New Jersey Pinelands Commission
Long-Term Economic Monitoring Program

2003 Annual Report

James J. Florio, Chairman

John C. Stokes, Executive Director

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NEW JERSEY PINELANDS LONG-TERM ECONOMIC MONITORING PROGRAM
2003 ANNUAL REPORT

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Acknowledgments

The 2003 Annual Report of the Pinelands Long-Term Economic Monitoring Program was prepared by Pinelands Commission economist Frank Donnelly.

The Pinelands Commission gratefully acknowledges the help of its technical advisors in guiding the Long-Term Economic Monitoring Program. The technical advisory committee currently includes the following:

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The report will be available for free from the Pinelands Commission's web site at
http://www.state.nj.us/pinelands. The raw data used to create the report will also be available for free download.

The report is also available from the Pinelands Commission free of charge on CD-ROM. Requests can be mailed to:

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Requests can also be made via phone at (609) 894-7300 or email at
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In addition, the 2002 Annual Report is available for review at the following libraries:

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Executive Summary

This report provides results of an ongoing economic monitoring program that tracks economic conditions in the Pinelands region. The Pinelands is the nation's first federal reserve. Established in 1978, it covers an area of over one million acres in the heart of Southern New Jersey. The Pinelands Comprehensive Management Plan (CMP) was adopted in 1980. The plan establishes minimum standards for land use throughout the region which are implemented at the local level through municipal ordinances.

The basic unit of analysis in this report is determined by the data. Municipal level data is available in most cases and county level data is utilized when municipal data is not available. Data at the census block level was used to analyze population inside the Pinelands boundary. The general analytical approach involves comparing economic trends (from 1980 onward) of the Pinelands municipalities to other regions outside of the Pinelands (i.e., Non-Pinelands, Southern New Jersey, and the State). In this report, "The Pinelands" refers to an aggregate of forty-seven municipalities that have at least ten percent of their land area within the state-designated Pinelands boundary. The "Non-Pinelands" refers to an aggregate of the remaining 155 municipalities in the eight counties of Southern New Jersey.

This year's report contains a few major changes from previous additions. The organization and presentation of the data have been changed to enhance the report's readability and usefulness. Second, a number of supplemental variables, such as 2000 Census data, have been added. Supplemental variables provide useful information that adds to the overall understanding of the Pinelands economy, but cannot be updated annually like core variables due to infrequent availability. Third, a number of core variables that have not been updated for many years due to lack of data have been temporarily discontinued. Finally, the municipal factbook has been enhanced to include additional information, including population graphs and development area maps.

Results in the area of property values and residential development reflect the healthy, national real estate market in 2002. On average, more building permits were issued in Pinelands municipalities than all other regions of the State, and building permit activity has increased in the Pinelands while Non-Pinelands activity remained relatively unchanged. Most building permits were issued along the northern, eastern, and western edges of the Pinelands region where development pressures and permitted residential densities are greatest. Real estate transactions increased throughout the state, with transactions in the Pinelands increasing at a higher rate. Similar to building permits, the bulk of home sales took place along the northern, eastern, and western edges of the Pinelands region. The Inflation-adjusted median selling prices of homes was slightly lower in the Pinelands than the Non-Pinelands, but prices have increased significantly in all regions for the first time in the monitoring period (since 1989). Supplemental data from the 2000 Census of Housing indicates that the Pinelands has a lower vacancy rate and a higher home-ownership rate than the Non-Pinelands. The median year of home construction in the Pinelands is 1972 compared to a much earlier date of 1961 in the Non-Pinelands area.

New results in the area of economic growth were limited by the availability of updated variables. Unemployment has continued to increase in New Jersey, mirroring national trends. The unemployment in the Pinelands was 5.3% in 2002, compared to 6.0% in the Non-Pinelands region and a state and national rate of 5.8%. The Pinelands share of the total assessed farmland acreage in South Jersey increased between 1986 and 2000, due to increases in assessed acreage in the Pinelands and large decreases in assessed

acreage outside the Pinelands. Supplemental journey to work data indicates that a higher percentage of Pinelands residents work in their state of residence compared to the Non-Pinelands, while a lower percentage of Pinelands residents work in their municipality of residence. Previous analysis showed that per capita income in 2000 was lower in the Pinelands but grew at a faster rate than the Non-Pinelands between 1990 and 2000. Data for wages (1999) mirrors the income trend, as wages in the Pinelands are lower than other regions, but are growing at a faster rate. Prices for cranberries, an important cultural and economic resource of the Pinelands, increased in 2000 and 2001, reflecting a modest recovery after prices plummeted between 1997 and 1999.

Further analysis of 2000 municipal populations identified a number of Pinelands municipalities that are affected by the presence of large institutions, such as correctional facilities, military bases, and colleges. Supplemental data on population density reinforces the fact that the Pinelands is sparsely populated. The Pinelands has a density of 304.4 persons per square mile, versus 1,045.8 persons per square mile in the Non-Pinelands region. The 2003 Annual Report includes more extensive analysis of population from the 2000 Census at the census block level using Geographic Information Systems (GIS). There are 249,026 housing units in the Pinelands municipalities. The actual number of units inside the Pinelands boundary was 102,336, or 41% of the total. Previous analysis revealed that 276,889 people lived within the Pinelands boundary in 2000, a 5.5% increase over the 1990 population of 262,507. By contrast, the population in the portion of the Pinelands municipalities that lie outside of the Pinelands boundary grew by 14.3%, from 361,009 in 1990 to 412,557 in 2000. Of the 52 municipalities with land in the Pinelands, the top ten in population account for 58% of the total Pinelands population, while the top 20 account for 85% of the total.

Findings in the municipal finance category were generally positive for 2002. Historically, average residential tax bills and effective property tax rates have been lower in the Pinelands than the remainder of the State, and new data reinforces the increasing gap between property taxes in the Pinelands region versus other regions. Effective tax rates decreased substantially for all regions following a long period of growth, while the equalized value of property increased at a greater rate than previous years. This is due to a change in the state's equalization ratio. New data for assessment class proportions in municipal valuations reveals that the Pinelands continues to have a greater percentage of valuation in the vacant and residential categories than the Non-Pinelands region. The percentage of valuation in the vacant category continues to decrease, while the percentage in valuation in the residential category continues to increase. Tax collection rate and municipal expenditure data was previously tracked in this report but their presentation is being discontinued until more recent data becomes available.

In addition to ongoing data collection and analysis, special studies represent the second major component of the economic monitoring program. Because the overall trends tracked by the Long-Term Economic Monitoring Program can mask the conditions of individual municipalities, the second special study focuses on characterizing and identifying municipalities that are experiencing poor health. Although difficult to define, poor health can be described as being below a given standard with respect to municipalities' social, economic, physical, and fiscal conditions. The project is being administered by Pinelands Commission staff and conducted in close consultation with the Pinelands Municipal Council. The final report for the project may provide a basis for legislation to allocate special aid to the most strained. Data collection will end and analysis will begin in calendar year 2003. A more detailed account of this study can be found in the report.

1.   Introduction

1.1   The Long Term Economic Monitoring Program

The Pinelands National Reserve was established in 1978 and is the nations first federal reserve. It covers an area of over one million acres in the heart of southern New Jersey. The Pinelands Comprehensive Management Plan (CMP) was adopted in 1980 and manages land use activities at regional and local levels. A blend of federal, state, and local programs is responsible for safeguarding the environmental and cultural resources of the region. Of particular importance to the regional economy are land use policies and controls included in the CMP and implemented by municipalities that significantly limit development in designated Preservation, Forest, and Agricultural management areas. Growth is permitted and even encouraged in other districts, particularly Regional Growth and Town Areas. These growth areas tend to be located in and around already developed areas, many of which have access to central sewer systems and other infrastructure. Recent studies have suggested that the CMP has been successful in steering growth away from conservation areas towards growth areas.[1]

Of major interest to landowners, residents, and businesses in the region is the economic impact of the regulations on land values, real estate markets, local government finances, and the economic performance of farms and businesses. A number of studies have been conducted since the inception of the CMP in 1980 that have addressed these issues (see Appendix A). These efforts, while directed at measuring the short-term impacts of the CMP, have recognized the importance of monitoring economic and fiscal impacts over the long term.

As part of its second full review of the CMP, the Commission convened a panel of economic experts in 1992 to review the prior studies and develop recommendations for future Commission efforts. Later that year, the Commission formally endorsed the panel's recommendation to monitor the region's economy on a continuing basis. Consequently, the Pinelands Commission prepared a proposal (July 1994) to the National Park Service (NPS) to institute a long-term economic monitoring program, which was incorporated into a September 1994 Cooperative Agreement between the two agencies.

The *New Jersey Pinelands Commission Long-Term Economic Monitoring Program First Annual Report* was released after three years of planning in 1997. The document, the first in a series of annual reports, presented data and described trends for key indicators in the areas of property values, economic growth, and municipal finance. The *First Annual Report* and its accompanying Executive Summary also identified potential topics for future study. Subsequent annual reports updated most of the data in the *First Annual Report.* This *2003 Annual Report* is the seventh in the series and augments most of the data used to develop the previous reports and presents updated charts, graphs, and maps. A copy of the *2003 Annual Report* is available on CD-ROM by writing to the Pinelands Commission at P.O. Box 7, New Lisbon, NJ, 08064. The report will be available on the Pinelands Commission World Wide Web site at http://www.state.nj.us/pinelands.

1.2   Program Goal and Objectives

The fundamental goal of the Long-Term Economic Monitoring Program for the Pinelands is **to continually evaluate the health of the economy of the Pinelands region in an objective and reliable way.** The economic monitoring program, in conjunction with an ongoing environmental monitoring program, provides essential information for consideration by the

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1 See "Managing Land Use and Land-Cover Change: The New Jersey Pinelands Biosphere Reserve" by Walker and Solecki, *Annals of the Association of American Geographers*, 89(2), 1999, p. 220-237.

Pinelands Commission as it seeks to meet the mandates set forth in the federal and state Pinelands legislation.

The program was designed to accomplish several principal objectives:

1. Address key segments of the region's economy while being flexible enough to allow for the analysis of special topics that are identified periodically;

2. Establish a means for comparing Pinelands economic segments with similar areas in the state not located within Pinelands designated boundaries;

3. Establish a means for evaluating economic segments over time so that Pinelands-related trends can be distinguished from general trends;

4. Provide for analyses to be conducted in an impartial and objective manner; and

5. Be designed and implemented in a cost-effective manner so that the program's financial requirements can be sustained over time.

These objectives are accomplished by two means: through the publication of an annual report of indicators, and through the commissioning of periodic special studies. The annual report takes the "temperature" of the regional economy, while special studies take a more in-depth look at specific topics. The following two chapters outline the structure and design of both components.

1.3   Program Administration

The development and implementation of the Long-Term Economic Monitoring Program is a collaborative effort. Under the terms of the cooperative agreement with the National Park Service (NPS) the Commission receives funding for personnel and other resources, including a full-time economist, managerial, and technical support staff (on an as-needed basis), expert consultants, data acquisition, equipment, and informational materials. The NPS also can provide oversight and substantive input on an ongoing basis through its own Technical Advisory Committee.

The Commission staff members have primary responsibility for the day-to-day implementation of the program, including acquisition and analysis of data; coordination with the NPS, expert advisory committee, and public; and development of all reports and other products. Perhaps most importantly, the Commission will consider the results of these monitoring efforts as it identifies the need for in-depth economic studies and continues to refine and improve Pinelands protection policies. The data will also used for other Commission analyses and independent efforts.

A technical advisory committee was created by the Pinelands Commission to provide informed and objective input on an ongoing basis. Committee members have helped to ensure that the program meets appropriate technical standards by assisting in identifying and specifying variables to be monitored, developing the detailed design, implementing appropriate methodologies, interpreting results, and reviewing draft documents. Current members of the expert advisory committee are:

John E. Petersen, Ph.D., Professor of Public Policy and Finance, George Mason University
Henry O. Pollakowski, Ph.D., Professor, Center for Real Estate, Massachusetts Institute of Technology

2. Annual Reports

2.1   Data Categories

Ongoing data collection and analysis involves continual monitoring of key economic indicators to establish a historical basis for trend comparison and enables analysis of Pinelands activity in relation to regional and statewide patterns. The ongoing reporting of data will allow the Commission to target topics for in-depth research to determine the basis of economic well being of Pinelands communities and potential cause-and-effect relationships. Data for key variables are collected annually and provide information essential to an understanding of the character of the Pinelands economy. In general, these data are collected from secondary sources. The annually updated data are considered to be the core variables of the report.

The 2003 annual report also includes several supplemental variables. The first annual report included a provision for adding supplemental data, but this is the first year that this expansion has been possible. Supplemental variables provide valuable information and insight into the Pinelands and regional economy, but are not considered core variables because they are not updated regularly. For instance, the US Census data is extremely valuable but since it is only updated every ten years most of it cannot be considered core.

2.2   Core Variables Selected for Long-Term Monitoring

Four primary areas of inquiry are monitored: population and demographics, land and housing values and residential development, the business climate and commerce of the region, and the fiscal health of municipalities. Within each of these areas, several core variables are monitored. Collectively, these variables provide insight into the overall health of the Pinelands' economy; individually, they offer detailed information on specific features of interest. Table 2.2 identifies the monitoring period, frequency of collection, and method of analysis for the variables tracked annually for this report. Each of the variable groups is described below.

Population and Demographics

This section examines basic information regarding the population of South Jersey and the Pinelands that is necessary for any economic or geographic analysis. These variables were formerly located under the Municipal Finance, and then the Economic Growth section. Since population demographics affect all segments of the economy and serve as the basic building blocks for any region, a new section was created this year to recognize their fundamental importance. The core variables in this section are: population at the municipal and census block level, population change, and age demographics. Population growth drives both consumer demand and reflects labor supply, and therefore is also an extremely important indicator of economic growth, while age demographics will affect the level and type of municipal services provided.

Property Values and Residential Development

At the heart of many of the controversies generated by the implementation of the Pinelands land use regulations is the issue of land values. To the extent that development controls affect the value of land, current and prospective landowners will be affected, as will tax ratables associated with vacant land. This group of variables identifies trends in development pressures and measures the differences in values of housing and land in different areas of the region. The value of property depends in part on the permitted use that yields the highest rate of return to the owner, often called "the highest and best use." Permitted uses on vacant land

and farmlands in many parts of the Pinelands have been limited significantly and therefore land prices may be adversely affected.

In addition, land use regulation may also affect the value, type and supply of housing and other development activities. For example, the implementation of the CMP has the potential to increase housing prices, both through a reduction in supply in certain areas and by providing a permanent amenity to residents of the region. Conversely, other factors, such as declining or shifting job markets, if they exist, may cause housing price decreases. Building permits, median selling price of homes, and volume of residential real estate transactions are the three variables tracked annually for this variable group. A special study of vacant land values is also being conducted; further explanation can be found in the special studies section of this report.

Economic Growth

The observation of trends in indicators that are directly tied to the prosperity of a region's residents is central to the measurement of the economic well being of the region. As such, monitoring of employment, income, and the business climate is essential to this program. This group of variables measures the prosperity and viability of business in the region. Tracking economic growth variables over time and comparing them across regions may show differences and indicate areas for special study. Information on wages and income can also shed light on this issue. To the extent that the CMP has had an effect on the regional economy, there will be both direct and indirect (multiplier) impacts on employment and wages. Impacts (positive or negative) may be substantially different across business sectors.

Seven economic growth variables are tracked annually for this report: retail sales per capita; per capita income; unemployment; employment, establishments, and wages; and agriculture (including farmland assessed acreage, census of agriculture data, and blueberry and cranberry production).

Municipal Finance

The long-term monitoring of municipal fiscal trends is of interest for several reasons. As discussed in previous studies, Pinelands regulations have affected vacant land assessments in some municipalities (see, for example, *Economic & Fiscal Impacts of the Pinelands Comprehensive Management Plan*, New Jersey Pinelands Commission, 1983 and 1985). In all but one case, however, the short-term impact on tax rates was relatively minor. Public acquisitions of land in a few municipalities have also resulted in a loss of tax ratables. While these problems were mitigated in the short-term by state reimbursement programs, their long-range impacts should be evaluated.

The level of development in a municipality also affects both municipal ratable bases and expenditures for public services and facilities. Development is associated with growth in ratables, although capital and operating costs for schools, roads, and other public facilities will also increase. Whether development results in a net fiscal benefit or cost to the community depends in large part on the type of development (e.g., commercial, industrial, apartments, single-family houses, or retirement communities). Density may also have an effect.

Data is obtained from the New Jersey Department of Community Affairs (DCA), Division of Local Government Services, which publishes property tax information on an annual basis. Three variables are tracked annually for this variable group: average residential property tax bill, state equalized valuation (total value of taxable property), and effective tax rate. Three variables previously collected have been dropped temporarily from the annual report this year, because

the DCA has not provided updates since 1994, when publication of the *Annual Report for the Division of Local Government Services* was discontinued. As a result, tax collection rate, municipal expenditures by type per capita, and municipal expenditures per household will no longer be tracked in the Annual Report, unless updates are made available. A fourth variable, assessment class proportions in municipal tax revenues, has been updated for 2002, but the years between 1994 and 2002 are unavailable. The new data will be presented this year, but may be discontinued as a core variable if future updates are not available.

Table 2.2   Summary of Core Variables in Annual Report

Name	Years Collected[2]	Years Added[3]	Frequency of Collection	Method of Analysis
Municipal Population	1980, 1990, 2000	'90 & '00 (Group Quarters)	Decennial	Inside/Outside Pinelands
Census Block Population	1990, 2000	None	Decennial	Census Block, Inside/Outside Pinelands Boundary
Age Demographics	1980, 1990, 2000	None	Decennial	Inside/Outside Pinelands
Building Permits	1980-2002	'02	Annual	Inside/Outside Pinelands
Median Selling Prices of Homes	1988-2002	'02	Annual	Inside/Outside Pinelands
Volume of Real Estate Transactions	1988-2002	'02	Annual	Inside/Outside Pinelands
Retail Sales & Establishments	1992, 1997	'92 & '97 (Establishments)	Quintennial	County, Place
Income	1979, 1989, 1999	None	Decennial	Inside/Outside Pinelands
Unemployment	1980-2002	'02	Annual	Inside/Outside Pinelands
Employment	1993-1999	None	Annual	Inside/Outside Pinelands (1993-1996)
Number of Establishments	1989-1999	None	Annual	Inside/Outside Pinelands (1993-1996)
Payroll by Major Industry Sector	1989-1999	None	Annual	Inside/Outside Pinelands (1993-1996)
Farmland Assessed Acreage	1986-2000	'00	Annual	Inside/Outside Pinelands
Agricultural Census Data	1982, 1987, 1992, 1997	None	Quintennial	County
Blueberry and Cranberry Production	1972-2001	None	Annual	State
Average Residential Property Tax Bill	1983-2001	'02	Annual	Inside/Outside Pinelands
Equalized Property Value	1980-2001	'02	Annual	Inside/Outside Pinelands
Effective Tax Rate	1980-2001	'02	Annual	Inside/Outside Pinelands
Assessment Class Proportions in Municipal Valuation	1980-1994, 2002	'02	Annual	Inside/Outside Pinelands

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[2]   Data acquisition is based on the availability of data. An effort is made to acquire data for every year available from 1980 to the present.

[3]   Refers to addition from previous report and specifies which years of data are new in this update.

2.3   Supplemental Variables

One supplemental variable (or in some cases, groups of variables) has been added to each of the four data categories this year. Supplemental variables provide valuable information and insight into the Pinelands and regional economy, but will not be tracked annually as core variables because they are not updated regularly.

Population density has been added to the population section. It measures the number of persons per square mile. Density is useful because it indicates how populated a municipality is relative to its' land area. Data from the 2000 Census of Housing was added to the real estate section. This supplement contains information on the number of housing units, vacancy rates, percentages of homeowners versus renters, and the median year that homes were constructed. Place of work by place of residence provides insight into job availability at the municipal level and into general commuting patterns. This supplement was added to the economic growth section. Various indicators of municipal services (police protection and garbage collection) were added to the municipal finance section in order to gauge differences in services between the Pinelands and Non-Pinelands in the absence of municipal expenditure data.

Table 2.3   Summary of Supplemental Variables in Annual Report

Name	Source	Years Collected	Method of Analysis
Population Density	US Census Bureau	1980, 1990, 2000	Inside / Outside Pinelands
Census of Housing (Units, Occupancy, Ownership, Year Structure Built)	US Census Bureau	1990, 2000	Inside / Outside Pinelands
Place of Work by Place of Residence	US Census Bureau	2000	Inside / Outside Pinelands
Municipal Services: Police Protection, Garbage Collection	NJ State Police NJ Bureau Solid Waste	2001 2002	Inside / Outside Pinelands

2.4   Geographic Scale: Defining the Pinelands

The state designated Pinelands Area encompasses portions of seven counties in Southern New Jersey: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, and Ocean. There are 53 municipalities that have part or all of their land in the Pinelands. Most of the variables monitored in the report are obtained at the municipal level, since this is typically the most precise level of geography available. Municipal values are aggregated into Pinelands and Non-Pinelands regions, based on a "10% rule." Any municipality with at least 10% of its land in the Pinelands area is considered to be in the Pinelands region, and all remaining municipalities in South Jersey (those located in the seven counties mentioned above, plus Salem County) are considered to be Non-Pinelands municipalities. Of the 53 municipalities completely or partially located in the Pinelands Area, 47 were classified as inside, while six[4] were classified as outside, joining the remaining 149 municipalities located entirely outside the Pinelands.

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4 The six are: Corbin City, North Hanover Township, Springfield Township, Berlin Borough, Vineland City, and Dover Township.

While the aggregate method used in this report is the best currently available it is not ideal. Many municipalities are split by the Pinelands boundary, so activities and phenomena present outside the Pinelands boundary are counted as occurring inside the Pinelands. In some cases areas inside a Pinelands municipality, but outside the Pinelands boundary, are growing rapidly. This growth can distort the Pinelands aggregate, indicating that the Pinelands is growing rapidly, while in reality much of the growth is occurring just outside of the Pinelands boundary.

Obtaining data at a sub-municipal level could solve this problem. The Census Bureau provides some of its data acquired through 100% counts at the census block level. The 2002 annual report provided census block data for population. The population for each Pinelands municipality was calculated at the block level, to obtain population counts for areas of Pinelands municipalities inside and outside the Pinelands boundary. The results of the count showed that approximately 277,000 people lived inside the Pinelands boundary, while approximately 413,000 people lived outside the boundary, but within Pinelands municipalities. Population growth between 1990 and 2000 was 5.5% inside the boundary, and 14.3% outside the boundary but within Pinelands municipalities. Clearly, the Pinelands aggregates are including a fair amount of Non-Pinelands activity. Additional census block data will be sought in the future. Other methods of obtaining sub-municipal data will also be explored, such as using GIS to pinpoint variables with address information to streets, so an inside / outside boundary count can be made.

Despite these limitations, the Inside / Outside Pinelands aggregates are considered the best method of comparing the Pinelands to Non-Pinelands region based on data currently available. The census block analysis revealed that certain municipalities with as much as 30% of their land in the Pinelands had practically no residents in the Pinelands. Analysis has shown that altering the 10% percent rule in favor of a 20, 25 or 30% rule yielded no significant difference in the value of the aggregates. Strictly identifying whether an activity is occurring inside or outside of the boundary may be unnecessary to some extent, as economic activity occurs regardless of where boundaries exists. Areas inside and outside of the boundary interact economically with each other, and both interact with other regions. Consequently, this report retains the 10% rule to define inside and outside municipalities.

Municipal level data is unavailable in certain cases. The Agricultural Census and Retail Census are restricted to county level data. In these cases, Pinelands counties (Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, and Ocean) are compared to Non-Pinelands counties (Salem plus the thirteen counties of North Jersey). Because county-level data are necessarily limited in the amount of geographic information they can convey, a chart showing the contribution of each county to Pinelands acreage is provided in Appendix B to aid in interpretation whenever county data are presented. Blueberry and cranberry production data are available only at the state level, but because these crops are found almost exclusively within the Pinelands statewide figures provide ample information for the purposes of this analysis.

2.5   Presentation of Data

Data in the annual report is arranged by variable, grouped into four main sections. The arrangement of variables has changed this year. Each core variable is designated by section (population, real estate, economy, and municipal finance) and number. When a new section begins, numeration restarts at 1. For instance, there are population variables 1 through 4, Real Estate variables 1 through 4, etc. Numbers followed by an "S" indicate supplemental variables. Supplemental variables always appear at the end of a section. A checkbox in the upper right hand corner of the page indicates whether a variable was updated since the last report. A variable is considered updated if additional years of recent data were added or further analysis of previous data was conducted.

Pinelands and Non-Pinelands aggregates are charted, along with South Jersey and State averages. In most cases, averages for each region are calculated by averaging the value for each municipality. In a few instances values are not averages but are sums for the region.[5] For example, retail establishments per capita for each region is calculated by dividing the total population of the region by the total number of establishments in each region. It is not calculated by averaging the ratio of each municipality to get a regional average. Data is obtained as far back as 1980, when possible.

Data is presented by Pinelands municipality for some variables in the form of tables, and certain variables are mapped for all of Southern New Jersey. While the aggregates provide a regional picture, the tables and maps illustrate the degree of variation that exists among the municipalities. Tables display and sort data for the 47 "inside" municipalities, and record data for five[6] of the "outside" municipalities separately at the bottom of the table. The sorting column(s) for each table vary and are indicated by a shaded column heading. Tables and graphs embedded in the text are not enumerated.

Variables in the Annual Report that describe monetary amounts are adjusted for inflation using the Consumer Price Index (CPI-U) from the U.S. Bureau of Labor Statistics, shown in 2000 dollars. Variables in the Fact Book are not inflation adjusted, as the purpose is to display the most recent information available and not to monitor changes over time.

Indexes have been derived for many variables in this report. Indexing is a common technique for characterizing economic time series data and measures how variables change over time. Change is measured relative to a pre-selected base period. In this report, the base period selected is usually the first year that data for the variable are available. As an example, if 1988 is selected as the base period for housing transactions, the 1988 index number for housing transactions would be 1.00. The remaining index numbers are calculated by dividing each year's total housing transactions by total 1988 housing transactions. A 1999 index number of 1.10 indicates that 1999 housing transactions are 10% greater than 1988 levels. Portraying multiple indexes for different regions on one graph enables easy comparison of relative changes among those groups.

The Municipal Fact Book was a new addition to the 2002 annual report, and was updated and enhanced for the 2003 report. Economic data is arranged by Pinelands municipality rather than by variable, in order to provide a better understanding of the unique economic characteristics of each municipality. The fact sheets are arranged alphabetically by county, then by municipality. Variables for each municipality are listed beside the average value for all municipalities in Southern New Jersey and the municipality's rank for that variable among the 202 other municipalities in Southern New Jersey. Additional information, such as census block data, population graphs, and map of development zones, is also provided.

The factbook is located in Appendix F. Additional resources in the appendix include: a list of reference materials, a table of Pinelands and South Jersey acreage by county, a map showing place names for all 202 towns in South Jersey, a description of Pinelands Management Areas, and a map of Pinelands Management Areas.

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5 See "Unit of Analysis" for each variable to ascertain whether municipal averages or regional sums are used.
6 The five municipalities counted as "outside" the Pinelands in this report which have between one and ten percent of their land in the Pinelands. Dover Township is excluded, as less than ½ of one percent of its land is in the Pinelands.

3. Special Studies

Special studies represent the second major component of the monitoring program. Studies may be initiated in any year of the program, although individual studies may require more than one year to complete, depending on research requirements. The ongoing data program will be highly instructive in selecting topics for special study to provide an in-depth examination on apparent differences between Pinelands and Non-Pinelands economic trends. Special studies may also provide an opportunity to augment ongoing data collection should a need be identified for primary (rather than secondary) data or for more geographically specific data.

First Study: Value-Added Blueberry Products (Complete)

The blueberry study was a partnership between Cook College at Rutgers University, the Pinelands Commission (supported through the National Park Service), and New Jersey's blueberry growers for the purpose of boosting the blueberry industry by creating a value added product. The study was successfully completed in November 2001, and a detailed explanation of the project can be found in the 2001 Annual Report. Development and marketing of value-added blueberry products will continue indefinitely through Blueberry Health, Inc. Blueberry Health buys blueberry pulp for products from New Jersey farmers, and reinvests its profits in blueberry research and product development.

Second Study: Indicators of Municipal Health (Underway)

At its September 1999 meeting, the Pinelands Municipal Council unanimously recommended that the Long-Term Economic Monitoring Program conduct a special project to identify and characterize municipalities experiencing poor health. Although difficult to define, poor municipal health can generally be described as being below a given standard with respect to municipalities' social, economic, physical, and fiscal conditions. The project is being administered by Pinelands Commission staff and conducted in close consultation with the Pinelands Municipal Council.

In November 1999, the Pinelands Commission authorized the project as the second special study. The goals of the project are to: 1) produce a database of indicators that are reflective of municipalities' social, economic, physical, and fiscal conditions; 2) produce an objective, systematic and repeatable model which identifies municipalities that are experiencing poor health using the database of indicators; 3) select economically challenged communities using the results from the model; and 4) develop methods to calculate financial aid and/or other resources that may alleviate the degree of strain in the identified municipalities.

In January 2001, a short questionnaire was administered to municipal officials (i.e., mayors, CFO's, administrators, councilmembers, etc.) of 36 municipalities.[7] The questionnaire was designed to reveal municipal officials' opinions on indicators of fiscal health and on ways to measure and compare fiscal health among municipalities. In general, the results of the questionnaire suggest that the most pressing municipal health concerns of the Pinelands municipalities relate to a healthy tax base (i.e., a mix of commercial, industrial, residential land), tax rates, and school costs. These themes are being examined more closely during the course of this project.

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7 All municipalities with at least 50% of their land within the Pinelands were included (33 municipalities) plus three additional municipalities which requested to be included.

The study consists of two parts. The first part focuses on a Pinelands and Non-Pinelands analysis of fiscal indicators. Based on responses from the questionnaires and the availability of data, the following eight variables are being examined: unemployment rate, per capita income, poverty rate, population change, effective tax rate, tax to income ratio, effective school tax rate, and the percentage of ratables that are commercial and industrial. The analysis will calculate percentiles and use statistical tests to identify fiscal issues unique to Pinelands municipalities. A series of other comparisons will also be made, examining urban towns versus rural towns, comparing rural Pinelands towns versus rural Non-Pinelands towns, and comparing Pinelands growth towns to Non-Pinelands growth towns. Variables for this part of the study have been updated, and preliminary tests have been performed.

The second part of the study will identify Pinelands towns that are most in need of fiscal assistance, and will design a corresponding funding model. Municipalities with at least 30% of their land in the Pinelands will be included. Variables that may be used in these models include: effective school tax rate, per capita income, tax to income ratio, percentage of total ratable base that is commercial or industrial, proportion of land in Pinelands Conservation Areas, unemployment rate, population change inside the Pinelands boundary, and municipal revenues per capita.

Special Project: Vacant Land Value Study (Underway)

While not an official special study, the vacant land value project is an extension of the property value and real estate monitoring aspect of the annual report. In September 1999, Pinelands Commission staff obtained data from the New Jersey Department of Treasury on all New Jersey land and housing transactions dating back to 1989. Vacant land transactions are being supplemented with additional information in order to be more useful for determining the value of vacant land. Pinelands Commission staff continues to gather supplemental data for each vacant land transaction (i.e., acreage, zoning, management area, and more). The supplemental data is being gathered from tax maps as well as other available data sources. The data will be analyzed more extensively using statistical modeling techniques in calendar year 2003, after data collection is completed.

NJ Pinelands Commission Long-Term Economic Monitoring Program
2003 Annual Report of Indicators
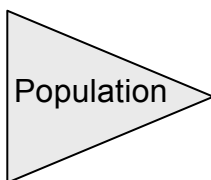
Population ▷ ① # Population

US Census Bureau 1980, 1990, 2000

☒ Updated

- Population Growth in Pinelands municipalities outpaced Non-Pinelands municipalities between 1980 and 2000.

Population 1980 - 2000

	1980	1990	2000	Change 1980-1990	Change 1990-2000	Change 1980-2000
New Jersey	7,365,011	7,730,188	8,414,350	5.0%	8.9%	14.2%
South Jersey	1,854,074	2,083,938	2,263,516	12.4%	8.6%	22.1%
Non-Pinelands	1,430,609	1,534,417	1,647,532	7.3%	7.4%	15.2%
Pinelands	423,465	549,521	615,984	29.8%	12.1%	45.5%

Description: Population data is useful both as an indicator of demand for housing and for private and public goods and services, as well as for various per capita and per household calculations.

Unit of Analysis: Population data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses.

Summary of Previous Findings

The percentage increase in population was much higher inside of the Pinelands (30%) than outside (7%) from 1980 to 1990. Both areas surpassed the statewide increase in population of approximately 5% over the decade. A separate analysis of trends by county found that Atlantic County had the greatest differential between inside and outside growth rates from 1980-1990, which was most likely due to the start of casino gambling in Atlantic City and associated growth in nearby communities. The percentage increase in population was higher inside of the Pinelands than outside from 1990 to 2000 (although in absolute terms, population increased more outside of the Pinelands over the same period); however, the disparity between inside and outside Pinelands annual growth rates decreased.

Population growth was higher in the Pinelands (12.1%) than all other regions of the State from 1990 to 2000. As figure P1 illustrates, population growth was highest in municipalities located along the edge of the Pinelands, especially those located in the northern and eastern regions. Stafford, Jackson, and Galloway grew the most in terms of percentages (see Table P1). However, a large portion of population growth in these towns occurred outside the Pinelands boundary.

Update:

An examination of group quarters population adds additional insight to population change within certain Pinelands municipalities. Persons living in group quarters (i.e. housing where unrelated persons live together) are classified as institutional (prisons and mental hospitals) and non-institutional (military bases, colleges and universities, nursing homes, and shelters). Several municipalities have been impacted by changes in group quarters population which distorts the actual change in the number of residents. Practically all of Woodland's population decrease (826 persons out of 893) was due to a decrease in the institutional population. The population of Washington decreased while the number of persons in group quarters increased, masking the "actual" decrease in residents. Maurice River's increase can almost entirely be attributed to an increase in the institutional population, while Woodbine experienced a decrease in institutional population that masks a larger non-group quarters increase.

In New Hanover, the number of persons in non-institutions (military base) decreased by 5,035 people, while the number of people in institutions (prison) increased by 4,225 people. The number of persons not in group quarters increased by 1,008, but since the military population declined so steeply, the official population change was only 198. Wrightstown and Pemberton Township had large population decreases and have a significant military presence but experienced little change in group quarters population in spite of base reductions. Military personnel in these towns may have lived off the military base and were thus not considered to be in group quarters.

Figure P1   Municipal Population Change (1990-2000)

Pinelands Boundary

Population Change

-80.5% - 0%

0.1% - 10%

10.1% - 40%

40.1% - 107.8%

Source: US Census Bureau

Author: NJ Pinelands Commission

Date: 2003
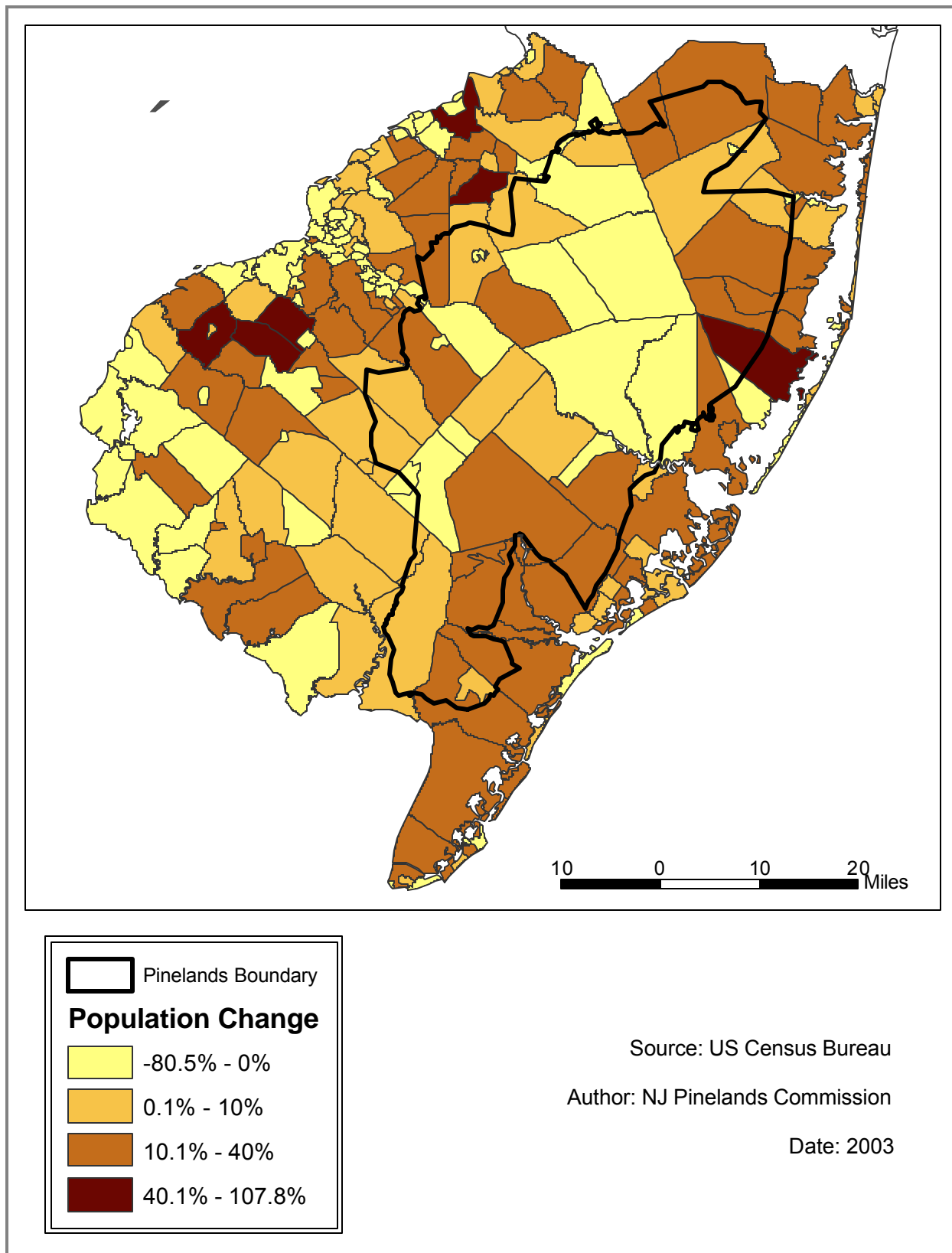
Table P1a   Population by Pinelands Municipality

Municipality	County	2000	1990	Change	% Change
Stafford Twp.	Ocean	22,532	13,325	9,207	69%
Galloway Twp.	Atlantic	31,209	23,330	7,879	34%
Jackson Twp.	Ocean	42,816	33,233	9,583	29%
Hamilton Twp.	Atlantic	20,499	16,012	4,487	28%
Egg Harbor Twp.	Atlantic	30,726	24,544	6,182	25%
Barnegat Twp.	Ocean	15,270	12,235	3,035	25%
Plumsted Twp.	Ocean	7,275	6,005	1,270	21%
Evesham Twp.	Burlington	42,275	35,309	6,966	20%
Little Egg Harbor Twp.	Ocean	15,945	13,333	2,612	20%
Ocean Twp.	Ocean	6,450	5,416	1,034	19%
Dennis Twp.	Cape May	6,492	5,574	918	16%
Weymouth Twp.	Atlantic	2,257	1,957	300	15%
Winslow Twp.	Camden	34,611	30,087	4,524	15%
Lacey Twp.	Ocean	25,346	22,141	3,205	14%
Upper Twp.	Cape May	12,115	10,681	1,434	13%
Estell Manor City	Atlantic	1,585	1,404	181	13%
Shamong Twp.	Burlington	6,462	5,765	697	12%
Beachwood Boro	Ocean	10,375	9,324	1,051	11%
Monroe Twp.	Gloucester	28,967	26,703	2,264	8%
Medford Twp.	Burlington	22,253	20,526	1,727	8%
Manchester Twp.	Ocean	38,928	35,976	2,952	8%
Berkeley Twp.	Ocean	39,991	37,319	2,672	7%
Franklin Twp.	Gloucester	15,466	14,482	984	7%
Port Republic City	Atlantic	1,037	992	45	5%
Maurice River Twp.	Cumberland	6,928	6,648	280	4%
Hammonton town	Atlantic	12,604	12,208	396	3%
New Hanover Twp.	Burlington	9,744	9,546	198	2%
Southampton Twp.	Burlington	10,388	10,202	186	2%
Woodbine Boro	Cape May	2,716	2,678	38	1%
Mullica Twp.	Atlantic	5,912	5,896	16	0%
Chesilhurst Boro	Camden	1,520	1,526	-6	0%
Egg Harbor City	Atlantic	4,545	4,583	-38	-1%
Eagleswood Twp.	Ocean	1,441	1,476	-35	-2%
Tabernacle Twp.	Burlington	7,170	7,360	-190	-3%
Buena Vista Twp.	Atlantic	7,436	7,655	-219	-3%
Berlin Twp.	Camden	5,290	5,466	-176	-3%
Waterford Twp.	Camden	10,494	10,940	-446	-4%
Bass River Twp.	Burlington	1,510	1,580	-70	-4%
South Toms River Boro	Ocean	3,634	3,869	-235	-6%
Medford Lakes Boro	Burlington	4,173	4,462	-289	-6%
Pemberton Twp.	Burlington	28,691	31,342	-2,651	-8%
Folsom Boro	Atlantic	1,972	2,181	-209	-10%
Buena Boro	Atlantic	3,873	4,441	-568	-13%
Lakehurst Boro	Ocean	2,522	3,078	-556	-18%
Washington Twp.	Burlington	621	805	-184	-23%
Woodland Twp.	Burlington	1,170	2,063	-893	-43%
Wrightstown Boro	Burlington	748	3,843	-3,095	-81%
*"Outside" Municipalities**					
Corbin City	Atlantic	468	412	56	14%
Berlin Boro	Camden	6,149	5,672	477	8%
Springfield Twp.	Burlington	3,227	3,028	199	7%
Vineland City	Cumberland	56,271	54,780	1,491	3%
North Hanover Twp.	Burlington	7,347	9,994	-2,647	-26%

*These five municipalities have land in the Pinelands but are counted as Non-Pinelands municipalities because less than ten percent of their land area is in the Pinelands. They are displayed for informational purposes in this and subsequent tables.

Table P1b   2000 Census Group Quarters Population

Municipality	County	Population	Group Quarters	GQ %	Institution	Inst %	Non Institution	Non Inst %
New Hanover	Burlington	9,834	6,124	62.3%	4,846	49.3%	1,278	13.0%
Maurice River	Cumberland	6,928	3,360	48.5%	3,360	48.5%	0	0.0%
Washington	Burlington	579	179	30.9%	109	18.8%	70	12.1%
Woodbine	Cape May	2,716	568	20.9%	568	20.9%	0	0.0%
Chesilhurst	Camden	1,520	138	9.1%	88	5.8%	50	3.3%
Galloway	Atlantic	31,159	2,080	6.7%	0	0.0%	2,080	6.7%
Hamilton	Atlantic	20,499	1,041	5.1%	1,028	5.0%	13	0.1%
Winslow	Camden	34,659	1,112	3.2%	1,061	3.1%	51	0.1%
Dennis	Cape May	6,503	208	3.2%	155	2.4%	53	0.8%
Hammonton	Atlantic	12,604	348	2.8%	205	1.6%	143	1.1%
Estell Manor	Atlantic	1,592	33	2.1%	33	2.1%	0	0.0%
Waterford	Camden	10,485	207	2.0%	0	0.0%	207	2.0%
Manchester	Ocean	38,960	728	1.9%	546	1.4%	182	0.5%
Pemberton	Burlington	28,650	516	1.8%	378	1.3%	138	0.5%
Berkeley	Ocean	39,988	591	1.5%	223	0.6%	368	0.9%
Egg Harbor City	Atlantic	4,545	70	1.5%	35	0.8%	35	0.8%
Stafford	Ocean	22,517	293	1.3%	223	1.0%	70	0.3%
Buena Vista	Atlantic	7,436	94	1.3%	0	0.0%	94	1.3%
Medford	Burlington	22,253	255	1.1%	201	0.9%	54	0.2%
Wrightstown	Burlington	747	8	1.1%	0	0.0%	8	1.1%
Little Egg Harbor	Ocean	16,019	166	1.0%	166	1.0%	0	0.0%
Tabernacle	Burlington	7,170	72	1.0%	67	0.9%	5	0.1%
Jackson	Ocean	42,810	374	0.9%	360	0.8%	14	0.0%
Buena	Atlantic	3,873	33	0.9%	0	0.0%	33	0.9%
Barnegat	Ocean	15,285	127	0.8%	125	0.8%	2	0.0%
Ocean	Ocean	6,450	54	0.8%	0	0.0%	54	0.8%
Mullica	Atlantic	5,912	47	0.8%	0	0.0%	47	0.8%
Monroe	Gloucester	28,967	212	0.7%	155	0.5%	57	0.2%
Franklin	Gloucester	15,466	90	0.6%	0	0.0%	90	0.6%
Southampton	Burlington	10,333	61	0.6%	61	0.6%	0	0.0%
Port Republic	Atlantic	1,032	6	0.6%	0	0.0%	6	0.6%
Evesham	Burlington	42,428	185	0.4%	100	0.2%	85	0.2%
Berlin Township	Camden	5,290	19	0.4%	0	0.0%	19	0.4%
Folsom	Atlantic	1,972	7	0.4%	0	0.0%	7	0.4%
Egg Harbor Twp	Atlantic	30,619	49	0.2%	0	0.0%	49	0.2%
Lacey	Ocean	25,346	39	0.2%	26	0.1%	13	0.1%
Upper	Cape May	12,115	8	0.1%	0	0.0%	8	0.1%
Plumsted	Ocean	7,275	8	0.1%	0	0.0%	8	0.1%
Beachwood	Ocean	10,316	6	0.1%	0	0.0%	6	0.1%
Shamong	Burlington	6,462	2	0.0%	0	0.0%	2	0.0%
Medford Lakes	Burlington	4,173	0	0.0%	0	0.0%	0	0.0%
So. Toms River	Ocean	3,608	0	0.0%	0	0.0%	0	0.0%
Lakehurst	Ocean	2,522	0	0.0%	0	0.0%	0	0.0%
Weymouth	Atlantic	2,250	0	0.0%	0	0.0%	0	0.0%
Bass River	Burlington	1,552	0	0.0%	0	0.0%	0	0.0%
Eagleswood	Ocean	1,441	0	0.0%	0	0.0%	0	0.0%
Woodland	Burlington	1,160	0	0.0%	0	0.0%	0	0.0%
"Outside" Munis								
Vineland	Cumberland	56,271	2,393	4.3%	1,031	1.8%	1,362	2.4%
Berlin Borough	Camden	6,149	72	1.2%	18	0.3%	54	0.9%
Springfield	Burlington	3,227	7	0.2%	0	0.0%	7	0.2%
North Hanover	Burlington	7,325	0	0.0%	0	0.0%	0	0.0%
Corbin City	Atlantic	468	0	0.0%	0	0.0%	0	0.0%

Table P1c   Group Quarters Components of Population Change 1990-2000

Municipality	County	2000 Population	Pop Change 1990 – 2000	Institutional Change	Non-Institutional Change	Non-Group Quarters Change	Difference
New Hanover	Burlington	9,834	198	4,225	-5,035	1,008	810
Washington	Burlington	579	-184	86	70	-340	156
Woodbine	Cape May	2,716	38	-134	0	172	134
Pemberton Twp	Burlington	28,650	-2,651	6	103	-2,760	109
Lacey	Ocean	25,346	3,205	-121	13	3,313	108
Buena Vista	Atlantic	7,436	-219	0	85	-304	85
Winslow	Camden	34,659	4,524	-66	-14	4,604	80
Tabernacle	Burlington	7,170	-190	67	5	-262	72
Manchester	Ocean	38,960	2,952	180	-249	3,021	69
Shamong	Burlington	6,462	697	-70	2	765	68
Chesilhurst	Camden	1,520	-6	88	-22	-72	66
Medford	Burlington	22,253	1,727	-93	54	1,766	39
Waterford	Camden	10,485	-446	-152	186	-480	34
Franklin	Gloucester	15,466	984	0	-34	1,018	34
Buena	Atlantic	3,873	-568	0	16	-584	16
Mullica	Atlantic	5,912	16	-60	47	29	13
Monroe	Gloucester	28,967	2,264	-21	10	2,275	11
Estell Manor	Atlantic	1,592	181	-10	0	191	10
Folsom	Atlantic	1,972	-209	0	7	-216	7
Berlin	Camden	5,290	-176	0	6	-182	6
Weymouth	Atlantic	2,250	300	0	0	300	0
Bass River	Burlington	1,552	-70	0	0	-70	0
Medford Lakes	Burlington	4,173	-289	0	0	-289	0
Eagleswood	Ocean	1,441	-35	0	0	-35	0
Lakehurst	Ocean	2,522	-556	0	0	-556	0
South Toms River	Ocean	3,608	-235	0	0	-235	0
Ocean	Ocean	6,450	1,034	0	3	1,031	-3
Barnegat	Ocean	15,285	3,035	2	2	3,031	-4
Egg Harbor City	Atlantic	4,545	-38	-20	15	-33	-5
Port Republic	Atlantic	1,032	45	0	6	39	-6
Beachwood	Ocean	10,316	1,051	0	6	1,045	-6
Dennis	Cape May	6,503	918	-45	53	910	-8
Upper	Cape May	12,115	1,434	0	8	1,426	-8
Plumsted	Ocean	7,275	1,270	0	8	1,262	-8
Hammonton	Atlantic	12,604	396	-103	113	386	-10
Egg Harbor Twp	Atlantic	30,619	6,182	0	27	6,155	-27
Little Egg Harbor	Ocean	16,019	2,612	45	0	2,567	-45
Jackson	Ocean	42,810	9,583	63	-15	9,535	-48
Evesham	Burlington	42,428	6,966	-23	78	6,911	-55
Southampton	Burlington	10,333	186	61	-5	130	-56
Berkeley	Ocean	39,988	2,672	-296	361	2,607	-65
Wrightstown	Burlington	747	-3,095	0	-91	-3,004	-91
Galloway	Atlantic	31,159	7,879	-40	193	7,726	-153
Stafford	Ocean	22,517	9,207	118	70	9,019	-188
Maurice River	Cumberland	6,928	280	358	0	-78	-358
Hamilton	Atlantic	20,499	4,487	406	-37	4,118	-369
Woodland	Burlington	1,160	-893	-826	0	-67	-826
"Outside" Munis							
Springfield	Burlington	3,227	199	-40	-17	256	57
Corbin City	Atlantic	468	56	0	0	56	0
North Hanover	Burlington	7,325	-2,647	0	-25	-2,622	-25
Berlin Boro	Camden	6,149	477	18	54	405	-72
Vineland	Cumberland	56,271	1,491	-939	1,050	1,380	-111
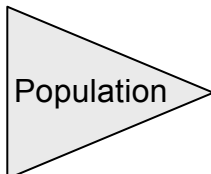
Population – Census Block

X Updated

US Census Bureau / NJPC GIS Office 1990, 2000

- Most of the population growth in Pinelands municipalities between 1990 and 2000 occurred outside of the Pinelands boundary.

Census Block Population

	1990	2000	Change
In Boundary	262,507	276,889	5.5%
Out Boundary	361,009	412,557	14.3%

Municipal Population Change Categories

	# Munis	% Total
Gained Inside and Gained Outside	16	30.8%
Gained Inside and Lost Outside	7	13.4%
Gained Inside, No Area Outside	4	7.7%
Lost Inside, Gained Outside	9	17.3%
Lost Inside, Lost Outside	8	15.4%
Lost Inside, No Area Outside	8	15.4%

Description: Population data at the census block level is useful in overcoming the limitations of municipal level population data by identifying the actual number of residents who live within the state-designated Pinelands area.

Unit of Analysis: Sub-Municipal data is aggregated by counting the population of census blocks inside and outside the Pinelands boundary using GIS. The actual population of the state-designated Pinelands area is calculated, along with areas of Pinelands municipalities that are outside the boundary. Census blocks from 1990 were normalized to make them comparable to 2000 census blocks.

Summary of Previous Findings

While population in the Pinelands region has grown to 615,984, the population actually inside the Pinelands boundary was less than one half of that number in 2000. Pinelands population data analyzed at the census block level revealed that 276,889 people lived in the Pinelands in 2000, a 5.5% increase over 1990 population of 262,507. The number of persons living in Pinelands municipalities outside of the Pinelands boundary increased from 361,009 in 1990 to 412,557 in 2000, an increase of 14.3%.

The top three municipalities with the largest populations inside the Pinelands boundary are Pemberton Township, Hamilton Township, and Medford Township (Table P2a). Of the fifty-two municipalities with land in the Pinelands, the top ten municipalities in population account for 58% of the Pinelands total population, while the top twenty municipalities account for 85% of the population. The municipalities in the top bracket contain at least one of the Pinelands development areas: Regional Growth Areas, Pinelands Towns, and Pinelands Villages. Conversely, the ten municipalities with the least population in the Pinelands do not even comprise a half of one percent of the total Pinelands population. Five of these ten are defined as "Non-Pinelands" municipalities for the purposes of this study, as less than ten percent of their land is within the Pinelands. Some municipalities have more than ten percent of their land in the Pinelands, but have extremely few people. For example, Eagleswood has 20% of its land in the Pinelands, but has no residents in the Pinelands, while Beachwood has 28% of its land in the Pinelands and has only 4 residents. These areas fall within Preservation or Forest management areas.

The largest absolute changes in population inside the Pinelands boundary between 1990 and 2000 occurred in municipalities that have Regional Growth Areas (Table P2b). Stafford, Egg Harbor Township, and Hamilton were the top three municipalities in terms of absolute growth, while Berkeley was the fastest growing in terms of percent change. Wrightstown, Pemberton Township, and North Hanover had the largest absolute decreases in population, due to military base reductions.

Update:

The fifty-two municipalities with some or all of their land inside the Pinelands were classified according to where their population gain occurred. Municipalities that gained population both inside and outside the boundary accounted for 30.8% of the total municipalities, the largest category by far. Municipalities completely located inside the Pinelands that experienced population gain made up the smallest percentage of the total, with 7.7%. Percentages in the other categories were relatively equal, with between 7 and 9 towns in each category.

**Table P2a   2000 Population Inside and Outside the Pinelands Boundary
by Pinelands Municipality**

Municipality	% Land in Pinelands	Total Population Inside 2000	% Population Inside	% Population Outside	Total Population Outside 2000
Pemberton Twp	90%	28,127	98%	2%	564
Hamilton	97%	19,136	93%	7%	1,363
Medford Twp	75%	18,239	82%	18%	4,014
Egg Harbor Twp	38%	16,209	53%	47%	14,517
Winslow	81%	15,599	45%	55%	19,012
Monroe	69%	14,406	50%	50%	14,561
Stafford	39%	13,390	59%	41%	9,142
Hammonton	100%	12,604	100%	0%	
Manchester	72%	12,185	31%	69%	26,743
Evesham	55%	11,553	27%	73%	30,722
Galloway	38%	10,658	34%	66%	20,551
Waterford	100%	10,494	100%	0%	
New Hanover	91%	9,109	93%	7%	635
Southampton	73%	7,193	69%	31%	3,195
Tabernacle	100%	7,170	100%	0%	
Shamong	100%	6,462	100%	0%	
Buena Vista	90%	6,248	84%	16%	1,188
Mullica	100%	5,912	100%	0%	
Maurice River	69%	4,819	70%	30%	2,109
Egg Harbor City	100%	4,545	100%	0%	
Medford Lakes	100%	4,173	100%	0%	
Jackson	47%	4,106	10%	90%	38,710
Barnegat	56%	3,226	21%	79%	12,044
North Hanover	4%	3,090	42%	58%	4,257
Woodbine	95%	2,716	100%	0%	
Franklin	36%	2,664	17%	83%	12,802
South Toms River	48%	2,495	69%	31%	1,139
Berkeley	30%	2,467	6%	94%	37,524
Lakehurst	87%	2,393	95%	5%	129
Folsom	100%	1,972	100%	0%	
Weymouth	82%	1,668	74%	26%	600
Dennis	38%	1,623	25%	75%	4,869
Chesilhurst	100%	1,520	100%	0%	
Estell Manor	72%	1,502	95%	5%	72
Bass River	87%	1,234	82%	18%	276
Upper	33%	1,175	10%	90%	10,940
Woodland	100%	1,170	100%	0%	
Buena	47%	865	22%	78%	3,008
Washington	100%	621	100%	0%	
Lacey	67%	521	2%	98%	24,825
Plumsted	53%	412	6%	94%	6,863
Berlin Twp	16%	403	8%	92%	4,887
Vineland	7%	186	0%	100%	56,085
Ocean	41%	145	2%	98%	6,305
Berlin Boro	10%	141	2%	98%	6,008
Wrightstown	73%	123	16%	84%	625
Little Egg Harbor	23%	107	1%	99%	15,838
Port Republic	35%	102	10%	90%	935
Corbin City	1%	7	1%	99%	461
Beachwood	28%	4	0%	100%	10,371
Eagleswood	20%	0	0%	100%	1,441
Springfield	2%	0	0%	100%	3,227

Table P2b   Population Change Inside and Outside the Pinelands Boundary by Pinelands Municipality (1990 – 2000)

Municipality	% Land in Pinelands	Total Population Inside 1990	Change in Pop In Pines 1990-2000	Percent Change 1990-2000	Total Population Outside 1990	Change in Pop Out Pines 1990-2000	Percent Change 1990-2000
Stafford	39%	5739	7651	133%	7568	1574	21%
Egg Harbor Twp	38%	11687	4522	39%	12905	1612	12%
Hamilton	97%	14988	4148	28%	1024	339	33%
Galloway	38%	8497	2161	25%	14824	5727	39%
Berkeley	30%	865	1602	185%	36424	1100	3%
Manchester	72%	10589	1596	15%	25387	1356	5%
Evesham	55%	10121	1432	14%	25188	5534	22%
Shamong	100%	5765	697	12%			
Barnegat	56%	2701	525	19%	9552	2492	26%
Maurice River	69%	4392	427	10%	2256	-147	-7%
Southampton	73%	6792	401	6%	3410	-215	-6%
Hammonton	100%	12208	396	3%			
Weymouth	82%	1340	328	24%	630	-30	-5%
Estell Manor	72%	1268	234	18%	123	-51	-41%
Winslow	81%	15426	173	1%	14661	4351	30%
New Hanover	91%	8962	147	2%	584	51	9%
Franklin	36%	2531	133	5%	11951	851	7%
Dennis	38%	1536	87	6%	4038	831	21%
Berlin Twp	16%	344	59	17%	5122	-235	-5%
Ocean	41%	91	54	59%	5325	980	18%
Upper	33%	1133	42	4%	9548	1392	15%
Woodbine	95%	2678	38	1%			
Medford Twp	75%	18206	33	0%	2320	1694	73%
Vineland	7%	166	20	12%	54614	1471	3%
Mullica	100%	5896	16	0%			
Berlin Boro	10%	133	8	6%	5539	469	8%
Corbin City	1%	3	4	133%	409	52	13%
Eagleswood	20%	0	0	0%	1476	-35	-2%
Chesilhurst	100%	1526	-6	0%			
Jackson	47%	4124	-18	0%	29108	9602	33%
Port Republic	35%	124	-22	-18%	877	58	7%
Plumsted	53%	436	-24	-6%	5569	1294	23%
Bass River	87%	1269	-35	-3%	311	-35	-11%
Egg Harbor City	100%	4583	-38	-1%			
Lacey	67%	563	-42	-7%	21578	3247	15%
Beachwood	28%	65	-61	-94%	9259	1112	12%
Little Egg Harbor	23%	172	-65	-38%	13158	2680	20%
Springfield	2%	123	-123	-100%	2911	316	11%
Washington	100%	805	-184	-23%			
Tabernacle	100%	7360	-190	-3%			
South Toms River	48%	2689	-194	-7%	1210	-71	-6%
Folsom	100%	2181	-209	-10%			
Buena	47%	1077	-212	-20%	3364	-356	-11%
Buena Vista	90%	6512	-264	-4%	1143	45	4%
Medford Lakes	100%	4462	-289	-6%			
Waterford	100%	10940	-446	-4%			
Lakehurst	87%	2939	-546	-19%	139	-10	-7%
Monroe	69%	15122	-716	-5%	11581	2980	26%
Woodland	100%	2063	-893	-43%			
North Hanover	4%	5493	-2403	-44%	4560	-303	-7%
Pemberton Twp	90%	30740	-2613	-9%	602	-38	-6%
Wrightstown	73%	3082	-2959	-96%	761	-136	-18%
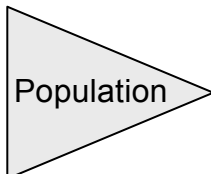
Age Demographics

US Census Bureau, 1980, 1990, 2000

☐ Updated

- The population of South Jersey is aging.

Population Under 18

	< 18 Years		
	1980	**1990**	**2000**
Pinelands	29.1%	24.7%	24.4%
Non-Pinelands	28.1%	24.8%	25.4%
New Jersey	27.0%	23.3%	24.8%

Population 65 and over

	> 65 Years		
	1980	**1990**	**2000**
Pinelands	13.5%	16.4%	16.8%
Non-Pinelands	12.5%	14.2%	14.6%
New Jersey	11.7%	13.4%	13.2%

Description: The age distribution of the population within each municipality provides some determination of the demand for services and the ability of the population to withstand changes in tax rates.

Unit of Analysis: Demographic data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses.

Summary of Previous Findings

Examination of demographic data indicated that the population throughout Southern New Jersey is aging. The proportion of the population under 18 declined 3.3 percentage points outside of the Pinelands between 1980 and 1990, and declined 4.4 percentage points inside of the Pinelands over the same period. During the same decade, the proportion of the population over 65 increased 1.7 percentage points outside of the Pinelands and rose 2.9 percentage points inside of the Pinelands. Statewide trends were similar to those found in Southern New Jersey. Table P3 shows the prevalence of different age classes in Pinelands and Non-Pinelands municipalities. An examination of the geographic distribution of the 20 municipalities in the eight southern counties with the lowest and highest median ages in 1980 and 1990 found that both age extremes (youngest and oldest) are found at the edges of the region, predominantly outside of the Pinelands. The concentration of older populations along the southern and eastern borders reflects the popularity of resort and beach communities among retirees, while the concentration of younger populations in the north and west most likely reflects the presence of large military installations, a college campus, and more urban areas in Camden County.

Average age in the Pinelands continued to increase gradually during the 1990's, while the proportion of the population under 18 and over 65 changed very little from 1990-2000. However, Table P3 provides evidence of an aging working population (18-65 years old) both inside and outside of the Pinelands. The majority of Pinelands municipalities fell within median age 30-34 in 1990; however, by 2000, that majority moved to median age 35-39. Similarly the largest number of Non-Pinelands municipalities moved up to the 35-39 median age group over the same period.

Table P3   Median Age, 1980, 1990 and 2000

1980									
Age Class	18 - 22	23 - 29	30 - 34	35 - 39	40 - 49	50 - 59	60 - 64	65 - 69	Total[8]
# of Non-Pinelands Municipalities	0	32	78	20	17	7	0	0	154
% Non-Pinelands	0.0%	20.8%	50.6%	13.0%	11.0%	4.5%	0.0%	0.0%	100.0%
# of Pinelands Municipalities	1	26	13	3	2	1	0	1	47
% Pinelands	2.1%	55.3%	27.7%	6.4%	4.3%	2.1%	0.0%	2.1%	100.0%

1990									
Age Class	18 - 22	23 - 29	30 - 34	35 - 39	40 - 49	50 - 59	60 - 64	65 - 69	Total
# of Non-Pinelands Municipalities	0	10	69	51	15	7	3	0	155
% Non-Pinelands	0.0%	6.5%	44.5%	32.9%	9.7%	4.5%	1.9%	0.0%	100.0%
# of Pinelands Municipalities	0	6	27	11	1	0	0	2	47
% Pinelands	0.0%	12.8%	57.4%	23.4%	2.1%	0.0%	0.0%	4.3%	100.0%

2000									
Age Class	18 - 22	23 - 29	30 - 34	35 - 39	40 - 49	50 - 59	60 - 64	65 - 69	Total
# of Non-Pinelands Municipalities	0	4	19	78	40	13	1	0	155
% Non-Pinelands	0.0%	2.6%	12.3%	50.3%	25.8%	8.4%	0.6%	0.0%	100.0%
# of Pinelands Municipalities	0	0	9	29	7	0	0	2	47
% Pinelands	0.0%	0.0%	19.1%	61.7%	14.9%	0.0%	0.0%	4.3%	100.0%

[8] Municipalities in 1980 totaled 201 due to lack of data for Tavistock Boro (population=9).
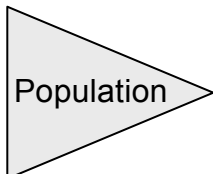
Population Density

US Census Bureau 1980, 1990, 2000

- The Pinelands municipalities had a larger percent change in population density than the Non-Pinelands municipalities between 1980 and 2000.

Population per Square Mile of Land Area

	1980	1990	2000	Change 1980 - 2000	% Change 1980 - 2000
New Jersey	993.0	1042.2	1134.4	141.4	12.5%
South Jersey	515.1	579.0	628.9	113.8	22.1%
Pinelands	209.3	271.5	304.4	95.1	45.4%
Non-Pinelands	908.1	974.0	1045.8	137.7	15.2%

Description: Population density measures the number of persons per square mile of land.

Unit of Analysis: The population of each region (New Jersey, South Jersey, 47 Pinelands municipalities and 155 Non-Pinelands municipalities) is divided by the land area of each region. These numbers are calculated using regional totals, not by averaging municipal values.

Supplement: Population Density

The state encompasses 7,417 square miles, with South Jersey accounting for 3,499 square miles, or 48.5% of the total state area. The Pinelands municipalities account for 2,024 square miles of total state land area (27% of the state, and 56% of South Jersey), while the Non-Pinelands make up 1,575 square miles (21% of the state, and 44% of South Jersey).

The State of New Jersey is the most densely populated state in the country, with 1,134 persons per square mile compared to a national density of 79.6 persons per square mile. The most densely populated portion of the state is North Jersey, with a density of 1,336 persons per square mile. This is more than double the density of South Jersey, which had 629 persons per square mile in 2000. The sparsely populated Pinelands region is larger in area and lower in population than the Non-Pinelands and contributes considerably to South Jersey's lower density. The Pinelands has a density of 304 persons per square mile, far lower than the 1,046 persons per square mile in the Non-Pinelands region. While the density of the Pinelands is lower than the Non-Pinelands, and the absolute change in density was lower between 1980 and 2000, the percent change was far greater. This is expected, as the percent change in population was greater in the Pinelands than in the Non-Pinelands during this period. The actual area inside the Pinelands boundary (as opposed to the Pinelands municipalities in their entirety) is even more sparsely populated, with approximately 189 persons per square mile in 2000.

Pinelands municipalities with the highest densities tend to be either small boroughs or cities, or municipalities located along the fringe of the Pinelands boundary (Table P4). This pattern reflects historical patterns of settlement, with people in rural areas clustering in small towns as well as newer patterns of settlement with expanding suburban populations growing at the outer limits of older, primary urban cores.

Table P4   Municipal Population Density (persons per sq mile)

| Municipality	County	2000	1990	1980	Change	%Change
Beachwood borough	Ocean	3757.3	3378.3	2785.1	972.2	34.9%
Medford Lakes borough	Burlington	3463.1	3687.6	4097.5	-634.4	-15.5%
South Toms River borough	Ocean	3131.9	3364.3	3438.3	-306.4	-8.9%
Lakehurst borough	Ocean	2733.9	3345.7	3160.9	-427.0	-13.5%
Berlin township	Camden	1628.9	1681.8	1645.5	-16.6	-1.0%
Evesham township	Burlington	1431.1	1195.7	728.3	702.8	96.5%
Berkeley township	Ocean	932.3	870.1	539.8	392.5	72.7%
Chesilhurst borough	Camden	885.8	887.2	924.4	-38.6	-4.2%
Monroe township	Gloucester	622.3	573.8	465.0	157.3	33.8%
Winslow township	Camden	599.9	521.6	347.3	252.6	72.7%
Medford township	Burlington	566.0	522.2	448.3	117.7	26.3%
Buena borough	Atlantic	509.1	584.3	479.2	29.9	6.2%
Stafford township	Ocean	484.3	280.1	218.3	266.0	121.9%
Manchester township	Ocean	471.3	435.6	338.9	132.4	39.1%
Pemberton township	Burlington	465.2	507.6	481.4	-16.2	-3.4%
Egg Harbor township	Atlantic	456.2	364.9	288.1	168.1	58.3%
Barnegat township	Ocean	440.4	363.9	258.8	181.6	70.2%
New Hanover township	Burlington	437.3	428.5	639.9	-202.6	-31.7%
Jackson township	Ocean	427.9	332.2	256.4	171.5	66.9%
Wrightstown borough	Burlington	425.1	2196.0	1732.0	-1306.9	-75.5%
Egg Harbor City	Atlantic	409.2	412.9	416.0	-6.8	-1.6%
Galloway township	Atlantic	344.9	258.2	134.7	210.2	156.1%
Woodbine borough	Cape May	339.6	334.8	351.1	-11.5	-3.3%
Little Egg Harbor township	Ocean	324.7	271.5	172.8	151.9	87.9%
Ocean township	Ocean	310.1	260.4	179.4	130.7	72.9%
Hammonton town	Atlantic	305.5	296.0	298.1	7.4	2.5%
Lacey township	Ocean	301.7	263.6	168.6	133.1	78.9%
Waterford township	Camden	290.0	302.4	224.6	65.4	29.1%
Franklin township	Gloucester	276.1	258.8	221.6	54.5	24.6%
Folsom borough	Atlantic	238.5	263.7	228.8	9.7	4.2%
Southampton township	Burlington	235.9	231.4	199.8	36.1	18.1%
Upper township	Cape May	191.8	169.1	106.3	85.5	80.4%
Weymouth township	Atlantic	185.0	160.4	103.3	81.7	79.1%
Hamilton township	Atlantic	184.2	143.9	85.4	98.8	115.7%
Plumsted township	Ocean	181.8	150.0	116.8	65.0	55.7%
Buena Vista township	Atlantic	179.8	184.8	168.0	11.8	7.0%
Tabernacle township	Burlington	145.0	148.8	126.1	18.9	15.0%
Shamong township	Burlington	144.2	128.7	101.2	43.0	42.5%
Port Republic city	Atlantic	136.0	128.3	108.3	27.7	25.6%
Dennis township	Cape May	105.8	90.9	65.0	40.8	62.8%
Mullica township	Atlantic	104.5	104.2	92.7	11.8	12.7%
Eagleswood township	Ocean	88.0	90.2	61.2	26.8	43.8%
Maurice River township	Cumberland	74.2	71.2	49.0	25.2	51.4%
Estell Manor city	Atlantic	29.6	26.2	15.8	13.8	87.3%
Bass River township	Burlington	19.9	20.8	17.7	2.2	12.4%
Woodland township	Burlington	12.2	21.5	23.8	-11.6	-48.7%
Washington township	Burlington	6.2	8.0	8.1	-1.9	-23.5%
"Outside" Municipalities						
Berlin borough	Camden	1718.6	1584.4	1616.2	102.4	6.3%
Vineland city	Cumberland	819.2	797.7	782.8	36.4	4.6%
North Hanover township	Burlington	423.7	583.1	528.0	-104.3	-19.8%
Springfield township	Burlington	107.4	100.8	89.6	17.8	19.9%
Corbin City	Atlantic	59.3	52.2	32.2	27.1	84.2%

Real Estate > (1)	# Building Permits for Dwelling Units

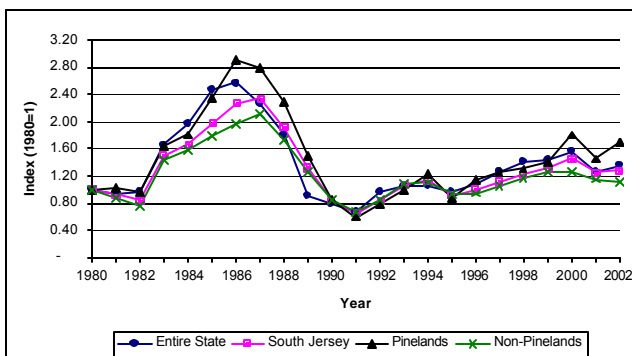## New Jersey Department of Labor 1980 - 2002 [X] Updated

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- Building permits issued increased in the Pinelands and remained relatively unchanged in the Non-Pinelands in 2002.

Dwelling Units Authorized by Building Permits
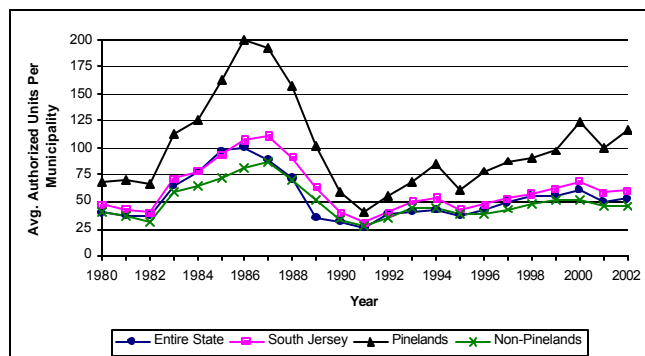
Index of Dwelling Units Authorized by Building Permits

Description: Building permit activity measures the number of dwelling units authorized for construction as reported by municipal building inspectors in New Jersey.

Unit of Analysis: Municipal level data are aggregated to allow for inside/outside Pinelands, regional, and statewide analyses. The aggregation method calculates the average units authorized per municipality.

Summary of Previous Findings

The overall trend in permits for dwelling units followed the broad cycle of economic activity, from a building boom in the mid-1980's to recession at the turn of the decade and subsequent recovery. The average number of permits issued by municipalities inside of the Pinelands was consistently higher and experienced somewhat higher volatility than other areas throughout the monitoring period. This finding is not surprising because the Pinelands region is less developed than the other regions. Another factor involved is the residential build-up that followed the beginning of casino gambling in Atlantic City in the early 1980's.

Building permit activity has gradually increased in all regions of the state from 1995 until to 2001, when activity dipped with the onset of economic recession. Pinelands municipalities that ranked highest in building permits during the 1990s tended to be suburban municipalities in the northern and/or eastern Pinelands region. However, much of this building activity actually occurred outside Pinelands boundaries with few exceptions. An analysis conducted in 2001 suggested that as little as 18% of all Pinelands municipalities' building permits were actually directed within the Pinelands boundary.

Update:

The number of building permits issued increased in 2002, following the recession-related dip in 2001. The state's municipal average number of permits issued grew from 50 to 53, an increase of 6%. The Pinelands region experienced the greatest increase, with the average number of permits increasing from 100 to 117, a 17% increase. In contrast, the average number of building permits issued in the Non-Pinelands region fell slightly from 47 to 46, a decline of 2.5%. The Pinelands average is influenced by a few towns which are experiencing rapid growth – some in regional growth areas inside the Pinelands boundary, others in areas outside the Pinelands boundary. The Non-Pinelands average is affected by a larger number of municipalities that are smaller in land area and are built out.

Most building permits were issued along the fringe of the Pinelands Boundary in 2002, in the suburban communities of Ocean County and in communities surrounding the built-up portions of the Atlantic City and Philadelphia metropolitan areas (Figure RE1). Barnegat, Evesham, Monroe, and Ocean had the largest increases in the number of permits issued, while Berkeley, Lacey, Galloway, and Hamilton had the largest decreases. (Table RE1).

Table R1   Residential Building Permits

Municipality	County	Permits Issued 2002	2001	Change	% Change	5 Year Avg
Barnegat	Ocean	470	180	290	161.1%	277
Evesham	Burlington	576	318	258	81.1%	452
Monroe	Gloucester	333	105	228	217.1%	201
Ocean	Ocean	224	7	217	3100.0%	79
Egg Harbor Township	Atlantic	676	535	141	26.4%	481
Jackson	Ocean	640	530	110	20.8%	629
Manchester	Ocean	380	328	52	15.9%	478
Winslow	Camden	90	58	32	55.2%	72
Hammonton	Atlantic	79	62	17	27.4%	89
Southampton	Burlington	68	55	13	23.6%	58
Mullica	Atlantic	27	16	11	68.8%	20
Woodbine	Cape May	8	1	7	700.0%	3
Stafford	Ocean	251	246	5	2.0%	298
Berlin Township	Camden	15	11	4	36.4%	10
Bass River	Burlington	7	3	4	133.3%	5
Maurice River	Cumberland	4	1	3	300.0%	3
Franklin	Gloucester	69	67	2	3.0%	71
Eagleswood	Ocean	13	11	2	18.2%	8
Weymouth	Atlantic	9	7	2	28.6%	9
New Hanover	Burlington	3	1	2	200.0%	2
Egg Harbor City	Atlantic	2	0	2	200.0%	1
Shamong	Burlington	31	30	1	3.3%	25
Estell Manor	Atlantic	11	10	1	10.0%	10
Pemberton Township	Burlington	29	29	0	0.0%	35
Woodland	Burlington	6	6	0	0.0%	7
Folsom	Atlantic	3	3	0	0.0%	3
Buena	Atlantic	1	1	0	0.0%	5
Wrightstown	Burlington	0	0	0	0.0%	0
Port Republic	Atlantic	6	7	-1	-14.3%	5
South Toms River	Ocean	4	5	-1	-20.0%	2
Medford Lakes	Burlington	3	4	-1	-25.0%	2
Washington	Burlington	1	2	-1	-50.0%	3
Medford	Burlington	104	106	-2	-1.9%	108
Buena Vista	Atlantic	16	18	-2	-11.1%	15
Lakehurst	Ocean	2	4	-2	-50.0%	2
Tabernacle	Burlington	9	16	-7	-43.8%	12
Dennis	Cape May	13	21	-8	-38.1%	24
Upper	Cape May	36	50	-14	-28.0%	47
Beachwood	Ocean	20	34	-14	-41.2%	27
Waterford	Camden	13	31	-18	-58.1%	23
Chesilhurst	Camden	34	53	-19	-35.8%	18
Little Egg Harbor	Ocean	451	480	-29	-6.0%	297
Plumsted	Ocean	31	72	-41	-56.9%	74
Hamilton	Atlantic	294	362	-68	-18.8%	233
Galloway	Atlantic	305	381	-76	-19.9%	341
Lacey	Ocean	8	117	-109	-93.2%	125
Berkeley	Ocean	123	254	-131	-51.6%	278
"Outside" Municipalities						
Vineland	Cumberland	151	125	26	20.8%	131
Corbin City	Atlantic	6	6	0	0.0%	6
Springfield	Burlington	28	28	0	0.0%	33
North Hanover	Burlington	11	15	-4	-26.7%	11
Berlin Borough	Camden	28	86	-58	-67.4%	71

Figure R1   Residential Building Permits Issued 2002

Pinelands Boundary

Building Permits

	0 - 90
	99 - 262
	294 - 470
	576 - 676

Source: NJ Dept of Labor

Author: NJ Pinelands Commission

Date: 2003
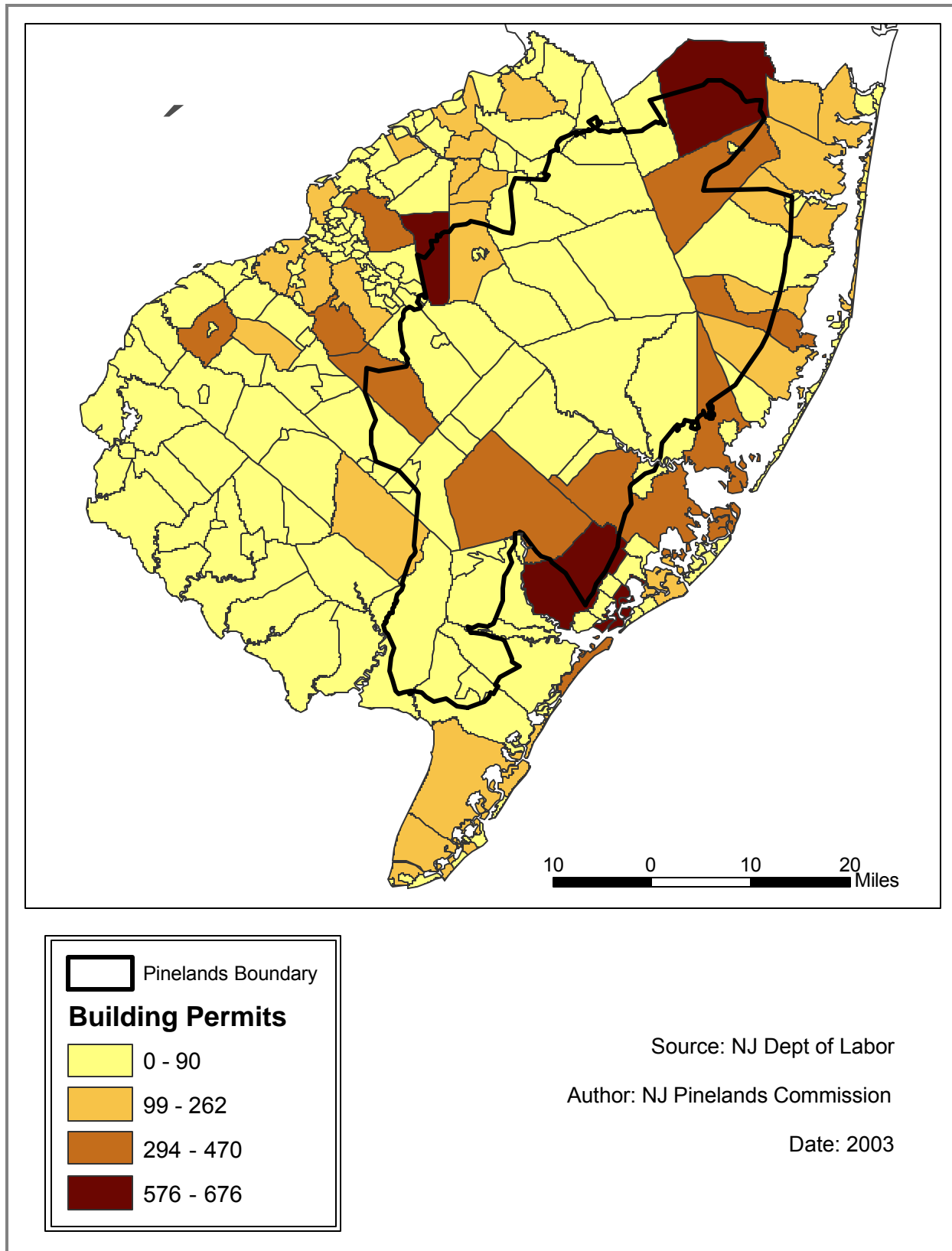
Residential Real Estate Transactions

NJ Dept of Treasury, Div of Taxation 1988 - 2002 ☒Updated

- The number of transactions increased statewide in 2002, and the Pinelands experienced the largest percentage increase.

Index of Residential Property Transactions
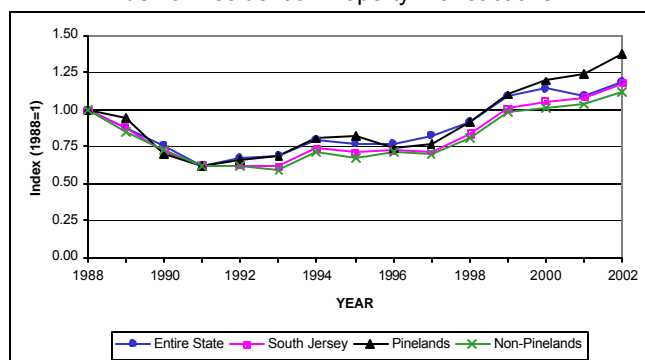
Percentage of Total Housing Transactions by Region
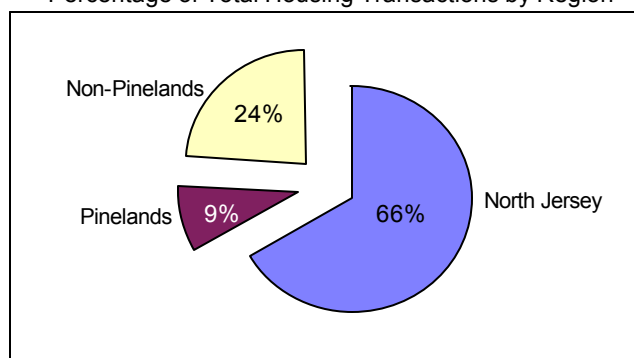
Description: The number of homes sold in each municipality is derived from useable sales data compiled by the New Jersey Department of Treasury.

Unit of Analysis: Real estate transaction data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands analysis

Summary of Previous Findings

The proportion of residential real estate transactions remained relatively steady inside of the Pinelands and the surrounding region over the course of the monitoring period, 1988-2000. Although share was relatively constant, the actual number of transactions in all regions of the state substantially declined from the beginning of monitoring in 1988 through 1991. From 1991 to 1996, real estate transactions increased slightly followed by a more substantial increase through 2001.

Update:

Fueled by low interest rates, the number of transactions continued to increase in 2002. Following a dip in 2001 (related to a decline in transactions in North Jersey), total state transactions increased from 100,593 to 108,886, an increase of 8.2%. The number of transactions continued to rise in Southern New Jersey with increases of 11.6% in the Pinelands Region and 8.0% in the Non-Pinelands Region. The Pinelands had approximately 10,250 transactions and the Non-Pinelands had 26,330 transactions. Sales in South Jersey represented 33.6 % of all New Jersey Sales, effectively unchanged from 33.3% in 2001. The Pinelands share of state transactions has steadily increased from 8.2% of all transactions in 1999 to 9.4% in 2002.

The geographic pattern of transactions mirrors that of building permits, with most transactions occurring in suburban Ocean County and the areas around the fringe of the Atlantic City and Philadelphia metropolitan areas (Figure R2). Berkeley, Evesham, Galloway, and Jackson continued to have the highest number of real estate transactions among the Pinelands municipalities in 2002, while Stafford, Egg Harbor Township, and Berkeley had the largest increases in transactions between 2001 and 2002 (Table R2).

Table R2   Residential Housing Transactions

Municipality	County	2002	2001	Change	% Change	5 Year Avg
Stafford	Ocean	369	200	169	85%	410
Egg Harbor Township	Atlantic	496	385	111	29%	383
Berkeley	Ocean	1008	899	109	12%	805
Winslow	Camden	595	513	82	16%	498
Little Egg Harbor	Ocean	576	502	74	15%	426
Medford	Burlington	425	351	74	21%	353
Hamilton	Atlantic	416	364	52	14%	338
Jackson	Ocean	733	688	45	7%	630
Galloway	Atlantic	735	693	42	6%	607
Barnegat	Ocean	309	269	40	15%	244
Evesham	Burlington	874	835	39	5%	791
Hammonton	Atlantic	125	87	38	44%	94
Southampton	Burlington	204	168	36	21%	174
Beachwood	Ocean	208	177	31	18%	159
Tabernacle	Burlington	102	79	23	29%	86
Monroe	Gloucester	311	289	22	8%	278
Mullica	Atlantic	60	38	22	58%	49
Waterford	Camden	140	119	21	18%	123
Manchester	Ocean	592	574	18	3%	518
Franklin	Gloucester	116	101	15	15%	87
Medford Lakes	Burlington	89	74	15	20%	79
Folsom	Atlantic	15	5	10	200%	15
Upper	Cape May	163	154	9	6%	145
South Toms River	Ocean	54	45	9	20%	37
Egg Harbor City	Atlantic	52	44	8	18%	39
New Hanover	Burlington	12	5	7	140%	7
Shamong	Burlington	94	89	5	6%	70
Plumsted	Ocean	74	69	5	7%	65
Eagleswood	Ocean	21	16	5	31%	15
Washington	Burlington	8	3	5	167%	5
Lacey	Ocean	537	533	4	1%	475
Weymouth	Atlantic	23	20	3	15%	20
Port Republic	Atlantic	13	10	3	30%	11
Bass River	Burlington	10	7	3	43%	10
Woodbine	Cape May	6	4	2	50%	4
Wrightstown	Burlington	3	1	2	200%	3
Chesilhurst	Camden	9	8	1	13%	8
Estell Manor	Atlantic	16	17	-1	-6%	15
Pemberton Township	Burlington	271	273	-2	-1%	237
Dennis	Cape May	76	79	-3	-4%	74
Buena	Atlantic	28	32	-4	-13%	27
Woodland	Burlington	7	11	-4	-36%	10
Buena Vista	Atlantic	31	43	-12	-28%	31
Berlin Township	Camden	46	60	-14	-23%	46
Lakehurst	Ocean	20	36	-16	-44%	19
Maurice River	Cumberland	19	38	-19	-50%	24
Ocean	Ocean	158	178	-20	-11%	144
"Outside" Municipalities						
Vineland	Cumberland	490	426	64	15%	411
Berlin Borough	Camden	87	60	27	45%	72
Springfield	Burlington	25	25	0	0%	21
Corbin City	Atlantic	3	3	0	0%	3
North Hanover	Burlington	8	33	-25	-76%	20

Figure R2   Residential Housing Transactions 2002

Pinelands Boundary

Transactions

0 - 133

137 - 369

389 - 761

859 - 1880

Source: NJ Dept of Treasury

Author: NJ Pinelands Commission

Date: 2003

Real Estate ▷ (3)
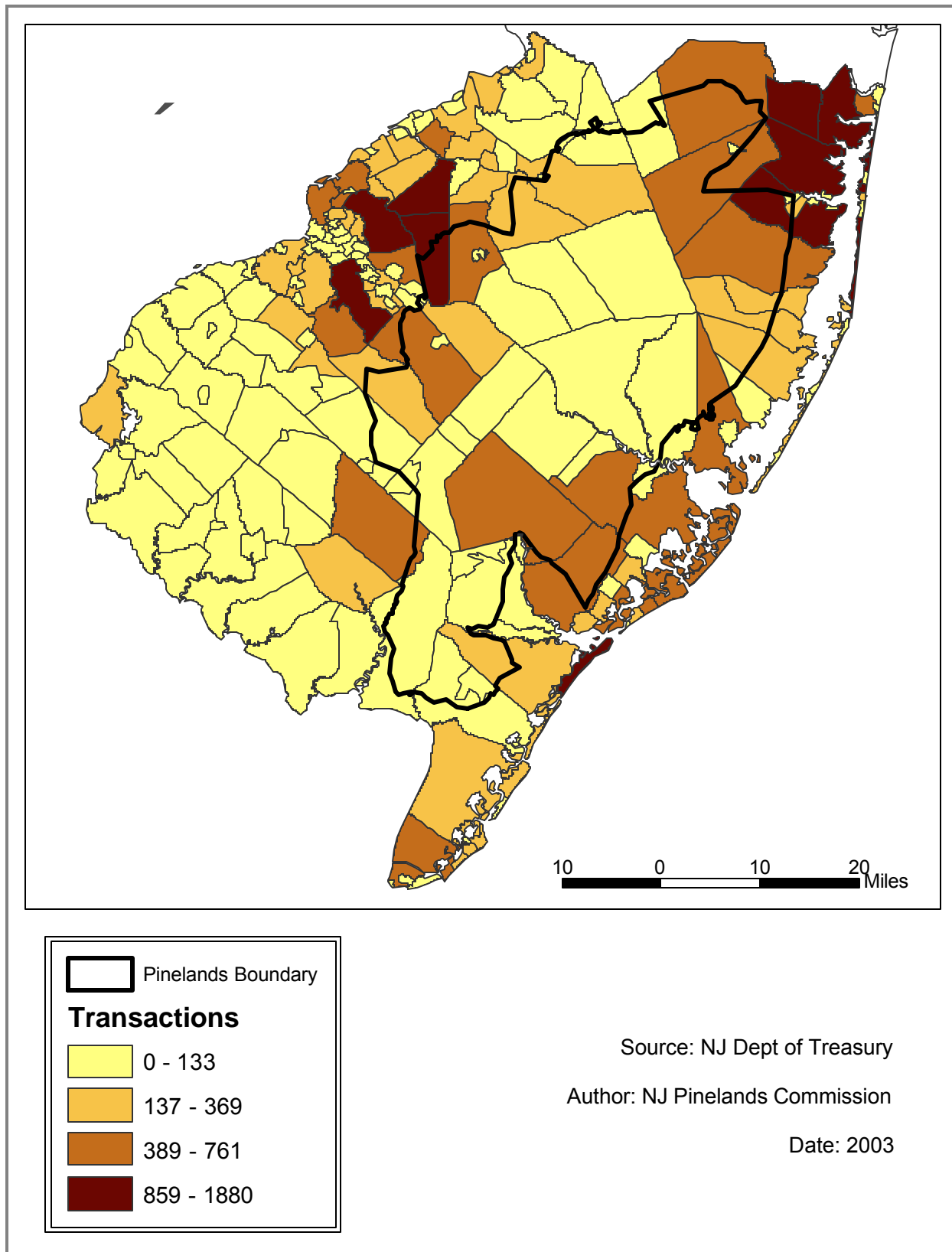
Median Selling Price of Homes [X]Updated

NJ Dept of Treasury, Division of Taxation 1989 - 2002

- Housing prices increased in 2002, the first major increase in the monitoring period.

Median Sale Price of Homes

Index of Median Sale Price of Homes
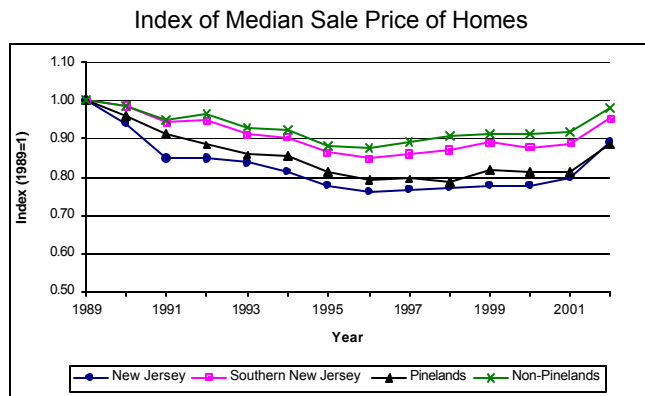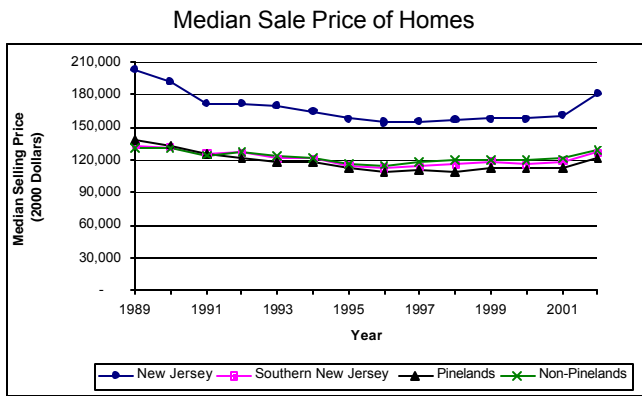
Description: The median selling price for homes sold in each municipality in a given year is derived from sales data compiled by the New Jersey Department of Treasury. Selling prices are shown in 2000 dollars.

Unit of Analysis: Data on median selling prices are compiled at the municipal level and are derived from the middle value from the total number of sales for each region for inside/outside Pinelands, regional, and statewide analyses.

Summary of Previous Findings

Median selling prices of homes inside and outside of the Pinelands declined from the beginning of the monitoring period (1989) throughout the early 1990's and increased slightly in subsequent years through 2001. This period encompassed the end of a real estate boom, recession, and subsequent recovery. Overall, median selling prices were slightly higher in the Non-Pinelands than in the Pinelands, which is consistent with data from the years prior to implementation of the CMP and shortly thereafter (see, for example, *Economic & Fiscal Impacts of the Comprehensive Management Plan*, New Jersey Pinelands Commission, 1983). Historically, median selling prices at the state level have been substantially higher than those for Southern New Jersey.

Update:

The addition of 2002 data reveals a departure from the previous trend. The median sale price of homes increased for all regions, the most significant increase in the entire monitoring period. The state median sales price rose by 11.7%, while the median values for the Pinelands and Non-Pinelands region rose by 8.4% and 6.6% respectively. The gap in sales price between the Pinelands and Non-Pinelands region narrowed between 2001 and 2002, but Pinelands homes continue to sell for lower prices. The inflation adjusted median sales price for a home in the Pinelands was approximately $122,500 in 2002, compared to $129,200 for a Non-Pinelands home (the median sales price in current 2002 dollars was $128,000 for a Pinelands home and $135,000 for a Non-Pinelands home).

Census of Housing

US Census Bureau 1990, 2000

- The Pinelands region has a lower percentage of vacant units and a higher percentage of owner-occupied units compared to the Non-Pinelands region.

US Census of Housing 1990 - 2000

	Pinelands	Non-Pinelands	New Jersey
Housing Units 1990	219,294	684,466	3,075,310
Housing Units 2000	249,026	739,887	3,310,275
Change	29,732	55,421	234,965
Percent Change	13.6%	8.1%	7.6%
Percent Units Vacant 1990	9.8%	17.3%	9.1%
Percent Units Vacant 2000	8.2%	16.7%	7.4%
Percent Units Non-Seasonal Vacant 2000	4.0%	5.8%	4.1%
Percent Units Owner Occupied 1990	80.4%	73.9%	64.9%
Percent Units Owner Occupied 2000	81.4%	74.1%	65.6%
Median Year Structure Built 1990	1969	1957	1959
Median Year Structure Built 2000	1972	1961	1962

Description: Housing units, vacancy status, and occupancy status are compiled through the US Census short form, 100% count. The median year that structures were built is compiled through the long form, 1 in 6 sample.

Unit of Analysis: Municipal level data are aggregated to allow for inside/outside Pinelands, regional, and statewide analyses. The aggregation method sums total values for each region and divides these values by other appropriate values to calculate percentages (for example, the total number of vacant units in a region is divided by the total number of housing units in that region to obtain a percentage).

Supplemental Data

The 249,026 housing units in the Pinelands municipalities accounted for 7.5% of New Jersey's total housing stock in 2000. The number of units in the Pinelands grew by 13.6% between 1990 and 2000, compared to an increase of 8.1% in the Non-Pinelands region and an increase of 7.6% for the state as a whole.

A majority of the 249,026 housing units in the Pinelands municipalities are actually located outside the state-designated Pinelands boundary. An analysis of housing units at the census block level revealed that 102,336 units, or 41% of Pinelands municipal units, are actually within the state-designated boundary. The number of housing units within the Pinelands boundary represents 3% of New Jersey's total housing stock.

The percentage of vacant Pinelands decreased from 9.8% in 1990 to 8.2% in 2000. The percentage of total housing units that are vacant in the Pinelands municipalities was half the vacancy percentage of the Non-Pinelands portion of South Jersey, which stood at 16.7% in 2000. This high percentage is influenced by the large number of seasonal homes along the shore, which are classified as vacant. The non-seasonal vacancy rate was 4.0% in the Pinelands and 5.8% in the Non-Pinelands.

The percentage of homes that are owner-occupied is higher in the Pinelands municipalities than in the Non-Pinelands region, and homeownership has increased at a greater rate. Owner occupied units accounted for 81.4% of all occupied units in the Pinelands municipalities in 2000. The percentage of ownership increased by 1 percentage point over 1990 levels. In comparison, 74.1% of occupied units in the Non-Pinelands are owner occupied, and this percentage increased by 0.2 percentage points between 1990 and 2000.

Housing in the Pinelands is typically newer than in other portions of the state, given the fact that intensive development began later due to the distance from the primary urban core (Philadelphia Metro Region, see Figure RE4). The median year that housing was built was 1972 for the Pinelands municipalities and 1961 for the other municipalities in South Jersey.

Table R4   2000 Census of Housing

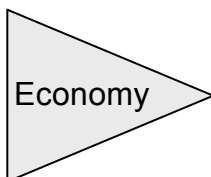| Municipality	County	Housing Units	Vacant Units, % Total Units		Owner Occupied, % Total Occupied		Renter Occupied, % Total Occupied		Median Year Built
Buena	Atlantic	1,553	99	6%	921	63%	533	37%	1960
Buena Vista	Atlantic	2,827	179	6%	2,313	87%	335	13%	1968
Egg Harbor Township	Atlantic	12,067	889	7%	9,444	85%	1,713	15%	1979
Egg Harbor City	Atlantic	1,770	112	6%	1,052	63%	606	37%	1950
Estell Manor	Atlantic	546	25	5%	501	95%	28	5%	1978
Folsom	Atlantic	702	31	4%	616	92%	55	8%	1971
Galloway	Atlantic	11,406	642	6%	7,998	74%	2,748	26%	1984
Hamilton	Atlantic	7,567	419	6%	5,275	74%	1,873	26%	1980
Hammonton	Atlantic	4,843	224	5%	3,269	71%	1,350	29%	1957
Mullica	Atlantic	2,176	132	6%	1,768	86%	276	14%	1971
Port Republic	Atlantic	389	19	5%	324	90%	37	10%	1968
Weymouth	Atlantic	909	50	6%	723	85%	128	15%	1982
Bass River	Burlington	602	54	9%	485	87%	71	13%	1966
Evesham	Burlington	16,324	612	4%	12,275	78%	3,549	22%	1983
Medford	Burlington	8,147	201	2%	6,795	86%	1,151	14%	1977
Medford Lakes	Burlington	1,555	28	2%	1,438	94%	89	6%	1960
New Hanover	Burlington	1,381	227	16%	229	20%	941	80%	1961
Pemberton Township	Burlington	10,778	719	7%	7,371	73%	2,672	27%	1971
Shamong	Burlington	2,175	43	2%	2,029	95%	103	5%	1978
Southampton	Burlington	4,751	188	4%	4,218	94%	280	6%	1975
Tabernacle	Burlington	2,385	39	2%	2,235	95%	111	5%	1976
Washington	Burlington	171	11	6%	106	70%	46	30%	1953
Woodland	Burlington	448	23	5%	356	84%	68	16%	1972
Wrightstown	Burlington	339	28	8%	86	28%	225	72%	1956
Berlin Township	Camden	2,009	116	6%	1,477	78%	416	22%	1968
Chesilhurst	Camden	535	42	8%	435	88%	58	12%	1971
Waterford	Camden	3,671	130	4%	3,096	88%	429	12%	1976
Winslow	Camden	12,413	749	6%	9,706	83%	1,971	17%	1981
Dennis	Cape May	2,327	152	7%	1,986	92%	171	8%	1979
Upper	Cape May	5,472	1206	22%	3,872	91%	394	9%	1981
Woodbine	Cape May	1,080	307	28%	453	59%	320	41%	1966
Maurice River	Cumberland	1,461	129	9%	1,177	88%	155	12%	1959
Franklin	Gloucester	5,461	236	4%	4,627	89%	598	11%	1973
Monroe	Gloucester	11,069	548	5%	8,846	84%	1,675	16%	1976
Barnegat	Ocean	6,066	578	10%	4,896	90%	565	10%	1981
Beachwood	Ocean	3,623	127	4%	3,081	89%	378	11%	1973
Berkeley	Ocean	22,288	2,463	11%	18,430	93%	1,398	7%	1981
Eagleswood	Ocean	693	147	21%	479	88%	67	12%	1966
Jackson	Ocean	14,640	464	3%	12,348	87%	1,826	13%	1980
Lacey	Ocean	10,580	1,244	12%	8,465	91%	871	9%	1977
Lakehurst	Ocean	961	91	9%	573	66%	297	34%	1957
Little Egg Harbor	Ocean	7,931	1,752	22%	5,011	81%	1,174	19%	1978
Manchester	Ocean	22,681	1,988	9%	19,014	92%	1,675	8%	1978
Ocean	Ocean	2,981	535	18%	2,067	85%	379	15%	1970
Plumsted	Ocean	2,628	118	4%	2,131	85%	379	15%	1973
South Toms River	Ocean	1,123	55	5%	882	82%	192	18%	1964
Stafford	Ocean	11,522	2,982	26%	7,784	91%	783	9%	1980
"Outside" Municipalities									
Corbin City	Atlantic	204	33	16%	141	82%	30	18%	1968
North Hanover	Burlington	2,670	172	6%	1,267	51%	1,211	49%	1969
Springfield	Burlington	1,138	40	4%	1,001	91%	97	9%	1972
Berlin Borough	Camden	2,275	70	3%	1,833	83%	372	17%	1966
Vineland	Cumberland	20,958	1,028	5%	13,207	66%	6,723	34%	1965

Figure R4   Median Year of Housing Construction

Pinelands Boundary

Median Year Housing Built

- 1939 - 1951
- 1952 - 1963
- 1964 - 1974
- 1975 - 1993

Source: US Census Bureau

Author: NJ Pinelands Commission

Date: 2003
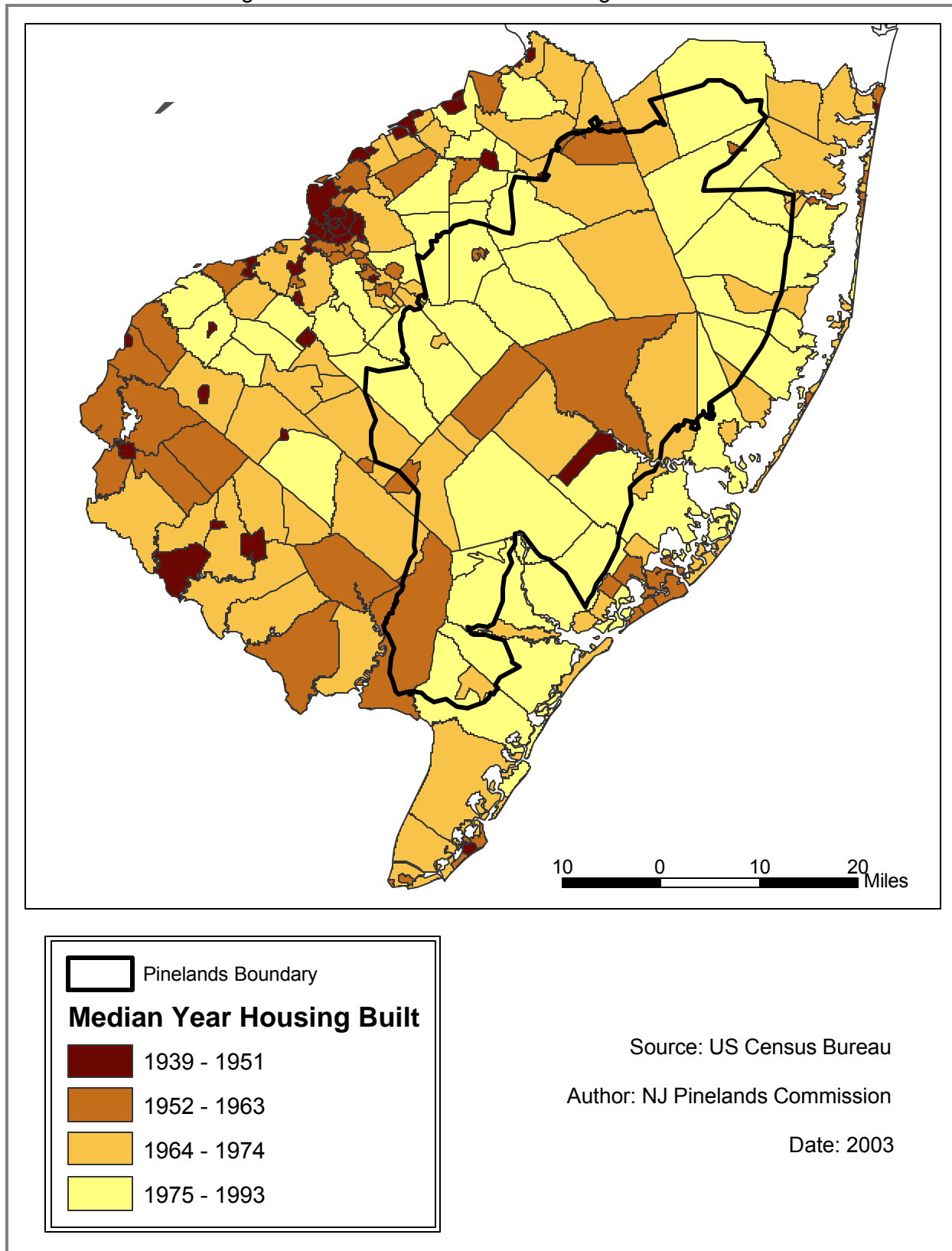
Per Capita Income

US Census Bureau 1979, 1989, 1999

[X] Updated

- Per Capita Income is lower in the Pinelands than in the Non-Pinelands, but is growing at a faster rate.

Per Capita Income

Location	1979 PCI (2000 $)	1989 PCI (2000 $)	1999 PCI (2000 $)	Change 1979-89	Change 1989-99	Change 1979-99
Pinelands	$15,121	$20,049	$22,191	33%	11%	47%
Non-Pinelands	$17,687	$24,629	$25,348	39%	3%	43%
Statewide	$19,276	$25,988	$27,913	35%	7%	45%

Description: Per capita income is an important indicator of regional economic health because it provides information regarding the ability of a region's residents to make purchases and pay taxes, and provides a measure of the economic well-being of individuals. Values are adjusted for inflation and shown in 2000 dollars.

Unit of Analysis: Per capita income data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands and statewide analyses.
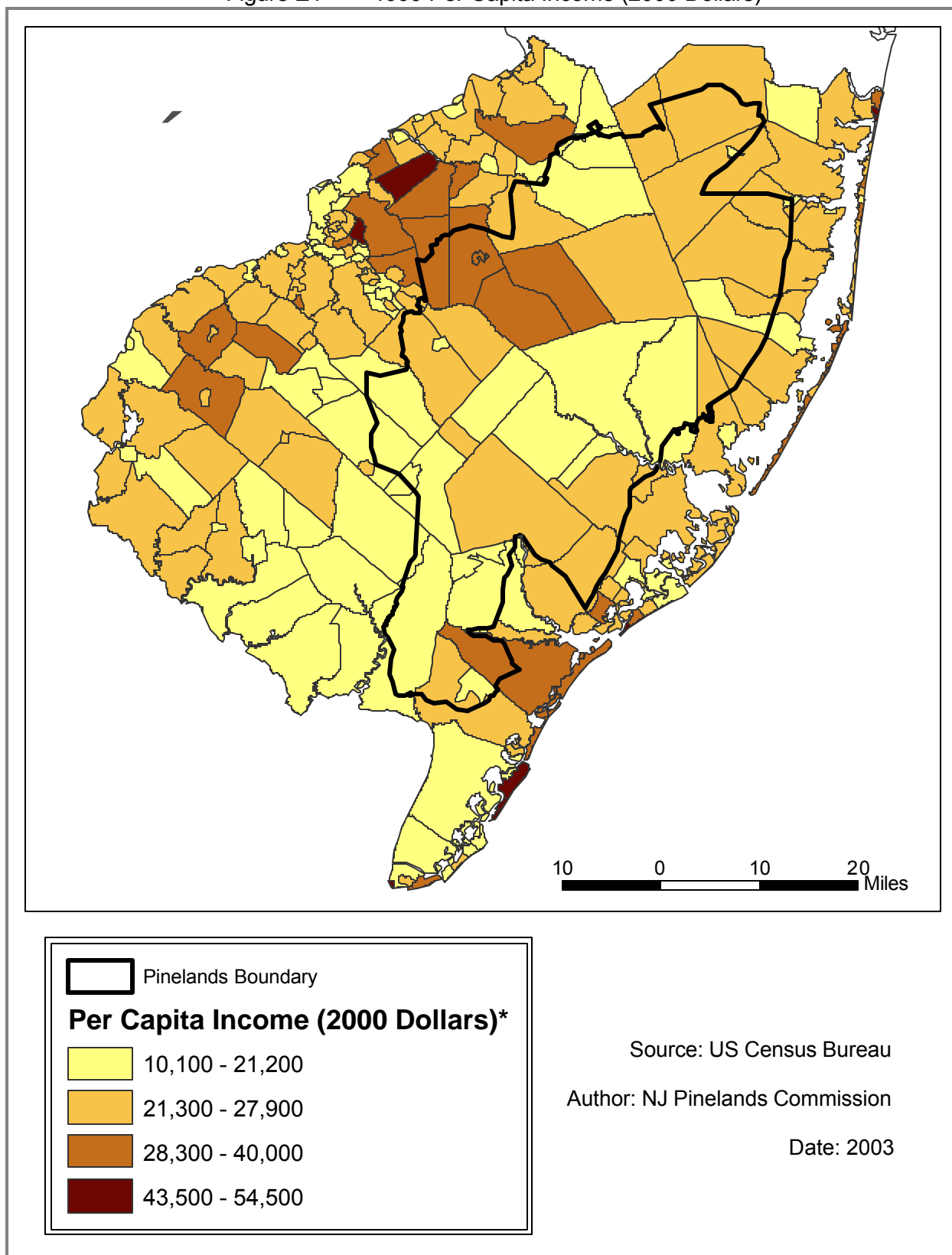
Summary of Previous Findings

Real per capita income increased significantly inside and outside of the Pinelands during the 1980s, unlike many areas of the country. Per capita income growth inside of the Pinelands more than kept pace and finished slightly behind the surrounding region in terms of percentage change between 1980 and 1990. The level of per capita income remained higher in absolute terms in the Non-Pinelands region compared to the Pinelands region

Per capita income continued to increase during the 1990s, but the rate of growth was much lower than in the 1980s. The Pinelands region experienced an 11% increase in income levels between 1989 and 1999, compared to an increase of 7% for the state and 3% for the Non-Pinelands region. While the Pinelands region is catching up to the rest of the state, its income levels are still significantly lower than the rest of the state. Medford Township, Medford Lakes, and Shamong had the highest incomes in the Pinelands, while New Hanover, Washington, and Woodbine had the lowest income levels. Woodland experienced the largest increase in income between 1990 and 2000 (74%), while Washington had the largest decrease (40%). The changes in both towns are related to shifts in institutional group quarters population. A positive sign is that many towns with the lowest per capita incomes experienced the largest increases in income (i.e. Woodbine, Wrightstown, South Toms River, Maurice River, and Lakehurst).

Update

Geographically, income levels appear as a series of bands that run across Southern New Jersey. A band of higher income surrounds the Philadelphia metropolitan area and stretches into the upper-middle portion of the Pinelands. This band represents suburbanizing communities outside of the city. The band is actually split in two by older, working class suburbs and rural communities that have only begun to suburbanize. Another thin band of high income stretches along the shore. A band of more moderate income stretches across the south-central half of the state, and a smaller, moderate income area is located in the northeastern part of South Jersey. These communities tend to be rural communities, with some experiencing recent suburbanization. A region of poverty exists in the extreme southern portion of the state, along with a small pocket of lower income in the heart of the Pinelands. These areas are predominantly rural, and are the least impacted by development. Smaller pockets of poverty persist in the military towns of Burlington County, and in the older urban areas such as Camden and Atlantic City, which have suffered economic hardship. It is interesting to note that while the Pinelands does have a lower Per Capita income than the Non-Pinelands region, these bands of different income stretch across Southern New Jersey regardless of the Pinelands boundary.

Figure E1   1999 Per Capita Income (2000 Dollars)

Pinelands Boundary

Per Capita Income (2000 Dollars)*

10,100 - 21,200
21,300 - 27,900
28,300 - 40,000
43,500 - 54,500

Source: US Census Bureau

Author: NJ Pinelands Commission

Date: 2003

* This range excludes Mantoloking Borough, Ocean County, because it is an extreme outlier.

Table E1   Per Capita Income by Pinelands Municipality (2000 Dollars)

Municipality	County	1999	1989	1979	Change 1989-1999	Change 1979-1989
Medford Twp.	Burlington	39,939	34,138	22,668	17%	51%
Medford Lakes Boro	Burlington	32,436	30,785	22,557	5%	36%
Shamong Twp.	Burlington	31,973	26,121	17,365	22%	50%
Evesham Twp.	Burlington	30,485	27,755	20,465	10%	36%
Tabernacle Twp.	Burlington	28,811	28,217	16,520	2%	71%
Upper Twp.	Cape May	28,422	24,463	17,085	16%	43%
Southampton Twp.	Burlington	27,883	23,172	18,219	20%	27%
Woodland Twp.*	Burlington	27,004	15,506	9,684	74%	60%
Stafford Twp.	Ocean	26,250	20,314	15,854	29%	28%
Port Republic City	Atlantic	25,188	24,444	19,134	3%	28%
Jackson Twp.	Ocean	24,787	22,366	15,835	11%	41%
Lacey Twp.	Ocean	23,913	20,661	15,685	16%	32%
Ocean Twp.	Ocean	23,597	18,697	16,658	26%	12%
Plumsted Twp.	Ocean	23,187	20,874	15,104	11%	38%
Manchester Twp.	Ocean	23,162	20,700	17,213	12%	20%
Egg Harbor Twp.	Atlantic	23,078	22,029	16,278	5%	35%
Berkeley Twp.	Ocean	22,944	19,239	15,073	19%	28%
Berlin Twp.	Camden	22,922	18,753	14,794	22%	27%
Waterford Twp.	Camden	22,404	20,282	14,834	10%	37%
Dennis Twp.	Cape May	22,176	21,248	14,798	4%	44%
Hamilton Twp.	Atlantic	22,025	22,147	16,058	-1%	38%
Winslow Twp.	Camden	21,968	19,464	15,057	13%	29%
Beachwood Boro	Ocean	21,961	20,150	14,644	9%	38%
Galloway Twp.	Atlantic	21,755	22,639	15,681	-4%	44%
Little Egg Harbor Twp.	Ocean	21,312	19,778	15,190	8%	30%
Eagleswood Twp.	Ocean	21,310	18,234	12,713	17%	43%
Folsom Boro	Atlantic	21,310	18,409	15,164	16%	21%
Monroe Twp.	Gloucester	21,176	19,085	15,021	11%	27%
Bass River Twp.	Burlington	21,067	18,050	15,303	17%	18%
Franklin Twp.	Gloucester	20,958	18,761	14,578	12%	29%
Hammonton town	Atlantic	20,557	21,719	16,862	-5%	29%
Mullica Twp.	Atlantic	20,428	19,246	15,263	6%	26%
Estell Manor City	Atlantic	20,123	21,747	15,325	-7%	42%
Barnegat Twp.	Ocean	19,956	18,213	13,627	10%	34%
Pemberton Twp.	Burlington	19,884	17,512	13,415	14%	31%
Weymouth Twp.	Atlantic	19,625	18,815	14,314	4%	31%
Lakehurst Boro	Ocean	19,008	14,574	12,426	30%	17%
Buena Vista Twp.	Atlantic	19,000	17,517	13,404	8%	31%
Maurice River Twp.	Cumberland	17,717	14,149	11,501	25%	23%
Buena Boro	Atlantic	17,279	16,557	15,360	4%	8%
South Toms River Boro	Ocean	16,839	13,929	11,622	21%	20%
Chesilhurst Boro	Camden	15,764	15,548	12,407	1%	25%
Egg Harbor City	Atlantic	15,660	17,346	16,444	-10%	5%
Wrightstown Boro	Burlington	14,976	11,903	9,165	26%	30%
Washington Twp.+	Burlington	14,447	23,950	13,190	-40%	82%
Woodbine Boro	Cape May	13,783	10,454	8,757	32%	19%
New Hanover Twp.	Burlington	12,548	12,600	12,350	0%	2%
"Outside" Municipalities						
Springfield Twp.	Burlington	30,307	25,770	17,564	18%	47%
Berlin Boro	Camden	25,850	24,031	17,308	8%	39%
Corbin City	Atlantic	25,504	21,910	18,674	16%	17%
Vineland City	Cumberland	22,037	20,987	16,485	5%	27%
North Hanover Twp.	Burlington	19,429	18,002	14,594	8%	23%

* Large change the partially the result of a large decrease in institutional population
+ Erratic change caused by small population size and presence of large institutional population
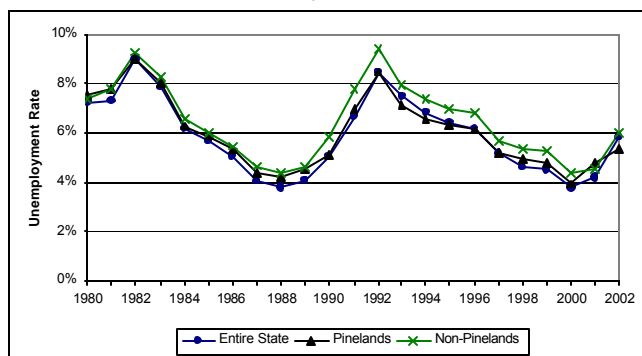
Economy ▷ ② # Unemployment
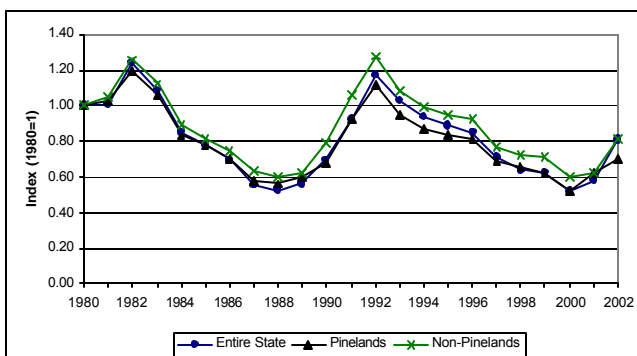
New Jersey Department of Labor 1980 - 2002

[X] Updated

- Unemployment continued to rise throughout the state in 2002.

Unemployment Rate

Index of Unemployment Rate

Description: The unemployment rate is the proportion of the labor force (the number of people available to be, and desiring to be, working for pay) residing in an area which is unemployed (not working for pay) at a given point in time.

Unit of Analysis: Municipal level data are aggregated to allow for inside/outside Pinelands and statewide analyses.

Summary of Previous Findings

Trends in unemployment in the Pinelands and Non-Pinelands regions have tracked closely together, with levels in the Pinelands consistently lower than the levels in the Non-Pinelands from 1990-2000. Overall unemployment in Southern New Jersey appeared to follow general economic conditions, declining in the mid-1980s before increasing at the turn of the decade during the recession. Following a peak in 1992, unemployment levels declined steadily by roughly four percentage points by 2000, coinciding with a period of economic growth. Unemployment rose in 2001 with the onset of recession.

Update

While the economy was officially not in recession in 2002, as the GDP gained some value in all four quarters, the national job market remained weak. According to the US Bureau of Labor Statistics, approximately 8.4 million Americans were unemployed in 2002, compared to 5.7 million in 2000. The national unemployment rate rose from 4.0% to 5.8% in that period. US employers have cut more than 2 million jobs since the start of 2001. Mirroring national trends, unemployment in New Jersey rose from 4.2% in 2001 to 5.8% in 2002.

The 2002 Annual Report erroneously stated that the unemployment rate in the Pinelands was 4.0%. Revised calculations coupled with the availability of updated figures revealed that the unemployment rate in 2001 was 4.7%, not 4.0%. In 2002 the Pinelands rate climbed to 5.3%. While the rate in 2001 was higher than previously thought, the change in unemployment in the Pinelands between 2001 and 2002 was smaller than the Non-Pinelands region. Unemployment in the Non-Pinelands grew from 4.5% to 6.0%.

Increases in the unemployment rate in Pinelands municipalities have been greatest in small boroughs and in large townships in the heart of the Pinelands. Municipalities in Atlantic County generally had smaller increases in unemployment from 2000 to 2002 (from the end of the economic boom to the present) compared to the rest of South Jersey.

Table E2   Unemployment 2000 – 2002

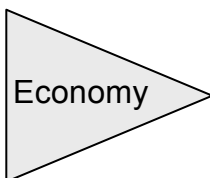| Municipality	County	2002	2001	2000	Change
Wrightstown Boro	Burlington	11.0%	7.8%	7.1%	3.9%
Chesilhurst Boro	Camden	7.9%	5.6%	5.4%	2.5%
Pemberton Twp.	Burlington	6.4%	4.4%	4.0%	2.4%
Washington Twp.	Burlington	6.4%	4.3%	4.0%	2.4%
Little Egg Harbor Twp.	Ocean	7.2%	5.5%	5.2%	2.0%
Woodland Twp.	Burlington	5.5%	3.8%	3.5%	2.0%
Bass River Twp.	Burlington	5.3%	3.6%	3.3%	2.0%
South Toms River Boro	Ocean	7.1%	5.4%	5.2%	1.9%
Berkeley Twp.	Ocean	6.7%	5.1%	4.8%	1.9%
Southampton Twp.	Burlington	5.0%	3.4%	3.1%	1.9%
Manchester Twp.	Ocean	6.5%	4.9%	4.7%	1.8%
Winslow Twp.	Camden	5.4%	3.8%	3.6%	1.8%
Medford Twp.	Burlington	4.7%	3.2%	2.9%	1.8%
Buena Boro	Atlantic	12.5%	10.2%	10.8%	1.7%
Beachwood Boro	Ocean	6.1%	4.6%	4.4%	1.7%
Franklin Twp.	Gloucester	5.9%	4.3%	4.2%	1.7%
Stafford Twp.	Ocean	5.7%	4.3%	4.1%	1.6%
Lacey Twp.	Ocean	5.6%	4.2%	4.0%	1.6%
Ocean Twp.	Ocean	5.4%	4.1%	3.9%	1.5%
Eagleswood Twp.	Ocean	5.1%	3.8%	3.6%	1.5%
Jackson Twp.	Ocean	5.2%	3.9%	3.8%	1.4%
Barnegat Twp.	Ocean	5.0%	3.8%	3.6%	1.4%
Berlin Twp.	Camden	4.3%	3.1%	2.9%	1.4%
Medford Lakes Boro	Burlington	3.8%	2.6%	2.4%	1.4%
Monroe Twp.	Gloucester	4.5%	3.3%	3.2%	1.3%
Lakehurst Boro	Ocean	4.3%	3.2%	3.0%	1.3%
Shamong Twp.	Burlington	3.4%	2.3%	2.1%	1.3%
Egg Harbor City	Atlantic	9.1%	7.4%	7.9%	1.2%
Tabernacle Twp.	Burlington	3.1%	2.1%	1.9%	1.2%
Woodbine Boro	Cape May	10.3%	8.9%	9.2%	1.1%
Buena Vista Twp.	Atlantic	8.0%	6.5%	6.9%	1.1%
Mullica Twp.	Atlantic	8.0%	6.5%	6.9%	1.1%
Plumsted Twp.	Ocean	3.9%	2.9%	2.8%	1.1%
Waterford Twp.	Camden	3.3%	2.4%	2.2%	1.1%
New Hanover Twp.	Burlington	2.9%	2.0%	1.8%	1.1%
Evesham Twp.	Burlington	2.6%	1.8%	1.6%	1.0%
Dennis Twp.	Cape May	6.7%	5.7%	5.9%	0.8%
Weymouth Twp.	Atlantic	5.8%	4.7%	5.0%	0.8%
Maurice River Twp.	Cumberland	5.6%	5.0%	4.8%	0.8%
Hammonton town	Atlantic	5.6%	4.5%	4.8%	0.8%
Egg Harbor Twp.	Atlantic	5.4%	4.4%	4.6%	0.8%
Upper Twp.	Cape May	6.2%	5.3%	5.5%	0.7%
Galloway Twp.	Atlantic	4.9%	4.0%	4.2%	0.7%
Folsom Boro	Atlantic	4.7%	3.8%	4.0%	0.7%
Hamilton Twp.	Atlantic	4.7%	3.8%	4.1%	0.6%
Estell Manor City	Atlantic	3.3%	2.6%	2.7%	0.6%
Port Republic City	Atlantic	3.6%	2.9%	3.1%	0.5%
"Outside Municipalities"					
North Hanover Twp.	Burlington	6.5%	4.5%	4.1%	2.4%
Berlin Boro	Camden	4.8%	3.4%	3.2%	1.6%
Springfield Twp.	Burlington	3.9%	2.7%	2.5%	1.4%
Vineland City	Cumberland	8.2%	7.3%	7.0%	1.2%
Corbin City	Atlantic	4.6%	3.9%	4.3%	0.3%

Figure E2   Unemployment Rate 2002 and Change in Unemployment Rate 2000 - 2002

Pinelands Boundary

Unemployment Rate

- 0.8% - 4.5%
- 4.6% - 7.6%
- 7.7% * - 12.5%
- 13.6% - 22.9%

Source: NJ Dept of Labor

Author: NJ Pinelands Commission

Date: 2003

Pinelands Boundary

Unemployment Change *

- 0% - 0.9%
- 1% - 1.6%
- 1.7% - 2.6%
- 2.7% - 4.9%

Source: NJ Dept of Labor

Author: NJ Pinelands Commission

Date: 2003

* Represents the change in percentage points, not the percent change.

Long Term Economic Monitoring Program
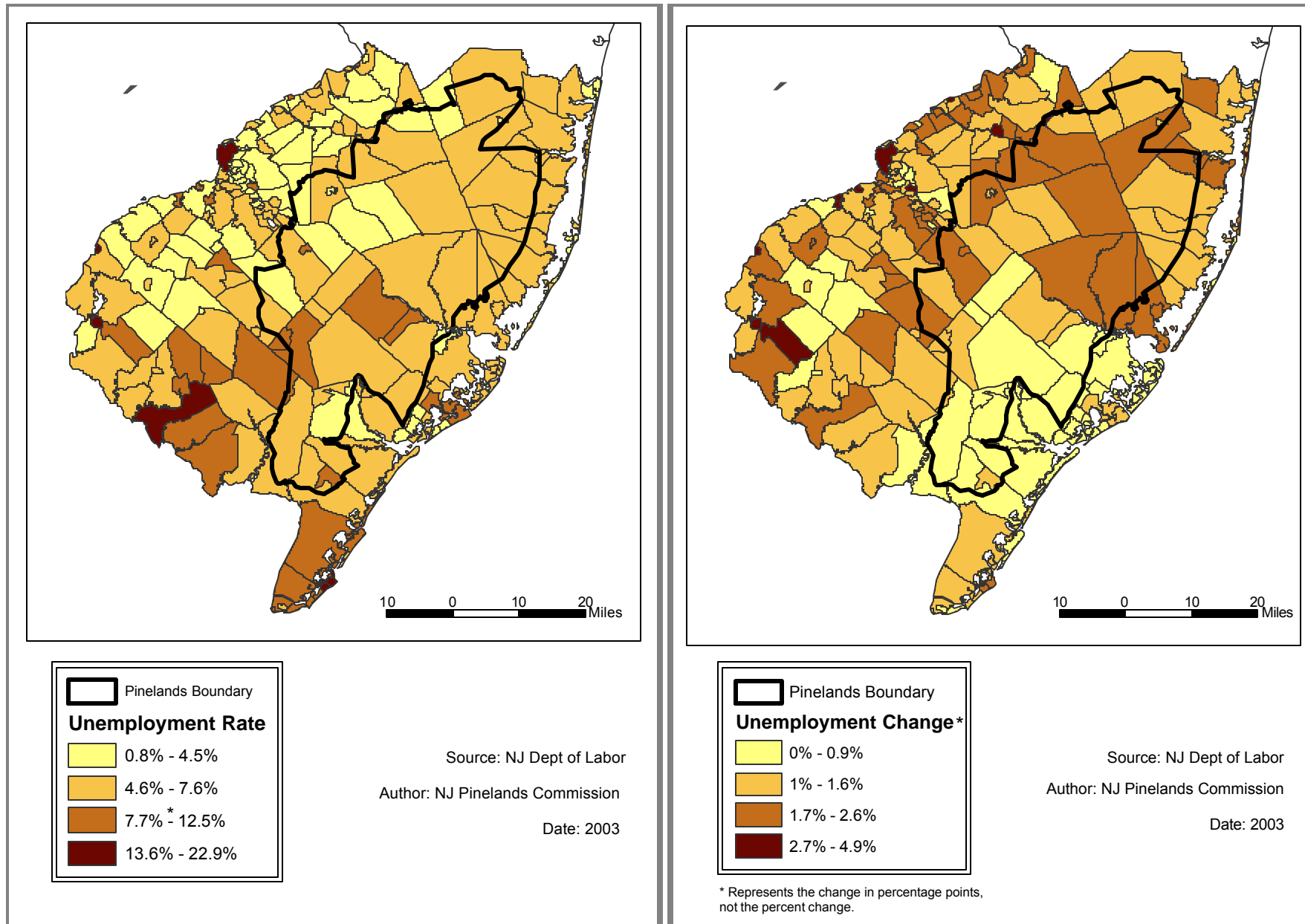
Employment, Establishments, Wages

New Jersey Department of Labor 1993 - 1999   ☐ Updated

- The largest employment sectors in the Pinelands are: Services, Retail, and Construction.

Employment	1993	1994	1995	1996	1997	1998	1999	Change
State	2,872,496	2,928,869	2,972,128	3,006,549	3,079,798	3,160,385	3,283,702	14.3%
Pinelands	102,031	108,449	111,619	113,925	116,433	118,607	119,683	17.3%
Non Pinelands	550,063	564,997	574,319	582,399	595,244	600,769	598,217	8.8%
Establishments								
State	218,159	218,953	223,091	229,512	238,105	241,165	281,666	29.1%
Pinelands	9,346	9,561	9,864	10,297	10,982	11,320	11,882	27.1%
Non Pinelands	38,149	38,766	39,684	40,495	42,243	42,952	44,051	15.5%
Wages								
State	$42,489	$37,040	$42,741	$43,674	$39,731	$41,345	$42,176	-0.7%
Pinelands	$28,747	$28,670	$27,288	$27,848	$28,660	$29,569	$30,258	5.3%
Non Pinelands	$30,481	$30,663	$29,881	$30,364	$30,645	$31,484	$31,960	4.9%

Description: These three variables collectively provide a picture of the composition, size, strength, and location of the job market. The first variable, *employment*, is a basic measure of economic health. Employment data count the number of jobs in each municipality as tracked by unemployment insurance coverage.[9] The data are broken down to the first Standard Industrial Classification (SIC) code level (major industry division) to track the shifting of activity between major economic components. The second variable, *number of establishments*, refers to the number of businesses that have employees and is presented at the single-digit SIC code level. The third variable, *wages*, is a measure of economic activity that complements employment and number of establishments. Wages paid are also shown by SIC code to allow for industry-specific analysis

Unit of Analysis: Municipal level data became available for all three variables beginning in 1993, enabling analysis of inside/outside Pinelands and statewide trends. Data for all three variables were only available at the county level for years prior to 1993 and have been discontinued from this analysis. Refer to the *1997 First Annual Report* for county data prior to 1993. It must be emphasized that there are limitations to municipal data due to disclosure regulations.[10] Therefore, Pinelands and Non-Pinelands aggregates are approximations, not exact counts.

Summary of Previous Findings

Identification of meaningful trends is limited by the effect of data suppression, especially inside of the Pinelands. Data for the mining sector are unavailable because of the effect of data suppression on small values. Indices were created for each variable in order to place New Jersey, the Pinelands, and the Non-Pinelands regions on the same graphs. Large gaps between data values would mask trends if raw data for all regions were graphed together (employees at the state level number in the millions, while the Pinelands region has just over 100,000).

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[9] Because government employment is not included in all data sets, any such data have been omitted to facilitate comparisons over the entire monitoring period. Federal, state, local, and postal service jobs are therefore not represented in the data shown. This exclusion is in addition to the types of employment not tracked by the New Jersey Department of Labor, which includes "self-employed and unpaid family workers or certain agricultural and in-home domestic workers." As used in this report, the term "employment" refers to the modified private employment figures.

[10] The information derived in this analysis was obtained from the records of the Covered Employment system, which does not release data in cases where it has the possibility of providing information about a single employer or employment location. Data are "suppressed" when the system contains information on three or fewer employers, or when one employer represents 80% or more of the market. While it is unlikely that data suppression has had a large effect at the county level, it is likely to affect data at the municipal level, especially when the data are further broken down by industrial sector.

Employment

The Pinelands region outpaced the Non-Pinelands region and the state for growth in employment between 1993 and 1999, but most of the growth occurred between 1993 and 1994. Employment in the Pinelands grew by 17.3% during that period, compared to 14.3% for the state and 8.8% for the Non-Pinelands region. Growth in employment steadily increased for all regions, except for a small decrease in the Non-Pinelands region between 1998 and 1999 due to job cuts in the manufacturing sector.

The largest sectors of employment in the Pinelands are services, retail, and construction, whereas the largest sectors for the state and Non-Pinelands region are services, retail, and manufacturing. The strength of the construction sector in the Pinelands is reflected by the higher number of building permits issued in the Pinelands, while lower numbers in manufacturing are probably the result of historical trends related to distance from the urban core, and possibly to current restrictions on industrial activity under the CMP. While service employment is greater than retail employment in the Pinelands, employment in the Pinelands is weighted more towards the retail sector and less towards the service sector compared to the state and the Non-Pinelands region. Employment shifts between different sectors was minimal in the Pinelands over the course of the monitoring period.

Employment Per Sector as a Percentage of Total Employment 1999

Sector	New Jersey	Pinelands	Non-Pinelands
Agriculture	1%	3%	2%
Mining	0%	0%	0%
Construction	4%	10%	4%
Manufacturing	14%	8%	12%
Trans, Comm, Utils	8%	7%	5%
Wholesale	9%	6%	6%
Retail	19%	29%	24%
FIRE	8%	6%	6%
Services	35%	31%	41%
Unclassified	2%		

Index of Employment
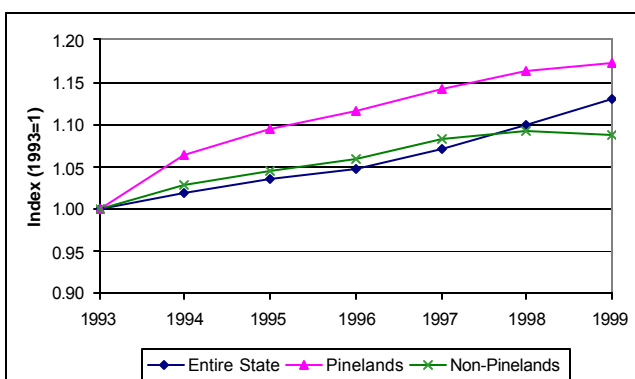
Establishments

The Pinelands region outpaced the Non-Pinelands region for growth in establishments during the monitoring period, but state growth outpaced Pinelands growth between 1998 and 1999. The number of establishments in the Pinelands increased by 27.1%, compared to an increase of 29.1% for the state and 15.5% for the Non-Pinelands.

The sectors with the largest number of establishments are synonymous with the sectors of largest employment. The service, retail, and construction sectors have the largest number of establishments in the Pinelands, while services, retail, and manufacturing are the largest in the other regions. Construction establishments comprise a considerably larger percentage of total establishments in the Pinelands compared to the other regions. The percentage of total establishments in the agricultural sector is also larger in the Pinelands than other regions, while the percentage of service and retail sectors are fairly close between all three regions.

Establishments Per Sector as a Percentage of Total Employment 1999

Sector	New Jersey	Pinelands	Non-Pinelands
Agriculture	2%	5%	3%
Mining	0%	0%	0%
Construction	10%	19%	12%
Manufacturing	4%	3%	4%
Trans, Comm, Utils	4%	5%	4%
Wholesale	10%	8%	8%
Retail	18%	22%	25%
FIRE	7%	7%	8%
Services	35%	32%	38%
Unclassified	11%		

Index of Establishments
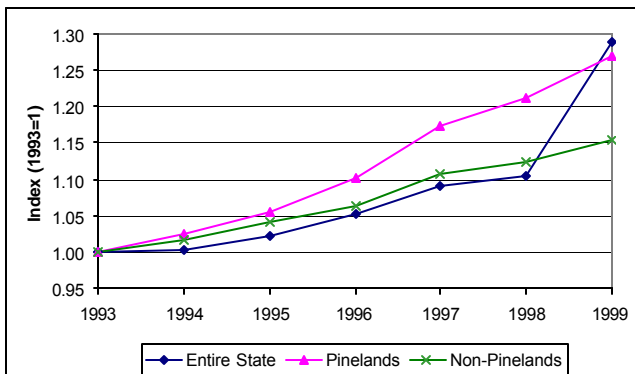
Wages

The Pinelands region outpaced the state and the Non-Pinelands region for growth in annual wages during the monitoring period, but the average annual wage in the Pinelands is still slightly lower than the Non-Pinelands wage and is considerably lower than the state wage. Wages for the Pinelands and Non-Pinelands region dipped between 1994 and 1995, and have increased steadily ever since, while the change in the state wage was more erratic during the monitoring period.

The highest paying sectors in the Pinelands are wholesale, finance-insurance-real estate, and construction. The highest paying sectors in the state are finance-insurance-real estate, transportation-communications-utilities, and wholesale, and the highest paying in the Non-Pinelands region are manufacturing, wholesale, and construction. Agricultural wages are much higher in the Pinelands compared to the Non-Pinelands region, while manufacturing wages are much lower in the Pinelands compared to the Non-Pinelands.

Average Annual Wages Per Sector 1999

Sector	New Jersey	Pinelands	Non-Pinelands
Agriculture	$24,598	$25,612	$19,802
Mining	$53,079	NA	NA
Construction	$45,603	$41,151	$40,573
Manufacturing	$53,620	$36,210	$44,745
Trans, Comm, Utils	$55,444	$42,000	$41,118
Wholesale	$54,904	$42,721	$44,137
Retail	$21,388	$18,009	$19,370
FIRE	$65,513	$41,356	$38,699
Services	$39,245	$30,378	$31,113
Unclassified	$41,064	NA	NA
Average	$42,176	$30,258	$31,960

Index of Average Annual Wages
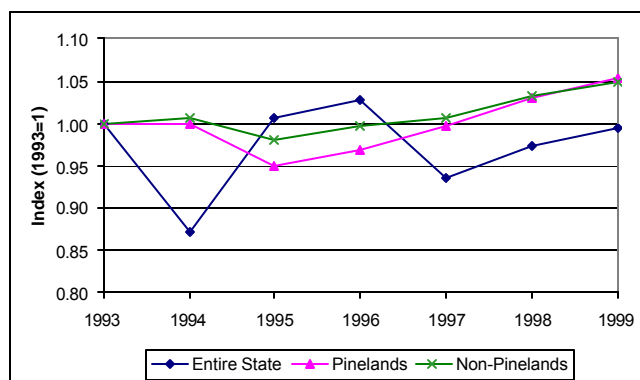
> • The Pinelands has a lower ratio of retail stores per resident than the Non-Pinelands.

Per Capita Retail Sales

COUNTY	1997 Per Capita Sales	1992 Per Capita Sales	Change
Atlantic	$11,409	$9,575	19.2%
Burlington	$11,309	$9,370	20.7%
Camden	$9,803	$7,746	26.5%
Cape May	$10,526	$10,233	2.9%
Cumberland	$9,334	$7,719	20.9%
Gloucester	$10,651	$9,439	12.8%
Ocean	$10,516	$8,555	22.9%
Salem	$6,599	$5,965	10.6%
South Jersey	$10,422	$8,667	20.3%
State	$10,640	$9,084	17.1%
Pinelands [11]	$8,715	$7,083	23%
Non-Pinelands	$13,066	$11,455	14.1%

Description: The Census of Retail Trade is conducted every 5 years as part of the Economic Census. The Census Bureau began using a different industrial classification system in 1997, with the largest change being the removal of the eating and drinking establishments classification from the 1997 data. To adjust for this, sales for eating and drinking establishments were removed from the 1992 data. The resulting numbers are suitable for a rough comparison.[12] Values are adjusted for inflation and shown in 2000 dollars, and sales are presented per capita, based on 1992 and 1997 population estimates.

Unit of Analysis: Retail sales data are obtained at the county level and aggregated to yield totals for the southern eight-county region and the entire State (see Appendix for Pinelands acreage by county). Partial data for the Pinelands and Non-Pinelands region are available as the Census also collects data at the "place" level, which includes the most populous municipalities (115 out of 202 municipalities are available, 28 in the Pinelands and 87 outside the Pinelands).

Summary of Previous Findings

Per capita retail sales rose in Southern New Jersey between 1992 and 1997, with an increase of 20.3%. The change in sales was generally more significant in the more densely populated counties, while the southern counties experienced smaller increases. Per capita sales are higher for the state as a whole compared to Southern New Jersey, but South Jersey sales have increased at a faster rate. Per capita retail sales for the 28 Pinelands municipalities increased by 23%, while sales for the 87 Non-Pinelands municipalities rose by 14.1%.

Update

Another useful indicator of retail health is the number of retail establishments per resident. This indicates the presence of commercial ratables as well as relative shopping convenience. According to the New Jersey Department of Labor Employer Listing Database, there were 10,683 retail establishments in South Jersey in 2001. Per capita, there was one store for every 212 residents. There were 2,147 establishments in the Pinelands and 8,537 in the Non-Pinelands region. There were fewer stores per person in the Pinelands (1 store for every 287 residents) compared to the Non-Pinelands (1 store for every 193 residents). Ratios for Pinelands municipalities can be found in the municipal fact book in the appendix of this report.

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[11] The categories for Pinelands and Non-Pinelands represent the number of municipalities for which the data is available. Data is available for 28 of the 47 Pinelands municipalities, and 87 of the 155 Non-Pinelands municipalities.
[12] Other noteworthy changes include the reclassification of pawn shops to the Finance and Insurance sector, and of bakeries to the Manufacturing sector, and the addition of Wholesale Trade establishments that have facilities which cater to the general public. The numbers in this report have not been adjusted to reflect these changes.
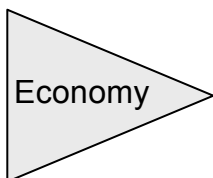
Assessed Farmland Acreage

[X] Updated

New Jersey Agricultural Statistics Service 1986 - 2000

- Assessed farmland acreage increased inside the Pinelands while it decreased outside the Pinelands.

Average Assessed Acres of Farmland

	Avg Acres 1986 – 1990	Avg Acres 1991 – 1995	Avg Acres 1996 – 2000
Pinelands	185,721 (34.8%)	188,767 (35.7%)	212,732 (38.7%)
Non-Pinelands	347,510 (65.2%)	339,402 (64.3%)	337,279 (61.3%)
South Jersey	533,230 (100.0%)	528,169 (100.0%)	550,011 (100.0%)

Description: Agriculture is recognized in federal and state Pinelands legislation as an industry of special significance and, therefore, receives a more detailed examination using three variables. The first variable, farmland assessed acreage, is compiled from FA-1 forms, which are completed by landowners and indicate acreage devoted to various crops and pasture as well as livestock. To qualify for farmland assessment, a landowner must have a minimum of five contiguous acres devoted to agricultural or horticultural use, and generate a minimum of $500 in sales (plus an additional $5 per acre for every acre of agricultural land beyond the first five acres or $0.50 per acre for every acre of woodland land beyond the first five acres).

Unit of Analysis: Farmland assessment data is compiled at the municipal level and aggregated to examine Pinelands and county totals.

Update

Five-year averages for Pinelands and Non-Pinelands municipalities were calculated in order to limit random variation that would affect the data if it was examined on a yearly basis. The average acreage has been increasing in the Pinelands and decreasing in the Non-Pinelands. As a result, the Pineland's share of total South Jersey assessed farmland acreage has rose from 34.8% in the late 1980s to 38.7% in the late 1990s.

Burlington County has the largest amount of farm acreage in the Pinelands, while the overwhelming majority of Atlantic, Camden, and Ocean Counties' assessed farmland falls inside the Pinelands. The amount of assessed acreage in the Pinelands has increased over the fifteen-year period for all counties except Cape May. This increase probably reflects more accurate reporting and an increase in the number of farms that meet the minimum requirements of reporting in conjunction with actual increases in acres farmed. This can be assumed, given that the Agricultural Census figures show a decrease in acres, a slight increase in the average farm size, and a constant number of farms between 1992 and 1997. The amount of assessed acres in the Non-Pinelands region either decreased or remained the same in most South Jersey counties over the same period.

Table E5   Farmland Assessed Acreage

Farmland Assessed Acreage in the Pinelands Municipalities

County	1986-1990 Average	1991-1995 Average	1996-2000 Average	Change between 86-90 and 96-00
Atlantic	40,398	39,816	43,306	7.2%
Burlington	87,467	89,013	91,871	5.0%
Camden	10,275	10,047	10,996	7.0%
Cape May	7,518	7,298	7,011	-6.7%
Cumberland	8,132	5,570	10,369	27.5%
Gloucester	19,710	21,123	22,636	14.8%
Ocean	12,221	15,900	26,543	117.2%

Farmland Assessed Acreage in the Non-Pinelands Municipalities

County	1986-1990 Average	1991-1995 Average	1996-2000 Average	Change between 86-90 and 96-00
Atlantic	217	278	288	32.7%
Burlington	69,521	64,463	61,786	-11.1%
Camden	3,669	2,796	2,397	-34.7%
Cape May	6,881	5,493	5,496	-20.1%
Cumberland	77,340	81,779	86,029	11.2%
Gloucester	63,862	60,619	57,277	-10.3%
Ocean	826	737	705	-14.6%
Salem	125,194	123,236	123,301	-1.5%

Percentage of Total Farmland Assessed Acreage in the Pinelands Municipalities

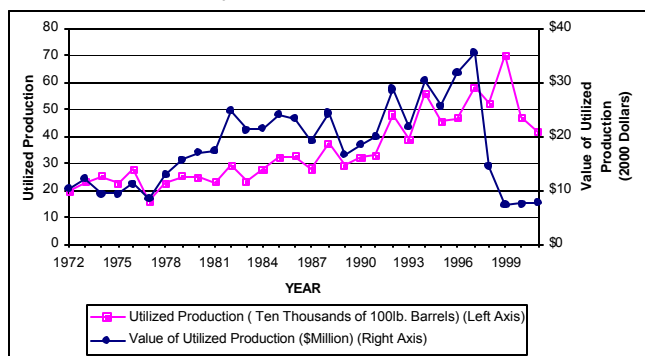| County	1986-1990 Average	1991-1995 Average	1996-2000 Average	Change between 86-90 and 96-00
Atlantic	99%	99%	99%	0%
Burlington	56%	58%	60%	4%
Camden	74%	78%	82%	8%
Cape May	52%	57%	56%	4%
Cumberland	10%	6%	11%	1%
Gloucester	24%	26%	28%	5%
Ocean	94%	96%	97%	4%

Economy ▷ 6 Cranberry and Blueberry Production

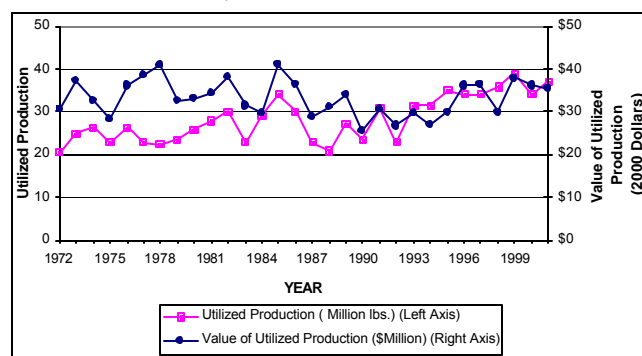## NJ Agricultural Statistics Service 1972 - 2001 ☐ Updated

- Cranberry Prices have slightly increased following a precipitous decline.

NJ Cranberry Production, Value and Volume

NJ Blueberry Production, Value and Volume

Utilized Production (Ten Thousands of 100lb. Barrels) (Left Axis)
Value of Utilized Production ($Million) (Right Axis)

Utilized Production (Million lbs.) (Left Axis)
Value of Utilized Production ($Million) (Right Axis)

Description: Agriculture is recognized in federal and state Pinelands legislation as an industry of special significance and, therefore, receives a more detailed examination using three variables. The second indicator, *cranberry and blueberry production*, measures a critical component of Pinelands agriculture. Cash values are expressed in 2000 dollars.

Unit of Analysis: Cranberry and blueberry data are only available at the State level, but because these crops are found almost exclusively within the Pinelands, statewide figures provide sufficient information for the purposes of this analysis.

Summary of Previous Findings

Examination of two key Pinelands crops, cranberries and blueberries, revealed that cranberry production grew significantly from 1972 to1996 but plummeted precipitously from 1997 to 1999 due to increased production (growers developed more efficient bogs to take advantage of good cranberry prices) without increased demand. Nationally, increased production combined with steady demand created a surplus of frozen cranberries. Increased foreign production of cranberries also may have been a contributing factor. New data for 2000 and 2001 demonstrates a small recovery in cranberry farming, which may have been aided by actions such as nationwide production cutbacks and USDA surplus. Production has consistently decreased between 1999 and 2001, by 33% between 1999 and 2000 and by 12% between 2000 and 2001. The value of production increased slightly, growing 5% between 1999 and 2001, while the price of cranberries increased more substantially, climbing from $10.44 per 100 lbs in 1999 to $18.72 per 100 lbs in 2001, an increase of 79%. Despite this increase, prices remain well below their recent peak of $68 per 100 lbs in 1996.

The value of utilized production for blueberries remained fairly steady with yearly fluctuations over the period 1972-2001. Production of blueberries decreased in 2000 then increased in 2001, with overall production decreasing by 5 % between 1999 and 2001. The value of production decreased consistently over this two-year period, falling by 6%. Prices rose when production fell in 2000, and correspondingly prices fell when production increased in 2001. Overall, the price of blueberries fell by 1% between 1999 and 2001 (Figure E6). Similar to cranberries, the blueberry market has suffered from a combination of increasing production and steady demand. To respond to poor market conditions, the blueberry industry is creating a blueberry council to increase promotional activities and strengthen demand for blueberries

Table E6   Sales of New Jersey Farm Products

Year	Sales				Annual % Change		
	Cranberry	Blueberry	New Jersey		Cranberry	Blueberry	New Jersey
1972	9,005	32,620	876,118				
1992	28,630	26,782	792,401		6.0%	-1.0%	-0.5%
1993	21,712	29,798	836,229		-24.2%	11.3%	5.5%
1994	23,241	26,962	885,311		7.0%	-9.5%	5.9%
1995	25,649	29,942	861,804		10.4%	11.1%	-2.7%
1996	31,675	36,228	878,305		23.5%	21.0%	1.9%
1997	35,342	36,457	841,078		11.6%	0.6%	-4.2%
1998	14,475	29,960	838,825		-59.0%	-17.8%	-0.3%
1999	7,856	37,819	753,202		-45.7%	26.2%	-10.2%
2000	9,333	36,100	812,246		18.8%	-4.5%	7.8%

Figure E6 Cranberry and Blueberry Prices
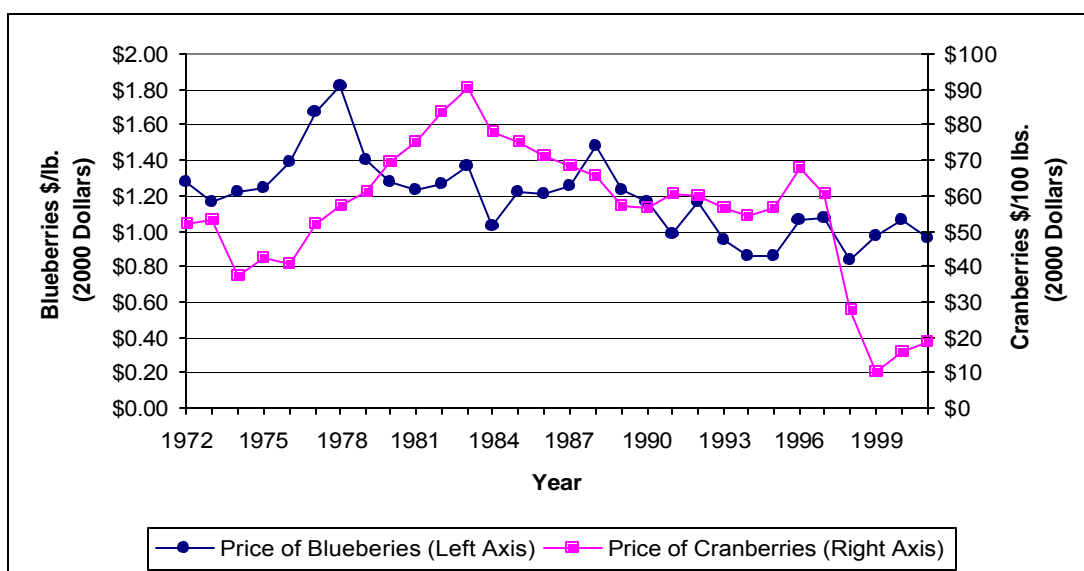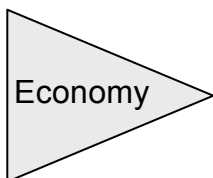
Census of Agriculture

☐ Updated

US Census of Agriculture 1982, 1987, 1992, 1997

- Data for the Agricultural Census of 2002 will be available sometime in 2004.

Description: Agriculture is recognized in federal and state Pinelands legislation as an industry of special significance and, therefore, receives a more detailed examination using three variables. The third indicator is actually a collection of indicators from the Agricultural Census, which are collected every five years.

Unit of Analysis: Data on farm acreage are limited to the county level and consequently inside/outside Pinelands trends cannot be distinguished.

Summary of Previous Findings

The seven Pinelands counties contained nearly 34% (287,000 acres) of the roughly 847,000 farm acres reported for New Jersey in the 1992 Census of Agriculture. From 1982-1992, the State lost 7.5% of its farm base, with Pinelands counties experiencing a 9.5% decline and Non-Pinelands counties experiencing a 6.4% loss. From 1982-1997, the State lost 9.1% of its farm base, with Pinelands counties experiencing an 8.7% decline and Non-Pinelands counties experiencing a 9.5% loss. However, from 1992-1997, farm acres in Pinelands counties increased by roughly 1% to 289,435 acres, almost 35% of the State's 832,600 farm acres. Cape May County continued to have high rates of decline in its farm base from 1992 to 1997. In contrast, Atlantic, Burlington, Camden and Ocean Counties experienced gains in farmland acreage over the same period.

The number of farms from 1992-1997 remained relatively constant for Pinelands counties, Non-Pinelands counties and the State. The average farm size increased slightly for Pinelands counties from 1992-1997. However, the average farm size for Non-Pinelands counties and the State continued to decrease over the same period.

With respect to agricultural sales, Pinelands counties contributed nearly 48% of total sales statewide in 1992. Similarly, Pinelands counties contributed 45% of total agricultural sales statewide in 1982 while accounting for only 35% of farm acreage. From 1992-1997 agricultural sales in Pinelands counties increased 18.4% while agricultural sales in Non-Pinelands counties increased by 10.7%. Pinelands counties contributed 49.4% of total sales statewide in 1997; a high value relative to its 34.8% share of total State agricultural acreage.

In terms of net cash returns, farms in the Pinelands counties accounted for 57.4% of statewide net returns in 1997, up 3% from 1992. Burlington County's share of statewide returns increased from 11% in 1992 to 13.5% in 1997. Comparison of total net cash returns over the monitoring period (1987-1997) clearly demonstrates the influence of economic conditions on the State's farm sector. The effect of the recession can be seen as statewide returns dropped 24.2% over from 1987-1992, with Non-Pinelands counties experiencing a steeper decline of 32.4% and Pinelands counties a more moderate decline of 15.6%. Aggregate trends, however, were shown to be misleading with the Pinelands county returns dropping 29% when Cumberland County's contribution was removed. The economic upswing can be seen as statewide returns increased 60.5% from 1992-1997, with Pinelands counties experiencing a greater increase of 69.6% and Non-Pinelands counties a more moderate increase of 49.8%.

Net cash return per farm in Pinelands counties also increased at a faster rate than the remainder of the State and remained at overall higher levels. Net cash return per farm in Pinelands counties increased 70.1% from 1992-1997, while Non-Pinelands counties increased by 49.3% over the same period.

More than half of New Jersey's farms lost money in 1987, 1992, and 1997 while the proportion of farms losing money grew each year. Almost 55% of farmers statewide lost money in 1997, up 1.5% from 1992. However, farmers in Pinelands counties continued to fare better than farmers in Non-Pinelands counties. The percentage of farmers in Pinelands counties that lost money in 1997 was 45.6%, down almost 2% from 1992.

Table E7a   Land in Farming

County	Land in Farming (acres)					Percentage Change			
	1982	1987	1992	1997		'82-'87	'87-'92	'92-'97	'82-'97
Atlantic	27,504	29,423	29,606	31,050		7.0%	0.6%	4.9%	12.9%
Burlington	112,689	103,224	97,186	103,667		-8.4%	-5.8%	6.7%	-8.0%
Camden	11,690	10,033	7,799	9,007		-14.2%	-22.3%	15.5%	-23.0%
Cape May	13,992	13,553	11,644	9,669		-3.1%	-14.1%	-17.0%	-30.9%
Cumberland	75,189	72,406	68,627	66,288		-3.7%	-5.2%	-3.4%	-11.8%
Gloucester	66,133	62,128	61,748	58,373		-6.1%	-0.6%	-5.5%	-11.7%
Ocean	9,960	8,820	10,365	11,381		-11.4%	17.5%	9.8%	14.3%
Pinelands Counties	**317,157**	**299,587**	**286,975**	**289,435**		**-5.5%**	**-4.2%**	**0.9%**	**-8.7%**
Non-Pinelands Counties	599,174	594,839	560,620	542,548		-0.7%	-5.8%	-3.2%	-9.5%
State Total	916,331	894,426	847,595	832,600		-2.4%	-5.2%	-1.8%	-9.1%

County	Number of Farms					Percentage Change			
	1982	1987	1992	1997		'82-'87	'87-'92	'92-'97	'82-'97
Atlantic	379	384	391	424		1.3%	1.8%	8.4%	11.9%
Burlington	743	834	816	857		12.2%	-2.2%	5.0%	15.3%
Camden	152	177	188	211		16.4%	6.2%	12.2%	38.8%
Cape May	117	124	163	149		6.0%	31.5%	-8.6%	27.4%
Cumberland	609	612	609	573		0.5%	-0.5%	-5.9%	-5.9%
Gloucester	687	681	704	652		-0.9%	3.4%	-7.4%	-5.1%
Ocean	203	206	233	235		1.5%	13.1%	0.9%	15.8%
Pinelands Counties	**2,890**	**3,018**	**3,104**	**3,101**		**4.4%**	**2.8%**	**-0.1%**	**7.3%**
Non-Pinelands Counties	5,387	6,014	5,975	6,000		11.6%	-0.6%	0.4%	11.4%
State Total	8,277	9,032	9,079	9,101		9.1%	0.5%	0.2%	10.0%

County	Average Farm Size (acres)					Percentage Change			
	1982	1987	1992	1997		'82-'87	'87-'92	'92-'97	'82-'97
Atlantic	73	77	76	73		5.6%	-1.2%	-3.3%	0.9%
Burlington	152	124	119	121		-18.4%	-3.8%	1.6%	-20.2%
Camden	77	57	41	43		-26.3%	-26.8%	2.9%	-44.5%
Cape May	120	109	71	65		-8.6%	-34.6%	-9.2%	-45.7%
Cumberland	123	118	113	116		-4.2%	-4.8%	2.7%	-6.3%
Gloucester	96	91	88	90		-5.2%	-3.9%	2.1%	-7.0%
Ocean	49	43	44	48		-12.7%	3.9%	8.9%	-1.3%
Pinelands Counties	**110**	**99**	**92**	**93**		**-9.5%**	**-6.9%**	**1.0%**	**-15.0%**
Non-Pinelands Counties	111	99	94	90		-11.1%	-5.1%	-3.6%	-18.7%
State Total	111	99	93	91		-10.5%	-5.7%	-2.0%	-17.4%

Table E7b   Agricultural Sales
(2000 Dollars)

County	Agricultural Sales ($1,000s)					Percentage Change					Agricultural Sales as % of New Jersey			
	1982	1987	1992	1997		'82-'87	'87-'92	'92-'97	'82-'97		1982	1987	1992	1997
Atlantic	62,102	56,482	53,323	68,096		-9.1%	-5.6%	27.7%	9.7%		8.0%	7.5%	8.2%	9.1%
Burlington	90,223	84,156	79,245	93,916		-6.7%	-5.8%	18.5%	4.1%		11.6%	11.2%	12.1%	12.6%
Camden	18,139	12,010	10,040	18,747		-33.8%	-16.4%	86.7%	3.3%		2.3%	1.6%	1.5%	2.5%
Cape May	8,068	6,976	6,891	7,303		-13.5%	-1.2%	6.0%	-9.5%		1.0%	0.9%	1.1%	1.0%
Cumberland	89,311	88,273	89,592	101,016		-1.2%	1.5%	12.8%	13.1%		11.5%	11.7%	13.7%	13.5%
Gloucester	75,798	70,319	66,985	71,854		-7.2%	-4.7%	7.3%	-5.2%		9.7%	9.4%	10.2%	9.6%
Ocean	7,416	7,452	6,193	8,766		0.5%	-16.9%	41.5%	18.2%		1.0%	1.0%	0.9%	1.2%
Pinelands Counties	**351,058**	**325,667**	**312,269**	**369,698**		**-7.2%**	**-4.1%**	**18.4%**	**5.3%**		**45.1%**	**43.3%**	**47.7%**	**49.4%**
Non-Pinelands Counties	426,924	420,204	341,922	378,521		-1.6%	-18.6%	10.7%	-11.3%		54.9%	55.9%	52.3%	50.6%
State Total	777,981	751,841	654,189	748,219		-3.4%	-13.0%	14.4%	-3.8%		100.0%	100.0%	100.0%	100.0%

Table E7c   Net Cash Return for New Jersey Farms
(2000 Dollars)

County	Total Net Cash Return (1,000's)				Percentage Change				Total Net Cash Return as Pct. of NJ		
	1987	1992	1997		'87-'92	'92-'97	'87-'97		1987	1992	1997
Atlantic	$17,388	$12,652	$15,939		-27.2%	26.0%	-8.3%		11.2%	10.8%	8.4%
Burlington	$16,869	$12,926	$25,394		-23.4%	96.5%	50.5%		10.9%	11.0%	13.5%
Camden	$3,420	$2,344	$8,417		-31.4%	259.0%	146.1%		2.2%	2.0%	4.5%
Cape May	$1,629	$1,198	$2,078		-26.5%	73.5%	27.5%		1.1%	1.0%	1.1%
Cumberland	$15,163	$20,915	$31,509		37.9%	50.7%	107.8%		9.8%	17.8%	16.7%
Gloucester	$18,652	$12,880	$22,116		-30.9%	71.7%	18.6%		12.0%	11.0%	11.7%
Ocean	$2,513	$928	$2,830		-63.1%	205.0%	12.6%		1.6%	0.8%	1.5%
Pinelands Counties	**$75,634**	**$63,843**	**$108,284**		**-15.6%**	**69.6%**	**43.2%**		**48.8%**	**54.3%**	**57.4%**
Non-Pinelands Counties	$79,457	$53,704	$80,437		-32.4%	49.8%	1.2%		51.2%	45.7%	42.6%
New Jersey	$155,094	$117,549	$188,721		-24.2%	60.5%	21.7%		100.0%	100.0%	100.0%

Table E7d   Net Cash Return per Farm
(2000 Dollars)

County	Net Cash Return per Farm			Percentage Change		
	1987	1992	1997	'87-'92	'92-'97	'87-'97
Atlantic	$45,278	$32,357	$37,770	-28.5%	16.7%	-16.6%
Burlington	$20,228	$15,821	$29,666	-21.8%	87.5%	46.7%
Camden	$19,323	$12,403	$40,271	-35.8%	224.7%	108.4%
Cape May	$13,037	$7,393	$13,944	-43.3%	88.6%	7.0%
Cumberland	$24,817	$34,286	$54,894	38.2%	60.1%	121.2%
Gloucester	$27,350	$18,271	$33,971	-33.2%	85.9%	24.2%
Ocean	$12,201	$3,998	$11,991	-67.2%	200.0%	-1.7%
Pinelands Counties	**$25,053**	**$20,555**	**$34,964**	**-18.0%**	**70.1%**	**39.6%**
Non-Pinelands Counties	$13,210	$8,985	$13,413	-32.0%	49.3%	1.5%
New Jersey	$17,168	$12,942	$20,752	-24.6%	60.4%	20.9%

Table E7e   Farms with Net Losses

County	Farms with Net Losses			Percentage of All Farms with Net Losses		
	1987	1992	1997	1987	1992	1997
Atlantic	139	162	227	36.2%	41.4%	53.5%
Burlington	427	431	369	51.2%	52.8%	43.1%
Camden	86	91	94	48.6%	48.4%	44.5%
Cape May	71	75	75	57.3%	46.0%	50.3%
Cumberland	286	219	248	46.7%	36.0%	43.3%
Gloucester	305	337	286	44.8%	47.9%	43.9%
Ocean	98	159	114	47.6%	68.2%	48.5%
Pinelands Counties	**1,412**	**1,474**	**1,413**	**46.8%**	**47.5%**	**45.6%**
Non-Pinelands Counties	3,356	3,375	3,582	55.8%	56.5%	59.7%
New Jersey	4,768	4,849	4,995	52.8%	53.4%	54.9%

Resident Labor Force Place of Work

US Census Bureau, 2000

[X]Updated

- Compared to the Non-Pinelands, a greater percentage of Pinelands residents work in New Jersey but a smaller percentage work in their municipality of residence.

Resident Labor Force - Place of Work by Place of Residence

	Resident Labor Force	% LF Working in State of Residence	% LF Working in County of Residence	% LF Working in Municipality of Residence
New Jersey	3,876,433	3,396,785	2,126,179	761,684
		87.6%	54.8%	19.6%
South Jersey	1,012,290	891,898	603,502	215,254
		88.1%	59.6%	21.3%
Pinelands	271,510	251,708	165,899	51,091
		92.7%	61.1%	18.8%
Non-Pinelands	740,780	640,190	437,603	164,163
		86.4%	59.1%	22.2%

Description: Measures the number and percentage of the resident labor force that works in their state, county, and municipality of residence. Values are sums for each region, not averages.

Unit of Analysis: Municipal level data are summed to allow for inside/outside Pinelands, regional, and statewide analyses.

Supplemental Data

Despite the perception that the state of New Jersey serves as a bedroom community for neighboring New York and Philadelphia, the overwhelming majority of the resident New Jersey labor force works in New Jersey. The percentage of New Jersey residents that work in the state is higher in the Pinelands (92.7%) than in the Non-Pinelands region (86.4%). This is logical, as the Pinelands region is further away from neighboring states than the Non-Pinelands region.

The percentage of New Jersey residents that work in their county of residence is also slightly higher in the Pinelands than in the Non-Pinelands (61.1% versus 59.1%). This phenomena is highly regionalized: most Atlantic, Cumberland, and Cape May resident laborers work in their county, while many Camden and Gloucester laborers do not. Different patterns exist within Burlington and Ocean counties: resident laborers in northeastern Burlington County and southern Ocean County tend to work in their county of residence, while residents in the other parts of those counties tend to work outside. County work patterns are a reflection of state work patterns, as municipalities closer to other states (Pennsylvania, Delaware, and New York) tend to have lower percentages of resident county workers.

The percentage of Pinelands residents that work in their municipality of residence is lower in the Pinelands (18.8%) compared to the Non-Pinelands (22.2%). The greater number of business establishments located in the Non-Pinelands region probably contributes to this difference. Municipalities with the highest percentage of resident laborers are regional employment centers. Hammonton and Woodbine have the largest percentage of resident laborers in the Pinelands. Nearby Vineland, Millville, Atlantic City, Dover, Brick, Middle Township, and the numerous shore towns are also important regional employment centers for the Pinelands.
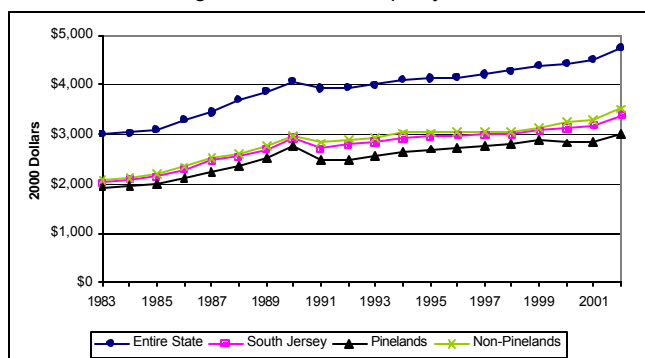
<table>
<tr>
<td>Municipal Finance</td>
<td>1</td>
<td># Avg Residential Property Tax Bill [X]Updated
NJ Dept of Treasury, Division of Taxation 1983 - 1999
NJ Dept of Community Affairs, Div LGS 2000 - 2002</td>
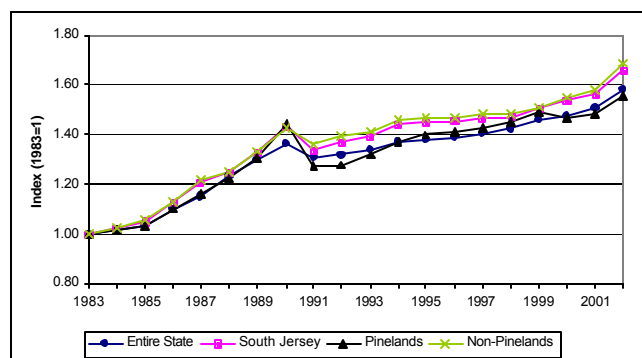</tr>
</table>

- The average tax bill increased at a greater rate this year than in previous years.

Average Residential Property Tax Bill

Index of Average Residential Property Tax Bill

Description: The average residential property tax bill measures the impact of property taxes on municipal residents. It is calculated by dividing the average residential property value by 100 and multiplying the result by the general tax rate. Values are adjusted for inflation and shown in 2000 dollars.

Unit of Analysis: Average residential property tax data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses.
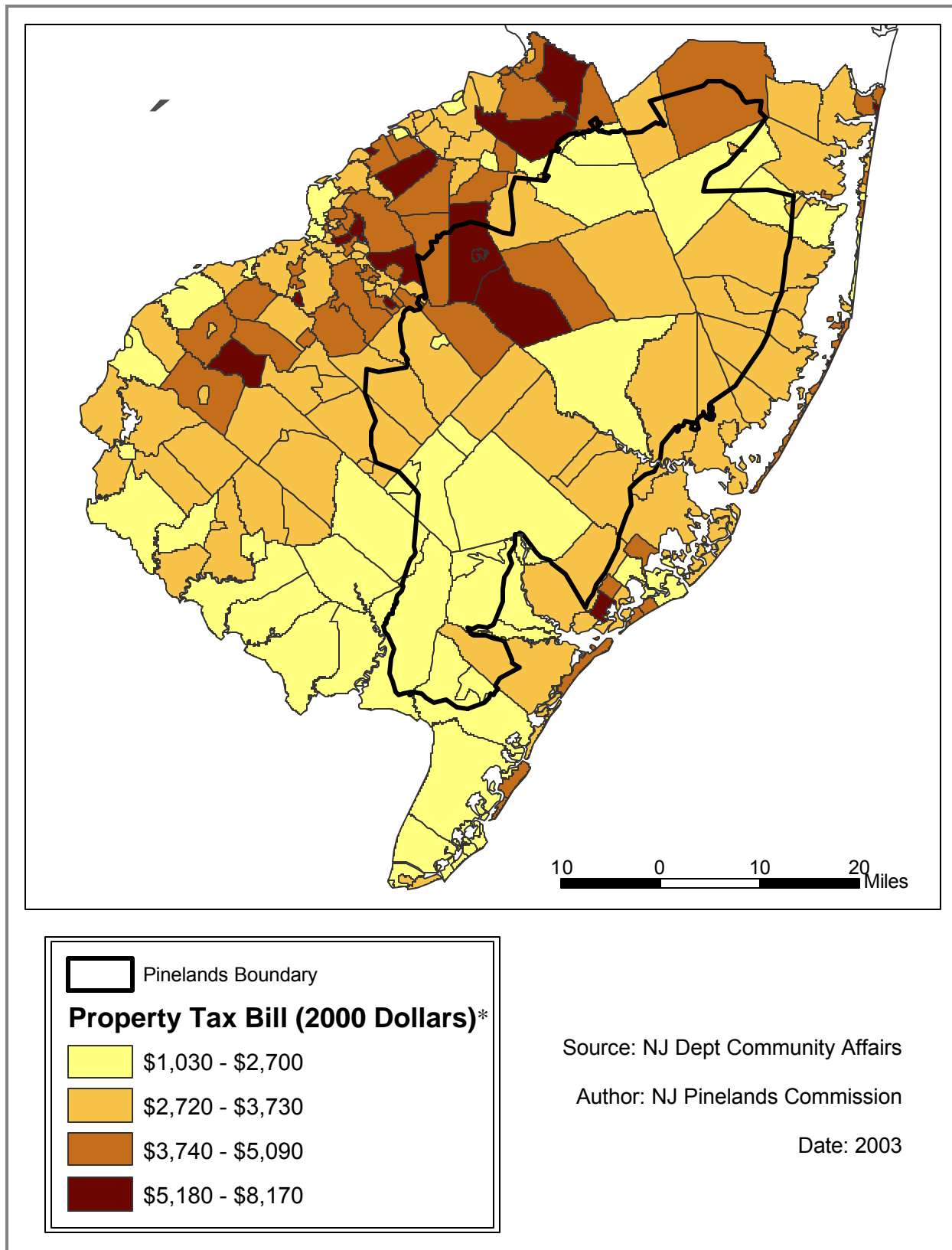
Summary of Previous Findings

Average residential property tax bills in New Jersey demonstrated a gradual but steady pattern of increase throughout the 1980's to a peak in 1990, followed by a decline in 1991 and a subsequent slow, continued increase. The annual rate of change over the monitoring period was virtually the same for all geographic areas. By 1998, average residential tax bills in all areas surpassed their previous 1990 peaks.

Update: The average residential property tax bill continued to increase across all regions of the state between 2001 and 2002, but at a higher rate of increase. The average tax bill increased by 5.3% in the Pinelands and 6.9% in the Non-Pinelands between 2001 and 2002, compared to increases of only 0.8% and 1.7% respectively between 2000 and 2001. The 2002 increases reflect, in large part, increased property values. The average inflation adjusted tax bill in the Pinelands was $3,010 in 2002, which was $500 lower than the average Non-Pinelands bill and $1,740 lower than the average state bill.

Municipalities with relatively low average residential taxes tend to be in the rural southern region while municipalities with relatively higher taxes are in more suburbanized regions to the north, west and along the shore (Figure F1).

Figure F1   Average Residential Property Tax Bill 2002

Pinelands Boundary

Property Tax Bill (2000 Dollars)*

$1,030 - $2,700

$2,720 - $3,730

$3,740 - $5,090

$5,180 - $8,170

Source: NJ Dept Community Affairs

Author: NJ Pinelands Commission

Date: 2003

* Range excludes outliers Audubon Park Borough and Tavistock Borough, Camden County, which had values of zero.

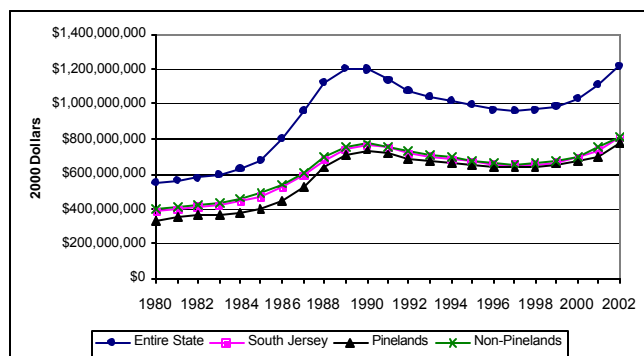Municipal Finance ▷ ②

State Equalized Valuation

[X] Updated

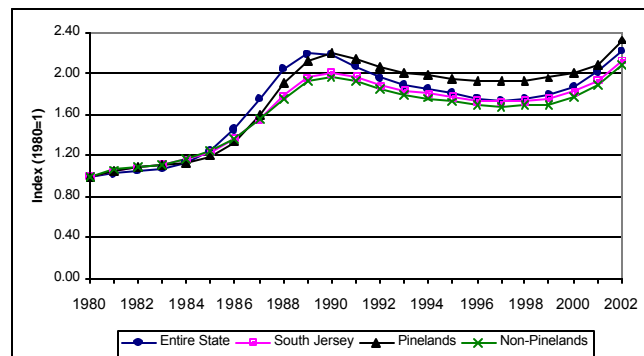### NJ Dept of Community Affairs, Div LGS 1980 - 1993
NJ Dept of Treasury, Division of Taxation 1994 - 2002

- Change in valuation in the Pinelands outpaced the Non-Pinelands in 2002.

State Equalized Valuation (2000 Dollars)

Index of State Equalized Valuation

Description: Equalized property value is the total assessed value of all property in a municipality adjusted for different municipal assessment biases in order to make values across New Jersey municipalities comparable to one another. It is useful as a measurement of the wealth of one municipality relative to other municipalities. Values are adjusted for inflation and shown in 2000 dollars.

Unit of Analysis: State equalized valuation data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses.

Summary of Previous Findings

Equalized property valuation in New Jersey rose throughout the 1980's, with most of the growth concentrated in the latter part of the decade. Average municipal valuation inside of the Pinelands tracked closely with average valuation outside of the Pinelands. While average valuation inside of the Pinelands was lower than average valuation outside of the Pinelands over the monitoring period, the gap progressively narrowed. Conversely, while average valuation in Southern New Jersey remained lower than average valuation in the entire State, the differential did not diminish over the monitoring period. Following a peak in 1989, statewide average valuation experienced a steeper decline than average valuation throughout Southern New Jersey. From 1990 to 1997, average equalized valuation declined across all areas of the State. This trend reversed after 1997 as average equalized property valuations rose between 1998 and 2001 in all regions.

Update

Average equalized property valuations rose in all regions in 2002, continuing the rising trend which began in 1998. Average equalized property valuations in the Pinelands region rose slightly more than other regions of the State in 2002, which is a change from previous years. Valuation rose by 12.3% in the Pinelands, by 9.5% in the Non-Pinelands, and by 10.1% for the state as a whole between 2001 and 2002. Increases in valuation in 2002 outpaced the increases of 2001, when valuation increased by 3.4% in the Pinelands and by 7.6% in the Non-Pinelands. The valuation for the average Pinelands municipality, adjusted to 2000 dollars, was $776.7 million in 2002, compared to an average of $818.0 million for Non-Pinelands municipalities.

The change in valuation is driven by increased property values. For more information on the change in equalized valuation, see the update for effective tax rates on the following page.

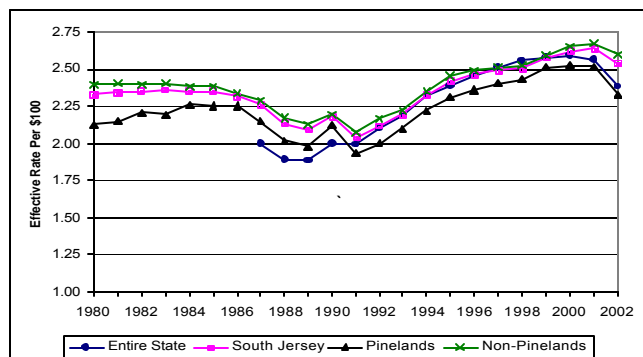| Municipal Finance | ③ | # Effective Tax Rate | ☒ Updated |

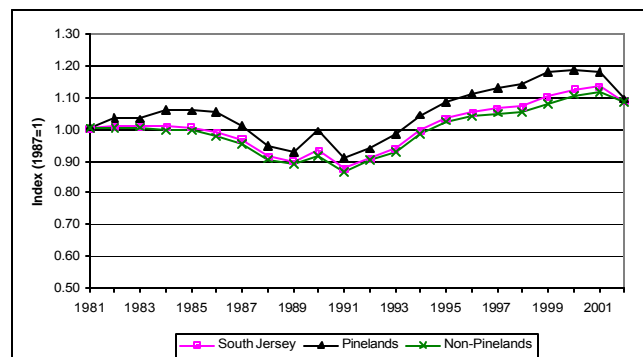NJ Dept of Treasury, Division of Taxation 1994 - 2001
NJ Dept of Community Affairs, Div LGS 1980 - 1993, 2002

- Effective Tax Rates decreased for all regions of the state in 2002.

Effective Tax Rate (Per $100 State Equalized Valuation)

Index of Effective Tax Rate

Description: The effective tax rate measures the ratio of taxes to property value. The effective tax rate is the rate at which the municipality taxes the (equalized) assessed value of property, and is equal to the general property tax adjusted by the municipality's equalization ratio as calculated by the NJ Dept of the Treasury, Division of Taxation.

Unit of Analysis: Average effective tax rate data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses.

Summary of Previous Findings

Effective tax rates in all regions remained steady or increased slightly in the early 1980's before beginning a period of decline in 1986. Although statewide data were not available until 1987, statewide effective tax rates were below rates outside of the Pinelands, but surpassed rates inside of the Pinelands in 1991. Effective tax rates have gradually increased in all regions since the early 1990's and surpassed earlier highs set in the 1980's. Pinelands effective tax rates continue to remain lower than all other regions of New Jersey. Rates fell slightly for the Pinelands and the state as a whole in 2001, while the Non-Pinelands rate held relatively steady.

Update

Effective Tax Rates fell for all regions of the state in 2002, the first time this has happened since 1991. Effective rates fell by 7.0% for the state as a whole, and decreased by 7.5% for the Pinelands and by 2.7% for the Non-Pinelands region. The average municipal effective rate for South Jersey fell by 3.8%. Effective tax rates continued to be lower in the Pinelands region than in the Non-Pinelands region, and the gap between the two has increased.

Studies have suggested that effective tax rates above 3.00 indicate municipal fiscal stress.[13] Egg Harbor City, Medford Lakes, Berlin Township, Waterford, and Winslow are Pinelands municipalities with rates higher than 3.00 (Berlin Borough also has a rate above 3.00, but is counted as outside since it has less than 10% of its' land in the Pinelands). The majority of municipalities with rates above 3.00 are clustered in Camden County (Figure RE3).

Explanation

In order to better understand the decrease in effective tax rates, a brief explanation of how the rate is computed is provided below.

Due to the different standards that each municipality uses to assess the value of land, the state multiplies each assessed municipal value by an equalization ratio, which creates equalized assessment values for each municipality.

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13 See "The Property Tax Trouble Zone Moves Beyond Big Cities" by Coleman, *New Jersey Municipalities*, Dec 2002, p. 66-69

These equalized values create a basis of comparison among the different municipalities. Property tax bills are calculated by taking the local assessed value and multiplying it by the legal levy tax rate. When the assessed value is market rate, then the legal rate is the same as the effective tax rate. Assessment ratios decrease as market values rise, as it takes time for tax assessors to conservatively reassess property.

The interconnectedness of the variables monitored in this report becomes apparent. The median selling price of homes increased throughout the state for the first time in the monitoring period (1989 – 2002). Since prices suddenly increased, the sale price of property was higher than the local assessed value of the property. The state equalization ratio seeks to establish the true value of the property based on real estate sales. Since the sale price of property in 2002 tended to be higher than the local assessed value, the state equalization ratios for most municipalities increased, so the equalized value of property increased to reflect the true value of the property. Effective tax rates are calculated by dividing the local tax levy by the equalized value of property. When the denominator (equalized value) suddenly increases, and the numerator (local tax levy, based on local tax assessment) remains relatively unchanged, the dividend (effective tax rate) will decrease.

The annual effective tax rate is useful for comparative purposes among municipalities, but has a weakness when used to observe property taxes over a period of time, due to short term fluctuations in property values which could disproportionately effect tax rates.[14]

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14 "Long Range Property Tax Rate Trends in New Jersey: 1954-1993" Reock, *Center for Government Services at Rutgers State University Occasional Paper Series #2*, October 1994.

Figure F3   Effective Tax Rates 2002
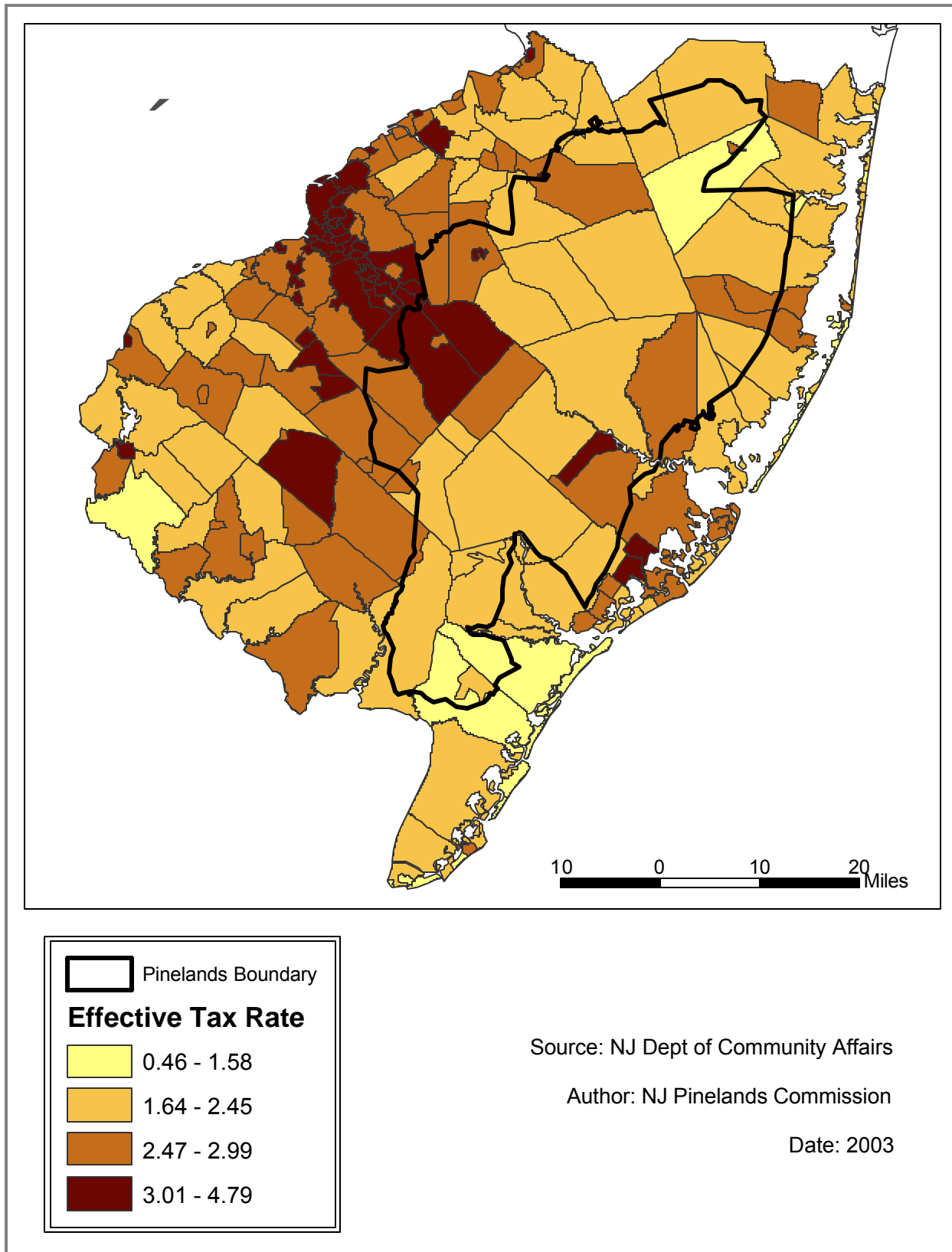
Pinelands Boundary

Effective Tax Rate

- 0.46 - 1.58
- 1.64 - 2.45
- 2.47 - 2.99
- 3.01 - 4.79

Source: NJ Dept of Community Affairs

Author: NJ Pinelands Commission

Date: 2003

- The vacant land category in the Pinelands has declined from 10.9% of total assessment in 1986 to 5.0% in 2002.

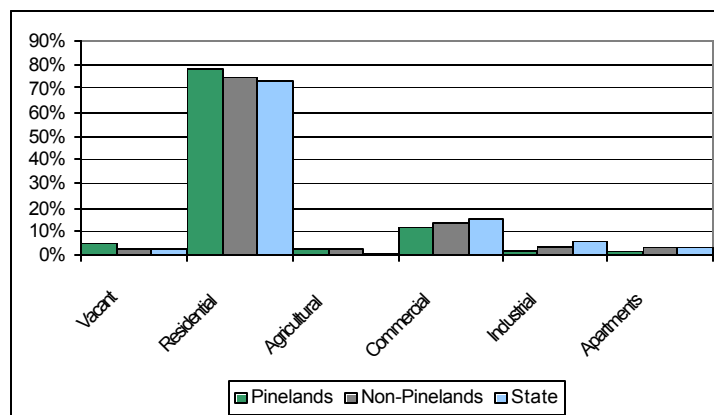Assessment Class Proportions in Municipal Tax Revenue 2002

Description: The relative contribution of the different assessment classes (e.g., commercial, residential, and vacant land) to the tax revenue of each municipality measures the reliance of the municipality on different types of land uses for tax revenues.

Unit of Analysis: Data for assessment class proportions are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses.

Summary of Previous Findings

Updates for this variable have been unavailable for quite some time, due to changes in data collection and publication at the NJ DCA. An update for 2002 is available this year, but all data from the intervening period between 1994 and 2002 is still unavailable. Because a time series is unavailable, this section will examine changes in assessment class proportions for 1986, 1994, and 2002 (Since there is an eight year interval between 1994 and 2002, 1986 was chosen to make an equal comparison in terms of years). For times series data covering the period 1980 to 1994, please consult any previous annual report.

Update

The Pinelands has a higher percentage of assessed property in the vacant and residential categories than the Non-Pinelands, and has generally had lower percentages in the remaining categories compared to the Non-Pinelands, particularly in the industrial and apartment categories. The predominant trend in the Pinelands is the decrease in the vacant assessment category as a percentage of total assessment and an increase in the residential category. Vacant land comprised 10.9% of total Pinelands assessed value in 1986, but dropped to 8.0% in 1994 and declined even further to 5.0% in 2002. Possible explanations include the development of vacant land, an increase in the value of developed land at a higher rate than that of vacant land, and/or a decrease in the value of vacant land. Meanwhile, the percent total of residential land increased from 71.1% in 1986, to 74.1% in 1994, to 78.2% in 2002. The percentage of assessment in agricultural and commercial land has remained relatively steady between 1994 and 2002, while the percentage of industrial assessed value has decreased.

The Pinelands municipalities of Medford Lakes, Beachwood, Tabernacle, Berkeley Shamong, and Port Republic have the highest percentage of assessed value in the residential category (above ninety percent) in the Pinelands (Table F4b). Wrightstown, Berlin Township, Woodbine, and Hamilton have the lowest percentage of assessed value in the residential category (below sixty percent).

Table F4a   Assessment Class Proportions in Municipal Valuations

	1986	1994	2002
Pinelands			
Vacant	10.9%	8.0%	5.0%
Residential	71.1%	74.1%	78.2%
Agricultural	3.1%	2.2%	2.3%
Commercial	10.9%	11.7%	11.5%
Industrial	2.0%	2.4%	1.6%
Apartments	1.9%	1.6%	1.4%
Non-Pinelands			
Vacant	4.0%	3.4%	2.7%
Residential	69.5%	72.1%	74.4%
Agricultural	4.0%	3.1%	2.7%
Commercial	13.7%	13.5%	13.3%
Industrial	4.9%	4.4%	3.8%
Apartments	3.2%	2.8%	3.1%
State			
Vacant	3.9%	3.3%	2.3%
Residential	67.2%	70.0%	73.4%
Agricultural	1.0%	0.9%	0.9%
Commercial	15.9%	15.9%	15.4%
Industrial	8.3%	7.1%	5.3%
Apartments	3.7%	2.9%	2.8%

Table F4b 2002 Assessment Class Proportions in Municipal Valuations for Pinelands Municipalities

Municipality	County	Vacant	Residential	Agricultural	Commercial	Industrial	Apartments
Medford Lakes	Burlington	0.5%	97.9%	0.0%	1.6%	0.0%	0.0%
Beachwood	Ocean	1.7%	94.1%	0.0%	4.0%	0.0%	0.2%
Tabernacle	Burlington	1.7%	92.8%	2.9%	2.5%	0.1%	0.0%
Berkeley	Ocean	2.5%	91.5%	0.0%	4.5%	0.5%	1.0%
Shamong	Burlington	1.8%	90.9%	4.6%	2.2%	0.4%	0.0%
Port Republic	Atlantic	4.4%	90.0%	2.0%	3.6%	0.0%	0.0%
Pemberton Twp	Burlington	2.7%	86.6%	2.3%	5.7%	0.5%	2.3%
Barnegat	Ocean	6.2%	86.4%	0.2%	7.0%	0.2%	0.1%
Waterford	Camden	2.6%	86.3%	2.2%	8.2%	0.3%	0.5%
Medford	Burlington	2.1%	85.4%	1.4%	8.8%	0.5%	1.8%
Southampton	Burlington	2.3%	85.4%	5.4%	5.8%	1.1%	0.0%
Lacey	Ocean	3.6%	85.0%	0.1%	7.3%	4.0%	0.0%
Stafford	Ocean	4.1%	85.0%	0.1%	10.5%	0.1%	0.2%
Plumsted	Ocean	3.7%	84.9%	4.8%	5.2%	1.1%	0.4%
Ocean	Ocean	7.5%	84.2%	0.1%	8.1%	0.1%	0.0%
Winslow	Camden	2.6%	83.9%	2.1%	6.8%	1.9%	2.6%
Little Egg Harbor	Ocean	7.6%	83.5%	0.1%	8.6%	0.0%	0.3%
South Toms River	Ocean	2.1%	83.2%	0.0%	14.0%	0.8%	0.0%
Chesilhurst	Camden	9.9%	82.8%	0.0%	5.4%	1.4%	0.5%
Jackson	Ocean	4.4%	82.0%	0.7%	11.2%	0.8%	1.0%
Mullica	Atlantic	8.0%	81.8%	3.0%	6.2%	0.8%	0.2%
Monroe	Gloucester	3.5%	81.2%	1.5%	11.9%	0.5%	1.4%
Galloway	Atlantic	5.2%	80.7%	0.9%	11.6%	0.8%	0.9%
Upper	Cape May	6.3%	80.7%	0.6%	11.0%	1.3%	0.1%
Weymouth	Atlantic	7.5%	80.7%	0.4%	9.5%	0.2%	1.7%
Franklin	Gloucester	4.8%	80.6%	5.6%	8.6%	0.0%	0.4%
Washington	Burlington	4.6%	80.3%	4.1%	9.2%	1.7%	0.2%
Evesham	Burlington	2.5%	78.2%	0.3%	14.3%	0.8%	3.9%
Maurice River	Cumberland	8.1%	77.3%	4.8%	3.8%	5.9%	0.2%
Buena Vista	Atlantic	7.8%	76.5%	5.2%	8.0%	2.6%	0.0%
Estell Manor	Atlantic	15.6%	76.5%	2.7%	3.1%	1.4%	0.7%
Dennis	Cape May	9.2%	75.5%	2.6%	12.7%	0.0%	0.0%
Lakehurst	Ocean	1.4%	75.3%	0.0%	22.7%	0.0%	0.5%
Bass River	Burlington	8.3%	74.3%	2.8%	14.7%	0.0%	0.0%
Folsom	Atlantic	4.8%	73.5%	1.1%	9.5%	11.0%	0.0%
Manchester	Ocean	3.6%	73.2%	0.1%	7.5%	0.6%	15.1%
Egg Harbor City	Atlantic	2.0%	71.1%	0.0%	19.6%	3.2%	4.2%
Buena	Atlantic	2.6%	70.0%	7.4%	12.4%	4.6%	3.0%
Hammonton	Atlantic	3.1%	69.3%	4.4%	18.8%	3.2%	1.3%
Eagleswood	Ocean	15.1%	68.5%	0.2%	13.2%	2.7%	0.2%
New Hanover	Burlington	5.1%	67.9%	7.0%	19.8%	0.2%	0.0%
Egg Harbor Twp	Atlantic	8.5%	67.6%	0.2%	23.2%	0.0%	0.5%
Woodland	Burlington	6.8%	64.9%	16.8%	4.9%	6.6%	0.0%
Hamilton	Atlantic	5.9%	58.8%	1.0%	30.6%	1.7%	2.0%
Woodbine	Cape May	4.2%	55.8%	4.7%	28.4%	3.4%	3.6%
Berlin Twp	Camden	3.2%	52.4%	0.1%	34.7%	8.4%	1.2%
Wrightstown	Burlington	2.4%	40.3%	0.1%	41.0%	1.2%	15.1%
"Outside" Munis							
Corbin City	Atlantic	8.8%	81.0%	1.5%	8.7%	0.0%	0.0%
Berlin Borough	Camden	3.5%	76.8%	0.2%	15.8%	2.8%	0.9%
North Hanover	Burlington	2.5%	71.7%	9.3%	12.9%	0.0%	3.6%
Springfield	Burlington	2.5%	71.3%	15.5%	10.8%	0.0%	0.0%
Vineland	Cumberland	2.2%	71.2%	2.1%	17.7%	3.7%	3.2%

Municipal Services

5S

NJ Dept Law & Public Safety, Div. NJ State Police 2001
NJ DEP, Div. Solid & Hazardous Waste, 2002

X Updated

- • Pinelands municipalities rely more on the state police for protection and on municipal authorities for sanitation collection than Non-Pinelands municipalities

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Police Protection	Pinelands	Non-Pinelands	South Jersey	New Jersey
Local	30 (64%)	131 (85%)	161 (80%)	481 (85%)
State	17 (36%)	24 (15%)	41 (20%)	85 (15%)
Garbage Collection*	Pinelands	Non-Pinelands	South Jersey	New Jersey
A	17 (36%)	82 (53%)	99 (49%)	269 (48%)
B	20 (42%)	49 (32%)	69 (34%)	161 (28%)
C	8 (12%)	12 (8%)	20 (10%)	117 (21%)
D	1 (2%)	11 (7%)	12 (6%)	17 (3%)
Not Available	1 (2%)	1 (1%)	2 (1%)	2 (<1%)

*A = Municipality secures private contract B = Municipal public works department
C = Residents secure their own contract D = Municipality has inter-governmental agreement

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Description: Police protection and garbage collection practices provide insight into varying levels of municipal service, in lieu of municipal expenditure data. The number of local police employees is tracked by the NJ State Police in the *Annual Uniform Crime Report*. Municipalities with zero police employees rely on the state police for protection. Garbage collection practices were surveyed in the NJ DEP Division of Solid Waste *Municipal Solid Waste Collection Report*. The reliability of the data is dependent on the accuracy of the responses from municipal officials.

Unit of Analysis: Municipal level data are aggregated to allow for inside/outside Pinelands, regional, and statewide analyses.

Supplemental Data:

The Pinelands relies more on the state police for protection than the Non-Pinelands region. 36% of Pinelands municipalities have no local police force, compared to 15% of the Non-Pinelands municipalities. This suggests that either Pinelands municipal governments provide no police service in order to generate savings, or municipalities feel that state police coverage is adequate, or Pinelands municipalities lack the necessary funds to provide police services. The municipalities without a local police force, both inside and outside the Pinelands, are predominately rural.

Pinelands municipalities rely more on municipal public works departments for garbage collection than Non-Pinelands municipalities. 42% of Pinelands municipalities rely on their municipal public works department for garbage collection compared to 32% of Non-Pinelands municipalities. Non-Pinelands municipalities rely more on private contracts for hauling garbage (53%) compared to the Pinelands (32%). Residents are responsible for securing their own contracts for hauling garbage in 12% of Pinelands municipalities and 8% of Non-Pinelands municipalities, while 7% of Non-Pinelands towns have intergovernmental agreements for garbage hauling compared to 2% of Pinelands towns.

Since most Pinelands municipalities use their public works department for garbage collection, it seems that they offer a higher level of service relative to the Non-Pinelands municipalities, since the tax dollars of residents fund the collection service. The Pinelands also has a larger percentage of municipalities that offer no collection service (public or private) whatsoever, indicating that these towns are offering a lower level of service. Pinelands towns may be less able to secure private contracts (which often generate savings for the municipality) due to lower population densities.[15] Gauging the level of service solely on these criteria is not completely accurate, because the degree to which service is provided (i.e. the number of trash bags allowed for pickup and frequency of pick-up) is not accounted for. For example, Pemberton and Bass River Townships both have private contracts for hauling garbage, but residents of Pemberton have regularly scheduled trash pick-up whereas residents of Bass River must take their garbage to a collection facility.

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[15] For a review of literature on local service contracting, see "The Determinants of Variations in Local Service Contracting; Garbage In, Garbage Out?" George A. Boyne, *Urban Affairs Review*, Sept 1998 34(1): 150-163.

Figure F5   Municipal Services - Police Protection and Garbage Collection

Pinelands Boundary

Police Force

Local

State *

Source: NJ State Police

Author: NJ Pinelands Commission

Date: 2003

* In most cases, municipalities without a local police force
rely on on the state police. In some instances, municipalities
without a local force may have inter-governmental
agreements with neighboring municipalities for police protection.

Pinelands Boundary

Garbage Collection

Municipal Private Contract

Municipal Public Works

Residents Private Contract

Inter-governmental Agreement

Data Unavailable

Source: NJ DEP
Division of Solid & Hazardous Waste

Author: NJ Pinelands Commission

Date: 2003

Table F5   Municipal Services by Pinelands Municipality

County	Municipality	Trash Collection	Police
Atlantic	Estell Manor	Municipal Private Contract	State
Atlantic	Folsom	Municipal Private Contract	State
Atlantic	Weymouth	Municipal Private Contract	State
Burlington	Bass River	Municipal Private Contract	State
Burlington	Tabernacle	Municipal Private Contract	State
Burlington	Woodland	Municipal Private Contract	State
Cape May	Woodbine	Municipal Private Contract	State
Cumberland	Maurice River	Municipal Private Contract	State
Ocean	Eagleswood	Municipal Private Contract	State
Atlantic	Buena	Municipal Private Contract	Local
Atlantic	Hamilton	Municipal Private Contract	Local
Burlington	Pemberton Twp	Municipal Private Contract	Local
Camden	Waterford	Municipal Private Contract	Local
Camden	Winslow	Municipal Private Contract	Local
Ocean	Lacey	Municipal Private Contract	Local
Ocean	Ocean	Municipal Private Contract	Local
Burlington	Southampton	Municipal Public Works	State
Burlington	Wrightstown	Municipal Public Works	State
Cape May	Dennis	Municipal Public Works	State
Cape May	Upper	Municipal Public Works	State
Atlantic	Egg Harbor City	Municipal Public Works	Local
Atlantic	Egg Harbor Twp	Municipal Public Works	Local
Burlington	Evesham	Municipal Public Works	Local
Burlington	Medford	Municipal Public Works	Local
Burlington	Medford Lakes	Municipal Public Works	Local
Camden	Berlin Township	Municipal Public Works	Local
Camden	Chesilhurst	Municipal Public Works	Local
Gloucester	Franklin	Municipal Public Works	Local
Gloucester	Monroe	Municipal Public Works	Local
Ocean	Barnegat	Municipal Public Works	Local
Ocean	Beachwood	Municipal Public Works	Local
Ocean	Berkeley	Municipal Public Works	Local
Ocean	Lakehurst	Municipal Public Works	Local
Ocean	Little Egg Harbor	Municipal Public Works	Local
Ocean	South Toms River	Municipal Public Works	Local
Ocean	Stafford	Municipal Public Works	Local
Atlantic	Port Republic	Residents Private Contract	State
Burlington	Shamong	Residents Private Contract	State
Burlington	Washington	Residents Private Contract	State
Atlantic	Galloway	Residents Private Contract	Local
Atlantic	Mullica	Residents Private Contract	Local
Burlington	North Hanover	Residents Private Contract	Local
Ocean	Jackson	Residents Private Contract	Local
Ocean	Manchester	Residents Private Contract	Local
Ocean	Plumsted	Residents Private Contract	Local
Atlantic	Buena Vista	Intergovernmental Agreement	State
Atlantic	Hammonton	Not Available	Local
"Outside" Municipalities			
Atlantic	Corbin City	Municipal Private Contract	State
Burlington	New Hanover	Municipal Private Contract	Local
Burlington	Springfield	Municipal Private Contract	Local
Cumberland	Vineland	Municipal Private Contract	Local
Camden	Berlin Borough	Municipal Public Works	Local

5.　　Recommendations for Future Study

2004 Annual Report

The 2003 report has been re-organized, and the addition of supplemental variables has provided useful information. Updates to the 2004 report will focus on two areas: adding and / or replacing core variables (retail sales and municipal finance), and enhancing data through geographic scale. Business establishments and real estate transactions have address information associated with them. Using GIS, these addresses could be matched to a geo-coded street network (a GIS layer where streets have corresponding address information) to determine whether they are located inside or outside the Pinelands boundary. This would provide a more accurate representation of the housing market and business climate within the Pinelands. The GIS layer required for this analysis is currently being acquired.

Another option for sub-municipal data is census data at the block level. Additional census block data will be sought.

Calculating different statistics may enhance analysis of certain core variables. For example, the average number of building permits for the Pinelands region has always been much higher than the Non-Pinelands region. In reality, many municipalities in the Pinelands issue very few permits and the higher average is influenced by a few municipalities that are experiencing rapid growth. The median number of permits issued may be a more accurate reflection of residential construction in the region, since outliers (small numbers of data points at extreme ends of the scale) would not influence a median as much as an average. Variables such as building permits, real estate sales, and equalized valuation could be calculated on a per capita basis for more equal comparison.

Municipal Fact Book and Comparables Analysis

The Municipal Fact Book was enhanced in 2003, and further refinements will continue as they become available.

A major goal is to seek a replacement to the comparables analysis, which was discontinued in 2002. This entails the creation of sub-regions consisting of Pinelands and Non-Pinelands municipalities that share similar socio-economic, cultural, historical, political, and physical characteristics.

Special Studies

Improvements to the annual report have been the primary focus of the program in 2002. Increasing attention will be turned to completing the special studies. New special studies will not be launched until progress has been made on the current studies. Data collection for the land value study will end and a thorough data analysis will begin in calendar year 2003. Data collection for the municipal health study will be completed, and analysis will proceed. Preliminary tests and analysis have been conducted and a complete analysis will occur in calendar year 2003.

Appendix A.   Selected References

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Appendix B. Pinelands and Non-Pinelands Acreage by County

County	Total Acreage	Acreage Inside the Pinelands	Acreage Outside the Pinelands	Proportion in the Pinelands	County Pinelands Acreage as a % of Total Pinelands Acreage	County Acreage as a Share of Total South Jersey Acreage
Atlantic	391,134	247,877	143,257	63.4%	26.4%	17.3%
Burlington	524,166	334,187	189,979	63.8%	35.6%	23.1%
Camden	145,593	54,915	90,678	37.7%	5.9%	6.4%
Cape May	182,633	34,807	147,826	19.1%	3.7%	8.1%
Cumberland	321,645	45,356	276,289	14.1%	4.8%	14.2%
Gloucester	215,616	33,580	182,036	15.6%	3.6%	9.5%
Ocean	485,569	187,490	298,079	38.6%	20.0%	21.4%
Total	2,266,357	938,212	1,328,145	41.4%	100.0%	100.0%

Long Term Economic Monitoring Program

Appendix C.   Municipalities of South Jersey

Municipalities of South Jersey

1. Pt. Pleasant Beach
2. Pt. Pleasant
3. Bay Head
4. Mantoloking
5. Lavallette
6. Seaside Hts.
7. Seaside Park
8. Island Hts.
9. Ocean Gate
10. Pine Beach
11. South Toms River
12. Beachwood
13. Lakehurst
14. Harvey Cedars
15. Surf City
16. Long Beach
17. Ventnor
18. Margate
19. Longport
20. Absecon
21. Pleasantville
22. Northfield
23. Linwood
24. Somers Pt.
25. N. Wildwood
26. Wildwood Crest
27. W. Cape May
28. Corbin
29. Weymouth
30. Shiloh
31. Elmer
32. Salem
33. Newfield
34. Bridgeton
35. Woodstown
36. Swedesboro
37. Pitman
38. Paulsboro
39. Wenonah
40. Woodbury Hts.
41. Woodbury City

42. Westville
43. Brooklawn
44. Gloucester City
45. Bellmawr
46. Runnemede
47. Woodlynne
48. Mt. Ephraim
49. Haddon Twp.
50. Audubon Park
51. Oaklyn
52. Collingswood
53. Audubon Boro
54. Haddon Hts.
55. Barrington
56. Magnolia
57. Lawnside
58. Tavistock
59. Haddonfield
60. Merchantville
61. Somerdale
62. Hi-Nella
63. Stratford
64. Laurel Springs
65. Lindenwold
66. Pine Hill
67. Clementon
68. Pine Valley
69. Gibbsboro
70. Berlin Boro
71. Berlin Twp.

72. Chesilhurst
73. Medford Lakes
74. Mt. Holly
75. Eastampton
76. Pemberton Boro
77. Wrightstown
78. Riverside
79. Beverly
80. Edgewater Park
81. Bordentown Twp.
82. Fieldsboro
83. Bordentown City

Municipal Boundaries

County Boundaries

Pinelands Area

Map generated by NJ Pinelands Commission
GIS Laboratory
December 19, 2002

Appendix D   Pinelands Management Areas

Management Areas	Description	Permitted Uses	
		Residential	Non-residential
Preservation Area District	Core of the Pinelands environment and the most critical ecological region; a large, contiguous wilderness area of forest which supports diverse plant and animal communities, many of which are threatened and endangered species.	None except 1 acre lots in designated infill areas	Limited commercial uses in designated infill areas
Special Agricultural Production Area	Discrete areas within the Preservation Area primarily used for berry agriculture and horticulture of native Pinelands plants.	Farm-related housing on 40 acres	Expansion of existing uses only
Forest Area	Similar to the Preservation Area District in terms of ecological value; a largely undeveloped area which is an essential element of the Pinelands environment, contains high quality water resources and wetlands and provides suitable habitat for many threatened and endangered species.	5 to 25 acre lots	Roadside retail within 300 feet of pre-existing use
Agricultural Production Area	Areas of active agricultural use, generally upland field agriculture and row crops, together with adjacent areas with soils suitable for expansion of agricultural operations.	Farm-related housing on 10 acres, non-farm housing on 40 acres	Agricultural commercial; roadside retail within 300 feet of pre-existing use
Rural Development Area	Areas which are slightly modified and suitable for limited future development; represents a balance of environmental and development values that is intermediate between Forest Areas and existing growth areas.	3.2 to 6.0 acre lots	Small scale community commercial and light industrial uses on septic systems
Pinelands Village	Small, existing, spatially discrete settlements which are appropriate for infill residential, commercial, and industrial development compatible with their existing character.	1 to 5 acre lots if not sewered	Commercial and industrial uses compatible with existing character
Pinelands Town	Large, exiting spatially discrete settlements.	2 to 4 homes per acre with sewers	Commercial and industrial uses
Regional Growth Area	Areas of existing growth and adjacent lands capable of accommodating regional growth influences while protecting the essential character and environment of the Pinelands	2 to 4 homes per acre with sewers	Commercial and industrial uses
Military and Federal Installation Area	Federal enclaves within the Pinelands.	Not Applicable	Uses associated with function of the installation or other public purpose uses

Appendix E.   State-Designated Pinelands Management Areas

Pinelands Boundary

Pinelands Management Areas

- Preservation Area
- Forest Area
- Agricultural Production Area
- Special AG Production Area
- Rural Development Area
- Pinelands Village
- Regional Growth Area
- Pinelands Town
- Federal or Military Facility

Author: NJ Pinelands
Commission
Date: 2003

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Miles