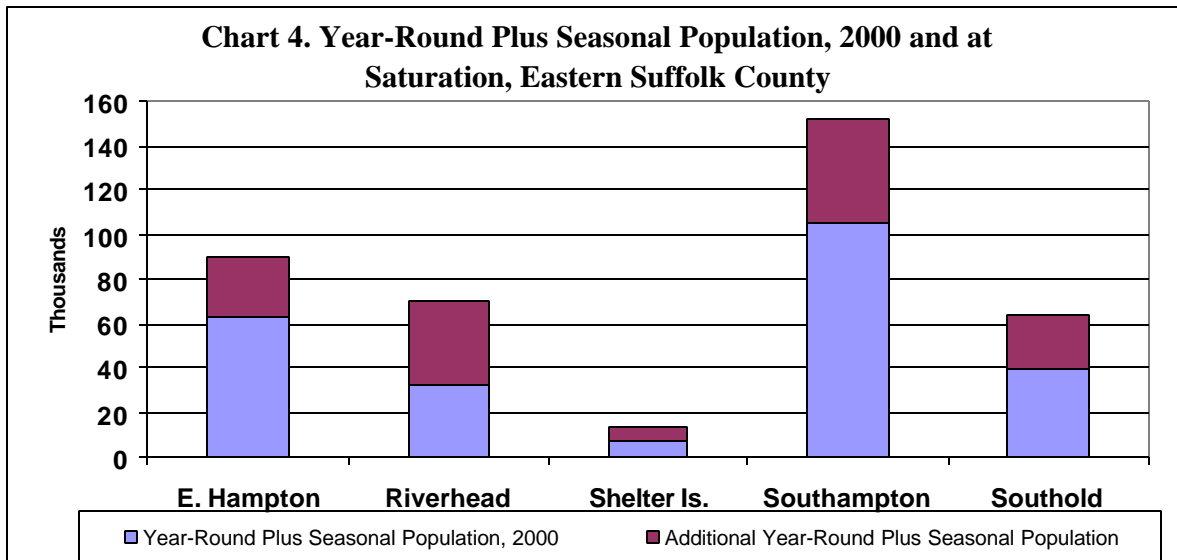
Town	1990	2000	At Saturation	% Change To Saturation
East Hampton	51,676	62,491	89,566	43%
Riverhead	28,347	32,340	69,534	115%
Shelter Island	6,335	7,456	13,424	80%
Southampton	97,235	105,676	151,721	44%
Southold	36,444	39,355	64,184	63%
Eastern Suffolk Total	220,037	247,318	388,429	57%

Source: Suffolk County Planning Department

Chart 4 shows the increase in total year-round plus seasonal population for each town between 2000 and saturation development conditions. Of all the towns in eastern Suffolk, the

Saturation Population Analysis - Eastern Suffolk County

largest potential increase in year-round plus seasonal population exists in Southampton, with a potential increase of more than 46,000 persons and the Town of Riverhead would increase by more than 37,000 persons. The Town of East Hampton has a potential increase of more than 27,000, and the Town of Southold has a potential total increase of nearly 25,000 persons. However, the towns of Riverhead and Shelter Island again have the largest potential increase in percentage terms, 115% and 80%, respectively. The other towns would rise by between 43% and 63% under saturation development conditions.

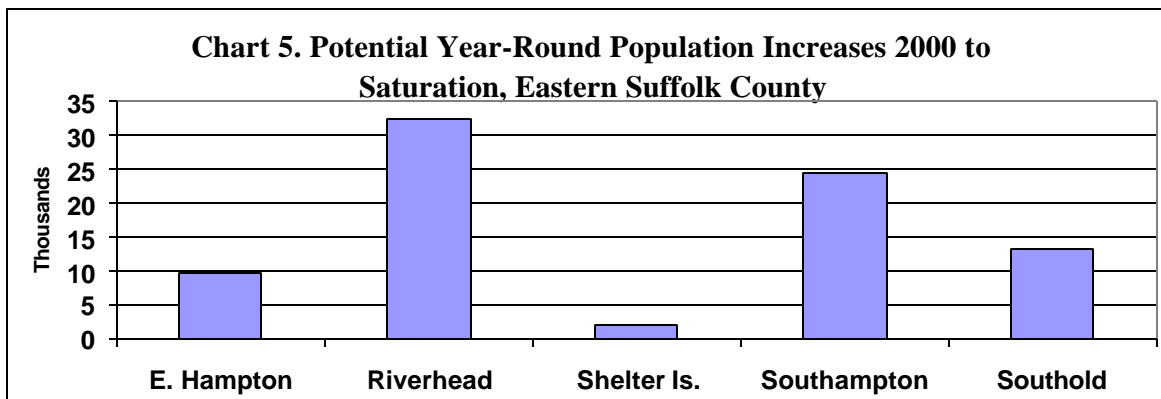


Saturation Population Analysis - Eastern Suffolk County

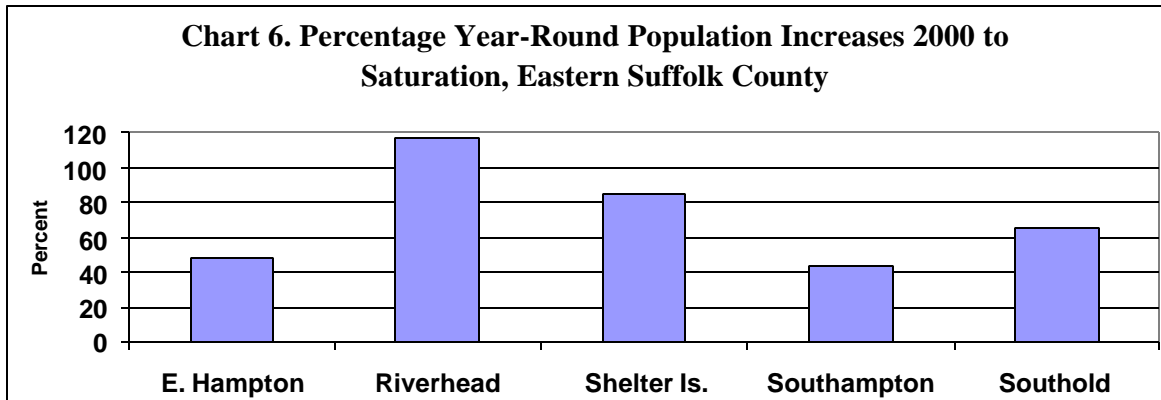
Summary

Based on an analysis of land use, zoning, and land available for development, the number of potential additional housing units was determined for each town in eastern Suffolk County. From these figures, the number of potential seasonal housing units was calculated, as well as the total year-round population and seasonal population under saturation development conditions.

The year-round saturation population in eastern Suffolk County is 206,965 persons, an increase of 81,523 over the population in 2000. Of the five east end towns, the largest potential year-round population increase is in the Town of Riverhead, followed by the Town of Southampton and the Town of Southold. (See Chart 5.)



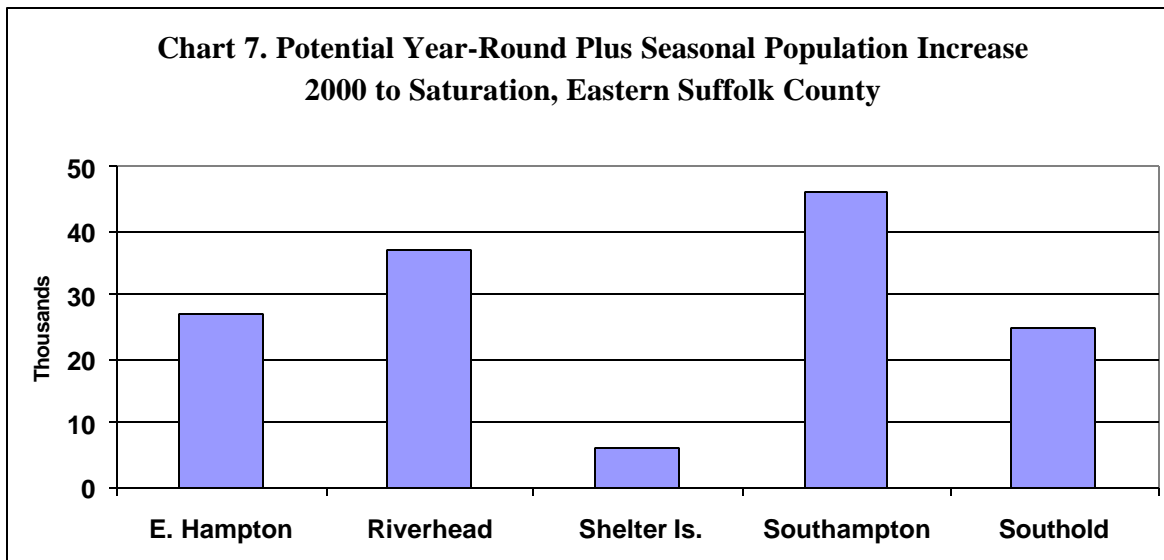
In percentage terms, the year-round population in eastern Suffolk would increase by 65% over the year-round population in 2000 under saturation development conditions. Of the five east



Saturation Population Analysis - Eastern Suffolk County

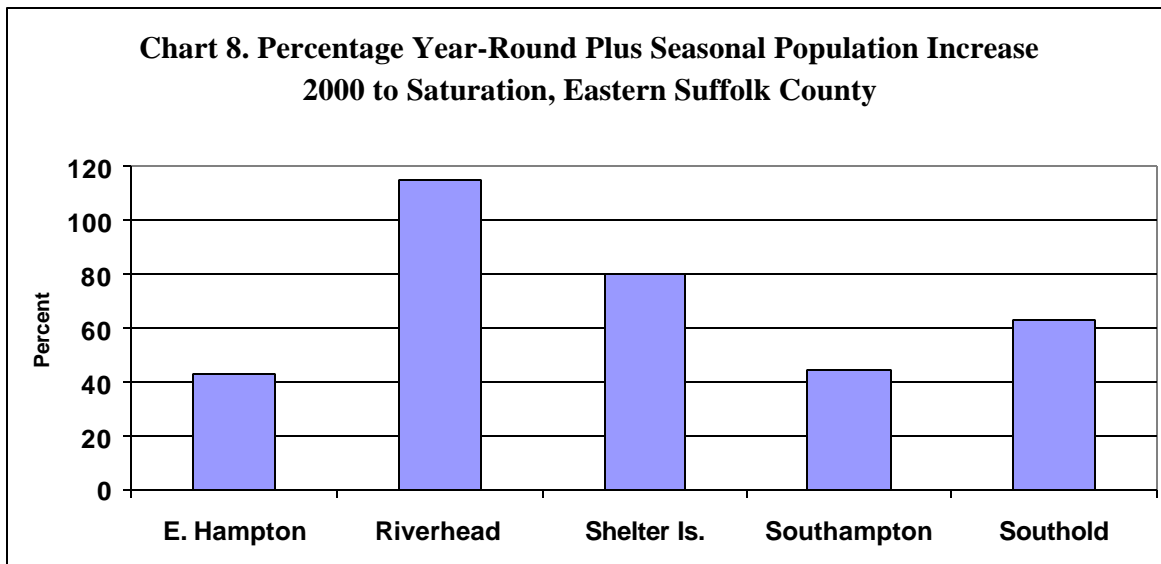
end towns, the largest potential percentage increase in year-round population is in the Town of Riverhead, followed by the Town of Shelter Island. (See Chart 6.)

Based on an analysis of saturation year-round population and potential seasonal housing units at saturation, the potential *year-round plus seasonal population* was determined for each town in eastern Suffolk County under saturation development conditions. **The year-round plus seasonal saturation population of eastern Suffolk County is 388,429 persons, an increase of 141,111 over the 2000 figure.** Of the five east end towns, the largest potential year-round plus seasonal population increase exists in the Town of Southampton, followed by the Town of Riverhead and the Town of East Hampton. (See Chart 7.)



Saturation Population Analysis - Eastern Suffolk County

In percentage terms, the year-round plus seasonal population of eastern Suffolk County would increase by 57% over the 2000 figure under saturation development conditions. Of the five east end towns, the largest potential percentage increase in year-round plus seasonal population is in the Town of Riverhead, followed by the Town of Shelter Island. (See Chart 8.) The potential increase in year-round plus seasonal population is more than 40% in each of the five eastern Suffolk towns.



REFERENCES

Suffolk County Dept. of Planning. 2000. Existing Land Use Inventory - Eastern Suffolk County. Hauppauge, NY.

Suffolk County Dept. of Planning. 2000. 1999 Land Available For Development - Eastern Suffolk County. Hauppauge, NY.

Suffolk County Dept. of Planning. 1998. Peconic Estuary Program Land Available for Development. Hauppauge, NY.

Suffolk County Dept. of Planning. 1997. Peconic Estuary Program Existing Land Use Inventory. Hauppauge, NY.

Suffolk County Dept. of Planning. 1997. Peconic Estuary Program Population Analysis. Hauppauge, NY.

U. S. Department of Commerce, Bureau of the Census. 1970 Census of Population and Housing.

U. S. Department of Commerce, Bureau of the Census. 1980 Census of Population and Housing.

U. S. Department of Commerce, Bureau of the Census. 1990 Census of Population and Housing.

U. S. Department of Commerce, Bureau of the Census. 2000 Census of Population and Housing.

APPENDIX

List of Appendix Tables

- Appendix Table A1. Additional Housing Units at Saturation, Eastern Suffolk County.
- Appendix Table A2. Calculation of Seasonal Housing Units at Saturation, Eastern Suffolk County.
- Appendix Table A3. Calculation of Additional Year-Round Population at Saturation, Eastern Suffolk County.
- Appendix Table A4. Calculation of Additional Seasonal Population, Eastern Suffolk County.

Saturation Population Analysis - Eastern Suffolk County

Table A1.
Additional Housing Units at Saturation, Eastern Suffolk County

Town	Potential Additional Housing Units at Saturation
East Hampton	8,314
Riverhead	14,139
Shelter Island	1,862
Southampton	15,389
Southold	8,438
Eastern Suffolk Total	48,142

Source: Suffolk County Planning Department *1999 Land Available For Development - Eastern Suffolk County*

Table A2.
Calculation of Seasonal Housing Units at Saturation, Eastern Suffolk County

Town	Total Housing Units at Saturation	Percentage of Housing Units That Are Seasonal	Seasonal Housing Units at Saturation
East Hampton	27,954	54%	15,095
Riverhead	26,618	9%	2,396
Shelter Island	4,232	55%	2,328
Southampton	51,419	35%	17,997
Southold	22,207	34%	7,550
Eastern Suffolk Total	132,430	-	45,366

Source: Suffolk County Planning Department

Saturation Population Analysis - Eastern Suffolk County

Table A3.

Calculation of Additional Year-Round Population at Saturation, Eastern Suffolk County

Town	Additional Total Housing Units at Saturation	Additional Seasonal Housing Units at Saturation	Additional Year-Round Housing Units at Saturation	Persons Per Household	Additional Population at Saturation
East Hampton	8,314	4,402	3,912	2.42	9,467
Riverhead	14,139	1,231	12,908	2.50	32,270
Shelter Island	1,862	1,021	841	2.24	1,884
Southampton	15,389	5,382	10,007	2.45	24,517
Southold	8,438	2,861	5,577	2.40	13,385
Eastern Suffolk Total	48,142	14,897	33,245	-	81,523

Source: Suffolk County Planning Department

Table A4.

Calculation of Additional Seasonal Population at Saturation, Eastern Suffolk County

Town	1990 Seasonal Housing Units	1990 Additional Seasonal Population	2000 Seasonal Housing Units	2000 Additional Seasonal Population	Saturation Seasonal Housing Units	Saturation Additional Seasonal Population
East Hampton	8,886	35,544	10,693	42,772	15,095	60,380
Riverhead	1,334	5,336	1,165	4,660	2,396	9,584
Shelter Island	1,018	4,072	1,307	5,228	2,328	9,312
Southampton	12,971	51,884	12,615	50,460	17,997	71,988
Southold	4,152	16,608	4,689	18,756	7,550	30,200
Eastern Suffolk Total	28,361	113,444	30,469	121,876	45,366	181,464

Source: Suffolk County Planning Department

Note: Four persons per seasonal housing unit.