

FIRST BIENNIAL UPDATE

*ECONOMIC & FISCAL
IMPACTS*

of the
Pinelands
Comprehensive Management
Plan



November 1985

New Jersey Pinelands Commission

FOREWORD

The data and analyses presented in this report serve to update the Pinelands Commission's 1983 study, Economic and Fiscal Impacts of the Pinelands Comprehensive Management Plan. This report was prepared by Lisa J. Rosenberger of the Pinelands Commission staff, assisted by Gregory Stellitano. The Commission would like to thank the following municipal tax assessors for their invaluable assistance: Dorothy Montag (Galloway Township), Doris Fink (Hamilton Township), Warren Murphy (Hammonton Town), Henry Haines (Medford Township), Walter Kosul (Pemberton Township), John Keller (Woodland Township), Stephen Kessler (Winslow Township), Walter Robinson (Dennis Township), Edward Carlisle (Maurice River Township), Bruce Coyle (Monroe Township), Frank Viafora (Jackson Township), and Joyce Jones (Manchester Township).

CONTENTS

	<u>Page</u>
I. Introduction	1
II. Land Market Trends in the Pinelands	8
A. Introduction	8
B. Number of Vacant Land Transactions	10
1. Regional Trends	10
2. Trends by Pinelands Management Areas	15
3. Conclusions	21
C. Number of Acres Per Transaction	22
D. Land Prices	26
1. Average Prices Per Acre	26
2. Statistical Model of Land Values	29
3. Conclusions	38
III. Housing Market Trends	39
A. Introduction	39
B. Building Permits	40
1. Regional Trends	40
2. Trends Within Four Pinelands Municipalities	43
3. Conclusions	48
C. Sales of Residential Units	49

	<u>Page</u>
IV. Municipal Finances	54
A. Introduction	54
B. Vacant Land Assessments	59
C. Property Tax Delinquency	67
D. Public Expenditures	70
E. Average Tax Bills	72
V. Conclusions and Recommendations	77
A. Summary of Major Findings	77
B. Recommendations	79
1. In Lieu of Tax Program	79
2. Reimbursement for Reductions in Vacant Land Assessments	80
3. Assistance to Municipalities	81
4. Continuing Economic Monitoring Program	82

TABLES

<u>Number</u>	<u>TITLE</u>	<u>Page</u>
1	Number of Land Sales	20
2	Mean Number of Acres Per Sale	23
3.	Median Number of Acres Per Sale	24
4	Average Price Per Acre	28
5	Land Value Regression Coefficients	32
6	Residential Building Permits Issued- Galloway Township	45
7	Residential Building Permits Issued- Pemberton Township	45
8	Residential Building Permits Issued- Winslow Township	46
9	Residential Building Permits Issued- Manchester Township	46
10	Declines in Vacant Land Assessments, 1980 - 1984	63
11	Pinelands Acquisitions by Municipality, 1980 - 1984	66

FIGURES

<u>Number</u>	<u>TITLE</u>	<u>Page</u>
1	Total Number of Vacant Land Sales	12
2	Shares of Vacant Land Sales	12
3	Pinelands Area Land Sales	19
4	Number of Residential Building Permits.	41
5	Pinelands Building Permit Shares	41
6	Number of Residential Transactions	50
7	Pinelands Residential Sales Share	50
8	Average Value of Residential Properties	52
9	Average Housing Value Ratios	52
10	Vacant Land as Percent of All Ratables.	60
11	Number of Property Line Items	60
12	Rates of Property Tax Delinquency	69
13	Property Tax Delinquency Ratios	69
14	Total Local Government Expenditures . . .	71
15	Local Government Expenditure Shares . . .	71
16	Average Residential Property Tax Bill. . .	74
17	Average Vacant Land Property Tax Bill. . .	74
18	Average Property Tax Bill Ratios	75

INTRODUCTION

The New Jersey Pinelands encompasses an area of nearly one million acres in parts of seven counties in Southern New Jersey (Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, Ocean). While much of the Pinelands remains essentially undeveloped, a variety of economic activities and residential land uses are found in the region. According to the 1980 Census, the area comprising the 52 municipalities located wholly or partly within the Pinelands Area contains 173,839 year-round residential dwelling units, housing a total population of 484,999. Total covered employment in these municipalities is 179,563. Within the Pinelands region, both residents and jobs are concentrated in fringe areas rather than the central portion, which is largely made up of forests and farms.

The current program of planning and management of the Pinelands originated with the National Parks and Recreation Act, signed into law by President Carter in November 1978. This legislation delineated the Pinelands National Reserve and authorized the establishment of a commission to prepare a Comprehensive Management Plan for the Reserve. Pursuant to this legislation, Governor Brendan T. Byrne issued Executive Order 71 on February 8, 1979, which created the Pinelands Planning Commission to prepare the Comprehensive

Management Plan. In addition, most development in the Pinelands was made subject to review and approval by the Commission.

In June 1979, the Pinelands Protection Act was passed by the state legislature. This law essentially confirmed the establishment of the Pinelands Commission and endorsed the powers of the Commission to plan for the long-term management of the Pinelands in order to protect the area's natural resources, and to regulate development in the Pinelands Area. The Pinelands Area as designated in the Pinelands Protection Act is slightly smaller than the Pinelands National Reserve, and includes a 368,000-acre Preservation Area and a 566,000-acre Protection Area.

The period from the issuance of Executive Order 71 in February of 1979 until the Comprehensive Management Plan was implemented in January of 1981 is commonly referred to as the "moratorium" period. In fact, this term is a misnomer, since development in the region was not halted during this time, but rather was made subject to interim rules and regulations adopted by the Pinelands Commission. In some ways, these regulations were less restrictive than those later adopted under the Comprehensive Management Plan; for example, single-family residences on single lots of greater than one acre in the Protection Area were exempt from the Commission's application review process. At the same time, some of the standards applied were more stringent than those later adopted under the CMP. Perhaps most importantly from

an economic standpoint, the moratorium represented a period of uncertainty for potential investors and developers since it was during this time that the Plan and its associated regulations were being drafted.

The Preservation Area Plan was adopted by the Pinelands Commission in August 1980 and the Comprehensive Management Plan for the entire Pinelands National Reserve was adopted in November of the same year. The CMP went into effect following its approval by the Governor in January 1981. The Plan designates eight Pinelands Management Areas, as follows:

- ° Preservation Area District
- ° Forest Area
- ° Agricultural Production Area
- ° Special Agricultural Production Area
- ° Rural Development Area
- ° Pinelands Villages and Pinelands Towns
- ° Regional Growth Area
- ° Military and Federal Installation Area

The Pinelands Commission exercises regulatory powers in those parts of each management area which are located within the Pinelands Area (excluding parts of the National Reserve outside the Pinelands Area).

The CMP outlines minimum standards for development in each of these management areas. In general, new development is highly restricted in the Preservation, Special Agricultural Production, Forest, and Agricultural Production Areas,

while growth is to be channeled to the Rural Development Area, Pinelands Towns and Villages, and especially the Regional Growth Area. In the Preservation Area and Special Agricultural Production Districts, the only permitted residential development is housing for persons with a cultural or economic link to the essential character of the Pinelands. Limited numbers of housing units may be built in the Forest Area, averaging one unit per 15.8 acres of upland, while in the Agricultural Production Areas residential dwellings are permitted at a density of one unit per 10 acres, provided that the dwelling is accessory to an active agricultural operation. In Rural Development Areas, 200 residential units per square mile of upland may be built, and in Pinelands Towns and Villages, residences are permitted on lots of one acre, or smaller if served by a central sewer system. In Regional Growth Areas, allowable gross densities range from 1 to 3.5 dwelling units per acre of developable land.

The standards contained in the Plan may be waived if prospective developers can demonstrate extraordinary hardship or compelling public need. In the first two years following the enactment of the Comprehensive Management Plan, about two-thirds of the development approvals represented economic hardship waivers. A grandfather clause was also in effect for one year following the Plan's adoption, and is now in effect in virtually all municipalities which have been certified by the Pinelands Commission as being in conformance with the CMP. Under this clause, the construc-

tion of a dwelling unit as the primary residence of the applicant is permitted on a lot of one acre or more.

While the regulations adopted under the Comprehensive Management Plan went into effect in January 1981, the final stage of implementation is not yet complete. All Pinelands Area municipalities are required to revise their master plans and zoning ordinances to conform to the standards contained in the Comprehensive Management Plan. In the process, towns may adjust the boundaries of the management areas and adopt regulations specific to each jurisdiction, provided that they are consistent with the overall intent of the Plan. As of this writing, 42 of the 52 towns have been certified by the Pinelands Commission as being in conformance with the Plan. Most of these towns were certified after 1982. Thus, the period under study must be considered a transitional one, subject to at least some degree of uncertainty about the future on the part of investors.

The economic and fiscal impacts of Pinelands land use regulations have been the subject of considerable controversy since their inception. Prior to the adoption of the Plan, an economic analysis was conducted for the Pinelands Commission to determine its potential impacts.¹ Among other things, the analysis indicated that land values could be affected both negatively and positively, depending on the

¹Economic Analysis of the Pinelands Comprehensive Management Plan, prepared for the Pinelands Commission with the assistance of Gloria L. Christian, James C. Nicholas, and Joan E. Towles, November 20, 1980.

level of pre-existing growth pressure and amount of development permitted under the Plan. In addition, municipal ratable bases were expected to be affected to the extent that the value of privately owned vacant land and associated assessments were changed by the implementation of the Plan. Since, however, the CMP seeks to reinforce existing patterns of development, it was not anticipated that its implementation would have major economic consequences for the region as a whole.

In 1982, the Pinelands Commission undertook a detailed study of the impacts of Pinelands regulations on the regional economy and municipal finances during the "moratorium" and the first year and a half following the implementation of the CMP. The results of that analysis were published in a 1983 report entitled Economic and Fiscal Impacts of the Pinelands Comprehensive Management Plan. The study found that land sales and housing construction in the Pinelands were dampened during the "moratorium" period (1979-1980) in relation to trends outside the Pinelands. Land prices were also adversely affected during this period. However, after the CMP went into effect, land prices apparently rebounded and housing markets stabilized, at least for the short time period studied. In addition, it was found that while a number of towns were affected by reductions in vacant land assessments, the impact of these reductions was significant only in Woodland Township. No major impacts on employment or resource-related industries were identified.

The Commission's 1983 study provided detailed quantitative information on historic economic and fiscal trends in the Pinelands, and documented the effects of the "moratorium" period on land and housing markets. Its findings concerning the impacts of the CMP were extremely tentative, however, due to the short time period analyzed. The current report therefore represents an update of the 1983 report, covering a period of four years following the adoption of the CMP. This study focuses on the three topics of most concern to members of the Pinelands community: impacts on land markets, housing markets, and municipal finances. The land value analysis has been expanded and refined somewhat, and changes in the number of transactions over time are analyzed in more depth. Building permits are tracked by management area in four municipalities, as well as at the regional level. In addition, detailed data on changes in vacant land assessments following the adoption of the Plan are presented for individual municipalities. While the trends identified in this analysis can still not be considered as conclusive indicators of the CMP's long-term effects, especially in light of the fact that the conformance process is not yet complete, they do provide a good barometer of the magnitude and extent of the short-term impacts.

LAND MARKET TRENDS IN THE PINELANDS

A. Introduction

Perhaps the most controversial and potentially significant impact of the Comprehensive Management Plan is its effect on land markets in the Pinelands region. The regulations imposed under the Plan may affect both the volume of sales and prices per acre in each management area and also outside the Pinelands Area. The value of property depends in part on the permitted use which yields the highest rate of return to the owner, often called the "highest and best use." Permitted uses on vacant and farm land have been limited significantly in the Preservation, Forest and Agricultural Production Areas, and therefore land prices may be adversely affected. However, land values also depend on the degree of speculative and development pressure which exists for a given location, as well as the physical characteristics of each site. For parcels which are distant from developing areas or which are unsuitable for development, the effects of new land use regulations will be small. Therefore, to the extent that the Comprehensive Management Plan reinforces the development patterns which already existed at the time of its adoption, impacts on land values will be minimized.

Another potential impact of the Comprehensive Management Plan is that the value of developable lands in Regional Growth Areas and perhaps outside the boundaries of the Pinelands Area may be enhanced. The magnitude of this effect depends upon the degree to which the total supply of building sites within the restricted areas is limited, thereby diverting development pressure to growth areas and beyond. Another factor affecting land prices is the distribution and value of Pinelands Development Credits (PDC's). Initially, PDC's should add to the value of land in the Preservation and Agricultural Production Areas, where they are assigned to landowners on the basis of the physical characteristics of each parcel (i.e. upland vs. wetland and vacant vs. active agricultural land). PDC's may be sold by landowners to developers, who can use them to increase permitted housing densities in Regional Growth Areas. Therefore, the market value of PDC's depends on the demand for housing in the Regional Growth Areas, which is expected to change over time. In the long run, the PDC program will serve to transfer value associated with development potential from the Preservation and Agricultural Production Areas to the Regional Growth Areas.

The impact of the CMP on land values throughout the Pinelands region is an issue of central importance to the Pinelands Commission. Not only are individual landowners affected by changes in land prices, but since comparable sales typically form the basis for assessments, the ratable

bases of Pinelands communities will also be impacted. Thus, the analysis of land markets presented in this chapter represents perhaps the key component of the economic study of the Pinelands Plan. The next section contains an analysis of trends in the number of vacant land transactions for the 52 Pinelands municipalities as a whole, as well as a more detailed study of land sales in sixteen municipalities both before and after the implementation of the CMP. In Section C, shifts in the average size of parcels sold following the adoption of the CMP are identified, and Section D examines changes in prices per acre for the sample of sixteen towns.

B. Number of Vacant Land Transactions

1. Regional Trends

The number of vacant land sales is an indicator of the level of land speculation and development pressure which exists for a given community. Information on vacant land transactions is compiled for individual municipalities by the New Jersey Division of Taxation for fiscal years, which extend from July 1 to June 30. The data are used by the Division of Taxation for the purpose of computing equalization (sales/assessment) ratios; hence, all nonmarket transactions are excluded. Certain valid market transactions, however, are also omitted because sales prices are inconsistent with assessments. The most notable examples of "nonusable"

sales which may represent market transactions are sales of property conveying only a portion of the assessed unit (split-offs), sales of property which have undergone zoning changes not reflected in the assessments, and sales occurring within the sampling period but prior to a reassessment or revaluation. The omission of these types of transactions will cause the data to underestimate the actual number of sales in a given year, and the effect is not necessarily uniform across all years. Therefore, the data must be interpreted with some caution.

Figure 1 shows trends in the number of land transactions in the 52 Pinelands municipalities from 1972 to 1984. Sales activity peaked first in 1973 and again in 1977-78, followed by a rather sharp decline from 1979 to 1982, and a rise in the total number of sales in 1983 and 1984. To a large extent these trends reflect economic conditions throughout the state, with the periods from 1973 to 1975 and from 1979 to 1982 representing times of recession which were particularly severe for the real estate industry. Similarly, the recent increase in sales is at least partly due to reductions in interest rates and the concomitant rejuvenation of real estate markets.

In order to determine whether or not land market trends in the Pinelands communities differ significantly from trends in the seven-county region or the state

Figure 1

TOTAL NUMBER OF VACANT LAND SALES

All Pinelands Area Municipalities

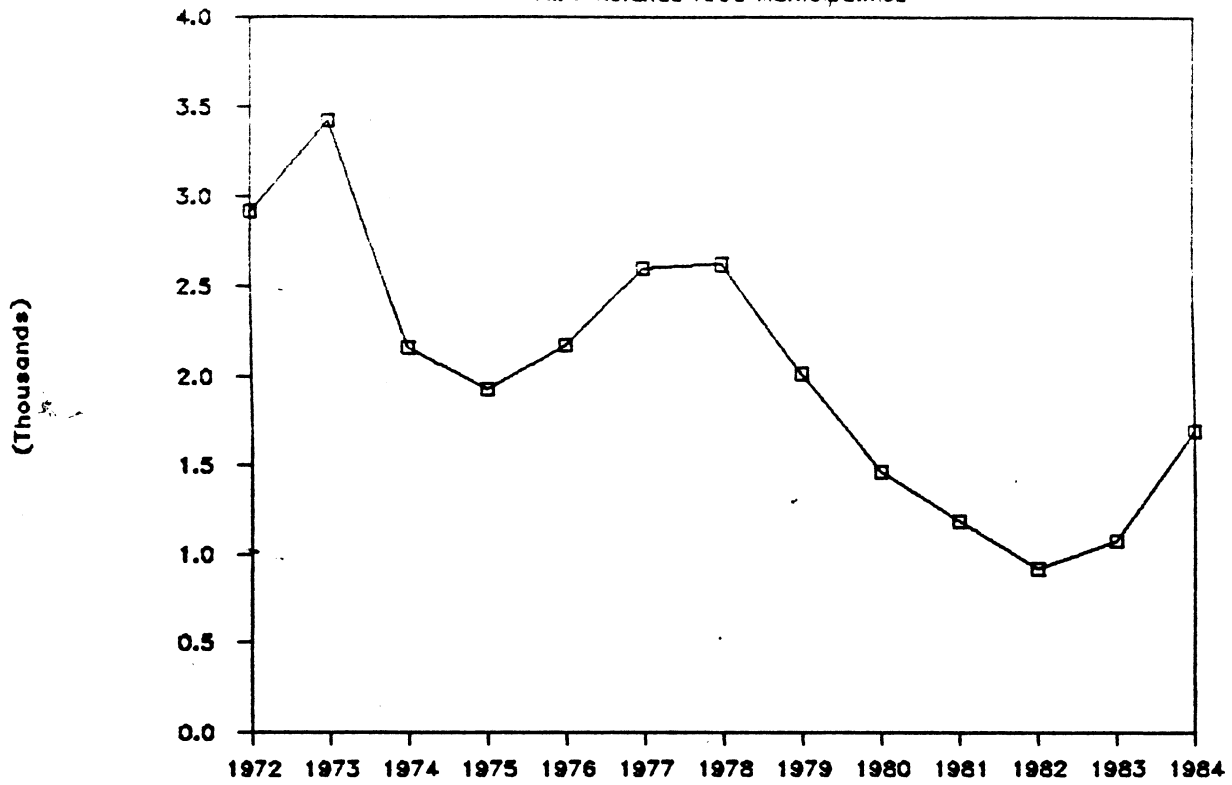
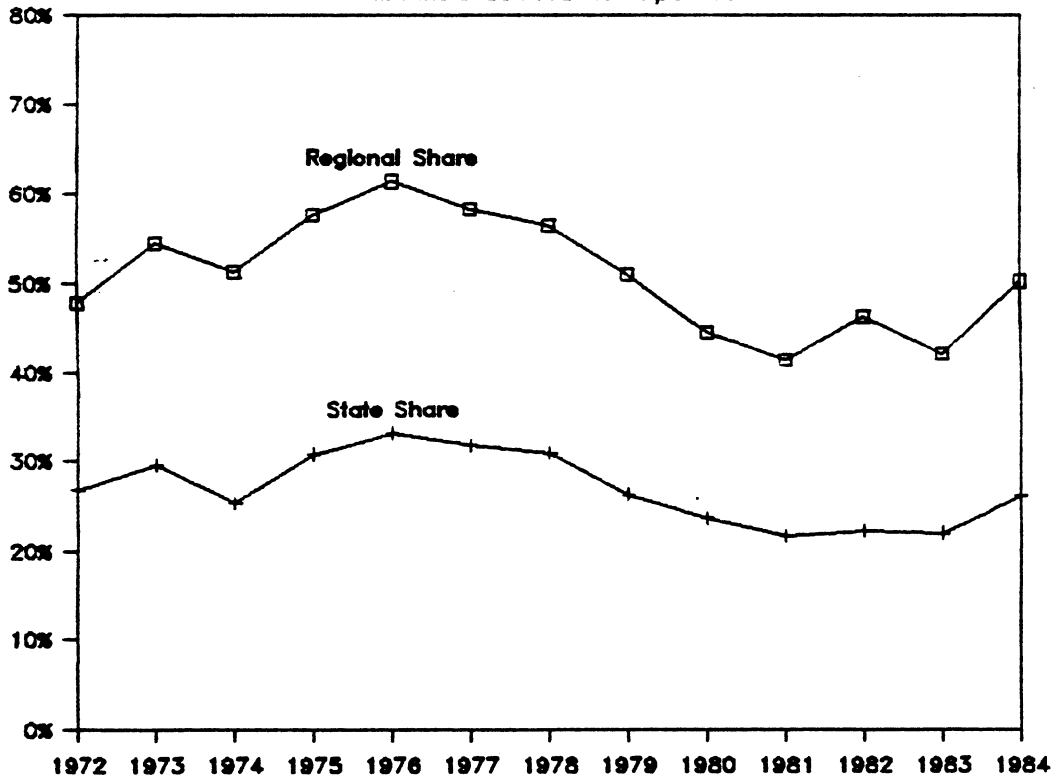


Figure 2

SHARES OF VACANT LAND SALES

All Pinelands Area Municipalities



as a whole, a "share" analysis is employed. The term "share" refers to the percentage of the number of transactions occurring throughout the state (or the seven-county region) which took place within the 52 Pinelands municipalities. In this way, changes unique to the municipalities can be observed while "controlling" for more widespread trends characteristic of the state (or the region). For example, if vacant land sales are decreasing throughout the state due to a general economic recession and they are decreasing at the same rate in the Pinelands, the graph representing the share of the state would be a straight horizontal line, meaning that the Pinelands percentage of all sales in the state has remained the same. This situation would indicate that the drop in sales observed in the Pinelands merely reflects statewide economic conditions. On the other hand, if the graph of the share decreases over time, then sales are declining more rapidly in the Pinelands than elsewhere in the state, indicating that one or more factors which are unique to the Pinelands municipalities are influencing trends. If a shift in the direction or slope of the share line is observed after 1978, then the possibility that the Pinelands moratorium or the CMP is responsible for at least part of that shift cannot be ruled out without further investigation.

The Pinelands shares of vacant land sales in the seven-county region and the state from 1972 to 1984 are

depicted in Figure 2. In 1984, the 52 municipalities accounted for 50 percent of the region's sales and 26 percent of transactions throughout the state. Overall, the shares increased from 1972 to 1976, followed by a decline which lasted until 1981. This decline was particularly severe in terms of the regional share. The shares then stabilized from 1981 to 1983, albeit at a lower level than in any preceding year, and in 1984 the rate of growth in land market activity in the Pinelands towns exceeded that of the region or the state.

The drop in the regional share of land sales from 1976 to 1980 was due at least in part to a dramatic jump in sales activity in the Atlantic City area, which is within the seven-county region but outside the Pinelands. The total volume of sales in Atlantic County grew from \$3.7 million in 1976 to \$32.7 million in 1979, nearly a ten fold increase. This boom also contributed to the downward trend in the state share. After 1979, the Atlantic City market began to stabilize, although the Pinelands share of transactions remained below previous levels through 1983. Thus, Pinelands regulations may have dampened land speculation and sales of building lots to the extent that the overall volume of sales in the 52 towns was affected during this period. The relative increase in transactions in 1984, however, suggests that this overall effect may have been temporary, and that land

markets in the region are strengthening. In the next section, trends in the number of sales for each Pinelands management area are analyzed for a sample of municipalities.

2. Trends by Pinelands Management Areas

The preceding section showed shifts in the number of land sales for the 52 Pinelands municipalities as a whole. Most of these municipalities, however, contain areas both within and outside the boundaries of the Pinelands Area as defined in the Pinelands Protection Act. In order to ascertain the effects of the regional land use regulations solely on the Pinelands Area and on each of the management areas designated under the CMP, detailed data were collected by the Pinelands Commission for all market transactions of vacant and farm land involving one acre or more in 14 Pinelands municipalities as well as two towns located entirely outside the Pinelands. Most of the Pinelands municipalities selected for study contain areas both inside and outside the Pinelands Area. Sales occurring in the areas outside the Pinelands Area form the control against which sales inside can be compared.

This sample of 16 municipalities is used for the detailed analysis of acreage and land values contained in Sections B and C of this chapter, as well as the examination of number of transactions contained in this section. Three major criteria were used in selecting

the municipalities: geographic dispersion, to achieve wide coverage of the region; adequate coverage of each management area, as well as of areas outside the Pinelands Area; and the cooperation of local tax assessors, who provided detailed information on each sale. Based on these criteria, land sales were compiled for the following municipalities:

Galloway Township	Atlantic County
Hamilton Township	Atlantic County
Hammonton Town	Atlantic County
Medford Township	Burlington County
Pemberton Township	Burlington County
Tabernacle Township	Burlington County
Woodland Township	Burlington County
Winslow Township	Camden County
Dennis Township	Cape May County
Maurice River Township	Cumberland County
Downe Township	Cumberland County
Lawrence Township	Cumberland County
Monroe Township	Gloucester County
Barneгат Township	Ocean County
Jackson Township	Ocean County
Manchester Township	Ocean County

Downe and Lawrence Township in Cumberland County are located entirely outside the Pinelands but are comparable to the interior of the Pinelands in terms of overall level of development.

The primary sources of data on land transactions in these 16 municipalities are the computer listings of "usable" and "nonusable" sales compiled by the New Jersey Division of Taxation. All usable sales of Class 1 (vacant land) properties involving one acre or more are included in this study, as well as several categories of "nonusable" sales which nevertheless represent bona fide market transactions (i.e. split-offs, properties affected by zoning changes, sales occurring prior to a revaluation, and land which qualifies for farm assessment). The Pinelands Commission staff has determined the acreage involved in each sale and the location of each parcel vis-a-vis the Pinelands management areas. Local tax assessors checked the data and provided site-specific information for each parcel sold, which was used in the analysis of land values (see Section D below).

A total of 2,984 sales were compiled for the sixteen municipalities over a nine-year period from 1976 through 1984. Of these, 1,348 occurred before any Pinelands regulations went into effect (1976-1978), 655 took place during the "moratorium" period (1979-1980), and the remaining 981 transactions occurred after the CMP was adopted (1981-1984). The largest number of sales occurred in Hamilton, Jackson, Galloway, and Dennis Townships, which together account for 60 percent of all transactions.

Figure 3 shows the number of sales which occurred in the Pinelands Area as a percent of all sales over the period studied. The relative number of transactions in the Pinelands Area dropped dramatically in 1979 and 1980, during the moratorium period, then rose in 1981 following the implementation of the CMP, and plummeted again from 1982 to 1984. Thus it appears that, while the adoption of the CMP may have initially removed some of the market uncertainty associated with the moratorium, the overall effect of the regional land use regulations has been to slow the pace of land speculation and development within the Pinelands Area. It should be noted that since the non-Pinelands sales in the sample took place within a relatively short distance of the Pinelands, the reduction in the proportion of sales in the Pinelands Area may partly reflect a "spillover" effect of the CMP. In other words, sales activity may be shifting from the Pinelands Area to the adjacent areas included in the sample.

Overall shifts in the number of land transactions for each Pinelands management area are shown in Table 1. When comparing the pre-regulatory period to the post-CMP period, the number of sales in the Pinelands Area decreased from 1,000 to 564. The percentage drop in sales was most pronounced for the Preservation, Rural Development, and Forest Areas, although all management areas exhibited significant declines.

Figure 3

PINELANDS AREA LAND SALES

As Percent of Total Sales

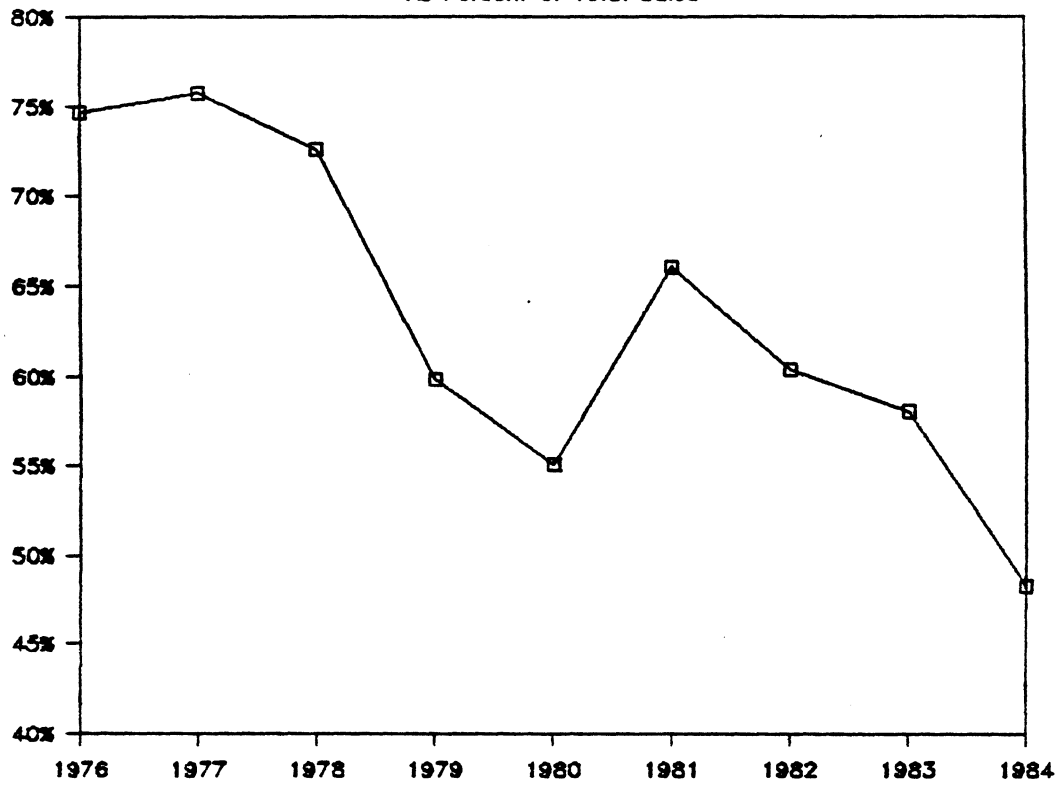


TABLE 1
 NUMBER OF LAND SALES
 for Sample of 16 Municipalities

<u>Management Area</u>	<u>Pre-Pinelands (1976 - 1978)</u>	<u>Post-CMP (1981-1984)</u>	<u>Percent Change</u>
Preservation	39	15	-61.5
Forest	235	121	-48.5
Agricultural Production	85	62	-27.1
Rural Development	313	144	-54.0
Regional Growth	190	117	-38.4
Pinelands Towns and Villages	<u>138</u>	<u>105</u>	-23.9
Total Pinelands Area	1,000	564	-43.6
Outside Pinelands Area	348	417	+19.8

Outside the Pinelands, the number of sales increased by 17 percent, from 348 to 417, while throughout the state the number of vacant land sales declined by 10 percent when comparing the two time periods. It appears, therefore, that the CMP has significantly slowed the volume of land sales in the Pinelands, while diverting speculative and development pressure to areas immediately outside the Pinelands Area.

3. Conclusions

To summarize, it is apparent that the number of land transactions occurring within the Pinelands Area since the adoption of the CMP is significantly lower than before the region-wide land use regulations went into effect, both in absolute terms and relative to the volume of sales elsewhere in the state. The evidence also suggests that the market has shifted to areas adjacent to the Pinelands Area. What is not clear is whether the drop in land sales in the Pinelands is due to an inability of potential sellers to find buyers for their land, or whether potential sellers are less desirous of selling land since the adoption of the CMP. This question can only be answered through further detailed analysis of market conditions (see recommendations for further study in Chapter V). It is also not clear what effect the decline in sales volume may have on actual selling prices of land. This

issue is addressed in detail in Section D below, following a brief discussion of changes in the average acreage per sale in the Pinelands Area.

C. Number of Acres Per Transaction

One potential effect of the CMP is that the size of parcels sold may change after the adoption of the regulations, at least in certain management areas. Specifically, larger lot size requirements in the more restrictive zones could be expected to result in an increase in the average acreage per sale, while relatively high permitted densities in some growth areas could reduce the size of parcels sold. Tables 2 and 3 show the mean and median acreage per sale by management area before the moratorium and after the CMP went into effect, for the sample of sixteen municipalities described in Section II.B.2. The mean is computed by summing the acreage for all sales and dividing by the number of sales; it is what is generally thought of as the "average". However, the mean can be skewed by the presence of a few very high values; thus looking at the median, which represents the midpoint of the range of values, can shed additional light on any observed changes.

The data on Tables 2 and 3 indicate that Pinelands regulations have had a significant effect on the type of parcel sold in the Preservation, Agricultural Production, and Regional Growth Areas. In the Preservation Area, the mean acreage per transaction increased by nearly 700 percent when comparing the 1976-78 period with the post-Plan period,

TABLE 2

MEAN NUMBER OF ACRES PER SALE
Sample of 16 Municipalities

<u>Management Area</u>	<u>Pre-Pinelands (1976-1978)</u>	<u>Post-CMP (1981-1984)</u>	<u>Percent Change</u>
Preservation	16.1	123.6	+667.7
Forest	12.6	10.0	-20.6
Agricultural Production	9.8	19.2	+95.9
Rural Development	7.3	7.1	-2.7
Regional Growth	12.2	8.3	-32.0
Pinelands Towns and Villages	4.4	4.5	+2.3
Total Pinelands Area	9.6	11.9	+24.0
Outside Pinelands	8.6	9.7	+12.8

TABLE 3

MEDIAN NUMBER OF ACRES PER SALE
 Sample of 16 Municipalities

<u>Management Area</u>	<u>Pre-Pinelands (1976-1978)</u>	<u>Post-CMP (1981-1984)</u>	<u>Percent Change</u>
Preservation	6.5	20.0	+207.7
Forest	5.0	4.9	-2.0
Agricultural Production	5.6	10.1	+80.4
Rural Development	5.0	4.6	-8.0
Regional Growth	2.1	4.0	+90.5
Pinelands Towns and Villages	1.6	1.8	+12.5
Total Pinelands Area	5.0	4.9	-2.0
Outside Pinelands	3.4	2.5	-26.5

from 16.1 to 123.6. This dramatic rise in acreage is due largely to the occurrence of three sales exceeding 400 acres each in the post-CMP period. However, the median acres sold also increased substantially, from 6.5 to 20. Therefore it is clear that the number of small lots (1-5 acres) sold in the Preservation Area has dropped sharply since the adoption of the CMP, a finding which is not unexpected given the stringent controls on development there.

The Agricultural Production Area also exhibits a significant increase in the average acreage sold, with both the mean and median nearly doubling when comparing the pre- and post-CMP periods. From 1981 to 1984, the mean size of parcels sold was 19.2 acres, while the median was 10.1. The rise in average acreage per transaction in this management area can be attributed to Pinelands regulations which limit land use to agriculture and related uses.

Regional Growth Areas show mixed results when comparing average acreages before and after the CMP. The mean number of acres per sale dropped rather substantially, from 12.2 to 8.3, indicating that relatively fewer sales of large vacant properties are taking place there. At the same time, the median acreage increased from 2.1 to 4.0, showing that the number of very small lots (1-2 acres) sold has also declined dramatically. This finding is not unexpected since several of the municipalities included in the sample have growth areas which are currently unsewered, meaning that houses using septic systems must be built on lots of at least

one acre. Thus, the trend in the Regional Growth Area has been towards a reduction in the number of large and small parcels sold, accompanied by a relative increase in the number of intermediate-sized lots (2 to 12 acres).

Trends in average lot size for the other three management areas show no major shifts after the CMP was implemented. The mean acreage sold throughout the Pinelands grew by 24 percent, from 9.6 to 11.9, while the mean acreage sold outside the Pinelands increased by only 12.8 percent, from 8.6 to 9.7. Median acres per transaction in the Pinelands Area remained stable, decreasing by only two percent from 5.0 to 4.9, compared to a 27 percent drop outside. The overall trend has therefore been for the size of parcels sold in the Pinelands to increase in comparison to areas outside the Pinelands; however, the impact so far has been substantial only in the Preservation and Agricultural Production Areas. In the next section, the effects of acreage and other factors on land prices in the Pinelands is examined in detail.

D. Land Prices

1. Average Prices Per Acre

As discussed above, it appears that the implementation of the Pinelands Comprehensive Management Plan has had a significant impact on the number of land transactions occurring in the Pinelands Area and on the average amount of land per sale in certain management

areas. The final step in the analysis of land markets is to determine what, if any, effect the Plan has had on the actual selling prices of vacant and farm land in each management area. One simple way to assess this impact is to compare average prices per acre before and after the Plan was adopted, as shown in Table 4. These averages are computed by dividing the total dollar volume of sales by the total acres sold in each management area and each time period for the sample of 16 municipalities listed in Section II.B.2. These gross averages do not account for differences in the types of land sold or the characteristics of the transactions, but they do give a general indication of the trends in land prices over the period analyzed.

As Table 4 shows, prices per acre for land in the Pinelands are highest in the Regional Growth Areas and Pinelands Towns and Villages, followed by the Rural Development, Agricultural Production, Forest, and Preservation Areas, in that order. Thus, the price structure reflects the extent of the controls on development under the CMP as well as historical levels of speculative and development pressure. Interestingly, prices in the Forest, Rural Development, Regional Growth, and Pinelands Town Areas increased at a faster rate than prices outside the Pinelands when

TABLE 4

AVERAGE PRICE PER ACRE
Sample of 16 Municipalities

<u>Management Area</u>	<u>Pre-Pinelands (1976-1978)</u>	<u>Post-CMP (1981-1984)</u>	<u>Percent Change</u>
Preservation	\$1,643	\$ 594	-63.8
Forest	\$1,105	\$1,777	+60.8
Agricultural Production	\$2,081	\$2,255	+ 8.4
Rural Development	\$1,763	\$3,380	+91.7
Regional Growth	\$2,786	\$6,166	+121.3
Pinelands Towns and Villages	\$3,176	\$4,252	+33.9
Total Pinelands Area	\$1,915	\$2,588	+35.1
Outside Pinelands	\$2,634	\$3,192	+21.2

comparing the post-CMP with the pre-Pinelands periods, despite declines in the number of sales. Conversely, land values in the Agricultural Production Area rose only slightly, while they dropped by more than 60 percent in the Preservation Area. To at least some extent, the relative price declines in these two management areas can be directly related to the increase in the average acreage per sale, since per acre values generally decrease as the size of parcels increase. For the Pinelands Area as a whole, however, average land prices rose 35 percent, compared to only 20 percent in non-regulated areas.

Thus, these gross averages indicate that actual selling prices of land have been significantly adversely affected only in the Preservation Area, while in most of the Protection Area prices have increased relative to prices outside the Pinelands since the adoption of the CMP. These data must be interpreted with caution, however, since varying numbers of parcels of differing size and physical characteristics are included in each category. In the next section, a statistical analysis of the data is presented which accounts for some of this variation.

2. Statistical Model of Land Values

In this section, the effects of location vis-a-vis the various Pinelands management areas is analyzed over time, while controlling for the effects of other

variables which affect price, such as road access and the availability of public sewers. The analytical technique used is multiple linear regression. Regression analysis is a statistical method which can demonstrate the relationships between a "dependent" variable and one or more "independent" variables, and which tests the significance of these relationships. In this study, the dependent variable is price per acre, and the independent variables include acreage, location, year of sale, road access, sewer, and zoning, among others. If the independent variables can "explain" a significant amount of the observed variation in land prices, then the effects of location in each Pinelands management area can be measured quantitatively.

The regression models used in this analysis include all independent variables which are statistically significant at the five percent level. Since the data used do not constitute a random sampling of land transactions in the Pinelands, the models should not be used to predict land values in other parts of the Pinelands. Rather, the analysis presented here is intended to describe differences in the effects of the independent variables, particularly the location variables, before and after the CMP was adopted. Generally conclusions about Pinelands-related impacts to date can then be drawn.

Table 5 shows land value regression coefficients for the pre-Pinelands (1976-78) and post-CMP (1981-84) time periods. All the variables except acreage are "dummy" variables, meaning that they have a value of either one or zero, corresponding to the presence or absence of the particular attribute. The six location variables indicate in which Pinelands management area each transaction occurred. If, for example, a sale occurred in the Forest Area, its value for the Forest variable would be one and its value for the other five location variables would be zero. The seventh location variable, outside the Pinelands Area, is called the reference category, since it constitutes the base against which the coefficients for the other variables can be compared. The location variables are the focal point of the analysis, since changes in their regression coefficients over time could indicate Pinelands-related impacts.

The remaining variables are intended to account for variations in land prices due to factors other than location. The most important of these is acreage, which is expressed in terms of common logarithms. As noted previously, in general, the larger the parcel sold, the lower the price per acre. The year of sale dummy variables are included to account for the effects of price inflation or deflation within each of the time periods. In the pre-Pinelands model, 1976 is the base

TABLE 5
 LAND VALUE REGRESSION COEFFICIENTS
 Sample of 16 Municipalities

<u>Variable</u>	<u>Pre-Pinelands (1976-1978)</u>	<u>Post-CMP (1981-1984)</u>
(constant)	+4,657	+8,693
Acreage*	-3,784	-6,204
Preservation	NS	NS
Forest	-1,108	-1,218
Ag. Production	NS	NS
Rural Development	-1,390	-1,440
Regional Growth	+1,521	+1,887
Pinelands Towns	NS	NS
1977	+ 808	NA
1978	+ 916	NA
1982	NA	NS
1983	NA	NS
1984	NA	+ 762
Road Access	+1,269	+1,580
Public Sewer	+2,918	+3,295
Multiple Lots	+1,524	+1,580
Commercial Zoning	+2,112	+1,686
<hr/>		
R ²	.38	.39
Number of Cases	1,348	981

NS = Not statistically significant at the five percent level
 NA = Not applicable
 Dependent Variable is Selling Price Per Acre

* Acreage is expressed as a logarithm to the base 10

year and in the post-CMP period, 1981 constitutes the reference category.

The road access variable indicates that the parcel sold had access to a paved road, and the public sewer variable denotes the availability of a public sewerage system to serve the property. Both of these variables would be expected to have a positive effect on land values. Another factor which can have a major influence on prices is local zoning, particularly if a property is zoned for commercial or industrial use. Therefore, a variable to account for this effect is included. Finally, a variable to indicate whether multiple lots were involved in the sale is used, since prices per acre could be expected to be higher in such cases.

Two other variables not shown were included but proved not to be statistically significant predictors of land prices. The first indicated whether the buyer owned an adjacent lot, which sometimes gives rise to inflated prices. The other variable was intended to test whether lots which received approvals from the Pinelands Commission prior to sale brought higher prices than those which did not have such approvals. While this variable was not statistically significant in the post-CMP period, the information compiled was not complete for all towns. When the Commission's historical development review data is entered on the

automated system now being developed, cross-tabulations of approvals by block and lot will be more feasible.

In the regression model for the pre-Pinelands period from 1976 to 1978, the constant term is 4,657. This represents the average price per acre (PPA) if the value of all the independent variables is zero (if LG acres equals 0, acres equals one). The first independent variable is acreage, whose coefficient of -3,784 means that \$3,784 is subtracted from the PPA for every unit increase in the logarithm (base 10) of acreage, all other variables being the same. For example, in this period the PPA of a ten acre lot is, on the average, \$3,784 less than the price of a one acre lot, and the PPA of a 100 acre lot is \$3,784 less than that of a 10 acre lot, assuming that the lots have similar characteristics. Other significant non-Pinelands variables include the presence of road access, which adds \$1,269 to the price per acre, and zoning for commercial or industrial use which adds another \$2,112. Sewered lots are worth an average of \$2,918 more per acre than lots with no access to public sewer. When more than one lot is included in a sale, the PPA is increased by \$1,524. The 1977 and 1978 variables show the effects of time on land prices, all other factors being equal. In 1977, prices were \$808 higher than in 1976, while in 1978 they were \$916 higher than in 1976.

The Pinelands Regional Growth Area variable also has a positive coefficient, indicating that properties located in these areas were worth an average of \$1,521 per acre more than properties with similar characteristics located outside the Pinelands Area (the reference category). Since this effect is observed prior to the implementation of any regional land use controls, it reflects only the location of the sales in relation to the existing patterns of land speculation and development. In other words, the areas which were designated for Regional Growth under the Comprehensive Management Plan were those which were already subject to development, and this development pressure is reflected in higher land prices.

Other than Regional Growth, two of the Pinelands location variables are statistically significant in the earlier period, and all have negative coefficients of about the same magnitude. Prices per acre in the Rural Development Area are an average of \$1,390 less than outside the Pinelands Area, and \$1,108 less in the Forest Area, holding all other variables constant. The lower values indicate that these areas were generally subject to less development pressure than other parts of the region before the Pinelands regulations were implemented.

The Preservation Area, Agricultural Production Area, and Pinelands Towns variables are not

statistically significant location variables from 1976 to 1978, indicating that in general, land values in these areas do not differ conclusively from land values outside the Pinelands Area. In part, this may be due to the fact that prices are highly variable in these areas and the regression model is unable to account for much of this variation. In fact, the R squared of .38 for this model (and .39 for the post-CMP model) indicates that the coefficients taken together "explain" only 38 percent of the total variation in prices. It is clear that certain site-specific or sale-specific characteristics (e.g. suitability for on-site sewage disposal, aesthetic attributes, financing arrangements, etc.) have a large effect on prices, and the model cannot account for these myriad factors. The coefficients do, however, demonstrate statistically significant relations among the variables included, and can be used as a basis for analyzing trends.

In the post-CMP model, the constant term is nearly double that in the pre-Pinelands equation, and the acreage variable is commensurately lower, indicating that smaller lots are relatively more valuable than larger parcels in the more recent period. It is difficult to determine to what extent this effect is attributable to the CMP vs. other factors. However, it appears that limitations on the overall number of buildable lots in the Pinelands Area have made these

lots relatively more valuable, while speculative purchases involving large parcels of land have tailed off, thereby lowering the value of these types of properties. Analyses for individual management areas show this trend occurring in the Forest, Rural Development, Pinelands Town/Village, and Regional Growth Areas, but not in the Agricultural Production Area, where land is sold primarily for farming rather than for development. Results for the Preservation Area are not statistically significant.

Overall, the effect of the CMP on actual selling prices of land in the Pinelands appears to be minimal. The regression coefficients associated with the Pinelands management areas show slight relative declines in prices in the Forest and Rural Development Areas, in comparison to prices outside the Pinelands Area, combined with a moderate relative increase in prices in the Regional Growth Area. The remaining management areas continue to show no statistically significant differences from prices outside the Pinelands, although in the case of the Preservation Area, this finding is due primarily to the limited number of transactions which have occurred there. The effects of road access, public sewer, multiple lots, and commercial zoning on prices per acre are also similar in magnitude to the effects observed in the pre-Pinelands period. Thus, the results of this statistical analysis show that the

CMP has apparently had little impact on actual selling prices of vacant and farm land properties in the Pinelands, in comparison to price trends in other parts of the region.

3. Conclusions

The detailed analysis of over 2,300 land sales inside and outside the Pinelands Area before and after the adoption of the CMP shows that, despite the drop in the number of sales occurring in the Pinelands Area, actual selling prices of land have not been significantly adversely affected except in the Preservation Area. Average prices per acre have risen in all Protection Area management areas, and in fact have increased at a faster rate than prices outside the Pinelands, except in the Agricultural Production Area. The results of the regression analysis, which controls for price variations due to factors such as acreage, road access, public sewers, etc., show an increase in prices in the Regional Growth Areas compared to prices outside the Pinelands after the CMP went into effect, and only slight decreases in the Forest and Rural Development Areas. At the same time the models show that prices per acre are much lower for larger parcels of land for than smaller ones in the post-CMP period, indicating that buildable housing lots are relatively more valuable, while large-scale land speculation has abated.

III

HOUSING MARKET TRENDS

A. Introduction

The market for land in the Pinelands is of course closely tied to the market for housing. The aim of the Comprehensive Management Plan is to restrict new housing construction in the Preservation, Forest, and Agricultural Production Areas and to redirect growth to Regional Growth Areas and, to a lesser extent, to Rural Development Areas and Pinelands Towns and Villages. It is also possible that development is being diverted to areas outside the Pinelands Area as a result of the Plan. The extent to which patterns of residential growth are altered by the regional land use regulations depends upon the pre-existing levels of development in each of the management areas as well as the magnitude of the land use restrictions under the CMP. In order to assess these impacts, trends in building permit issuance for the Pinelands region as a whole and for individual management areas in four municipalities are analyzed in Section B of this chapter.

Another potential effect of the CMP is that selling prices of homes in the Pinelands could inflate due to limitations on the supply of new housing in the more restrictive management areas. Housing prices may also be

enhanced in areas which are protected from development under the CMP due to a perceived amenity value associated with the reduced likelihood of any substantial change in the rural character of these areas. While it is beyond the scope of this study to conduct a detailed analysis of housing prices in various parts of the Pinelands, the overall regional trends are depicted in Section C below.

B. Building Permits

1. Regional Trends

Information on the number of residential building permits issued in each municipality is published on a monthly and annual basis by the New Jersey Department of Labor. The data presented in this section were obtained from annual reports from 1972 through 1984. The number of dwelling units authorized by building permits is a good indicator of construction activities in the near future. Therefore, it is a useful predictor of the effects of the CMP on the market for new housing in the Pinelands.

The total number of permits issued over time in the 52 Pinelands municipalities is depicted in Figure 4. Virtually all of these permits are for single family dwellings. It can be seen that the largest number of permits were authorized in 1972, the starting point of the trend line. Construction activity then

Figure 4

NUMBER OF RESIDENTIAL BUILDING PERMITS

All Pinelands Area Municipalities

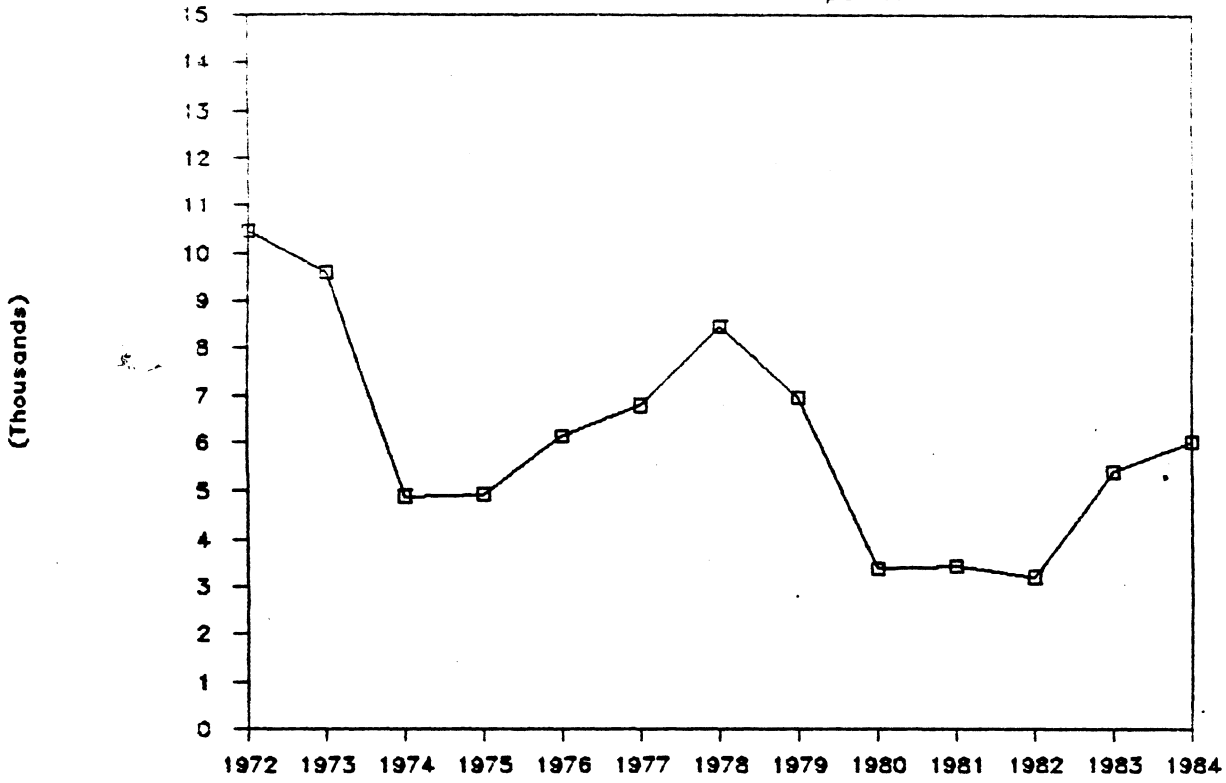
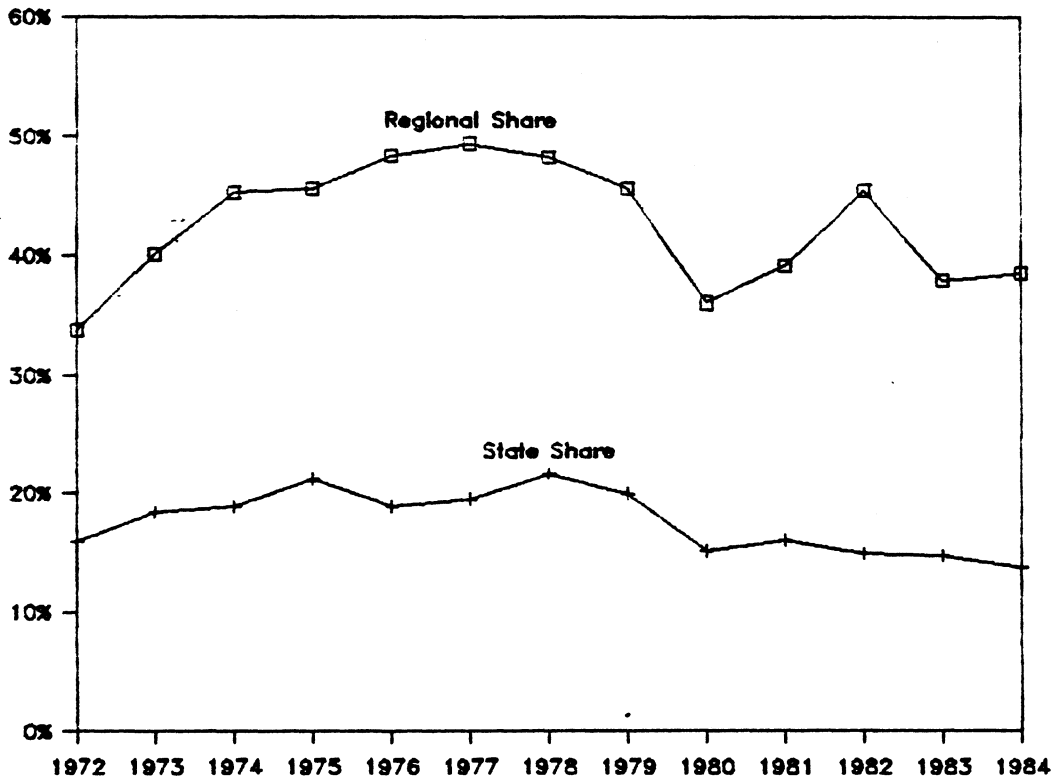


Figure 5

PINELANDS BUILDING PERMIT SHARES



dropped by more than 50 percent during the 1974-1975 recession, peaked again in 1978, declined dramatically during the recession of the early 1980's and then rebounded again in 1983 and 1984. This general pattern characterizes not only the Pinelands towns, but also the state as a whole. In order to determine whether the level of permit issuance in Pinelands towns since 1980 merely reflects general economic conditions or is indicative of Pinelands-related impacts, it is necessary to examine trends in the Pinelands municipalities in relation to those at the regional and state levels.

Figure 5 shows total residential dwelling units authorized in the 52 Pinelands municipalities as shares of the state and regional totals from 1972 to 1982. Overall, the state share of total permits increased from 16 percent in 1972 to over 21 percent in 1978, then fell rather abruptly in 1980. Since the adoption of the CMP, the share has remained stable at about 15 percent, with a slight decline to 14 percent in 1984. The regional share of total permits also increased over the 1972-1978 period, from 34 percent to 48 percent, then plummeted to 36 percent in 1980. In the post-Plan period, the number of permits issued in the Pinelands towns as a proportion of regional permits increased substantially in 1981 and 1982, but then dropped back about 38 percent in 1983 and 1984.

It therefore appears that the "moratorium" and the implementation of the CMP have had an impact on new residential construction in the Pinelands as a whole. The temporary rebounding of the regional shares in 1981 and 1982 may be due in part to the large number of approvals granted in this period under the economic hardship waiver provisions of the CMP, which allowed developers to complete projects which had received valid preliminary or final subdivision approvals prior to February 7, 1979. Overall, however, the extent of new construction in the Pinelands seems to have been somewhat curtailed in relation to other parts of the region and state. Of course, other factors such as shifts in demand may also have contributed to the recent trends. The next section examines rates of permit issuance over time for individual Pinelands management areas, in an attempt to more clearly identify the role of the CMP in the geographic redistribution of development.

2. Trends Within Four Pinelands Municipalities

Based on information provided by municipal tax assessors, residential building permits were tabulated for each Pinelands management area as well as for areas outside the Pinelands Area in four municipalities for

the period from 1976 to 1984. This information is summarized for the period prior to any Pinelands regulations (1976-1978) and the post-CMP period (1981-1984) on Tables 6 through 9. The four towns studied are geographically dispersed throughout the Pinelands and each covers a wide cross-section of Pinelands management areas. To some extent the factors influencing the location of development are unique to each municipality; however, the data taken together demonstrate the types of intra-municipal shifts in development patterns which have emerged since the adoption of the CMP.

Pre- and post-Plan permit issuance for all Pinelands Management Areas and a substantial area outside the Pinelands is shown for Galloway Township, Atlantic County on Table 6. As of this writing, Galloway Township's master plan and zoning ordinance have not been certified by the Pinelands Commission as being in conformance with the CMP. Therefore, the general standards contained in the Plan have been applied without substantial change since the beginning of 1981.

It can be seen that the total number of permits issued in Galloway more than doubled when comparing the two periods. Inside the Pinelands, few permits were issued either before or after the CMP in the Preservation, Forest and Pinelands Village Areas (none in the Preservation Area after the CMP), while new construction declined in the Agricultural Production and

TABLE 6

RESIDENTIAL BUILDING PERMITS ISSUED - GALLOWAY TOWNSHIP

<u>Management Area</u>	<u>Pre-Pinelands (1976-1978)</u>	<u>Post-CMP (1981-1984)</u>
Preservation	3	0
Forest	7	7
Agricultural Production	28	11
Rural Development	65	35
Regional Growth	53	63
Pinelands Town/Village	6	8
Outside Pinelands	166	645

TABLE 7

RESIDENTIAL BUILDING PERMITS ISSUED - PEMBERTON TOWNSHIP

<u>Management Area</u>	<u>Pre-Pinelands (1976 - 1978)</u>	<u>Post-CMP (1981-1984)</u>
Preservation	3	1
Forest	126	3
Agricultural Production	12	2
Rural Development	4	0
Regional Growth	390	367
Pinelands Village	0	0
Outside Pinelands	2	3

TABLE 8

RESIDENTIAL BUILDING PERMITS ISSUED - WINSLOW TOWNSHIP

<u>Management Area</u>	<u>Pre-Pinelands (1976 - 1978)</u>	<u>Post-CMP (1981-1984)</u>
Preservation	0	0
Forest	0	0
Agricultural Production	119	26
Rural Development	90	13
Regional Growth	476	184
Pinelands Village	41	10
Outside Pinelands	166	723

TABLE 9

RESIDENTIAL BUILDING PERMITS ISSUED - MANCHESTER TOWNSHIP

<u>Management Area</u>	<u>Pre-Pinelands (1976 - 1978)</u>	<u>Post-CMP (1981-1984)</u>
Preservation	2	3
Forest	0	2
Regional Growth	3	0
Pinelands Village	379	843
Outside Pinelands	953	923

Rural Development Areas and increased slightly in the Regional Growth Areas. The substantial jump in the number of permits outside the Pinelands is largely attributable to a single development project, Smithville, for which planning was underway well before the adoption of the CMP. The overall trend, however, indicates that the Plan may be diverting development from the Agricultural Production and Rural Development Areas to the Regional Growth Area and areas outside the Pinelands.

Overall residential growth in Pemberton Township, Burlington County (certified by the Pinelands Commission on June 3, 1983) has been slower in the post-CMP period than the pre-Pinelands period (see Table 7). The most notable shift occurred in the Forest Area, where 126 residential permits were issued from 1976 to 1978 and only three after the CMP went into effect. The number of permits also dropped in the Preservation, Agricultural Production, and Rural Development Areas, although very few were issued in these areas in either period. Slightly fewer permits were granted in the Regional Growth Areas in the post-Plan period, although the number has grown steadily from 19 in 1981 to 164 in 1984. The overall trend has therefore been a shift in development from the more restrictive management areas, particularly the Forest Area, to the Regional Growth Area.

In Winslow Township, Camden County (certified April 8, 1983), development has shifted from the Pinelands Area to locations outside the Pinelands. All management areas where growth was occurring prior to 1979 show significant decreases in building permits after the adoption of the Plan, while the number of permits outside the Pinelands has more than quadrupled. Thus, the CMP has clearly had a dampening effect on new construction in the Pinelands portion of this township, although overall growth has apparently not been severely curtailed.

Finally, in Manchester Township, Ocean County (certified July 8, 1983), development since the adoption of the CMP has increased at a faster rate in the Pinelands Village of Whiting than outside the Pinelands, although in 1984 this trend was reversed, with only 64 permits issued in the Village, compared to 337 outside. Very little growth took place in the other three management areas in either time period. It therefore appears that Pinelands regulations have had a minimal effect on development patterns in this township.

3. Conclusions

Historical trends in residential building permits for the region comprising the 52 Pinelands municipalities indicate that development has to some extent shifted to areas outside this region since the

Pinelands land use regulations went into effect in 1979. Detailed data collected for four Pinelands municipalities also show that, in general, new housing construction is being diverted from the Preservation, Forest, Agricultural Production, and Rural Development Areas to locations outside the Pinelands Area and, to a lesser extent, the Regional Growth Areas and Pinelands Towns and Villages. This pattern is consistent with the overall intent of the Plan, which seeks to protect the resources of the Pinelands while channeling new growth to areas which are more suitable for development. The next section examines overall trends in the housing market to determine whether housing values in the Pinelands have been affected by the CMP.

C. Sales of Residential Units

While building permits are a good indicator of new residential construction, historical data on the volume of residential sales can be used to examine the overall health of the housing market. It is not expected that the CMP would have a major impact on the total level of sales in Pinelands communities, except insofar as the availability of new housing is restricted. Figure 6 shows trends in the number of residential transactions in the 52 Pinelands municipalities from 1972 to 1984. The data were obtained from the New Jersey Division of Taxation and include all

Figure 6

NUMBER OF RESIDENTIAL TRANSACTIONS

All Pinelands Area Municipalities

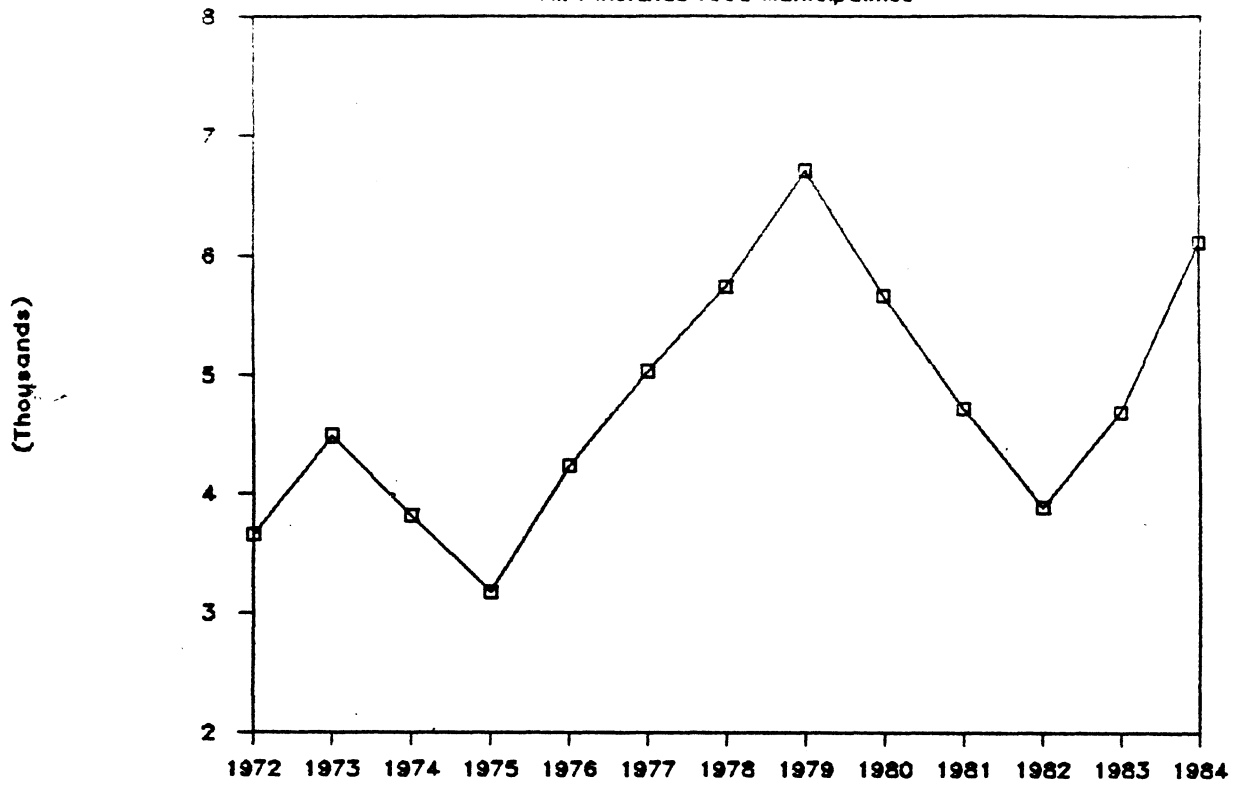
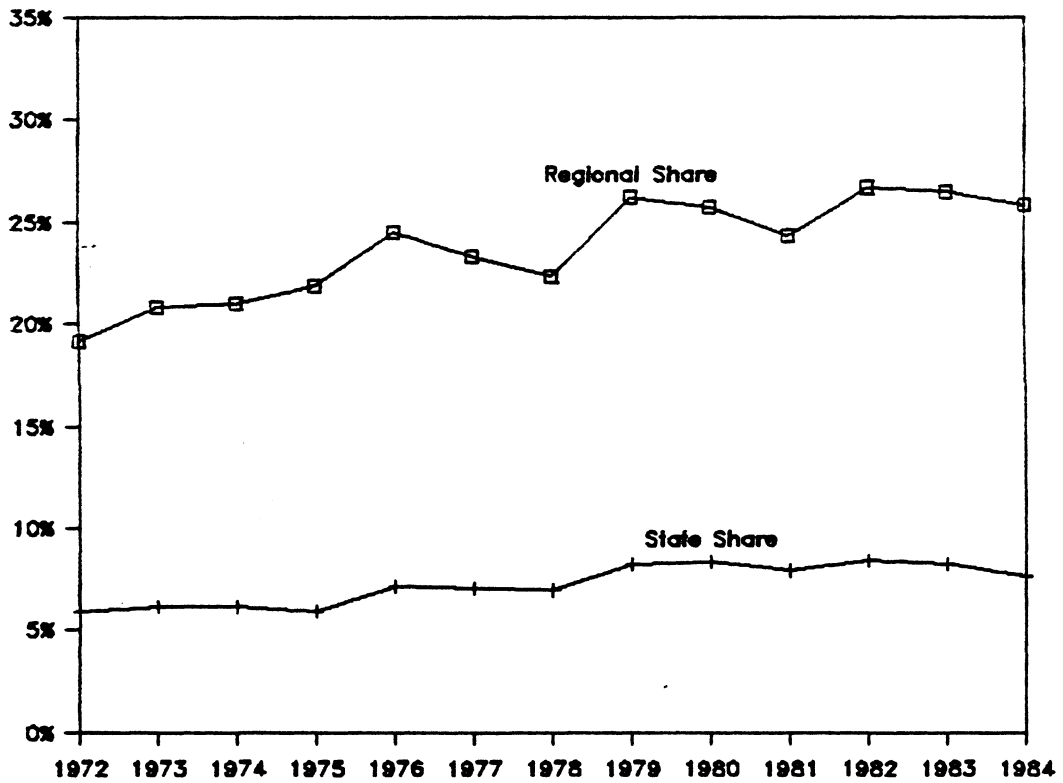


Figure 7

PINELANDS RESIDENTIAL SALES SHARES



"usable" sales in each fiscal year. The number of transactions peaked in 1978, then declined precipitously during the 1980-1982 recession, rebounding in 1983 and 1984 as interest rates began to fall.

The extent to which trends in the Pinelands towns differ from trends throughout the seven-county region and the state is depicted in Figure 7. As a percentage of regional sales, Pinelands transactions have fluctuated since 1976, although overall the share increased from 22 percent in 1978, before any Pinelands regulations were in effect, to 26 percent in 1984. The state share has also exhibited a net increase, from 6.9 percent in 1978 to 7.6 percent in 1984. Average shares in the post-CMP period also exceed average pre-moratorium shares for both the region and the state. It therefore appears that the Plan has not had a significant adverse effect on the overall level of housing sales in the Pinelands.

Figures 8 and 9 show trends in average house values for the 52 Pinelands municipalities in relation to the seven-county region and the state. As noted in the introduction to this chapter, it is possible that restrictions on the supply of new housing under the CMP may cause existing residential properties to rise in value in relation to housing prices elsewhere. The aggregate data, however, show no evidence of such a trend, at least in the short run. While prices have risen over the post-CMP period, they have

Figure 8

AVERAGE VALUE OF RESIDENTIAL PROPERTIES

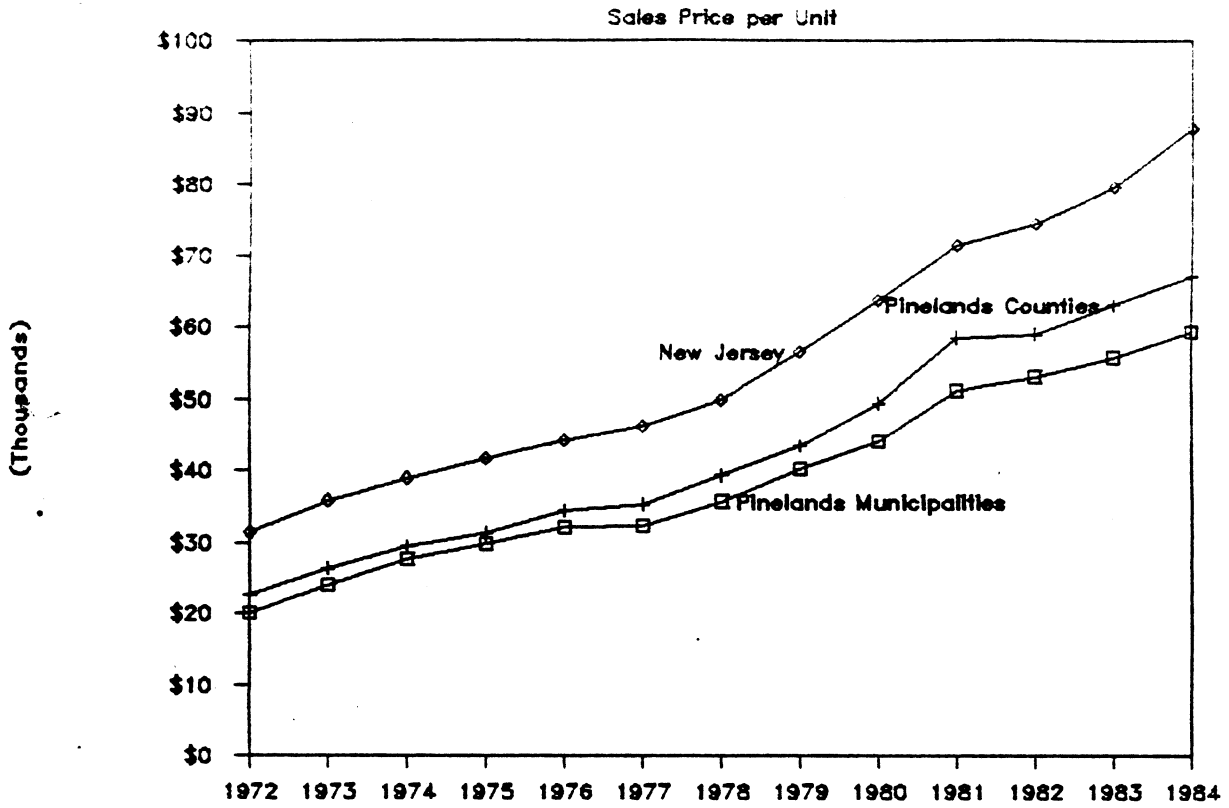
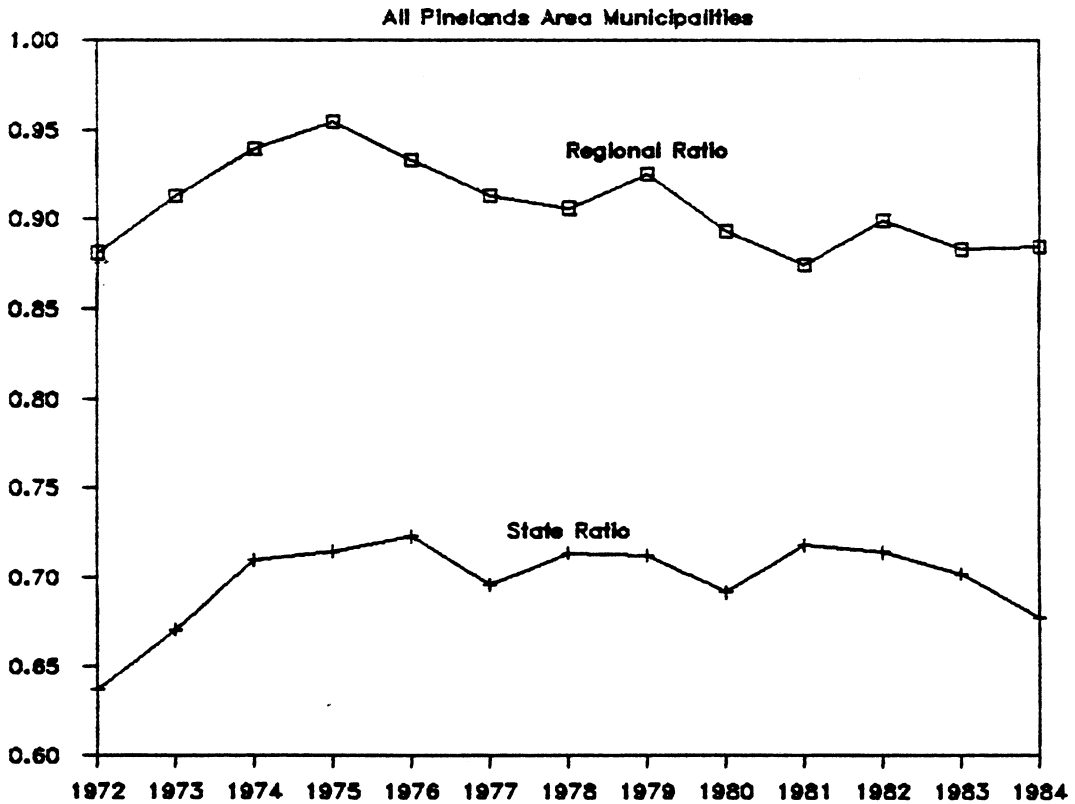


Figure 9

AVERAGE HOUSING VALUE RATIOS



increased at a rate roughly comparable to the regional average and somewhat lower than the state average. It is possible that the relatively moderate growth in average housing prices after 1981 is due to a reduction in the proportion of new houses sold after the CMP went into effect, since new housing tends to bring higher prices than older structures. Overall, housing values in the Pinelands remain well below values in other parts of the state. In 1984, the average selling price of a residential unit in the Pinelands was \$59,325, compared to \$87,703 for the state as a whole.

In sum, the short-term regional impact of the CMP on housing prices appears to be minimal, despite the relative reduction in the number of building permits issued in the Pinelands. It is, however, necessary to observe changes in the value of individual properties by management area over time in order to assess the CMP's localized effects on residential markets, a task which is beyond the scope of the current study.

IV

MUNICIPAL FINANCES

A. Introduction

Any effects of the CMP on land values, housing values, or spatial patterns of development will have ramifications for local government finances in Pinelands communities. Assessments on privately owned vacant lands in the restricted management areas (Preservation, Forest, Agricultural Production) may be reduced through tax appeals, reassessments, or revaluations. Such reductions may be granted on the basis of comparable sales or, where comparable sales are lacking, the presumed effects of the development restrictions on the value of land. Land values and hence assessments may also be increased in those areas where development is permitted, i.e., Regional Growth Areas, Pinelands Towns and Villages, and areas outside the Pinelands. The net effect of changes in land values on the ratable base of each municipality depends upon the percent of aggregate assessed valuation which is vacant land and the relative proportions of vacant land in the restricted areas, development districts, and outside the Pinelands Area.

A municipality's tax rate is computed by dividing the total tax levy by the aggregate assessed valuation of property; therefore, to the extent that changes in vacant land assessments affect the total ratable base, tax rates

would also be affected. The total amount of tax monies to be raised to meet expenditures, however, is not altered by changes in assessments. Instead, a net loss in vacant land ratables would shift the total tax burden from vacant land to residential, commercial, and farm properties, absent any public programs to mitigate this impact. If the value of existing residential properties were enhanced under the Plan as a result of limits on the supply of housing, the proportion of taxes paid by residential property owners could increase even further. Increases in land values in the development districts, however, would have the reverse effect of transferring the tax burden from residential and other developed uses to vacant land.

The Pinelands Municipal Property Tax Stabilization Act (P.L. 1983, c. 551) took effect in 1984, and provides for state reimbursement of municipalities for tax revenues lost as a result of lowered assessments on vacant land in the Pinelands Area. The amount of the payment is computed on the basis of the difference between the "true", or equalized, value of such properties in the current tax year and the corresponding true value in 1980. In 1984, payments totalling nearly \$600,000 were made to 30 municipalities under this program, which is due to expire at the end of 1987.

Another factor affecting municipal ratable bases is the acquisition of ecologically significant lands in the Pinelands. Lands are acquired with state and federal funds by the N.J. Department of Environmental Protection, based on

recommendations made by the Pinelands Commission. When land is acquired, it is removed from the tax rolls; however, revenues are not immediately affected. Under the state Green Acres program, payments in lieu of taxes are made to municipalities over a thirteen year period. In the first year of acquisition, the municipality receives 100 percent of the taxes which would otherwise be paid on the property, and in each succeeding year the payment is reduced by eight percentage points, until it reaches zero in the fourteenth year.

The overall level of residential development, as well as the type of housing built and its spatial distribution, will affect both municipal ratable bases and expenditures for public services and facilities. Growth in ratables is associated with residential development, although capital and operating costs for schools, roads, and other public facilities will also increase. Whether such development results in a net fiscal benefit or cost to the community depends partly upon the type and density of the units built; for example, retirement housing and apartments often generate excess revenues. Typically, however, new housing does not "pay its way" in terms of the ratio of tax revenues generated to increased demand for public services. Evidence of this can be found by comparing average equalized tax rates among municipalities of differing levels of development, as measured by overall population density. In

1980, those municipalities which are most developed (with a density of less than one acre per person) had a combined average tax rate of \$2.60 per \$100 of true value, compared to \$2.12 in moderately developed towns (one to four acres per person) and only \$1.87 in highly rural municipalities (more than four acres per person).

The total amount of residential development is not the only determinant of public expenditures and associated tax rates. For a given number of houses, density can also have an important effect on service costs. A comprehensive study funded by the federal government in 1974 documented the relationship between patterns of development and a variety of economic and noneconomic costs. The report concluded that "for a fixed number of households, 'sprawl' is the most expensive form of residential development in terms of economic costs, environmental costs, natural resource consumption, and many types of personal costs."² In comparing public expenditures required to service high density clustered development versus low density sprawl development, the study found that total capital costs borne by local governments could be reduced by as much as 62 percent with high density development and operating costs could be lowered by as much as 73 percent. Since the Comprehensive Management Plan encourages the clustering of new homes in

²Real Estate Research Corporation, The Costs of Sprawl, U.S. Government Printing Office, April 1974.

designated areas, it should have a beneficial effect on public expenditures over the long run.

In 1982, the Pinelands Commission engaged an independent consultant to analyze the fiscal impacts of the CMP on selected municipalities.³ The focus of the study was to quantify the possible negative effects of the Plan under the most extreme conditions; therefore, those municipalities which had the highest tax rate increases and/or the largest drop in ratables in 1981 and 1982 were selected for analysis. The townships included in the study were: Hamilton Township (Atlantic County), Washington and Woodland Townships (Burlington County), and Lacey Township (Ocean County). It was found that in all but one of these municipalities, the primary factors responsible for increased taxes or lost ratables were unrelated to Pinelands regulations. In Hamilton and Lacey Townships, large increases in expenditures for schools, road improvements, and municipal services precipitated sudden and substantial jumps in tax rates; while in Washington Township the loss of a major industry caused a significant drop in ratables.

Only in Woodland Township, which is located in the heart of the Preservation Area and has large amounts of privately owned vacant land, did Pinelands-related

³Government Finance Associates, Inc., An Analysis of the Fiscal Impact of the Comprehensive Management Plan on Selected Municipalities, Report to the Pinelands Commission, September 2, 1982.

reductions in assessments exert a significant negative impact on the township's tax base. Vacant land assessments were lowered by nearly \$3 million in 1981 and 1982 due to Pinelands-related tax appeals, and Pinelands acquisitions removed another \$2.5 million from the tax rolls, resulting in a loss of 19 percent of the township's ratable base.

Thus, the results of the preliminary study indicated that while the CMP could have adverse short-term impacts on municipal finances, the effects did not appear to be significant on a widespread basis. In this chapter, fiscal trends in municipalities throughout the Pinelands are analyzed in relation to trends at the regional and state levels, both before and after implementation of the Plan. In addition, the effects of reductions in assessments on vacant land and state acquisitions in the Pinelands Area are analyzed for individual municipalities. Tentative conclusions about the effects of the CMP on property taxes can then be drawn.

B. Vacant Land Assessments

The percentage of the total assessed value of real property which derives from vacant land is plotted over time for the Pinelands municipalities, Pinelands counties, and New Jersey in Figure 10. Not surprisingly, the Pinelands municipalities have historically been more dependent on property tax revenues from vacant land than towns in other parts of the region or state, although the relative proportion of the ratable base accounted for by vacant properties

Figure 10
YACANT LAND AS PERCENT OF ALL RATABLES

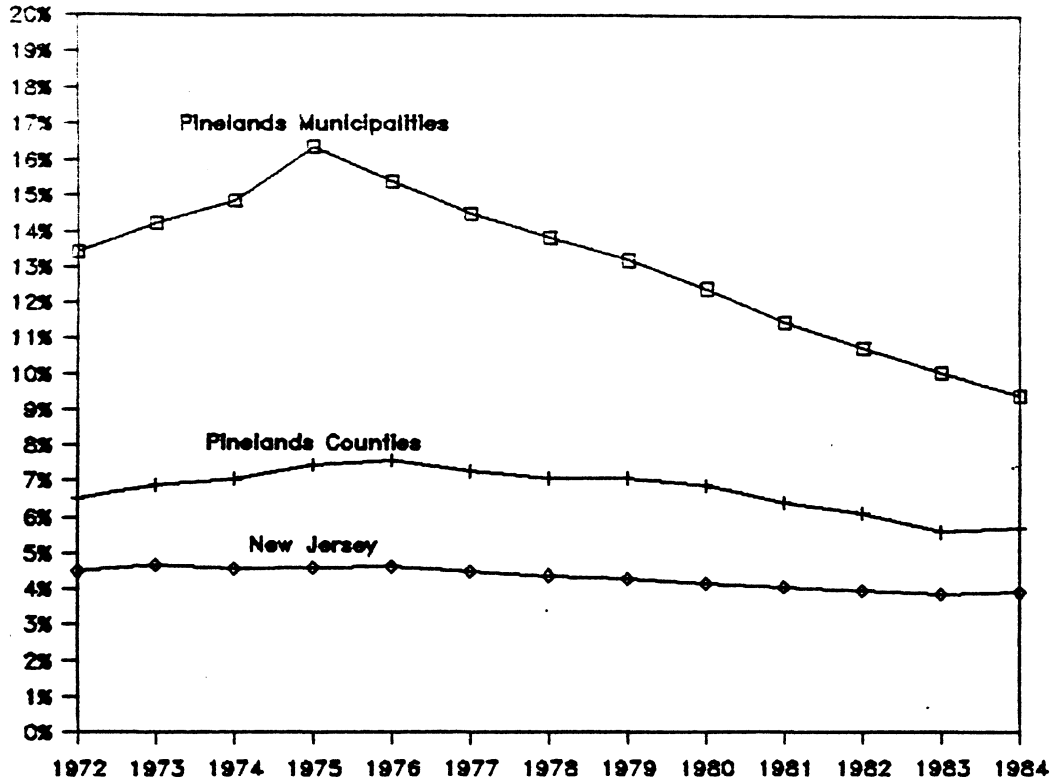
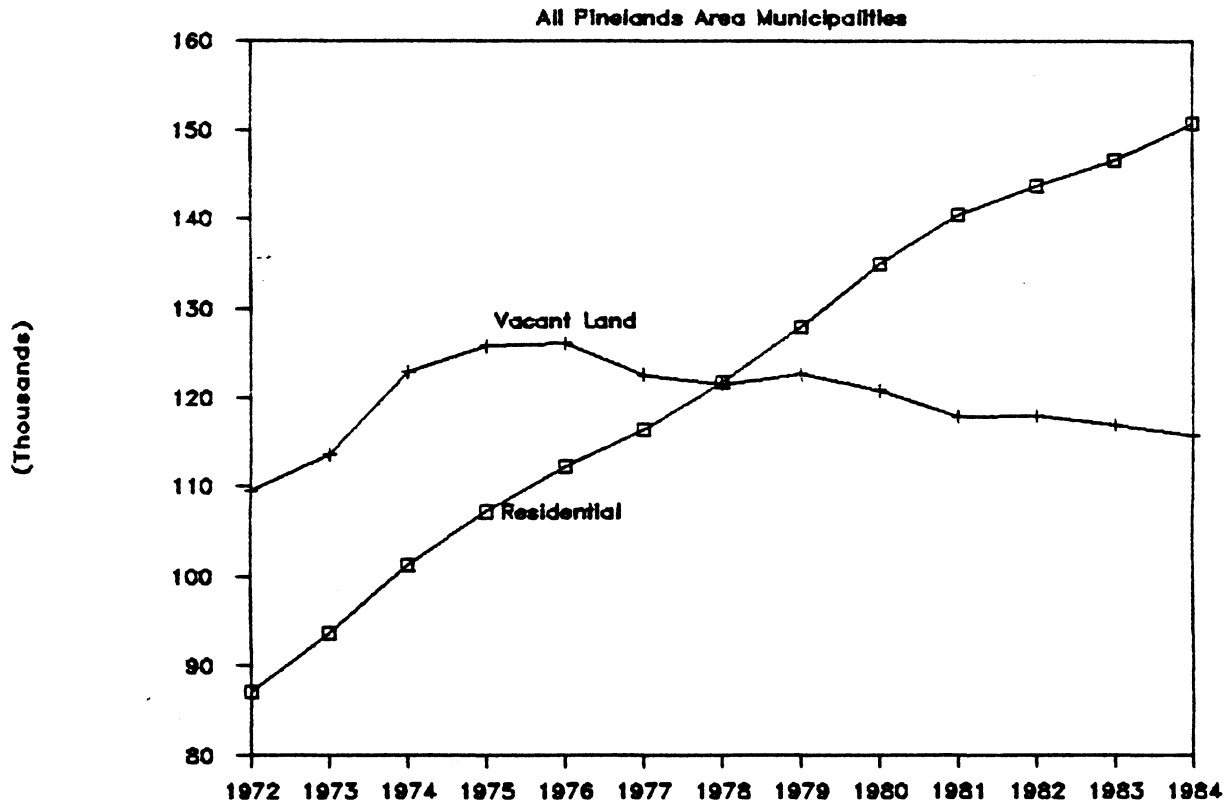


Figure 11
NUMBER OF PROPERTY LINE ITEMS



has plummeted in recent years. It is important to note, however, that this trend began in 1976, four years before any Pinelands-related impacts would be evident. Changes in the number of taxable properties (termed "line items"), as depicted in Figure 11, can explain the shifts in the relative importance of vacant land in the ratable bases of Pinelands towns. From 1972 to 1975, when vacant land increased its share of total assessed value, the number of vacant land line items increased fairly rapidly. This increase was due to a high rate of land subdivision, which results in a higher value per acre for the land which is subdivided. Since 1975, the number of vacant properties has been slowly decreasing, while the number of developed residential properties has continued to grow fairly rapidly. Thus, the drop in the rate of subdivision, combined with the continuing conversion of vacant land to residential use, have been the major causes of the decline in vacant land's share of ratables in the Pinelands municipalities, and these trends were initiated well before the enactment of the Pinelands Protection Act.

This finding, however, does not mean that the implementation of the CMP has not also had an effect on vacant land assessments. In some municipalities, landowners in the Pinelands Area have appealed their tax assessments and some have won reductions of varying magnitudes. These tax appeals began as early as 1979, after the temporary "moratorium" was placed in effect, and have continued to the

present, although the majority occurred in the first two years following the adoption of the CMP. In addition, a number of municipalities have undergone reassessments or revaluations since the adoption of the CMP, and vacant land values in the Pinelands Area have been reduced in some of these towns. Data on these reductions have been compiled by local assessors and reviewed by the County Tax Boards and the New Jersey Division of Taxation for the purpose of providing state payments to municipalities under the Pinelands Municipal Property Tax Stabilization Act. Only vacant parcels which show a decrease in assessed value when comparing the current year to the base year (1980) are included in the calculations. This information is summarized in Table 10.

As Table 10 shows, 28 of the 52 Pinelands municipalities reported a decline in the value of at least some vacant properties from 1980 to 1984. Nine of these underwent municipal-wide reassessments or revaluations after the adoption of the CMP. In 20 of the 28 towns, however, the total value of the reductions amounts to less than one-half of one percent of the total value of real property in 1984. Another seven municipalities experienced decreases in assessments which represent between 1 and 2.5 percent of the total ratable base. Only in Woodland Township did the declines in the value of vacant land constitute a major proportion of the ratable base in 1984 (over 25 percent). With the exception of Woodland Township, therefore, the

TABLE 10
DECLINES IN VACANT LAND ASSESSMENTS
1980-1984
PINELANDS AREA

<u>Municipality</u>	<u>Decrease in True Value 1980-1984</u>	<u>Decrease as Percent of the Total Ratable Base, 1984</u>
Woodland ¹	\$8,723,988	25.54%
Washington ¹	643,797	2.46
Stafford ¹	12,142,838	2.32
Lacey	7,981,813	1.52
Southampton ¹	3,005,752	1.28
Monroe ²	4,648,180	1.19
Weymouth	280,993	1.04
Eagleswood	383,307	1.00
Berkeley	3,120,653	0.39
Dennis ²	355,505	0.31
Medford ²	1,642,966	0.28
Barnegat	430,788	0.24
Winslow	893,699	0.24
Evesham	715,439	0.11
Mullica	110,524	0.09
Woodbine ²	20,242	0.09
Hamilton	228,395	0.06
Galloway	253,688	0.06
Jackson	316,261	0.06
Pemberton	99,733	0.03
Buena Vista	22,617	0.02
Egg Harbor Twp.	50,600	0.009

TABLE 10 (con't)

<u>Municipality</u>	<u>Decrease in True Value 1980-1984</u>	<u>Decrease as Percent of the Total Ratable Base, 1984</u>
Upper	26,293	0.008
Hammonton	18,303	0.007
Ocean	8,219	0.005
Manchester	33,563	0.004
Chesilhurst	611	0.003
Vineland ¹	9,947	0.001

Source: NJ Division of Taxation

¹Reassessed in 1982, 1983, or 1984

²Revalued in 1982, 1983, or 1984

overall impact of Pinelands regulations on vacant land assessments appears to be relatively small, especially in light of the fact that increases in value in growth areas are not considered in the calculations. As noted in the introduction of this chapter, all municipalities which experienced any decrease in vacant land assessments in the Pinelands were reimbursed in full for such losses in 1984.

The program of public acquisition of environmentally significant lands in the Pinelands also affects the ratable bases of some municipalities. From 1980 to 1984, the Department of Environmental Protection purchased 31,539 acres of land, at an estimated market value of \$19.5 million. These acquisitions have occurred in nine municipalities (see Table 11). In terms of acreage, acquisitions have been most extensive in Lacey Township, followed by Bass River and Woodland Townships. The value of the state purchases as a percent of the aggregate value of real property in the towns is highest for Bass River, Woodland, and Washington Townships, ranging from five to eight percent. In Lacey and Tabernacle Townships state land purchases have amounted to between one and two percent of the ratable base. Under the existing Green Acres program, municipalities receive declining payments over a thirteen-year period to partially compensate for property tax revenues lost as a result of state acquisitions.

TABLE 11

PINELANDS ACQUISITIONS BY MUNICIPALITY
1980-1984

<u>Municipality</u>	<u>Total Acres Purchased</u>	<u>Estimated Market Value</u>	<u>Estimated Market Value as Percent of the Ratable Base, 1984</u>
Bass River	7,242	\$3,943,765	8.0
Woodland	6,085	2,599,667	7.6
Washington	2,623	1,322,091	5.0
Lacey	10,572	8,683,707	1.7
Tabernacle	1,928	1,574,003	1.1
Barnegat	2,299	968,608	0.5
Manchester	558	323,067	0.04
Stafford	194	75,105	0.01
Little Egg Hbr.	38	18,776	0.006

In sum, while the assessed value of vacant land has been declining in importance in Pinelands municipalities since the mid-1970's, the implementation of the Pinelands Protection Act has resulted in some losses of ratables due to reductions in assessments on privately owned lands as well as acquisitions of land by the state. In relation to the total ratable bases of the municipalities affected, these losses have in most cases been relatively minor. In Woodland Township, however, the combination of reassessments and acquisitions amounts to nearly one-third of the township's ratable base. In addition, Bass River and Washington Townships have lost approximately eight percent of their ratable bases, primarily due to acquisitions. The overall effect of these losses on property tax rates is, however, largely mitigated by state reimbursement programs, at least for the time being. As acquisitions continue and Green Acres payments diminish over time, and if the Property Tax Stabilization Act is permitted to permanently expire in 1987, the impacts on municipal finances in at least a few towns will be significant.

C. Property Tax Delinquency

An issue which has been raised since the adoption of the Comprehensive Management Plan is that property owners in the Pinelands might cease to pay taxes on land which cannot be developed for intensive residential use, thereby creating property tax delinquency problems for municipalities.

Changes in property tax delinquency rates over time in the 52 Pinelands municipalities are shown in relation to regional and state trends in Figures 12 and 13. These data are derived from annual financial statements for municipalities published by the New Jersey Department of Community Affairs, Division of Local Government Services, and are computed by subtracting taxes collected and taxes cancelled, abated, or adjusted from total taxes billed, and dividing the remainder by total taxes billed.

As Figure 12 shows, tax delinquency rates in the Pinelands have historically been higher than delinquency rates in other parts of the region and the state. Delinquency rates have generally risen during times of economic recession and declined during expansionary periods, as might be expected. Overall, tax delinquency in the Pinelands peaked in 1975, then declined rather sharply in 1976 and 1977, leveling off until 1981, when the rate increased temporarily and then dropped again in 1982 and 1983. Figure 13 shows the ratio of tax delinquency rates in the Pinelands municipalities to rates in the region and state as a whole. In relation to the state, tax delinquency has generally been lower in the Pinelands since 1980, when the CMP was adopted, than in previous years (although in 1979 the "moratorium" may have been at least partly responsible for the fact that delinquency did not drop nearly as much in the Pinelands as in other parts of the state in that year). No consistent trend is observed for the ratio of Pinelands to regional

Figure 12

RATES OF PROPERTY TAX DELINQUENCY

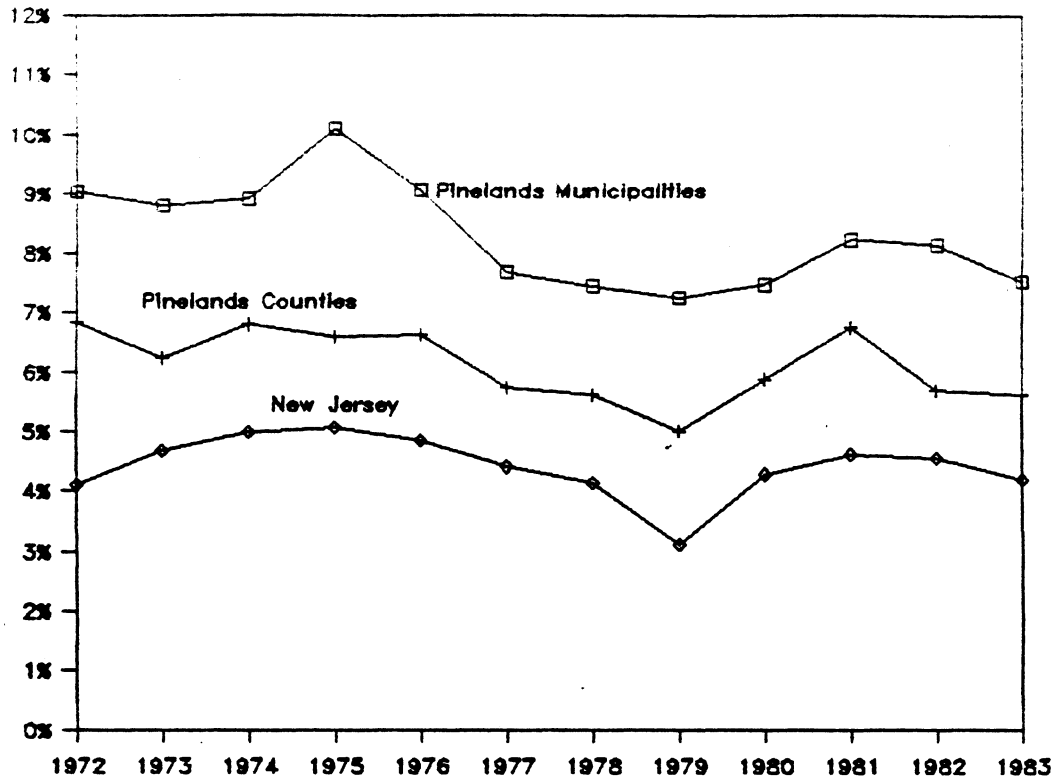
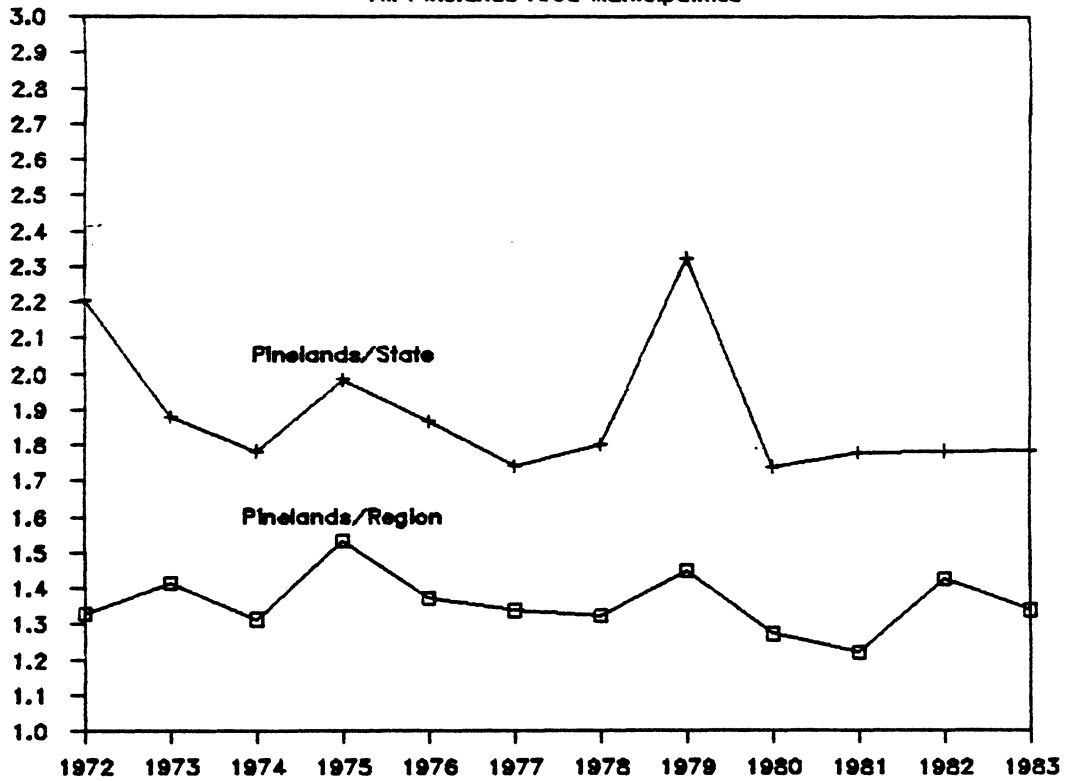


Figure 13

PROPERTY TAX DELINQUENCY RATIOS

All Pinelands Area Municipalities



delinquency rates, either before or after 1980. It therefore appears that tax delinquency has not become a more serious or widespread problem in the Pinelands since the CMP went into effect.

D. Public Expenditures

Expenditures by local governments in the Pinelands from 1972 to 1983 are shown in Figure 14. These data are published by the Department of Community Affairs, Division of Local Governments, in its annual report. The expenditures are divided into three general categories: expenditures for municipal functions; school district, county, and special district taxes; and debt service payments. In 1983, total local government expenses in the 52 Pinelands municipalities amounted to \$339 million, of which 63% was for school and county taxes (primarily schools), and another 34 percent was spent on municipal services. The remaining three percent was used to pay debt service on capital facilities. As Figure 14 demonstrates, public outlays have risen rapidly over the entire period, with the rate of growth accelerating after 1979. In relation to growth in expenditures throughout the region and the state, Pinelands communities have increased their shares throughout the 12-year period, but at a somewhat slower rate after the adoption of the CMP than before. The regional share increased by an average of .48% per year from 1972 to 1980, compared to .23% from 1980 to

Figure 14

TOTAL LOCAL GOVERNMENT EXPENDITURES

All Pinelands Area Municipalities

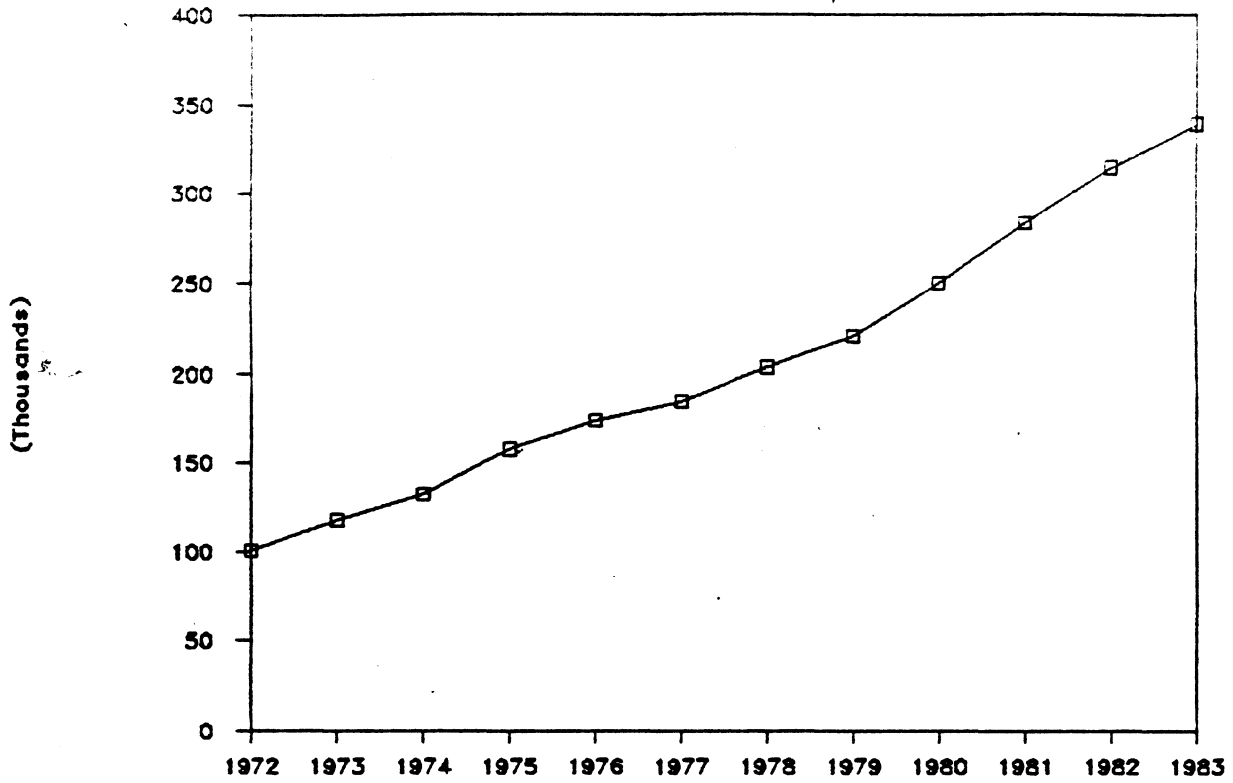
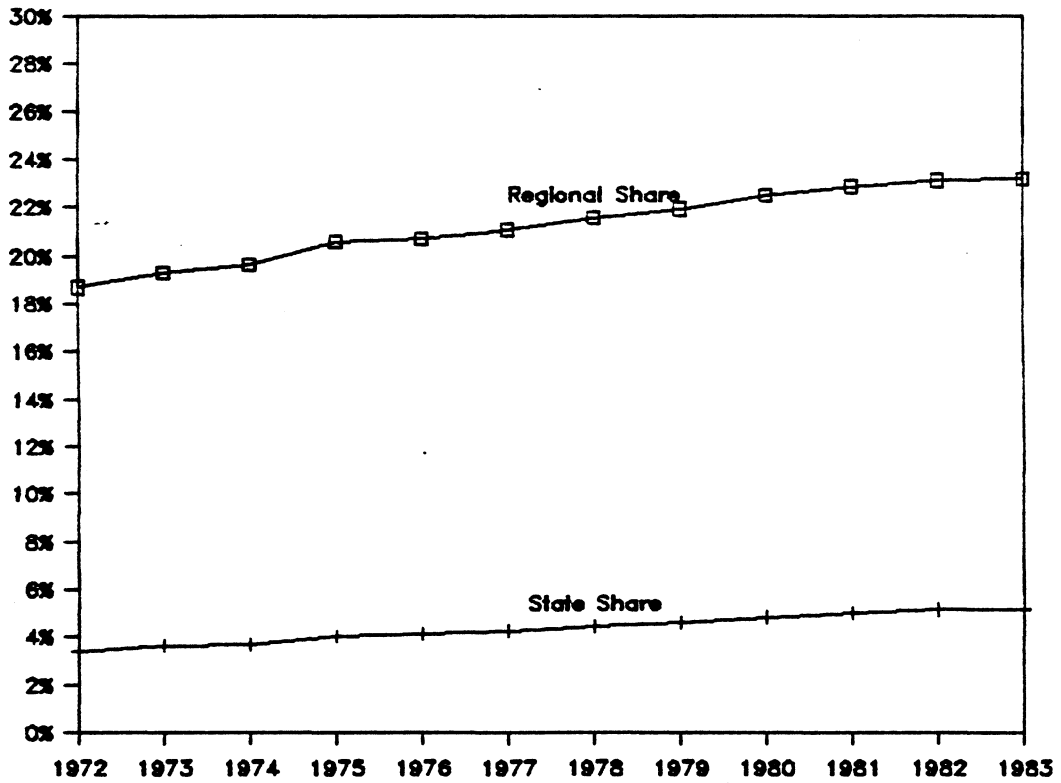


Figure 15

LOCAL GOVERNMENT EXPENDITURE SHARES



1983, while the state share increased .18% per year on the average before 1980, compared to only .11% after the CMP.

Thus, while public spending by local governments to serve the population of the Pinelands communities has risen rapidly in recent years, the rate of growth has slowed somewhat in relation to growth in expenditures throughout the region and the state. It is possible that the relative drop in new housing construction in the Pinelands municipalities, combined with the more concentrated pattern of growth promoted by the CMP, have been responsible for slowing the growth in the Pinelands shares of public outlays since 1980. In the next section, the effects of shifts in both expenditures and ratable bases on property taxes paid by residents and landowners in the Pinelands municipalities is examined.

E. Average Tax Bills

Residents of most Pinelands municipalities have historically paid significantly lower property taxes than residents of other parts of the state. In 1984, the average residential tax bill for the 52 Pinelands towns was \$1,205, compared to a statewide average of \$1,833. Residential tax bills for individual municipalities in the Pinelands range from a low of \$478 in Upper Township to a high of \$2,115 in Medford Township. Taxes on vacant land are also much lower in the Pinelands than elsewhere in New Jersey. The average vacant land tax bill in the Pinelands municipalities in 1984 was only \$205, compared to \$325 for the region as a whole

and \$520 statewide. The highest bills for vacant property are found in South Toms River, where landowners paid an average of \$618 per parcel in 1984, while in Woodland Township the average taxes levied on vacant land amounted to only \$46 per parcel.

Average property tax bills for residential and vacant properties are plotted over time for the Pinelands municipalities, Pinelands counties, and New Jersey in Figures 16 and 17. Taxes have increased steadily in all cases, except in 1977 when the state income tax first took effect. The ratio of residential tax bills in the Pinelands to tax bills statewide increased from 1972 to 1975 and again from 1979 to 1981, but has remained stable since the CMP went into effect (see Figure 18). Vacant land tax bills in the Pinelands also increased in relation to tax bills statewide in 1981, indicating that increased expenditures rather than Pinelands-related reductions in vacant land assessments caused the relative jump in property taxes in that year. Since the adoption of the CMP, vacant land tax bills in the Pinelands have not increased nearly as fast as elsewhere in the state (Figure 18), undoubtedly due to reductions in assessments on some properties during this period.

Therefore, in comparison to statewide trends, the Pinelands municipalities as a whole show a decline in vacant land tax bills since the adoption of the CMP, but a commensurate increase in residential tax bills has not occurred.

Figure 16

AVERAGE RESIDENTIAL PROPERTY TAX BILL

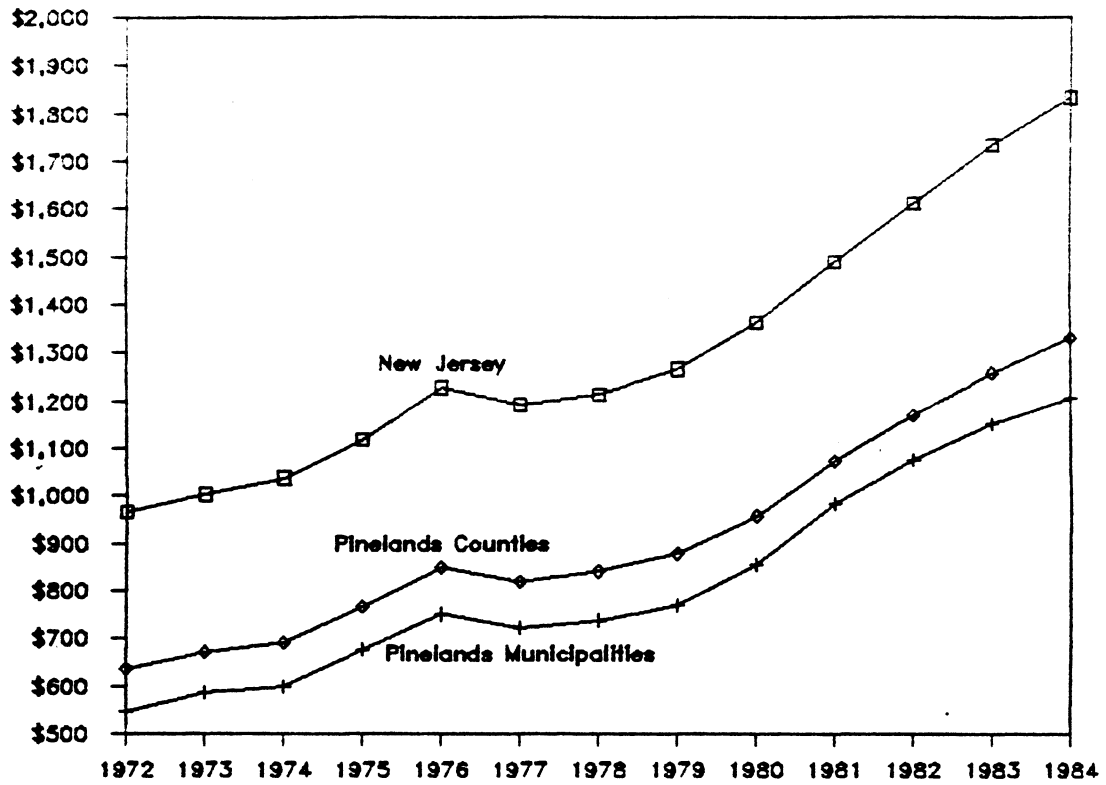


Figure 17

AVERAGE VACANT LAND PROPERTY TAX BILL

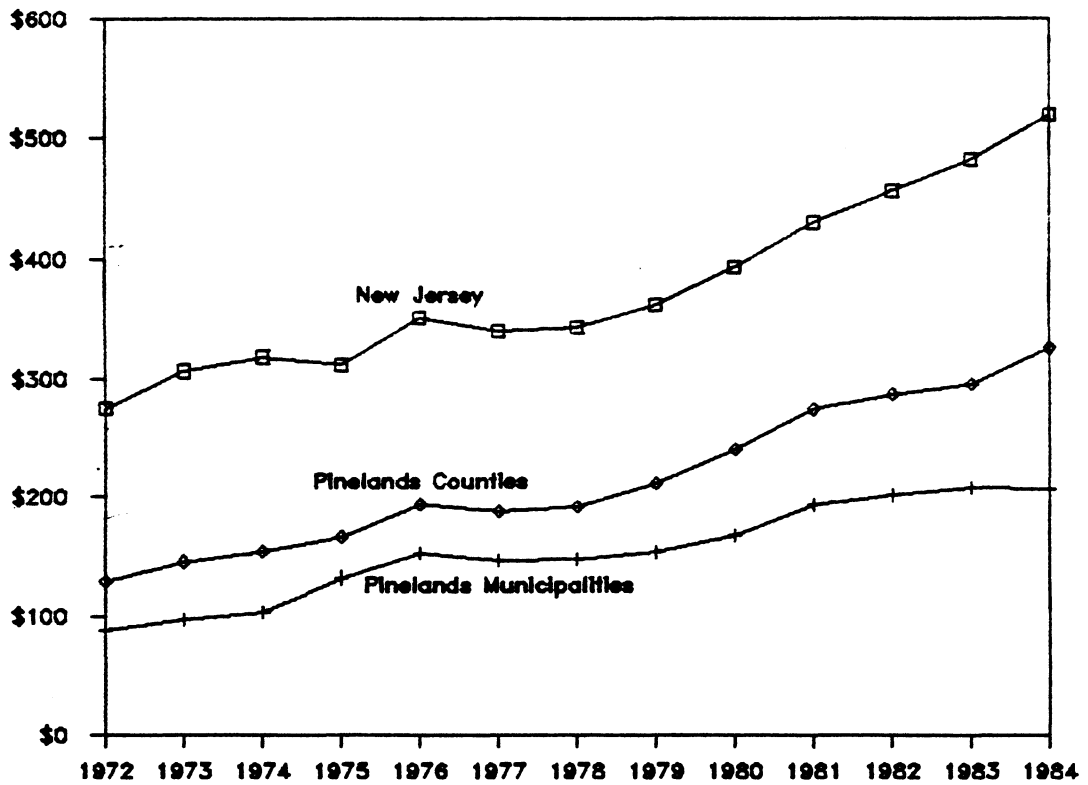
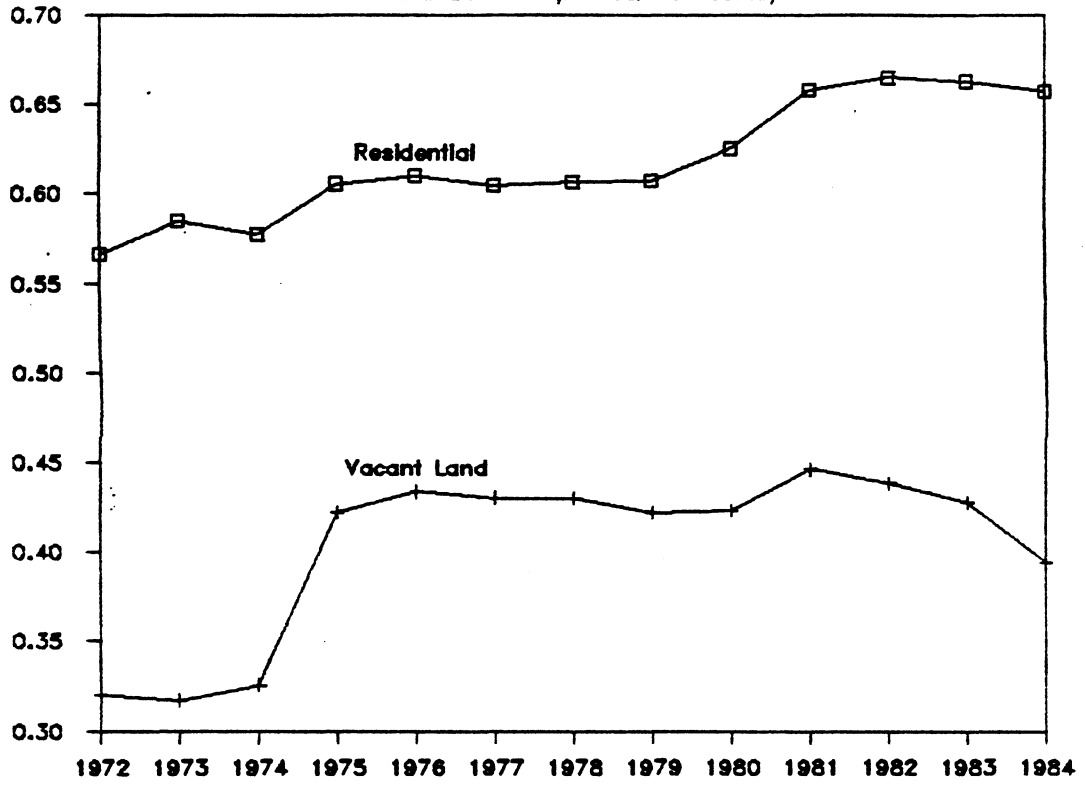


Figure 18

AVERAGE PROPERTY TAX BILL RATIOS

Pinelands Municipalities/New Jersey



This is due in part to the relatively slower growth in local government expenditures after the Plan went into effect (in comparison to the state). Also, starting in 1984, municipalities which lost vacant land ratables in the Pinelands Area were reimbursed for such losses, effectively mitigating the possible adverse effects of such losses. As a result of this program, Woodland Township, which is the only municipality which suffered a large drop in its ratable base as a result of Pinelands tax appeals, dropped its average residential tax bill from \$1,392 in 1983 to \$787 in 1984. The final factor which has prevented a significant increase in residential tax bills in the Pinelands is the Green Acres in-lieu payment program for lands acquired by the state. As these payments decline over time, however, the fiscal effects of the acquisition program will become more evident for some municipalities.

CONCLUSIONS AND RECOMMENDATIONS

A. Summary of Major Findings

Based on the analysis of historic data on land sales, building permits, and municipal finances for areas both inside and outside the Pinelands, it appears that during the first four years of its implementation, the Comprehensive Management Plan has had an impact on the volume of vacant land sales and the number of housing starts in the Pinelands Area. The total number of land transactions occurring in the Pinelands Area, particularly the Preservation, Forest, and Rural Development Areas, has dropped since the Plan went into effect in comparison with the number of sales outside its boundaries. Similarly, new housing construction, as measured by the number of residential building permits issued, has shifted away from the Preservation, Forest, Agricultural Production, and Rural Development Areas to areas outside the Pinelands Area and, in some cases, to Regional Growth Areas and Pinelands Towns and Villages.

Despite the impact on the level of activity in the land and housing markets in the Pinelands, the CMP has apparently had little effect on the actual selling prices of real estate, except in the Preservation Area. Average prices per acre for vacant and farm land are higher in the post-CMP

than the pre-moratorium period in all Protection Area management areas, and the percentage increases in prices are higher than the increase outside the Pinelands for all areas except the Agricultural Production Area. In the Preservation Area, however, the average price per acre dropped sharply after Pinelands restrictions on development were instituted. The results of a statistical analysis of land sales before and after the CMP, which "controls" for price variations due to factors such as the size of parcels, the availability of public sewers, road access, etc., show slight decreases in prices in the Forest and Rural Development Areas relative to prices outside the Pinelands, accompanied by a relative increase in prices in Regional Growth Areas. It does not appear that the Comprehensive Management Plan has had a significant effect on the value of existing houses in the Pinelands.

The CMP's impact on municipal finances in Pinelands communities has been mixed. Reductions in vacant land assessments due to tax appeals, reassessments, and revaluations have had a major impact on the total ratable base of only one municipality, although a total of 28 towns have reported at least minor reductions in assessments on land in the Pinelands Area. Pinelands acquisitions have also affected the ratable bases of several municipalities, and will continue to have an impact as more land is purchased by the state. However, in comparison to the state and region, local government expenditures in Pinelands towns have not

risen as fast since the adoption of the Plan as during the 1970's. Because of this and due to state payments made to municipalities under the Pinelands Municipal Property Tax Stabilization Act and under the Green Acres program, residential property tax bills in the Pinelands have remained stable in relation to tax bills statewide since the adoption of the CMP. At the same time, average tax bills on vacant land have risen at a slower rate than statewide vacant land tax bills.

B. Recommendations

1. In Lieu of Tax Program

The Pinelands Commission, recognizing that the large-scale acquisition of ecologically important lands in the Pinelands could have an adverse effect on the ratable bases of certain municipalities, recommended a perpetual payment in lieu of tax program in the Comprehensive Management Plan. Under the current Green Acres program, municipalities are reimbursed for property tax revenues lost due to state acquisitions for a period of 13 years, with the payments starting at 100 percent and declining by eight percent each year. The Pinelands Commission has recommended that payments for acquisitions made in the Pinelands subsequent to the enactment of the Pinelands Protection Act be maintained at 100 percent of the revenues which would otherwise be realized if the property had remained in private

ownership. A bill has been pending before the state Legislature which would provide for such an in-lieu program. It has been introduced in the 1984/1985 session as Assembly Bill No. 645. Since Pinelands acquisitions have affected the ratable bases of several towns, and will continue to have an impact as more lands are purchased, it is recommended that this program be enacted at the earliest possible date.

2. Reimbursement for Reductions in Vacant Land Assessments

The Pinelands Municipal Property Tax Stabilization Act went into effect in January of 1984 and provides for state payments to municipalities to offset any losses of revenue due to lowered assessments on vacant land in the Pinelands. In 1984, 30 municipalities were reimbursed a total of \$592,449 under this program. In 1985, payments totalling \$611,287 have been conditionally approved for 28 towns; however, only \$510,799 can actually be disbursed since five municipalities have not yet been certified by the Pinelands Commission as being in conformance with the CMP and are therefore no longer eligible for payments until such time as they become certified.

The Act creating this program expires on December 31, 1987. Since at least one municipality has been found to be severely adversely affected by declines in

vacant land assessments, it is recommended that the program be continued in perpetuity. In order to control the cost of the program over the long run and to address the full range of the Plan's impacts on land values, it is suggested that all changes in assessments on Class 1 properties in the Pinelands Area be considered in determining the net change in the value of land. In other words, increases in the value of vacant land in growth areas can be balanced with decreases in the restricted areas to determine whether a net decline has occurred for the Pinelands Area as a whole. In addition, it is recommended that the base year be change to 1979, since reductions in assessments were granted on some properties in the Pinelands during the "moratorium" period.

3. Assistance to Municipalities

In addition to the two programs outlined above, it is recommended that the Pinelands Commission assist municipalities in identifying financial problems which may arise, reducing the costs of providing public services, and increasing revenues. Examples of the types of assistance which could be provided are listed below:

- * Engage independent consultants to conduct detailed financial analyses of municipalities which are having fiscal problems, in order to identify ways to cut costs and/or increase revenues.

- * Assist municipalities in developing cooperative agreements to pool certain municipal services, such as police and fire protection, so as to minimize costs. Counties or the New Jersey Department of Community Affairs may be appropriate public entities to coordinate such "pooling" efforts.
 - * Work with local business organizations and government agencies to encourage the establishment of new businesses in designated commercial districts to generate new ratables.
 - * Seek priority consideration for assistance from state and federal agencies that dispense grants and loans to encourage economic development.
 - * Develop a regional marketing approach designed to demonstrate the locational advantages of the Pinelands for new commercial and industrial development.
 - * Establish a clearinghouse for information on land sales, PDC sales, and assessments in cooperation with local tax assessors, to facilitate consistent assessment practices in the Pinelands.
4. Continuing Economic Monitoring Program

It is recommended that the Pinelands Commission continue to monitor economic and fiscal trends in the Pinelands in order to more fully evaluate the long-term impacts of the Comprehensive Management Plan. Toward this end, the Commission should continue to update its existing data bases and issue periodic reports documenting any significant findings concerning the effects of the CMP on land markets, housing markets, and municipal finances. In addition, it is recommended that the economic monitoring program be expanded to include the following types of analysis:

- * Crosstabulation of data on land transactions with development review information on Pinelands Commission approvals and denials, by block and lot. This can be accomplished when the Pinelands Commission's development review systems is fully automated and when historical files have been entered into the system. The inclusion of development review information in the statistical analysis of land values will enable the Commission to ascertain to what extent preexisting Pinelands Commission approvals or denials influence sales prices of vacant land.
- * A detailed study of the reasons for the observed drop in the number of vacant land sales occurring in the Pinelands in order to determine whether this drop reflects an inability of potential sellers to find buyers, or whether fewer landowners are interested in selling their property since the adoption of the CMP. This can be accomplished by using real estate multiple listing books to trace vacant properties put up for sale, and then measuring the average length of time on the market as well as the rate of withdrawal for properties inside and outside the Pinelands. Alternatively, it might be possible to conduct a survey of landowners inside and outside the Pinelands Area to determine how many have tried and failed to sell land in recent years, and what proportion intend to sell in the near future, and for what reasons.
- * Enumeration of building permits by Pinelands Management Area before and after the adoption of the CMP for several additional municipalities, in order to more fully document shifts in building activity which have occurred since the Plan went into effect.
- * Comparison of selling prices of individual residential properties before and after Plan implementation for each Pinelands Management Area and for areas outside the Pinelands Area, in order to quantify the impacts, if any, of the CMP on the value of existing dwelling units.
- * Detailed analyses of the finances of individual municipalities which are experiencing "fiscal stress", including an examination of assessments, tax delinquency, sources of revenue, and public

expenditures, in order to identify the problems and possible solutions.

- * Investigation of the degree to which Pinelands Development Credits influence land prices and assessment practices in the management areas where they are allocated or transferred.